Texas Commission on Environmental Quality

Remediation Division Correspondence Identification Form

SITE & PROGRAM AREA IDENTIFICATION

SITE LOCATION				REMEDIATION DIVISION PROGRAM AND FACILITY IDENTIFICATION	
Site Name: **Charlie Burch Site**				Is This Site Being Managed Under A State Lead Contract? ☐ Yes ☑ No	
Address 1: **25529 Richards Road**				Program Area: **VOLUNTARY CLEANUP PROGRAM**	
Address 2:				Mail Code: **MC-221**	
City: **Spring**		State: **Texas**		Is This A New Site To This Program Area? ☐ Yes ☑ No	
Zip Code: **77386**	County: **Harris**			**421**	
TCEQ Region: **Region 12 - Houston**				**--Leave This Field Blank--**	**--Leave This Field Blank--**

DOCUMENT(S) IDENTIFICATION

	PHASE OF REMEDIATION	DOCUMENT NAME
1.	**REMEDIATION**	**RESPONSE ACTION EFFECTIVENESS REPORT (RAER)**
2.		
3.		
4.		
5.		

CONTACT INFORMATION

RESPONSIBLE PARTY/APPLICANT/CUSTOMER

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TCEQ INTERNAL USE ONLY

Document No.	TCEQ Database Term	Document No.	TCEQ Database Term
1.	**RAER**	4.	
2.		5.	
3.			

Rohm and Haas Chemicals, LLC

2301 N. Brazosport Blvd, Bldg. B122
Freeport, TX 77541-3257

June 1, 2023

Mr. Joe Bell

FedEx Tracking No.: 7722 8695 5456

Project Manager
Voluntary Cleanup Section
Remediation Division
Texas Commission on Environmental Quality
12100 Park 35 Circle, MC 127
Austin, TX 78753

Subject: 2022 Annual Groundwater Monitoring and Response Action Effectiveness Report
Charlie Burch Site, Spring Texas
Voluntary Cleanup Program No. 421
CN600131395/RN102970738

Dear Mr. Bell:

Rohm and Haas Texas Incorporated (Rohm and Haas), A Wholly Owned Subsidiary of The Dow Chemical Company (Dow), is submitting the 2022 Annual Groundwater Monitoring and Response Action Effectiveness Report to the Texas Commission on Environmental Quality (TCEQ). At the request of the TCEQ, in a letter dated August 17th, 2021, this report also presents updated Protective Concentration Level (PCL) attainment timeframes and findings from an evaluation of back-diffusion and plume stability performed during this period.

If you have questions regarding this report, please contact me at 979-238-5568 or DBelote@dow.com.

Sincerely,

Donnie Belote

Donnie Belote
Remediation Leader
2301 N. Brazosport Blvd, Bldg. B122
Freeport, TX 77541

cc: Alma Jefferson
Josh Mcfarlain/Jacobs

FedEx Tracking No.: 7722 8682 7707

TEXAS COMMISSION ON ENVIRONMENTAL QUALITY
Response Action Completion Report

Cover Page

Regulatory ID number (Solid waste registration number, VCP ID number, etc) VCP No. 421

check one: ___ Initial RACR submittal for this on-site property X Subsequent RACR submittal

Report date: June 1, 2023 TCEQ Region No.: 12

TCEQ Program (check one)

___ Corrective Action (Mail Code 127)

X Voluntary Cleanup Program (Mail Code 221)

___ Petroleum Storage Tank Program (Mail Code 137)

___ Superfund PRP Lead (Mail Code 143)

___ Municipal Solid Waste Permits (Mail Code 124)

On-Site Property Information

On-Site Property Name: Charlie Burch Site, Spring Texas

Street no. 25529 Pre dir: Street name: Richards Street type: Road Post dir:

City: Spring County: Montgomery County Code: 170 Zip: 77386-2627

Nearest street intersection or location description: 1-mile NE of I-45 and Rayford Sawdust Rd Intersection

Latitude: Degrees, Minutes, Seconds OR Decimal Degrees (circle one) North 30 deg., 08 min., 15 sec.

Longitude: Degrees, Minutes, Seconds OR Decimal Degrees (circle one) West 95 deg., 25 min., 48 sec.

Off-Site Affected Property Information

Off-Site Affected Property Name: Several properties southeast of the site (see Figure 1-2)

Street no. Pre dir: Street name: Street type: Post dir:

City: County: County Code: Zip:

____ Check if there are no off-site properties affected

Contact Person Information and Acknowledgement

Person (or company) Name: Rohm and Haas Texas Incorporated

Contact Person: Donnie Belote Title: Remediation Lead

Mailing Address: The Dow Chemical Company, 2301 N. Brazosport Blvd, Bldg B122

City: Freeport State: TX Zip: 77541 E-mail address DBelote@Dow.com

Phone: 979.238.5568 Fax:

By my signature below, I acknowledge the requirement of §350.2(a) that no person shall submit information to the executive director or to parties who are required to be provided information under this chapter which they know or reasonably should have known to be false or intentionally misleading, or fail to submit available information which is critical to the understanding of the matter at hand or to the basis of critical decisions which reasonably would have been influenced by that information. Violation of this rule may subject a person to the imposition of civil, criminal, or administrative penalties.

Signature of Person Donnie Belote Name, print: Donnie Belote Date: 05/31/2023

Rohm and Haas Texas Incorporated A Wholly Owned Subsidiary of The Dow Chemical Company

2022 Annual Groundwater Monitoring and Response Action Effectiveness Report

Charlie Burch Site
Spring, TX

June 1, 2023

Prepared for:

ROHM AND HAAS and DOW

Prepared by:

Jacobs

Jacobs

Charlie Burch Site, Spring, Texas

Voluntary Cleanup Program No. 421

2022 Annual Groundwater Monitoring and Response Action Effectiveness Report

Final

June 1, 2023

Rohm and Haas Texas Chemicals, LLC
A Wholly Owned Subsidiary of
The Dow Chemical Company

TBPG Firm Registration No. 50264

Charlie Burch Site, Spring, Texas

Document Title:	2022 Annual Groundwater Monitoring and Response Action Effectiveness Report Voluntary Cleanup Program No. 421
Revision:	Final
Date:	June 1, 2023
Client Name:	Rohm and Haas Texas Chemicals, LLC A Wholly Owned Subsidiary of The Dow Chemical Company
Project Manager:	Joshua McFarlain
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Certification Statement
Professional Signature and Seal

I certify that the geologic work produced in this report has been performed in accordance with accepted industry standards and practices.

2022 Annual Groundwater Monitoring and Response Action Effectiveness Report

Report Title

Bret R. Rahe	2798	November 30, 2023
Professional Geoscientist	**License Number**	**Expiration Date**
Bret R. Rahe		5/26/2023
Signature		**Date**

(210) 403-6326	Bret.Rahe@Jacobs.com
Telephone Number	**E-mail**

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TBPG Firm Registration No. 50613

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Acronyms and Abbreviations

1,2-DCA	1,2-dichloroethane
3-D	three-dimensional
bgs	below ground surface
COC	constituent of Concern
CSIA	compound specific isotope analysis
District	Montgomery County Drainage District
DO	dissolved oxygen
EAB	enhanced anaerobic bioremediation
ft	feet
ft/d	feet per day
GAC	granular activated carbon
GTFM	groundwater and transport flow model
GSI	GSI Environmental Incorporated
GWBU	groundwater-bearing unit
GWMR	Groundwater Monitoring Report
K	hydraulic conductivity
lb./hr	pounds per hour
mg/L	milligrams per liter
mg/m^3	milligrams per cubic meter
MNA	monitored natural attenuation
mS/cm	milli Siemens per centimeter
msl	mean sea level
mV	millivolts
n	average effective porosity
NA	not applicable/ not analyzed
NM	not measured
NAIP	natural attenuation indicator parameters
No.	Number
NS	not sampled
NTU	nephelometric turbidity units
O&M	Operations and Maintenance
OBS	Observation Well
ORP	oxidation-reduction potential
PCL	protective concentration level
PMW	performance monitoring well
PMZ	Plume Management Zone
POC	Point of Compliance
qPCR	quantitative polymerase chain reaction
RACR	*Response Action Completion Report*
RAER	*Response Action Effectiveness Report*
RAP	*Response Action Plan*
RAWP	*Remedial Action Work Plan*
Rohm and Haas	Rohm and Haas Texas Chemicals, LLC
Site	Charlie Burch Site in Spring, Texas
sMMO	soluble methane monooxygenase
STU	standard units
TAC	Texas Administrative Code
TCEQ	Texas Commission on Environmental Quality

TD	total depth
TNRCC	Texas Natural Resource Conservation Commission
TOC	Top-of-Casing
TRRP	Texas Risk Reduction Program
VCP	Voluntary Cleanup Program
V	groundwater velocity
VOC	volatile organic compound

1. Introduction

This 22nd Annual Groundwater Monitoring Report is combined with a Response Action Effectiveness Report (RAER) to document groundwater monitoring results from October 2021 through December 31, 2022, for the Charlie Burch Site. As required by the *2011 RAP*, this report normally summarizes the total volume of groundwater recovered and analytical results for the Source Area and 13-Acre Tract groundwater extraction and treatment systems. This reporting year, the system and recovery wells remained offline. (Section 2). The Annual Groundwater Monitoring Report will discuss quarterly performance monitoring data provided to satisfy the requirement of the one-year monitoring term from January to December 2022. (Section 3). At the same time, the RAER portion of the report will incorporate results from October 2021 through December 2022. The RAER section will address results from a back-diffusion assessment that was used to evaluate plume stability and to reevaluate PCL attainment predictions for the Source Area and offsite affected properties (Section 4), which encompass the following:

- Source Area
- Offsite Northern Tract Boundary
- Offsite Middle Tract
- Offsite 13-Acre Tract, and
- Offsite Southern Tract

The RAER table of contents and report references can be found in **Table 1-1**, while the Charlie Burch Site location map can be seen in **Figure 1-1**.

1.1 The Basis for the 2022 Annual GWMR-RAER Submittal

This Annual GWMR report is being submitted to fulfill the requirements of the approved *2005 RAP* (GSI 2005) and *2011 RAP* (Parsons 2011) and details the following objectives at the Charlie Burch Site:

- *Source Area Capture Zone:* Eliminate further offsite migration of affected near-surface groundwater.
- *Offsite:* Reduce concentrations of 1,2-DCA in offsite groundwater to the respective TRRP PCL (0.005 milligram per liter [mg/L]).
- *Treatment of Recovered Groundwater:* Treat recovered groundwater to meet discharge requirements.

As required by the *2011 RAP*, this report provides the following information:

- *Groundwater Pumping:* A summary of the total volume of groundwater recovered and analytical results from the Source Area and 13-Acre Tract groundwater extraction and treatment systems has historically been discussed. However, in response to TCEQ inquiry, additional data was collected to assess the effects of back diffusion and to monitor plume stability. To accommodate this evaluation, both onsite remediation systems remained offline in 2022. (Section 2)
- *System Effectiveness:* Evaluation of groundwater capture zones from both systems, whether cleanup targets have been achieved, and whether portions of the groundwater recovery systems can be shut down (Section 3).

The RAER portion of this report (Section 4.0) addresses the TCEQ letter dated August 17, 2021, and summarizes the following:

- Evaluate the presence and impact of back-diffusion processes on residual chemicals in groundwater for areas outside of the source area.
- Re-evaluate the PCL attainment timeframe predictions for the Source Area and offsite properties, which encompass the following:
    - Source Area
    - Offsite Northern Tract Boundary

  - Offsite Middle West Tract
  - 13-Acre Tract, and
  - Offsite Southern Tract
- Monitoring Results: Summary of groundwater analytical results, potentiometric surface maps, and isopleth maps for 1,2-DCA in Zones A and B (Section 5).

1.2 Site Overview

The Site is approximately 25 miles north of Houston, Texas, in south-central Montgomery County (**Figure 1-1**). **Figure 1-2** shows the Site and vicinity where groundwater monitoring wells have been installed. **Table 1-3** lists construction specifications for the groundwater monitoring network.

The Source Area is mostly open, undeveloped land with grass and small trees. An oil production tank battery and saltwater injection well were on the southern portion of the site but were decommissioned and removed by the operator in November 2020; Rohm and Haas does not own or operate the oil production facility. Environmental issues associated with oil and gas operations at the Site, if any, are regulated by the Texas Railroad Commission and are not included in the scope of VCP response actions.

The Site's history dates to the 1950s. Rohm and Haas does not own and historically did not own or operate the Site. In the 1960s, an independent hauler used the Site to bury wastes collected from several manufacturers. In 1967, a Montgomery County judge ordered the waste site closed. In the early 1980s, the State of Texas approached several parties, including Rohm and Haas, to further investigate the Site and develop a plan to close the Site. In 1983, after several years of work, the Texas Department of Water Resources (TDWR [predecessor to TCEQ]) issued a letter stating that the disposal area had been closed in conformance with the approved closure plan (TDWR 1983).

1.3 Site History and Groundwater Response Actions

The following subsections summarize the Site history, investigation, and remediation conducted there. The Charlie Burch site chronology of groundwater investigations can also be found in **Table 1-2**.

Review of the June 2020 Response Action Effectiveness Report (RAER) by the Texas Commission on Environmental Quality (TCEQ) prompted several questions regarding the remediation strategy and understanding of the Charlie Burch Site (Site). Jacobs has prepared this 2022 Annual Groundwater Monitoring Report (GWMR) and RAER to address those questions. The 2022 Annual GWMR portion of the report details performed response action and associated monitoring at the Site for the 2022 reporting period. The RAER portion of this report addresses TCEQ's comments, including a back-diffusion assessment used to assess plume stability and to reevaluate PCL attainment predictions for the Source Area and offsite affected properties.

Rohm and Haas Texas Chemicals, LLC (Rohm and Haas), A Wholly Owned Subsidiary of The Dow Chemical Company, has performed response actions and associated monitoring at the Site in accordance with the Texas Voluntary Cleanup Program (VCP). Since 1998, sampling has been conducted at the Site to monitor affected groundwater within the two uppermost groundwater-bearing units (GWBUs), designated as Zone A and Zone B, and evaluated the effectiveness of ongoing groundwater remedies. The principal Constituent of Concern (COC) identified in affected groundwater beneath and hydraulically downgradient of the Site is 1,2-dichloroethane (1,2-DCA).

Remediation of the Site began in 1999 with the completion of the soil remedy under the Texas Risk Reduction Rules (Title 30, Texas Administrative Code, Chapter 335 [30 TAC §335]). In mid-1999, with TCEQ (TCEQ 1999) approval, buried waste and affected soil was delineated, excavated, and disposed of offsite by

Rohm and Haas; clean backfill was placed in the excavated areas; the Site was graded and seeded in mid-1999. A *Response Action Completion Report* (*RACR*) documenting the soil remediation was submitted to TCEQ on March 24, 2000, and subsequently approved by TCEQ (TCEQ 2000); therefore, the response action for Site soil is complete, while the groundwater response is ongoing.

The groundwater investigation and response action, which began in 2001 by installing and operating a Source Area groundwater extraction and treatment system, transitioned from the former Risk Reduction Rules to the Texas Risk Reduction Program (TRRP; 30 TAC §350) in 2003. The groundwater remedy proposed in 2005 under TRRP consisted of a Source Area groundwater extraction and treatment system combined with using monitored natural attenuation (MNA) with a plume management zone (PMZ) (GSI Environmental Incorporated 2018 [GSI 2018]). Point of compliance (POC) wells installed in 2005 suggested the dissolved 1,2-DCA plume was not fully delineated. Accordingly, additional investigations were conducted to delineate the protective concentration level (PCL) exceedance zone. A second groundwater extraction and treatment system was installed in 2006, approximately 2,000 feet (ft) downgradient of the Source Area on a property owned by Rohm and Haas and referred to as the 13-Acre Tract.

In July 2010, Rohm and Haas submitted a *Response Action Plan* (*RAP*) proposing response actions (enhanced bioremediation, upgraded Source Area groundwater extraction and treatment system, and continued annual groundwater monitoring) with the intent of achieving remedial objectives within a shorter timeframe (Parsons 2010). The *2010 RAP* was subsequently amended on May 6, 2011 (Parsons 2011) and approved by TCEQ on September 2, 2011 (TCEQ 2011). In accordance with *Worksheets 3.1* and *4.0* of the *2011 RAP*, Rohm and Haas will perform a Sitewide groundwater sampling event on an annual basis in October of each year.

As proposed in a data transmittal to TCEQ on February 1, 2012, Rohm and Haas collected quarterly potentiometric water elevations and semiannual groundwater samples from sentinel wells (i.e., MW-CB-39 through MW-CB-48, OBS-1, and OBS-2) to confirm groundwater flow and delineation of the 1,2-DCA plume (GSI 2012). In a letter dated February 4, 2015, Rohm and Haas proposed discontinuing quarterly water level gauging and semiannual sampling of the sentinel wells (Parsons 2015). On March 6, 2015, TCEQ approved the request to discontinue quarterly potentiometric water elevations; however, TCEQ requested Rohm and Haas to continue semiannual sampling 1,2-DCA from wells MW-CB-40, MW-CB-44, and MW-CB-48 (TCEQ 2016). Rohm and Haas also elected to include MW-CB-45 in the Sentinel Event. The Sentinel Event occurs in the second quarter (April) every year. Sentinel wells are also included in the monitoring network for the sitewide event that typically occurs in the fourth quarter of each calendar year.

Implementation of the amended RAP commenced in October 2011 with the installation of the upgraded Source Area groundwater extraction and treatment system. The original Source Area system, installed in 2001, remained operational while the upgraded system was installed. The original system was taken offline in January 2012 as the upgraded system began operation. In 2017, the Source Area system underwent an additional upgrade that included replacing the old air stripper with a new and more efficient unit. This upgrade was completed as part of Phase 4 enhanced anaerobic bioremediation (EAB) remedy. Injection activities associated with implementing the EAB remedy have been completed in a phased approach. Phase 5 was expanded in 2018 to increase coverage of bioremediation capabilities in the isolated portions of the plume located downgradient of the 13-Acre Tract system and to reduce the predicted clean-up time for the downgradient portions of the plume. No injection-related activities were performed during the 2022 reporting period.

In accordance with the revised RAP, Rohm and Haas continued the operation of the 13-Acre Tract System from 2006 -2020. Based on data collected from years of operation, the recovery system created and expanded a gap of remediated groundwater separating the upper two-thirds of the plume from the downgradient one-third of the plume and reduced concentrations in monitoring wells within and

immediately downgradient of the system's capture zone. Based on concentrations of 1,2-DCA remaining below the PCL in the recovery wells for at least the past 10 years, coupled with decreasing historical trends in downgradient monitoring wells, Rohm and Haas determined that continued operation of the GAC system is not necessary. As a result, on December 19, 2019, Rohm and Haas requested to shut down the 13 Acre Tract GAC recovery system to evaluate the potential rebound of the 1,2-DCA plume for a period of one year. On March 2, 2020, TCEQ responded and had no objection to the shutdown of the 13-acre treatment system; therefore, the system was conditionally shutdown, with implementation of quarterly gauging and monitoring of select wells. In 2020, the quarterly performance monitoring showed concentrations of 1,2-DCA consistent with previous years. As mentioned in the *2020 Annual GWMR*, submitted in June 2021, Rohm and Haas requested TCEQ approval to permanently shut down the 13-Acre Tract System and a temporary shutdown of the Source Area groundwater pump-and-treat system. In addition to the shutdown request, Rohm and Haas implemented quarterly performance monitoring to evaluate potential back-diffusion under ambient (non-pumping) subsurface conditions, the results of which have been utilized to reevaluate PCL attainment predictions of onsite and offsite affected properties. In a letter dated August 17, 2021, TCEQ agreed that additional data must be gathered to determine the effects of back diffusion and requested inclusion of monitoring well MW-CB-15AS in the quarterly program. In order to meet the TCEQ's additional data request, the Source Area pump-and-treat system was shut off on October 27, 2021, to evaluate back diffusion and plume stability. In a letter to TCEQ dated November 9, 2021, Rohm and Haas agreed with TCEQ and added MW-CB-15AS to the quarterly monitoring events, which began in January 2022. Groundwater samples from select wells were analyzed for 1,2-DCA and back-diffusion under ambient subsurface conditions. This data was used to determine plume stability and utilized to reevaluate PCL attainment predictions for the Source Area and offsite affected properties. Findings from these activities are discussed in Section 4 of this report.

2. Corrective Action Systems

2.1 Source Area System Operations and Maintenance

A groundwater extraction and treatment system is located in the eastern boundary of the Source Area property (**Figure 2-1**) and has been operational until taken offline in October 2021. The system treated extracted groundwater and minimized the offsite migration of impacted groundwater. The system includes four recovery wells (RW-CB-2R through 5R) screened in Zone A, which is encountered at approximately 20 to 65 feet bgs, and one recovery well (RW-CB-3D) in Zone B, which is encountered at approximately 70 to 102 feet bgs. The upgraded system is equipped with electrical pumps and a remote telemetry communications system.

The system was further upgraded with the EZ-6.4SS Air Stripper, which became operational on November 28, 2017. The air stripper system consists of three baffled aeration trays, downcomers, a sump, a blower, and a discharge pump operated using a variable frequency drive to pump treated groundwater to the constructed north and south infiltration galleries on the adjacent property east of the Source Area. The TCEQ authorized injection into the infiltration galleries on January 31, 2018; however, the infiltration galleries have not been utilized to this point. Rohm and Haas informed TCEQ in a letter, dated November 9, 2021, that the source area system was shut down on October 27, 2021, to further evaluate back diffusion and will continue post-quarterly monitoring. As a result, treated groundwater continued to be discharged under TCEQ approval to the flood control channel adjacent to the system until October 27, 2021. The source area pump-and-treat system was briefly operated on April 20, 2022, to clean the system and process residual purge water from past groundwater sampling events. Recovery wells remained inactive during this one-time event. Once this activity was complete, the source area air stripper was taken offline and has remained offline since that date.

The Montgomery County Drainage District (District) manages the flood control channel. Rohm and Haas received permission from the District to discharge treated water (letter dated January 20, 1999, from Herman I. Little, Jr., to Rohm and Haas; Appendix D of the *Remedial Action Work Plan* [RAWP]) (TCEQ 1999). Authorization to discharge treated water to state waterways, with associated discharge criteria, was received from TCEQ (letter dated March 23, 1999; *Appendix E* of the *RAWP*). In an interoffice memorandum attached to a TCEQ letter dated March 18, 2002, the TCEQ Industrial Permits Team recommended changes to several of the effluent limits for the discharge (i.e., reductions for 2-butanone, ethyl methacrylate, methyl methacrylate; increases for acetone and 2,4 dimethylphenol; and a tighter range for pH). The resulting effluent limitations, and requirements for discharge to the flood control channel, are summarized in the paragraph below.

The daily average effluent flow shall not exceed 170,000 gallons per day (118 gallons per minute), and the specified effluent limitations (**Table 2-1**) shall not be exceeded. Current effluent limitations reflect the recommendations of the TCEQ interoffice memorandum dated March 18, 2002, including a pH between 6 and 9. Water discharge from the Site shall be monitored (sampled) at least once every two weeks (biweekly) for all listed parameters, including pH, in accordance with the TCEQ interoffice memorandum dated October 9, 2018. Water discharge from the Site shall not contain floating solids, visible oils, or visible foam other than trace amounts.

The following sections summarize Operations and Maintenance (O&M), groundwater recovery and mass removal estimates, discharge from the air stripper, and comparison as necessary associated with the effluent limitations associated with the source area system.

2.1.1 Operations and Maintenance

O&M of the source area system includes both inspections and maintenance. Inspections were conducted on a monthly basis from January through December 2022. Because of the oxidation of naturally occurring iron dissolved in shallow groundwater, iron oxide precipitate accumulates within the air stripper, the discharge piping leading to the outfall, and on soil and rocks directly below the outfall. This accumulation does not represent an environmental concern; however, its uncontrolled precipitation can restrict airflow and decrease treatment efficiency in the air stripper. Iron oxide precipitate levels within the air stripper are evaluated, and trays are cleaned with a high-pressure liquid wand as needed. The air stripper was non-operational for the year, with the exception of a one-time event to treat accumulated groundwater from previous sampling events. Given its negligible operation time, cleaning of the air stripper was unwarranted. Collection of influent and effluent water samples was performed on April 20, 2022, as part of treating approximately 55 gallons of groundwater accumulated from previous monitoring events. Samples were submitted to SGS Accutest Laboratory, Houston, Texas, and analyzed for specific constituents approved by the TCEQ.

2.1.2 Groundwater Recovery Volume

The total effluent at the Source Area system (**Table 2-2**) during 2022 was limited to approximately 55 gallons of groundwater. This volume was related to briefly operating the system on April 20, 2022, as previously referenced in Sections 2.1 and 2.1.1. Effluent discharge resulting from this brief operation is far below the allowable maximum daily volume. From a discharge perspective, the total dissolved mass of 1,2-DCA was not calculated for 2022 because the system was not operational for nearly the entire year. Analytical results from the influent and effluent samples collected during the system's limited operation are presented in **Table 2-3**.

2.1.3 Effluent Sampling Results

Both influent and effluent samples were collected every two weeks during prior reporting periods when the groundwater recovery system was operating, and analytical results were used as a means of estimating the mass of 1,2-DCA removed and ensuring effluent limits for each compound specified in the discharge authorization remained below the daily average and maximum concentrations. However, only one influent and one effluent sample were collected in 2022 as a result of limited system operation to process residual groundwater from historical monitoring events. Influent and effluent analytical data is summarized in **Table 2-3**, all of which are within acceptable discharge limits.

2.1.4 Air Discharge

Rohm and Haas submitted *Documentation of Claim for Standard Exemptions* in accordance with 30 TAC §106.533 and §106.262 to the Texas Natural Resource Conservation Commission (TNRCC, the predecessor to TCEQ) on February 15, 1999, for discharge to the air from the operation of the system. TNRCC authorized the exemptions in a letter dated March 23, 1999 (Appendix F of the RAWP). The criteria related to air emission discharge are not presented this reporting year due to the Air Stripper being offline during the majority of the 2022 reporting year. 1,2-DCA was not detected in the influent sample collected when residual purge water was processed through the air-stripper in April 2022.

2.2 The 13-Acre Tract Area System Operations and Maintenance

The 13-Acre Tract groundwater extraction and treatment system was installed in early 2006 in the downgradient portion of the plume on property owned by Rohm and Haas (**Figure 1-2**) to minimize further

plume migration. The system includes four recovery wells (TRW-CB-1 through TRW-CB-4) screened in Zone A, as the downgradient plume is found only in Zone A. Recovery wells TRW-CB-1 and TRW-CB-2 and the infiltration trench located to the west (CB-IT-1; **Figure 2-2**) have been offline since 2014. Recovery wells TRW-CB-3 and TRW-CB-4 were used to extract groundwater that was subsequently treated by carbon adsorption in vessels containing granular activated carbon. Treated groundwater was reinjected onsite via an infiltration trench at the downgradient end of the 13-Acre Tract (CB-IT-2; **Figure 2-2**). The system continued to operate until it was taken offline on November 25, 2019, for maintenance. Based on an evaluation of the system then, a request to shut down the system was subsequently submitted to TCEQ on December 19, 2020. Post-shutdown monitoring, including water level gauging and sampling from a subset of monitoring wells on a quarterly basis, was performed to evaluate the stability of the groundwater plume. TCEQ approved the request in a letter dated March 2, 2020. Results from the quarterly sampling were summarized in the 2020 Annual Groundwater Monitoring Report. As a result, no groundwater was extracted by the system in 2022. While the system was not in operation, system elements were still inspected.

3. 2022 Annual Groundwater Monitoring Report

3.1 Overview of the Monitoring Program

Table 3-1 summarizes the monitoring network used to evaluate site conditions during the reporting period as approved in the 2011 RAP (Parsons 2011). A Sentinel Groundwater Monitoring Event was conducted in the second quarter of 2022 and included the following activities:

- Water level gauging of sentinel wells (**Table 3-2**)
- Collecting groundwater samples and water quality parameters from the four sentinel wells located in the Offsite Southern Tract for analysis of 1,2-DCA (**Table 3-3**)
- Collecting groundwater samples and water quality parameters from the Source Area and 13-Acre Tract monitoring and recovery wells in Zone A and B for analysis of 1,2-DCA

A Sitewide Groundwater Monitoring Event was conducted in the fourth quarter of 2022 and included the following activities.

- Water level gauging of the monitoring network wells to assess groundwater flow (**Table 3-4**)
- Collecting groundwater samples and water quality parameters from monitoring and recovery wells in Zone A and B GWBUs at the Source Area and 13-Acre Tract for analysis of 1,2-DCA (**Table 3-5**)

The following subsections discuss the results of the 2022 Sentinel and Sitewide Groundwater Monitoring Events. Historical summaries of analytical results for indicator parameters, including 1,2-DCA at the Source Area and offsite properties, are provided in **Tables 3-6** and **3-7**, respectively. Groundwater samples were collected from previously identified GWBUs, including:

- Zone A or AS: Approximately 0 to 40 feet bgs (upper A zone)
- Zone AD: Approximately 40 to 70 feet bgs (lower A zone)
- Zone B or BS: Approximately greater than 70 to 100 feet bgs (B zone)

Approximately 90 to 100 feet of less-permeable, fine-grained material separates the deeper Zone C drinking water aquifer from Zones A and B.

3.2 Groundwater Measurement Sampling Results

The following subsections summarize the groundwater flow and the distribution of 1,2-DCA in Zone A and Zone B GWBUs. Interpretations are based on data collected during the 2022 reporting year. No evidence of impacts on the groundwater in Zone C has been identified; as a result, a summary of potentiometric conditions for Zone C is not included in this report.

3.2.1 Zone A Groundwater Measurement Sampling Results

Tables 3-2 and **3-4** summarize depth-to-water measurements collected during the 2022 Sentinel and Sitewide Groundwater Monitoring Sampling Events, respectively. Water level measurements were documented to the nearest 0.01 foot using an interface meter to calculate groundwater elevations. The second quarter Sentinel Event static water levels were collected on April 18 and May 16, 2022; water levels were collected during the Sitewide event on October 10 through October 21, 2022. Groundwater elevations from the Sitewide event were used to interpret the potentiometric surface for Zone A. Separate maps for the Sentinel events were not provided for this report.

Figure 3-1a depicts the potentiometric surface for Zone A interpreted from water level measurements collected during the sitewide sampling event in October 2022. The interpretation of the potentiometric surface suggests groundwater flow within Zone A is generally toward the southeast under hydraulic gradients that vary from the Source Area to the Offsite Southern Tract Area portion of the plume. Lateral changes in lithology likely impart the variability. Recovery systems being offline may also influence groundwater flow throughout the Charlie Burch Site.

Groundwater flow velocities vary across the Charlie Burch Site based on lateral changes in lithology and localized variations of the hydraulic gradients. Estimates for the groundwater flow velocity presented in **Table 3-8 for Zone A** are based on a hydraulic conductivity (***K***) of 21 feet per day (ft/d) calculated for the shallow portion of Zone A (GSI 1999) and an assumed effective porosity of 0.30. **Table 3-8** summarizes groundwater flow velocities estimated for the Source Area, Offsite Northern Tract, Offsite Middle West Tract, 13-Acre Tract, and Offsite Southern Tract. Groundwater flow in the Offsite Middle West, 13-Acre, and Offsite Southern Tracts sections of the plume have consistently been slower. Note that 13-Acre Tract trench recovery wells TRW-CB-1 and TRW-CB-2 have been offline since 2014. Trench recovery wells TRW-CB-3 and TRW-CB-4 also located in the 13-Acre Tract have been conditionally shutdown based on TCEQ approval received in March 2020. Recovery wells at the Source Area system have been shut down since October 2021. As a result, the cone of depression created by the groundwater pump-and-treat system and noted in prior annual reports is absent.

3.2.2 Zone B Groundwater Measurement Sampling Results

Figure 3-1b illustrates the interpreted potentiometric surface of Zone B wells in the Source Area and Offsite Northern Tract based on water level measurements collected during the October 2022 Sitewide Groundwater Monitoring Sampling Event. The Zone B GWBU is generally encountered between 70 and 100 feet bgs. Note that recovery well RW-CB-3D had not been operating since August 2019 and as a result a cone of depression is not shown.

Table 3-8 shows aquifer testing within and adjacent to the Source Area resulted in an estimated hydraulic conductivity of 6 ft/d for Zone B GWBU (GSI 1999). Zone B recovery well RW-CB-3D has been offline since August 2019 to evaluate back-diffusion, which was used to determine plume stability. The hydraulic gradient in this zone is approximately 0.024. Based on the hydraulic gradient measured during the 2022 annual sitewide event, an average hydraulic conductivity of 6 ft/d, and an assumed effective porosity of 0.30, the calculated groundwater velocity in Zone B is approximately 172 feet per year.

3.3 Groundwater Quality

The following subsections summarize the distribution of 1,2-DCA in Zone A and Zone B in the Source Area and Offsite Tracts. Interpretations are based on data collected during the October 2022 sitewide annual event. No evidence of impacts on the groundwater in Zone C has been identified; as a result, Zone C is not included in this report. Wells for the Charlie Burch Site were measured accordingly:

- Source Area and Offsite Tracts Zone A and B monitoring wells were sampled using HydraSleeves.
- Non-active recovery and trench recovery wells (RW-CB-2R, 3R, 4R, and 5R) in Zone A located in the Source and 13-Acre Tract Area (TRW-CB-1, 2, 3, and 4) were sampled using HydraSleeves.
- Non-active recovery well (RW-CB-3D) in Zone B at the Source Area was sampled using a Hydrasleeve.
- All AZG wells in Zone A at the Source Area were sampled using the low-flow method.

Field measurement readings of temperature, specific conductance, pH, dissolved oxygen, oxidation-reduction potential, and nephelometric turbidity units were documented for each groundwater sample at collection using properly calibrated instruments. Field Parameters for groundwater samples collected using HydraSleeves were captured from residual groundwater left in the sleeve after filling the required laboratory vials. Those groundwater samples collected from AZG wells reflect values after reaching the stabilization criteria. Field measurement parameters can be found in **Table 3-9**.

Consistent with findings from 2021, results from the 2022 annual sitewide groundwater monitoring event confirm the presence of 1,2-DCA in Zone A and Zone B GWBUs beneath the Site. Figures **3-2** and **3-3** show the distribution of 1,2-DCA detected in the Zone A and Zone B monitoring networks, respectively. **Table 3-5** shows the analytical results for the sitewide groundwater sampling event. The following subsections will go into more detail about the results within each zone.

3.3.1 Zone A Analytical Results

During the annual sitewide event, groundwater samples were collected from eight recovery wells, and 48 Zone A monitoring wells were analyzed for 1,2-DCA (**Tables 3-5)**. Among these wells, 1,2-DCA was present at detectable concentrations in 41 locations, with concentrations ranging from 0.00064 J mg/L (MW-CB-12AS) to 0.821 mg/L (AZG6-67-72). The associated laboratory reports are included in **Appendix A,** and historical trend graphs can be found in **Appendix B**.

Source Area

20 Samples were collected from monitoring wells located in the Source Area. 1,2-DCA concentrations were detected in 14 of the 20 monitoring wells. Well AZG1-16-21 was not sampled due to it being dry. Although 14 of the monitoring wells had detections, 12 wells showed no trend, while two wells (MW-CB-1A and OW-2) displayed decreasing trends. The remaining groundwater samples showed a detection less than the sample quantitation limit. Samples were collected from the four Zone A Source Area recovery wells. Among these wells, concentrations of 1,2-DCA were detected in all four source area recovery wells, with concentrations ranging from 0.0013 mg/L (RW-CB-2R) to 0.0089 mg/L (RW-CB-3R) (**Tables 3-5, Figure 3-2**). While 1,2-DCA concentrations are currently above the PCL in groundwater samples collected from two of the four wells, an evaluation of concentrations over time indicates that 1,2-DCA generally decreases in all recovery wells. Further, concentrations of 1,2-DCA in all four recovery wells declined from 2021 to 2023, and the concentration in RW-CB-5R from October 2022 is the lowest since sampling began at this well in 2012.

Offsite Northern Tract

Zone A 1,2-DCA plume is continuous within areas associated with the Source Area and adjacent property to the east, the Offsite Northern Tract (**Figure 3-2**). The northwest segment begins at the Source Area and extends southeast downgradient. 1,2-DCA concentrations were detected in eight of the 10 monitoring well samples located on this tract. Although eight monitoring wells showed detections, three monitoring well (MW-CB-27A, MW-CB-28A, and MW-CB-2A) laboratory results demonstrated decreasing concentration trends, while the other five monitoring wells (MW-CB-26A, PMW-08B, PMW-09B, RDP-3, and RDP-5) displayed no trends. Well MW-CB-27A could not be sampled due to an obstruction inside the well casing, and the groundwater sample from well MW-CB-28A did not indicate a detection . Groundwater from well MW-CB-28A has met compliance since 2018, making it the fourth year groundwater sample detections have been below the sample quantitation limit.

Offsite Middle West Tract

The Zone A 1,2-DCA plume connects from the Offsite Northern Tract to the Offsite Middle West Tract (**Figure 3-2**). The plume begins in the southeast corner of the Offsite Northern Tract and extends southeast

downgradient in the center of the Offsite Middle West Tract. 1,2-DCA concentrations were detected in all four of the groundwater monitoring samples collected. Despite these detections, two monitoring wells (MW-CB-16AS) show decreasing trends, and the other two monitoring wells (MW-CB-12AD and MW-CB-8AD) show no trend. Additionally, only one (MW-CB-12AD) of the four monitoring wells displayed a concentration greater than the PCL of 0.005 mg/L.

Offsite 13-Acre Tract

Zone A 1,2-DCA becomes segmented in the middle northern boundary of the 13-Acre Tract Area trending southeast (**Figure 3-2**). The reduction of the plume in the 13-Acre Tract Area is referenced as the "plume toe" and is likely attributed to natural attenuation. Four of the five groundwater samples taken from monitoring wells at the 13-Acre Tract are reported with detections (EAB-MW-03, MW-CB-14AS, MW-CB-15AS, and MW-CB-33A). However, two (MW-CB-14AS and EAB-MW-03) of the four monitoring wells show decreasing trends, while the remaining two (MW-CB-15AS and MW-CB-33A) show no trend. Additionally, the groundwater sample from monitoring well MW-CB-13AS did not detect 1,2-DCA at the quantitation limit indicated. Groundwater from well MW-CB-13AS has met the GWPS from 2020 through 2022.

Samples were collected from the four Zone A 13-Acre Tract recovery wells. Concentrations of 1,2-DCA were detected in all four recovery wells, with concentrations ranging from 0.0028 mg/L (TRW-CB-4) to 0.0066 mg/L (TRW-CB-1) (**Tables 3-5, Figure 3-2**). While 1,2-DCA concentrations are currently above the PCL in groundwater samples collected from one of the four wells, an evaluation of concentrations over time indicates that 1,2-DCA has generally decreased in all recovery wells.

Offsite Southern Tract

The 1,2-DCA plume did not reach the Offsite Southern Tract for the 2022 reporting year (**Figure 3-2**). Out of the nine sampled monitoring wells, only three showed detections. However, two (MW-CB-41S and MW-CB-45) of the three monitoring wells showed decreasing trends, while one (MW-CB-40) displayed no trend. 1,2-DCA was not detected in the other six (MW-CB-37S, MW-CB-39, MW-CB-44, MW-CB-46S, MW-CB-47S, and MW-CB-48) groundwater samples well below . Additionally, four (MW-CB-37S, MW-CB-39, MW-CB-46S, and MW-CB-47S) of the six wells show decreasing concentration trends, while the other two (MW-CB-44 and MW-CB-48) monitoring wells show no trend. Wells MW-CB-37S, MW-CB-39, MW-CB-46S, and MW-CB-47S have had groundwater concentrations below the PCL since 2018, with non-detects reported throughout this period.

Based on results from the 2022 sitewide sampling event, exceedances of 1,2-DCA continue to be defined by the monitoring network in the Source Area and immediate adjacent properties (Offsite Northern Tract and Offsite Middle West Tract). The extent of 1,2-DCA detected in Zone A has been reduced near the "plume toe" based on the 2022 concentrations compared to previous years. (**Table 3-5**).

3.3.2 Zone B Analytical Results

Source Area

Samples were collected from three Zone B monitoring wells (**Table 3-5**), with 1,2-DCA detections reported in two of the three wells: MW-CB-1B and MW-CB-1BS. While these two detections exceed PCLs, monitoring well MW-CB-1B displays a decreasing trend, while monitoring well MW-CB-1BS shows no trend. Additionally, 1,2-DCA was not detected in monitoring well MW-CB-7B , making it the ninth year 1,2-DCA was not detected in this well. A groundwater sample from recovery well RW-CB-3D was also collected, with a concentration of 0.0077 mg/l reported. Although this individual detection exceeds the PCL, historical data from RW-CB-3D suggest a decreasing trend. The estimated extent of affected Zone B groundwater is illustrated in **Figure 3-3**.

Offsite Northern Tract

Three groundwater samples were collected from the Offsite Northern Tract. Two (MW-CB-6B and MW-CB-6BS) of the three monitoring wells resulted in detections below the PCL. Wells MW-CB-6B and 6BS do not display a measurable concentration trend. The groundwater sample from monitoring well MW-CB-2B resulted in a non-detect concentration for 1,2-DCA. This data is consistent with results since October 2019, making it the third year monitoring well MW-CB-2B has been below the PCL. Overall, current data from Zone B appears consistent with historical results and are summarized in **Tables 3-6**, 3-**7,** and **Appendix B**.

In Zone B, the 1,2-DCA plume remains isolated in the Source Area and Offsite Northern Tract to the east (**Figure 3-4**). The associated laboratory reports and trend graphs are included in **Appendices A and B**, respectively.

3.3.3 Laboratory Analysis

Samples were collected in method-specified containers containing appropriate preservatives, retained on ice, and transported to SGS Accutest Laboratories, Inc. in Houston, Texas, under chain-of-custody control. **Appendix A** contains copies of the laboratory reports.

3.3.4 Quality Control

To evaluate data quality, quality control samples were collected and analyzed for 1,2-DCA using U.S. Environmental Protection Agency Method 8260B, as follows:

- *Duplicate*s: One duplicate was collected per 10 samples.
- *MS/MSD*: One MS/MSD was collected per 20 samples
- *Trip Blank*s: One trip blank was included with each cooler containing VOC samples.

Results were validated in accordance with TRRP-13 guidance and documented in the Data Usability Summary Report provided in **Appendix C**.

4. Response Actions and Effectiveness Evaluation

The RAER portion of this report addresses the TCEQ letter dated August 17, 2021. It summarizes the site activities, sampling methods and results to address TCEQ's request for data gathering to determine the ramifications and effects of back diffusion, plume stability, and to generate updated PCL attainment predictions for the Source Area and offsite affected properties, encompassing the following areas:

- Source Area
- Offsite Northern Tract Boundary
- Offsite Middle West Tract
- 13-Acre Tract, and
- Offsite Southern Tract

Table 4-1 presents a summary of the groundwater sample well locations that were collected for the back diffusion assessment. The activities noted below were completed to address TCEQ questions related to potential back diffusion, plume stability, and PCL attainment timeframes. They include:

- Evaluation of natural attenuation indicator parameters (NAIP) that included water quality and redox along with results from quantitative polymerase chain reaction (qPCR) and compound-specific isotope analyses (CSIA) (**Tables 4-2**, **4-3**, and **4-4**).
- Use of passive flux meters (PFM) to evaluate mass flux at discrete locations within the plume (**Table 4-5**).
- Thiessen plume mass calculations to evaluate overall plume stability (**Table 4-6**).
- Mann-Kendall statistical trend analyses using data collected since 2018 (**Table 4-7**).
- And development of a groundwater flow model to aid prediction of PCL attainment timeframes (**Table 4-8**).

4.1 Groundwater Back Diffusion Evaluation

The back diffusion assessment consisted of collecting Zone A groundwater samples for 1-2-DCA analysis between October 2021 (baseline event) and January 2023 from 22 monitoring wells and four recovery wells located in the Source Area, 10 monitoring wells in the Offsite Northern Tract, four locations in the Offsite Middle West Tract, six monitoring wells and four recovery wells in the 13-Acre Tract, and nine monitoring wells in the Offsite Southern Tract. Groundwater samples from Zone B were collected from three monitoring wells, one recovery well in the Source Area, and three monitoring wells in the Offsite Northern Tract. The groundwater samples collected from October 2021 and October/November 2022 were collected in accordance with the RAP (Parsons 2010, 2011) approved by the TCEQ on September 2, 2011 (TCEQ 2011).

Samples for NAIP analyses were also collected. One round of NAIP sampling was performed from 11 monitoring wells using either low-flow sampling or HydraSleeve methods in November 2021 and October 2022. 1,2-DCA and NAIP analytical results are provided in **Tables 4-2** and **4-3**. Standard groundwater levels, total depth measurements, and field parameters (oxidation-reduction potential [ORP], dissolved oxygen [DO], pH, specific conductivity, temperature, and turbidity) were also collected. Field parameters and the ideal range for parameters can be found in **Table 3-9** and **Figures 4-1** and **4-2** in the report.

The analyzed NAIPs include redox parameters, electron acceptors and biodegradation by-products. NAIP groundwater samples were also tested using quantitative polymerase chain reaction (qPCR) and CSIA by Microbial Insights (Knoxville, TN), a remediation microbiology specialty lab. qPCR is a DNA-based method

to quantify specific microbial community members important for contaminant degradation. CSIA tracks the enrichment of the $^{13}C/^{12}C$ isotopic ratio that occurs as a result of aerobic and anaerobic biodegradation. The $^{13}C/^{12}C$ isotopic ratio analytical result is termed $\delta^{13}C$ (or del) and is reported in units of parts per thousand or "per mil" and given the symbol $^{0}/_{00}$. The CSIA del value of undegraded 1,2-DCA has been recorded as approximately between -25 and -30 $^{0}/_{00}$ (Wilson et al. 2008, ITRC 2017). Biodegradation processes change the del value of 1,2-DCA to a more enriched, or more positive, del value. Literature reports field-based analytical del values as high as -10 $^{0}/_{00}$ in 1,2-DCA that is highly biodegraded (Carpani et al. 2021, Henderson et al. 2008).

Four key microbial species (*Dehalobacter*, *Desulfitobacterium*, *Dehalogenimonas*, and *Dehalococcoides*), one anaerobic functional gene (1,2-DCA reductase), and one aerobic functional gene (soluble methane monooxygenase [sMMO]) known to support biodegradation of 1,2-DCA were measured at five Source Area wells and three offsite area wells. *Dehalobacter*, *Desulfitobacterium*, *Dehalogenimonas*, and *Dehalococcoides* have been shown to use 1,2-DCA as a terminal electron acceptor (Maymó-Gatell et al. 1997, He et al. 2003, Grostern and Edwards 2006, De Wildeman et al. 2003, Nobre et al. 2017). sMMO has been shown to co-oxidize 1,2-DCA under aerobic conditions (Hage and Hartmans 1999, Hirschorn et al., 2004). 1,2-DCA reductase genes in Desulfitobacterium and Dehalobacter are known to dechlorinate 1,2-DCA to ethene. **Table 4-4** summarizes the microbial results during the evaluation.

Results from the geochemical analyses from samples collected from Zone A wells at the Source Area suggest limited evidence of biodegradation. This is in contrast to offsite areas where there is stronger evidence, such as higher microbial counts (**Table 4-4**), that suggest continued anerobic biodegradation is taking place. The latter is likely also a result of prior EAB response actions completed between 2012 through 2018. Both the microbe and pH conditioning aspects of the EAB injectate used in the past appear to have adapted to ambient conditions at the site and will likely continue to support natural attenuation of 1,2-DCA in the offsite portion of the plume. This is further supported by results from CSIA that suggest enrichment of heavier isotopes further suggesting 1,2-DCA present at the respective locations has undergone some biodegradation.

4.2 Passive Flux Meters

EnviroFlux prepared PFMs to collect site-specific measurements of 1,2-DCA mass flux. PFMs are nylon mesh permeable tubes filled with a media consisting of an organic chemical sorbent and a mix of tracers; when placed in a monitoring well screen, it passively intercepts the groundwater flow (EnviroFlux 2023). The sorbent retains dissolved phase chemicals, including 1,2-DCA, present in the groundwater, and the tracers leach as groundwater flows through the PFM. After an adequate deployment timeframe, the PFM is removed from the well screen and opened to collect sorbent samples for containerization and offsite lab analysis. Samples were collected from pre-established depth intervals within the PFM and analyzed to measure the mass of 1,2-DCA intercepted by the PFM and the residual mass of the tracers. The chemical mass is used to calculate the time-averaged mass flux and the tracers' residual mass to estimate the Darcy groundwater velocity (EnviroFlux 2023). Note that estimates of Darcy groundwater velocity based on results from the PFM investigation may differ from flow velocities previously presented in Section 3.2. Estimates based on PFM results rely upon chemical information collected from discrete portions of the aquifer within a well while those presented in Section 3.2 are based on interpretations of actual potentiometric conditions. The latter takes into account potentiometric gradients, hydraulic conductivity, and estimates of effective porosity that may reflect a larger portion of the aquifer as a whole.

PFMs were installed at various depths across Zone A (nine locations) and Zone B (one PFM), including as close as possible to the low-permeability unit (clay unit, typically at the base of the well screen in Zone A or at the top of the well screen for the Zone B well). **Table 4-5** summarizes sample intervals collected from

each PFM. PFMs were installed in the Offsite Middle West Tract in two Zone A monitoring well locations, MW-CB-8AD and MW-CB-12AD, on November 2021. In a second mobilization, PFMs were installed in the Source Area in seven Zone A monitoring wells (MW-CB-2A, AZG1-16-21, AZG1-39-44, AZG1-63-68, AZG4-20-25, AZG4-39-44, and PMW-09B) and one Zone B monitoring well (MW-CB-1BS) in October 2022. One additional PFM deployment was attempted at AZG4-59-64 in October 2022 but was unsuccessful due to an obstruction in the well. Thus samples were not collected from this location. Multiple PFMs were installed across the entire well screen interval to estimate chemical flux and Darcy velocities.

To allow adequate exposure to the groundwater, PFMs installed in the temporary AZG wells (3/4-inch well diameter) were left for approximately one month. For monitoring wells (2-inch in diameter), PFMs were left for approximately two to three months. Once the allotted time had passed, the PFMs were retrieved, sampled, and sent to EnviroFlux for lab analysis. **Table 4-5** summarizes the date of PFM installation and retrieval. Deployment periods for the PFMs were in accordance with professional guidance provided by EnviroFlux.

Results from the PFM sampling were used to evaluate existing 1,2-DCA flux, provide Darcy velocities, and assess possible back-diffusion from low-permeability units within and between Zones A and Zone B aquifers. Graphs showing the vertical distribution of these measurements (flux and velocities) are provided in **Figures 4-3 and 4-4**.

Results from the PFM evaluation suggest back diffusion, or increased discharge, of 1,2-DCA mass may be occurring immediately above or below the low-permeability unit that separates Zone A and Zone B at the Source Area tract. For example, the Darcy velocity decreased at AZG1 (**Figure 4-3**) while 1,2-DCA mass flux increased at the deepest sample at 66 feet bgs. The extent of back diffusion is likely variable across the site and extent of the plume.

4.2.1 Thiessen Plume Mass Calculations

Changes in the center of mass over time indicate the stability of a dissolved chemical plume. For example, a consistently downgradient migration of the center of mass along the centerline of a plume is generally considered a good indicator of plume expansion, whereas centers of mass shown to consistently recede over time indicate a diminishing plume.

Geospatial analysis was used to quantitatively assess the disposition of 1,2-DCA in Zone A GWBU and immediately downgradient of the Source Area pump-and-treat system. The Thiessen polygon method evaluates the mass change and the spatial extent over time. By applying the Thiessen polygon method, it is possible to assess both spatial and temporal information about plume behavior.

The screen length for each well was utilized as the plume thickness across the Thiessen polygon. The average length was applied as the aquifer thickness, approximately 10 feet in the Source Area GWBU Zone A and approximately 20 feet in the offsite, 13-Acre Tract GWBU Zone A. An average total soil porosity of 0.3 was used in the analysis. It is important to note that these dissolved-phase plume mass estimates are for relative comparison purposes only and should not be interpreted as the actual mass present at the Site. While the simplifying assumptions, such as limiting the analysis to a consistent set of routinely monitored well screens, create a clean evaluation basis, they may diverge from actual site conditions.

Table 4-6 summarizes the 1,2-DCA estimated Zone A plume mass and center of mass estimates from baseline to the 4th quarter monitoring event in October 2022 in wells immediately downgradient of the Source Area and within the 13-Acre Tract. Calculations were started on the sampling event prior to the representative system shutdowns (October 2021 for the Source Area and October 2019 for the 13-Acre

Tract). **Figure 3-2** show the Thiessen polygons used in the analysis and 1,2-DCA center of mass in the Source Area and 13 AT calculated for each event.

Results from the Thiessen plume mass analysis are illustrated on **Figure 3-2**. Symbols representing the centroid mass of 1,2-DCA at the Source Area are generally consistent and do not change location to a significant degree based on the data from 2019 through 2022 used for the evaluations. This suggests that conditions at the Source Area are stable. The bulk of 1,2-DCA mass is apparent at the Source Area and appears anchored to concentrations detected in the AZG wells. Centroid mass at the 13 AT was also relatively stable until the 4th quarter of 2022 where a slight shift to the south-southeast was observed. This may be related to slight increases of 1.2-DCA in well TRW-CB-3. However, concentrations of 1,2-DCA at the downgradient boundary of the 13 AT have remained below the respective PCL.

4.3 Groundwater Flow and Transport Modeling

The general objective for developing a numerical groundwater flow and solute transport model was to facilitate evaluating potential PCL-attainment timeframes for 1,2-DCA in groundwater across the site under ambient (that is, MNA) and potential future remediation conditions. “PCL-attainment timeframe” in this report is defined as the duration after January 1, 2023, for modeled 1,2-DCA concentrations to decrease enough throughout the plume to result in a 90% reduction in area, compared with the current plume area of about 26.5 acres.

Solute transport models must be provided with groundwater flow information to compute solute concentrations through time throughout a model domain. For the numerical groundwater flow and solute transport model described herein, the solute transport model is mathematically integrated with a steady-state groundwater flow model. This numerical groundwater flow and solute transport model will hereafter be referred to as the Dow-Charlie Burch Groundwater Model (DCBGM). The following steps were completed to develop the DCBGM:

- Selected numerical code DCBGM
- Established a three-dimensional (3D) model domain and mesh
- Assigned model input parameters
- Assigned hydraulic boundary conditions
- Performed calibration and sensitivity analysis

The DCBGM was set up to simulate steady-state flow, representative of current conditions, following the shutdown of both pump-and-treat systems. Based on the steady-state groundwater flow field, it was also set up to simulate transient 1,2-DCA transport from January 1, 2023 out to 100 years into the future.

The DCBGM and PCL-attainment timeframe estimates include the following assumptions and limitations:

- The mass of 1,2-DCA within the aquifer matrix within each cell of the DCBGM was loaded, assuming the concentrations were in chemical equilibrium with the surrounding phases (that is, the DBCGM automatically computed sorbed concentrations based on a linear isotherm).
- Non-aqueous phase liquid (NAPL) is not consistent with field observations.
- The DCBGM was set up for steady-state flow under current, non-pumping conditions. The DCBGM does not address seasonality or other timing-related variations in groundwater hydraulics.
- In addition to pump-and-treat, the Site has undergone bioremediation. Therefore, the 1,2-DCA concentrations in groundwater have been affected by both natural and engineered conditions. As such, the historical 1,2-DCA dataset is “noisy” in that the available concentration data do not directly indicate

natural attenuation processes. Modeling has been implemented in an attempt to simulate the potential effects of natural attenuation.

- The sensitivity analysis indicated that the DCBGM results were sensitive to the assumed 1,2-DCA first-order degradation rate. Because degradation rates are likely to be variable across the Site, a range of reasonable degradation half-life values were modeled to support the estimation of a range of plausible PCL-attainment timeframes.

Results from the groundwater model suggest that, without back diffusion, concentrations of 1,2-DCA would have dissipated within 24 years following the removal action. However, in combination with prior response actions and back-diffusion, natural attenuation may require approximately 10 to 50 additional years to achieve the PCLs across the site. These timeframes are reasonable given that the overall plume appears to be stable.

5. Summaries and Recommendations

5.1 2022 Sitewide Monitoring Event Summary

On April 20, 2022, the Source Area air stripper was temporarily activated to treat approximately 55 gallons of groundwater from historical groundwater sampling events. Treated groundwater was discharged to the channel immediately north of the Source Area. Concentrations of 1,2-DCA in the system's effluent were several orders below the daily effluent limit (**Table 2-3**). The following objectives have been met for 2022:

- *Source Area Capture Zone*: The pumping wells remained offline for most of the reporting year. The source area system was shut down to evaluate back diffusion and plume stability and has remained shut down since April 20, 2022.
- *Treatment of Recovered Groundwater*: The treatment system was deactivated in October 2021 in anticipation of a back diffusion and plume stability assessment. There are no results to report from the monthly and biweekly system inspections or routine analytical results from the biweekly system effluent sampling for the 2022 reporting year. Analytical sampling data from the one-time treatment of approximately 55 gallons of groundwater are presented in Table 2-3.

In general, groundwater potentiometric surface contours in Zone A and Zone B GWBUs flow toward the southeast. During the sitewide static water level monitoring event completed in October 2022, the potentiometric surface contours flattened out toward the Source Area recovery system wells and no longer reflect inward gradients due to the system being initially shut down on October 27, 2021.

Zone A

In 2022, the Source Area 1,2-DCA concentrations resulted in 14 of the monitoring wells having detections. 12 wells showed no trend, while two wells (MW-CB-1A and OW-2) displayed decreasing trends. While 1,2-DCA concentrations are currently above the PCL in groundwater samples collected from two of the four recovery wells, an evaluation of concentrations over time indicates that 1,2-DCA is generally decreasing in all recovery wells. Further, concentrations of 1,2-DCA in all four recovery wells declined from 2021 to 2023, and the concentration in RW-CB-5R from October 2022 is the lowest since sampling began at this well in 2012. 1,2-DCA concentrations were detected in eight of the 10 monitoring well samples located in the Offsite Northern Tract. Although eight monitoring wells showed detections, three monitoring wells (MW-CB-27A, MW-CB-28A, and MW-CB-2A) resulted in decreasing trends, while the other five monitoring wells (MW-CB-26A, PMW-08B, PMW-09B, RDP-3, and RDP-5) displayed no trend. 1,2-DCA concentrations were detected in all four groundwater monitoring samples collected in the Offsite Middle West Tract. Although all four groundwater samples displayed detections, two monitoring wells (MW-CB-16AS) show decreasing trends and

the other two monitoring wells (MW-CB-12AD and MW-CB-8AD) show no trend. Four of the five groundwater samples taken from monitoring wells at the 13-Acre Tract resulted in detections (EAB-MW-03, MW-CB-14AS, MW-CB-15AS, and MW-CB-33A). However, two (MW-CB-14AS and EAB-MW-03) of the four monitoring wells show decreasing trends, while the remaining two (MW-CB-15AS and MW-CB-33A) show no trend. Samples were collected from the four Zone A 13-Acre Tract recovery wells. While 1,2-DCA concentrations are currently above the PCL in groundwater samples collected from one of the four wells, an evaluation of concentrations over time indicates that 1,2-DCA generally decreases in all recovery wells. Out of the nine monitoring wells that were sampled in the Offsite Southern Tract, only three monitoring wells showed detections. However, two (MW-CB-41S and MW-CB-45) of the three monitoring wells showed decreasing trends, while one (MW-CB-40) displayed no trend.

Zone B

Samples collected from three Zone B Source Area monitoring wells report 1,2-DCA detections in two (MW-CB-1B and MW-CB-1BS) of the three wells. Although concentrations in MW-CB-1B and MW-CB-1BS exceeded the PCL, monitoring well MW-CB-1B displays a decreasing trend, while monitoring well MW-CB-1BS shows no trend. A groundwater sample from Zone B recovery well RW-CB-3D was also collected. Although the groundwater sample was above the PCL, concentrations of 1,2-DCA in recovery well RW-CB-3D located at the Source Area have considerably decreased over time (Appendix B).

Three groundwater samples were collected from the Offsite Northern Tract. 1,2-DCA was not detected in well MW-CB-2B; detected concentrations of 1,2-DCA in the other two monitoring wells (MW-CB-6B and MW-CB-6BS) were below the PCL. Although 1,2-DCA detections were reported for the 2022 reporting period, wells MW-CB-6B and 6BS do not display a trend. Overall, current results for Zone B appear consistent with historical data.

As shown in **Appendix B**, historically the wells exhibit no trend, stable, or decreasing concentration trends for 1,2-DCA in all but one location. Quarterly data (**Table 4-3)** from well MW-CB-15AS shows that 1,2-DCA was detected in each of these events at concentrations fluctuating from slightly above to below the PCL of 0.005 mg/L . While these detections might suggest limited 1,2-DCA rebound, this location is delineated by adjacent monitoring well MW-CB-29A. 1,2-DCA was not present at detectable concentrations in samples collected from this location in April or October of 2022. Conditions at the Source Area and Offsite Tracts within this plume segment will continue to be evaluated in 2023. Statistical trends using Mann-Kendall analyses will also be evaluated during subsequent reporting periods.

5.2 Response Action and Effectiveness Monitoring Summary

The residual 1,2-DCA at the Site was analyzed using MK trends and geospatial moments, a geochemical and microbiological characterization, mass flux analysis, and a groundwater fate and transport model. The following general conclusions were drawn from each of these analyses:

- The MK trend analysis performed using data collected since 2018 to 2020 shows most wells without a trend (i.e., stable) or decreasing trend (**Table 4-7**). As is typical for a Site that has undergone remediation in the recent past (EAB ended in 2018 and pumping ended in 2021), some groundwater re-equilibrium dynamics remain, and there are a handful of locations in both Zone A and B where increasing trends are suggested by the MK analyses. The quality of MK trend analysis is limited due to the small number of groundwater sampling events and the relatively short time span since shutdown of the 13AT and the Source Area pump-and-treat systems in March 2020 and October 2021, respectively. Additional groundwater monitoring is important to continue to track re-equilibrium under ambient conditions.
- The Zone A geospatial moment analysis, limited similarly to the MK analysis with a small data set, suggests the bulk of the 1,2-DCA mass is within Zone A at the Source Area . Conditions are stable and

quantitatively anchored by the highest observed 1,2-DCA concentrations in the AZG wells. The Zone A 1,2-DCA plume mass in the 13AT area is slightly decreasing, but the centroid was observed to only move approximately 175 feet to the south and southeast. This correlates very well with predictions from the DCBGM.

- The geochemical analysis of NAIPs from the Source Area shows limited evidence of biodegradation. However, NAIPs in offsite areas provide stronger evidence for naturally occurring anaerobic biodegradation. The offsite conditions are likely remnant from response actions (EAB) completed from 2012 through 2018 . The microbe and pH conditioning components of the EAB injectate appear to have adapted to ambient conditions at the Site and will likely provide long-term support for future natural attenuation in the offsite areas.
- Results from the qPCR and CSIA evaluations indicate consistent, definitive microbiological evidence of biodegradation in the Source Area and offsite areas, especially in the offsite areas where the qPCR and CSIA results are consistent. The presence of 1,2-DCA degrading microbes and functional biodegradation genes is positive. The CSIA results also confirm that the 1,2-DCA present in the monitoring wells has undergone significant biodegradation.
- The variability in measured Darcy velocities from the PFMs (**Figures 4-2** and **4-4**) affirms the lithology described as clay, silt, and sand deposits of relict meandering river channels. The highest velocities were generally observed within the upper portion of Zone A and deeper portion of Zone B, increasing with distance from the low-permeability interface.
- The PFM mass flux results provided evidence of back diffusion or increased 1,2-DCA mass discharge right above or below the low-permeability unit. For example, Darcy velocity decreased at AZG1 (**Figure 4-3**) while 1,2-DCA mass flux increased at the deepest sample observation (66 feet bgs). The PFM at well MW-CB-1BS showed back-diffusion into Zone B from the underside of the low permeability layer separating Zone A and B.
- The DCBGM provides realistic projections of the PCL-attainment timeframes. Without back diffusion, concentrations of 1,2-DCA would have dissipated within the 24 years since the removal action. However, in combination with prior response actions implemented at the site, natural attenuation with the presence of back-diffusion may require another 10 to 50 years to achieve the PCLs across the site. Under natural attenuation, the plume toe is predicted to meet the PCLs before the Source Area and mid-plume areas. A summary of PCL attainment timeframes is presented in **Table 4-8**.

5.3 Recommendations

While back diffusion may be occurring, the overall plume is stable and relatively diluted. As a result, additional response actions beyond monitoring are not proposed at this time. Upcoming activities related to recommendations for the Charlie Burch Site include:

- System O&M: The Source Area and 13-Acre Tract extraction and treatment system will remain offline to assess back diffusion and plume stability.
- Routine semiannual groundwater monitoring (Sentinel wells in the 2nd quarter with a site-wide sampling event in the 4th quarter).

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Tables

Table 1-1: Response Action Effectiveness Report Table of Contents and Report References

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

RAER Worksheet Reference Number	RAER Content	Cross-reference to the RAER Requirements in this Report
	Cover Page	Front Page
	Executive Summary	Section 1
	Regulator Correspondence	Not Applicable
	Site Chronology	Table 1-2
	Checklist for Report Completeness	Appendix D
	Plug and Abandonment Well Records	Not Applicable
Worksheet 1.0	Response Action Objectives	Section 1
Attachment 1A	Maps and Cross Sections	Figures 1-1, 1-2, 2-1, 2-2, 3-1a, 3-1b, 3-2, 3-3, and 3-4
Attachment 1B	Graphs	Figures 4-1, 4-2, 4-3, and 4-4; Appendix B
Attachment 1C	Response Action Diagrams	Figure 1-2
Worksheet 2.0	Plume Management Zone	Not Applicable
Attachment 2A	Map of Plume Management Zone	Not Applicable
Worksheet 3.0	Technical Impracticability	Not Applicable
Attachment 3A	Map of Area of Technical Impracticability	Not Applicable
Worksheet 4.0	Institutional Controls	Section 1
Worksheet 5.0	Performance Measures and Problems	Section 4
Worksheet 6.0	Operation and Maintenance	Section 3
Worksheet 7.0	Post-Response Action Care	Section 4
Appendix 1	References	Section 6
Appendix 2	ESA and Compensatory Restoration	Not Applicable
Appendix 3	Institutional Controls and Landowner Concurrence	Section 1
Appendix 4	Data Tables, Boring Logs, and Well Completions	Figures 4-1, 4-2, 4-3, and 4-4; Appendix B
Appendix 5	Sampling Procedures	Section 1.2, Appendix C
Appendix 6	Laboratory Data Packages and Data Usability Summaries	Appendix A & C
Appendix 7	Statistical Methodology	Not Applicable
Appendix 8	Waste Transportation and Disposal	Section 2.1 & 2.1.3

Acronyms:

ESA = ecological services analysis

RAER = Response Action Effectiveness Report

Table 1-2: Site Chronology of Groundwater Investigations and Response Actions
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Date of Activity	Site Chronology
1950 – Current	Oil and gas activities occur at the site.
1953 – 1955	Gas well is drilled at the site to a depth of 6,077 feet.
1960s	Aerial photographs from the 1960s indicate that the site known as the Charlie Burch Site was receiving wastes.
Early 1980s	Waste materials attributed to the Charlie Burch Site are discovered during flood channel improvements that include deepening and widening the channel.
3/29/1980	Letter from Montgomery County Drainage District No. 6 to TDWR indicates work to remove waste from channel has begun.
04/09/1980	TDWR presents a draft Enforcement Compliance Directive to Rohm and Haas Texas, Inc., Montgomery County Drainage District No. 6, Associated Properties,Inc., and Mr. Doyle Kelly.
05/14/1980	TDWR issues a request to Associated Properties to discuss the geohydrologic investigation undertaken by Associated Properties.
06/23/1980	Dames and Moore recommends undertaking hydrologic studies of the waste disposal site to Associated Properties.
07/08/1981	Letter from TDWR to R.E. Foster indicates waste is classified as Class 1 Non-Hazardous Waste.
10/30/1981	Dames and Moore prepares a report titled Chemical Waste Disposal Site Study Charlie Burch Pits.
12/11/1981	Deed dated 12/11/81 indicates land was transferred from Dr. and Mrs. Henkel to Alton Holmes.
11/15/1982	Engineering Services prepares groundwater monitoring agreement between parties involved in closure of abandoned waste disposal area.
01/06/1983	Charlie Burch Pits Waste Disposal Site Closure Plan prepared by Resource Engineering, Inc. (REI) is submitted to TDWR. Soil material and buried waste from the north side of the channel is placed in a new landfill.
07/1983	Certification of Closure of the Charlie Burch Pits Site prepared by REI.
11/1983 – 07/1984	Four Quarterly Post-Closure Monitoring Reports are submitted to TDWR.
11/28/1983	TDWR reviews certification of closure for the Burch Site and issues a letter stating that closure of the disposal area was completed substantially in conformance with the approved closure plan.
12/21/1984	Letter from Rohm and Haas notifies TDWR that Mr. Holmes has leased the property to store 30-inch diameter steel pipe. Approximately 3500 sections of pipe are placed on and nearby the closed landfill.
12/12/1986	TWC issues a letter requiring Mr. Holmes to make repairs to the landfill cap damaged by storing pipe in the area.
03/06/1991	Sunbelt Savings issues a letter to TWC concerning the detection of organic compounds in channel sediment adjacent to the Charlie Burch Site.
06/13/1991	Rohm and Haas submits a work plan to TWC for channel sediment sampling and channel repair.
07/16/1991	Rohm and Haas receives approval from TWC on the work plan for sediment sampling and channel repair.
09/16/1991	Report documenting repair to the channel bank at the Charlie Burch Site is submitted to the TWC.
09/17/1991	Results of the drainage ditch sediment samples adjacent to the closed Charlie Burch Site are submitted to the TNRCC.
01/16/1992	TWC approves the completed channel bank repair.
02/1996	Gas well is drilled at the site to a depth of 6077 feet.
12/09/1996	Rohm and Haas submits an application to the VCP for the Charlie Burch Site.
01/09/1997	VCP accepts the Charlie Burch Site into the program.
03/29/1997	Rohm and Haas submits the results of Phase I Investigation for the Charlie Burch Site.
07/16/1997	Rohm and Haas submits the Phase II Site Investigation Workplan for the Charlie Burch Site.
12/23/1997	Rohm and Haas submits the Results of Phase II Site Investigation for the Charlie Burch Site.
03/06/1998	Rohm and Haas submits the Phase II Investigation Workplan for Final Site Investigation and Conceptual Environmental Assessment Model.
01/15/1999	Rohm and Haas submits a VCP Update for the Charlie Burch Site.
01/1999	Rohm and Haas submits an application for authorization to discharge treated water to the flood channel at the site.
01/01/1999	Rohm and Haas submits the Response Action Workplan for Source Removal.
02/15/1999	Rohm and Haas files Documentation for Claim for Standard Air Exemptions 106.533 and 106.262 for Soil and Groundwater Remediation at Charlie Burch Site.
05/1999	Rohm and Haas submits the revised Response Action Workplan for Source Removal after modification in response to TNRCC comments.
06/1999 – 08/1999	A total of 70,000 cubic yards of wastes, stabilized wastes, and affected soils are excavated for closure of site soils under Texas Risk Reduction Standard 2. The material is disposed in a permitted off-site landfill, and unimpacted backfill is placed and compacted on-site.
07/16/1999	Rohm and Haas submits the Site Investigation and Conceptual Exposure Assessment Model Report.
10/08/1999	Rohm and Haas submits the Response Action Workplan for Groundwater Remediation.
03/24/2000	Rohm and Haas submits the Response Action Completion Report for Source Removal.
07/27/2000	Rohm and Haas submits the results of the investigation of groundwater conditions adjacent to the flood channel after installation and sampling of monitoring wells OW-1 and OW-2 adjacent to the flood channel in February 2000.
10/2000	Rohm and Haas completes a groundwater sampling event. Results of the sampling event are submitted on November 17, 2000, in a report titled Results of October 2000 Groundwater Sampling Event at the Charlie Burch Site.
2000 – 2001	In February 2000, groundwater recovery wells RW-CB-1 through RW-CB-5 are installed on the Charlie Burch Site. The groundwater treatment system is installed in 2000 and early 2001. The groundwater recovery system is started up March 1, 2001, and is still in operation. A Groundwater Remediation System Installation Report was submitted on September 12, 2001.
09/27/2001	Rohm and Haas submits the response to Access Agreement Request for the Charlie Burch Pits Site and the Remediation Workplan for Off-Site Groundwater.
10/12/2001	In August and September 2001, Rohm and Haas completes a groundwater sampling event. The Report of Results of the August-September Sampling Event is submitted to TCEQ on October 12, 2001.
11/07/2001	Oil and gas activities occur at the site.
01/09/2002	Rohm and Haas submits the following packet of information for the VCP: 1. A revised groundwater monitoring work plan titled Groundwater Monitoring Program for MNA Demonstration Study. 2. Written responses by Rohm and Haas to comments issued by the TCEQ on November 7, 2001 (the TCEQ comments were included in a document titled Comments to the Response to Access Agreement Request for the Charlie Burch Pits Site, dated September 27, 2001). 3. Draft access agreements for the Wert, Rummell, and Bender tracts. 4. An amendment to the VCP agreement for the site, including a revised list of submittals and a revised schedule.
11/15/2002	Rohm and Haas submits a report titled Results of August- September 2002 Groundwater Sampling Event, Charlie Burch Site, VCP No. 421, which discusses the results of the groundwater sampling event conducted at the Charlie Burch site in August and September 2002.
01/24/2003	Report titled Groundwater Remediation System Status Report is submitted to TCEQ.
03/11/2003	Rohm and Haas receives the TCEQ comments to the August-September 2002 Groundwater Sampling Event, Charlie Burch Site, VCP No. 421.
04/08/2003	Rohm and Haas submits response to TCEQ letter and comments dated March 11, 2003, on the August-September 2002 Groundwater Sampling Event Report; Charlie Burch Site VCP No. 421.
05/15/2003	Rohm and Haas meets with TCEQ in Austin and agrees to submit a supplemental work plan, install additional monitoring wells, sample existing and new monitoring wells, and prepare a RAP.
06/18/2003	Rohm and Haas submits the Supplemental Workplan, Charlie Burch Site near Spring, Texas.

Table 1-2: Site Chronology of Groundwater Investigations and Response Actions
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Date of Activity	Site Chronology
10/03 – 12/2003	Eleven monitoring wells are installed on the Rohm and Haas 13-Acre Tract, Warren Wert property, and Charlie Burch Site, as specified in the Supplemental Workplan dated June 18, 2003. Wells are developed and sampled, then water levels and groundwater samples are collected from all site monitoring wells.
01/15/2004	Rohm and Haas submits a letter to the TCEQ regarding future response actions and access issues for the Rummell property, stating that Rohm and Haas intends to plug and abandon monitoring wells and sample the water well on the Rummell property if access can be arranged.
02/17/2004	Rohm and Haas submits the Results of November 2003 Groundwater Sampling Event at the Charlie Burch Site.
06/14/2004	Letter from the TCEQ requests that Rohm and Haas submit a RAP addressing the downgradient portion of the plume.
07/28/2004	Rohm and Haas submits a letter to the TCEQ in response to comments on the November 2003 Groundwater Monitoring Report and provides the results of groundwater sampling on July 13, 2004, at the toe of the plume.
02/18/2005	Rohm and Haas submits the RAP.
04/25/2005	TCEQ provides review comments on the RAP submitted on February 18, 2005.
06/17/2005	Rohm and Haas submits a response letter on the TCEQ April 25, 2005, RAP review.
08/24/2005	TCEQ provides a letter that concurs with most of the June 17, 2005, responses and requests additional information related to property owner agreements to file restrictive covenants prohibiting groundwater use on their properties and copies of notification letters mailed to the property owners.
09/06/2005 – 09/08/2005	An annual comprehensive groundwater monitoring event is conducted that includes collection of samples from monitoring wells located on the Charlie Burch Site and adjacent properties. 1,2-DCA exceeds the PCL in POE wells installed on the 13-Acre Tract.
11/17/2005 -11/18/2005	Geoprobe® samples are collected from boreholes drilled on the 13-Acre Tract to investigate the extent of 1,2-DCA and to collect information needed for design of the planned pump-and-treat system.
12/22/2005	Rohm and Haas submits an initial Class V UIC inventory authorization application for operation of reinjection galleries at the 13-Acre Tract.
02/17/2006	Rohm and Haas submits a modification to the Class V UIC inventory authorization request to TCEQ to revise the system specifications for the final system design.
03/01/2006	Rohm and Haas submits the 2005 Groundwater Annual Report for the site to TCEQ. The report includes an overview of the Source Area pump-and-treat system operated in 2005, documents the extent and magnitude of the plume during the annual comprehensive October 2005 sampling event, and summarizes the plume delineation activities performed in 2005.
03/29/2006	Rohm and Haas receives TCEQ approval of the UIC inventory authorization application for the 13-Acre Tract pump-and-treat system.
04/2006 – 05/2006	The groundwater pump-and-treat system is installed at the 13-Acre Tract.
05/23/2006	Operation of the 13-Acre Tract pump-and-treat system is initiated.
09/2006 – 10/2006	A Geoprobe® and monitoring well investigation is conducted on the Amerson Tract located immediately downgradient of the 13-Acre Tract to define the extent of the 1,2-DCA plume south of the 13-Acre Tract recovery system.
10/04/2006	Rohm and Haas submits a figure to TCEQ depicting the preliminary results of the groundwater investigation conducted on the Amerson Tract and the results of a field survey conducted to confirm possible residential water wells identified on well installation records obtained for properties located downgradient of the plume.
10/2/2006 – 10/6/2006	An annual comprehensive groundwater monitoring event is conducted that includes collection of samples from monitoring wells on the Charlie Burch Site and adjacent properties.
10/25/2006	Rohm and Haas submits preliminary site investigation results to TCEQ for the Amerson Tract (immediately downgradient of the 13-Acre Tract). The results confirm the path of the 1,2-DCA mass, which extends in a narrow band southward across the entire tract.
10/2006 – 11/2006	Geoprobe® sampling conducted at seven locations along Rayford Road confirms that the 1,2-DCA plume does not extend that far south.
11/14/2006	Rohm and Haas submits preliminary site investigation results to TCEQ for samples collected along Rayford Road that confirm the plume has not reached Rayford Road.
11/28/2006	Rohm and Haas submits the O&M manual for the 13-Acre Tract groundwater pump- and-treat system to the TCEQ.
12/11/2006	Rohm and Haas submits an evaluation of potential for soil vapor intrusion to the TCEQ that shows that soil vapor intrusion is not a concern associated with the 1,2-DCA plume.
1/12/2007	Rohm and Haas receives comments from TCEQ regarding the 13-Acre Tract O&M manual.
1/29/07 – 2/08/07	Geoprobe® sampling is conducted at 12 locations on SWU Tract.
02/26/2007	Rohm and Haas submits a response to TCEQ comments to 13-Acre Tract O&M manual.
03/2007	Charlie Burch Informational Website goes live (public) at URL address http://www.charlieburchproject.com
03/14/2007	Rohm and Haas meets with Tom Ellerbee of the Texas Department of Health (TDH) to tour the site. Mr. Ellerbee is preparing a TDH report regarding the public health significance of the site.
04/04/2007	Rohm and Haas provides a letter summarizing SWU and RBC results to TCEQ per a request from Joe Bell.
05/07/2007-05/29/2007	Geoprobe® sampling is conducted at 10 locations on the RBC Tract, and five monitoring wells are installed and sampled on the SWU Tract.
05/14/2007	Rohm and Haas submits a request to modify the sampling and reporting requirements for the 13-Acre Tract UIC authorization.
05/17/2007	Rohm and Haas submits the 2006 Groundwater Annual Report for the site to the TCEQ. The report includes an overview of the two pump-and-treat systems operated in 2006. The annual report also documents the extent and magnitude of the plume during the annual comprehensive October 2006 sampling event and summarizes the plume delineation activities performed in 2006.
06/15/2007	Rohm and Haas submits Amendment 02 to the Class V UIC inventory authorization requesting TCEQ approval of three injection wells for the EAB pilot study and three injection wells for the chemical oxidation pilot study.
07/10/2007	Rohm and Haas receives TCEQ approval of the six injection locations for the EAB and chemical oxidation pilot studies.
07/20/2007	TCEQ provides comments on the 2006 Groundwater Annual Report to Rohm and Haas.
07/26/2007	Rohm and Haas submits the Preliminary Groundwater Sampling Results for the SWU and RBC Tracts and Monitoring Well Installation and Sampling Results for the SWU Tract to TCEQ.
08/01/2007	Geophysical logging of select monitoring wells is performed to obtain a more detailed stratigraphy of soil type with depth.
08/22/2007	Rohm and Haas provides written responses to the TCEQ comments on the 2006 Groundwater Annual Report indicating that an RAER will be prepared and an updated groundwater plume map will be provided as requested. The responses also agree that additional sampling south of Rayford Road will be required if data indicate that the 1,2-DCA mass extends beyond Rayford Road.
09/2007	Letters are mailed to owners of properties that are potentially affected by the plume and to other persons who requested to be placed on the contact list to notify them about the public information website and that the 2006 Annual Groundwater Report is available on the website.
10/19/2007	The TCEQ provides comments on the Preliminary Groundwater Sampling Results for the SWU and RBC Tracts and Monitoring Well Installation and Sampling Results submitted on July 26, 2007. The letter requested that State of Texas Professional Geologist seals be included on the title page of documents and expressed concern that temporary sample locations do not ensure that the plume does not turn to the south from the SWU Tract.
11/6/2007 – 11/9/2007	Geoprobe® temporary samples are collected from the RBC Tract to complete the delineation of the 1,2-DCA plume.
01/04/2008	Rohm and Haas submits preliminary groundwater results for the RBC Tract to the TCEQ. These results indicate that the 1,2-DCA plume terminates beneath the RBC Tract approximately 600 feet north of Rayford Road.
02/18/2008	Rohm and Haas submits a revision of Amendment 02 to the Class V UIC authorization requesting TCEQ approval of alternate injection locations for the previously approved six EAB and chemical oxidation pilot injection wells.
02/27/2008	Rohm and Haas submits 2008 Annual Monitoring Report to TCEQ.

Table 1-2: Site Chronology of Groundwater Investigations and Response Actions
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Date of Activity	Site Chronology
02/29/2008	Rohm and Haas receives TCEQ approval of the alternate injection locations for the EAB and chemical oxidation pilot studies.
04/30/2008	Rohm and Haas submits the RAER to TCEQ.
05/01/2008	Rohm and Haas mails annual notification letters to affected property owners informing them of new site information.
05/14/2008	Rohm and Haas submits the final report on monitoring well installation and sampling from RBC to TCEQ.
06/2008	Rohm and Haas initiates EAB and MaxOx pilot studies.
07/17/2008	Rohm and Haas submits the 2009 Annual Monitoring Report to TCEQ.
07/18/2008	Rohm and Haas submits an Application for Innocent Owner/Operator for Amerson Property, Spring, Texas, to TCEQ.
11/4/2008	Rohm and Haas submits an Application for Innocent Owner/Operator for Southwest University Property, Spring, Texas, to TCEQ.
03/13/2009	Rohm and Haas submits the 2008 Annual Monitoring Report to TCEQ.
05/11/2009	Rohm and Haas mails annual notification letters to affected property owners informing them of new site information.
08/13/2009	Rohm and Haas submits Amendment 03 to the Class V UIC authorization requesting TCEQ approval to use one existing monitoring well (MW-CB-13AS) as an injection well for continued evaluation of the EAB pilot study.
08/24/2009	Rohm and Haas receives TCEQ approval to use monitoring well MW-CB-13AS as an injection well for continued evaluation of the EAB pilot study evaluation.
03/17/2010	Rohm and Haas submits the 2009 Annual Monitoring Report to TCEQ.
05/13/2010	The TCEQ issues a letter noting the increasing 1,2-DCA concentrations at MW-CB- 48 and MW-CB-50D and expresses concern over the "potential for further downgradient contaminant migration."
05/27/2010	Rohm and Haas mails annual notification letters to affected property owners informing them of new site information.
06/30/2010	Rohm and Haas submits a revised RAP detailing the results of ongoing groundwater and treatment operations at the Source Area and the 13-Acre Tract and the results of the EAB and chemical oxidation pilot studies. The RAP proposes a Remedy Standard B response action based on continuing pump-and-treat operations at both locations and implementation of the full-scale EAB for portions of the plume not captured by the treatment systems.
07/28/2010	GSI submits a letter to Rohm and Haas and copies the TCEQ. The letter discusses the supplemental groundwater sampling of sentinel monitoring wells to confirm the demonstration that the 1,2-DCA plume is stable and delineated.
08/25/2010	The TCEQ issues a letter providing a list of comments on the RAP submitted on June 30, 2010.
10/27/2010	Rohm and Haas submits a letter containing responses to TCEQ comments listed in its August 25, 2010, review letter on the RAP (dated July 2010).
01/12/2011	The TCEQ issues a letter to Rohm and Haas with additional comments on the October 27, 2010, response letter submitted by Rohm and Haas.
01/31/2011	Rohm and Haas submits a letter responding to the TCEQ comment letter dated January 12, 2011, which included a technical memorandum describing activities performed in response to one of the comments requesting the VCP applicant to use tentatively identified compound procedures to identify and quantify VOCs that may be produced from the EA processes.
02/21/2011	Rohm and Haas submits the 2010 Annual Monitoring Report to the TCEQ.
04/07/2011	The TCEQ issues a letter responding to the Rohm and Haas letter dated January 31, 2011. The letter informs Rohm and Haas that its prior comments were adequately addressed and that, contingent upon successfully completing the activities listed in that January 31, 2011 letter, TCEQ has no further comments at this time.
05/06/2011	Rohm and Haas submits the amended RAP as approved by the TCEQ response letter dated April 7, 2011.
05/10/2011	The TCEQ issues a letter concurring with the conclusions and recommendations of the July 28, 2010, letter; however, the TCEQ requests that Rohm and Haas provide a detailed response regarding the rationale for placement of monitoring wells southeast rather than directly south or southwest of MW-CB-45. In addition, the TCEQ notes concern over contaminant distribution following a paleo-channel.
06/22/2011	Rohm and Haas submits response to TCEQ comment on the 2010 Annual Monitoring Report. The response provided the reason for well placement downgradient of MW-CB-45 and proposed a supplemental groundwater sampling program at locations south and southwest of MW-CB-45.
08/12/2011	Rohm and Haas submits Amendment 04 to the Class V UIC authorization requesting TCEQ approval of 11 substrate injection wells for the implementation of the full-scale Phase 1 EAB treatment zone.
08/31/2011	Rohm and Haas submits the EAB Work Plan detailing the design of the full-scale EAB response action component at the Charlie Burch Site that will be implemented in five phases.
09/2/2011	The TCEQ issues a letter notifying Rohm and Haas of no additional comments regarding the amended May 2011 RAP and effectively approves the RAP. In the same letter, TCEQ provides comments to the response letter dated June 22, 2011, and requests an additional geologic and hydrogeologic study to evaluate potential hydraulic changes of the plume near MW-CB-45.
09/16/2011	Rohm and Haas receives TCEQ approval of 11 injection wells for the implementation of the full-scale Phase 1 EAB treatment zones.
09/19/2011 - 10/6/2011	Four new Zone A recovery wells are installed and developed as part of the redesign of the Source Area groundwater and recovery treatment system planned by Rohm and Haas. The replacement wells are designated RW-CB-2R, RW- CB-3R, RW- CB-4R, and RW-CB-5R.
10/27/2011	The TCEQ issues a response letter notifying Rohm and Haas it has no objections to the proposed scope of work detailed in the EAB Work Plan for the full-scale EAB implementation submitted on August 11, 2011.
10/28/2011	Rohm and Haas submits a response letter to the TCEQ comment letter dated September 2, 2011. Rohm and Haas proposes to collect additional lithology information from proposed borings and evaluate groundwater flow direction in vicinity of the toe of the plume. TCEQ approves the proposed plan by email on the same date.
11/7/2011 - 01/27/2012	Rohm and Haas implements and completes construction activities related to the redesigned Source Area groundwater recovery and treatment system. The major components of the redesigned system include new subsurface piping, wiring and process instrumentation, recovery well vaults, and an electrical control building (ECB). The original air stripper is adapted to the redesigned system. Air discharge and treated water discharge permits are retained for the operation of the redesigned system. Full-time operation of the redesigned system begins on January 27, 2012.
12/22/2011	The TCEQ issues a letter concurring with the activities proposed in the October 28, 2011, response letter submitted by Rohm and Haas. The TCEQ also approves plugging of MW-CB-47D, MW-CB-49, MW-CB-50D, and MW-CB-50S.
01/16/2012	Rohm and Haas submits Amendment 05 to the Class V UIC authorization requesting TCEQ approval to replace three injection (substrate injection) wells, or SIWs (EAB- SIW-1 through EAB-SIW-3) with 12 temporary DPT injection points (designated EAB- DPT-1 through EAB-DPT-12).
02/01/2012	Rohm and Haas submits documentation on the Supplemental Groundwater and Lithology Investigation on the RBC and SWU Properties. The documentation recommends quarterly water level gauging and semi-annual sampling of the wells at the toe of the plume.
02/02/2012 - 02/22/2012	Rohm and Haas constructs the substrate injection wells and performance monitoring wells for the Phase 1 EAB treatment zones.
02/21/2012	Rohm and Haas receives TCEQ approval to replace three Phase 1 EAB substrate injection wells with 12 temporary DPT injection points.
02/29/2012	Rohm and Haas submits the 2011 Annual Monitoring Report to the TCEQ.
03/05/2012 - 03/19/2012	Rohm and Haas completes substrate injection into the Phase 1 EAB treatment zones.
03/20/2012	Rohm and Haas submits Amendment 06 to the Class V UIC authorization requesting TCEQ approval of 19 substrate injection wells for the implementation of the full-scale Phase 2 EAB treatment zones.

Table 1-2: Site Chronology of Groundwater Investigations and Response Actions
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Date of Activity	Site Chronology
03/30/2012	The TCEQ issues a letter concurring with the findings of the supplemental groundwater and lithology investigation report dated February 1, 2012. TCEQ agrees that no further activities other than those proposed are necessary to address previously expressed TCEQ concerns regarding the plume located south of the 13-Acre Tract.
04/11/2012	Rohm and Haas hosts an evening community meeting at the Robinson Road Community Center to discuss progress made to date and plans for addressing the groundwater contamination associated with the Charlie Burch site. Nine residents located in or around the Imperial Oaks subdivision attended the open meeting.
04/16/2012	Rohm and Haas receives TCEQ approval of 19 injection wells for the implementation of the full-scale Phase 2 EAB treatment zones.
04/16/12 - 05/02/2012	Rohm and Haas constructs the substrate injection wells and performance monitoring wells for the Phase 2 EAB treatment zones.
05/1/2012 - 05/22/2012	Rohm and Haas completes substrate injection into the Phase 2 EAB treatment zones.
05/08/2012	Rohm and Haas mails annual notification letters to affected property owners informing them of new site information.
06/05/2012 - 06/15/2012	Rohm and Haas drills the Phase 1 EAB temporary direct push technology (DPT) injection points and simultaneously injects substrate and bioaugments the DPT points. The DPTs are plugged immediately following injection activities.
06/16/2012 - 06/20/2012	Rohm and Haas completes the bioaugmentation of the substrate injection wells in the Phase 1 and 2 EAB treatment zones.
06/27/2012	The TCEQ issues a letter concurring with the conclusions and recommendations of the 2011 Annual Monitoring Report; however, they note an elevated 1,2-DCA concentration in MW-CB-8AD compared to recent results in that well.
06/27/2012 - 06/29/2012	The Source Area System air stripper is completely disassembled and pressure washed to remove iron oxide buildup. The system is restarted on 6/29/12.
07/05/2012	Rohm and Haas submits responses to TCEQ comments on the 2011 Annual Monitoring Report.
08/24/2012	Rohm and Haas submits the memorandum Evaluation of Monitoring Well Network and Recommendations for Retention or Well Plugging and Abandonment to the TCEQ.
9/18/2012	The TCEQ issues a letter concurring with the Rohm and Haas response letter dated July 5, 2012.
10/9/2012	Rohm and Haas conducts a meeting with the Rummell property owners to discuss remediation alternatives for the portion of the plume underlying the property.
10/25/2012 - 11/16/2012	The Source Area blower fails. The blower is removed, repaired, reinstalled, and placed back into service.
11/2/2012	The TCEQ issues a letter concurring with the Rohm and Haas recommendation to plug and abandon wells not necessary for continued monitoring of the three groundwater bearing units under observation.
1/7/13 – 1/11/13	Rohm and Haas plugs and abandons 16 select injection, monitoring, and recovery wells.
1/25/13, 2/22/13	Two of the three 13-Acre Tract granular activated carbon (GAC) vessels fail in January and February 2013. An investigation reveals that the vessels have reached their 7-year life expectancy and have failed due to interior corrosion. Three new vessels are purchased and placed into service on March 26, 2013. The three original vessels are decommissioned and properly disposed of.
2/27/2013	Rohm and Haas submits the 2012 Annual Monitoring Report to the TCEQ.
2/27/2013	Rohm and Haas is notified that the properties south (downgradient) of the 13-Acre Tract (Amerson, SWU, and RBC) have been transferred to ICG, the new owners.
3/29/2013	Rohm and Haas mails annual notification letters to affected property owners informing them of new site information.
4/10/13	Groundwater is discovered in the Source Area System recovery well vaults. The system is shut down the same day groundwater is observed. An investigation into the cause reveals the root cause is a faulty check valve in a recovery well. The faulty check valve is replaced, and the system is restarted on April 22, 2013.
7/1/2013	ICG issues a verbal approval for Rohm and Haas subcontractors to access the tracts south of the 13-Acre Tract and conduct the planned Phase 5 EAB ICG issues a verbal approval for Rohm and Haas subcontractors to access the tracts south of the 13-Acre Tract and conduct the planned Phase 5 EAB supplemental groundwater investigation.
8/5/2013	Surficial ponding of groundwater is observed around the influent side of the 13-Acre Tract infiltration trench. The system recovery rate is temporarily slowed to a rate at which all water infiltrates and no ponding is observed. A trench clean-out conducted on October 2, 2013, recovers roots. Following clean-out, the system recovery rate is increased to its historical rate. No ponding is subsequently observed.
8/13/13 - 8/15/13	Rohm and Haas conducts a supplemental groundwater investigation in the plume south of the13-Acre Tract to determine the optimal locations for the Phase 5 EAB treatment zones as part of the Phase 5 EAB design efforts.
9/5/2013	Rohm and Haas submits Amendment 07 to the Class V UIC authorization requesting TCEQ approval of 14 substrate injection wells for the implementation of the full-scale Phase 5 EAB treatment zones.
10/3/2013	Rohm and Haas submits the Phase 5 Enhanced Anaerobic Bioremediation Work Plan to TCEQ detailing the results of the supplemental groundwater investigation conducted for the design of the Phase 5 EAB treatment zones and the location of the proposed Phase 5 EAB treatment transects.
11/4/2013	Rohm and Haas obtains a signed copy of the access agreement for the ICG Rayford Partners LP (ICG) tracts located on affected property.
11/5/13 - 12/4/13	Rohm and Haas constructs the substrate injection wells and performance monitoring wells for the Phase 5 EAB treatment zones.
11/18/2013	Rohm and Haas receives a TCEQ letter acknowledging review and approval of the Phase 5 EAB Work Plan submitted on October 3, 2013.
11/22/2013	Rohm and Haas receives TCEQ approval of 14 injection wells for the implementation of the full-scale Phase 5 EAB treatment zones.
12/5/13 - 1/14/14	Rohm and Haas completes substrate injection and bioaugmentation into the Phase 5 EAB treatment zones.
2/14/2014	Rohm and Haas submits a semi-annual UIC status report requesting revision to the Amendment 07 Authorization letter dated November 22, 2013, to distinguish between the two types of ongoing injections under the existing authorization. Groundwater reinjected for EAB implementation contains lower concentrations than the groundwater extracted, but does not need to be treated to below PCLs as required with the groundwater reinjected into the infiltration trench.
2/28/2014	Rohm and Haas submits the 2013 Annual Monitoring Report to the TCEQ.
3/20/14	Rohm and Haas receives a TCEQ letter approving the reinstatement of the September 16, 2011, authorization concurring that constituents in reinjected water (for EAB) have lower concentrations than constituents in extracted site water.
4/28/14	TCEQ response to February 28, 2014, Groundwater Sampling Event Report
4/28/14	The Source Area blower motor trips the overload switch because it pulls higher than the design amperage. The Source Area system stops recovery operations when the overload switch is activated.
4/28/14	Rohm and Haas mails annual notification letters to affected property owners informing them of new site information.
5/12/14	A Rohm and Haas subcontractor oversees the removal of the blower from the Source Area, after the blower failed on April 28, 2014. The blower is delivered to Heights Armature Works for evaluation and repair.
5/16/14	The repaired blower reinstalled, and the Source Area groundwater recovery and treatment system restarted.
5/21/14	The Montgomery County flood control district installs an extension to the Source Area outfall (discharge) pipe and lowers the discharge point to the water level.
6/1/14	Rohm and Haas submits a RAER to the TCEQ summarizing site-wide response action activities from 2011 through the first half of 2014.
8/6/14	Rohm and Haas submits Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for January 1 through June 30, 2014.
2/4/15	Rohm and Haas submits letter proposal to discontinue quarterly water level gauging and semiannual sampling of the sentinel wells.
2/12/15	Rohm and Haas submits Semi-annual Status Report of Class V Aquifer Remediation Injection Wells for July 1 through December 31, 2014.
2/26/15	Rohm and Haas submits the 2014 Annual Groundwater Monitoring Report to TCEQ.

Table 1-2: Site Chronology of Groundwater Investigations and Response Actions
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Date of Activity	Site Chronology
3/6/15	TCEQ letter regarding May 30, 2014, RAER and February 4, 2015, proposal. Approved request to terminate quarterly water level gauging, but required continued semi-annual groundwater sampling for 1,2-DCA only at wells MW-CB- 40, MW-CB-44, and MW-CB-48. (Rohm and Haas has elected to also collect semiannual groundwater samples from MW-CB-45.)
5/7/2015	Response to TCEQ comments on the May 30, 2014, RAER and February 4, 2015, Request to Eliminate Quarterly Water Level Gauging and Semi-Annual Sampling at the Sentinel Well Area
8/12/15	Rohm and Haas submits Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for January 1 through June 30, 2015.
2/16/16	Rohm and Haas submits Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for July 1 through December 31, 2015.
2/26/16	2015 Annual Groundwater Monitoring Report by GSI
Late Feb - early Mar 2016	Rohm and Haas constructs the infiltration trench associated with the Phase 4 EAB treatment zone. Trench is not yet operational.
5/11/2016	TCEQ letter regarding the 2014 and 2015 Annual Groundwater Monitoring Reports
6/21/16	Response to TCEQ's letter regarding the February 26, 2015, and February 26, 2016, Groundwater Monitoring Reports
8/3/16	Parsons submits Phase 4 Enhanced Anaerobic Bioremediation Work Plan to TCEQ.
8/10/16	Rohm and Haas submits Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for January 1 through June 30, 2016.
8/16/16	TCEQ letter response to Rohm and Haas letter dated June 21, 2016. Contingent upon successful completion of activities listed therein, TCEQ has no additional comments except to clarify groundwater monitoring frequency.
9/1/16 - 9/29/16	Rohm and Haas constructs the substrate injection wells and performance monitoring wells for the Phase 4 EAB treatment zone.
10/20/16 - 11/14/16	Rohm and Haas completes substrate injection and bioaugmentation into the Phase 4 EAB treatment zone.
3/9/17	Rohm and Haas submits Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for July 1 through December 31, 2016.
3/13/17	Parsons transmittal to TCEQ of deed filing with Montgomery County on XOG property at 25529 Richards Road
3/13/17	Parsons letter to TCEQ regarding status of ongoing efforts to obtain access to the Wert Property
3/15/17	Submittal of 2016 Annual Groundwater Monitoring Report by GSI.
6/1/17	Rohm and Haas submits Response Action Effectiveness Report (RAER)
6/7/17	TCEQ letter
6/13/17	GSI (on behalf of Rohm and Haas) submitted a letter to the TCEQ documenting proposed modifications to the groundwater extraction and treatment system discharge, including re-routing of the discharge from the treatment system.
6/29/17	TCEQ letter in response to March 24, 2017 letter entitled "Status of Ongoing Efforts to Obtain Access to the Wert Property to Perform Enhanced Anaerobic Bioremediation, Follow-up Communications".
8/25/17	Rohm and Haas submits response to the TCEQ's letter dated 7 June 2017 to address comments regarding results of the 2016 annual groundwater monitoring event.
8/30/17	Rohm and Haas submits Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for January 1 through June 30, 2017.
9/5/2017	Response to June 29,2017 TCEQ Letter regarding ongoing efforts to obtain Access to the Property to perform enhanced anaerobic bioremediation (follow up communications.)
10/2/17 - 11/30/17	Decommissioning of the old air stripper and installation of the new air stripper, including piping to the infiltration trench and other system modifications.
12/1/2017	TCEQ letter in response to August 25, 2017 letter. Agrees with plugging and abandoning EAB-MW-02.
12/19/17	Parsons submittal to TCEQ requesting to amend UIC
12/20/17	TCEQ letter in response to September 5, 2017 letter.
1/31/18	TCEQ approved amendment to the UIC authorization to reinject treated effluent to the infiltration trench located on the Rummell property east of the site. Authorizes the injection of EAB substrate in up to 50 new substrate injection wells, 10 existing SIWs, 2 infiltration galleries and 188 temporary injection points.
2/15/18	An executed access agreement with Mr. Wert was filed with the Montgomery County Clerk to access his property to conduct Phase 3 EAB activities.
2/26/18	Rohm and Haas submits Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for July 1 through December 31, 2017.
March 2018 –April 2018	Redevelopment of Phase 1 and 2 injection and performance monitoring wells and refresh injections.
4/3/18	Submittal of 2017 Annual Groundwater Monitoring Report by GSI
4/6/18 - 4/9/18	Completed EAB injections into the Phase 5 substrate injection wells (SIWs) and initiated the Phase 1 and 2 EAB refresh injections.
6/4/18 - 6/8/18	Drilling and well installation on Phase 3 Wert property.
6/15/18 – 8/10/18	EAB injections on Phase 3 Wert property.
6/26/18	TCEQ letter review of GWMR
10/12/18	Rohm and Haas submits Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for January 1 through August 31, 2018.
December 2018	Completed investigation of groundwater plume located in the Source Area using low-level membrane interface probe systems (MIPs).
2/14/19	Submittal of Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for September 1 through December 31, 2018
2/21/19	TCEQ letter to Rohm and Haas regarding Notice of Pending Termination of Innocent Owner/Operator Program Site
1st quarter 2019	Executed amended agreement with source area landowner to restrict GW use in upper 200 feet and limit land use to commercial industrial for the entire property (to be filed at the County).
April 2019	Performed cleaning of the Air Stripper.
5/13/19	Submittal of 2018 Annual Groundwater Monitoring Report by Jacobs.
6/28/19	TCEQ review of Annual Groundwater Monitoring Report with comments.
6/24/19 - 7/19/19	Performed an expanded investigation of the groundwater plume located in the Source Area using Low-level Membrane Interface Probe geoprobe system (MIPS).
7/18/19	Abandoned MW-CB-3 in Source Area, as per approval by TCEQ in June 2019.
8/14/2019	Submittal of Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for January 1 through June 30, 2019.
10/14/19 - 10/19/19	Completed restoration of pasture/land damaged by Phase 3 EAB completed in August 2018 at request of property owner (topsoil addition, minor grading/tilling, and seeding).
12/19/2019	Request to Shut Down 13 Acre Tract Treatment System submitted to TCEQ by Rohm and Haas.
2/14/2020	Submittal of Semi-Annual Status Report of Class V Aquifer Remediation Injection Wells for July 1 through December 31, 2019.
3/2/2020	TCEQ response to request for shutdown of 13 Acre Tract Treatment System.
3/30/2020	Shutdown Notification of the 13-Acre Tract Treatment System.
5/20/2020	Submittal of 2019 Annual Groundwater Monitoring Report by Jacobs.
06/2020	Submittal of 2020 RAER by Parsons.
06/01/2021	Submittal of 2020 Annual Groundwater Monitoring Report by Jacobs.
10/27/2021	Shutdown of the Source Area groundwater pump-and-treat system, to further evaluate back diffusion and plume stability.

Table 1-2: Site Chronology of Groundwater Investigations and Response Actions

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Date of Activity	Site Chronology
06/01/2022	Submittal of 2021 Annual Groundwater Monitoring Report by Jacobs.

Acronyms:

1,2-DCA = 1,2-Dichloroethane

DPT = Direct Push Technology

EAB = Enhanced Anaerobic Bioremediation

ECB = electrical control building

GAC = granular activated carbon

GSI = GSI Environmental, Incorporated

GW = groundwater

GWMR = Groundwater Monitoring Report

ICG = ICG Rayford Partners LLC

Inc = Incorporated

llc = Limited Liability Company

MIP = membrane interface probe

MIPS = membrane interface probe system

MNA = Monitored Natural Attenuation

No. = Number

O&M = Operations and Maintenance

PCL = protective concentration levels

RAER = Response Action Effectiveness Report

RAP = Response Action Plan

RBC = Rayford Business Campus

REI = Resource Engineering, Incorporated

SIWs = Substrate Injection Wells

SWU = Southwestern University

TCEQ = Texas Commission on Environmental Quality

TDH = Texas Department of Health

TDWR = Texas Department of Water Resources

TNRCC = Texas Natural Resource Conservation Commission

TWC = Texas Water Comisión

UIC = Underground Injection Control

URL = uniform resource locators

VCP = Voluntary Cleanup Program

Table 1-3: Well and Piezometer Construction Specifications

Charlie Burch Site, Spring, Texas

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Well Identifications [a]	Date Installed	Constructed Wells TD	Screened Depth	Screen Lengths	TOC Elevations	Measured TD	Sediment Thickness	Screen Blockage
		(ft bgs)	(ft bgs)	(ft)	(ft MSL)	(ft TOC)	(ft)	(%)
Zone A Monitoring Wells - Source Area								
AZG1-16-21 [d, e, f]	--	--	16.0-21.0	5	--	21.18	--	--
AZG1-39-44 [d, e, f]	--	--	39.0-44.0	5	--	43.98	--	--
AZG1-63-68 [d, e, f]	--	--	63.0-68.0	5	--	21.18	--	--
AZG2-18-23 [d, e, f]	--	--	18.0-23.0	5	--	23.09	--	--
AZG2-40-45 [d, e, f]	--	--	40.0-45.0	5	--	45.35	--	--
AZG2-59-64 [d, e, f]	--	--	59.0-64.0	5	--	63.91	--	--
AZG4-20-25 [d, e, f]	--	--	20.0-25.0	5	--	25.06	--	--
AZG4-39-44 [d, e, f]	--	--	39.0-44.0	5	--	43.98	--	--
AZG4-59-64 [d, e, f]	--	--	59.0-64.0	5	--	63.73	--	--
AZG5-20-25 [d, e, f]	--	--	20.0-25.0	5	--	45.09	--	--
AZG5-40-45 [d, e, f]	--	--	40.0-45.0	5	--	56.96	--	--
AZG6-35-40 [d, e, f]	--	--	35.0-40.0	5	--	30.91	--	--
AZG6-45-50 [d, e, f]	--	--	45.0-50.0	5	--	49.99	--	--
AZG6-67-72 [d, e, f]	--	--	67.0-72.0	5	--	71.83	--	--
MW-CB-1A	9/3-4/1997	62.00	51.5-61.0	10	117.33	62.80	0.0	0%
MW-CB-4	8/25-27/1997	68.60	58.5-68.0	10	119.45	70.30	0.0	0%
MW-CB-5A	5/4-5/1998	69.00	58.2-68.3	10	122.66	70.60	0.0	0%
OW-2	2/22/2000	37.00	21.9-36.5	10	121.45	36.90	0.10	1%
PZ-2	2/18/2009	45.00	35.0-45.0	10	119.06	48.00	0.0	0%
PZ-3	2/18/2009	44.00	34.0-44.0	10	119.52	47.00	0.0	0%
PZ-4	9/29/2011	46.00	25.0-45.0	20	118.67	48.06	0.0	0%
RW-CB-2	2/29/2000	68.00	36.7-66.6	30	117.71	61.54	6.46	22%
RW-CB-4	3/4/2000	68.00	37.5-67.5	30	117.49	57.48	10.52	35%
Zone A Recovery Wells - Source Area								
RW-CB-2R	2/29/2000	66.90	44.9-64.9	20	116.22	64.60	2.30	12%
RW-CB-3R	3/2/2000	67.00	25.0-65.0	20	115.46	62.30	4.70	24%
RW-CB-4R	3/2/2000	66.00	44.0-64.0	20	116.38	62.34	3.66	18%
RW-CB-5R	3/1/2000	67.00	45.0-65.0	20	115.99	63.59	3.41	17%
Zone A Monitoring Wells - Offsite Northern Tract								
MW-CB-2A	8/28/1997	63.50	52.5-62.6	10	118.19	60.15	3.35	34%
MW-CB-25A	10/28/2003	42.00	20.0-40.0	20	115.74	40.20	1.80	9%
MW-CB-26A	10/30/2003	42.00	20.0-40.0	20	114.65	40.42	1.58	8%
MW-CB-27A [b]	10/29/2003	42.00	20.0-40.0	20	116.36	--	--	--
MW-CB-28A	10/31/2003	42.00	20.0-40.0	20	118.36	40.41	1.59	8%
PMW-08B [d]	9/14/2016	62.00	52.0-62.0	10	--	61.83	0.17	2%
PMW-09A [d]	9/15/2016	35.00	20.9-30.9	10	--	30.20	4.80	48%
PMW-09B [d]	9/15/2016	65.00	52.0-62.0	10	--	62.05	2.95	30%
PMW-17 [d]	6/5/2018	30.50	20.0-30.0	10	--	29.78	0.72	7%
PMW-18 [d]	6/5/2018	31.50	21.0-31.0	10	--	30.98	0.52	5%
PMW-19 [d]	6/6/2018	31.00	20.0-30.0	10	--	30.11	0.89	9%
PMW-19B [d]	7/16/2018	50.50	40.5-50.5	10	--	50.12	0.38	4%
RDP-3 [c]	4/27/2012	35.00	25.0-35.0	10	115.97	34.58	0.42	4%
RDP-5 [c]	4/27/2012	29.00	19.0-29.0	10	116.80	30.10	0.0	0%
Zone A Monitoring Wells - Offsite Middle West Tract								
MW-CB-8AD	11/18/1998	50.00	40.0-50.0	10	118.28	49.74	0.26	3%
MW-CB-9AD	11/12/1998	60.00	40.0-50.0	20	117.05	57.71	2.29	11%
MW-CB-11AS	11/10/1998	45.00	25.0-45.0	20	117.15	40.21	4.79	24%
MW-CB-12AD	11/17/1998	60.00	38.0-58.0	20	116.64	58.11	1.89	9%
MW-CB-12AS	12/16/1998	40.00	19.5-39.5	20	116.55	37.50	2.50	13%
MW-CB-16AS	12/17/1998	40.00	19.3-39.3	20	117.95	38.27	1.73	9%
MW-CB-17AS	2/9/1999	40.00	15.0-35.0	20	116.30	34.45	5.55	28%
MW-CB-24AS	3/5/1999	32.00	19.5-29.5	10	116.16	29.26	2.74	27%

Table 1-3: Well and Piezometer Construction Specifications

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well Identifications [a]	Date Installed	Constructed Wells TD	Screened Depth	Screen Lengths	TOC Elevations	Measured TD	Sediment Thickness	Screen Blockage
		(ft bgs)	(ft bgs)	(ft)	(ft MSL)	(ft TOC)	(ft)	(%)
Zone A Monitoring Wells - 13-Acre Tract								
EAB-MW-01 [b]	4/7/2008	40.98	30.9-40.9	10	125.09	--	--	--
EAB-MW-02	4/9/2008	40.70	30.7-40.7	10	124.66	43.71	0.0	0%
EAB-MW-03	4/8/2008	40.00	40.0-50.0	10	124.66	42.88	0.0	0%
MW-CB-13AS	12/23/1998	40.00	17.7-37.8	20	118.63	37.22	2.78	14%
MW-CB-14AS	12/28/1998	40.00	19.0-38.9	20	118.93	37.75	2.25	11%
MW-CB-15AS	12/28/1998	40.00	19.8-39.7	20	117.04	38.04	1.96	10%
MW-CB-29A	10/22/2003	40.00	18.0-38.0	20	122.39	41.21	0.0	0%
MW-CB-30A	10/21/2003	40.00	18.0-38.0	20	122.13	41.54	0.0	0%
MW-CB-31A	10/21/2003	40.00	18.5-38.5	20	120.91	41.60	0.0	0%
MW-CB-33A	4/7/2005	40.00	18.0-38.0	20	122.80	40.93	0.0	0%
MW-CB-34A	4/7/2005	40.00	19.0-39.0	20	122.09	41.65	0.0	0%
MW-CB-35A [c]	4/8/2005	40.00	19.0-39.0	20	117.34	39.42	0.58	3%
PMW-14	2/9/2018	39.00	29.0-39.0	10	118.3	41.80	0.0	0%
PZ-1	5/21/2008	40.00	30.0-40.0	10	125.49	42.35	0.0	0%
Zone A Recovery Wells - 13-Acre Tract								
TRW-CB-1	4/18/2006	45.00	25.0-45.0	20	118.00	43.49	1.51	8%
TRW-CB-2	4/18/2006	45.00	25.0-45.0	20	121.37	45.68	0.0	0%
TRW-CB-3	4/17/2006	55.00	25.0-55.0	30	118.51	54.45	0.55	2%
TRW-CB-4	4/17/2006	55.00	25.0-55.0	30	119.34	54.28	0.72	2%
Zone A Monitoring Wells - Offsite Southern Tract								
MW-CB-19AS	2/22/1999	39.00	18.5-38.5	20	120.04	38.55	0.45	2%
MW-CB-22AS	2/19/1999	40.00	19.5-39.5	20	119.01	39.13	0.87	4%
MW-CB-36	10/2/2006	51.00	40.0-50.0	10	121.67	52.71	0.0	0%
MW-CB-37D	10/12/2006	70.00	58.0-68.0	10	121.55	71.39	0.0	0%
MW-CB-37S	9/28/2006	51.00	40.0-50.0	10	121.44	53.13	0.0	0%
MW-CB-38	9/29/2006	51.00	40.0-50.0	10	121.29	52.95	0.0	0%
MW-CB-39	10/5/2006	51.00	40.0-50.0	10	119.01	52.97	0.0	0%
MW-CB-40	10/3/2006	51.00	40.0-50.0	10	122.54	52.85	0.0	0%
MW-CB-41D	10/9/2006	71.00	59.0-69.0	10	122.43	71.95	0.0	0%
MW-CB-41S	10/4/2006	51.00	40.0-50.0	10	121.70	53.10	0.0	0%
MW-CB-42	10/3/2006	51.00	40.0-50.0	10	120.15	52.86	0.0	0%
MW-CB-43	5/11/2007	50.00	40.0-50.0	10	120.86	52.70	0.0	0%
MW-CB-44	5/12/2007	50.00	40.0-50.0	10	120.96	52.45	0.0	0%
MW-CB-45	5/12/2007	50.00	40.0-50.0	10	120.89	52.97	0.0	0%
MW-CB-46S	5/11/2007	50.00	40.0-50.0	10	120.50	52.55	0.0	0%
MW-CB-47S	2/21/2008	50.00	40.0-50.0	10	119.06	50.20	0.0	0%
MW-CB-48	2/19/2008	50.00	40.0-50.0	10	118.31	49.57	0.43	4%
OBS-1	6/20/2008	50.00	25.0-50.0	25	120.71	52.55	0.0	0%
OBS-2	6/19/2008	50.00	40.0-50.0	10	120.12	52.42	0.0	0%
Zone B Monitoring Wells - Source Area								
MW-CB-1B	9/2-3/1997	104.00	90.5-100.6	10	117.64	102.92	1.08	11%
MW-CB-1BS	11/24/2003	85.00	70.0-85.0	15	118.85	89.25	0.0	0%
MW-CB-7B	11/18/2003	101.50	85.0-100.0	25	120.05	104.32	0.0	0%
Zone B Recovery Wells - Source Area								
RW-CB-3D	3/3/2000	101.40	71.4-101.4	30	116.25	97.44	3.96	13%

Table 1-3: Well and Piezometer Construction Specifications

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well Identifications [a]	Date Installed	Constructed Wells TD	Screened Depth	Screen Lengths	TOC Elevations	Measured TD	Sediment Thickness	Screen Blockage
		(ft bgs)	(ft bgs)	(ft)	(ft MSL)	(ft TOC)	(ft)	(%)
Zone B Monitoring Wells - Offsite Northern Tract								
MW-CB-2B	8/29/1997	102.00	89.5-99.6	10	118.87	97.55	4.45	45%
MW-CB-6B [c]	5/11-12/98	102.00	89.5-99.6	10	115.81	100.47	1.53	15%
MW-CB-6BS	11/11/2003	85.00	70.0-85.0	15	116.22	85.84	0.0	0%

Notes:

[a.] Well number subscripts generally refer to screen depths as follows:

A or AS = Zone A Shallow approximately 0 - 40 ft depth

AD = Zone A Deep approximately 40 - 70 ft depth

B or BS = Zone B approximately greater than 70 ft depth

[b.] Water levels could not be measured due to obstructions inside the well casing.

[c.] Top of casing and ground surface elevations at wells were resurveyed in 2012 and 2013.

[d.] A top-of-casing elevation was not available for this well.

[e.] A date of installation and constructed total depth was not available for this well.

f. Sediment thickness and screen blockage was not able to be calculated due to constructed well total depth not being available for this well.

Acronyms:

% = percent
AZG = A zone grab
bgs = below ground surface
EAB = Enhanced Anaerobic Bioremediation Wells
ft = feet
MSL = mean sea level
MW = Monitoring Well
NIA = no information available from previous consultant
PMW = Performance Monitoring Wells
PZ = Piezometer
RW = Recovery Well
TD = total depth
TRW = Trench Recovery Well
TOC = top of casing

Table 2-1: Effluent Limitations for Discharge of Treated Water to the Montgomery District Flood Control Channel

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Constituents of Concern	Daily Average (mg/L)	Daily Maximum (mg/L)
1,2-Dichloroethane	1.1	2.4
2-Butanone	214	453
Acetone	512	711
Benzene	NA	0.05
Benzene, Toluene, Ethylbenzene, and Xylene	NA	0.5
Ethyl Methacrylate	58.7	124
Methyl Methacrylate	58.7	124
Isobutanol	297	629
2,4-Dimethylphenol	1.7	3.6
Cresols, Total	944	1,998
pH	Maintain between 6 and 9 standard units	

Acronyms:

mg/L = milligrams per liter

NA = not applicable

pH = potential Hydrogen

Table 2-2: Source Area Groundwater Recovery Volume

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Inspection Date	Effluent Discharge Rate (gpm) [daily limit of 118 gpm]	
	Average	Total Flow[a] (gal)
January	0.0	0
February	0.0	0
March	0.0	0
April [b]	0.00127	55
May	0.0	0
June	0.0	0
July	0.0	0
August	0.0	0
September	0.0	0
October	0.0	0
November	0.0	0
December	0.0	0
	Total Gallons:	55

2022 Total Discharge = 55 gallons

Notes:

[a] Total Flow is calculated from recorded monthly effluent readings.

[b] Source Area System was turned on April 20, 2022 to clean the groundwater pump-and-treat system and purge stored groundwater. Once activities were completed the Source Area pump and treat system was shut down.

1. Source Area groundwater pump-and-treat system shutdown on October 27, 2021.
2. Source Area System remained shut down since April 20, 2022.

Acronyms:

gal = gallons

gpm = gallons per minute

Table 2-3: Source Area Recovery System Analytical Results

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Analytes	Units	Daily Effluent Limitation		Sampling Date
		Avg	Max	4/20/2022 [a, b]
Field Analysis of Treated Effluent				
pH (Outfall)	SU	Between 6 and 9		**8.79 J**
Lab Analysis of System Effluent				
Volatile Organic Compounds				
1,2-Dichoroethane	mg/L	1.1	2.4	< 0.00037
Acetone	mg/L	512	711	**0.0125 J**
Benzene	mg/L	-	0.05	< 0.00030
Ethylbenzene	mg/L	-	0.5	< 0.00038
Ethyl Methacrylate	mg/L	58.7	124	< 0.00053
Isobutanol (Isobutyl alcohol)	mg/L	297	629	< 0.020 J
Methyl Methacrylate	mg/L	58.7	124	< 0.00039
Methyl ethyl ketone (2-butanone)	mg/L	214	453	**0.0022 J**
Toluene	mg/L	-	0.5	< 0.00030
Xylenes	mg/L	-	0.5	< 0.00037
Semivolatile Organic Compounds				
Cresol, Total	mg/L	944	1998	< 0.00067 JL
2,4-Dimethylphenol	mg/L	1.7	3.6	< 0.0010
Lab Analysis of System Influent				
Volatile Organic Compounds				
1,2-Dichoroethane	mg/L	1.1	2.4	< 0.00037
Acetone	mg/L	214	453	< 0.010
Benzene	mg/L	-	0.05	< 0.00030
Ethyl Methacrylate	mg/L	-	0.5	< 0.00053
Ethylbenzene	mg/L	512	711	< 0.00038
Isobutanol (Isobutyl alcohol)	mg/L	-	0.5	< 0.020
Methyl ethyl ketone (2-butanone)	mg/L	297	629	< 0.0017
Methyl Methacrylate	mg/L	-	0.5	< 0.00039
Toluene	mg/L	58.7	124	< 0.00030
Xylenes	mg/L	58.7	124	< 0.00037
Semivolatile Organic Compounds				
Cresol, Total	mg/L	944	1998	< 0.00067 JL
2,4-Dimethylphenol	mg/L	1.7	3.6	< 0.0010

Notes:

[a] Source Area System was turned on April 20, 2022 to clean the groundwater pump-and-treat system and purge stored groundwater. Once activities were completed the Source Area System was shut down.

[b] Source Area System remained shut down since April 20, 2022.

1. Samples analyzed by SGS Accutest Laboratories, Houston, Texas, in accordance with the following SEPA SW-846 methods; VOCs by Method 8260B and SVOCs by Method 8270C.

2. **Bold** indicates a detection greater than the sample quantitation limit.

Acronyms:

- = No effluent limitation value specified
< = Not detected at the quantitation limit indicated
Avg = average
J = Estimated result
JL = Estimated result, biased low
Max = maximum
mg/L = milligrams per liter
pH = potential Hydrogen
SU = Standard Units

Table 3-1: 2022 Groundwater Sampling Activities
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well ID	1st Quarter		2nd Quarter				3rd Quarter		4th Quarter			
	Select Wells for Quarterly Performance Monitoring Event		Sentinel Well Event		Select Wells for Quarterly Performance Monitoring Event		Select Wells for Quarterly Performance Monitoring Event		Site-Wide Event		Select Wells for Site-Wide Event	
	Water Level	Sample	Water Level	Sample Required	Water Level	Sample	Water Level	Sample	Water level	Sample Required	Water Level	Sample
Zone A Monitoring Wells - Source Area												
AZG1-16-21	X	X	-	-	-	-	X	X	-	-	X	X
AZG1-39-44	X	-	-	-	-	-	X	X	-	-	X	X
AZG1-63-68	X	-	-	-	-	-	X	X	-	-	X	X
AZG2-18-23	X	X	-	-	-	-	X	X	-	-	X	X
AZG2-40-45	X	-	-	-	-	-	X	X	-	-	X	X
AZG2-59-64	X	-	-	-	-	-	X	X	-	-	X	X
AZG4-20-25	X	X	-	-	-	-	X	X	-	-	X	X
AZG4-39-44	X	X	-	-	-	-	X	X	-	-	X	X
AZG4-59-64	X	X	-	-	-	-	X	X	-	-	X	X
AZG5-20-25	-	-	-	-	-	-	-	-	-	-	X	X
AZG5-40-45	-	-	-	-	-	-	-	-	-	-	X	X
AZG6-35-40	X	X	-	-	-	-	X	X	-	-	X	X
AZG6-45-50	X	X	-	-	-	-	X	X	-	-	X	X
AZG6-67-72	X	X	-	-	-	-	X	X	-	-	X	X
MW-CB-1A	X	-	-	-	X	X	X	X	X	X	-	-
MW-CB-4	X	X	-	-	X	X	X	X	X	X	-	-
MW-CB-5A	X	X	-	-	X	X	X	X	X	-	-	X
OW-2	-	-	-	-	-	-	-	-	X	X	-	-
PZ-2	-	-	-	-	-	-	-	-	X	-	-	-
PZ-3	-	-	-	-	-	-	-	-	X	-	-	-
PZ-4	-	-	-	-	-	-	-	-	X	-	-	-
RW-CB-2	X	X	-	-	X	X	X	X	X	X	-	-
RW-CB-4	X	X	-	-	X	X	X	X	X	X	-	-
Zone A Recovery Wells - Source Area												
RW-CB-2R	X	X	-	-	X	X	X	X	-	X	X	-
RW-CB-3R	-	-	-	-	-	-	-	-	-	X	X	-
RW-CB-4R	-	-	-	-	-	-	-	-	-	X	X	-
RW-CB-5R	-	-	-	-	-	-	-	-	-	X	X	-
Zone A Monitoring Wells - Offsite Northern Tract												
MW-CB-2A	X	X	-	-	X	X	X	X	X	X	-	-
MW-CB-25A	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-26A	X	X	-	-	X	X	X	X	X	X	-	-
MW-CB-27A[a]	-	-	-	-	-	-	-	-	X	X[a]	-	-
MW-CB-28A	X	X	-	-	X	-	X	X	X	X	-	-
PMW-08B	X	X	-	-	X	X	X	X	-	-	X	X
PMW-09A	-	-	-	-	-	-	-	-	-	-	X	-
PMW-09B	-	-	-	-	-	-	-	-	-	-	X	X
PMW-17	-	-	-	-	-	-	-	-	-	-	X	X
PMW-18	-	-	-	-	-	-	-	-			X	-
PMW-19	-	-	-	-	-	-	-	-	-	-	X	-
PMW-19B	-	-	-	-	-	-	-	-	-	-	X	-
RDP-3	X	X	-	-	X	X	X	X	X	X	-	-
RDP-5	X	X	-	-	X	X	X	X	X	X	-	-
Zone A Monitoring Wells - Offsite Middle West Tract												
MW-CB-8AD	X	X	-	-	X	X	X	X	X	X	-	-
MW-CB-9AD	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-11AS	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-12AD	X	X	-	-	X	X	X	X	X	X	-	-
MW-CB-12AS	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-16AS	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-17AS	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-24AS	-	-	-	-	-	-	-	-	X	-	-	-
Zone A Monitoring Wells - 13-Acre Tract												
EAB-MW-01	-	-	-	-	-	-	-	-	X	-	-	-
EAB-MW-02	-	-	-	-	-	-	-	-	X	-	-	-
EAB-MW-03	X	X	-	-	X	X	X	X	X	X	-	-
MW-CB-13AS	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-14AS	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-15AS	X	-	-	-	X	X	X	X	X	X	-	-
MW-CB-29A	-	-	-	-	X	X	X	X	X	-	-	-

Table 3-1: 2022 Groundwater Sampling Activities
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well ID	1st Quarter		2nd Quarter				3rd Quarter		4th Quarter			
	Select Wells for Quarterly Performance Monitoring Event		Sentinel Well Event		Select Wells for Quarterly Performance Monitoring Event		Select Wells for Quarterly Performance Monitoring Event		Site-Wide Event		Select Wells for Site-Wide Event	
	Water Level	Sample	Water Level	Sample Required	Water Level	Sample	Water Level	Sample	Water level	Sample Required	Water Level	Sample
Zone A Monitoring Wells - 13-Acre Tract												
MW-CB-30A	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-31A	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-33A	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-34A	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-35A	-	-	-	-	-	-	-	-	X	-	-	-
PMW-14	-	-	-	-	-	-	-	-	X	-	-	-
PZ-1	-	-	-	-	-	-	-	-	X	-	-	-
Zone A Recovery Wells - 13-Acre Tract												
TRW-CB-1	X	X	-	-	X	X	X	X	X	X	-	-
TRW-CB-2	-	-	-	-	-	-	-	-	X	X	-	-
TRW-CB-3	-	-	-	-	-	-	-	-	X	X	-	-
TRW-CB-4	-	-	-	-	-	-	-	-	X	X	-	-
Zone A Monitoring Wells - Offsite Southern Tract												
MW-CB-19AS	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-22AS	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-36	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-37D	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-37S	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-38	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-39	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-40	X	X	X	X	-	-	X	X	X	X	-	-
MW-CB-41D	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-41S	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-42	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-43	-	-	-	-	-	-	-	-	X	-	-	-
MW-CB-44	-	-	X	X	-	-	-	-	X	X	-	-
MW-CB-45	-	-	X	X	-	-	-	-	X	X	-	-
MW-CB-46S	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-47S	-	-	-	-	-	-	-	-	X	X	-	-
MW-CB-48	-	-	X	X	-	-	-	-	X	X	-	-
OBS-1	-	-	-	-	-	-	-	-	X	-	-	-
OBS-2	-	-	-	-	-	-	-	-	X	-	-	-
Zone B Monitoring Wells - Source Area												
MW-CB-1B	X	X	-	-	X	X	X	X	X	X	-	-
MW-CB-1BS	X	X	-	-	X	X	X	X	X	X	-	-
MW-CB-7B	X	X	-	-	X	X	X	X	X	X	-	-
Zone B Recovery Wells - Source Area												
RW-CB-3D	-	-	-	-	-	-	-	-	X	X	-	-
Zone B Monitoring Wells - Offsite Northern Tract												
MW-CB-2B	X	X	-	-	X	X	X	X	X	X	-	-
MW-CB-6B	X	X	-	-	X	X	X	X	X	X	-	-
MW-CB-6BS	X	X	-	-	X	X	X	X	X	X	-	-

Notes:
[a] Water levels could not be measured and samples were not collected due to obstructions inside the well casing.
1. All monitoring and inactive recovery wells were sampled using Hydrasleeves. All AZG wells were sampled using the low-flow method.
2. Voluntary Wells are not part of the sampling routine.

Acronyms:
AZG = A zone grab
EAB = Enhanced Anaerobic Bioremediation Wells
ID = Identification
MW = monitoring well
PMW = performance monitoring wells
PZ = piezometer
RW = recovery well
TRW = trench recovery well

Table 3-2: 2022 Sentinel Event Static Water Level Measurements
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well Identifications	TOC Elevation (ft MSL)	Screen Depth (ft bgs)	Depth to Water [a] (ft from TOC)	Groundwater Elevation (ft MSL)
Zone A Monitoring Wells - Source Area				
MW-CB-1A	117.33	51.5-61.0	18.22	99.11
MW-CB-4	119.45	58.5-68.0	20.33	99.12
MW-CB-5A	122.66	58.2-68.3	22.72	99.94
RW-CB-2	117.71	36.7-66.6	18.34	99.37
RW-CB-4	117.49	37.5-67.5	17.82	99.67
Zone A Recovery Wells - Source Area				
RW-CB-2R	116.22	44.9-64.9	17.01	99.21
Zone A Monitoring Wells - Offsite Northern Tract				
MW-CB-2A	118.19	52.5-62.6	15.92	102.27
MW-CB-26A	114.65	20.0-40.0	15.89	98.76
MW-CB-28A	118.36	20.0-40.0	26.59	91.77
PMW-08B	NIA	52.0-62.0	17.61	NA [b]
RDP-3	115.97	25.0-35.0	17.69	98.28
RDP-5	116.80	19.0-29.0	16.45	100.35
Zone A Monitoring Wells - Offsite Middle West Tract				
MW-CB-8AD	118.28	40.0-50.0	21.14	97.14
MW-CB-12AD	116.64	38.0-58.0	20.14	96.5
Zone A Monitoring Wells - 13-Acre Tract				
EAB-MW-03	124.66	40.0-50.0	25.59	99.07
MW-CB-15AS	117.04	19.8-39.7	21.03	96.01
Zone A Recovery Wells - 13-Acre Tract				
TRW-CB-1	118.00	25.0-45.0	22.04	95.96
Zone A Monitoring Wells - Offsite Southern Tract				
MW-CB-40*	122.54	40.00-50.00	28.18	94.36
MW-CB-44*	120.96	40.00-50.00	27.20	93.76
MW-CB-45*	120.89	40.00-50.00	27.50	93.39
MW-CB-48*	118.31	40.00-50.00	24.40	93.91
Zone B Monitoring Wells - Source Area				
MW-CB-1B	117.64	90.5-100.6	19.02	98.62
MW-CB-1BS	118.85	70.0-85.0	20.03	98.82
MW-CB-7B	120.05	85.0-100.0	21.68	98.37
Zone B Monitoring Wells				
MW-CB-2B	118.87	89.5-99.6	15.50	103.37
MW-CB-6B	115.81	89.5-99.6	17.40	98.41
MW-CB-6BS	116.22	70.0-85.0	18.03	98.19

Notes:
a. Water levels measured on April 18, and May 16, 2022.
b. A TOC elevation was not available for this well. As a result, a potentiometric elevation was not calculated.
c. TOC and ground surface elevations at wells were last surveyed in 2012 and 2013.
Acronyms:
* = sentinel wells
bgs = below ground surface
ft = feet
TOC = top of casing
MSL = Mean Sea Level
NIA = No information available

Table 3-3: 2022 Sentinel Well Event: Summary of 1,2-DCA Analytical Results

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well Identifications [a]	MW-CB-40	MW-CB-44	MW-CB-45	MW-CB-48
Sample Date	4/19/2022	5/17/2022	5/17/2022	5/17/2022
Analyte [b,c]				
Volatile Organic Compounds				
1,2-Dichloroethane (mg/L)	**0.0013**	< 0.00041	**0.0027**	< 0.00041

Well Identifications [a]	MW-CB-40	MW-CB-44	MW-CB-45	MW-CB-48
Sample Date	10/12/2022	10/12/2022	10/12/2022	10/12/2022
Analyte [b,c]				
Volatile Organic Compounds				
1,2-Dichloroethane (mg/L)	**0.0011**	< 0.00041	**0.0047**	< 0.00041

Notes:

a. Groundwater sample locations are shown on **Figure 3-2a**.

b. Samples analyzed in accordance with U.S. Environmental Protection Agency Method 8260 (volatile organic compounds) by SGS Accutest Laboratories, Houston, Texas.

c. **Bold** type indicates a measurement exceeding the sample quantitation limit.

Acronyms:

1,2-DCA = 1,2-dicholorethane

< = not detected at the quantitation limit indicated.

J = estimated result

mg/L = milligrams per liter

MW = monitoring well

PCL = Protective Concentration Level

TRRP = Texas Risk Reduction Program

U.S. = United States

Table 3-4: 2022 Sitewide Static Water Level Measurements
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well Identification	TOC Elevation (ft MSL)	Screen Depth (ft bgs)	Depth to Water (ft from TOC)	Groundwater Elevation (ft MSL)
Zone A Monitoring Wells - Source Area				
AZG1-16-21 [b]	--	16.0-21.0	20.08	--
AZG1-39-44 [b]	--	39.0-44.0	20.15	--
AZG1-63-68 [b]	--	63.0-68.0	20.08	--
AZG2-18-23 [b]	--	18.0-23.0	19.87	--
AZG2-40-45 [b]	--	40.0-45.0	20.38	--
AZG2-59-64 [b]	--	59.0-64.0	20.31	--
AZG4-20-25 [b]	--	20.0-25.0	17.84	--
AZG4-39-44 [b]	--	39.0-44.0	20.15	--
AZG4-59-64 [b]	--	59.0-64.0	18.70	--
AZG5-20-25 [b]	--	20.0-25.0	19.55	--
AZG5-40-45 [b]	--	40.0-45.0	20.72	--
AZG6-35-40 [b]	--	35.0-40.0	20.06	--
AZG6-45-50 [b]	--	45.0-50.0	20.43	--
AZG6-67-72 [b]	--	67.0-72.0	20.41	--
MW-CB-1A	117.33	51.5-61.0	18.80	98.53
MW-CB-4	119.45	58.5-68.0	21.46	97.99
MW-CB-5A	122.66	58.2-67.7	24.03	98.63
OW-2	121.45	21.9-36.5	22.20	99.25
PZ-2	119.06	35.0-45.0	20.35	98.71
PZ-3	119.52	34.0-44.0	21.20	98.32
PZ-4	118.67	25.0-45.0	19.97	98.70
RW-CB-2	117.71	36.7-66.6	19.59	98.12
RW-CB-4	117.49	37.5-67.1	19.00	98.49
Zone A Recovery Wells - Source Area				
RW-CB-2R	118.66	44.9-64.9	17.15	101.51
RW-CB-3R	118.14	45.0-65.0	17.40	100.74
RW-CB-4R	118.30	44.0-64.0	18.13	100.17
RW-CB-5R	118.58	45.0-65.0	17.43	101.15
Zone A Monitoring Wells - Offsite Northern Tract				
MW-CB-2A	118.19	52.5-62.0	16.11	102.08
MW-CB-25A	115.74	20.0-40.0	17.27	98.47
MW-CB-26A	114.65	20.0-40.0	16.80	97.85
MW-CB-27A [a]	116.36	20.0-40.0	--	--
MW-CB-28A	118.36	20.0-40.0	21.34	97.02
PMW-08B [b]	--	52.0-62.0	17.93	--
PMW-09A [b]	--	20.9-30.9	16.85	--
PMW-09B [b]	--	52.0-62.0	17.09	--
PMW-17 [b]	--	20.0-30.0	18.31	--
PMW-18 [b]	--	21.0-31.0	18.45	--
PMW-19 [b]	--	20.0-30.0	17.78	--
PMW-19B [b]	--	40.5-50.5	18.91	--
RDP-3	115.97	25.0-35.0	17.71	98.26
RDP-5	116.80	19.0-29.0	18.83	97.97
Zone A Monitoring Wells - Offsite Middle West Tract				
MW-CB-8AD	118.28	40.0-50.0	27.70	90.58
MW-CB-9AD	117.05	40.0-60.0	20.08	96.97
MW-CB-11AS	117.15	25.0-45.0	20.57	96.58
MW-CB-12AD	116.64	38.0-58.0	20.75	95.89
MW-CB-12AS	116.55	19.5-39.5	20.25	96.30
MW-CB-16AS	117.95	19.3-39.3	18.00	99.95
MW-CB-17AS	116.30	15.0-35.0	20.23	96.07
MW-CB-24AS	116.16	19.5-29.5	20.00	96.16

Table 3-4: 2022 Sitewide Static Water Level Measurements
Charlie Burch Site, Spring, Texas
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Well Identification	TOC Elevation (ft MSL)	Screen Depth (ft bgs)	Depth to Water (ft from TOC)	Groundwater Elevation (ft MSL)
Zone A Recovery Wells - 13-Acre Tract				
EAB-MW-01 [a]	125.09	30.9-40.9	--	--
EAB-MW-02	124.66	30.7-40.7	25.91	98.75
EAB-MW-03	124.66	30.0-40.0	24.79	99.87
MW-CB-13AS	118.63	17.7-37.8	22.10	96.53
MW-CB-14AS	118.93	19.0-38.9	23.25	95.68
MW-CB-15AS	117.04	19.8-39.7	21.40	95.64
MW-CB-29A	122.39	18.0-38.0	26.95	95.44
MW-CB-30A	122.13	18.0-38.0	26.59	95.54
MW-CB-31A	120.91	18.5-38.5	25.90	95.01
MW-CB-33A	122.80	18.0-38.0	27.68	95.12
MW-CB-34A	122.09	19.0-39.0	27.85	94.24
MW-CB-35A	117.34	19.0-39.0	23.59	93.75
PMW-14	118.30	29.0-39.0	25.50	92.80
PZ-1	125.49	30.0-40.0	27.02	98.47
Zone A Recovery Wells - 13-Acre Tract				
TRW-CB-1	118.00	25.0-45.0	22.98	95.02
TRW-CB-2	121.37	25.0-45.0	26.10	95.27
TRW-CB-3	118.51	25.0-55.0	23.60	94.91
TRW-CB-4	119.34	25.0-55.0	21.36	97.98
Zone A Monitoring Wells - Offsite Southern Tract				
MW-CB-19AS	120.04	18.5-38.5	25.20	94.84
MW-CB-22AS	119.01	19.5-39.5	25.32	93.69
MW-CB-36	121.67	40.0-50.0	27.49	94.18
MW-CB-37D	121.55	58.0-68.0	27.21	94.34
MW-CB-37S	121.44	40.0-50.0	26.95	94.49
MW-CB-38	121.29	40.0-50.0	26.73	94.56
MW-CB-39	119.01	40.0-50.0	25.22	93.79
MW-CB-40	122.54	40.0-50.0	28.60	93.94
MW-CB-41D	122.43	59.0-69.0	29.20	93.23
MW-CB-41S	121.70	40.0-50.0	27.85	93.85
MW-CB-42	120.15	40.0-50.0	26.80	93.35
MW-CB-43	120.86	40.0-50.0	27.62	93.24
MW-CB-44	120.96	40.0-50.0	27.52	93.44
MW-CB-45	120.89	40.0-50.0	27.52	93.37
MW-CB-46S	120.50	40.0-50.0	27.48	93.02
MW-CB-47S	119.06	40.0-50.0	25.90	93.16
Zone A Monitoring Wells - Offsite Southern Tract				
MW-CB-48	118.31	40.0-50.0	24.95	93.36
OBS-1	120.71	25.0-50.0	26.90	93.81
OBS-2	120.12	40.0-50.0	26.53	93.59

Table 3-4: 2022 Sitewide Static Water Level Measurements
Charlie Burch Site, Spring, Texas
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Well Identification	TOC Elevation (ft MSL)	Screen Depth (ft bgs)	Depth to Water (ft from TOC)	Groundwater Elevation (ft MSL)
Zone B Monitoring Wells - Source Area				
MW-CB-1B	117.64	90.5-100.0	20.15	97.49
MW-CB-1BS	118.85	70.0-85.0	21.40	97.45
MW-CB-7B	120.05	85.0-100.0	22.75	97.30
Zone B Recovery Wells - Source Area				
RW-CB-3D	116.25	71.4-101.4	18.69	97.56
Zone B Monitoring Wells - Offsite Northern Tract				
MW-CB-2B	118.87	89.5-99.0	16.60	102.27
MW-CB-6B	115.81	89.5-99.0	18.47	97.34
MW-CB-6BS	116.22	70.0-85.0	19.01	97.21

Notes:
Water levels measured between October 10 through 21, 2022.
a. Water levels could not be measured due to obstructions inside the well casing.
b. A TOC elevation was not available for this well. As a result, a potentiometric elevation was not calculated.
c. TOC and ground surface elevations at wells were resurveyed in 2012 and 2013.
Acronyms:
AZG = A zone grab
bgs = below ground surface
EAB = Enhanced Anaerobic Bioremediation Wells
ft = feet
MSL = mean sea level
MW = monitoring well
NM = Not Measured
PMW = performance monitoring well
PZ = peizometer
RW= recovery well
TOC = top-of-casing
TRW = trench recovery well

Table 3-5: 2022 Sitewide Groundwater Sampling Event 1,2-DCA Analytical Results
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well Identifications [a,d]	Date Sampled	Screen Depths (ft bgs)	1,2-Dichloroethane [b, c] (mg/L)
Zone A Monitoring Wells - Source Area			
AZG1-16-21[f]	NS	16.0-21.0	NS
AZG1-39-44	10/19/2022	39.0-44.0	**0.0344**
AZG1-63-68	10/19/2022	63.0-68.0	**0.699 JL**
AZG2-18-23	10/18/2022	18.0-23.0	**0.0057**
AZG2-40-45	10/18/2022	40.0-45.0	**0.0039**
AZG2-59-64	10/18/2022	59.0-64.0	**0.7270**
AZG4-20-25	10/19/2022	20.0-25.0	**0.0016**
AZG4-39-44	10/20/2022	39.0-44.0	**0.0142**
AZG4-59-64	10/19/2022	59.0-64.0	**0.598 JL**
AZG5-20-25	10/21/2022	20.0-25.0	**0.0032**
AZG5-40-45	10/21/2022	40.0-45.0	<0.00041
AZG6-35-40	10/18/2022	35.0-40.0	**0.0021**
AZG6-45-50	10/18/2022	45.0-50.0	**0.0747**
AZG6-67-72	10/18/2022	67.0-72.0	**0.821**
MW-CB-1A	10/13/2022	51.5-61.0	**0.0062**
MW-CB-4	10/13/2022	58.5-68.0	< 0.00041
MW-CB-5A	10/13/2022	58.2-68.3	< 0.00041
OW-2	10/13/2022	21.9-36.5	**0.0015**
RW-CB-2	10/13/2022	36.7-66.6	< 0.00041
RW-CB-4	10/13/2022	37.5-67.5	< 0.00041
Zone A Recovery Wells - Source Area			
RW-CB-2R	10/13/2022	44.9-64.9	**0.0013**
RW-CB-3R	10/13/2022	45.0-65.0	**0.0089**
RW-CB-4R	10/13/2022	44.0-64.0	**0.0015**
RW-CB-5R	10/13/2022	45.0-65.0	**0.0050**
Zone A Monitoring Wells - Offsite Northern Tract			
MW-CB-2A	10/13/2022	52.5-62.6	**0.0033**
MW-CB-25A	10/13/2022	20.0-40.0	**0.0030**
MW-CB-26A	10/13/2022	20.0-40.0	**0.0132**
MW-CB-27A[e]	NS	20.0-40.0	NS
MW-CB-28A	10/13/2022	20.0-40.0	< 0.00041
PMW-08B	10/13/2022	52.0-62.0	**0.0078**
PMW-09B	10/13/2022	52.0-62.0	**0.0086**
PMW-17	10/13/2022	20.0-30.0	**0.0024**
RDP-3	10/13/2022	25.0-35.0	**0.0088 J**
RDP-5	10/13/2022	19.0-29.0	**0.0063**
Zone A Monitoring Wells - Offsite Middle West Tract			
MW-CB-8AD	10/17/2022	40.0-50.0	**0.0014**
MW-CB-12AD	10/17/2022	38.0-58.0	**0.0081**
MW-CB-12AS	10/17/2022	19.5-39.5	**0.00064 J**
MW-CB-16AS	10/17/2022	19.3-39.3	**0.00062 J**
Zone A Monitoring Wells - 13-Acre Tract			
EAB-MW-03	10/17/2022	40.0-50.0	**0.0044**
MW-CB-13AS	10/17/2022	17.7-37.8	< 0.00041
MW-CB-14AS	10/17/2022	19.0-38.9	**0.0022**
MW-CB-15AS	10/17/2022	19.8-39.7	**0.0042 J**
MW-CB-33A	10/17/2022	18.0-38.0	**0.0088**
Zone A Recovery Wells: 13-Acre Tract			
TRW-CB-1	10/17/2022	25.0-45.0	**0.0066**
TRW-CB-2	10/17/2022	25.0-45.0	**0.0035**
TRW-CB-3	10/17/2022	25.0-55.0	**0.0033**
TRW-CB-4	10/17/2022	25.0-55.0	**0.0028**

Table 3-5: 2022 Sitewide Groundwater Sampling Event 1,2-DCA Analytical Results
Charlie Burch Site, Spring, Texas
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Well Identifications [a,d]	Date Sampled	Screen Depths (ft bgs)	1,2-Dichloroethane [b, c] (mg/L)
Zone A Monitoring Wells - Offsite Southern Tract			
MW-CB-37S	10/12/2022	40.0-50.0	< 0.00041
MW-CB-39	10/12/2022	40.0-50.0	< 0.00041
MW-CB-40	10/12/2022	40.0-50.0	**0.0011**
MW-CB-41S	10/12/2022	40.0-50.0	**0.0012**
MW-CB-44	10/12/2022	40.0-50.0	< 0.00041
MW-CB-45	10/12/2022	40.0-50.0	**0.0047**
MW-CB-46S	10/12/2022	40.0-50.0	< 0.00041
MW-CB-47S	10/12/2022	40.0-50.0	< 0.00041
MW-CB-48	10/12/2022	40.0-50.0	< 0.00041
Zone B Monitoring Wells - Source Area			
MW-CB-1B	10/13/2022	90.5-100.6	**0.0079 J**
MW-CB-1BS	10/13/2022	70.0-85.0	**0.0095**
MW-CB-7B	10/13/2022	85.0-100.0	< 0.00041
Zone B Recovery Well - Source Area			
RW-CB-3D	10/13/2022	71.4-101.0	**0.0077**
Zone B Monitoring Wells - Offsite Northern Tract			
MW-CB-2B	10/13/2022	89.5-99.6	< 0.00041
MW-CB-6B	10/13/2022	89.5-99.6	**0.00045 J**
MW-CB-6BS	10/13/2022	70.0-85.0	**0.0037**

Notes:

a. Samples analyzed in accordance with U.S. Environmental Protection Agency Method 8260 by SGS Accutest Laboratories, Houston, Texas.

b. **Bold** type indicates a detection greater than the sample quantitation limit.

Bold and highlighted concentrations are equal to or greater than TRRP Tier 1 protective concentration limit (0.005 mg/L).

c. TRRP Tier 1 PCL for 1,2-DCA = 0.005 mg/L.

Example: 0.007

d. Well number subscripts generally refer to screen depths as follows:

A or AS = Zone A Shallow approximately 0 - 40 ft depth

AD = Zone A Deep approximately 40 - 70 ft depth

B or BS = Zone B approximately greater than 70 ft depth

e. Well could not be sampled due to obstructions inside the well casing.

f. Well was not able to be sampled due to dry well.

Acronyms:

1,2-DCA = 1,2-dichloroethane
< = not detected at the quantitation limit indicated
AZG = A zone grab
bgs = below ground surface
EAB = Enhanced Anaerobic Bioremediation Wells
ft = feet
J = estimated result
JL = estimated result, biased low
mg/L = milligrams per liter
MW = monitoring well
NA = No information available
NIA = No information available
NS = Not sampled
PCL = protective concentration levels
PMW = performance monitoring well
RW = recovery well
TRRP = Texas Risk Reduction Program
U.S. = United States

Table 3-6: Historical 1,2-DCA Analytical Results from Select Wells
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Sampling Date	9/1998-3/1999	10/2000	08/2001	08-09/2002	11/2003	07/2004	10/2004	09/2005	10/2006	10/2007	10/2008	10/2009	10/2010	10/2011	04/2012	10/2012	04/2013
Sample ID [a,b,c]	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Zone A Monitoring Wells																	
MW-CB-8AD	**0.011**	<0.005	<0.005	**0.005**	**0.0043**	NS	**0.00264 J**	<0.005	**0.0081**	**0.00342**	**0.0059**	**0.0083**	**0.0067**	**0.0118**	NS	**0.0039**	NS
MW-CB-11AS	**0.044**	**0.042**	**0.033**	**0.033**	**0.0264**	NS	**0.0209**	**0.0158**	**0.0172**	**0.00845**	**0.0057**	**0.0085**	**0.0059**	**0.00546**	NS	**0.006**	NS
MW-CB-12AS	**0.078**	**0.085**	**0.077**	**0.076**	**0.0672**	NS	**0.0508**	**0.0551**	**0.04955**	**0.0392**	**0.0255**	**0.04**	**0.0265**	**0.03495**	NS	**0.038**	NS
MW-CB-12AD	<0.005	**0.016**	**0.013**	**0.017**	**0.0189**	NS	**0.0164**	**0.0218**	**0.0250**	NS	NS	NS	NS	NS	NS	**0.02275**	NS
MW-CB-13AS	**0.017**	**0.026**	**0.025**	**0.015**	**0.018**	NS	**0.0168**	**0.0151**	**0.0130**	**0.00606**	**0.0057**	**0.0038**	<0.0026	**0.000371 J**	NS	<0.00035	NS
MW-CB-14AS	<0.005	**0.007**	**0.008**	**0.011**	**0.0163**	**0.0238**	**0.0161**	**0.0169**	**0.0158**	**0.0137**	**0.013**	**0.0046**	**0.004**	**0.00211**	NS	**0.0016**	NS
MW-CB-15AS	**0.049**	**0.111**	**0.025**	**0.017**	**0.0121**	**0.0126**	**0.00787**	**0.0281**	**0.0260**	<0.0002	<0.00013	<0.00013	<0.00013	<0.00014	NS	<0.00035	NS
MW-CB-16AS	**0.048**	**0.036**	**0.02**	**0.016**	**0.0133**	NS	**0.033**	**0.0749**	**0.0813**	**0.0604**	**0.074**	**0.051**	**0.047**	**0.0345**	NS	**0.0028**	NS
MW-CB-24AS	<0.005	<0.005	<0.005	<0.005	<0.005	NS	<0.005	<0.005	<0.00047	<0.0002	<0.00013	<0.00013	<0.00013	NS	NS	<0.00035	NS
MW-CB-25A [g]	NS	NS	NS	NS	**0.0498**	NS	**0.0492**	**0.0822**	**0.0375**	**0.015**	**0.01**	**0.0125**	**0.017**	**0.00855**	NS	**0.0138**	NS
MW-CB-26A [g]	NS	NS	NS	NS	**0.013**	NS	**0.00575**	**0.00711**	**0.00716**	**0.00485**	**0.01**	**0.0086**	**0.007**	**0.010**	NS	**0.002**	NS
MW-CB-27A [g]	NS	NS	NS	NS	**0.056**	NS	**0.04970**	**0.09920**	**0.06330**	**0.041**	**0.043**	**0.026**	**0.031**	**0.016**	NS	**0.026**	NS
MW-CB-28A [g]	NS	NS	NS	NS	**0.015**	NS	**0.0125**	**0.0186**	**0.0128**	**0.00753**	**0.0066**	**0.0065**	**0.0058**	**0.0051**	NS	**0.0056**	NS
MW-CB-33A	NS	NS	NS	NS	NS	NS	NS	**0.0403**	**0.0188**	<0.0002	<0.00013	<0.00013	<0.00013	<0.00014	NS	<0.00035	NS
MW-CB-36	NS	NS	NS	NS	NS	NS	NS	NS	**0.00774**	**0.0479**	**0.011**	**0.0043**	**0.0026**	**0.00229**	NS	**0.0011**	NS
MW-CB-37S	NS	NS	NS	NS	NS	NS	NS	NS	**0.0871**	**0.0581**	**0.019**	**0.01**	**0.0041**	**0.0024**	NS	**0.0014**	NS
MW-CB-38	NS	NS	NS	NS	NS	NS	NS	NS	**0.00808**	**0.00449**	**0.0019**	**0.00082 J**	<0.00013	<0.00014	NS	<0.00035	NS
MW-CB-39	NS	NS	NS	NS	NS	NS	NS	NS	**0.133**	**0.0398**	**0.02**	**0.016**	**0.015**	**0.0135**	NS	**0.0172**	NS
MW-CB-40	NS	NS	NS	NS	NS	NS	NS	NS	<0.00047	<0.0002	**0.0025**	**0.0042**	**0.006**	**0.00638**	**0.0239**	**0.0296**	**0.0323**
MW-CB-41S	NS	NS	NS	NS	NS	NS	NS	NS	**0.145**	**0.136**	**0.085**	**0.0245**	**0.032**	**0.00457**	**0.00346**	**0.002**	**0.0015**
MW-CB-41D	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.00471**	**0.0043**	**0.00131**	**0.0027**	**0.00195**	**0.00198**	**0.0017**	**0.00081 J**
MW-CB-42	NS	NS	NS	NS	NS	NS	NS	NS	**0.00236**	<0.0002	<0.00013	<0.00013	<0.00013	**0.000435 J**	<0.00014	<0.00035	< 0.00035
MW-CB-43	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.00065 J**	<0.00013	<0.00013	<0.00013	<0.00014	<0.00014	<0.00035	< 0.00035
MW-CB-44	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.0002	<0.00013	<0.00013	<0.00013	<0.00014	<0.00014	<0.00035	< 0.00035
MW-CB-45	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.00372**	**0.011**	<0.00013	**0.071**	**0.062**	**0.108**	**0.0831**	**0.07525**
MW-CB-46S	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.0157**	**0.0063**	**0.00673**	**0.0046**	**0.00139**	**0.00123**	**0.00062 J**	**0.00050 J**
MW-CB-47S	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.00095 J**	**0.00124**	**0.00205**	**0.000861 J**	**0.000683 J**	**0.00072 J**	**0.0013**
MW-CB-48	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.00013	<0.00013	<0.00013	<0.00014	<0.00014	<0.00035	<0.00035
RDP-3	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
RDP-5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
OBS-1	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.012**	**0.00328**	**0.00198**	**0.00084 J**	**0.00064 J**
OBS-2	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.03**	**0.00853**	**0.00637**	**0.0029**	**0.0025**
EAB-MW-02	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.0064**	NS
EAB-MW-03	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.0899**	NS
Zone A 13-Acre Tract Recovery Wells																	
TRW-CB-1	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.0272**	**0.015**	**0.02**	**0.015**	**0.0202**	NS	**0.0375**	NS
TRW-CB-2	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.027**	**0.016**	**0.021**	**0.01**	**0.014**	NS	**0.0039**	NS
TRW-CB-3	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.00652**	**0.0028**	**0.0019**	**0.00088 J**	**0.00121**	NS	**0.00050 J**	NS
TRW-CB-4	NS	NS	NS	NS	NS	NS	NS	NS	NS	**0.00755**	**0.0038**	**0.0029**	**0.0017**	**0.00114**	NS	**0.0017**	NS

Table 3-6: Historical 1,2-DCA Analytical Results from Select Wells
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Sampling Date	9/1998-3/1999	10/2000	08/2001	08-09/2002	11/2003	07/2004	10/2004	09/2005	10/2006	10/2007	10/2008	10/2009	10/2010	10/2011	04/2012	10/2012	04/2013
Sample ID [a,b,c]	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Zone B Monitoring Wells																	
MW-CB-6B [d]	<0.005	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	<0.00013	<0.00013	<0.00013	<0.00014	NS	<0.00035	NS
MW-CB-6BS [g]	NS	NS	NS	NS	**0.0132**	NS	**0.00758**	**0.00306 J**	**0.00147**	<0.0002	**0.0014**	**0.00081 J**	**0.0011**	**0.00046 J**	NS	<0.00035	NS
Water Supply Wells																	
Rummell Water Well [d,e]	<0.005	NS	NS	NS	NS	NS	NS	NS	NS	NS	<0.00013	<0.00013	<0.00013	<0.00014	NS	NS	NS
Wert Water Well [f]	<0.005	NS	NS	NS	<0.005	NS	<0.005	<0.005	<0.00047	<0.0002	<0.00013	<0.00013	<0.00013	<0.00014	NS	<0.00035	NS

Notes:

a. Samples analyzed in accordance with U.S. Environmental Protection Agency Methods 8260 (volatile organic compounds).

Samples collected in 2001 and 2002 were analyzed by Environmental Chemistry, Inc., Houston, Texas.

Samples collected in 2003 through 2011 were analyzed by TestAmerica Laboratories (formerly, Severn Trent Laboratories), Houston, Texas.

Samples collected since 2012 were analyzed by SGS Accutest Laboratories, Houston, Texas.

b. **Bold** type indicates a detection greater than the sample quantitation limit.

Bold and highlighted concentrations are equal to or greater than TRRP Tier 1 protective concentration limit (0.005 mg/L). **Example: 0.007**

c. Well number subscripts generally refer to screen depths as follows:

A and AS: Zone A wells with screen < 40 feet (ft) depth

AD: Zone A wells with screen > 40 ft depth

BS: Zone B wells with screen < 85 ft depth.

d. Wells were not sampled between 2000 and 2007 due to lack of permission by property owner.

e. The Rummell water well is no longer used and has not been sampled since 2012.

f. The Wert water well well is no longer used and has not been sampled since 2018.

g. Wells not sampled due to access restrictions.

* Wells approved to be removed from the site-wide sampling event by the TCEQ in 2019.

Acronyms:

< = not detected at the quantitation limit indicated.

EAB = Enhanced Anaerobic Bioremediation Wells

ID = Identification

Inc = Incorporated

J = Estimated result

mg/L = milligrams per liter

NS = not sampled

TCEQ = Texas Commission on Environmental Quality

TRRP = Texas Risk Reduction Program

TRW = trench recovery well

U.S. = United States

Table 3-6: Historical 1,2-DCA Analytical Results from Select Wells (Continued)
2022 Annual Groundwater Monitoring Report
Rohm and Haas, Charlie Burch Site, Spring, Texas

Sampling Date	10/2013	04/2014	10/2014	04/2015	10/2015	04/2016	10/2016	04/2017	10/2017	04/2018	10/2018	11/2018	4/1/2019	6/14/2019	10/2019	10/2020	10/2021	10/2022
Sample ID [a,b,c]	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Zone A Monitoring Wells	Zone A Monitoring Wells																	
MW-CB-8AD	0.0068	NS	0.0115	NS	0.0111	NS	0.0052	NS	0.0222	NS	<0.00030	NS	NS	NS	0.0026	0.0120	0.013	0.0014
MW-CB-11AS	0.0086	NS	0.0088	NS	0.0103	NS	0.0015	NS	0.0034	NS	0.0019	NS	NS	NS	0.0011	NS*	NS*	NS*
MW-CB-12AS	0.0427	NS	0.0360	NS	0.0209	NS	0.0254	NS	0.0257	NS	0.0101	NS	0.0034	NS	0.0029	0.0021	0.00096 J	0.00064 J
MW-CB-12AD	0.01785	NS	0.0177	NS	0.0214	NS	0.02195	NS	0.0207	NS	0.0221	NS	NS	NS	0.0201	NS*	0.0108	0.0081
MW-CB-13AS	0.0010	NS	0.0033	NS	0.005	NS	0.0051	NS	0.0045	NS	0.0015	NS	NS	NS	0.00072 J	< 0.00037	< 0.00037	< 0.00041
MW-CB-14AS	0.0023	NS	0.0058	NS	0.0078	NS	0.0060	NS	0.0077	NS	0.0039	NS	NS	NS	0.0028	0.0025	0.0024	0.0022
MW-CB-15AS	<0.00035	NS	<0.00035	NS	< 0.00061	NS	<0.00061	NS	<0.00030	NS	NS	<0.00040	NS	NS	< 0.00040	0.0026	0.0039	0.0042 J
MW-CB-16AS	0.00038 J	NS	0.00070 J	NS	0.0011	NS	0.00089 J	NS	0.0018	NS	<0.00040	NS	NS	NS	0.00098 J	0.00059 J	0.00071 J	0.00062 J
MW-CB-24AS	<0.00035	NS	<0.00035	NS	< 0.00061	NS	< 0.00061	NS	<0.00030	NS	<0.00040	NS	NS	NS	< 0.00040	NS*	NS*	NS*
MW-CB-25A [g]	0.0087	NS	0.0118	NS	0.0097	NS	0.0025	NS	0.0072	NS	0.0051	NS	NS	NS	0.0031	NS	0.0012	0.0030
MW-CB-26A [g]	0.0039	NS	0.00075 J	NS	0.00085 J	NS	<0.00061	NS	0.00084 J	NS	0.0009	NS	0.0043	NS	0.0129	NS	0.0095	0.0132
MW-CB-27A [g]	0.014	NS	0.027	NS	0.0268	NS	0.0299	NS	0.0112	NS	NS	NS	NS	NS	< 0.00040	NS	NS	NS
MW-CB-28A [g]	0.0042	NS	0.0034	NS	0.0044	NS	0.0030	NS	0.0012	NS	< 0.00040	NS	NS	NS	< 0.00040	NS	NS	< 0.00041
MW-CB-33A	<0.00035	NS	<0.00035	NS	< 0.00061	NS	< 0.00061	NS	<0.00030	NS	< 0.00040	NS	NS	NS	< 0.00040	< 0.00037	0.00064 J	0.0088
MW-CB-36	0.00061 J	NS	<0.00035	NS	< 0.00061	NS	<0.00061	NS	0.000585 J	NS	< 0.00040	NS	NS	NS	0.00045 J	NS*	NS*	NS*
MW-CB-37S	0.00074 J	NS	<0.00035	NS	< 0.00061	NS	<0.00061	NS	<0.00030	NS	< 0.00040	NS	NS	NS	< 0.00040	< 0.00037	< 0.00037	< 0.00041
MW-CB-38	<0.00035	NS	<0.00035	NS	< 0.00061	NS	<0.00061	NS	0.00057 J	NS	< 0.00040	NS	NS	NS	< 0.00040	NS*	NS*	NS*
MW-CB-39	0.0097	NS	0.0093	NS	0.0077	NS	0.0046	NS	0.0020	NS	0.00085	NS	0.0063	NS	0.00055 J	0.00069 J	0.00056 J	< 0.00041
MW-CB-40	0.0383	0.0423	0.0236	0.0182	0.0125	0.0109	0.0039	0.0218	0.0323	0.0237	0.0292 J	NS	0.0241	NS	0.0203	0.0065	0.0015	0.0011
MW-CB-41S	0.0015	0.0017	0.0014	NS	0.00083 J	NS	<0.00061	NS	0.00048 J	NS	0.00066	NS	NS	NS	0.00043 J	0.00088 J	0.00072 J	0.0012
MW-CB-41D	0.00048 J	<0.00035	<0.00035	NS	< 0.00061	NS	<0.00061	NS	0.00056 J	NS	<0.00040	NS	NS	NS	< 0.00040	NS*	NS*	NS*
MW-CB-42	<0.00035	<0.00035	<0.00035	NS	<0.00061	NS	<0.00061	NS	<0.00030	NS	< 0.00040	NS	NS	NS	< 0.00040	NS*	NS*	NS*
MW-CB-43	<0.00035	<0.00035	<0.00035	NS	<0.00061	NS	<0.00061	NS	<0.00030	NS	< 0.00040	NS	NS	NS	< 0.00040	NS*	NS*	NS*
MW-CB-44	<0.00035	<0.00035	<0.00035	<0.00035	<0.00061	<0.00061	<0.00061	<0.00030	<0.00030	<0.00030	< 0.00040	NS	NS	<0.00040	< 0.00040	< 0.00037	< 0.00037	< 0.00041
MW-CB-45	0.05945	0.04805	0.0292	0.0186	0.00655	0.0132	0.0086	0.0113	0.0065	0.0050	0.00051	NS	0.0007 J	NS	0.0011	0.0011	0.0027	0.0047
MW-CB-46S	0.00041 J	<0.00035	<0.00035	NS	<0.00061	NS	<0.00061	NS	<0.00030	NS	< 0.00040	NS	NS	NS	< 0.00040	< 0.00037	< 0.00037	< 0.00041
MW-CB-47S	0.0018	0.0024	0.0017	NS	0.00091 J	NS	<0.00061	NS	0.00047 J	NS	< 0.00040	NS	NS	NS	< 0.00040	< 0.00037	< 0.00037	< 0.00041
MW-CB-48	<0.00035	0.00068 J	0.0012	0.0022	0.0018	0.0013	0.0015	0.0014	0.0014	0.00092	< 0.00040	NS	NS	<0.00040	< 0.00040	< 0.00037	< 0.00037	< 0.00041
RDP-3	NS	NS	0.0126	NS	0.0282	NS	0.0205	NS	0.0296	NS	0.0261	NS	0.0287	NS	0.0268	0.0154	0.0063	0.0088 J
RDP-5	NS	NS	0.0292	NS	0.0189	NS	0.0011	NS	0.0066	NS	0.0093	NS	0.0021	NS	0.0039	NS*	0.0052	0.0063
OBS-1	0.00049 J	0.00038 J	<0.00035	NS	< 0.00061	NS	<0.00061	NS	<0.00030	NS	< 0.00040	NS	NS	NS	< 0.00040	NS*	NS*	NS*
OBS-2	0.0017	0.0013	0.0010	NS	0.0010	NS	0.00074 J	NS	0.00095 J	NS	< 0.00040	NS	NS	NS	0.00047 J	NS*	NS*	NS*
EAB-MW-02	0.0530	NS	0.0344	NS	0.0158	NS	NS	NS	NS	NS	0.0056	NS	NS	NS	0.0189	NS*	NS*	NS*
EAB-MW-03	0.0850	NS	0.0516	NS	0.0411	NS	0.0264	NS	0.0396	NS	0.0326	NS	NS	NS	0.0266	NS*	0.011	0.0044
Zone A 13-Acre Tract Rec	Zone A 13-Acre Tract Recovery Wells																	
TRW-CB-1	0.0044	NS	0.0021	NS	< 0.00061	NS	0.0248	NS	0.0205	NS	0.0175	NS	0.0208	NS	0.0155	0.0139	0.011	0.0066
TRW-CB-2	0.0042	NS	0.00075 J	NS	< 0.00061	NS	0.00098 J	NS	0.00051 J	NS	NS	0.0013	0.0005 J	NS	< 0.00040	0.00048 J	0.0028	0.0035
TRW-CB-3	0.00037 J	NS	<0.00035	NS	0.00078	NS	<0.00061	NS	0.00044 J	NS	NS	<0.00040	NS	NS	< 0.00040	< 0.00037	< 0.00037	0.0033
TRW-CB-4	0.0015	NS	0.0019	NS	< 0.00061	NS	0.0015	NS	0.0021	NS	NS	<0.00040	NS	NS	0.00075 J	0.0050	0.0033	0.0028

Table 3-6: Historical 1,2-DCA Analytical Results from Select Wells (Continued)
2022 Annual Groundwater Monitoring Report
Rohm and Haas, Charlie Burch Site, Spring, Texas

Sampling Date	10/2013	04/2014	10/2014	04/2015	10/2015	04/2016	10/2016	04/2017	10/2017	04/2018	10/2018	11/2018	4/1/2019	6/14/2019	10/2019	10/2020	10/2021	10/2022
Sample ID [a,b,c]	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L
Zone B Monitoring Wells	**Zone B Monitoring Wells**																	
MW-CB-6B [d]	<0.00035	NS	<0.00035	NS	< 0.00061	NS	< 0.00061	NS	<0.00030	NS	< 0.00040	NS	NS	NS	< 0.00040	<0.00037	< 0.00037	**0.00045 J**
MW-CB-6BS [g]	<0.00035	NS	<0.00035	NS	< 0.00061	NS	< 0.00061	NS	<0.00030	NS	< 0.00040	NS	NS	NS	< 0.00040	NS	< 0.00037	**0.0037**
Water Supply Wells	**Water Supply Wells**																	
Rummell Water Well [d,e]	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
Wert Water Well [f]	<0.00035	NS	<0.00035	NS	<0.00061	NS	<0.00061	NS	<0.00030	NS	NS	NS	NS	NS	NS	NS	NS	NS

Notes:

a. Samples analyzed in accordance with U.S. Environmental Protection Agency Methods 8260 (volatile organic compounds).

Samples collected in 2001 and 2002 were analyzed by Environmental Chemistry, Inc., Houston, Texas.

Samples collected in 2003 through 2011 were analyzed by TestAmerica Laboratories (formerly, Severn Trent Laboratories), Houston, Texas.

Samples collected since 2012 were analyzed by SGS Accutest Laboratories, Houston, Texas.

b. **Bold** type indicates a detection greater than the sample quantitation limit.

Bold and highlighted concentrations are equal to or greater than TRRP Tier 1 protective concentration limit (0.005 mg/L).

c. Well number subscripts generally refer to screen depths as follows:

A and AS: Zone A wells with screen < 40 feet (ft) depth

AD: Zone A wells with screen > 40 ft depth

BS: Zone B wells with screen < 85 ft depth.

d. Wells were not sampled between 2000 and 2007 due to lack of permission by property owner.

e. The Rummell water well is no longer used and has not been sampled since 2012.

f. The Wert water well well is no longer used and has not been sampled since 2018.

g. Wells not sampled due to access restrictions.

* Wells approved to be removed from the site-wide sampling event by the TCEQ in 2019.

Acronyms:

< = not detected at the quantitation limit indicated.

EAB = Enhanced Anaerobic Bioremediation Wells

ID = Identification

Inc = Incorporated

J = Estimated result

mg/L = milligrams per liter

NS = not sampled

TCEQ = Texas Commission on Environmental Quality

TRRP = Texas Risk Reduction Program

TRW = trench recovery well

U.S. = United States

Table 3-7: Summary of Historical Source Area Analytical Results

Charlie Burch Site, Spring, Texas

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Analyzed Constituents [a,b]		Volatile Organic Compounds [c,d]	
		Benzene	1,2-DCA
Monitoring Wells [f,g]	Dates	mg/L	mg/L
MW-CB-1A	9/4/2001	**0.009**	**0.200**
	9/24/2002	<0.001	**0.115**
	11/25/2003	<0.005	**0.151**
	10/20/2004	<0.005	**0.100**
	9/8/2005	<0.005	**0.133**
	10/5/2006	<0.00038	**0.0510**
	10/10/2007	NA	**0.0285**
	10/16/2008	NA	**0.018**
	11/2/2009	NA	**0.044**
	10/21/2010	NA	**0.034**
	10/3/2011	NA	**0.028**
	10/17/2012	NA	**0.0209**
	10/9/2013	NA	**0.0081**
	10/16/2014	NA	**0.0116**
	10/26/2015	NA	**0.0118**
	10/17/2016	NA	**0.0047**
	10/30/2017	NA	**0.00635**
	4/17/2018	NA	NA
	6/14/2018	NA	NA
	10/17/2018	NA	**0.00880**
	10/2/2019	NA	**0.00410**
	10/30/2020	NA	**0.0054**
	10/22/2021	NA	**0.0064**
	10/13/2022	NA	**0.0062**
MW-CB-2A [e]	10/20/2008	NA	**0.054**
	11/2/2009	NA	**0.044**
	10/21/2010	NA	**0.059**
	10/3/2011	NA	**0.036**
	10/17/2012	NA	**0.0572**
	10/8/2013	NA	**0.0384**
	10/15/2014	NA	**0.0207**
	10/26/2015	NA	**0.0183**
	10/17/2016	NA	**0.0154**
	10/31/2017	NA	**0.0154**
	4/17/2018	NA	NA
	6/14/2018	NA	NA
	10/17/2018	NA	<0.00040
	10/1/2019	NA	**0.0078**
	10/28/2020	NA	**0.0075**
	10/22/2021	NA	**0.0047**
	10/13/2022	NA	**0.0033**
MW-CB-4	8/31/2001	<0.005	<0.005
	9/24/2002	<0.001	<0.005
	11/24/2003	<0.005	**0.0038 J**
	10/20/2004	<0.005	<0.005
	9/8/2005	<0.005	**0.00269 J**
	10/5/2006	<0.00038	<0.00047
	10/10/2007	NA	**0.0012**
	10/16/2008	NA	**0.0011**

Table 3-7: Summary of Historical Source Area Analytical Results

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Analyzed Constituents [a,b]		Volatile Organic Compounds [c,d]	
		Benzene	1,2-DCA
Monitoring Wells [f,g]	Dates	mg/L	mg/L
MW-CB-4	10/30/2009	NA	**0.001**
	10/22/2010	NA	**0.0018**
	10/3/2011	NA	**0.00097 J**
	10/17/2012	NA	**0.0011**
	10/9/2013	NA	**0.0006**
	10/16/2014	NA	**0.00051 J**
	10/26/2015	NA	< 0.00061
	10/17/2016	NA	< 0.00061
	10/30/2017	NA	**0.00033 J**
	4/17/2018	NA	NA
	6/14/2018	NA	NA
	10/17/2018	NA	<0.00040
	10/2/2019	NA	<0.00040
	10/30/2020	NA	<0.00037
	10/22/2021	NA	< 0.00037
	10/13/2022	NA	< 0.00041
OW-2	8/31/2001	<0.005	**0.007**
	9/24/2002	<0.001	**0.009**
	11/24/2003	<0.005	**0.0042 J**
	10/20/2004	<0.005	<0.005
	9/8/2005	<0.005	**0.00581**
	10/5/2006	<0.00038	**0.00506**
	10/10/2007	NA	**0.00233**
	10/16/2008	NA	**0.0022**
	10/30/2009	NA	**0.0019**
	10/21/2010	NA	**0.0025**
	10/3/2011	NA	**0.0037**
	10/17/2012	NA	**0.0029**
	10/8/2013	NA	**0.0044**
	10/16/2014	NA	**0.0015**
	10/26/2015	NA	**0.0027**
	10/17/2016	NA	**0.0013**
	10/30/2017	NA	**0.0017**
	4/17/2018	NA	NA
	6/14/2018	NA	NA
	10/17/2018	NA	**0.0015**
	10/1/2019	NA	**0.0012**
	10/30/2020	NA	**0.0010**
	10/22/2021	NA	**0.0011**
	10/13/2022	NA	**0.0015**
RW-CB-2	9/4/2001	**0.007**	**0.040**
	9/25/2002	**0.004 J**	**0.020**
	11/24/2003	**0.0025J**	**0.042**
	10/21/2004	<0.005	**0.0244**
	9/8/2005	<0.005	**0.0045 J**
	10/4/2006	**0.000670 J**	**0.0419**
	10/12/2007	<0.00018	**0.0308**
	10/20/2008	<0.00013	**0.035**
	10/30/2009	<0.00013	**0.0250**

Table 3-7: Summary of Historical Source Area Analytical Results

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Analyzed Constituents [a,b]		Volatile Organic Compounds [c,d]	
		Benzene	1,2-DCA
Monitoring Wells [f,g]	Dates	mg/L	mg/L
RW-CB-2	10/22/2010	**0.00024 J**	**0.019**
	10/3/2011	<0.000080	**0.0125**
	10/17/2012	<0.00034	**0.00056**
	10/9/2013	<0.00034	**0.00061**
	10/16/2014	<0.00034	<0.00035
	10/26/2015	NA	<0.00061
	10/17/2016	NA	**0.00071 J**
	10/30/2017	NA	**0.00036 J**
	4/17/2018	NA	NA
	6/14/2018	NA	NA
	10/17/2018	NA	<0.00040
	10/3/2019	NA	<0.00040
	10/30/2020	NA	< 0.00037
	10/22/2021	NA	< 0.00037
	10/13/2022	NA	< 0.00041
RW-CB-4	9/4/2001	<0.005	**0.114**
	9/25/2002	**0.002 J**	**0.152**
	11/24/2003	<0.005	**0.0138**
	10/21/2004	<0.005	**0.0097**
	9/8/2005	**0.00103 J**	**0.180**
	10/4/2006	<0.00038	**0.106**
	10/12/2007	<0.00018	**0.06**
	10/16/2008	**0.00043 J**	**0.077**
	10/30/2009	<0.00013	**0.0710**
	10/22/2010	**0.00022 J**	**0.087**
	10/3/2011	<0.000080	**0.067**
	10/17/2012	<0.00034	**0.0021**
	10/9/2013	<0.00034	**0.0013**
	10/16/2014	<0.00034	**0.00096**
	10/26/2015	NA	**0.00110**
	10/17/2016	NA	**0.00093 J**
	10/30/2017	NA	**0.0016**
	4/17/2018	NA	NA
	6/14/2018	NA	NA
	10/17/2018	NA	**0.0013**
	10/3/2019	NA	**0.0010**
	10/30/2020	NA	< 0.00037
	10/22/2021	NA	< 0.00037
	10/13/2022	NA	< 0.00041
RW-CB-2R	10/17/2012	<0.00034	**0.0229**
	10/8/2013	<0.00034	**0.0183**
	10/16/2014	<0.00034	**0.0137**
	11/13/2015	**0.00047 J**	**0.0122**
	10/18/2016	<0.00047	**0.0100**
	12/20/2017	<0.00030	**0.0098**
	4/17/2018	NA	NA
	6/14/2018	NA	**0.01200**
	10/16/2018	<0.00040	**0.01420**
	10/18/2019	<0.00040	**0.00770**

Table 3-7: Summary of Historical Source Area Analytical Results

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Analyzed Constituents [a,b]		Volatile Organic Compounds [c,d]	
		Benzene	1,2-DCA
Monitoring Wells [f,g]	Dates	mg/L	mg/L
RW-CB-2R	10/30/2020	NA	**0.0064**
	10/22/2021	NA	**0.0058**
	10/13/2022	NA	**0.0013**
RW-CB-3R	10/17/2012	<0.00034	**0.0844**
	10/14/2013	<0.00034	**0.0689**
	10/16/2014	<0.00034	**0.0594**
	11/13/2015	**0.00047 J**	**0.0570**
	10/18/2016	<0.00047	**0.0481**
	12/20/2017	<0.00030	**0.0552**
	4/17/2018	NA	NA
	6/14/2018	NA	**0.01130**
	10/16/2018	<0.00040	**0.04730**
	10/18/2019	<0.00040	**0.04080**
	10/30/2020	NA	**0.0306**
	10/22/2021	NA	**0.0324**
	10/13/2022	NA	**0.0089**
RW-CB-4R	10/17/2012	**0.0068**	**0.184**
	10/8/2013	**0.0037**	**0.117**
	10/16/2014	**0.0020**	**0.0858**
	11/13/2015	**0.0012**	**0.0725**
	10/18/2016	**0.00086 J**	**0.0584**
	12/20/2017	**0.00060 J**	**0.0554**
	4/17/2018	NA	NA
	6/14/2018	NA	**0.05330**
	10/16/2018	**0.00077**	**0.05870**
	10/18/2019	**0.00064 J**	**0.05190**
	10/30/2020	NA	**0.0504**
	10/22/2021	NA	**0.0511**
	10/13/2022	NA	**0.0015**
RW-CB-5R	10/17/2012	<0.00034	**0.0307**
	10/8/2013	<0.00034	**0.0288**
	10/16/2014	<0.00034	**0.0254**
	11/13/2015	<0.00047	**0.0256**
	10/18/2016	<0.00047	**0.0242**
	12/20/2017	<0.00030	**0.0211**
	4/17/2018	NA	NA
	6/14/2018	NA	**0.02460**
	10/16/2018	<0.00040	**0.02500**
	10/18/2019	<0.00040	**0.02580**
	10/30/2020	NA	**0.021**
	10/22/2021	NA	**0.0189**
	10/13/2022	NA	**0.0050**
MW-CB-1B	9/4/2001	<0.005	**0.106**
	9/25/2002	<0.001	**0.029**
	11/25/2003	<0.005	**0.0765**
	10/20/2004	<0.005	**0.036**
	9/8/2005	<0.005	**0.0555**
	10/4/2006	<0.00038	**0.0370**
	10/12/2007	<0.00018	**0.0343**

Table 3-7: Summary of Historical Source Area Analytical Results

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Analyzed Constituents [a,b]		Volatile Organic Compounds [c,d]	
		Benzene	1,2-DCA
Monitoring Wells [f,g]	Dates	mg/L	mg/L
MW-CB-1B	10/16/2008	NA	**0.039**
	11/2/2009	NA	**0.0480**
	10/21/2010	NA	**0.050**
	10/3/2011	NA	**0.037**
	10/17/2012	NA	**0.0296**
	10/9/2013	NA	**0.0235**
	10/16/2014	NA	**0.0219**
	10/26/2015	NA	**0.0163**
	10/17/2016	NA	**0.0107**
	10/31/2017	NA	**0.0119**
	4/17/2018	NA	NA
	6/14/2018	NA	NA
	10/17/2018	NA	**0.0015 J**
	10/2/0219	NA	**0.0066**
	10/30/2020	NA	**0.0036**
	10/22/2021	NA	**0.0027**
	10/13/2022	NA	**0.0079 J**
MW-CB-1BS	11/25/2003	<0.006	**0.00433 J**
	10/20/2004	<0.005	**0.0397**
	9/8/2005	<0.005	**0.00687**
	10/4/2006	<0.00038	**0.0373**
	10/12/2007	<0.00018	**0.0369**
	10/16/2008	NA	**0.042**
	11/2/2009	NA	**0.032**
	10/21/2010	NA	**0.020**
	10/3/2011	NA	**0.0076**
	10/17/2012	NA	**0.0037**
	10/9/2013	NA	**0.0017**
	10/16/2014	NA	**0.0011**
	10/26/2015	NA	**0.0022**
	10/17/2016	NA	**0.00135**
	10/31/2017	NA	**0.0012**
	4/17/2018	NA	NA
	6/14/2018	NA	NA
	10/17/2018	NA	**0.0022**
	10/2/2019	NA	**0.00940**
	10/30/2020	NA	**0.0127**
	10/22/2021	NA	**0.0133 J**
	10/13/2022	NA	**0.0095**
MW-CB-2B [e]	10/20/2008	NA	<0.00013
	11/2/2009	NA	<0.00013
	10/21/2010	NA	<0.00013
	10/3/2011	NA	<0.00014
	10/17/2012	NA	<0.00035
	10/8/2013	NA	<0.00035
	10/15/2014	NA	<0.00035
	10/26/2015	NA	<0.00061
	10/17/2016	NA	<0.00061
	10/31/2017	NA	<0.00030

Table 3-7: Summary of Historical Source Area Analytical Results

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Analyzed Constituents [a,b]		Volatile Organic Compounds [c,d]	
		Benzene	1,2-DCA
Monitoring Wells [f,g]	Dates	mg/L	mg/L
MW-CB-2B [e]	4/17/2018	NA	NA
	6/14/2018	NA	NA
	10/17/2018	NA	**0.013**
	2/15/2019	NA	<0.00040
	10/1/2019	NA	<0.00040
	10/28/2020	NA	<0.00037
	10/22/2021	NA	< 0.00037
	10/13/2022	NA	< 0.00041
MW-CB-7B	11/25/2003	<0.005	<0.005
	10/20/2004	<0.005	<0.005
	9/8/2005	<0.005	<0.005
	10/4/2006	<0.00038	<0.00047
	10/12/2007	<0.00018	<0.0002
	10/16/2008	NA	<0.00013
	11/2/2009	NA	<0.00013
	10/22/2010	NA	<0.00013
	10/3/2011	NA	<0.00014
	10/8/2013	NA	<0.00035
	10/16/2014	NA	<0.00035
	10/26/2015	NA	<0.00061
	10/17/2016	NA	<0.00061
	10/30/2017	NA	<0.00030
	4/17/2018	NA	NA
	6/14/2018	NA	NA
	10/17/2018	NA	<0.00040
	10/2/2019	NA	<0.00040
	10/30/2020	NA	<0.00037
	10/22/2021	NA	< 0.00037
	10/13/2022	NA	< 0.00041
RW-CB-3D	9/4/2001	<0.005	**0.101**
	9/25/2002	<0.001	**0.076**
	11/24/2003	<0.005	**0.057**
	10/21/2004	<0.005	**0.0375**
	9/8/2005	<0.005	**0.00212**
	10/4/2006	<0.00038	**0.0368**
	10/12/2007	<0.00018	**0.0185**
	10/20/2008	<0.00013	**0.036**
	10/30/2009	<0.00013	**0.023**
	10/22/2010	< 0.00013	**0.033**
	10/3/2011	<0.000080	**0.0094**
	10/17/2012	<0.00034	**0.0193**
	10/8/2013	<0.00034	**0.0140**
	10/16/2014	<0.00034	**0.0106**
	11/13/2015	0.000	**0.0122**
	10/18/2016	<0.00047	**0.0105**
	12/20/2017	<0.00030	**0.0122**
	4/17/2018	NA	NA
	6/14/2018	NA	**0.01130**
	10/16/2018	<0.00040	**0.01330**

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Analyzed Constituents [a,b]		Volatile Organic Compounds [c,d]	
		Benzene	1,2-DCA
Monitoring Wells [f,g]	Dates	mg/L	mg/L
RW-CB-3D	8/14/2019	NA	**0.00890**
	9/11/2019	NA	**0.00590**
	10/2/2019	<0.00040	**0.00670**
	12/12/2019	NA	**0.00560**
	10/30/2020	NA	**0.0013**
	10/22/2021	NA	**0.00045 J**
	10/13/2022	NA	**0.0077**

Notes:

a. Groundwater sample locations are shown on **Figures 3-3.**

b. Samples analyzed in accordance with U.S. Environmental Protection Agency Methods 8260 (volatile organic compounds) and 8270 (semivolatile organic compounds).

Samples collected in 2001 and 2002 were analyzed by Environmental Chemistry, Inc., Houston, Texas.

Samples collected in 2003 through 2011 were analyzed by TestAmerica Laboratories (formerly, Severn Trent Laboratories), Houston, Texas.

Samples collected since 2012 were analyzed by SGS Accutest Laboratories, Houston, Texas.

c. **Bold** type indicates a detection greater than the sample quantitation limit.

Bold and highlighted concentrations are equal to or greater than TRRP Tier 1 PCL (0.005 mg/L).

d. TRRP Tier 1 PCL for benzene and 1,2-DCA = 0.005 mg/L. **Example: 0.007**

TRRP Tier 1 PCL for Aniline = 0.16 mg/L, o-cresol = 1.2 mg/L, and 2,4-dimethylphenol = 0.49 mg/L.

e. Wells MW-CB-2A and MW-CB-2B were not sampled between 2000 and 2007 due to lack of site access granted by property owner.

f. Only active recovery wells were sampled in June 2018.

Acronyms:

< = not detected at the quantitation limit indicated.
1,2-DCA = 1,2-dicholorethane
Inc. = Incorporated
J = estimated result
mg/L = milligrams per liter
MW = monitoring well
NA = not analyzed
PCL = protective concentration level
RW = recovery well
TRRP = Texas Risk Reduction Program
U.S. = United States

Table 3-8: 2022 Sitewide Groundwater Flow Velocities
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Zone	Hydraulic Conductivity (feet per day)	Effective Porosity	Location	Hydraulic Gradient (unitless)	Velocity (feet per day)	Velocity (feet per year)
Zone A	21	0.30	Source Area, Offsite Northern Tract	0.013	0.93	341
	21	0.30	Offsite Middle West, 13-Acre, and Offsite Southern Tracts	0.003	0.22	82
			Zone A Average Second Half of 2022	0.008	0.58	211
Zone B	6	0.30	Source Area, Offsite Northern Tract	0.024	0.47	172

Notes:
Hydraulic conductivity was calculated and obtained from aquifer tests preformed by GSI in 1999.
Hydraulic gradients taken from potentiometric surface contour maps (**Figures 3-1a and 3-1b**).
Below is an example:
Groundwater velocities (V) were calculated using the formula,V = K/n(dh/dl) , where:
V = groundwater velocity
K = hydraulic conductivity
n = average effective porosity
dh = change in groundwater elevation along flow path
dl = length of flow path
Acronym:
GSI = GSI Environmental, Incorporated

Table 3-9. Field Measurement Parameters

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Well Location	Sample Date	ORP	Dissolved Oxygen	pH	Specific Conductivity	Temperature	Turbidity
		mV	mg/L	--	ms/cm	°C	NTU
Zone A Monitoring Wells - Source Area							
AZG1-16-21	11/02/2021[b]	--	--	--	--	--	--
	01/28/2022[b]	--	--	--	--	--	--
	08/17/2022[b]	--	--	--	--	--	--
AZG1-39-44	11/02/2021	-38.1	0.13	5.43	2.50	24.2	63.8
	01/28/2022	26.2	8.35	2.96	2.57	21.3	328.1
	08/17/2022	56.0	0.40	4.96	3.86	26.8	93.2
	10/19/2022	25.9	1.09	5.25	2.55	20.4	5.43
AZG1-63-68	11/02/2021	-195.8	0.14	5.64	2.27	22.0	22.6
	01/28/2022	-125.1	0.92	5.05	3.16	21.1	16.1
	08/17/2022	-208.7	0.19	4.95	2.75	25.0	54.6
	10/19/2022	-59.7	0.15	4.85	14.78	21.2	38.0
AZG2-18-23	11/02/2021[b]	--	--	--	--	--	--
	01/28/2022[b]	--	--	--	--	--	--
	08/17/2022[b]	--	--	--	--	--	--
AZG2-40-45	11/02/2021	-15.4	0.26	4.89	4.19	24.50	64.2
	1/28/2022[b]	--	--	--	--	--	--
	10/18/2022	-130.8	0.19	5.30	2.69	23.3	1.50
AZG2-59-64	11/02/2021	-189.5	0.10	5.11	2.28	21.9	23.5
	1/28/2022[b]	-240.7	0.68	4.90	3.19	21.1	17.9
	08/17/2022	10.1	0.35	4.74	4.48	24.5	410.3
	10/18/2022	-150.3	0.14	4.97	2.94	22.2	5.20
AZG4-20-25	10/26/2021	78.6	0.23	5.94	1.79	24.7	11.0
	2/1/2022	47.7	0.79	5.75	2.038	22.6	13.8
	08/17/2022	45.6	0.21	5.65	2.85	26.1	3.99
	10/19/2022	19.4	0.14	5.89	9.50	23.9	4.34
AZG4-39-44	10/26/2021	110.1	6.12	5.57	2.32	24.8	5.20
	02/01/2022	-6.90	8.14	4.41	2.19	22.1	17.1
	08/17/2022	-15.8	0.33	5.19	3.71	24.8	13.21
	10/20/2022	19.2	0.2	5.41	2.52	22.9	4.18
AZG4-59-64	10/26/2021	-6.20	0.08	5.33	1.01	24.0	10.5
	02/01/2022	2.1	8.18	4.02	2.08	22.0	5.18
	08/17/2022	-20.5	0.30	5.07	3.53	25.9	14.1
	10/19/2022	7.90	0.31	5.26	2.38	23.4	8.96
AZG5-20-25	10/26/2021	89.4	0.16	5.86	1.89	23.6	18.1
	10/21/2022	-3.10	0.17	5.65	2.44	22.2	1213
AZG5-40-45	10/26/2021	25.7	0.12	5.77	1.38	24.1	14.1
	10/21/2022	-29.1	0.14	6.06	0.499	22.7	--[a]
AZG6-35-40	10/26/2021	108.8	0.18	5.60	2.53	23.5	14.2
	02/01/2022	-25.7	0.73	5.54	2.37	21.2	16.8
	08/17/2022	-54.8	0.22	5.57	2.73	25.4	45.22
	10/18/2022	-3.10	0.47	5.62	12.22	21.1	3.87

Table 3-9. Field Measurement Parameters

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Well Location	Sample Date	ORP	Dissolved Oxygen	pH	Specific Conductivity	Temperature	Turbidity
		mV	mg/L	--	ms/cm	°C	NTU
Zone A Monitoring Wells - Source Area							
AZG6-45-50	10/26/2021	-7.10	0.16	5.71	1.28	21.8	7.08
	02/01/2022	6.20	8.45	4.17	2.13	21.1	11.6
	08/17/2022	4.90	0.42	5.32	3.95	27.4	21.8
	10/18/2022	50.9	0.19	5.39	2.45	22.2	3.16
AZG6-67-72	11/02/2021	7.00	0.23	5.09	3.63	22.6	8.20
	02/01/2022	-7	8.44	4.68	2.312	21.0	5.21
	08/17/2022	-39.4	0.27	4.97	4.00	26.3	8.90
	10/18/2022	-46.3	0.33	5.19	14.61	20.8	5.90
MW-CB-1A	10/22/2021	89.8	1.59	5.84	0.92	22.9	8.63
	1/27/2022	87.5	2.96	5.84	0.81	21.1	23.5
	04/19/2022	60.0	1.08	6.88	--[a]	22.4	22.7
	08/18/2022	5.4	2.01	5.97	1.64	25.3	78.5
	10/13/2022	-27.2	0.89	5.95	1.42	24.0	30.4
MW-CB-4	10/22/2021	74.4	3.85	5.98	0.81	23.5	10.54
	1/27/2022	117.8	6.83	5.70	1.03	18.9	24.3
	04/19/2022	66.8	1.21	5.55	--[a]	22.4	7.84
	08/18/2022	-30.3	1.63	5.86	1.45	25.6	40.03
	10/13/2022	31.8	1.29	5.79	1.02	23.9	11.46
MW-CB-5A [a]	10/22/2021	108.7	1.36	6.00	0.69	22.3	3.26
	1/27/2022	100.8	2.93	5.80	0.531	20.4	19.1
	04/19/2022	35.0	1.24	5.97	0.62	21.8	8.39
	08/18/2022	-29.4	1.27	5.94	0.77	24.2	23.66
	10/13/2022	3.3	1.42	6.23	0.84	23.4	6.26
OW-2	10/22/2021	137.2	1.11	5.93	2.35	23.0	4.29
	10/13/2022	49.4	3.06	5.89	2.09	23.3	21.9
RW-CB-2	10/22/2021	89.8	1.73	5.96	1.91	22.8	3.4
	1/27/2022	83.2	2.67	5.70	1.79	18.7	2.04
	04/19/2022	67.5	0.90	5.85	--[a]	23.1	8.84
	08/18/2022	23.6	1.80	5.88	2.15	24.4	34.12
	10/13/2022	10.7	1.30	5.77	2.10	23.9	9.90
RW-CB-4	10/22/2021	113	1.51	5.77	2.50	23.2	1.88
	1/27/2022	83.8	2.63	5.51	1.95	20.9	13.1
	04/19/2022	71.7	0.86	5.53	--[a]	22.9	12.5
	08/18/2022	49.8	2.38	7.41	2.34	25.8	74
Zone A Recovery Wells: Source Area							
RW-CB-2R	10/22/2021	90.5	1.70	5.83	1.29	23.8	1.33
	1/27/2022	57.7	2.59	5.76	1.32	20.1	14.1
	04/19/2022	80.0	1.04	5.69	--[a]	22.2	8.56
	08/18/2022	21.1	2.13	5.64	1.70	23.9	31.9
	10/13/2022	16.5	1.06	5.82	1.63	23.2	15.7
RW-CB-3R	10/22/2021	104.5	4.07	5.74	1.84	23.0	1.08
	10/13/2022	-3.30	1.16	5.92	1.69	24.8	3.31
RW-CB-4R	10/22/2021	97.7	1.13	5.77	2.11	23.1	3.9
	10/13/2022	48.9	1.55	6.09	2.72	25.5	69.5
RW-CB-5R	10/22/2021	133.8	2.98	5.87	1.79	22.3	2.09
	10/13/2022	20.4	1.53	6.49	1.33	24.5	4.79

Table 3-9. Field Measurement Parameters

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Well Location	Sample Date	ORP	Dissolved Oxygen	pH	Specific Conductivity	Temperature	Turbidity
		mV	mg/L	--	ms/cm	°C	NTU
Zone A Monitoring Wells - Offsite Northern Tract							
MW-CB-2A	10/21/2021[b]	--	--	--	--	--	--
	1/27/2022	99.5	4.14	6.64	0.285	18.8	2,176
	04/19/2022	57.1	1.14	6.11	--[a]	23.5	31.1
	08/18/2022	-24.2	2.75	6.21	1.01	27.3	109.7
	10/13/2022	10.7	1.16	6.67	0.78	25.6	38.1
	10/20/2022	66.9	0.08	10.06	14.93	23.1	3.18
MW-CB-25A	10/21/2021	7.0	1.81	6.09	1.92	22.6	6.59
	10/13/2022	4.3	0.81	6.19	2.96	24.6	18.6
MW-CB-26A	10/22/2021	-1.30	-1.30	5.92	1.50	23.1	4.90
	1/27/2022	4.90	3.55	6.01	2.00	17.5	5.64
	04/19/2022	50.3	0.87	6.02	--[a]	22.9	12.4
	08/16/2022	-23.2	1.51	6.00	2.31	26.3	7.9
	10/13/2022	20	1.06	5.85	2.16	24.2	7.54
MW-CB-27A[c]	--	--	--	--	--	--	--	--
MW-CB-28A	1/27/2022	6.70	3.84	6.01	2.27	18.7	15.11
	08/16/2022	16.9	2.52	5.98	2.68	26.7	23.4
	10/13/2022	16.3	1.13	6.27	2.65	27.2	9.38
PMW-08B	10/21/2021	55.9	7.81	5.97	0.54	21.8	7.08
	1/28/2022[b]	--	--	--	--	--	--
	04/19/2022	36.4	0.87	6.31	--[a]	23.3	4.38
	08/16/2022	2.9	2.32	6.26	0.80	24.6	53.2
	10/13/2022	23.7	0.62	6.20	0.88	23.7	11.38
PMW-09B	10/13/2022	21.8	0.91	6.79	0.83	24.9	13.9
PMW-17	10/21/2021	25.9	19.6	5.77	1.53	22.2	17.4
	10/13/2022	8.70	1.63	6.12	2.40	25.4	26.4
RDP-3	10/21/2021	63.8	0.22	5.86	1.17	21.7	5.16
	1/27/2022[b]	--	--	--	--	--	--
	04/19/2022	40.8	1.40	5.87	--[a]	23.2	10.3
	08/16/2022	19.6	1.99	5.78	2.77	25.7	29.0
	10/13/2022	32.2	1.12	5.98	2.74	24.6	48.4
RDP-5	10/21/2021	0.10	0.01	6.22	2.05	22.1	74.7
	1/27/2022	136.0	5.01	6.16	2.71	19.6	90.2
	04/19/2022	42.7	0.77	6.32	--[a]	22.4	5.16
	08/16/2022	-24.9	1.91	6.24	2.98	24.5	7.8
	10/13/2022	2.8	1.53	6.20	1.66	24.8	5.74
Zone A Monitoring Wells - Offsite Middle West Tract							
MW-CB-8AD	11/16/2021	-46.8	0.3	5.93	2.5	23.3	4.18
	01/26/2022	-38.0	--[a]	4.35	1,423	19.0	87.2
	04/19/2022	26.4	1.43	6.18	2.51	22.4	2.71
	08/16/2022	-23.1	1.81	6.19	28.1	26.0	25.99
	10/17/2022	-45.5	0.23	6.24	208	21.7	5.41
MW-CB-12AD	11/16/2021	72.8	1.22	5.68	1.68	23.9	9.04
	01/28/2022	-76.4	--[a]	4.88	2551	18.2	15.2
	04/19/2022	5.5	1.05	5.95	1.35	22.4	8.22
	08/16/2022	41.4	2.77	8.84	1,394	25.0	27.01
	10/17/2022	-14.2	0.54	5.79	108.9	21.8	7.56
MW-CB-12AS	10/22/2021	90.2	1.13	6.12	3.02	24.0	5.95
	10/17/2022	-7.5	0.51	6.17	73.2	21.9	9.75
MW-CB-16AS	10/22/2021	38.1	0.76	6.60	1.78	24.0	9.04
	10/17/2022	-11.7	0.23	6.62	212.5	22	8.18

Table 3-9. Field Measurement Parameters

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Well Location	Sample Date	ORP	Dissolved Oxygen	pH	Specific Conductivity	Temperature	Turbidity
		mV	mg/L	--	ms/cm	°C	NTU
Zone A Monitoring Wells - 13-Acre Tract							
EAB-MW-03	10/22/2021	30.1	0.28	6.30	3.24	24.0	2.11
	1/27/2022[b]	--	--	--	--	--	--
	04/19/2022[b]	--	--	--	--	--	--
	10/17/2022	-37.1	0.18	6.54	234	21.1	7.12
MW-CB-13AS[b]	10/22/2021	--	--	--	--	--	--
	10/17/2022	-52.4	0.51	6.3	137.3	21.0	13.6
MW-CB-14AS[a]	10/22/2021	42.8	9.60	5.95	3.08	23.2	6.97
	10/17/2022	75.9	0.21	5.97	266	21.4	8.75
MW-CB-15AS[a]	10/22/2021	8.90	1.92	6.37	2.17	25.7	5.03
	1/27/2022[d]	--	--	--	--	--	--
	04/19/2022	25.3	1.32	6.36	1.90	21.2	20.4
	08/16/2022	27.9	3.59	6.37	2,007	24.4	63.03
	10/17/2022	53	3.09	6.35	43.4	--	38.2
MW-CB-29A[a]	04/19/2022	68.6	3.20	6.28	1.18	22.0	3.82
MW-CB-33A	10/22/2021	99.8	2.14	6.17	1.90	22.7	1.71
	10/17/2022	89.2	1.06	6.15	13.2	20.4	11.22
TRW-CB-1	10/22/2021	4.60	4.78	6.31	2.90	24.3	114
	1/27/2022	38.1	4.19	6.06	2.22	17.1	60.6
	4/19/2022	44.5	3.25	6.28	2.30	22.0	22.6
	08/16/2022	55.1	1.79	6.34	2,531	25.2	78.01
	10/17/2022	41.3	1.50	6.29	24.56	14.7	61.9
TRW-CB-2	10/17/2022	80.5	2.22	6.30	17.5	13.6	56.4
TRW-CB-3	10/22/2021	117.2	1.38	6.02	1.45	21.7	26.6
	10/17/2022	87.0	1.64	6.03	22.22	19.4	107
TRW-CB-4	10/22/2021	117.5	1.41	6.04	2.69	22	20.4
	10/17/2022	85.8	1.09	6.02	97.1	21.1	27.3
Zone A Recovery Wells: Offsite Southern Tract							
MW-CB-37S	10/21/2021	105.6	4.19	6.22	0.780	22.2	2.46
	10/12/2022	103.8	1.4	6.21	1.12	23.9	4.57
MW-CB-39	10/21/2021	113	3.04	5.67	0.85	21.3	0.56
	10/12/2022	71.6	3.38	6.14	1.06	24.3	7.61
MW-CB-40	10/21/2021	80.1	1.61	5.67	1.56	20.9	1.59
	1/27/2022	102.8	4.20	5.66	1.42	17.1	0.98
	04/19/2022	44.0	3.90	6.45	2.10	20.0	3.75
	08/16/2022	64.9	1.31	6.79	3,026	24.6	5.00
	10/12/2022	34.8	1.96	6.21	2.27	24.7	7.04
MW-CB-41S	10/21/2021[b]	--	--	--	--	--	--
	10/12/2022	49	1.00	6.39	1.25	23.6	1.74
MW-CB-44	10/21/2021	121.8	1.77	5.54	1.38	20.8	0.87
	05/17/2022	127.2	4.39	5.87	1.69	31.0	--
	10/12/2022	73.9	1.65	6.22	1.63	23.5	1.81
MW-CB-45	10/21/2021	53.4	1.27	5.79	1.35	20.9	1.33
	10/12/2022	6.0	1.08	6.17	1.77	23.0	2.99
MW-CB-46S	10/21/2022	127.6	3.20	5.39	0.96	20.6	1.50
	10/12/2022	100.5	3.07	6.91	1.12	23.1	3.91
MW-CB-47S	10/21/2021	93.5	1.67	5.75	0.436	21.3	1.28
	10/12/2022	82.7	2.89	8.37	0.81	24.3	8.75
MW-CB-48[a]	10/21/2021	99.9	0.81	5.48	1.31	21.7	1.22
	10/12/2022	69.5	1.80	6.31	1.54	24.0	242

Table 3-9. Field Measurement Parameters

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Well Location	Sample Date	ORP	Dissolved Oxygen	pH	Specific Conductivity	Temperature	Turbidity
		mV	mg/L	--	ms/cm	°C	NTU
Zone B Monitoring Wells - Source Area							
MW-CB-1B	10/22/2021	77.2	1.33	5.90	0.87	23.0	2.80
	1/27/2022	85.0	3.42	5.67	0.608	18.7	62.1
	4/19/2022	47.3	1.03	5.91	--[a]	22.6	11.9
	08/18/2022	15.5	3.00	5.95	0.82	24.7	67.5
	10/13/2022	-0.30	1.02	6.33	0.72	24.5	42.0
MW-CB-1BS	10/22/2021[b]	--	--	--	--	--	--
	1/27/2022	51.7	3.01	5.71	0.66	20.6	188.5
	04/19/2022	69.6	0.92	5.82	--[a]	22.4	15.4
	08/18/2022	29.3	1.84	5.78	0.79	24.0	52.2
	10/13/2022	-20.0	0.78	5.84	0.74	23.5	26.1
	10/20/2022	-130.7	0.17	5.85	0.68	23.2	2.08
MW-CB-7B	10/22/2021	103.9	4.43	5.72	0.68	22.9	7.74
	1/27/2022	109.6	4.39	6.05	0.66	20.8	34.5
	04/19/2022	62.2	2.03	5.81	--[a]	22.6	14.1
	08/18/2022	17.7	2.95	5.88	0.75	24.9	120.3
	10/13/2022	60.0	1.36	5.66	0.71	22.9	22.2
Zone B Recovery Well - Source Area							
RW-CB-3D	10/22/2021	-70.00	0.90	6.80	0.91	24.80	1.56
	10/13/2022	-60	1.24	6.61	0.76	25.9	22.4
Zone B Monitoring Wells - Offsite Northern Tract							
MW-CB-2B	10/21/2021	-55.0	1.32	6.79	0.218	24.0	35.5
	1/27/2022[b]	--	--	--	--	--	--
	4/19/2022[b]	--	--	--	--	--	--
	10/13/2022	-42.9	1.04	7.02	0.29	26.6	48.0
MW-CB-6B [a]	10/21/2021	-14.7	1.74	6.38	--[a]	22.8	15.1
	1/28/2022	-72.8	9.78	3.54	203.9	17.0	97.9
	10/13/2022	20.3	1.35	6.69	0.49	24.7	18.5
MW-CB-6BS	10/21/2021	91.2	1.76	5.77	0.56	22.3	22.0
	1/27/2022	-26.2	4.73	6.19	0.47	17.5	22.9
	04/19/2022	14.0	1.20	6.22	--[a]	22.9	14.7
	10/13/2022	23.5	1.24	6.92	0.54	25.4	11.5

Notes:

[a] Field parameter(s) were not collected due to technology issues.

[b] Field parameters were not collected during all groundwater events due to insufficient volume for field parameters.

[c] Water levels could not be measured and samples were not collected due to obstructions inside the well casing.

[d] Well was submerged and unable to be sampled.

Acronyms:

°C = degree Celsius
AZG = A zone grab
EAB = Enhanced Anaerobic Bioremediation Wells
mg/L = milligrams per liter
ms/cm = milli Siemens per centimeter
mV = millivolt
MW = monitoring well
NTU = nephelometric turbidity unit
ORP = oxidation reduction potential
pH = potential Hydrogen
RW = recovery well
S.U. =standard units
TRW = trench recovery well

Table 4-1: Groundwater Sampling and Analysis Summary
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Well ID	Unit	Screen Interval (ft-bgs)	Sample Method	4th Quarter 2021	1st Quarter 2022	2nd Quarter 2022	3rd Quarter 2022	4th Quarter 2022		1st Quarter 2023
				October to November	January to February	April to May	August	October		January
Zone A Monitoring Wells - Source Area										
AZG1-16-21	A	16.0-21.0	Low-Flow	X	X	--	--	X	X	--
AZG1-39-44	A	39.0-44.0	Low-Flow	X	X	--	X	X	X	--
AZG1-63-68	A	63.0-68.0	Low-Flow	X	X	--	X	X	X	--
AZG2-18-23	A	18.0-23.0	Low-Flow	--	X	--	X	X		--
AZG2-40-45	A	40.0-45.0	Low-Flow	X	X	--	--	X		--
AZG2-59-64	A	59.0-64.0	Low-Flow	X	X	--	X	X		--
AZG3-20-25	A	20.0-25.0	Low-Flow	X	--	--	--	--	--	--
AZG3-47-52	A	47.0-52.0	Low-Flow	X	--	--	--	--	--	--
AZG4-20-25	A	20.0-25.0	Low-Flow	X	X	--	X	X	X	--
AZG4-39-44	A	39.0-44.0	Low-Flow	X	X	--	X	X	X	--
AZG4-59-64	A	59.0-64.0	Low-Flow	X	X	--	X	X[b]		--
AZG5-20-25	A	20.0-25.0	Low-Flow	X	--	--	--	X		--
AZG5-40-45	A	40.0-45.0	Low-Flow	X	--	--	--	X		--
AZG6-35-40	A	35.0-40.0	Low-Flow	X	X	--	X	X		--
AZG6-45-50	A	45.0-50.0	Low-Flow	X	X	--	X	X		--
AZG6-67-72	A	67.0-72.0	Low-Flow	X	X	--	X	X		--
MW-CB-1A	A	51.5-61.0	HS	X	X	X	X	X		--
MW-CB-4	A	58.5-68.0	HS	X	X	X	X	X		--
MW-CB-5A	A	58.2-68.3	HS	X	X	X	X	X		--
OW-2	A	21.9-36.5	HS	X	--	--	--	X		--
RW-CB-2	A	36.7-66.6	HS	X	X	X	X	X		--
RW-CB-4	A	37.5-67.5	HS	X	X	X	X	X		--
Zone A Recovery Wells - Source Area										
RW-CB-2R	A	44.9-64.9	HS	X	X	X	X	X		--
RW-CB-3R	A	45.0-65.0	HS	X	--	--	--	X		--
RW-CB-4R	A	44.0-64.0	HS	X	--	--	--	X		--
RW-CB-5R	A	45.0-65.0	HS	X	--	--	--	X		--
Zone A Monitoring Wells - Offsite Northern Tract										
MW-CB-2A	A	52.5-62.6	HS	X	X	X	X	X		X
MW-CB-25A	A	20.0-40.0	HS	X	--	--	--	X		--
MW-CB-26A [a]	A	20.0-40.0	HS	X	X	X	X	X		--
MW-CB-27A[a]	A	20.0-40.0	--	--	--	--	--	--		--
MW-CB-28A [a]	A	20.0-40.0	HS	--	X	--	X	X		--
PMW-08B	A	52.0-62.0	HS	X	X	X	X	X		--
PMW-09B [a]	A	52.0-62.0	HS	--	--	--	--	X		X
PMW-17	A	20.0-30.0	HS	X	--	--	--	X		--
RDP-3 [a]	A	25.0-35.0	HS	X	X	X	X	X		--
RDP-5 [a]	A	19.0-29.0	HS	X	X	X	X	X		--
Zone A Monitoring Wells - Offsite Middle West Tract										
MW-CB-8AD [a]	AD	40.0-50.0	HS	X	X	X	X	X		--
MW-CB-12AD [a]	AD	38.0-58.0	HS	X	X	X	X	X		--
MW-CB-12AS	A	19.5-39.5	HS	X	--	--	--	X		--
MW-CB-16AS	A	19.3-39.3	HS	X	--	--	--	X		--
Zone A Monitoring Wells - 13-Acre Tract										
EAB-MW-03 [a]	A	40.0-50.0	HS	X	X	X	X	X		--
MW-CB-13AS	A	17.7-37.8	HS	X	--	--	--	X		--
MW-CB-14AS	A	19.0-38.9	HS	X	--	--	--	X		--
MW-CB-15AS [a]	A	19.8-39.7	HS	X	X	X	X	X		--
MW-CB-29A	A	18.0-38.0	HS	--	--	X	X	--		--
MW-CB-33A	A	18.0-38.0	HS	X	--	--	--	X		--
Zone A Recovery Wells - 13-Acre Tract										
TRW-CB-1 [a]	A	25.0-45.0	HS	X	X	X	X	X		--
TRW-CB-2	A	25.0-45.0	HS	X	--	--	--	X		--
TRW-CB-3	A	25.0-55.0	HS	X	--	--	--	X		--
TRW-CB-4	A	25.0-55.0	HS	X	--	--	--	X		--
Zone A Monitoring Wells - Offsite Southern Tract										
MW-CB-37S	A	40.0-50.0	HS	X	--	--	--	X		--
MW-CB-39	A	40.0-50.0	HS	X	--	--	--	X		--
MW-CB-40 [a]	A	40.0-50.0	HS	X	X	X	X	X		--
MW-CB-41S	A	40.0-50.0	HS	X	--	--	--	X		--
MW-CB-44	A	40.0-50.0	HS	X	--	X	--	X		--
MW-CB-45	A	40.0-50.0	HS	X	--	X	--	X		--
MW-CB-46S	A	40.0-50.0	HS	X	--	--	--	X		--
MW-CB-47S	A	40.0-50.0	HS	X	--	--	--	X		--
MW-CB-48	A	40.0-50.0	HS	X	--	X	--	X		--
Zone B Monitoring Wells - Source Area										
MW-CB-1B	B	90.5-100.6	HS	X	X	X	X	X		--
MW-CB-1BS	B	70.0-85.0	HS	X	X	X	X	X		X
MW-CB-7B	B	85.0-100.0	HS	X	X	X	X	X		--
Zone B Recovery Wells - Source Area										
RW-CB-3D	B	71.4-101.0	HS	X	--	--	--	X		--
Zone B Monitoring Wells - Offsite Northern Tract										
MW-CB-2B [a]	B	89.5-99.6	HS	X	X	X	X	X		--
MW-CB-6B [a]	B	89.5-99.6	HS	X	X	X	X	X		--
MW-CB-6BS [a]	B	70.0-85.0	HS	X	X	X	X	X		--

Notes:

X	Groundwater sample collected for 1,2-DCA analysis
X	Groundwater sample collected for MNA analysis
X	Groundwater sample collected for 1,2-DCA; PFMs sampled for Darcy Velocity and 1,2-DCA Mass Flux analysis

[a] offsite monitor well

[b.] PFM sample was not collected due to installation issues; obstruction in well casing.

Acronyms:
1,2-DCA = 1,2-Dichloroethane
AZG = A Zone Grab
bgs = below ground surface
EAB = Enhanced Anaerobic Bioremediation Wells
ft = feet
HS = Hydra Sleeve
ID = Identification
MNA = Monitored Natural Attenuation
MW = Monitoring well
PFM = Passive Flux Meters
PMW = Performance monitoring well
RW = Recovery well
TRW = Trench recovery well

Table 4-2: Summary of NAIP Analysis at Select Wells

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well Id	Date Sampled	Screen Depths	1,2-DCA	Ethene	Ethane	Methane	Carbon Dioxide	Alkalinity, Total as CaCO3	Nitrogen, Nitrate	Nitrogen, Nitrate + Nitrite	Nitrogen, Nitrite	Sulfate	Iron
			0.005 [a]	--	--	--	--	--	--	--	--	--	
		(ft bgs)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)	(mg/L)
Zone A Source Area Monitoring Wells													
AZG1-16-21	--	16.0-21.0	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)
AZG1-39-44	10/19/2022	39.0-44.0	**0.0344**	<0.00016 UJ	<0.00014 UJ	**0.00345 J**	**64.0 J**	**31.0 J**	**0.097 J**	**0.097 JL**	< 0.003 JL	**148**	--
AZG1-63-68	10/19/2022	63.0-68.0	**0.699 JL**	**0.00063 J**	**0.00019 J**	**0.0138 J**	**58.5**	< 3.6 J	< 0.093	< 0.09 J	< 0.003 JL	**1080**	--
AZG4-20-25	10/19/2022	20.0-25.0	**0.0016**	<0.00016 UJ	<0.00014 UJ	**0.0167 J**	**22.8**	**84.5 J**	< 0.093	< 0.09 J	< 0.003	**72.6**	--
AZG4-39-44	10/20/2022	39.0-44.0	**0.0142**	<0.00016 UJL	<0.00014 UJL	**0.00326**	**33 JL**	**36 J**	< 0.093 R	< 0.09	< 0.003 R	**86**	*13.2*
AZG4-59-64	10/19/2022	59.0-64.0	**0.598 JL**	<0.00016 UJ	<0.00014 UJ	**0.0149 J**	**53.0 J**	**48.0 J**	< 0.093	< 0.09 J	< 0.003	**934**	--
Zone A Offsite Area Monitoring Wells													
MW-CB-2A	10/20/2022	52.5-62.0	**0.00066 J**	**0.00057 JL**	<0.00014 UJL	**0.0888**	< 0.025 JL	**89.5 J**	< 0.093 R	< 0.09	< 0.003 R	**4.3**	***0.0244 J***
MW-CB-8AD	11/16/2021	40.0-50.0	**0.013**	<0.00016	<0.00014	**3.91**	**53.4**	--	< 0.045	**0.15**	**0.13**	**65.3**	***79.2***
MW-CB-12AD	11/16/2021	38.0-58.0	**0.0108**	<0.0040	<0.0035	**1.76**	**49**	--	< 0.045	< 0.04	**0.017**	**103**	***2.89***
PMW-09B	10/20/2022	52.0-62.0	**0.0181**	<0.00016 UJL	<0.00014 UJL	**4.76**	**35.5 JL**	**102 J**	< 0.093 R	< 0.09	< 0.003 R	**40.9**	***2.16***
Zone B Source Area Monitoring Wells													
MW-CB-1BS	10/20/2022	70.0-85.0	**0.0071**	<0.00016 UJL	<0.00014 UJL	**0.00039**	**13 JL**	**36 J**	< 0.093 R	< 0.09	< 0.003 R	**20**	*0.251*

Notes:

Bold type indicates a detection greater than the sample quantitation limit.

Bold and highlighted concentrations are equal to or greater than TRRP Tier 1 protective concentration limit (0.005 mg/L).

a. TRRP Tier 1 PCL for 1,2-DCA = 0.005 mg/L.

Example: 0.007

b. 1,2-DCA, sample collected November 16, 2021.

Acronyms:

-- = Not applicable
< = not detected at the quantitation limit indicated
1,2-DCA = 1,2-dichloroethane
AZG = A Zone Grab
bgs = below ground surface
°C = degree Celsius
CaCO3 = Calcium carbonate
ft = feet
Id = Identification
J = estimated result
JL = estimated result biased low
L = Liter
mg = milligrams
ms/cm = milli Siemens per centimeter
mV = millivolt
MW = Monitoring well
NS (Dry) = Not sampled due to well being dry
NTU = nephelometric turbidity unit
ORP = oxidation reduction potential
QC = Quality Control
PMW = Performance Monitoring Well
R = Rejected; The result was rejected due to QC failure and should not be used to support project decisions.
TOC = Total Organic Carbon
TRRP = Texas Risk Reduction Program

Table 4-2: Summary of NAIP Analysis at Select Wells

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well Id	TOC	Lead	Field Measurement Parameters					
			ORP	Dissolved Oxygen	pH	Specific Conductivity	Temperature	Turbidity
	--	--	--	--	--	--	--	--
	(mg/L)	(mg/L)	(mV)	(mg/L)	--	(ms/cm)	(°C)	NTU
Zone A Source Area Monitoring Wells								
AZG1-16-21	NS (Dry)	NS (Dry)						
AZG1-39-44	**3.7**	**0.0509**	25.9	1.09	5.25	2.55	20.4	5.43
AZG1-63-68	**32.3**	**0.0796**	-59.7	0.15	4.85	14.78	21.2	38
AZG4-20-25	**3**	**0.0632**	19.4	0.14	5.89	9.5	23.9	4.34
AZG4-39-44	**2.9 JL**	--	19.2	0.2	5.41	2.52	22.9	4.18
AZG4-59-64	**17.5**	**0.0878**	7.9	0.31	5.26	2.38	23.4	8.96
Zone A Offsite Area Monitoring Wells								
MW-CB-2A	**9.2 JL**	--	66.9	0.08	10.06	14.93	23.1	3.18
MW-CB-8AD	**5.6**	--	-46.8	0.3	5.93	2.5	23.3	4.18
MW-CB-12AD	< 0.5	--	72.8	1.22	5.68	1.68	23.9	9.04
PMW-09B	**3.1 JL**	--	21.8	0.91	6.79	0.83	24.9	13.9
Zone B Source Area Monitoring Wells								
MW-CB-1BS	< 0.95 JL	--	-130.7	0.17	5.85	0.68	23.2	2.08

Acronyms:

-- = Not applicable

1,2-DCA = 1,2-dichloroethane

AZG = A Zone Grab

°C = degree Celsius

Id = Identification

JL = estimated result biased low

L = Liter

mg = milligrams

Table 4-3: Summary of 1,2-DCA Analytical Results - 4th Quarter 2021 to 4th Quarter 2022

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

		4th Quarter (Baseline Event)		1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
Well Id	Screen Depths (ft bgs)	Date Sampled	1,2-DCA (mg/L)	Date Sampled	1,2-DCA (mg/L)	Date Sampled	1,2-DCA (mg/L)	Date Sampled	1,2-DCA (mg/L)	Date Sampled	1,2-DCA (mg/L)
Zone A Monitoring Wells - Source Area											
AZG1-16-21	16.0-21.0	11/02/2021	**0.0032**	02/01/2022	**0.0036 JL**	--	--	08/17/2022	NS (Dry)	--	--
AZG1-39-44	39.0-44.0	11/02/2021	**0.0272**	01/28/2022	**0.0401**	--	--	08/17/2022	**0.0297**	10/19/2022	**0.0344**
AZG1-63-68	63.0-68.0	11/02/2021	**0.618**	01/28/2022	**0.658 JL**	--	--	08/17/2022	< 0.00041	10/19/2022	**0.699 JL**
AZG2-18-23	18.0-23.0	11/02/2021	NS (Dry)	02/01/2022	**0.00041 JL**	--	--	08/17/2022	**0.148 JL**	10/18/2022	**0.0057**
AZG2-40-45	40.0-45.0	11/02/2021	**0.0044**	01/28/2022	**0.0055**	--	--	--	--	10/18/2022	**0.0039**
AZG2-59-64	59.0-64.0	11/02/2021	**0.769**	01/28/2022	**0.776 JL**	--	--	08/17/2022	**0.168 JL**	10/18/2022	**0.727**
AZG3-20-25	20.0-25.0	11/02/2021	**0.00051 J**	--	--	--	--	--	--	--	--
AZG3-47-52	47.0-52.0	11/02/2021	**0.401**	--	--	--	--	--	--	--	--
AZG4-20-25	20.0-25.0	10/26/2021	**0.0019**	02/01/2022	**0.003 JL**	--	--	08/17/2022	**0.003**	10/19/2022	**0.0016**
AZG4-39-44	39.0-44.0	10/26/2021	**0.0111**	02/01/2022	**0.0158 JL**	--	--	08/17/2022	**0.0141**	10/20/2022	**0.0142**
AZG4-59-64	59.0-64.0	10/26/2021	**0.528**	02/01/2022	**0.66 JL**	--	--	08/17/2022	**0.115 JL**	10/19/2022	**0.598 JL**
AZG5-20-25	20.0-25.0	10/26/2021	**0.00078 J**	--	--	--	--	--	--	10/21/2022	**0.0032**
AZG5-40-45	40.0-45.0	10/26/2021	**0.003**	--	--	--	--	--	--	10/21/20022	< 0.00041
AZG6-35-40	35.0-40.0	10/26/2021	< 0.00037	02/01/2022	< 0.00041 JL	--	--	08/17/2022	< 0.00041	10/18/2022	**0.0021**
AZG6-45-50	45.0-50.0	10/26/2021	**0.0376**	02/01/2022	**0.0524 JL**	--	--	08/17/2022	**0.0515**	10/18/2022	**0.0747**
AZG6-67-72	67.0-72.0	11/02/2021	**0.689**	02/01/2022	**0.84 JL**	--	--	08/17/2022	**0.805**	10/18/2022	**0.821**
MW-CB-1A	51.5-61.0	10/22/2021	**0.0064**	01/27/2022	**0.0066**	04/19/2022	**0.0127**	08/18/2022	**0.0072**	10/13/2022	**0.0062**
MW-CB-4	58.5-68.0	10/22/2021	< 0.00037	01/27/2022	< 0.00041	04/19/2022	**0.0065**	08/18/2022	< 0.00041	10/13/2022	< 0.00041
MW-CB-5A	58.2-68.3	10/22/2021	< 0.00037	01/27/2022	< 0.00041	04/19/2022	< 0.00037	08/18/2022	< 0.00041	10/13/2022	< 0.00041
OW-2	21.9-36.5	10/22/2021	**0.0011**	--	--	--	--	--	--	10/13/2022	**0.0015**
RW-CB-2	36.7-66.6	10/22/2021	< 0.00037	01/27/2022	< 0.00041	04/19/2022	< 0.00037	08/18/2022	< 0.00041	10/13/2022	< 0.00041
RW-CB-4	37.5-67.5	10/22/2021	< 0.00037	01/27/2022	< 0.00041	04/19/2022	**0.00056 J**	08/18/2022	< 0.00041	10/13/2022	< 0.00041
Zone A Recovery Wells - Source Area											
RW-CB-2R	44.9-64.9	10/22/2021	**0.0058**	01/27/2022	**0.002**	04/19/2022	**0.00089 J**	08/18/2022	**0.0012**	10/13/2022	**0.0013**
RW-CB-3R	45.0-65.0	10/22/2021	**0.0324**	--	--	--	--	--	--	10/13/2022	**0.0089**
RW-CB-4R	44.0-64.0	10/22/2021	**0.0511**	--	--	--	--	--	--	10/13/2022	**0.0015**
RW-CB-5R	45.0-65.0	10/22/2021	**0.0189**	--	--	--	--	--	--	10/13/2022	**0.0050**

Table 4-3: Summary of 1,2-DCA Analytical Results - 4th Quarter 2021 to 4th Quarter 2022

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

		4th Quarter (Baseline Event)		1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
Well Id	Screen Depths	Date Sampled	1,2-DCA	Date Sampled	1,2-DCA	Date Sampled	1,2-DCA	Date Sampled	1,2-DCA	Date Sampled	1,2-DCA
Zone A Monitoring Wells - Offsite Northern Tract											
MW-CB-2A	52.5-62.6	10/21/2021	**0.0047**	01/27/2022	< 0.00041	04/19/2022	**0.0045**	08/18/2022	**0.0042**	10/13/2022	**0.0033**
MW-CB-25A	20.0-40.0	10/21/2021	**0.0012**	--	--	--	--	--	--	10/13/2022	**0.0030**
MW-CB-26A	20.0-40.0	10/21/2021	**0.0095**	01/27/2022	**0.0098**	04/19/2022	**0.0103**	08/16/2022	**0.0097**	10/13/2022	**0.0132**
MW-CB-27A[a]	20.0-40.0	--	--	--	--	--	--	--	--	--	--
MW-CB-28A	20.0-40.0	--	--	01/27/2022	< 0.00041	--	--	08/16/2022	< 0.00041	10/13/2022	< 0.00041
PMW-08B	52.0-62.0	10/21/2021	**0.0029**	01/28/2022	**0.0021**	04/19/2022	**0.0066**	08/16/2022	**0.006**	10/13/2022	**0.0078**
PMW-09B	52.0-62.0	--	--	--	--	--	--	--	--	10/13/2022	**0.0086**
PMW-17	20.0-30.0	10/21/2021	**0.0069**	--	--	--	--	--	--	10/13/2022	**0.0024**
RDP-3	25.0-35.0	10/21/2021	**0.0063**	01/27/2022	**0.0222**	04/19/2022	**0.0145**	08/16/2022	**0.0200**	10/13/2022	**0.0088 J**
RDP-5	19.0-29.0	10/21/2021	**0.0052**	01/27/2022	**0.0081**	04/19/2022	**0.0066**	08/16/2022	**0.003**	10/13/2022	**0.0063**
Zone A Monitoring Wells - Offsite Middle West Tract											
MW-CB-8AD	40.0-50.0	10/22/2021	**0.013**	01/28/2022	**0.0171**	04/19/2022	**0.0142**	08/16/2022	**0.0102**	10/17/2022	**0.0014**
MW-CB-12AD	38.0-58.0	10/22/2021	**0.0108**	01/28/2022	**0.0112**	04/19/2022	**0.0043**	08/16/2022	**0.0168**	10/17/2022	**0.0081**
MW-CB-12AS	19.5-39.5	10/22/2021	**0.00096 J**	--	--	--	--	--	--	10/17/2022	**0.00064 J**
MW-CB-16AS	19.3-39.3	10/22/2021	**0.00071 J**	--	--	--	--	--	--	10/17/2022	**0.00062 J**
Zone A Monitoring Wells - Offsite 13-Acre Tract											
EAB-MW-03	40.0-50.0	10/22/2021	**0.011**	01/27/2022	**0.0107**	04/19/2022	**0.00045 J**	08/16/2022	**0.0016 J**	10/17/2022	**0.0044**
MW-CB-13AS	17.7-37.8	10/22/2021	< 0.00037	--	--	--	--	--	--	10/17/2022	< 0.00041
MW-CB-14AS	19.0-38.9	10/22/2021	**0.0024**	--	--	--	--	--	--	10/17/2022	**0.0022**
MW-CB-15AS	19.8-39.7	10/22/2021	**0.0039**	2/16/2022	**0.0078**	04/20/2022	**0.0125**	08/16/2022	**0.0129**	10/17/2022	**0.0042 J**
MW-CB-29A	18.0-38.0	--	--	--	--	04/19/2022	< 0.00037	08/16/2022	< 0.00041	--	--
MW-CB-33A	18.0-38.0	10/22/2021	**0.00064 J**	--	--	--	--	--	--	10/17/2022	**0.0088**
TRW-CB-1	25.0-45.0	10/22/2021	**0.011**	01/27/2022	**0.0083**	04/19/2022	**0.0075**	08/16/2022	**0.0071**	10/17/2022	**0.0066**
TRW-CB-2	25.0-45.0	10/22/2021	**0.0028**	--	--	--	--	--	--	10/17/2022	**0.0035**
TRW-CB-3	25.0-55.0	10/22/2021	< 0.00037	--	--	--	--	--	--	10/17/2022	**0.0033**
TRW-CB-4	25.0-55.0	10/22/2021	**0.0033**	--	--	--	--	--	--	10/17/2022	**0.0028**

Table 4-3: Summary of 1,2-DCA Analytical Results - 4th Quarter 2021 to 4th Quarter 2022

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

		4th Quarter (Baseline Event)		1st Quarter		2nd Quarter		3rd Quarter		4th Quarter	
Well Id	Screen Depths	Date Sampled	1,2-DCA	Date Sampled	1,2-DCA	Date Sampled	1,2-DCA	Date Sampled	1,2-DCA	Date Sampled	1,2-DCA
Zone A Monitoring Wells - Offsite Southern Tract											
MW-CB-37S	40.0-50.0	10/21/2021	< 0.00037	--	--	--	--	--	--	10/12/2022	< 0.00041
MW-CB-39	40.0-50.0	10/21/2021	**0.00056 J**	--	--	--	--	--	--	10/12/2022	< 0.00041
MW-CB-40	40.0-50.0	10/21/2021	**0.0015**	01/27/2022	**0.0016**	04/19/2022	**0.0013**	08/16/2022	**0.0011**	10/12/2022	**0.0011**
MW-CB-41S	40.0-50.0	10/21/2021	**0.00072 J**	--	--	--	--	--	--	10/12/2022	**0.0012**
MW-CB-44	40.0-50.0	10/21/2021	< 0.00037	--	--	05/17/2022	< 0.00041	--	--	10/12/2022	< 0.00041
MW-CB-45	40.0-50.0	10/21/2021	**0.0027**	--	--	05/17/2022	**0.0027**	--	--	10/12/2022	**0.0047**
MW-CB-46S	40.0-50.0	10/21/2021	< 0.00037	--	--	--	--	--	--	10/12/2022	< 0.00041
MW-CB-47S	40.0-50.0	10/21/2021	< 0.00037	--	--	--	--	--	--	10/12/2022	< 0.00041
MW-CB-48	40.0-50.0	10/21/2021	< 0.00037	--	--	05/17/2022	< 0.00041	--	--	10/12/2022	< 0.00041
Zone B Monitoring Wells - Source Area											
MW-CB-1B	90.5-100.6	10/22/2021	**0.0027**	01/27/2022	**0.0202**	04/19/2022	< 0.00037	08/18/2022	**0.0128**	10/13/2022	**0.0079 J**
MW-CB-1BS	70.0-85.0	10/22/2021	**0.0133 J**	01/27/2022	**0.0092**	04/19/2022	**0.012**	08/18/2022	**0.0094**	10/13/2022	**0.0095**
MW-CB-7B	85.0-100.0	10/22/2021	< 0.00037	01/27/2022	< 0.00041	04/19/2022	< 0.00037	08/18/2022	< 0.00041	10/13/2022	< 0.00041
RW-CB-3D	71.4-101.0	10/22/2021	**0.00045 J**	--	--	--	--	--	--	10/13/2022	**0.0077**
Zone B Monitoring Wells - Offsite Northern Tract											
MW-CB-2B	89.5-99.6	10/21/2021	< 0.00037	01/27/2022	< 0.00041	04/19/2022	< 0.00037	08/16/2022	< 0.00041	10/13/2022	< 0.00041
MW-CB-6B	89.5-99.6	10/21/2021	< 0.00037	01/28/2022	< 0.00041	04/20/2022	< 0.00037	08/16/2022	< 0.00041	10/13/2022	**0.00045 J**
MW-CB-6BS	70.0-85.0	10/21/2021	< 0.00037	01/27/2022	**0.0015**	04/19/2022	**0.0019**	08/16/2022	**0.0028**	10/13/2022	**0.0037**

Notes:

a. Water levels could not be measured and samples were not collected due to obstructions inside the well casing.

b. Samples analyzed in accordance with U.S. Environmental Protection Agency Method 8260 by SGS Accutest Laboratories, Houston, Texas.

c. **Bold** type indicates a detection greater than the sample quantitation limit. Bold and highlighted concentrations are equal to or greater than TRRP Tier 1 protective concentration limit (0.005 mg/L).

Example: 0.007

d. TRRP Tier 1 PCL for 1,2-DCA = 0.005 mg/L.

Acronyms:

1,2-DCA = 1,2-dichloroethane
-- = Sampling was not conducted
< = Not detected at the quantitation limit indicated
AZG = A Zone Grab
bgs = below ground surface
EAB = Enhanced Anaerobic Bioremediation Wells
ft = feet
Id. = identification
J = Estimated result
JL= Estimated result biased low
mg/L = milligrams per liter
MW = Monitoring well
PCL = protective concentration levels
PMW = Performance monitoring well
RW= Recovery well
TRRP = Texas Risk Reduction Program
TRW = Trench recovery well
U.S. = United States

Table 4-4: Microbial Results

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Constituent			1,2-Dichloroethane Reductase	Dehalobacter species pluralis (spp)	Dehalococcoides	Dehalogenimonas species pluralis (spp)	Desulfitobacterium species pluralis (spp)	Soluble Methane Monooxygenase	13C/12C 1,2-DCA	3-Methylbutanoic Acid	Acetic Acid	Butanoic Acid	Formic Acid	Hexanoic Acid	Isocaproic Acid	Lactic Acid	Propionic Acid	Pyruvic Acid	Valeric Acid	Total Organic Carbon %H
		Unit	CELLS/mL	CELLS/mL	CELLS/mL	CELLS/mL	CELLS/mL	CELLS/mL	d13C, VPDB	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	mg/L	nM
Well ID	**Sample ID**	**Sample Date**																		
Zone A Monitoring Wells - Source Area																				
AZG1-16-21	--	--	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)	NS (Dry)
AZG1-39-44	AZG1-39-44-20221019	10/19/2022	< 9.1	36.4	1.2	< 9.1	8.20 J	< 9.1	-21.9	< 1.2	2.5 J	< 1.2	110 J	< 1.2	< 1.1	< 1.1	< 1.1	< 1.2	< 1.1	2.9
AZG1-63-68	AZG1-63-68-20221019	10/19/2022	< 6.7	4.60 J	< 0.70	< 6.7	1.50 J	< 6.7	-23.4	< 0.61	< 1.2	< 0.58	64 J	< 0.58	< 0.56	< 0.53	< 0.53	< 0.6	< 0.56	75
AZG4-20-25	AZG4-20-25-20221019	10/19/2022	< 4.8	97.7	18.3	< 4.8	68.4	< 4.8	-24.2 J	< 1.2	< 2.5	< 1.2	98 J	< 1.2	< 1.1	< 1.1	< 1.1	< 1.2	< 1.1	1.5 J
AZG4-39-44	AZG4-39-44-20221020	10/20/2022	< 9.10	36.6	6	< 9.10	7.50 J	< 9.10	-23.8	< 1.2	5.2 J	1.2 J	110	< 1.2	< 1.1	< 1.1	< 1.1	< 1.2	< 1.1	1.7 J
AZG4-59-64	AZG4-59-64-20221019	10/19/2022	< 5.3	39.7	4.2	< 5.3	20.6	< 5.3	-20.6	< 0.61	< 1.2	0.67 J	53 J	< 0.58	< 0.56	< 0.53	0.71 J	< 0.6	< 0.56	2.5
Zone A Monitoring Wells - Offsite Northern Tract																				
MW-CB-2A	MW-CB-2A-20221020	10/20/2022	< 4.8	1,670	2.1	65.7	13,600	4.8	--[a]	0.61	2.8	< 0.58	52	< 0.58	< 0.56	< 0.53	< 0.53	< 0.6	< 0.56	29
PMW-09B	PMW-09B-20221020	10/20/2022	0.10 J	275	36.8	6.4	271	< 5.30	-23.1	< 0.61	2.6 J	< 0.58	56	< 0.58	< 0.56	1.7 J	< 0.53	< 0.6	< 0.56	3.1 JL
Zone A Monitoring Wells - Offsite Middle West Tract																				
MW-CB-12AD	MW-CB-12AD-20211116	11/16/2021	< 5.0	22,200	14.4	1790	21,900	82.8	-14.1	< 0.61	2 J	< 0.58	48	< 0.58	< 0.56	< 0.53	< 0.53	< 0.6	< 0.56	3 J
MW-CB-8AD	MW-CB-8AD-20211116	11/16/2021	< 5.0	12,800	35.9	< 5.0	9,470	51.7	-13.9	< 1.2	3.8 J	< 1.2	97	< 1.2	< 1.1	< 1.1	< 1.1	< 1.2	< 1.1	3.5 J
Zone B Monitoring Wells - Source Area																				
MW-CB-1BS	MW-CB-1BS-20221020	10/20/2022	< 6.7	< 6.7	1.8	133	25.3	< 6.7	-21.4	< 0.61	2.7 J	< 0.58	49	< 0.58	< 0.56	< 0.53	< 0.53	< 0.6	< 0.56	3.7

Acronyms:

a. Result not provided in lab report due to lab error.

Notes:

< = not detected at the quantitation limit indicated
%H = percent hydrogen
1,2-DCA = 1,2-Dichloroethane
$^{13}C/^{12}C$ = isotope ratio of the sample
AZG = A Zone grab
d13C = delta-13 C analysis
J = estimated result
JL = estimated result biased low
Id = Identification
L = liter
mL = milliliters
MW = Monitoring well
mg = milligrams
nM - Nanomolar
NS (Dry) = Not sampled due to well being dry
PMW = Performance monitoring well
spp = species pluralis
VPDB = Vienna Pee Dee Belemnite

Table 4-5: Passive Flux Meter Summary

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well ID	Sample Intervals (ft BTOC)	Number of PFM	Number of Samples per PFM	PFM Deployed	PFM Retrieved
Zone A Monitoring Wells - Source Area					
AZG1-16-21	16 to 21	1	1	10/21/2022	11/28/2022
AZG1-39-44	39 to 44	1	1	10/21/2022	11/28/2022
AZG1-63-68	63 to 68	1	1	10/21/2022	11/28/2022
AZG4-20-25	20 to 25	1	1	10/21/2022	11/28/2022
AZG4-39-44	39 to 44	1	1	10/21/2022	11/28/2022
AZG4-59-64 [2]	59 to 64	--	--	--	--
Zone A Monitoring Wells - Offsite Northern Tract					
MW-CB-2A	52 to 57	1	3	10/21/2022	1/30/2023
	57 to 62	1	5	10/21/2022	1/30/2023
PMW-09B	52 to 57	1	3	10/21/2022	1/30/2023
	57 to 62	1	5	10/21/2022	1/30/2023
Zone A Monitoring Wells - Offsite Middle West Tract					
MW-CB-12AD	38 to 43	1	3	11/17/2022	1/26/2022
	43 to 48	1	3	11/17/2022	1/26/2022
	48 to 53	1	3	11/17/2022	1/26/2022
	53 to 58	1	5	11/17/2022	1/26/2022
MW-CB-8AD	40 to 45	1	3	11/17/2022	1/23/2022
	45 to 50	1	5	11/17/2022	1/23/2022
Zone B Monitoring Wells - Source Area					
MW-CB-1BS	70 to 75	1	5	10/21/2022	1/30/2023
	75 to 80	1	3	10/21/2022	1/30/2023
	80 to 85	1	3	10/21/2022	1/30/2023

Notes:

1. EnviroFlux analyzed the PFM samples for Darcy Velocity and 1,2-DCA Mass Flux.
2. PFM installation issues, obstruction in well casing.

Acronyms:

1,2-DCA = 1,2-dichloroethane

AZG = A zone grab

BTOC = below top-of-casing

ID = Identification

ft = feet

MW = Monitoring Well

PFM = passive flux meter

PMW = Performance monitoring well

Table 4-6: Thiessen Plume Mass Calculations

Center of Mass Migration Following System Shutdown

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Zone A - Source Area				
Shutdown:	*27-Oct-21*			
	Centroid_Latitude	**Centroid_Longitude**	**Plume Mass kg (1,2-DCA)**	**Number of Wells Included in Mass Calculations[a]**
4th Quarter (Oct 2021)	30.137551	-95.429721	1.50E-03	21
1st Quarter (Jan 2022)	30.137534	-95.4297	1.71E-03	22[b]
3rd Quarter (Jul-Aug 2022)	30.137496	-95.429713	1.15E-03	20[c]
4th Quarter (Oct 2022)	30.137554	-95.429714	1.74E-03	21
Zone A - 13-Acre Tract				
Shutdown:	*1-Mar-20*			
	Centroid_Latitude	**Centroid_Longitude**	**Plume Mass kg (1,2-DCA)**	**Number of Wells Included in Mass Calculations[d]**
4th Quarter (Oct 2019)	30.133606	-95.425606	4.28E-05	8
4th Quarter (Oct 2020)	30.133433	-95.425522	2.01E-05	7[e]
4th Quarter (Oct 2021)	30.133482	-95.425528	3.30E-05	8
4th Quarter (Oct 2022)	30.133172	-95.425369	3.51E-05	8

Notes:

[a] Wells included in Source Area plume mass calculations are: AZG1-16-21, AZG1-39-44, AZG1-63-68, AZG2-40-45, AZG2-59-64, AZG4-20-25, AZG4-39-44, AZG4-59-64, AZG6-35-40, AZG6-45-50, AZG6-67-72, MW-CB-1A, MW-CB-26A, MW-CB-2A, MW-CB-4, MW-CB-5A, PMW-08B, RDP-3, RDP-5, RW-CB-2, RW-CB-4

[b] Wells included in Source Area plume mass calculations are: AZG1-16-21, AZG1-39-44, AZG1-63-68, AZG2-18-23, AZG2-40-45, AZG2-59-64, AZG4-20-25, AZG4-39-44, AZG4-59-64, AZG6-35-40, AZG6-45-50, AZG6-67-72, EAB-PMW-08B, MW-CB-1A, MW-CB-26A, MW-CB-2A, MW-CB-4, MW-CB-5A, RDP-3, RDP-5, RW-CB-2, RW-CB-4

[c] Wells included in Source Area plume mass calculations are: AZG1-39-44, AZG1-63-68, AZG2-18-23, AZG2-59-64, AZG4-20-25, AZG4-39-44, AZG4-59-64, AZG6-35-40, AZG6-45-50, AZG6-67-72, EAB-PMW-08B, MW-CB-1A, MW-CB-26A, MW-CB-2A, MW-CB-4, MW-CB-5A, RDP-3, RDP-5, RW-CB-2, RW-CB-4.

[d] Wells included in 13-Acre Tract plume mass calculations are: MW-CB-37S , EAB-MW-03, MW-CB-14AS, MW-CB-15AS, MW-CB-33A, TRW-CB1, TRW-CB2, TRW-CB3. Well EAB-MW-03 was not sampled during the 4th Quarter 2020 event.

Acronyms:

1,2-DCA = 1,2-Dichloroethane
Aug = August
AZG = A zone grab
EAB = Enhanced Anaerobic Bioremediation Wells
Jan = January
Jul = July
kg = kilograms
MW = monitoring well
Oct = October
PMW = performance monitoring well
RW = recovery well

Table 4-7: Mann-Kendall Trend Analysis Summary, 2018 - 2022
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well Id	Number of Samples (n)[1]	MK Trend	Confidence	P-value	Date of First Sample Included in Trend Analysis[2]
Zone A Monitoring Wells - Source Area					
AZG1-16-21	<6 (3)	IS	IS	IS	-
AZG1-39-44	<6 (5)	IS	IS	IS	-
AZG1-63-68	<6 (5)	IS	IS	IS	-
AZG2-18-23	<6 (4)	IS	IS	IS	-
AZG2-40-45	<6 (4)	IS	IS	IS	-
AZG2-59-64	<6 (5)	IS	IS	IS	-
AZG3-20-25	<6 (2)	IS	IS	IS	-
AZG3-47-52	<6 (2)	IS	IS	IS	-
AZG4-20-25	6	No Trend	50% (-)	0.5	2018
AZG4-39-44	6	No Trend	81.4% (-)	0.186	2018
AZG4-59-64	<6 (5)	IS	IS	IS	-
AZG5-20-25	<6 (3)	IS	IS	IS	-
AZG5-40-45	<6 (3)	IS	IS	IS	-
AZG6-35-40	<6 (5)	IS	IS	IS	-
AZG6-45-50	<6 (5)	IS	IS	IS	-
AZG6-67-72	<6 (5)	IS	IS	IS	-
MW-CB-1A	6	No Trend	76.5% (+)	0.235	2020
MW-CB-4	6	No Trend	50% (+)	0.5	2020
MW-CB-5A	<6 (5)	IS	IS	IS	-
OW-2	<6 (5)	IS	IS	IS	-
RW-CB-2	6	No Trend	50% (+)	0.5	2020
RW-CB-4	6	No Trend	50% (+)	0.5	2020
RW-CB-2R	6	No Trend	93.2% (-)	0.068	2020
RW-CB-3R	<6 (5)	IS	IS	IS	-
RW-CB-4R	<6 (4)	IS	IS	IS	-
RW-CB-5R	<6 (4)	IS	IS	IS	-
Zone A Monitoring Wells - Offsite Northern Tract					
MW-CB-2A	6	No Trend	93.2% (-)	0.068	2020
MW-CB-25A	N/A	N/A	N/A	N/A	-
MW-CB-26A	6	***Increasing***	97.2% (sig +)	0.028	2018
MW-CB-27A	N/A	N/A	N/A	N/A	-
MW-CB-28A	<6 (4)	IS	IS	IS	-
PMW-08B	6	No Trend	86.4% (+)	0.136	2019
PMW-09B	<6 (5)	IS	IS	IS	-
PMW-17	<6 (5)	IS	IS	IS	-
RDP-3	6	No Trend	50% (-)	0.5	2020
RDP-5	9	No Trend	76.2% (-)	0.238	2018
Zone A Monitoring Wells - Offsite Middle West Tract					
MW-CB-8AD	6	No Trend	76.5% (-)	0.235	2020
MW-CB-12AD	7	No Trend	93.2% (-)	0.068	2018
MW-CB-12AS	8	**Decreasing**	100% (sig -)	0	2018
MW-CB-16AS	<6 (5)	IS	IS	IS	-

Table 4-7: Mann-Kendall Trend Analysis Summary, 2018 - 2022
Charlie Burch Site, Spring, Texas
2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Well Id	Number of Samples (n)[1]	MK Trend	Confidence	P-value	Date of First Sample Included in Trend Analysis[2]
Zone A Monitoring Wells - Offsite 13-Acre Tract					
EAB-MW-03	6	No Trend	93.2% (-)	0.068	2019
MW-CB-13AS	<6 (5)	IS	IS	IS	-
MW-CB-14AS	<6 (5)	IS	IS	IS	-
MW-CB-15AS	6	***Increasing***	97.2% (sig +)	0.028	2019
MW-CB-29A	<6 (2)	IS	IS	IS	-
MW-CB-33A	6	No Trend	93.2% (+)	0.068	2019
TRW-CB-1	6	**Decreasing**	99.9% (sig -)	0.001	2020
TRW-CB-2	6	***Increasing***	99.6% (sig +)	0.004	2019
TRW-CB-3	6	No Trend	76.5% (+)	0.235	2019
TRW-CB-4	6	No Trend	64% (-)	0.36	2019
Zone A Monitoring Wells - Offsite Southern Tract					
MW-CB-37S	6	No Trend	50% (+)	0.5	2019
MW-CB-39	6	No Trend	57% (-)	0.43	2019
MW-CB-40	7	**Decreasing**	99.7% (sig -)	0.003	2020
MW-CB-41S	6	No Trend	64% (+)	0.36	2019
MW-CB-44	6	No Trend	50% (+)	0.5	2019
MW-CB-45	6	No Trend	70.2% (+)	0.298	2019
MW-CB-46S	<6 (5)	IS	IS	IS	-
MW-CB-47S	<6 (5)	IS	IS	IS	-
MW-CB-48	6	No Trend	50% (+)	0.5	2019
Zone B Monitoring Wells - Source Area					
MW-CB-1B	6	No Trend	50% (+)	0.5	2020
MW-CB-1BS	6	No Trend	76.5% (-)	0.235	2020
MW-CB-7B	6	No Trend	50% (+)	0.5	2020
RW-CB-3D	6	No Trend	86.4% (-)	0.136	2018
Zone B Monitoring Wells - Offsite Northern Tract					
MW-CB-2B	6	No Trend	50% (+)	0.5	2020
MW-CB-6B	6	No Trend	76.5% (+)	0.235	2020
MW-CB-6BS	6	***Increasing***	99.6% (sig +)	0.004	2018

Notes:

1. MK Trends displayed for locations with 6 or more data points for 1,2-DCA, since last response action (EAB injections in 2018, 13AT pump-and-treat system shutdown in March 2020, and Source Area pump-and-treat system in October 2021.

2. Samples as far back as 2018 were pulled to ensure sufficient data for trend analysis.

Acronyms:

AZG = A zone grab
EAB = Enhanced Anaerobic Bioremediation Wells
ID = Identification
IS = Insignificant Data
MK = Mann-Kendall
MW = monitoring well
N/A = not applicable
PMW = performance monitoring well
RW = recovery well
TRW = trench recovery well

Table 4-8: Summary of PCL-Attainment Times by Location

Charlie Burch Site, Spring, Texas

2022 Annual Groundwater Monitoring & Response Action Effectiveness Report

Area	Minimum PCL Attainment Time	Average PCL Attainment Time	Maximum PCL Attainment Time
Source Area (Onsite)	24	51	99
Offsite Middle West Tract	20	41	99
13-Acre Tract	14	42	71
Offsite Southern Tract (Plume Toe)	9	44	99

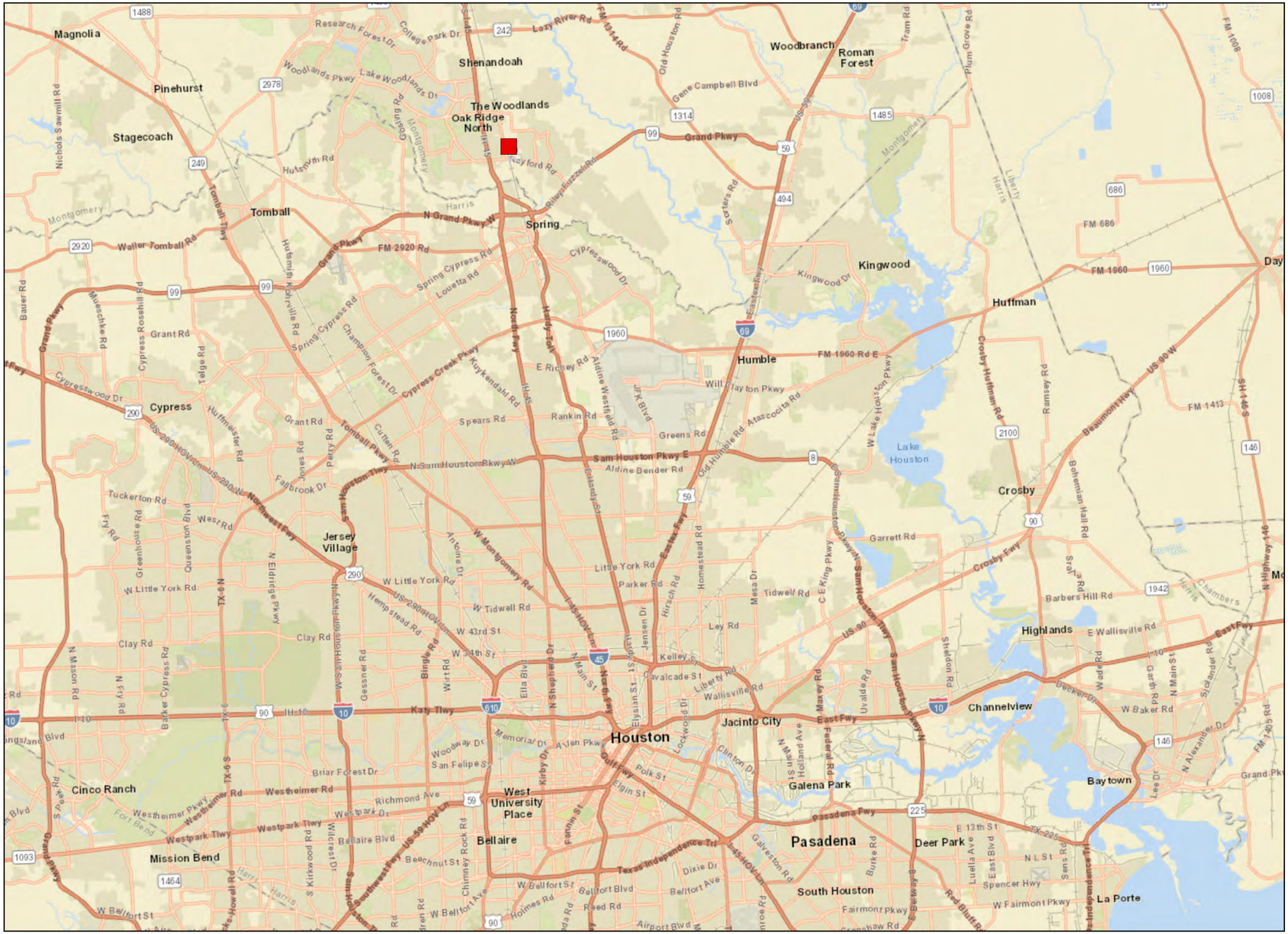
Note:

PCL-attainment times are summarized across all sensitivity simulations completed for each well location. Values presented in this table represent the maximum value at a single well location within each defined site area. The DCBGM may have longer timeframes in model cells that do not correspond to any wells.

Acronym:

PCL = protective concentration level

Figures



Legend

Site Location

0 2 4

Miles

1 inch = 4 miles

BASE MAP SOURCE: ESRI

Figure 1-1
Site Location Map
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of
The Dow Chemical Company
VCP No. 421

N

Drawing Date: 4/4/2023

Drawn By: LM

Jacobs

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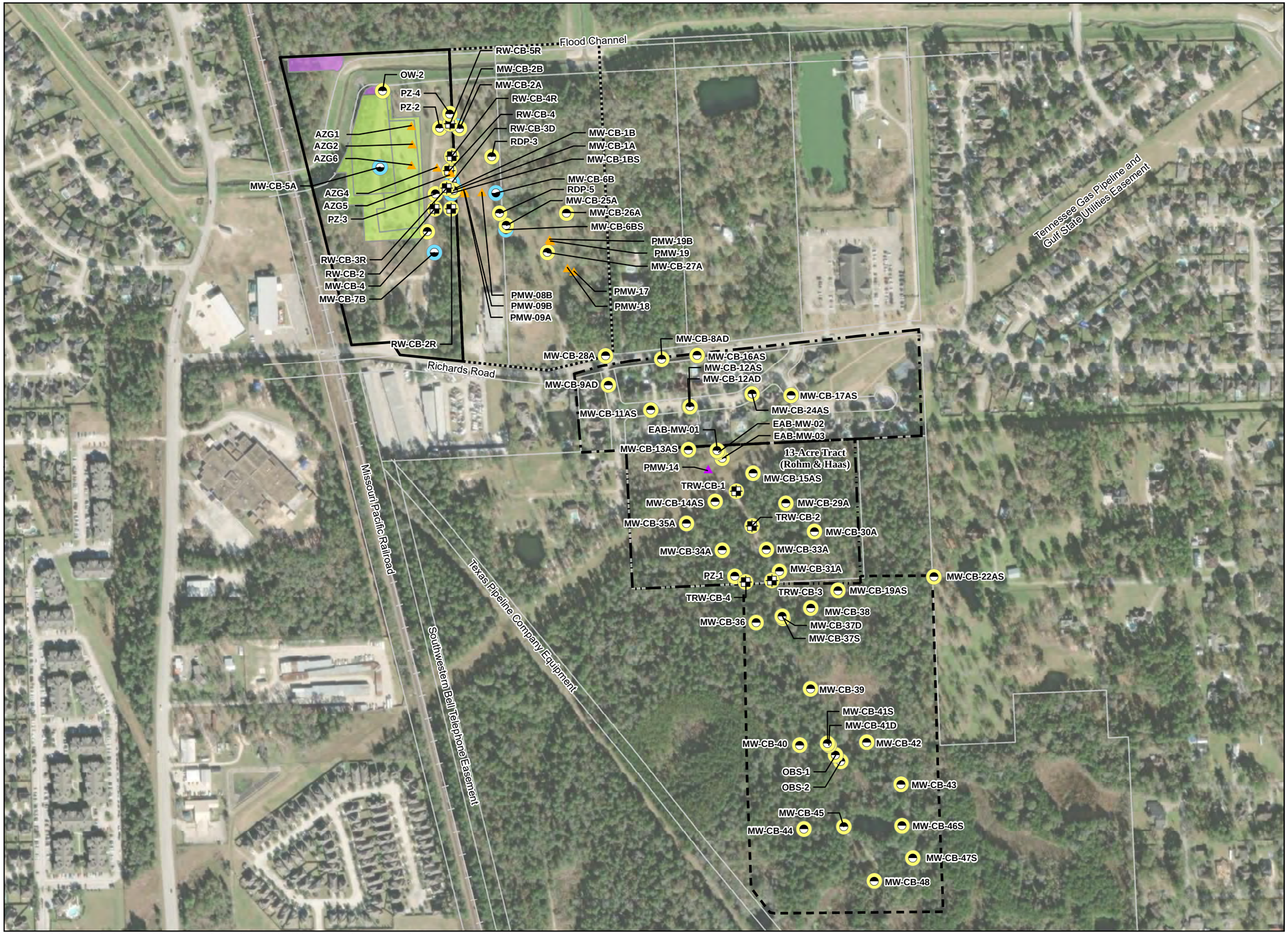


Legend

- Monitoring Well (Zone A)
- Recovery Well (Zone A)
- Monitoring Well (Zone B)
- Performance Monitoring Well
- Voluntary Monitoring Wells
- Former Landfill Area
- Waste Material Removed Summer 1999, Replaced with Clean Backfill
- Source Area Site Boundary
- Offsite Northern Tract
- Offsite Middle West Tract
- 13-Acre Tract Site
- Offsite Southern Tract

Acronyms:
AZG = A Zone Grab
EAB = Enhanced Anaerobic Bioremediation
ft = feet
MW = Monitoring Well
OW = Observation Well
PMW = Performance Monitoring Well
PZ = Piezometer
RW = Recovery Well
TRW = Trench Recovery Well

0 200 400
Feet

BASE MAP SOURCE:
ESRI Aerial Imagery

Figure 1-2
Well Location Map
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of
The Dow Chemical Company
VCP No. 421

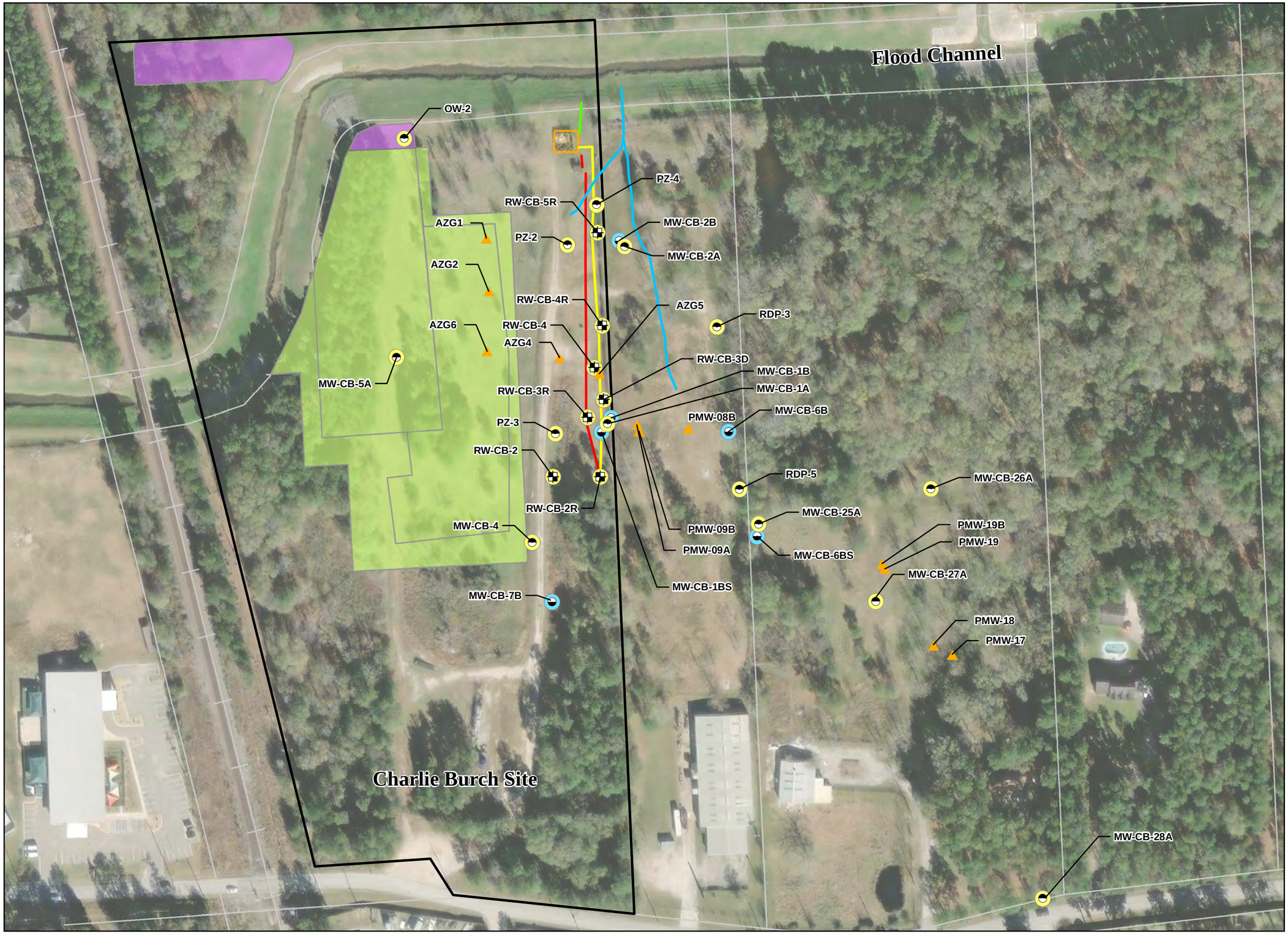
N

Drawing Date: 4/21/2023

Drawn By: BD

Jacobs

\\DC1VS01\GISPROJ\D\DOWCHEMICALS\CHARLIEBURCH\MAPS\REPORT\2022\CHARLIEBURCH_2022_WELLS.MXD DANIELB1 4/21/2023



Legend

- Recovery Well (Zone A)
- Monitoring Well Location (Zone A)
- Monitoring Well Location (Zone B)
- Voluntary Monitoring Wells
- Former Landfill Area
- Waste Material Removed Summer 1999, Replaced with Clean Backfill
- Site Boundary
- Airstripper Enclosure
- Electrical Line
- HDPE Pipe
- Outfall Discharge
- Stormwater Ditch

Acronyms:
RW = Recovery Well
MW = Monitoring Well
AZG = A Zone Grab
ft = feet
HDPE = High density polyethylene
MW = Monitoring Well
OW = Observation Well
PMW = Performance Monitoring Well
PZ = Piezometer

0 70 140
Feet
1 inch = 140 feet

BASE MAP SOURCE:
ESRI Aerial Imagery

Figure 2-1
Site Location and Site Plan
Source Area
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of
The Dow Chemical Company
VCP No. 421

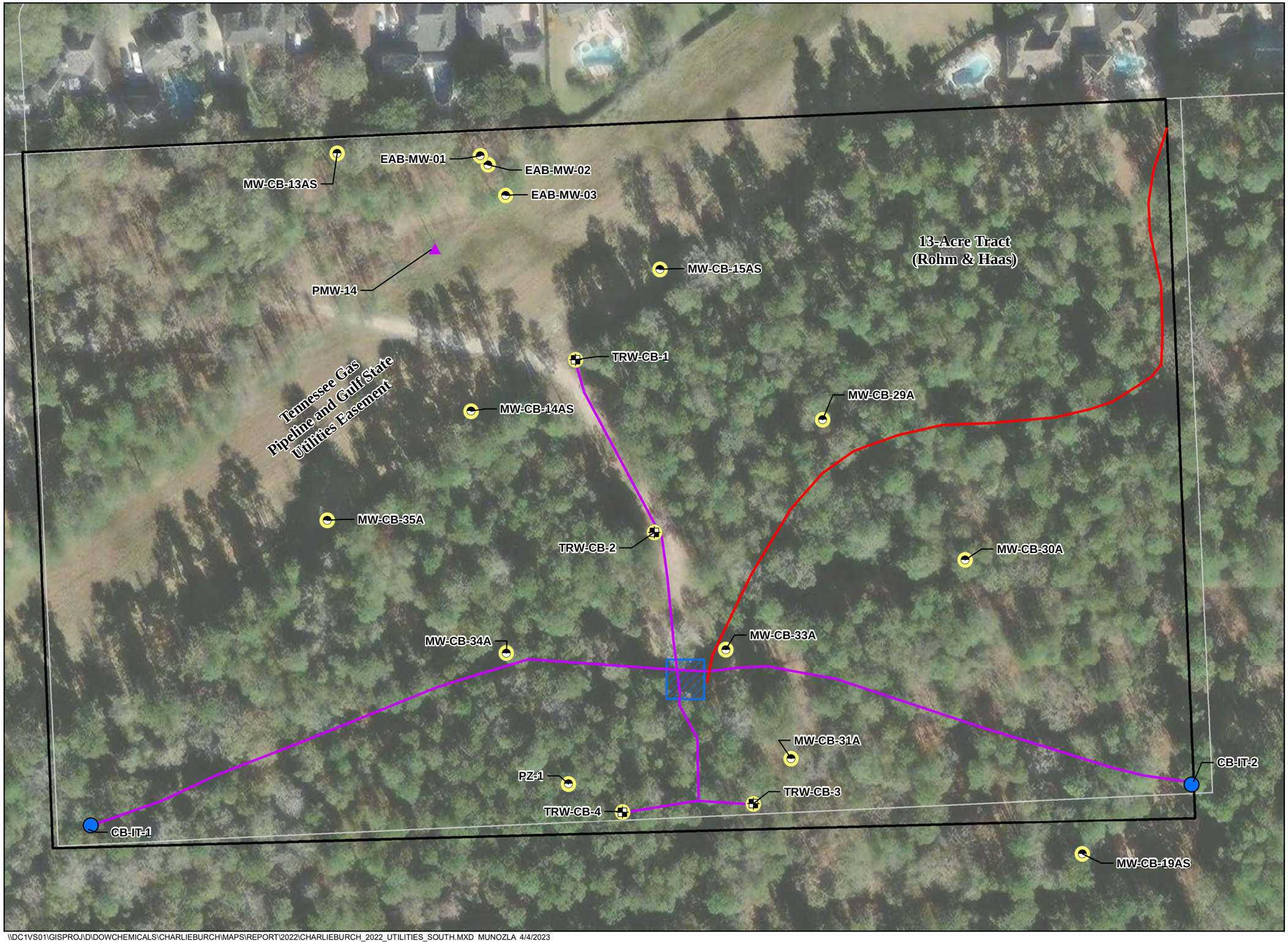
N

Drawing Date: 4/4/2023

Drawn By: LM

Jacobs

\\DC1VS01\GISPROJ\D\DOWCHEMICALS\CHARLIEBURCH\MAPS\REPORT\2022\CHARLIEBURCH_2022_UTILITIES_NORTH.MXD MUNOZLA 4/4/2023



Legend

- Recovery Well (Zone A)
- Monitoring Well Location (Zone A)
- Infiltration Trench
- Performance Monitoring Well
- GAC System Enclosure
- Site Boundary
- Recovery System Piping
- Electrical Line

Acronyms:
EAB = Enhanced Anaerobic Bioremediation
GAC = Granular Activated Carbon
MW = Monitoring Well
PMW = Performance Monitoring Well
PZ = Piezometer
RW = Recovery Well
TRW = Trench Recovery Well

0 40 80
Feet
1 inch = 80 feet

BASE MAP SOURCE:
ESRI Aerial Imagery

Figure 2-2
Site Location and Site Plan
13-Acre Tract
Charlie Burch Site
Spring, Texas

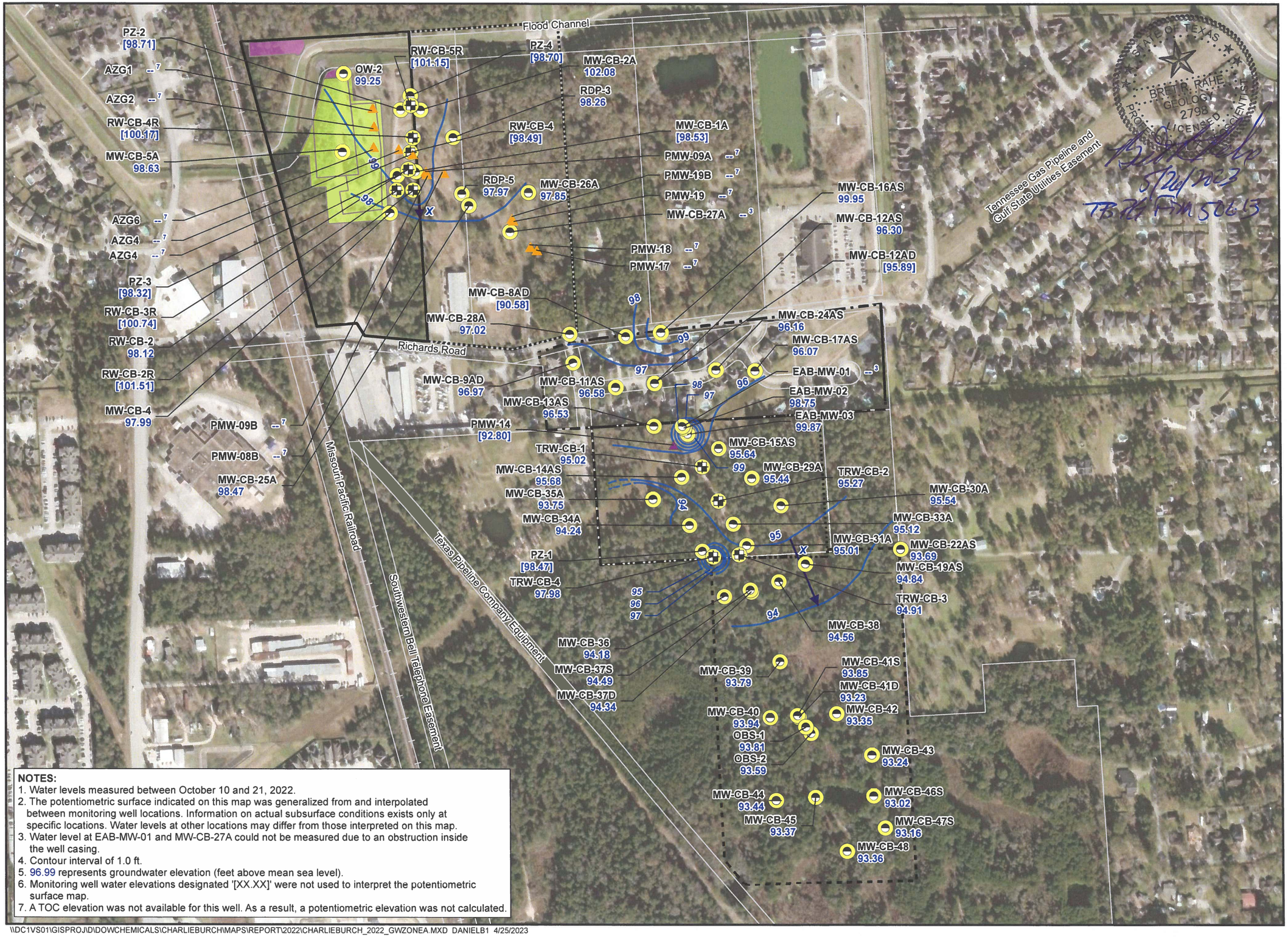
Rohm and Haas
A Wholly Owned Subsidiary of
The Dow Chemical Company
VCP No. 421

N

Drawing Date: 4/4/2023

Drawn By: LM

\\DC1VS01\GISPROJ\D\DOWCHEMICALS\CHARLIEBURCH\MAPS\REPORT\2022\CHARLIEBURCH_2022_UTILITIES_SOUTH.MXD MUNOZLA 4/4/2023



NOTES:
1. Water levels measured between October 10 and 21, 2022.
2. The potentiometric surface indicated on this map was generalized from and interpolated between monitoring well locations. Information on actual subsurface conditions exists only at specific locations. Water levels at other locations may differ from those interpreted on this map.
3. Water level at EAB-MW-01 and MW-CB-27A could not be measured due to an obstruction inside the well casing.
4. Contour interval of 1.0 ft.
5. 96.99 represents groundwater elevation (feet above mean sea level).
6. Monitoring well water elevations designated '[XX.XX]' were not used to interpret the potentiometric surface map.
7. A TOC elevation was not available for this well. As a result, a potentiometric elevation was not calculated.

Legend
- Voluntary Monitoring Well
- Performance Monitoring Well
- Recovery Well
- Monitoring Well
- X — Direction Along Which Hydraulic Gradient was Calculated
- Potentiometric Contour
- Inferred Potentiometric Contour
- Former Landfill Area
- Waste Material Removed Summer 1999, Replaced with Clean Backfill
- Source Area Site Boundary
- Offsite Northern Tract
- Offsite Middle West Tract
- 13-Acre Tract Site
- Offsite Southern Tract

Acronyms:
[ ] = Not used to determine potentiometric surface contour
AZG = A Zone Grab
EAB = Enhanced Anaerobic Bioremediation
ft = feet
MW = Monitoring Well
-- = Not measured
OW = Observation Well
PMW = Performance Monitoring Well
PZ = Piezometer
RW = Recovery Well
TRW = Trench Recovery Well

0 200 400
Feet

BASE MAP SOURCE:
ESRI Aerial Imagery

STATE OF TEXAS
BRET R. RAHE
GEOLOGY
2798
LICENSED PROFESSIONAL GEOLOGIST
5/4/2023

Figure 3-1a
Zone A Potentiometric Surface Contours October 2022
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of
The Dow Chemical Company
VCP No. 421

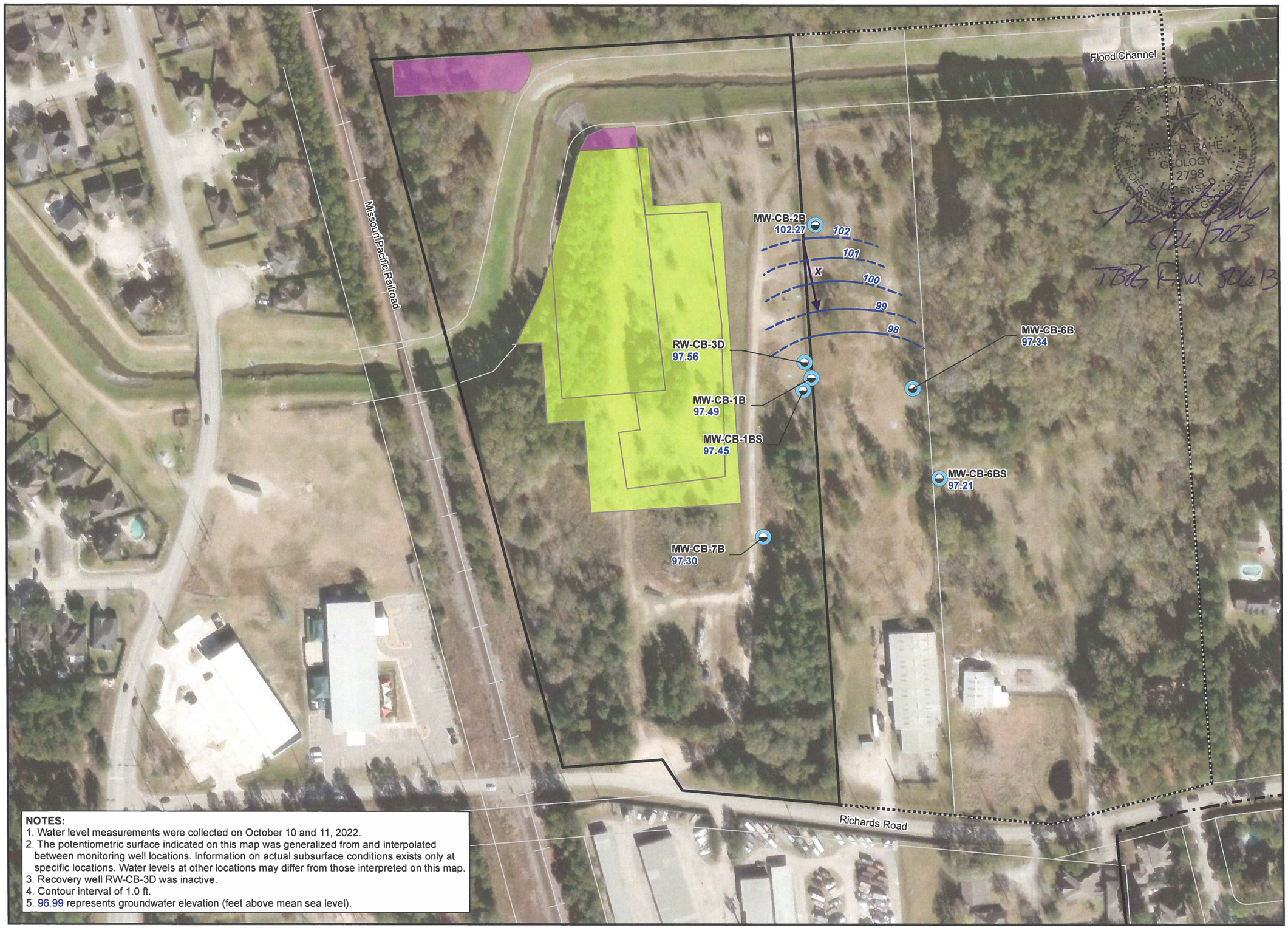
N

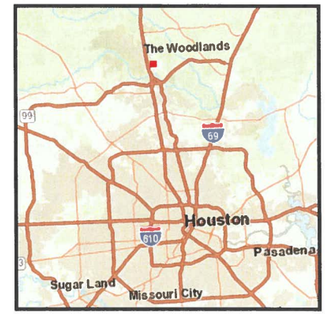
Drawing Date: 4/25/2023

Drawn By: BD

Jacobs

\\DC1VS01\GISPROJ\D\DOWCHEMICALS\CHARLIEBURCH\MAPS\REPORT\2022\CHARLIEBURCH_2022_GWZONEA.MXD DANIELB1 4/25/2023





Legend

- Monitoring Well
- Groundwater Flow Direction Along Which Hydraulic Gradient was Calculated
- Potentiometric Contour
- Inferred Potentiometric Contour
- Former Landfill Area
- Waste Material Removed Summer 1999, Replaced with Clean Backfill
- Source Area Site Boundary
- Offsite Northern Tract
- Offsite Middle West Tract

Acronyms:
[ ] = Not used to determine potentiometric surface contour
ft = feet
MW = Monitoring Well
NM = Not measured
RW = Recovery Well

0 80 160
Feet

BASE MAP SOURCE:
ESRI Aerial Imagery

NOTES:
1. Water level measurements were collected on October 10 and 11, 2022.
2. The potentiometric surface indicated on this map was generalized from and interpolated between monitoring well locations. Information on actual subsurface conditions exists only at specific locations. Water levels at other locations may differ from those interpreted on this map.
3. Recovery well RW-CB-3D was inactive.
4. Contour interval of 1.0 ft.
5. 96.99 represents groundwater elevation (feet above mean sea level).

Figure 3-1b
Zone B Potentiometric Surface Contours October 2022
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of
The Dow Chemical Company
VCP No. 421

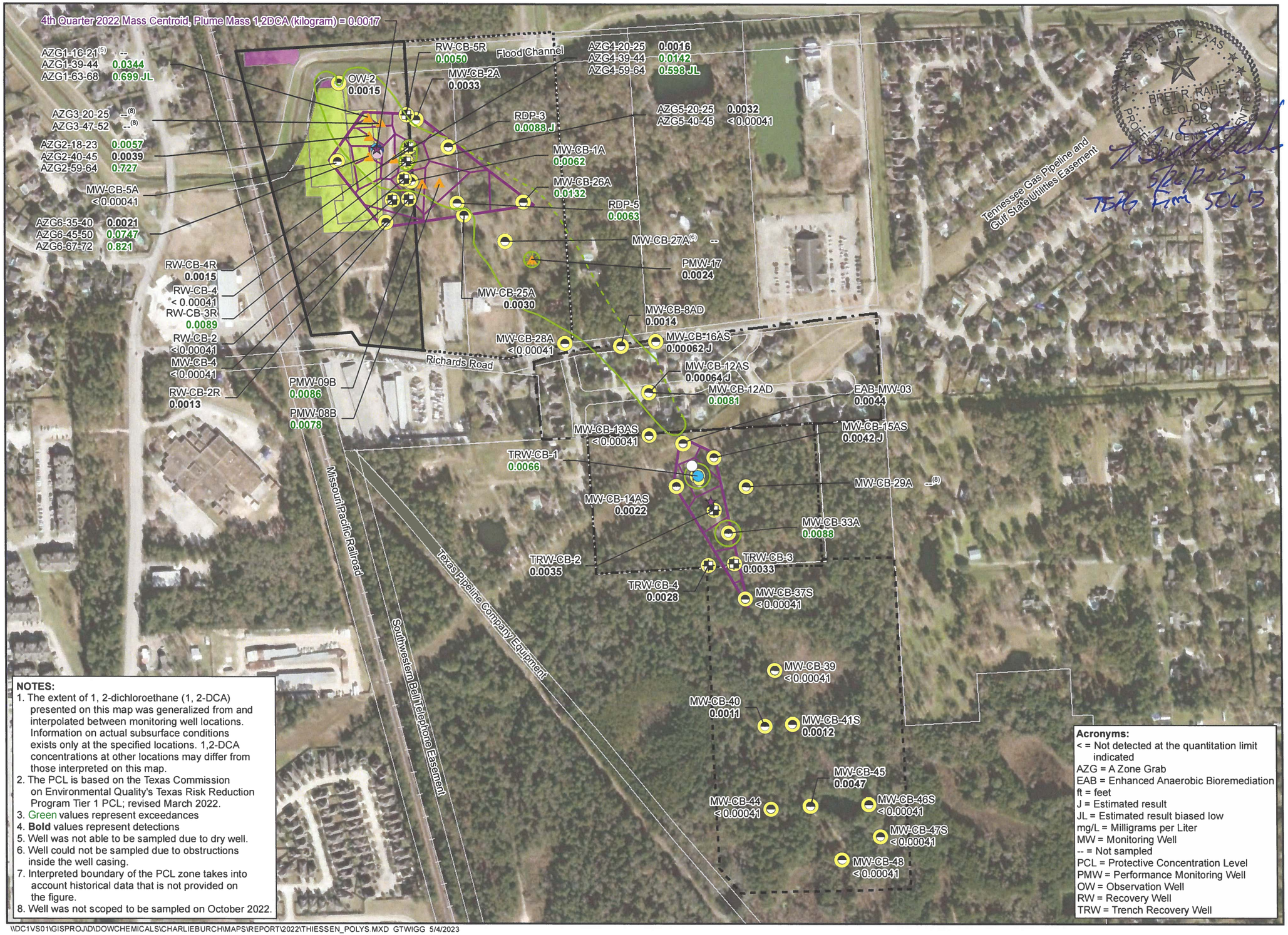
N

Drawing Date: 4/23/2023

Drawn By: BD

Jacobs

\\DC1VS01\GISPROJ\D\DOWCHEMICALS\CHARLIEBURCH\MAPS\REPORT\2022\CHARLIEBURCH_2022_GWZONEB.MXD DANIELB1 4/23/2023



NOTES:
1. The extent of 1, 2-dichloroethane (1, 2-DCA) presented on this map was generalized from and interpolated between monitoring well locations. Information on actual subsurface conditions exists only at the specified locations. 1,2-DCA concentrations at other locations may differ from those interpreted on this map.
2. The PCL is based on the Texas Commission on Environmental Quality's Texas Risk Reduction Program Tier 1 PCL; revised March 2022.
3. Green values represent exceedances
4. **Bold** values represent detections
5. Well was not able to be sampled due to dry well.
6. Well could not be sampled due to obstructions inside the well casing.
7. Interpreted boundary of the PCL zone takes into account historical data that is not provided on the figure.
8. Well was not scoped to be sampled on October 2022.

Acronyms:
< = Not detected at the quantitation limit indicated
AZG = A Zone Grab
EAB = Enhanced Anaerobic Bioremediation
ft = feet
J = Estimated result
JL = Estimated result biased low
mg/L = Milligrams per Liter
MW = Monitoring Well
-- = Not sampled
PCL = Protective Concentration Level
PMW = Performance Monitoring Well
OW = Observation Well
RW = Recovery Well
TRW = Trench Recovery Well

Legend
- Recovery Well (Zone A)
- Monitoring Well (Zone A)
- Voluntary Monitoring Well

Plume Mass Centroid
- 4th Quarter 2019
- 4th Quarter 2020
- 4th Quarter 2021
- 1st Quarter 2022
- 3rd Quarter 2022
- 4th Quarter 2022

- Inferred 1,2-DCA Contour (0.005 mg/L)
- Area of Decreased Concentration
- 1,2-DCA Contour (0.005 mg/L)
- Former Landfill Area
- Waste Material Removed Summer 1999, Replaced with Clean Backfill
- Source Area Site Boundary
- Thiessen polygon area (used for Thiessen Plume Mass calculations)
- Offsite Northern Tract
- Offsite Middle West Tract
- 13-Acre Tract Site
- Offsite Southern Tract

0 200 400
Feet

BASE MAP SOURCE: ESRI Aerial Imagery

STATE OF TEXAS BRETT R. RAHE GEOLOGY 2793 LICENSED PROFESSIONAL

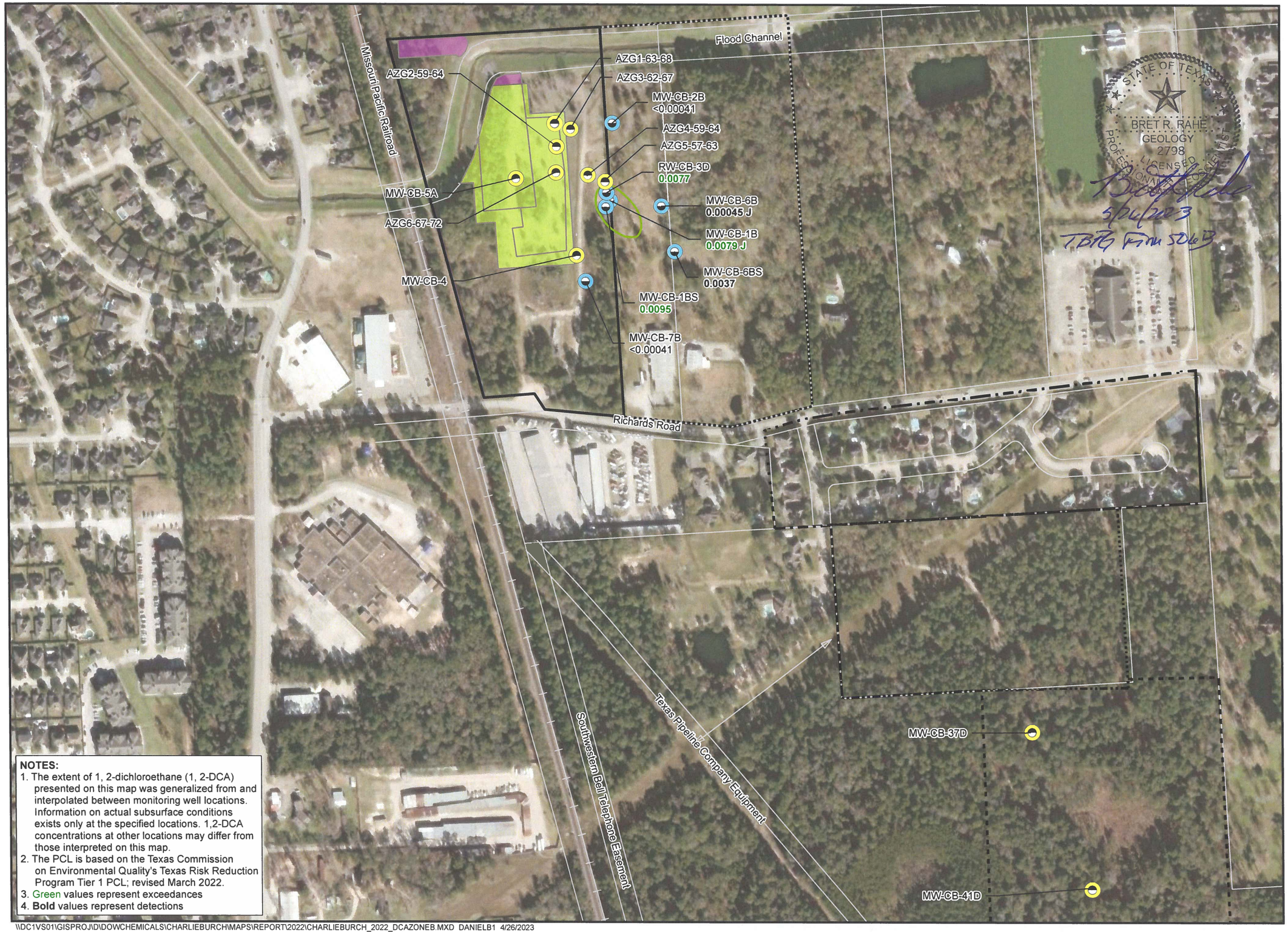
5/4/2023
TBPG Firm 50613

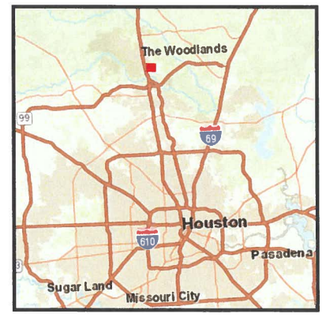
Figure 3-2
Zone A 1,2-DCA Plume & Thiessen Plume Masses
Charlie Burch Site
Spring, Texas
Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company
VCP No. 421

N

Drawing Date: 5/4/2023
Drawn By: BD
Jacobs

\\DC1VS01\GISPROJ\D\DOWCHEMICALS\CHARLIEBURCH\MAPS\REPORT\2022\THIESSEN_POLYS.MXD GTWIGG 5/4/2023





STATE OF TEXAS
BRET R. RAHE
GEOLOGY
2798
PROFESSIONAL LICENSED GEOLOGIST

5/24/2023
TBPG Firm 50639

NOTES:
1. The extent of 1, 2-dichloroethane (1, 2-DCA) presented on this map was generalized from and interpolated between monitoring well locations. Information on actual subsurface conditions exists only at the specified locations. 1,2-DCA concentrations at other locations may differ from those interpreted on this map.
2. The PCL is based on the Texas Commission on Environmental Quality's Texas Risk Reduction Program Tier 1 PCL; revised March 2022.
3. Green values represent exceedances
4. **Bold** values represent detections

Legend

- Monitoring Well (Deep Zone A)
- Monitoring Well (Zone B)
- 1,2-DCA Contour (0.005mg/L)
- Former Landfill Area
- Waste Material Removed Summer 1999, Replaced with Clean Backfill
- Source Area Site Boundary
- Offsite Northern Tract
- Offsite Middle West Tract
- 13-Acre Tract Site
- Offsite Southern Tract

Acronyms:
< = Not detected at the quantitation limit indicated
B or BS = Zone B approximately greater than 70 ft Depth
ft = feet
J = Estimated result
mg/L = Milligrams per Liter
MW = Monitoring Well
PCL = Protective Concentration Level
RW = Recovery Well

0 150 300
Feet

BASE MAP SOURCE:
ESRI Aerial Imagery

Figure 3-3
Zone B 1,2-DCA Plume Extent:
October 2022
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of
The Dow Chemical Company
VCP No. 421

N

Drawing Date: 4/26/2023

Drawn By: BD

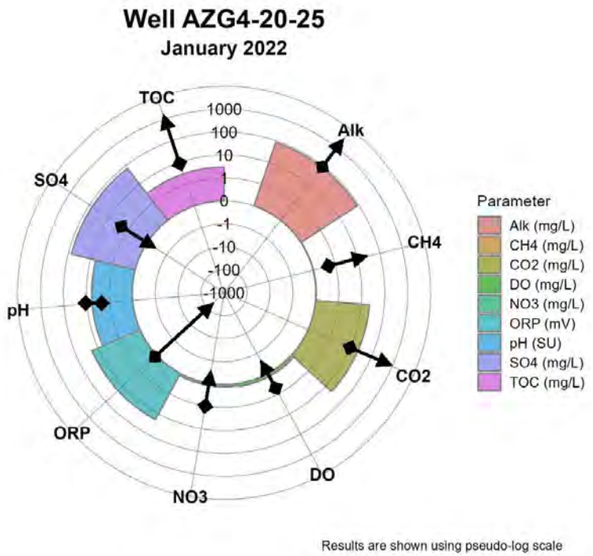
Jacobs

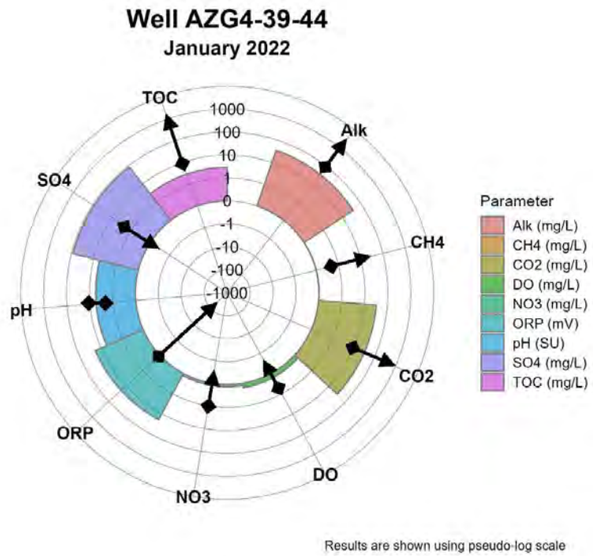
\\DC1VS01\GISPROJ\D\DOWCHEMICALS\CHARLIEBURCH\MAPS\REPORT\2022\CHARLIEBURCH_2022_DCAZONEB.MXD DANIELB1 4/26/2023

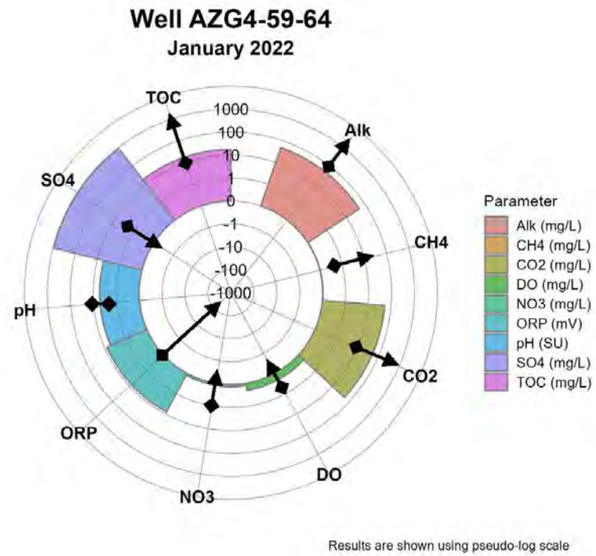
Zone A

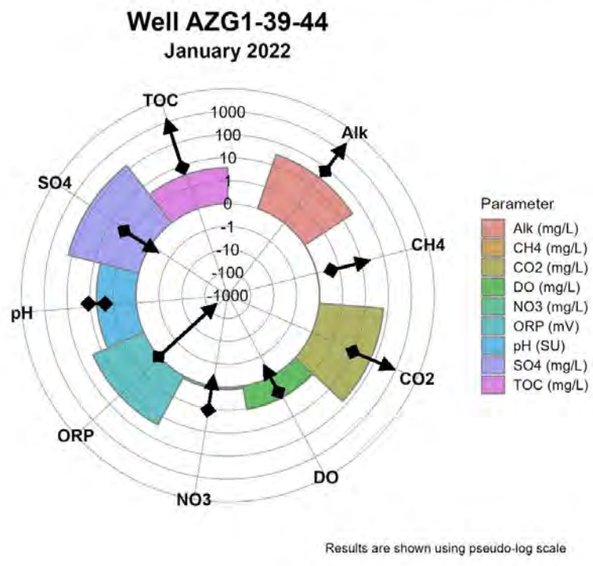
Legend:

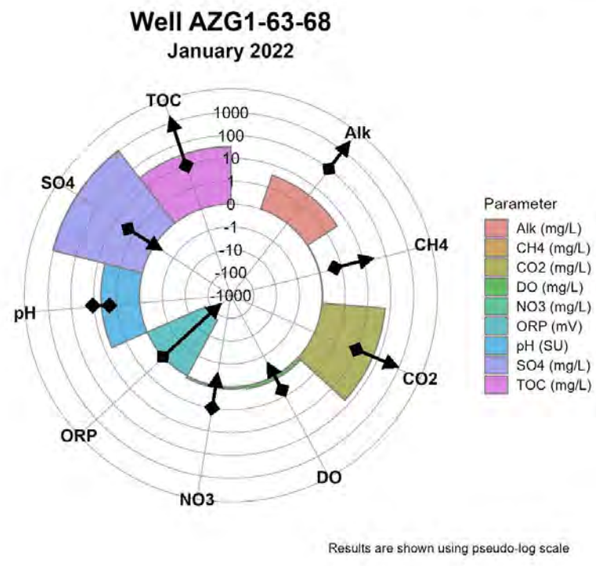
Ideal Range for Parameters (EPA, 1998)











Zone B

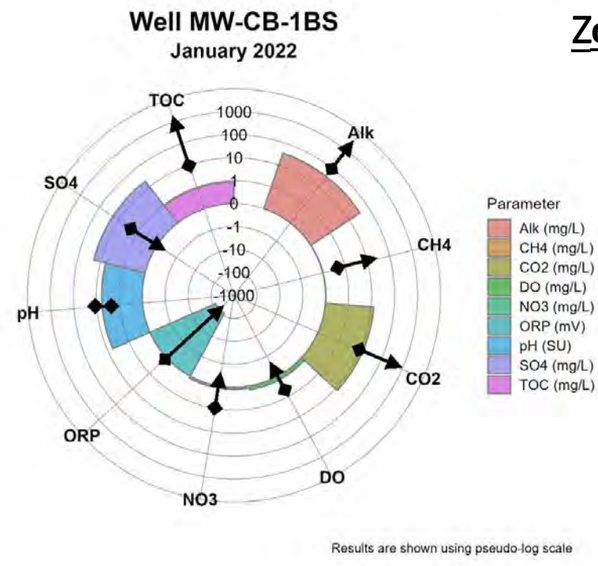


Figure 4-1
Radar Plots: Source Area
Zone A and B
Charlie Burch Site
Spring, Texas

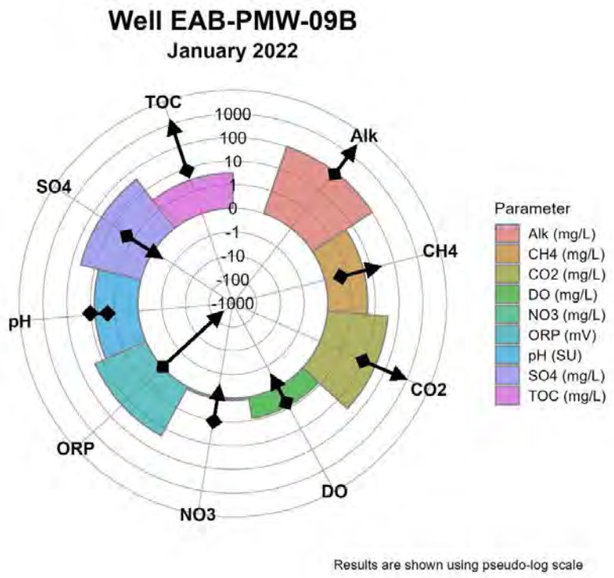
Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

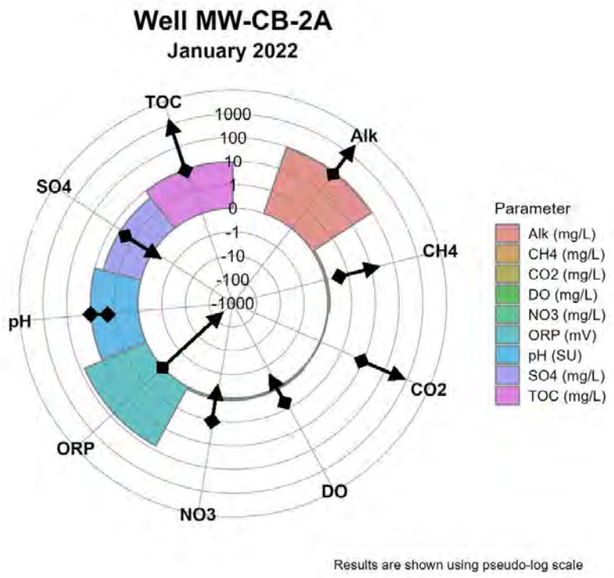
N

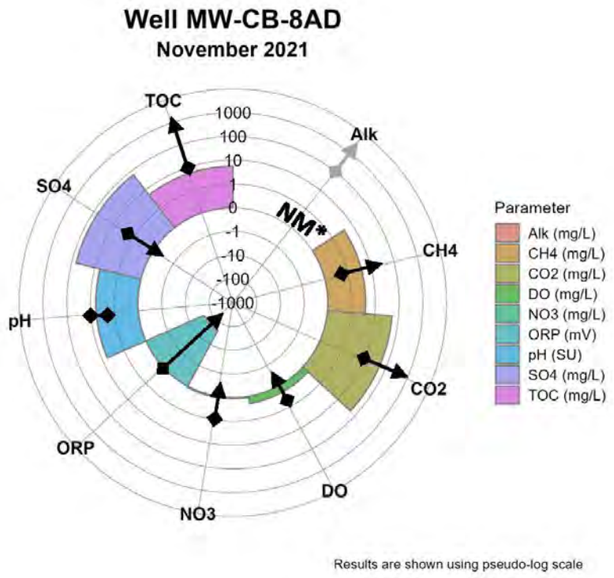
Drawing Date: 5/5/2023

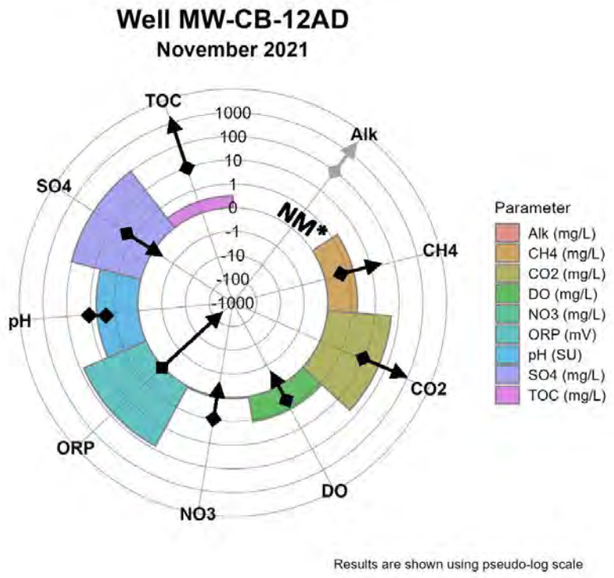
Drawn By: LA

Jacobs









Legend:

Ideal Range for Parameters (EPA, 1998)

Note: *NM = Not measured

Figure 4-2
Radar Plots: Offsite Locations
Zone A
Charlie Burch Site
Spring, Texas

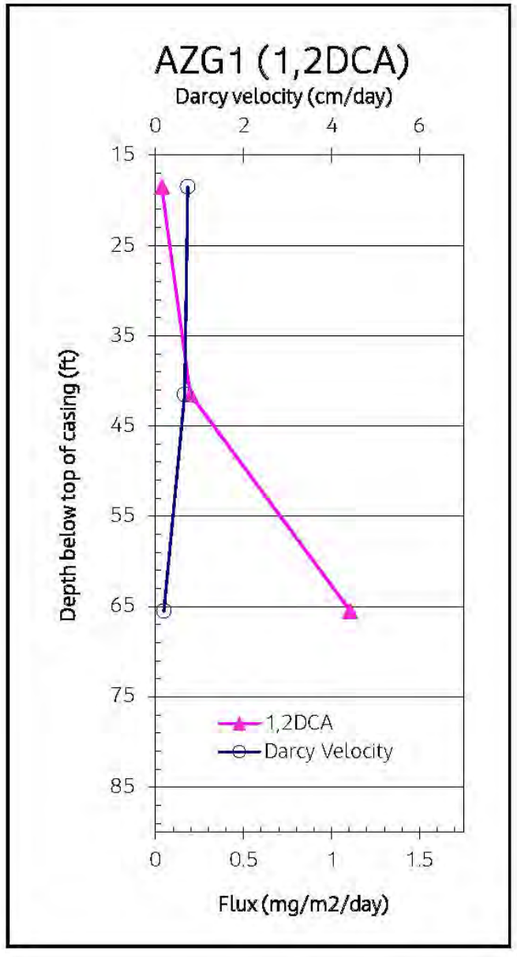
Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

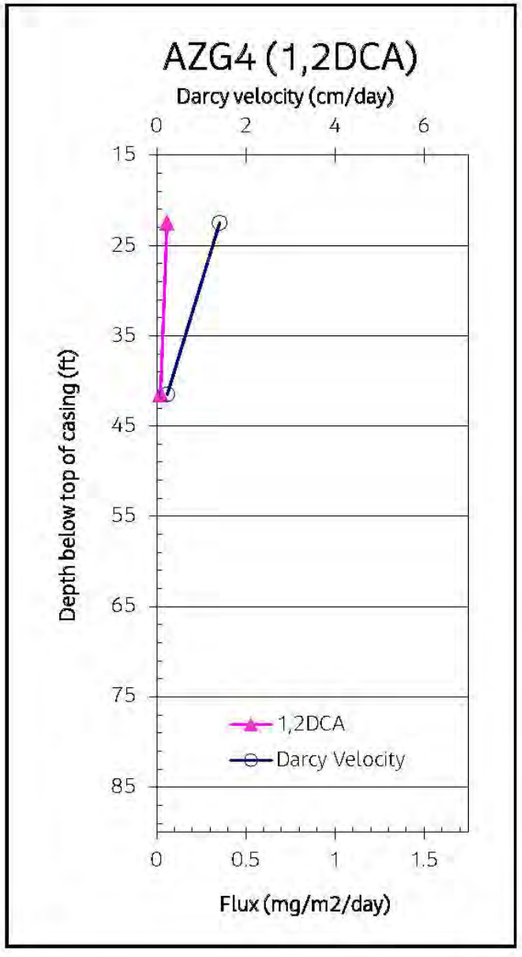
N

Drawn By: LA

Drawing Date: 5/5/2023

Jacobs





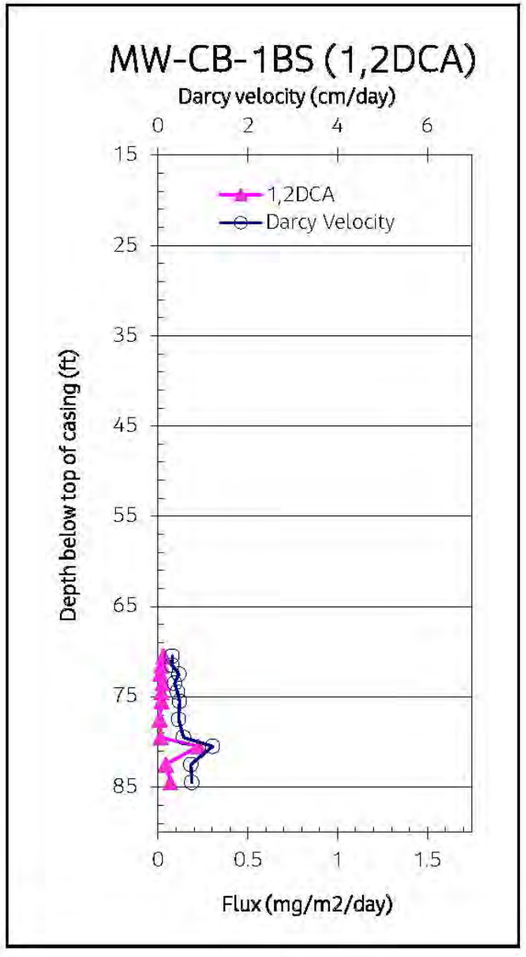


Figure 4-3
Passive Flux Measurements
Graphs: Source Area Zone A and B
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

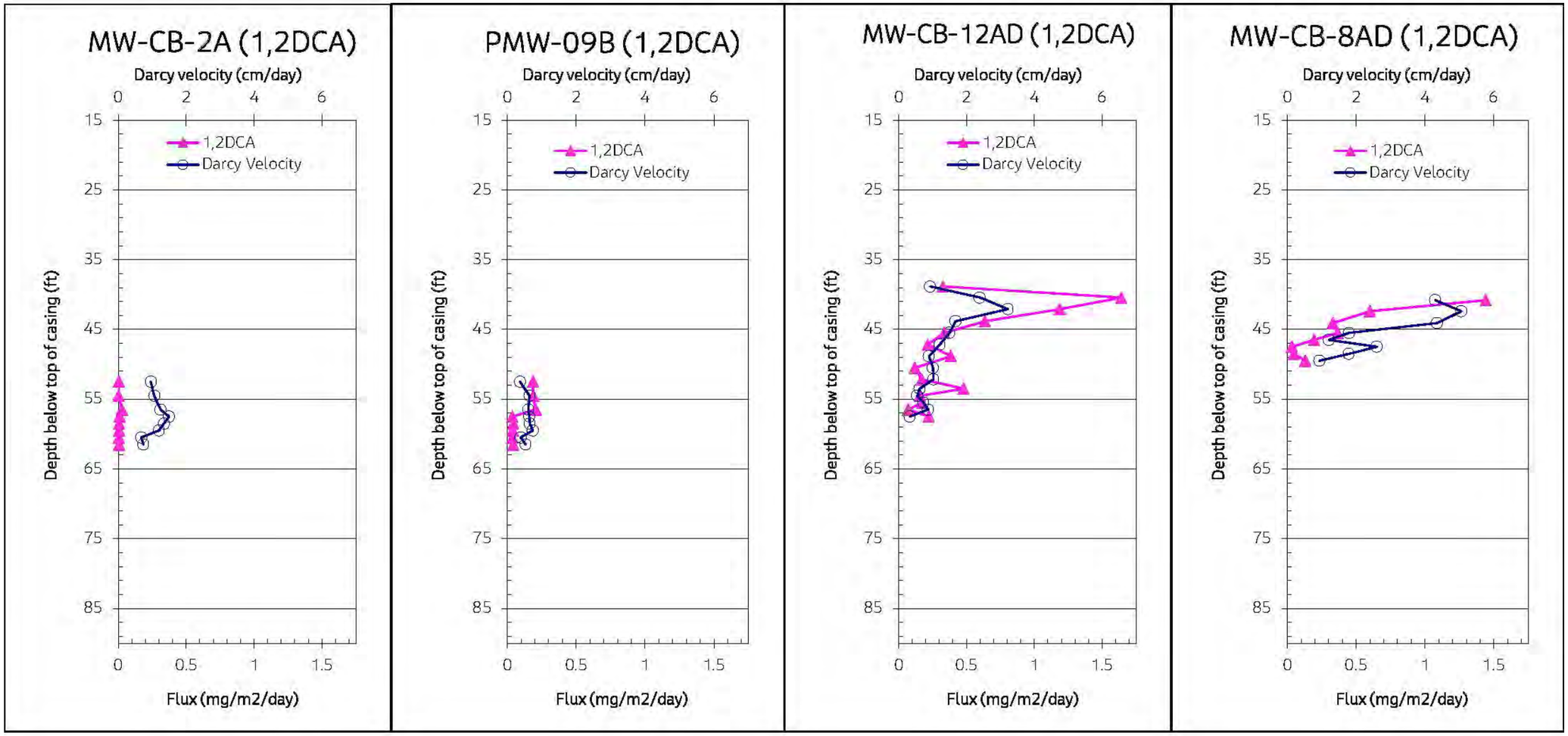


Figure 4-4
Passive Flux Measurements
Graphs: Offsite Areas Zone A
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

Appendix A
Laboratory Analytical Reports

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Jacobs CH2M

Charlie Burch

SGS Job Number: TD75793

Sampling Date: 11/16/21

Report to:

Jacobs CH2M
5985 Rogerdale Rd. Tower 2
Houston, TX 77072
john.ynfante@jacobs.com; DowTXDM@jacobs.com

ATTN: John Ynfante

Total number of pages in report: 65

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Kesavalu Bagawandoss
General Manager

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-22-46) AR (21-045-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2021-158) VA (11647)

April 13, 2023

Jacobs CH2M
5985 Rogerdale Rd. Tower 2
Houston Tx 77072

The final report for SGS Job TD75793 has been amended from the original. This report replaces in its entirety any previously submitted copy. Per client request, Ethane and Ethene results are being reported. The attached report incorporates these revisions.

Please contact me at 337-237-4775 if I may be of further assistance in this matter, or if you have any further questions regarding this data report

Sincerely,

Rebecca Hebert

SGS North America Inc.-Gulf Coast

Sections: 1 2 3 4 5 6 7 8 9 10 11

Table of Contents

SGS North America Inc.

Sample Summary

Jacobs CH2M

Charlie Burch

Job No: TD75793

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD75793-1	11/16/21	14:45		11/17/21	AQ	Ground Water	MW-CB-8AD-20211116
TD75793-1F	11/16/21	14:45		11/17/21	AQ	Groundwater Filtered	MW-CB-8AD-20211116
TD75793-1R	11/16/21	14:45		11/17/21	AQ	Ground Water	MW-CB-8AD-20211116
TD75793-2	11/16/21	10:00		11/17/21	AQ	Ground Water	MW-CB-12AD-20211116
TD75793-2F	11/16/21	10:00		11/17/21	AQ	Groundwater Filtered	MW-CB-12AD-20211116
TD75793-2R	11/16/21	10:00		11/17/21	AQ	Ground Water	MW-CB-12AD-20211116

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Jacobs CH2M **Job No:** TD75793

Site: Charlie Burch **Report Date** 12/9/2021 3:36:44 PM

2 Samples were collected on 11/16/2021 and received intact at SGS North America Inc (SGS) on 11/17/2021 and properly preserved in 1 cooler at 1.5 Deg C. The samples received an SGS job number of TD75793. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

GC Volatiles By Method RSK-175

Matrix: AQ **Batch ID:** N:GAA2452

- All data for batch N:GC58835 was analyzed at SGS North America Inc. - Dayton, NJ.

Matrix: AQ **Batch ID:** N:GWW5509

- All data for batch N:GC58837 was analyzed at SGS North America Inc. - Dayton, NJ.

Metals Analysis By Method SW846 6010C

Matrix: AQ **Batch ID:** L:MP22786

- All data for batch L:MP22786 was analyzed at SGS North America Inc. - Scott, LA.

General Chemistry By Method EPA 300

Matrix: AQ **Batch ID:** L:GP9073

- All data for batch L:GP9073 was analyzed at SGS North America Inc. - Scott, LA.

General Chemistry By Method EPA 353.2

Matrix: AQ **Batch ID:** GP62837

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD75793-2DUP, TD75793-2MS were used as the QC samples for Nitrogen, Nitrite.

Matrix: AQ **Batch ID:** GP62839

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD75793-2DUP, TD75793-2MS were used as the QC samples for Nitrogen, Nitrate + Nitrite.

Matrix: AQ **Batch ID:** R67741

- TD75793-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ **Batch ID:** R67751

- TD75793-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM5310 B-2011

Matrix: AQ **Batch ID:** GP62851

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) LA75232-1DUP, LA75232-1MS were used as the QC samples for Total Organic Carbon.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	SGS Houston, TX	**Job No**	TD75793
Site:	CHHMTXHO: Charlie Burch	**Report Date**	11/24/2021 9:58:37 A

2 samples were collected on 11/16/2021 and were received intact at SGS North America Inc.-Scott (SGS) on 11/17/2021, properly preserved and cool at 1.8 Deg C. These samples received an SGS job number of TD75793. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Metals By Method SW846 6010C

Matrix: AQ **Batch ID:** MP22786

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD75411-23MS, TD75411-23MSD, TD75411-23SDL were used as the QC samples for metals.
- RPD(s) for Serial Dilution for Iron are outside control limits for sample MP22786-SDL. Serial dilution indicates possible matrix interference.

Wet Chemistry By Method EPA 300

Matrix: AQ **Batch ID:** GP9073

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) LA75097-3QMSD, LA75097-3QMS were used as the QC samples for Nitrogen, Nitrate, Sulfate, Nitrogen, Nitrate.
- Matrix Spike Recovery(s) for Nitrogen, Nitrate are outside control limits. Outside control limits due to matrix interference and/or sample nonhomogeneity.
- Matrix Spike Duplicate Recovery(s) for Nitrogen, Nitrate, Sulfate are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.
- Matrix Spike Recovery(s) for Sulfate are outside control limits. Outside control limits due to matrix interference and/or sample nonhomogeneity.
- Matrix Spike Recovery(s) for Sulfate are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: SGS Houston, TX **Job No:** TD75793

Site: CHHMTXHO: Charlie Burch **Report Date** 4/11/2023 5:18:49 PM

On 11/17/2021, 2 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 1.4 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of TD75793 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

GC Volatiles By Method RSK-175

Matrix: AQ **Batch ID:** GAA2452

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD35453-6DUP were used as the QC samples indicated.
- TD75793-2: (pH=6)Sample pH did not satisfy field preservation criteria. Diluted due to high concentration of target compound.
- TD75793-1: (pH=6)Sample pH did not satisfy field preservation criteria. Diluted due to high concentration of target compound.

Matrix: AQ **Batch ID:** GWW5509

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD75793-2DUP were used as the QC samples indicated.
- TD75793-2: (pH=6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time.
- TD75793-1: (pH=6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time.

SGS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting SGS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SGS indicated via signature on the report cover.

Summary of Hits

Job Number: TD75793
Account: Jacobs CH2M
Project: Charlie Burch
Collected: 11/16/21

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD75793-1	**MW-CB-8AD-20211116**					
Methane [a]		3.91	0.011	0.0080	mg/l	RSK-175
Carbon Dioxide [b]		53.4	1.3	0.045	mg/l	RSK-175
Nitrogen, Nitrate + Nitrite		0.15	0.050	0.040	mg/l	EPA 353.2
Nitrogen, Nitrite		0.13	0.010	0.0050	mg/l	EPA 353.2
Sulfate [c]		65.3	0.25	0.074	mg/l	EPA 300
Total Organic Carbon		5.6	1.0	0.50	mg/l	SM5310 B-2011
TD75793-1F	**MW-CB-8AD-20211116**					
Iron [c]		79.2	0.10	0.018	mg/l	SW846 6010C
TD75793-1R	**MW-CB-8AD-20211116**					
No hits reported in this sample.						
TD75793-2	**MW-CB-12AD-20211116**					
Methane [a]		1.76	0.0028	0.0020	mg/l	RSK-175
Carbon Dioxide [b]		49.0	1.3	0.045	mg/l	RSK-175
Nitrogen, Nitrite		0.017	0.010	0.0050	mg/l	EPA 353.2
Sulfate [c]		103	0.25	0.074	mg/l	EPA 300
Total Organic Carbon		3.2	1.0	0.50	mg/l	SM5310 B-2011
TD75793-2F	**MW-CB-12AD-20211116**					
Iron [c]		2.89	0.10	0.018	mg/l	SW846 6010C
TD75793-2R	**MW-CB-12AD-20211116**					
No hits reported in this sample.						

(a) (pH= 6)Sample pH did not satisfy field preservation criteria. Diluted due to high concentration of target compound. Analysis performed at SGS Dayton, NJ.
(b) (pH= 6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. Analysis performed at SGS Dayton, NJ.
(c) Analysis performed at SGS Scott, LA.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-CB-8AD-20211116		
Lab Sample ID:	TD75793-1	**Date Sampled:**	11/16/21
Matrix:	AQ - Ground Water	**Date Received:**	11/17/21
Method:	RSK-175	**Percent Solids:**	n/a
Project:	Charlie Burch		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	WW140891.D	25	11/22/21 12:57	ANJ	n/a	n/a	N:GWW5509
Run #2 [b]	AA92137.D	100	11/24/21 11:07	ANJ	n/a	n/a	N:GAA2452

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	3.91 [c]	0.011	0.0080	mg/l	
124-38-9	Carbon Dioxide	53.4	1.3	0.045	mg/l	

(a) (pH= 6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. Analysis performed at SGS Dayton, NJ.
(b) (pH= 6)Sample pH did not satisfy field preservation criteria. Diluted due to high concentration of target compound. Analysis performed at SGS Dayton, NJ.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-8AD-20211116
Lab Sample ID: TD75793-1
Matrix: AQ - Ground Water
Project: Charlie Burch

Date Sampled: 11/16/21
Date Received: 11/17/21
Percent Solids: n/a

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.045 U	0.060	0.045	mg/l	1	11/17/21 14:14	CV	EPA 353.2
Nitrogen, Nitrate [b]	0.038 U	0.050	0.038	mg/l	1	11/22/21 19:24	ALA	EPA 300
Nitrogen, Nitrate + Nitrite	0.15	0.050	0.040	mg/l	1	11/17/21 14:14	CV	EPA 353.2
Nitrogen, Nitrite	0.13	0.010	0.0050	mg/l	1	11/17/21 13:32	CV	EPA 353.2
Sulfate [b]	65.3	0.25	0.074	mg/l	1	11/22/21 19:24	ALA	EPA 300
Total Organic Carbon	5.6	1.0	0.50	mg/l	1	11/20/21 14:42	LA	SM5310 B-2011

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	MW-CB-8AD-20211116		
Lab Sample ID:	TD75793-1F	**Date Sampled:**	11/16/21
Matrix:	AQ - Groundwater Filtered	**Date Received:**	11/17/21
		Percent Solids:	n/a
Project:	Charlie Burch		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron [a]	79.2	0.10	0.018	mg/l	1	11/19/21	11/19/21	ALA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: L:MA22718
(2) Prep QC Batch: L:MP22786

(a) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	MW-CB-8AD-20211116		
Lab Sample ID:	TD75793-1R	**Date Sampled:**	11/16/21
Matrix:	AQ - Ground Water	**Date Received:**	11/17/21
Method:	RSK-175	**Percent Solids:**	n/a
Project:	Charlie Burch		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA92137.D	100	11/24/21 11:07	ANJ	n/a	n/a	N:GAA2452
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-84-0	Ethane	0.014 U	0.023	0.014	mg/l	
74-85-1	Ethene	0.016 U	0.031	0.016	mg/l	

(a) Analysis performed at SGS Dayton, NJ.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-12AD-20211116		
Lab Sample ID:	TD75793-2	**Date Sampled:**	11/16/21
Matrix:	AQ - Ground Water	**Date Received:**	11/17/21
Method:	RSK-175	**Percent Solids:**	n/a
Project:	Charlie Burch		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	WW140892.D	25	11/22/21 13:13	ANJ	n/a	n/a	N:GWW5509
Run #2 [b]	AA92138.D	25	11/24/21 11:20	ANJ	n/a	n/a	N:GAA2452

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	1.76 [c]	0.0028	0.0020	mg/l	
124-38-9	Carbon Dioxide	49.0	1.3	0.045	mg/l	

(a) (pH= 6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. Analysis performed at SGS Dayton, NJ.
(b) (pH= 6)Sample pH did not satisfy field preservation criteria. Diluted due to high concentration of target compound. Analysis performed at SGS Dayton, NJ.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-12AD-20211116
Lab Sample ID: TD75793-2
Matrix: AQ - Ground Water
Project: Charlie Burch

Date Sampled: 11/16/21
Date Received: 11/17/21
Percent Solids: n/a

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Nitrogen, Nitrate [a]	0.045 U	0.060	0.045	mg/l	1	11/17/21 14:12	CV	EPA 353.2
Nitrogen, Nitrate [b]	0.038 U	0.050	0.038	mg/l	1	11/22/21 19:39	ALA	EPA 300
Nitrogen, Nitrate + Nitrite	0.040 U	0.050	0.040	mg/l	1	11/17/21 14:12	CV	EPA 353.2
Nitrogen, Nitrite	0.017	0.010	0.0050	mg/l	1	11/17/21 13:31	CV	EPA 353.2
Sulfate [b]	103	0.25	0.074	mg/l	1	11/22/21 19:39	ALA	EPA 300
Total Organic Carbon	3.2	1.0	0.50	mg/l	1	11/20/21 14:55	LA	SM5310 B-2011

(a) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)
(b) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID: MW-CB-12AD-20211116
Lab Sample ID: TD75793-2F
Matrix: AQ - Groundwater Filtered
Project: Charlie Burch

Date Sampled: 11/16/21
Date Received: 11/17/21
Percent Solids: n/a

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron [a]	2.89	0.10	0.018	mg/l	1	11/19/21	11/19/21	ALA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: L:MA22718
(2) Prep QC Batch: L:MP22786

(a) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	MW-CB-12AD-20211116		
Lab Sample ID:	TD75793-2R	**Date Sampled:**	11/16/21
Matrix:	AQ - Ground Water	**Date Received:**	11/17/21
Method:	RSK-175	**Percent Solids:**	n/a
Project:	Charlie Burch		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA92138.D	25	11/24/21 11:20	ANJ	n/a	n/a	N:GAA2452
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-84-0	Ethane	0.0035 U	0.0058	0.0035	mg/l	
74-85-1	Ethene	0.0040 U	0.0078	0.0040	mg/l	

(a) Analysis performed at SGS Dayton, NJ.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form
- LRC Form (SGS Scott, LA)
- LRC Form (SGS Dayton, NJ)

SGS

CHAIN OF CUSTODY

PAGE 1 OF 1

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.sgs.com/ehs/usa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD75793

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston | State: Texas | Zip: 77072
Project Contact: John Ynfante | E-mail:
Phone #: | Fax #:
Sampler(s) Name(s): AMF Hewitt. | Phone: 8324199610

Project Information

Project Name: Dow Charlie Burch
Street:
City: | State:
Project #:
Client Purchase Order #:
Project Manager: JOSH MCFELVAIN

Billing Information (if different from Report to)

Company Name:
Street Address:
City: | State: | Zip:
Attention:

Requested Analyses

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TBP	Na2SO4	ENCORE	OTHER	NO3/SO4-IC300	Dissolved Iron(6010)-Field Filter	RSK175-Dissolved Methane	RSK175/CO2	TOC-SM5310
1	MW-CB-8AD-20211116	11-16-21	14:45	Hewitt, A	GW	10	5			1		4							X	X	X	X	X
2	MW-CB-12AD-20211116	11-16-21	10:00	Hewitt, A	GW	10	5			1		4							X	X	X	X	X

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

LAB USE ONLY

Turnaround Time (Business days)

- [X] Standard
- [ ] 6 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished By:	Date Time:	Received By:
1	[illegible]	~~11/17/21 1650~~	1
2			2
3	[illegible]	11/17/21 836	3 [illegible] 11/17/21 934
4			4
5			5

Custody Seal #: | [ ] Intact [ ] Not Intact | Preserved where applicable: X | On Ice: X | Cooler Temp: 1.0 1.5 2

TD75793: Chain of Custody
Page 1 of 3

SGS Sample Receipt Summary

Job Number: TD75793 **Client:** JACOBS (FORMER CH2M HILL) **Project:** DOW CHARLIE BURCH

Date / Time Received: 11/17/2021 8:34:00 AM **Delv Method:** CLIENT **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-9; **Temp Adjustment Factor:** 0.1;

Cooler Temps (Initial/Adjusted): #1: (1.4/1.5);

Test Strip Lot #s: **pH 1-12:** **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☐		☐	☐
2. Custody Seals Intact:	☐		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Type Of TB Received	W	or	S	N/A
	☐		☐	☐

Misc. Information

Number of terracores: Number of Lab Filtered Metals:

Number of 5035 Field Kits:

Residual Chlorine Test Strip Lot #:

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☐
14. % Solids Jar received?	☐		☐	☐
15. Residual Chlorine Present?	☐		☐	☐

Comments

Sample Receipt Log

Job #: TD75793 **Date / Time Received:** 11/17/2021 8:34:00 AM **Initials:** MAURICIM

Client: JACOBS (FORMER CH2M HILL)

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD75793-1	1000ml	1	3F	N/P	Note #2 - Preservative check not applicable.	IR-9	1.4	0.1	1.5
1	TD75793-1	250ml	2	SUB	HNO3	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-1	40ml	3	SUB	HCL	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-1	40ml	4	SUB	HCL	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-1	40ml	5	SUB	HCL	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-1	40ml	6	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	1.4	0.1	1.5
1	TD75793-1	40ml	7	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	1.4	0.1	1.5
1	TD75793-1	40ml	8	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	1.4	0.1	1.5
1	TD75793-1	40ml	9	TOC 24	HCL	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-1	40ml	10	TOC 24	HCL	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-2	1000ml	1	3F	N/P	Note #2 - Preservative check not applicable.	IR-9	1.4	0.1	1.5
1	TD75793-2	250ml	2	SUB	HNO3	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-2	40ml	3	SUB	HCL	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-2	40ml	4	SUB	HCL	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-2	40ml	5	SUB	HCL	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-2	40ml	6	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	1.4	0.1	1.5
1	TD75793-2	40ml	7	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	1.4	0.1	1.5
1	TD75793-2	40ml	8	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	1.4	0.1	1.5
1	TD75793-2	40ml	9	TOC 24	HCL	pH < 2	IR-9	1.4	0.1	1.5
1	TD75793-2	40ml	10	TOC 24	HCL	pH < 2	IR-9	1.4	0.1	1.5

Appendix A Laboratory Data Package Cover Page

TD75793 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	12/9/2021

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**12/9/2021**
Project Name:	**Charlie Burch**	Laboratory Project Number:	**TD75793**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**GP62837, GP62839, GP62851, R67741, R67751**

# [1]	A [2]	DESCRIPTION	YES	NO	NA [3]	NR [4]	ER # [5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?			X		
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Gulf Coast	LRC Date:	12/9/2021				
Project Name:		Charlie Burch	Laboratory Project Number:	TD75793				
Reviewer	Name:	Electa Brown	Prep Batch Number(s):	GP62837, GP62839, GP62851, R67741, R67751				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?		X				
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?		X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X				
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**12/9/2021**
Project Name:	**Charlie Burch**	Laboratory Project Number:	**TD75793**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**GP62837, GP62839, GP62851, R67741, R67751**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

TD75793 This data package consists of

□□□ This signature page, the laboratory review checklist, and the following reportable data:

□□□ R1 Field chain-of-custody documentation;

□□□ R2 Sample identification cross-reference;

□□□ R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) cleanup methods, and
- e) if required for the project, tentatively identified compounds (TICs).

□□□ R4 Surrogate recovery data including:

- a) Calculated recovery (%R), and
- b) The laboratory's surrogate QC limits.

□□□ R5 Test reports/summary forms for blank samples;

□□□ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amounts,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

□□□ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and
- d) Calculated %Rs and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

□□□ R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) The amount of analyte measured in the duplicate,
- b) The calculated RPD, and
- c) The laboratory's QC limits for analytical duplicates.

□□□ R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method

□□□ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin		Laboratory Director	11/24/2021

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**11/24/2021**	
Project Name:	**CHHMTXHO: Charlie Burch**	Laboratory Project Number:	**TD75793**	
Reviewer Name:	**Penny Cormier**	Prep Batch Number(s):	**GP9073, MP22786**	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?		X			**4**
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?		X			**4**
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	11/24/2021				
Project Name:		CHHMTXHO: Charlie Burch	Laboratory Project Number:	TD75793				
Reviewer	Name:	Penny Cormier	Prep Batch Number(s):	GP9073, MP22786				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?		X				
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?				X		
		Were ion abundance data within the method-required QC limits?				X		
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?				X		
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?		X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X				
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**11/24/2021**
Project Name:	**CHHMTXHO: Charlie Burch**	Laboratory Project Number:	**TD75793**
Reviewer Name:	**Penny Cormier**	Prep Batch Number(s):	**GP9073, MP22786**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.
4	All anomalies are discussed in the case narrative.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

This data packages consists of:

X This signature page, the laboratory review checklist, and the following reportable data:

X R1 Field chain-of-custody documentation;

X R2 Sample identification cross-reference;

X R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

X R5 Test reports/summary forms for blank samples;

X R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c) The laboratory's LCS QC limits.

X R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

X R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) The amount of analyte measured in the duplicate,
b) The calculated RPD, and
c) The laboratory's QC limits for analytical duplicates.

X R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;

X R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC&25.6 and was last inspected by [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible forreleasing this data package and is by signature affirming the above release statement is true.

Zhongyun Ma		QA Officer	12/2/2021
Name (Printed)	Signature	Official Title (printed)	Date

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: SGS- Dayton	LRC Date: 12/2/2021
Project Name: CHHMTXHO: Charlie Burch, CHHMTXHO29677	Laboratory Job Number: TD75793
Reviewer Name: Zhongyun Ma	Prep Batch Number(s): GAA2452, GWW5509

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	x				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	x				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			x		
		Were % moisture (or solids) reported for all soil and sediment samples?			x		
		Were bulk soil/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, TICs reported?			x		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			X		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			X		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations < MQL?	X				
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at the required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			x		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			x		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?			x		
		Were MS/MSD RPDs within laboratory QC limits?			x		
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	x				
		Were analytical duplicates analyzed at the appropriate frequency?	x				
		Were RPDs or relative standard deviations within the laboratory QC limits?	x				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL minimize the matrix interference affects on the sample results?	X				
		Is the Laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	x				

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: SGS – Dayton	LRC Date: 12/2/2021
Project Name: CHHMTXHO: Charlie Burch, CHHMTXHO29677	Laboratory Job Number: TD75793
Reviewer Name: Zhongyun Ma	Prep Batch Number(s): GAA2452, GWW5509

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	x				
		Were percent differences for each analyte within the method-required QC limits?	x				
		Was the ICAL curve verified for each analyte?	x				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	x				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			x		
		Were ion abundance data within the method-required QC limits?			x		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			x		
S5	OI	**Raw data (NELAC section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?			x		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			x		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			x		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?	X				
		Is the MDL either adjusted or supported by the analysis of DCSs?	X				
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	X				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports	
Laboratory Name: SGS - Dayton	LRC Date: 12/2/2021
Project Name: CHHMTXHO: Charlie Burch, CHHMTXHO29677	Laboratory Job Number: TD75793
Reviewer Name: Zhongyun Ma	Prep Batch Number(s): GAA2452, GWW5509

DESCRIPTION	

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O= organic analyses; I= inorganic analyses (and general chemistry, when applicable);
3. NA = Not Applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

General Chemistry

6

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- General Chemistry CCB MDL Check

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD75793
Account: CHHMTXHO - Jacobs CH2M
Project: Charlie Burch

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Nitrate + Nitrite	GP62839/GN15029	0.050	0.0	mg/l	1	1.02	102.0	90-110%
Nitrogen, Nitrite	GP62837/GN15028	0.010	0.0	mg/l	0.1	0.0953	95.3	90-110%
Total Organic Carbon	GP62851/GN15074	1.0	0.67	mg/l	25	26.8	107.2	90-110%

Associated Samples:
Batch GP62837: TD75793-1, TD75793-2
Batch GP62839: TD75793-1, TD75793-2
Batch GP62851: TD75793-1, TD75793-2
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD75793
Account: CHHMTXHO - Jacobs CH2M
Project: Charlie Burch

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Nitrogen, Nitrate + Nitrite	GP62839/GN15029	TD75793-2	mg/l	0.040 U	0.0	0.0	0-11%
Nitrogen, Nitrite	GP62837/GN15028	TD75793-2	mg/l	0.017	0.014	19.4	0-20%
Total Organic Carbon	GP62851/GN15074	LA75232-1	mg/l	3.2	3.0	6.5	0-17%

Associated Samples:
Batch GP62837: TD75793-1, TD75793-2
Batch GP62839: TD75793-1, TD75793-2
Batch GP62851: TD75793-1, TD75793-2
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD75793
Account: CHHMTXHO - Jacobs CH2M
Project: Charlie Burch

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate + Nitrite	GP62839/GN15029	TD75793-2	mg/l	0.040 U	1	1.0	100.0	90-110%
Nitrogen, Nitrite	GP62837/GN15028	TD75793-2	mg/l	0.017	0.1	0.11	93.0	90-110%
Total Organic Carbon	GP62851/GN15074	LA75232-1	mg/l	3.2	25	28.1	99.6	90-110%

Associated Samples:
Batch GP62837: TD75793-1, TD75793-2
Batch GP62839: TD75793-1, TD75793-2
Batch GP62851: TD75793-1, TD75793-2
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

General Chemistry CCB MDL Check

Job Number: TD75793
Account: CHHMTXHO Jacobs CH2M
Project: Charlie Burch

The following parameters are braketed by CCB's at or above the MDL.

Sample	Parameter	Run ID	Time	MDL	Units	CCB Before		CCB After	
TD75793-1	Total Organic Carbon	GN15074	14:42	.50	mg/l	CCB1	0.875	CCB2	0.835
TD75793-2	Total Organic Carbon	GN15074	14:55	.50	mg/l	CCB1	0.875	CCB2	0.835

Calibration blank validation to the MDL is not a method requirement, but is included for information purposes only.

Misc. Forms

Custody Documents and Other Forms

(SGS Dayton, NJ)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS

GW

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX 713-271-4770
www.sgs.com

FED-EX Tracking #:
Bottle Order Control #:
SGS Quote #:
SGS Job #: TD75793

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: Charlie Burch
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	VRSK175CH4, VRSK175CO2,	LAB USE ONLY
1	MW-CB-8AD-20211116		11/16/21	2:45:00 PM		AQ	3					3				X	
2	MW-CB-12AD-20211116		11/16/21	10:00:00 AM		AQ	3					3				X	

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 12/1/2021

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Send RSK to NJ

Initial Assessment 3A-CLN

Label Verification

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	11:17:21	Sophia Piper	2		2
3		3	4		4
5		5	Custody Seal #	Intact / Not intact	Preserved where applicable / On Ice / Cooler Temp 2.5

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TD75793: Chain of Custody
Page 1 of 3
SGS Dayton, NJ

SGS Sample Receipt Summary

Job Number: TD75793 **Client:** _____ **Project:** _____

Date / Time Received: 11/17/2021 5:00:00 PM **Delivery Method:** _____ **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (2.8);

Cooler Temps (Corrected) °C: Cooler 1: (1.4);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR Gun		
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify) _____ _____

Comments

SM089-03
Rev. Date 12/7/17

7.1
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TD75793: Chain of Custody
Page 2 of 3

Job Change Order: TD75793

Requested Date: 4/4/2023
Account Name: Jacobs CH2M
Project Description: Charlie Burch
CSR: ELECTAB

Received Date: 11/17/2021
Due Date: 4/7/2023
Deliverable: TRRP
TAT (Days): 3

==========

Sample #: TD75793-1R
Dept:
TAT: 3

MW-CB-8AD-20211116

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

==========

==========

Sample #: TD75793-2R
Dept:
TAT: 3

MW-CB-12AD-20211116

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

==========

Above Changes Per: Client

Date/Time: 4/4/2023 11:53:20 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

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TD75793: Chain of Custody
Page 3 of 3

GC Volatiles

QC Data Summaries

(SGS Dayton, NJ)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD75793
Account: ALGC SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GWW5509-MB	WW140889.D	1	11/22/21	WC	n/a	n/a	GWW5509

The QC reported here applies to the following samples: **Method:** RSK-175

TD75793-1, TD75793-2

CAS No.	Compound	Result	RL	MDL	Units	Q
124-38-9	Carbon Dioxide	ND	50	1.8	ug/l	

Method Blank Summary

Job Number: TD75793
Account: ALGC SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA2452-MB	AA92129.D	1	11/24/21	WC	n/a	n/a	GAA2452

The QC reported here applies to the following samples: **Method:** RSK-175

TD75793-1, TD75793-2, TD75793-1R, TD75793-2R

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.11	0.080	ug/l	
74-84-0	Ethane	ND	0.23	0.14	ug/l	
74-85-1	Ethene	ND	0.31	0.16	ug/l	

Laboratory Control Sample Summary

Job Number: TD75793
Account: ALGC SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GWW5509-LCS	WW140885.D	1	11/22/21	WC	n/a	n/a	GWW5509

The QC reported here applies to the following samples: **Method:** RSK-175

TD75793-1, TD75793-2

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
124-38-9	Carbon Dioxide	164	176	107	66-114

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD75793
Account: ALGC SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA2452-LCS	AA92127.D	1	11/24/21	WC	n/a	n/a	GAA2452

The QC reported here applies to the following samples: **Method:** RSK-175

TD75793-1, TD75793-2, TD75793-1R, TD75793-2R

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
74-82-8	Methane	11	11.6	105	59-134
74-84-0	Ethane	23	25.1	109	63-135
74-85-1	Ethene	31	34.3	111	62-133

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD75793
Account: ALGC SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD75793-2DUP [a]	WW140893.D	25	11/22/21	WC	n/a	n/a	GWW5509
TD75793-2 [a]	WW140892.D	25	11/22/21	WC	n/a	n/a	GWW5509

The QC reported here applies to the following samples: **Method:** RSK-175

TD75793-1, TD75793-2

CAS No.	Compound	TD75793-2 ug/l	Q	DUP ug/l	Q	RPD	Limits
124-38-9	Carbon Dioxide	49000		50600		3	20

(a) (pH= 6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time.

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* = Outside of Control Limits.

Duplicate Summary

Job Number: TD75793
Account: ALGC SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
JD35453-6DUP [a]	AA92131.D	25	11/24/21	WC	n/a	n/a	GAA2452
JD35453-6 [a]	AA92130.D	25	11/24/21	WC	n/a	n/a	GAA2452

The QC reported here applies to the following samples: **Method:** RSK-175

TD75793-1, TD75793-2, TD75793-1R, TD75793-2R

CAS No.	Compound	JD35453-6 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	1240		1260		2	20
74-84-0	Ethane	ND		ND		nc	20
74-85-1	Ethene	ND		ND		nc	20

(a) Diluted due to high concentration of target compound.

* = Outside of Control Limits.

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #

Bottle Order Control #

SGS Quote #

SGS Job # TD75793

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: Charlie Burch
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	SO4IC300_NO3IC300	LAB USE ONLY
1	MW-CB-8AD-20211116		11/16/21	2:45:00 PM		AQ	1					1				X	
2	MW-CB-12AD-20211116		11/16/21	10:00:00 AM		AQ	1					1				X	

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 12/1/2021

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Send Sulfate and Nitrate to Lafayette by IC300

(14)

RUSH

900

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by: 1	Date Time: 11/17/21	Received By: 1		Relinquished By: 2		Date Time: 11/20/21	Received By: 2
Relinquished: 3	Date Time: 11/20/21 930	Received By: 3		Relinquished By: 4		Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5		Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable	On Ice [ ] Cooler Temp. 0.8 D1462

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TD75793: Chain of Custody
Page 1 of 2
SGS Scott, LA

1 = 1 liter Wkp (14) 2/7

9.1

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TD75793: Chain of Custody
Page 2 of 2

Metals Analysis

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- Metals CCB MDL Check

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TD75793
Account: ALGC - SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

QC Batch ID: MP22786
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 11/19/21

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	4.7	25		
Antimony	6.0	.97	3.6		
Arsenic	10	1.8	8.6		
Barium	10	.1	1.7		
Beryllium	4.0	.06	.9		
Boron	100	3.2	42		
Cadmium	5.0	.11	.9		
Calcium	100	4.6	32		
Chromium	10	.26	1.2		
Cobalt	10	.19	1.1		
Copper	10	.45	2.8		
Iron	100	1.2	18	4.0	<100
Lead	10	1.4	3.7		
Lithium	10	.98	4.3		
Magnesium	100	11	40		
Manganese	10	.05	.9		
Molybdenum	10	.15	1.7		
Nickel	10	.24	1.5		
Potassium	500	19	120		
Selenium	10	1.6	4.3		
Silver	10	.33	3.7		
Sodium	500	6	120		
Strontium	10	.04	3		
Thallium	10	.83	4.6		
Tin	10	.58	1.7		
Titanium	10	.22	.8		
Vanadium	10	.24	1.5		
Zinc	20	.13	12		

Associated samples MP22786: TD75793-1F, TD75793-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD75793
Account: ALGC - SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

QC Batch ID: MP22786
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 11/19/21

Metal	TD75411-23 Original MS		Spikelot ICPSPIKE1% Rec		QC Limits
Aluminum					
Antimony					
Arsenic	anr				
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron	72.2	1090	1000	101.8	75-125
Lead	anr				
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP22786: TD75793-1F, TD75793-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD75793
Account: ALGC - SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

QC Batch ID: MP22786 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 11/19/21

Metal	TD75411-23 Original MSD		Spikelot ICPSPIKE1%	Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic	anr					
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron	72.2	1010	1000	93.8	7.6	20
Lead	anr					
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP22786: TD75793-1F, TD75793-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TD75793
Account: ALGC - SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

QC Batch ID: MP22786
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 11/19/21

Metal	BSP Result	Spikelot ICPSPIKE1% Rec	QC Limits
Aluminum			
Antimony			
Arsenic	anr		
Barium			
Beryllium			
Boron			
Cadmium			
Calcium			
Chromium			
Cobalt			
Copper			
Iron	1010	1000 101.0	80-120
Lead	anr		
Lithium			
Magnesium			
Manganese			
Molybdenum			
Nickel			
Potassium			
Selenium			
Silver			
Sodium			
Strontium			
Thallium			
Tin			
Titanium			
Vanadium			
Zinc			

Associated samples MP22786: TD75793-1F, TD75793-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TD75793
Account: ALGC - SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

QC Batch ID: MP22786
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 11/19/21

Metal	TD75411-23 Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic	anr			
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	72.2	85.9	19.0*(a)	0-10
Lead	anr			
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP22786: TD75793-1F, TD75793-2F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested
(a) Serial dilution indicates possible matrix interference.

Metals CCB MDL Check

Job Number: TD75793
Account: ALGC SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

The following elements are braketed by CCB's at or above the MDL.

Sample	Element	Run ID	Time	MDL	Units	CCB Before	CCB After

No CCB's found at or above MDL.

Calibration blank validation to the MDL is not a method requirement, but is included for information purposes only.

General Chemistry

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- General Chemistry CCB MDL Check

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD75793
Account: ALGC - SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Nitrogen, Nitrate	GP9073/GN19965	0.050	0.0	mg/l	2.5	2.71	108.4	90-110%
Sulfate	GP9073/GN19965	0.25	0.0	mg/l	12.5	11.8	94.4	90-110%

Associated Samples:
Batch GP9073: TD75793-1, TD75793-2
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD75793
Account: ALGC - SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate	GP9073/GN19965	LA75097-3Q	mg/l	3.8 U	2.5	49.5	1980.0N(a)	80-120%
Sulfate	GP9073/GN19965	LA75097-3Q	mg/l	87.6	12.5	323	1883.2(a)	80-120%

Associated Samples:
Batch GP9073: TD75793-1, TD75793-2
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Outside control limits due to matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD75793
Account: ALGC - SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Nitrogen, Nitrate	GP9073/GN19965	LA75097-3Q	mg/l	3.8 U	2.5	49.8	0.6	20%
Sulfate	GP9073/GN19965	LA75097-3Q	mg/l	87.6	12.5	323	0.0	20%

Associated Samples:
Batch GP9073: TD75793-1, TD75793-2
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

General Chemistry CCB MDL Check

Job Number: TD75793
Account: ALGC SGS Houston, TX
Project: CHHMTXHO: Charlie Burch

The following parameters are braketed by CCB's at or above the MDL.

Sample	Parameter	Run ID	Time	MDL	Units	CCB Before	CCB After

No CCB's found at or above MDL.

Calibration blank validation to the MDL is not a method requirement, but is included for information purposes only.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH/CBT0220M

SGS Job Number: TD78144

Sampling Date: 01/27/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: **28**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-21-40) AR (20-023-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2020-077)

Sections: 1 2 3 4 5 6 7

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: TD78144

DOWMIM (Jacobs)
Project No: CHARLIE BURCH/CBT0220M

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD78144-1	01/27/22	15:50		01/28/22	AQ	Ground Water	MW-CB-26A-20220127
TD78144-2	01/27/22	16:00		01/28/22	AQ	Ground Water	MW-CB-28A-20220127
TD78144-3	01/27/22	16:15		01/28/22	AQ	Ground Water	MW-CB-6BS-20220127

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	TD78144
Site:	DOWMIM (Jacobs)	**Report Date**	2/16/2022 5:36:21 PM

3 Samples were collected on 01/27/2022 and received intact at SGS North America Inc (SGS) on 01/28/2022 and properly preserved in 1 cooler at 1.6 Deg C. The samples received an SGS job number of TD78144. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** L:V1X5543

- All data for batch L:MS8914 was analyzed at SGS North America Inc. - Scott, LA.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	SGS Houston, TX	**Job No**	TD78144
Site:	DOWMIM: DOWMIM (Jacobs)	**Report Date**	2/14/2022 3:25:34 PM

3 samples, 0 trip blanks and 0 field blanks were collected on 01/27/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 01/28/2022, properly preserved and cool at 1.50 Deg C. These samples received an SGS job number of TD78144. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1X5543

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD78144-3MS, TD78144-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: TD78144
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 01/27/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD78144-1	**MW-CB-26A-20220127**					
1,2-Dichloroethane [a]		0.0098	0.0010	0.00041	mg/l	SW846 8260B
TD78144-2	**MW-CB-28A-20220127**					
No hits reported in this sample.						
TD78144-3	**MW-CB-6BS-20220127**					
1,2-Dichloroethane [a]		0.0015	0.0010	0.00041	mg/l	SW846 8260B

(a) Analysis performed at SGS Scott, LA.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-CB-26A-20220127		
Lab Sample ID:	TD78144-1	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195232.D	1	02/09/22 23:58	ALA	n/a	n/a	L:V1X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0098	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		75-130%
2037-26-5	Toluene-D8	96%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-28A-20220127		
Lab Sample ID:	TD78144-2	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195234.D	1	02/10/22 00:29	ALA	n/a	n/a	L:V1X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	92%		75-130%
2037-26-5	Toluene-D8	96%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-6BS-20220127		
Lab Sample ID:	TD78144-3	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195236.D	1	02/10/22 00:59	ALA	n/a	n/a	L:V1X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0015	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	92%		75-130%
2037-26-5	Toluene-D8	98%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

(a) Analysis performed at SGS Scott, LA.

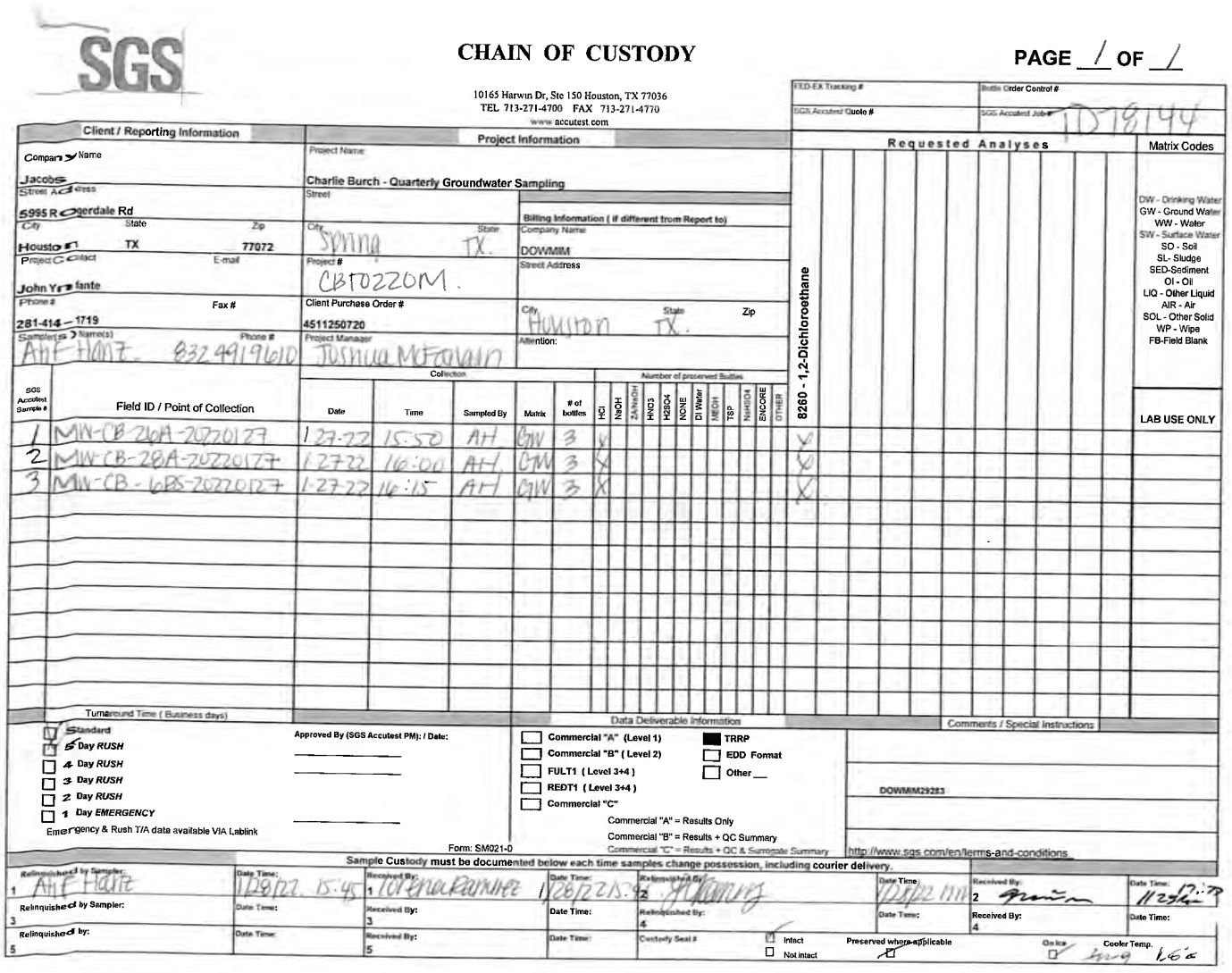
U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form
- LRC Form (SGS Scott, LA)



CHAIN OF CUSTODY

PAGE 1 OF 1

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.accutest.com

FED-EX Tracking #
Bottle Order Control #
SGS Accutest Quote #
SGS Accutest Job # TD78144

Client / Reporting Information
Company Name: Jacobs
Street Address: 5995 Rogerdale Rd
City: Houston State: TX Zip: 77072
Project Contact: John Yfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): AHF HART Phone #: 8324919610

Project Information
Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: Spring State: TX.
Project #: CBT0220M.
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlin

Billing Information (if different from Report to)
Company Name: DOWMIM
Street Address:
City: Houston State: TX. Zip:
Attention:

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Accutest Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	LAB USE ONLY
1	MW-CB-26A-20220127	1-27-22	15:50	AH	GW	3	X												X	
2	MW-CB-28A-20220127	1-27-22	16:00	AH	GW	3	X												X	
3	MW-CB-6BS-20220127	1-27-22	16:15	AH	GW	3	X												X	

Turnaround Time (Business days)
- [ ] Standard
- [x] 5 Day RUSH
- [ ] 4 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information
- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [x] TRRP
- [ ] EDD Format
- [ ] Other ___

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions
DOWMIM29283
http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	AHF Hart	1-28-22 15:45	1 Lorena Ramirez	1/28/22 15:45	2		2	1/29/22 11:17
3	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
5	Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice / Cooler Temp. 1.6°c

TD78144: Chain of Custody
Page 1 of 3

SGS Sample Receipt Summary

Job Number: TD78144 **Client:** JACOBS **Project:** CHARLIE BURCH

Date / Time Received: 1/28/2022 5:17:00 PM **Delv Method:** CLIENT **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-9; **Temp Adjustment Factor:** 0.1;

Cooler Temps (Initial/Adjusted): #1: (1.5/1.6);

Test Strip Lot #s: **pH 1-12:** 10D0391 **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Type Of TB Received	W	or	S	N/A
	☐		☐	☐

Misc. Information

Number of terracores: 0 Number of Lab Filtered Metals: 0

Number of 5035 Field Kits: 0

Residual Chlorine Test Strip Lot #:

Comments

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
14. % Solids Jar received?	☐		☐	☑
15. Residual Chlorine Present?	☐		☐	☑

Sample Receipt Log

Job #: TD78144 **Date / Time Received:** 1/28/2022 5:17:00 PM **Initials:** MAURICIM

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD78144-1	40ml	1	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78144-1	40ml	2	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78144-1	40ml	3	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78144-2	40ml	1	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78144-2	40ml	2	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78144-2	40ml	3	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78144-3	40ml	1	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78144-3	40ml	2	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78144-3	40ml	3	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6

Appendix A Laboratory Data Package Cover Page

TD78144 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	2/16/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**2/16/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78144**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?			X		
		Were blanks analyzed at the appropriate frequency?			X		
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?			X		
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?			X		
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?			X		
		Were LCSs analyzed at required frequency?			X		
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			X		
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?			X		
		Were the MS/MSD RPDs within laboratory QC limits?			X		
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Gulf Coast	LRC Date:	2/16/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD78144				
Reviewer Name:		Electa Brown	Prep Batch Number(s):					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**2/16/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78144**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is no included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

TD78144 This data package consists of

□ □	This signature page, the laboratory review checklist, and the following reportable data:		
□ □	R1	Field chain-of-custody documentation;	
□ □	R2	Sample identification cross-reference;	
□ □	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
□ □	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
□ □	R5	Test reports/summary forms for blank samples;	
□ □	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
□ □	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
□ □	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
□ □	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
□ □	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	Laboratory Director	2/14/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:		**Accutest Lafayette**	LRC Date:	**2/14/2022**					
Project Name:		**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78144**					
Reviewer Name:		**Rebecca Hebert**	Prep Batch Number(s):	**V1X5543**					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]	
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**							
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?							
		Were all departures from standard conditions described in an exception report?		X					
R2	**OI**	**Sample and quality control (QC) identification**							
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X					
R3	**OI**	**Test reports**							
		Were samples prepared and analyzed within holding times?		X					
		Other than those results <MQL, were all other raw values bracketed by calibration standards?		X					
		Were calculations checked by a peer or supervisor?		X					
		Were all analyte identifications checked by a peer or supervisor?		X					
		Were sample detection limits reported for all analytes not detected?		X					
		Were all results for soil and sediment samples reported on a dry weight basis?				X			
		Were % moisture (or solids) reported for all soil and sediment samples?				X			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X			
		If required for the project, are TIC's reported?				X			
R4	**O**	**Surrogate recovery data**							
		Were surrogates added prior to extraction?				X			
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				X			
R5	**OI**	**Test reports/summary forms for blank samples**							
		Were appropriate type(s) of blanks analyzed?		X					
		Were blanks analyzed at the appropriate frequency?		X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X					
		Were blank concentrations <MQL?		X					
R6	**OI**	**Laboratory control samples (LCS):**							
		Were all COCs included in the LCS?				X			
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?				X			
		Were LCSs analyzed at required frequency?				X			
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?				X			
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X					
		Was the LCSD RPD within QC limits?				X			
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**							
		Were the project/method specified analytes included in the MS and MSD?				X			
		Were MS/MSD analyzed at the appropriate frequency?				X			
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?				X			
		Were the MS/MSD RPDs within laboratory QC limits?				X			
R8	**OI**	**Analytical duplicate data**							
		Were appropriate analytical duplicates analyzed for each matrix?		X					
		Were analytical duplicates analyzed at the appropriate frequency?		X					
		Were RPDs or relative standard deviations within the laboratory QC limits?		X					
R9	**OI**	**Method quantitation limits (MQLs):**							
		Are the MQLs for each method analyte included in the laboratory data package?		X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration		X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X					
R10	**OI**	**Other problems/anomalies**							
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X					
		Was applicable and available technology used to lower the SDL to minimize the		X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X					

Laboratory Name:		Accutest Lafayette	LRC Date:	2/14/2022				
Project Name:		DOWMIM: DOWMIM (Jacobs)	Laboratory Project Number:	TD78144				
Reviewer Name:		Rebecca Hebert	Prep Batch Number(s):	V1X5543				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?				X		
		Were ion abundance data within the method-required QC limits?				X		
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?				X		
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**2/14/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78144**
Reviewer Name:	**Rebecca Hebert**	Prep Batch Number(s):	**V1X5543**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD78144

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

V826012DCA ,

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V826012DCA	LAB USE ONLY
1	MW-CB-26A-20220127		1/27/2022	3:50:00 PM		AQ	2	2								X	2
2	MW-CB-28A-20220127		1/27/2022	4:00:00 PM		AQ	2	2								X	2
3	MW-CB-6BS-20220127		1/27/22	4:15:00 PM		AQ	2	2								X	2

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 2/7/2022

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS PM): / Date:

RUSH 4W

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Send 2-40ml voa vials with HCl to Lafayette. Report down to the MDL.
6 - 40ml Vials - HCL

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		2-8-22 1700	1 SS 24-22 0345	2 SS	2-9-22 0803	2 Dunarion Bruno
3	Relinquished:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal # Custody Seal	Intact / Not intact	Preserved where applicable

On Ice: ☑ Cooler Temp: 1.3 ID 462

6.1
6

MS Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD78144
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1X5543-MB2	1X01195228.D	1	02/09/22	JY	n/a	n/a	V1X5543

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78144-1, TD78144-2, TD78144-3

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	93%	75-130%
2037-26-5	Toluene-D8	95%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD78144
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1X5543-BS1	1X01195220.D	1	02/09/22	JY	n/a	n/a	V1X5543
V1X5543-BSD1	1X01195222.D	1	02/09/22	JY	n/a	n/a	V1X5543

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78144-1, TD78144-2, TD78144-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.5	103	20.2	101	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	107%	106%	75-130%
2037-26-5	Toluene-D8	101%	96%	85-110%
460-00-4	4-Bromofluorobenzene	100%	98%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD78144
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD78144-3MS	1X01195270.D	500	02/10/22	JY	n/a	n/a	V1X5543
TD78144-3MSD	1X01195272.D	500	02/10/22	JY	n/a	n/a	V1X5543
TD78144-3	1X01195236.D	1	02/10/22	JY	n/a	n/a	V1X5543

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78144-1, TD78144-2, TD78144-3

CAS No.	Compound	TD78144-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.5		10000	10600	106	10000	10800	108	2	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	TD78144-3	Limits
17060-07-0	1,2-Dichloroethane-D4	103%	99%	92%	75-130%
2037-26-5	Toluene-D8	100%	102%	98%	85-110%
460-00-4	4-Bromofluorobenzene	102%	101%	101%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH/CBT0220M

SGS Job Number: TD78145

Sampling Date: 01/27/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: **28**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-21-40) AR (20-023-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2020-077)

Sections: 1 2 3 4 5 6 7

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: TD78145

DOWMIM (Jacobs)
Project No: CHARLIE BURCH/CBT0220M

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD78145-1	01/27/22	09:55		01/28/22	AQ	Ground Water	MW-CB-40-20220127
TD78145-2	01/27/22	10:15		01/28/22	AQ	Ground Water	TRW-CB-1-20220127
TD78145-3	01/27/22	10:30		01/28/22	AQ	Ground Water	EAB-MW-03-20220127
TD78145-4	01/27/22	00:00		01/28/22	AQ	Ground Water	DUP-01

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	TD78145
Site:	DOWMIM (Jacobs)	**Report Date**	2/21/2022 1:09:42 PM

4 Samples were collected on 01/27/2022 and received intact at SGS North America Inc (SGS) on 01/28/2022 and properly preserved in 1 cooler at 1.6 Deg C. The samples received an SGS job number of TD78145. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** L:V2X5543

- All data for batch L:MS8914 was analyzed at SGS North America Inc. - Scott, LA.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	SGS Houston, TX	**Job No**	TD78145
Site:	DOWMIM: DOWMIM (Jacobs)	**Report Date**	2/18/2022 3:48:28 PM

4 samples, 0 trip blanks and 0 field blanks were collected on 01/27/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 01/28/2022, properly preserved and cool at 1.50 Deg C. These samples received an SGS job number of TD78145. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V2X5543

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: TD78145
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 01/27/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD78145-1	**MW-CB-40-20220127**					
1,2-Dichloroethane [a]		0.0016	0.0010	0.00041	mg/l	SW846 8260B
TD78145-2	**TRW-CB-1-20220127**					
1,2-Dichloroethane [a]		0.0083	0.0010	0.00041	mg/l	SW846 8260B
TD78145-3	**EAB-MW-03-20220127**					
1,2-Dichloroethane [a]		0.0107	0.0010	0.00041	mg/l	SW846 8260B
TD78145-4	**DUP-01**					
1,2-Dichloroethane [a]		0.0108	0.0010	0.00041	mg/l	SW846 8260B

(a) Analysis performed at SGS Scott, LA.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-CB-40-20220127		
Lab Sample ID:	TD78145-1	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195229.D	1	02/09/22 23:13	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0016	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	98%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRW-CB-1-20220127		
Lab Sample ID:	TD78145-2	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195231.D	1	02/09/22 23:43	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0083	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	97%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EAB-MW-03-20220127		
Lab Sample ID:	TD78145-3	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195233.D	1	02/10/22 00:14	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0107	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		75-130%
2037-26-5	Toluene-D8	97%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01		
Lab Sample ID:	TD78145-4	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195235.D	1	02/10/22 00:44	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0108	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	98%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form
- LRC Form (SGS Scott, LA)

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.accutest.com

FED-EX Tracking #:
Bottle Order Control #:
SGS Accutest Quote #:
SGS Accutest Job #: TD78145

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd
City: Houston State: TX Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): ATF HANZ Phone #: 8324199610

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: Spring State: TX
Project #: CharlieBurch CBT022DM
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlain
Attention:

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: State: Zip:
Attention:

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Accutest Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAc/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	Na2SO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	LAB USE ONLY
1	MW-CB-90-20220127	1/27/22	9:55	AH	GW	3	X												X	
2	TRW-CB-1-20220127	1/27/22	10:15	AH	GW	3	X												X	
3	EAB-MW-03-20220127	1/27/22	10:30	AH	GW	3	X												X	
4	DUP-01	1/27/22	—	AH	GW	3	X												X	

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day RUSH
- [ ] 4 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [x] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form SM021-0

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	ATF HANZ	1/28/22 15:45	1 LORA PAMMER	1/28/22 15:45	2	None 1/27	2 Amira	1/29/22 17:37
3	Relinquished by Sampler:	Date Time:	Received By: 3	Date Time:	Relinquished By: 4	Date Time:	Received By: 4	Date Time:
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice / Cooler Temp. 1.6 °C

SGS Sample Receipt Summary

Job Number: TD78145 **Client:** JACOBS **Project:** CHARLIE BURCH

Date / Time Received: 1/28/2022 5:17:00 PM **Delv Method:** CLIENT **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-9; **Temp Adjustment Factor:** 0.1;

Cooler Temps (Initial/Adjusted): #1: (1.5/1.6);

Test Strip Lot #s: **pH 1-12:** 10D0391 **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Type Of TB Received	W	or	S	N/A
	☐		☐	☐

Misc. Information

Number of terracores: 0 Number of Lab Filtered Metals: 0

Number of 5035 Field Kits: 0

Residual Chlorine Test Strip Lot #:

Comments

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
14. % Solids Jar received?	☐		☐	☑
15. Residual Chlorine Present?	☐		☐	☑

Sample Receipt Log

Job #: TD78145 **Date / Time Received:** 1/28/2022 5:17:00 PM **Initials:** MAURICIM

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD78145-1	40ml	1	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-1	40ml	2	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-1	40ml	3	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-2	40ml	1	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-2	40ml	2	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-2	40ml	3	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-3	40ml	1	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-3	40ml	2	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-3	40ml	3	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-4	40ml	1	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-4	40ml	2	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78145-4	40ml	3	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6

Appendix A Laboratory Data Package Cover Page

TD78145 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	2/21/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**2/21/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78145**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?			X		
		Were blanks analyzed at the appropriate frequency?			X		
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?			X		
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?			X		
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?			X		
		Were LCSs analyzed at required frequency?			X		
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			X		
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?			X		
		Were the MS/MSD RPDs within laboratory QC limits?			X		
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Gulf Coast	LRC Date:	2/21/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD78145				
Reviewer Name:		Electa Brown	Prep Batch Number(s):					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**2/21/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78145**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is no included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

TD78145 This data package consists of

□ □	This signature page, the laboratory review checklist, and the following reportable data:		
□ □	R1	Field chain-of-custody documentation;	
□ □	R2	Sample identification cross-reference;	
□ □	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
□ □	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
□ □	R5	Test reports/summary forms for blank samples;	
□ □	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
□ □	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
□ □	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
□ □	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
□ □	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	Laboratory Director	2/18/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:		**Accutest Lafayette**	LRC Date:	**2/18/2022**					
Project Name:		**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78145**					
Reviewer Name:		**Rebecca Hebert**	Prep Batch Number(s):	**V2X5543**					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]	
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**							
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?							
		Were all departures from standard conditions described in an exception report?		X					
R2	**OI**	**Sample and quality control (QC) identification**							
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X					
R3	**OI**	**Test reports**							
		Were samples prepared and analyzed within holding times?		X					
		Other than those results <MQL, were all other raw values bracketed by calibration standards?		X					
		Were calculations checked by a peer or supervisor?		X					
		Were all analyte identifications checked by a peer or supervisor?		X					
		Were sample detection limits reported for all analytes not detected?		X					
		Were all results for soil and sediment samples reported on a dry weight basis?				X			
		Were % moisture (or solids) reported for all soil and sediment samples?				X			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X			
		If required for the project, are TIC's reported?				X			
R4	**O**	**Surrogate recovery data**							
		Were surrogates added prior to extraction?				X			
		Were surrogate percent recoveries in all samples within the laboratory QC limits?				X			
R5	**OI**	**Test reports/summary forms for blank samples**							
		Were appropriate type(s) of blanks analyzed?		X					
		Were blanks analyzed at the appropriate frequency?		X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X					
		Were blank concentrations <MQL?		X					
R6	**OI**	**Laboratory control samples (LCS):**							
		Were all COCs included in the LCS?				X			
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?				X			
		Were LCSs analyzed at required frequency?				X			
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?				X			
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X					
		Was the LCSD RPD within QC limits?				X			
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**							
		Were the project/method specified analytes included in the MS and MSD?				X			
		Were MS/MSD analyzed at the appropriate frequency?				X			
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?				X			
		Were the MS/MSD RPDs within laboratory QC limits?				X			
R8	**OI**	**Analytical duplicate data**							
		Were appropriate analytical duplicates analyzed for each matrix?		X					
		Were analytical duplicates analyzed at the appropriate frequency?		X					
		Were RPDs or relative standard deviations within the laboratory QC limits?		X					
R9	**OI**	**Method quantitation limits (MQLs):**							
		Are the MQLs for each method analyte included in the laboratory data package?		X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration		X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X					
R10	**OI**	**Other problems/anomalies**							
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X					
		Was applicable and available technology used to lower the SDL to minimize the		X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X					

Laboratory Name:		Accutest Lafayette	LRC Date:	2/18/2022				
Project Name:		DOWMIM: DOWMIM (Jacobs)	Laboratory Project Number:	TD78145				
Reviewer Name:		Rebecca Hebert	Prep Batch Number(s):	V2X5543				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		x				
		Were ion abundance data within the method-required QC limits?		x				
S4	O	**Internal standards (IS)**		x				
		Were IS area counts and retention times within the method-required QC limits?						
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**2/18/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78145**
Reviewer Name:	**Rebecca Hebert**	Prep Batch Number(s):	**V2X5543**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS
10165 Harwin Drive, Houston, TX 77036
TEL 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking # | Bottle Order Control #
SGS Quote # | SGS Job # TD78145

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

V826012DCA ,

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
1	MW-CB-40-20220127		1/27/2022	9:55:00 AM		AQ	2	2								2
2	TRW-CB-1-20220127		1/27/2022	10:15:00 AM		AQ	2	2								2
3	EAB-MW-03-20220127		1/27/22	10:30:00 AM		AQ	2	2								2
4	DUP-01		1/27/22	12:00:00 AM		AQ	2	2								2

V826012DCA: X for all four samples

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 2/7/2022

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS PM): / Date: RPS 1/27 (W)

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Send 2-40ml voa vials with HCl to Lafayette. Report down to the MDL.
8 - 40ml Vials

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by: 1	Date Time: 2-8-22 1700	Received By: 1 SS 2-9-22 0345	Relinquished By: 2 SS	Date Time: 2-9-22 0803	Received By: 2 Damarion Bruno
Relinquished: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # Custody Seal	Intact / Not intact	Preserved where applicable: ☐ On Ice: ☑ Cooler Temp. 1.3 IP 4.6Z

6.1 6

TD78145: Chain of Custody
Page 1 of 1
SGS Scott, LA

MS Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD78145
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2X5543-MB2	2X01195227.D	1	02/09/22	JY	n/a	n/a	V2X5543

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78145-1, TD78145-2, TD78145-3, TD78145-4

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	96%	75-130%
2037-26-5	Toluene-D8	97%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD78145
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2X5543-BS1	2X01195221.D	1	02/09/22	JY	n/a	n/a	V2X5543
V2X5543-BSD1	2X01195223.D	1	02/09/22	JY	n/a	n/a	V2X5543

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78145-1, TD78145-2, TD78145-3, TD78145-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.9	105	21.8	109	4	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	99%	98%	75-130%
2037-26-5	Toluene-D8	100%	99%	85-110%
460-00-4	4-Bromofluorobenzene	102%	102%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH/CBT0220M

SGS Job Number: TD78146

Sampling Dates: 01/27/22 - 01/28/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 31

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-21-40) AR (20-023-0) AZ (AZ0769) FL (E87628)
KS (E-10366) LA (85695/04004) NJ (TX010) OK (2020-077)

Sections: 1 2 3 4 5 6 7

Table of Contents

Sample Summary

Dow Chemical Company

Job No: TD78146

DOWMIM (Jacobs)
Project No: CHARLIE BURCH/CBT0220M

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD78146-1	01/27/22	15:20		01/28/22	AQ	Ground Water	RDP-5-20220127
TD78146-2	01/27/22	14:30		01/28/22	AQ	Ground Water	RDP-3-20220127
TD78146-3	01/28/22	10:30		01/28/22	AQ	Ground Water	DMW-08B-20220128
TD78146-4	01/27/22	14:20		01/28/22	AQ	Ground Water	MW-CB-2B-20220127
TD78146-4D	01/27/22	14:20		01/28/22	AQ	Water Dup/MSD	MW-CB-2B-20220127
TD78146-4S	01/27/22	14:20		01/28/22	AQ	Water Matrix Spike	MW-CB-2B-20220127
TD78146-5	01/28/22	10:35		01/28/22	AQ	Ground Water	MW-CB-6B-20220128
TD78146-6	01/27/22	00:00		01/28/22	AQ	Ground Water	DUP-02-20220127

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	TD78146
Site:	DOWMIM (Jacobs)	**Report Date**	2/23/2022 5:19:26 PM

6 Samples were collected on between 01/27/2022 and 01/28/2022 and received intact at SGS North America Inc (SGS) on 01/28/2022 and properly preserved in 1 cooler at 1.6 Deg C. The samples received an SGS job number of TD78146. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** L:V2X5543

- All data for batch L:MS8914 was analyzed at SGS North America Inc. - Scott, LA.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	SGS Houston, TX	**Job No**	TD78146
Site:	DOWMIM: DOWMIM (Jacobs)	**Report Date**	2/21/2022 12:46:19 P

6 samples, 0 trip blanks and 0 field blanks were collected on between 01/27/2022 and 01/28/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 01/28/2022, properly preserved and cool at 1.5 Deg C. These samples received an SGS job number of TD78146. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** V2X5543

- All method blanks for this batch meet method specific criteria.
- The following samples were run outside of holding time for method SW846 8260B: TD78146-6

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: TD78146
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 01/27/22 thru 01/28/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD78146-1	**RDP-5-20220127**					
1,2-Dichloroethane [a]		0.0081	0.0010	0.00041	mg/l	SW846 8260B
TD78146-2	**RDP-3-20220127**					
1,2-Dichloroethane [a]		0.0222	0.0010	0.00041	mg/l	SW846 8260B
TD78146-3	**DMW-08B-20220128**					
1,2-Dichloroethane [a]		0.0021	0.0010	0.00041	mg/l	SW846 8260B
TD78146-4	**MW-CB-2B-20220127**					
No hits reported in this sample.						
TD78146-5	**MW-CB-6B-20220128**					
No hits reported in this sample.						
TD78146-6	**DUP-02-20220127**					
1,2-Dichloroethane [a]		0.0228	0.0010	0.00041	mg/l	SW846 8260B

(a) Analysis performed at SGS Scott, LA.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RDP-5-20220127		
Lab Sample ID:	TD78146-1	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195237.D	1	02/10/22 01:14	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0081	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RDP-3-20220127		
Lab Sample ID:	TD78146-2	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195239.D	1	02/10/22 01:45	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0222	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DMW-08B-20220128		
Lab Sample ID:	TD78146-3	**Date Sampled:**	01/28/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195241.D	1	02/10/22 02:16	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0021	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-2B-20220127		
Lab Sample ID:	TD78146-4	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195243.D	1	02/10/22 02:46	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		75-130%
2037-26-5	Toluene-D8	98%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-6B-20220128		
Lab Sample ID:	TD78146-5	**Date Sampled:**	01/28/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195245.D	1	02/10/22 03:16	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-02-20220127		
Lab Sample ID:	TD78146-6	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195247.D	1	02/10/22 03:45	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0228	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form
- LRC Form (SGS Scott, LA)

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.accutest.com

FED-EX Tracking #:
Bottle Order Control #:
SGS Accutest Quote #:
SGS Accutest Job #: TD78146

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd
City: Houston State: TX Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Alf Hantz (832)491-9610 Phone #:

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: Spring State: TX
Project #: CBTO220M
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlan

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: HOUSTON State: TX Zip:
Attention:

Requested Analyses

SGS Accutest Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	MS/MSD	LAB USE ONLY
1	RDP-5-20220127	1.27.22	15:20	AH	GW	3													X		
2	RDP-3-20220127	1.27.22	14:30	AH	GW	3													X		
3	PMW-08B-20220128	1.28.22	10:30	AH	GW	3													X		
4	MW-CB-2B-20220127	1.27.22	14:20	AH	GW	9													X	X	
5	MW-CB-6B-20220128	1.28.22	10:35	AH	GW	3													X		
6	Dup-02-20220127	1.27.22	—	AH	GW	3													X		

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM25283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	Alf Hantz	1/28/22 15:45	1 Lorena Ramirez	1/28/22 15:45	2 [illegible]	1/28/22 17:17	2 [illegible]	1/28/22 17:17
3	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
5	Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice / Cooler Temp.
			3		4		4	
			5					1.6°C

TD78146: Chain of Custody
Page 1 of 4

SGS Sample Receipt Summary

Job Number: TD78146 **Client:** JACOBS **Project:** CHARLIE BURCH

Date / Time Received: 1/28/2022 5:17:00 PM **Delv Method:** CLIENT **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-9; **Temp Adjustment Factor:** 0.1;

Cooler Temps (Initial/Adjusted): #1: (1.5/1.6);

Test Strip Lot #s: **pH 1-12:** 10D0391 **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Type Of TB Received	W	or	S	N/A
	☐		☐	☐

Misc. Information

Number of terracores: 0 Number of Lab Filtered Metals: 0

Number of 5035 Field Kits: 0

Residual Chlorine Test Strip Lot #:

Comments

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
14. % Solids Jar received?	☐		☐	☑
15. Residual Chlorine Present?	☐		☐	☑

Sample Receipt Log

Job #: TD78146 **Date / Time Received:** 1/28/2022 5:17:00 PM **Initials:** MAURICIM

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD78146-1	40ml	1	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-1	40ml	2	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-1	40ml	3	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-2	40ml	1	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-2	40ml	2	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-2	40ml	3	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-3	40ml	1	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-3	40ml	2	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-3	40ml	3	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-4	40ml	1	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-4	40ml	2	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-4	40ml	3	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-4	40ml	4	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-4	40ml	5	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-4	40ml	6	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-4	40ml	7	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-4	40ml	8	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-4	40ml	9	VR202	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-5	40ml	1	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-5	40ml	2	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-5	40ml	3	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-6	40ml	1	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6
1	TD78146-6	40ml	2	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6

Sample Receipt Log

Job #: TD78146 **Date / Time Received:** 1/28/2022 5:17:00 PM **Initials:** MAURICIM

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD78146-6	40ml	3	VR252	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	1.5	0.1	1.6

Appendix A Laboratory Data Package Cover Page

TD78146 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	2/23/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**2/23/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78146**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?			X		
		Were blanks analyzed at the appropriate frequency?			X		
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?			X		
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?			X		
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?			X		
		Were LCSs analyzed at required frequency?			X		
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			X		
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?			X		
		Were the MS/MSD RPDs within laboratory QC limits?			X		
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Gulf Coast	LRC Date:	2/23/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD78146				
Reviewer Name:		Electa Brown	Prep Batch Number(s):					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**2/23/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78146**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is no included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

TD78146 This data package consists of

□□□ This signature page, the laboratory review checklist, and the following reportable data:

□□□ R1 Field chain-of-custody documentation;

□□□ R2 Sample identification cross-reference;

□□□ R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) cleanup methods, and
- e) if required for the project, tentatively identified compounds (TICs).

□□□ R4 Surrogate recovery data including:

- a) Calculated recovery (%R), and
- b) The laboratory's surrogate QC limits.

□□□ R5 Test reports/summary forms for blank samples;

□□□ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amounts,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

□□□ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and
- d) Calculated %Rs and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

□□□ R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) The amount of analyte measured in the duplicate,
- b) The calculated RPD, and
- c) The laboratory's QC limits for analytical duplicates.

□□□ R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method

□□□ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin		Laboratory Director	2/21/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**2/21/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78146**
Reviewer Name:	**Penny Cormier**	Prep Batch Number(s):	**V2X5543**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?			X		
		Were the MS/MSD RPDs within laboratory QC limits?			X		
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	2/21/2022				
Project Name:		DOWMIM: DOWMIM (Jacobs)	Laboratory Project Number:	TD78146				
Reviewer Name:		Penny Cormier	Prep Batch Number(s):	V2X5543				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**2/21/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78146**
Reviewer Name:	**Penny Cormier**	Prep Batch Number(s):	**V2X5543**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS
10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD78146

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

V826012DCA ,

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
1	RDP-5-20220127		1/27/2022	3:20:00 PM		AQ	2	2								2
2	RDP-3-20220127		1/27/2022	2:30:00 PM		AQ	2	2								2
3	DMW-08B-20220128		1/28/22	10:30:00 AM		AQ	2	2								2
4	MW-CB-2B-20220127		1/27/22	2:20:00 PM		AQ	2	2								2
4D	MW-CB-2B-20220127		1/27/22	2:20:00 PM		AQ	2	2								2
4S	MW-CB-2B-20220127		1/27/22	2:20:00 PM		AQ	2	2								2
5	MW-CB-6B-20220128		1/28/22	10:35:00 AM		AQ	2	2								2
6	DUP-02-20220127		1/27/22	12:00:00 AM		AQ	2	2								2

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 2/7/2022

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS PM): / Date:

SL 7/4

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Send 2-40ml voa vials with HCl to Lafayette. Report down to the MDL.
16 - 40ml Vials - HCL

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		1100 2-3-22	SS 2-9-22 0345	SS	2-9-22 0803	Denarion Brand
2						
3						
4						
5						

Custody Seal #: CUSTODY SEAL [ ] Intact [ ] Not intact
Preserved where applicable [ ]
On Ice: [✓] Cooler Temp: 1.3 1D 1462

MS Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD78146
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2X5543-MB2	2X01195227.D	1	02/09/22	JY	n/a	n/a	V2X5543

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78146-1, TD78146-2, TD78146-3, TD78146-4, TD78146-5, TD78146-6

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	96%	75-130%
2037-26-5	Toluene-D8	97%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD78146
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2X5543-BS1	2X01195221.D	1	02/09/22	JY	n/a	n/a	V2X5543
V2X5543-BSD1	2X01195223.D	1	02/09/22	JY	n/a	n/a	V2X5543

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78146-1, TD78146-2, TD78146-3, TD78146-4, TD78146-5, TD78146-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.9	105	21.8	109	4	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	99%	98%	75-130%
2037-26-5	Toluene-D8	100%	99%	85-110%
460-00-4	4-Bromofluorobenzene	102%	102%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH/CBT0220M

SGS Job Number: TD78150

Sampling Dates: 01/27/22 - 01/28/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 47

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-21-40) AR (20-023-0) AZ (AZ0769) FL (E87628)
KS (E-10366) LA (85695/04004) NJ (TX010) OK (2020-077)

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Table of Contents

SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: TD78150

DOWMIM (Jacobs)
Project No: CHARLIE BURCH/CBT0220M

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD78150-1	01/27/22	12:20		01/28/22	AQ	Ground Water	RW-CB-2-20220127
TD78150-2	01/27/22	12:35		01/28/22	AQ	Ground Water	RW-CB-2R-20220127
TD78150-3	01/27/22	12:30		01/28/22	AQ	Ground Water	RW-CB-4-20220127
TD78150-4	01/27/22	13:10		01/28/22	AQ	Ground Water	MW-CB-1A-20220127
TD78150-5	01/27/22	13:00		01/28/22	AQ	Ground Water	MW-CB-1B-20220127
TD78150-6	01/27/22	12:50		01/28/22	AQ	Ground Water	MW-CB-1BS-20220127
TD78150-7	01/27/22	14:00		01/28/22	AQ	Ground Water	MW-CB-2A-20220127
TD78150-8	01/27/22	12:00		01/28/22	AQ	Ground Water	MW-CB-4-20220127
TD78150-9	01/27/22	13:50		01/28/22	AQ	Ground Water	MW-CB-5A-20220127
TD78150-10	01/27/22	10:50		01/28/22	AQ	Ground Water	MW-CB-7B-20220127
TD78150-11	01/28/22	13:30		01/28/22	AQ	Ground Water	AZG1-39-44-20220128
TD78150-12	01/28/22	13:25		01/28/22	AQ	Ground Water	AZG1-63-68-20220128
TD78150-13	01/28/22	14:20		01/28/22	AQ	Ground Water	AZG2-40-45-20220128

Sample Summary
(continued)

Dow Chemical Company

Job No: TD78150

DOWMIM (Jacobs)
Project No: CHARLIE BURCH/CBT0220M

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD78150-14	01/28/22	14:50		01/28/22	AQ	Ground Water	AZG2-59-64-20220128
TD78150-15	01/28/22	11:30		01/28/22	AQ	Ground Water	MW-CB-12AD-20220128
TD78150-16	01/28/22	11:10		01/28/22	AQ	Ground Water	MW-CB-8AD-20220128
TD78150-17	01/28/22	00:00		01/28/22	AQ	Trip Blank Water	TRIP BLANK
TD78150-18	01/28/22	00:00		01/28/22	AQ	Ground Water	DUP-03

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Dow Chemical Company **Job No:** TD78150

Site: DOWMIM (Jacobs) **Report Date** 2/23/2022 5:26:08 PM

17 Samples were collected on between 01/27/2022 and 01/28/2022 and received intact at SGS North America Inc (SGS) on 01/28/2022 and properly preserved in 1 cooler at 1.6 Deg C. The samples received an SGS job number of TD78150. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** L:V1I3382

- All data for batch L:MS8914 was analyzed at SGS North America Inc. - Scott, LA.

Matrix: AQ **Batch ID:** L:V2I3377

- All data for batch L:MS8914 was analyzed at SGS North America Inc. - Scott, LA.

Matrix: AQ **Batch ID:** L:V2X5543

- All data for batch L:MS8914 was analyzed at SGS North America Inc. - Scott, LA.

Matrix: AQ **Batch ID:** L:V2X5544

- Sample(s) TD78150-12, TD78150-14 have compounds reported with “E” qualifiers indicating estimated value exceeding calibration range.
- All data for batch L:MS8914 was analyzed at SGS North America Inc. - Scott, LA.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS Houston, TX **Job No** TD78150

Site: DOWMIM: DOWMIM (Jacobs) **Report Date** 2/21/2022 12:44:15 P

17 samples, 1 trip blanks and 0 field blanks were collected on between 01/27/2022 and 01/28/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 01/28/2022, properly preserved and cool at 0.8 Deg C. These samples received an SGS job number of TD78150. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** V1I3382

- Sample(s) TD78206-1MS, TD78206-1MSD have surrogates outside control limits. Outside control limits due to matrix interference.
- TD78150-15: Sample analyzed beyond hold time. Confirmation run.
- TD78150-14: Sample re-analyzed outside hold time for confirmation. Compound results were similar.
- TD78150-13: Sample analyzed beyond hold time. Confirmation run.
- TD78150-12: Sample re-analyzed outside hold time for confirmation. Compound results were similar.

Matrix: AQ **Batch ID:** V2I3377

- Sample(s) TD78206-1MS, TD78206-1MSD have surrogates outside control limits. Outside control limits due to matrix interference.
- TD78150-10: Sample analyzed beyond hold time. Confirmation run.

Matrix: AQ **Batch ID:** V2X5543

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD78206-1MS, TD78206-1MSD have surrogates outside control limits. Outside control limits due to matrix interference.
- TD78150-10: Sample being reported outside 12 hours tune time. Sample re-analyzed outside hold time. Compound results were similar.

Matrix: AQ **Batch ID:** V2X5544

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD78150-18MS, TD78150-18MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD78150-12, TD78150-14 have compounds reported with “E” qualifiers indicating estimated value exceeding calibration range.
- Sample(s) TD78206-1MS, TD78206-1MSD have surrogates outside control limits. Outside control limits due to matrix interference.
- TD78150-14 for 1,2-Dichloroethane: Sample being reported with and E flag.
- TD78150-12 for 1,2-Dichloroethane: Sample being reported with an E flag.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: TD78150
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 01/27/22 thru 01/28/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD78150-1	**RW-CB-2-20220127**					
No hits reported in this sample.						
TD78150-2	**RW-CB-2R-20220127**					
1,2-Dichloroethane [a]		0.0020	0.0010	0.00041	mg/l	SW846 8260B
TD78150-3	**RW-CB-4-20220127**					
No hits reported in this sample.						
TD78150-4	**MW-CB-1A-20220127**					
1,2-Dichloroethane [a]		0.0066	0.0010	0.00041	mg/l	SW846 8260B
TD78150-5	**MW-CB-1B-20220127**					
1,2-Dichloroethane [a]		0.0202	0.0010	0.00041	mg/l	SW846 8260B
TD78150-6	**MW-CB-1BS-20220127**					
1,2-Dichloroethane [a]		0.0092	0.0010	0.00041	mg/l	SW846 8260B
TD78150-7	**MW-CB-2A-20220127**					
No hits reported in this sample.						
TD78150-8	**MW-CB-4-20220127**					
No hits reported in this sample.						
TD78150-9	**MW-CB-5A-20220127**					
No hits reported in this sample.						
TD78150-10	**MW-CB-7B-20220127**					
No hits reported in this sample.						
TD78150-11	**AZG1-39-44-20220128**					
1,2-Dichloroethane [a]		0.0401	0.0010	0.00041	mg/l	SW846 8260B

Summary of Hits

Job Number: TD78150
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 01/27/22 thru 01/28/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD78150-12	**AZG1-63-68-20220128**					
1,2-Dichloroethane [b]		0.635 E	0.0010	0.00041	mg/l	SW846 8260B
TD78150-13	**AZG2-40-45-20220128**					
1,2-Dichloroethane [a]		0.0055	0.0010	0.00041	mg/l	SW846 8260B
TD78150-14	**AZG2-59-64-20220128**					
1,2-Dichloroethane [c]		0.718 E	0.0010	0.00041	mg/l	SW846 8260B
TD78150-15	**MW-CB-12AD-20220128**					
1,2-Dichloroethane [a]		0.0112	0.0010	0.00041	mg/l	SW846 8260B
TD78150-16	**MW-CB-8AD-20220128**					
1,2-Dichloroethane [a]		0.0171	0.0010	0.00041	mg/l	SW846 8260B
TD78150-17	**TRIP BLANK**					
No hits reported in this sample.						
TD78150-18	**DUP-03**					
1,2-Dichloroethane [a]		0.0131	0.0010	0.00041	mg/l	SW846 8260B

(a) Analysis performed at SGS Scott, LA.
(b) Analysis performed at SGS Scott, LA. Sample being reported with an E flag.
(c) Analysis performed at SGS Scott, LA. Sample being reported with and E flag.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RW-CB-2-20220127		
Lab Sample ID:	TD78150-1	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195249.D	1	02/10/22 04:16	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		75-130%
2037-26-5	Toluene-D8	98%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-2R-20220127		
Lab Sample ID:	TD78150-2	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195251.D	1	02/10/22 04:46	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0020	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	94%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-4-20220127		
Lab Sample ID:	TD78150-3	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195253.D	1	02/10/22 05:17	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	104%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1A-20220127		
Lab Sample ID:	TD78150-4	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195255.D	1	02/10/22 05:48	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0066	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1B-20220127		
Lab Sample ID:	TD78150-5	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195257.D	1	02/10/22 06:18	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0202	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1BS-20220127		
Lab Sample ID:	TD78150-6	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195259.D	1	02/10/22 06:49	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0092	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-2A-20220127		
Lab Sample ID:	TD78150-7	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195261.D	1	02/10/22 07:19	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	97%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-4-20220127		
Lab Sample ID:	TD78150-8	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195263.D	1	02/10/22 07:50	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-5A-20220127		
Lab Sample ID:	TD78150-9	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195265.D	1	02/10/22 08:20	ALA	n/a	n/a	L:V2X5543
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	98%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-7B-20220127		
Lab Sample ID:	TD78150-10	**Date Sampled:**	01/27/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195267.D	1	02/10/22 08:50	ALA	n/a	n/a	L:V2X5543
Run #2 [b]	2I094315.D	1	02/12/22 17:26	ALA	n/a	n/a	L:V2I3377

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%	92%	75-130%
2037-26-5	Toluene-D8	99%	100%	85-110%
460-00-4	4-Bromofluorobenzene	102%	102%	86-115%

(a) Sample being reported outside 12 hours tune time. Sample re-analyzed outside hold time. Compound results were similar. Analysis performed at SGS Scott, LA.
(b) Sample analyzed beyond hold time. Confirmation run. Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG1-39-44-20220128		
Lab Sample ID:	TD78150-11	**Date Sampled:**	01/28/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195321.D	1	02/10/22 22:27	ALA	n/a	n/a	L:V2X5544
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0401	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG1-63-68-20220128		
Lab Sample ID:	TD78150-12	**Date Sampled:**	01/28/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195307.D	1	02/10/22 18:54	ALA	n/a	n/a	L:V2X5544
Run #2 [b]	1I094485.D	5	02/15/22 22:46	ALA	n/a	n/a	L:V1I3382

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane [c]	0.635	0.0010	0.00041	mg/l	E

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%	97%	75-130%
2037-26-5	Toluene-D8	100%	105%	85-110%
460-00-4	4-Bromofluorobenzene	104%	104%	86-115%

(a) Analysis performed at SGS Scott, LA.
(b) Sample re-analyzed outside hold time for confirmation. Compound results were similar. Analysis performed at SGS Scott, LA.
(c) Sample being reported with an E flag.

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG2-40-45-20220128		
Lab Sample ID:	TD78150-13	**Date Sampled:**	01/28/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195309.D	1	02/10/22 19:25	ALA	n/a	n/a	L:V2X5544
Run #2 [b]	1I094481.D	1	02/15/22 21:57	ALA	n/a	n/a	L:V1I3382

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0055	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%	95%	75-130%
2037-26-5	Toluene-D8	99%	101%	85-110%
460-00-4	4-Bromofluorobenzene	103%	103%	86-115%

(a) Analysis performed at SGS Scott, LA.
(b) Sample analyzed beyond hold time. Confirmation run. Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG2-59-64-20220128		
Lab Sample ID:	TD78150-14	**Date Sampled:**	01/28/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195311.D	1	02/10/22 19:55	ALA	n/a	n/a	L:V2X5544
Run #2 [b]	1I094487.D	5	02/15/22 23:10	ALA	n/a	n/a	L:V1I3382

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane [c]	0.718	0.0010	0.00041	mg/l	E

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	102%	97%	75-130%
2037-26-5	Toluene-D8	101%	105%	85-110%
460-00-4	4-Bromofluorobenzene	104%	104%	86-115%

(a) Analysis performed at SGS Scott, LA.
(b) Sample re-analyzed outside hold time for confirmation. Compound results were similar. Analysis performed at SGS Scott, LA.
(c) Sample being reported with and E flag.

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-12AD-20220128		
Lab Sample ID:	TD78150-15	**Date Sampled:**	01/28/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195313.D	1	02/10/22 20:26	ALA	n/a	n/a	L:V2X5544
Run #2 [b]	1I094483.D	1	02/15/22 22:21	ALA	n/a	n/a	L:V1I3382

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0112	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%	101%	75-130%
2037-26-5	Toluene-D8	100%	103%	85-110%
460-00-4	4-Bromofluorobenzene	103%	103%	86-115%

(a) Analysis performed at SGS Scott, LA.
(b) Sample analyzed beyond hold time. Confirmation run. Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-8AD-20220128		
Lab Sample ID:	TD78150-16	**Date Sampled:**	01/28/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195315.D	1	02/10/22 20:57	ALA	n/a	n/a	L:V2X5544
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0171	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	TD78150-17	**Date Sampled:**	01/28/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195295.D	1	02/10/22 15:53	ALA	n/a	n/a	L:V2X5544
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	98%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-03		
Lab Sample ID:	TD78150-18	**Date Sampled:**	01/28/22
Matrix:	AQ - Ground Water	**Date Received:**	01/28/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2X01195317.D	1	02/10/22 21:27	ALA	n/a	n/a	L:V2X5544
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0131	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	104%		86-115%

(a) Analysis performed at SGS Scott, LA.

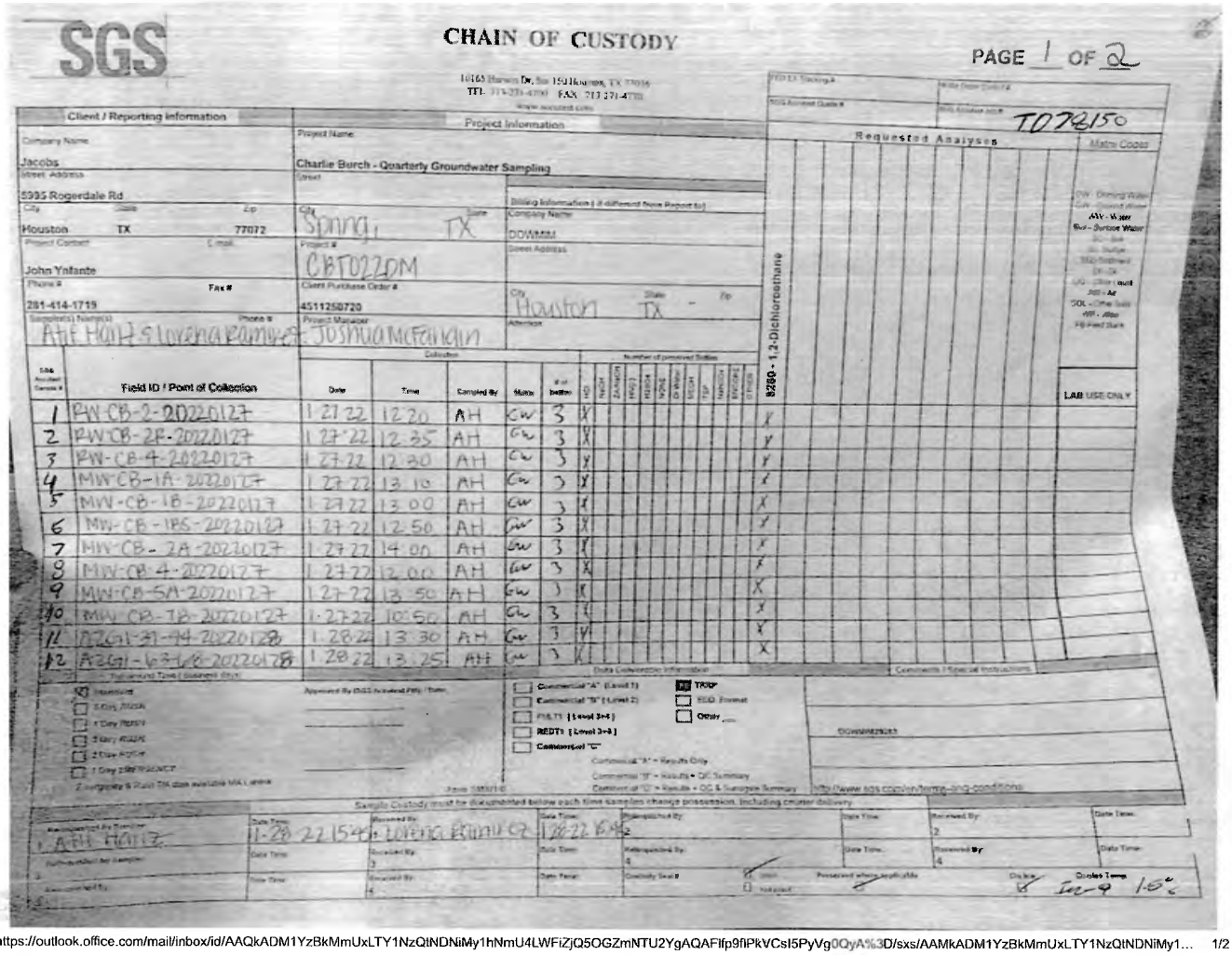
U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form
- LRC Form (SGS Scott, LA)



CHAIN OF CUSTODY

PAGE 1 OF 2

TD78150

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd
City: Houston State: TX Zip: 77072
Project Contact: John Yntante
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): AH, HOH, Slovena Ramos

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: Spring, State: TX
Project #: CBT0220M
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlin

Billing Information (if different from Report to)
Company Name: DOW/MM
Street Address:
City: Houston State: TX Zip:
Attention:

Requested Analyses

Matrix Codes

	Field ID / Point of Collection	Date	Time	Sampled By	Matrix	# of bottles	HCl	8260 - 1,2-Dichloroethane	LAB USE ONLY
1	PW-CB-2-20220127	1.27.22	12:20	AH	GW	3	X	X	
2	PW-CB-2R-20220127	1.27.22	12:35	AH	GW	3	X	X	
3	PW-CB-4-20220127	1.27.22	12:30	AH	GW	3	X	X	
4	MW-CB-1A-20220127	1.27.22	13:10	AH	GW	3	X	X	
5	MW-CB-1B-20220127	1.27.22	13:00	AH	GW	3	X	X	
6	MW-CB-1BS-20220127	1.27.22	12:50	AH	GW	3	X	X	
7	MW-CB-2A-20220127	1.27.22	14:00	AH	GW	3	X	X	
8	MW-CB-4-20220127	1.27.22	12:00	AH	GW	3	X	X	
9	MW-CB-5A-20220127	1.27.22	13:50	AH	GW	3	X	X	
10	MW-CB-7B-20220127	1.27.22	10:50	AH	GW	3	X	X	
11	A2G1-31-44-20220128	1.28.22	13:30	AH	GW	3	X	X	
12	A2G1-63-68-20220128	1.28.22	13:25	AH	GW	3	X	X	

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: AH, HOH Date Time: 1.28.22 15:45 Received By: Lovena Ramos

Relinquished By: Date Time: 1.28.22 16:45 Received By: 2

Relinquished By: 3 Date Time: Received By: 3

Relinquished By: 4 Date Time: Received By: 4

Custody Seal #: Intact

Preserved where applicable: On Ice: Y Cooler Temp: 1.6°C

TD78150: Chain of Custody
Page 1 of 2

SGS

CHAIN OF CUSTODY

PAGE 2 OF 2

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Accutest Quote #: | SDG Accutest Job #: TD78150

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd
City: Houston | State: TX | Zip: 77072
Project Contact: John Ynfante | E-mail:
Phone #: 281-414-1719 | Fax #:
Sampler(s) Name(s): Anf Hanz & Lorena Ramirez | Phone #:

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: Spring | State: TX
Project #: CBTO22DM
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: Houston | State: TX | Zip:
Attention:

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Accutest Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	LAB USE ONLY
13	AZG1241-45-20220128	1.28.22	14:20	AH	GW	3	X												X	
14	AZG2-59.64-20220128	1.28.22	1450	AH	GW	3	X												X	
15	MW-CB-12AD-20220128	1.28.22	11:30	AH	GW	3	X												X	
16	MW-CB-8AD-20220128	1.28.22	11:10	AH	GW	3	X												X	
17	TRIP BLANK	1.28.22	—	—	aq	2	X												X	
18	DUP - 03	1.28.22	—	AH	GW	3	X												X	

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labtink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [x] TRRP
- [ ] EDD Format
- [ ] Other ___

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form SM021-0

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1 Anf Hanz	1/28/22 15:45	1 Lorena Ramirez	1/28/22 15:45	2 Lorena Ramirez	1/28/22 17:17	2	1/28/22 17:17
Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
3		3		4		4	
Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice / Cooler Temp.
5		5					1.6c

Appendix A Laboratory Data Package Cover Page

TD78150 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	2/23/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**2/23/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78150**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?			X		
		Were blanks analyzed at the appropriate frequency?			X		
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?			X		
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?			X		
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?			X		
		Were LCSs analyzed at required frequency?			X		
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			X		
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?			X		
		Were the MS/MSD RPDs within laboratory QC limits?			X		
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Gulf Coast	LRC Date:	2/23/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD78150				
Reviewer Name:		Electa Brown	Prep Batch Number(s):					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**2/23/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78150**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is no included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

TD78150 This data package consists of

□□□ This signature page, the laboratory review checklist, and the following reportable data:

□□□ R1 Field chain-of-custody documentation;

□□□ R2 Sample identification cross-reference;

□□□ R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) cleanup methods, and
- e) if required for the project, tentatively identified compounds (TICs).

□□□ R4 Surrogate recovery data including:

- a) Calculated recovery (%R), and
- b) The laboratory's surrogate QC limits.

□□□ R5 Test reports/summary forms for blank samples;

□□□ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amounts,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

□□□ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and
- d) Calculated %Rs and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

□□□ R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) The amount of analyte measured in the duplicate,
- b) The calculated RPD, and
- c) The laboratory's QC limits for analytical duplicates.

□□□ R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method

□□□ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin		Laboratory Director	2/21/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**2/21/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78150**
Reviewer Name:	**Penny Cormier**	Prep Batch Number(s):	**V1I3382, V2I3377, V2X5543, V2X5544**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			**4**
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	2/21/2022				
Project Name:		DOWMIM: DOWMIM (Jacobs)	Laboratory Project Number:	TD78150				
Reviewer	Name:	Penny Cormier	Prep Batch Number(s):	V1I3382, V2I3377, V2X5543, V2X5544				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**2/21/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78150**
Reviewer Name:	**Penny Cormier**	Prep Batch Number(s):	**V1I3382, V2I3377, V2X5543, V2X5544**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.
4	All anomalies are discussed in the case narrative.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS
10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD78150

Client / Reporting Information

Company Name: SGS North America In.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

V826012DCA

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
1	RW-CB-2-20220127		1/27/22	12:20:00 PM		AQ	2	2								7
2	RW-CB-2R-20220127		1/27/22	12:35:00 PM		AQ	2	2								7
3	RW-CB-4-20220127		1/27/22	12:30:00 PM		AQ	2	2								7
4	MW-CB-1A-20220127		1/27/22	1:10:00 PM		AQ	2	2								7
5	MW-CB-1B-20220127		1/27/22	1:00:00 PM		AQ	2	2								7
6	MW-CB-1BS-20220127		1/27/22	12:50:00 PM		AQ	2	2								7
7	MW-CB-2A-20220127		1/27/22	2:00:00 PM		AQ	2	2								7
8	MW-CB-4-20220127		1/27/22	12:00:00 PM		AQ	2	2								7
9	MW-CB-5A-20220127		1/27/22	1:50:00 PM		AQ	2	2								7
10	MW-CB-7B-20220127		1/27/22	10:50:00 AM		AQ	2	2								7
11	AZG1-39-44-20220128		1/28/22	1:30:00 PM		AQ	2	2								7
12	AZG1-63-68-20220128		1/28/22	1:25:00 PM		AQ	2	2								7

X in V826012DCA column for all rows.

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 2/7/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Send 2-40ml voa vials with HCl to Lafayette. Report down to the MDL.
RRM-86 (VV)

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		2/8/22 17:0	1 SS 2-9-22 0345	2 SS	2-9-22 0803	2 Mike Reed
3	Relinquished:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal # Osta	Intact / Not intact	Preserved where applicable

On Ice | Cooler Temp: 0.6 DW62

CHAIN OF CUSTODY

10165 Harwin Drive, Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD78150

Client / Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	EnCore	V8260120CA ,	LAB USE ONLY
13	AZG2-40-45-20220128		1/28/22	2:20:00 PM		AQ	2	2								X	2
14	AZG2-59-64-20220128		1/28/22	2:50:00 PM		AQ	2	2								X	2
15	MW-CB-12AD-20220128		1/28/22	11:30:00 AM		AQ	2	2								X	2
16	MW-CB-8AD-20220128		1/28/22	11:10:00 AM		AQ	2	2								X	2
17	TRIP BLANK		1/28/22	12:00:00 AM		AQ	2	2								X	2
18	DUP-03		1/28/22	12:00:00 AM		AQ	2	2								X	2

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 2/7/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Send 2-40ml voa vials with HCl to Lafayette. Report down to the MDL.

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	[signature]	2/1/22	1 SS 2-1-22 0345	2 SS	2-1-22 0803	2 Mark Reed
3			3	4		4
5			5	Custody Seal # 8260	Intact / Not intact	Preserved where applicable: ☐ On Ice: ☐ Cooler Temp: 0.6 DUM2

MS Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD78150
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2X5543-MB2	2X01195227.D	1	02/09/22	JY	n/a	n/a	V2X5543

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78150-1, TD78150-2, TD78150-3, TD78150-4, TD78150-5, TD78150-6, TD78150-7, TD78150-8, TD78150-9, TD78150-10

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	96%	75-130%
2037-26-5	Toluene-D8	97%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Method Blank Summary

Job Number: TD78150
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2X5544-MB2	2X01195291.D	1	02/10/22	JY	n/a	n/a	V2X5544

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78150-11, TD78150-12, TD78150-13, TD78150-14, TD78150-15, TD78150-16, TD78150-17, TD78150-18

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	101%	75-130%
2037-26-5	Toluene-D8	97%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD78150
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2X5543-BS1	2X01195221.D	1	02/09/22	JY	n/a	n/a	V2X5543
V2X5543-BSD1	2X01195223.D	1	02/09/22	JY	n/a	n/a	V2X5543

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78150-1, TD78150-2, TD78150-3, TD78150-4, TD78150-5, TD78150-6, TD78150-7, TD78150-8, TD78150-9, TD78150-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.9	105	21.8	109	4	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	99%	98%	75-130%
2037-26-5	Toluene-D8	100%	99%	85-110%
460-00-4	4-Bromofluorobenzene	102%	102%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD78150
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2X5544-BS1	2X01195285.D	1	02/10/22	JY	n/a	n/a	V2X5544
V2X5544-BSD1	2X01195287.D	1	02/10/22	JY	n/a	n/a	V2X5544

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78150-11, TD78150-12, TD78150-13, TD78150-14, TD78150-15, TD78150-16, TD78150-17, TD78150-18

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	23.2	116	23.5	118	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	100%	102%	75-130%
2037-26-5	Toluene-D8	102%	97%	85-110%
460-00-4	4-Bromofluorobenzene	102%	102%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD78150
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD78150-18MS	2X01195333.D	200	02/11/22	JY	n/a	n/a	V2X5544
TD78150-18MSD	2X01195335.D	200	02/11/22	JY	n/a	n/a	V2X5544
TD78150-18	2X01195317.D	1	02/10/22	JY	n/a	n/a	V2X5544

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78150-11, TD78150-12, TD78150-13, TD78150-14, TD78150-15, TD78150-16, TD78150-17, TD78150-18

CAS No.	Compound	TD78150-18 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	13.1		4000	4370	109	4000	4690	117	7	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	TD78150-18	Limits
17060-07-0	1,2-Dichloroethane-D4	104%	105%	106%	75-130%
2037-26-5	Toluene-D8	99%	101%	101%	85-110%
460-00-4	4-Bromofluorobenzene	104%	103%	104%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH

SGS Job Number: TD78292

Sampling Date: 02/01/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 36

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-21-40) AR (20-023-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2020-077)

Sections: 1 2 3 4 5 6 7

Table of Contents

SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: TD78292

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD78292-1	02/01/22	10:25		02/02/22	AQ	Ground Water	AZG1-16-21-20220201
TD78292-2	02/01/22	11:00		02/02/22	AQ	Ground Water	AZG2-18-23-20220201
TD78292-3	02/01/22	12:50		02/02/22	AQ	Ground Water	AZG4-20-25-20220201
TD78292-4	02/01/22	12:55		02/02/22	AQ	Ground Water	AZG4-39-44-20220201
TD78292-5	02/01/22	13:45		02/02/22	AQ	Ground Water	AZG4-59-64-20220201
TD78292-6	02/01/22	11:40		02/02/22	AQ	Ground Water	AZG6-35-40-20220201
TD78292-7	02/01/22	11:30		02/02/22	AQ	Ground Water	AZG6-45-50-20220201
TD78292-7D	02/01/22	11:30		02/02/22	AQ	Water Dup/MSD	AZG6-45-50-20220201
TD78292-7S	02/01/22	11:30		02/02/22	AQ	Water Matrix Spike	AZG6-45-50-20220201
TD78292-8	02/01/22	12:10		02/02/22	AQ	Ground Water	AZG6-67-72-20220201
TD78292-9	02/01/22	08:00		02/02/22	AQ	Trip Blank Water	TB-01-20220201
TD78292-10	02/01/22	00:00		02/02/22	AQ	Water	DUP_01_20220201

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	TD78292
Site:	DOWMIM (Jacobs)	**Report Date**	2/24/2022 5:02:58 PM

9 Samples were collected on 02/01/2022 and received intact at SGS North America Inc (SGS) on 02/02/2022 and properly preserved in 1 cooler at 1 Deg C. The samples received an SGS job number of TD78292. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** L:V1X5549

- All data for batch L:MS8914 was analyzed at SGS North America Inc. - Scott, LA.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	SGS Houston, TX	**Job No**	TD78292
Site:	DOWMIM: DOWMIM (Jacobs)	**Report Date**	2/23/2022 8:01:36 AM

9 samples and 1 trip blank were collected on 02/01/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 02/02/2022, properly preserved and cool at 3 Deg C. These samples received an SGS job number of TD78292. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** V1X5549

- All method blanks for this batch meet method specific criteria.
- Sample(s) TD78292-7MS, TD78292-7MSD were used as the QC samples indicated.
- The following samples were run outside of holding time for method SW846 8260B: TD78292-1, TD78292-10, TD78292-2, TD78292-3, TD78292-4, TD78292-5, TD78292-6, TD78292-7, TD78292-8, TD78292-9
- V1X5549-BSD1: used expired ICV gases standard
- V1X5549-BS1: used expired ICV gases standard

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: TD78292
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 02/01/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD78292-1	**AZG1-16-21-20220201**					
1,2-Dichloroethane [a]		0.0036	0.0010	0.00041	mg/l	SW846 8260B
TD78292-2	**AZG2-18-23-20220201**					
1,2-Dichloroethane [a]		0.00041 J	0.0010	0.00041	mg/l	SW846 8260B
TD78292-3	**AZG4-20-25-20220201**					
1,2-Dichloroethane [a]		0.0030	0.0010	0.00041	mg/l	SW846 8260B
TD78292-4	**AZG4-39-44-20220201**					
1,2-Dichloroethane [a]		0.0158	0.0010	0.00041	mg/l	SW846 8260B
TD78292-5	**AZG4-59-64-20220201**					
1,2-Dichloroethane [a]		0.660	0.0050	0.0020	mg/l	SW846 8260B
TD78292-6	**AZG6-35-40-20220201**					
No hits reported in this sample.						
TD78292-7	**AZG6-45-50-20220201**					
1,2-Dichloroethane [a]		0.0524	0.0010	0.00041	mg/l	SW846 8260B
TD78292-8	**AZG6-67-72-20220201**					
1,2-Dichloroethane [a]		0.840	0.0050	0.0020	mg/l	SW846 8260B
TD78292-9	**TB-01-20220201**					
No hits reported in this sample.						
TD78292-10	**DUP_01_20220201**					
1,2-Dichloroethane [a]		0.0595	0.0010	0.00041	mg/l	SW846 8260B

(a) Analysis performed at SGS Scott, LA.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AZG1-16-21-20220201		
Lab Sample ID:	TD78292-1	**Date Sampled:**	02/01/22
Matrix:	AQ - Ground Water	**Date Received:**	02/02/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195533.D	1	02/15/22 18:38	ALA	n/a	n/a	L:V1X5549
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0036	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	112%		75-130%
2037-26-5	Toluene-D8	96%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG2-18-23-20220201		
Lab Sample ID:	TD78292-2	**Date Sampled:**	02/01/22
Matrix:	AQ - Ground Water	**Date Received:**	02/02/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195535.D	1	02/15/22 19:08	ALA	n/a	n/a	L:V1X5549
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041	0.0010	0.00041	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	94%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG4-20-25-20220201		
Lab Sample ID:	TD78292-3	**Date Sampled:**	02/01/22
Matrix:	AQ - Ground Water	**Date Received:**	02/02/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195537.D	1	02/15/22 19:38	ALA	n/a	n/a	L:V1X5549
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0030	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	92%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG4-39-44-20220201		
Lab Sample ID:	TD78292-4	**Date Sampled:**	02/01/22
Matrix:	AQ - Ground Water	**Date Received:**	02/02/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195539.D	1	02/15/22 20:09	ALA	n/a	n/a	L:V1X5549
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0158	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	115%		75-130%
2037-26-5	Toluene-D8	98%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG4-59-64-20220201		
Lab Sample ID:	TD78292-5	**Date Sampled:**	02/01/22
Matrix:	AQ - Ground Water	**Date Received:**	02/02/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195545.D	5	02/15/22 21:41	ALA	n/a	n/a	L:V1X5549
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.660	0.0050	0.0020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	116%		75-130%
2037-26-5	Toluene-D8	95%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG6-35-40-20220201		
Lab Sample ID:	TD78292-6	**Date Sampled:**	02/01/22
Matrix:	AQ - Ground Water	**Date Received:**	02/02/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195541.D	1	02/15/22 20:40	ALA	n/a	n/a	L:V1X5549
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	112%		75-130%
2037-26-5	Toluene-D8	95%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG6-45-50-20220201		
Lab Sample ID:	TD78292-7	**Date Sampled:**	02/01/22
Matrix:	AQ - Ground Water	**Date Received:**	02/02/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195543.D	1	02/15/22 21:10	ALA	n/a	n/a	L:V1X5549
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0524	0.0010	0.00041	mg/l	JL

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	114%		75-130%
2037-26-5	Toluene-D8	93%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG6-67-72-20220201		
Lab Sample ID:	TD78292-8	**Date Sampled:**	02/01/22
Matrix:	AQ - Ground Water	**Date Received:**	02/02/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195547.D	5	02/15/22 22:12	ALA	n/a	n/a	L:V1X5549
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.840	0.0050	0.0020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	115%		75-130%
2037-26-5	Toluene-D8	96%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-01-20220201		
Lab Sample ID:	TD78292-9	**Date Sampled:**	02/01/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	02/02/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195529.D	1	02/15/22 17:37	ALA	n/a	n/a	L:V1X5549
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	111%		75-130%
2037-26-5	Toluene-D8	96%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP_01_20220201		
Lab Sample ID:	TD78292-10	**Date Sampled:**	02/01/22
Matrix:	AQ - Water	**Date Received:**	02/02/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1X01195531.D	1	02/15/22 18:07	ALA	n/a	n/a	L:V1X5549
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0595	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	111%		75-130%
2037-26-5	Toluene-D8	95%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form
- LRC Form (SGS Scott, LA)

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Accutest Quote #: | SGS Accutest Job #: TD78292

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd
City: Houston | State: TX | Zip: 77072
Project Contact: John Ynfante | E-mail:
Phone #: 281-414-1719 | Fax #:
Sampler(s) Name(s): AHF Hoxm 8326199610 | Phone #:

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: | State:
Project #:
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: | State: | Zip:
Attention:

Requested Analyses

8260 - 1,2-Dichloroethane

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank

SGS Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAc+NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TBP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane									LAB USE ONLY
1	AZ61-16-21-20220201	2/1/22	1025	MM	GW	3	X												X									
2	AZ62-18-23-20220201	2/1/22	1105	AH	GW	3	X												X									
3	AZ64-20-25-20220201	2/1/22	1250	MM	GW	3	X												X									
4	AZ64-39-44-20220201	2/1/22	1255	MM	GW	3	X												X									
5	AZ64-39-64-20220201	2/1/22	1345	MM	GW	3	X												X									
6	AZ66-35-40-20220201	2/1/22	1140	MM	GW	3	X												X									
7	AZ66-45-52-20220201	2/1/22	1130	MM	GW	9	X												X	MS/MSD								
8	AZ66-67-72-20220201	2/1/22	1210	MM	GW	3	X												X									
9	TB-01-20220201	2/1/22	0800	MM	WW	2	X												X									
10	Dup 01-20220201	2/1/22	—	AH	GW	3	X												X									

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other ___

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		2/1/22 1641	1		2		2	
3	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
			3		4		4	
5	Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	[X] Intact [ ] Not Intact	Preserved where applicable [ ]	On Ice [X] Cooler Temp. 1-0
			5					

SGS Sample Receipt Summary

Job Number: TD78292 **Client:** JACOBS **Project:** CHARLIE BURCH

Date / Time Received: 2/2/2022 4:11:00 PM **Delv Method:** SGS-GP **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-9; **Temp Adjustment Factor:** 0.1;

Cooler Temps (Initial/Adjusted): #1: (0.9/1);

Test Strip Lot #s: **pH 1-12:** 10D0391 **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Type Of TB Received	W	or	S	N/A
	☐		☐	☐

Misc. Information

Number of terracores: Number of Lab Filtered Metals:

Number of 5035 Field Kits:

Residual Chlorine Test Strip Lot #:

Comments

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☐
14. % Solids Jar received?	☐		☐	☐
15. Residual Chlorine Present?	☐		☐	☐

Sample Receipt Log

Job #: TD78292 **Date / Time Received:** 2/2/2022 4:11:00 PM **Initials:** RUBENE

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD78292-1	40ml	1	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-1	40ml	2	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-1	40ml	3	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-2	40ml	1	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-2	40ml	2	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-2	40ml	3	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-3	40ml	1	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-3	40ml	2	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-3	40ml	3	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-4	40ml	1	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-4	40ml	2	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-4	40ml	3	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-5	40ml	1	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-5	40ml	2	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-5	40ml	3	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-6	40ml	1	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-6	40ml	2	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-6	40ml	3	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-7	40ml	1	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-7	40ml	2	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-7	40ml	3	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-7	40ml	4	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-7	40ml	5	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1

Sample Receipt Log

Job #: TD78292 **Date / Time Received:** 2/2/2022 4:11:00 PM **Initials:** RUBENE

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD78292-7	40ml	6	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-7	40ml	7	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-7	40ml	8	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-7	40ml	9	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-8	40ml	1	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-8	40ml	2	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-8	40ml	3	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-9	40ml	1	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-9	40ml	2	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-9	40ml	3	VR 33	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-10	40ml	1	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-10	40ml	2	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1
1	TD78292-10	40ml	3	VR 96	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-9	0.9	0.1	1

Appendix A Laboratory Data Package Cover Page

TD78292 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	2/24/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**2/24/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78292**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?			X		
		Were blanks analyzed at the appropriate frequency?			X		
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?			X		
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?			X		
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?			X		
		Were LCSs analyzed at required frequency?			X		
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			X		
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?			X		
		Were the MS/MSD RPDs within laboratory QC limits?			X		
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Gulf Coast	LRC Date:	2/24/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD78292				
Reviewer Name:		Electa Brown	Prep Batch Number(s):					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**2/24/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78292**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is no included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

TD78292 This data package consists of

□□□ This signature page, the laboratory review checklist, and the following reportable data:

□□□ R1 Field chain-of-custody documentation;

□□□ R2 Sample identification cross-reference;

□□□ R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) cleanup methods, and
- e) if required for the project, tentatively identified compounds (TICs).

□□□ R4 Surrogate recovery data including:

- a) Calculated recovery (%R), and
- b) The laboratory's surrogate QC limits.

□□□ R5 Test reports/summary forms for blank samples;

□□□ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amounts,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

□□□ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and
- d) Calculated %Rs and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

□□□ R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) The amount of analyte measured in the duplicate,
- b) The calculated RPD, and
- c) The laboratory's QC limits for analytical duplicates.

□□□ R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method

□□□ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin		Laboratory Director	2/23/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**2/23/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78292**
Reviewer Name:	**Penny Cormier**	Prep Batch Number(s):	**V1X5549**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	2/23/2022				
Project Name:		DOWMIM: DOWMIM (Jacobs)	Laboratory Project Number:	TD78292				
Reviewer Name:		Penny Cormier	Prep Batch Number(s):	V1X5549				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**2/23/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78292**
Reviewer Name:	**Penny Cormier**	Prep Batch Number(s):	**V1X5549**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.
4	BS and BSD used expiered ICV gases standards.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS
10165 Harwin Drive, Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD78292

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

V826012DCA ,

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
1	AZG1-16-21-20220201		2/1/2022	10:25:00 AM		AQ	2	2								2
2	AZG2-18-23-20220201		2/1/2022	11:00:00 AM		AQ	2	2								2
3	AZG4-20-25-20220201		2/1/22	12:50:00 PM		AQ	2	2								2
4	AZG4-39-44-20220201		2/1/22	12:55:00 PM		AQ	2	2								2
5	AZG4-59-64-20220201		2/1/22	1:45:00 PM		AQ	2	2								2
6	AZG6-35-40-20220201		2/1/22	11:40:00 AM		AQ	2	2								2
7	AZG6-45-50-20220201		2/1/22	11:30:00 AM		AQ	2	2								2
7D	AZG6-45-50-20220201		2/1/22	11:30:00 AM		AQ	2	2								
7S	AZG6-45-50-20220201		2/1/22	11:30:00 AM		AQ	2	2								
8	AZG6-67-72-20220201		2/1/22	12:10:00 PM		AQ	2	2								2
9	TB-01-20220201		2/1/22	8:00:00 AM		AQ	2	2								2
10	DUP_01_20220201		2/1/22	12:00:00 AM		AQ	2	2								2

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 2/14/2022

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS PM): / Date: BL-95

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Send 2-40ml voa vial with HCL to Lafayette samples expire on the 14th.
RUSH

RUSH

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		2-10-22 1700	1 2-1-22 0850	2	2-1-22 0800	2
3	Relinquished:	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5	Custody Seal #	Intact / Not intact	Preserved where applicable

On Ice: ☑ Cooler Temp: 2.8 DV462

MS Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD78292
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1X5549-MB2	1X01195527.D	1	02/15/22	NN	n/a	n/a	V1X5549

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78292-1, TD78292-2, TD78292-3, TD78292-4, TD78292-5, TD78292-6, TD78292-7, TD78292-8, TD78292-9, TD78292-10

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	105%	75-130%
2037-26-5	Toluene-D8	95%	85-110%
460-00-4	4-Bromofluorobenzene	98%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD78292
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1X5549-BS1 [a]	1X01195521.D	1	02/15/22	NN	n/a	n/a	V1X5549
V1X5549-BSD1 [a]	1X01195523.D	1	02/15/22	NN	n/a	n/a	V1X5549

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78292-1, TD78292-2, TD78292-3, TD78292-4, TD78292-5, TD78292-6, TD78292-7, TD78292-8, TD78292-9, TD78292-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	22.9	115	23.5	118	3	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	114%	109%	75-130%
2037-26-5	Toluene-D8	95%	96%	85-110%
460-00-4	4-Bromofluorobenzene	99%	99%	86-115%

(a) used expired ICV gases standard

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD78292
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD78292-7MS	1X01195553.D	10	02/15/22	NN	n/a	n/a	V1X5549
TD78292-7MSD	1X01195555.D	10	02/16/22	NN	n/a	n/a	V1X5549
TD78292-7	1X01195543.D	1	02/15/22	NN	n/a	n/a	V1X5549

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78292-1, TD78292-2, TD78292-3, TD78292-4, TD78292-5, TD78292-6, TD78292-7, TD78292-8, TD78292-9, TD78292-10

CAS No.	Compound	TD78292-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	52.4		200	294	121	200	282	115	4	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	TD78292-7	Limits
17060-07-0	1,2-Dichloroethane-D4	119%	113%	114%	75-130%
2037-26-5	Toluene-D8	97%	98%	93%	85-110%
460-00-4	4-Bromofluorobenzene	100%	98%	102%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH

SGS Job Number: TD78873

Sampling Date: 02/16/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: **28**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-21-40) AR (20-023-0) AZ (AZ0769) FL (E87628)
KS (E-10366) LA (85695/04004) NJ (TX010) OK (2020-077)

Sections: 1 2 3 4 5 6 7

Table of Contents

Sample Summary

Dow Chemical Company

Job No: TD78873

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD78873-1	02/16/22	12:30		02/16/22	AQ	Ground Water	MW-CB-15AS-20220216
TD78873-2	02/16/22	08:00		02/16/22	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	TD78873
Site:	DOWMIM (Jacobs)	**Report Date**	3/3/2022 5:10:20 PM

1 Samples were collected on 02/16/2022 and received intact at SGS North America Inc (SGS) on 02/16/2022 and properly preserved in 1 cooler at 4.5 Deg C. The samples received an SGS job number of TD78873. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** L:V2J3584

- All data for batch L:MS8924 was analyzed at SGS North America Inc. - Scott, LA.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	SGS Houston, TX	**Job No**	TD78873
Site:	DOWMIM: DOWMIM (Jacobs)	**Report Date**	2/28/2022 7:35:18 PM

1 sample and 1 trip blank were collected on 02/16/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 02/16/2022, properly preserved and cool at 1.3 Deg C. These samples received an SGS job number of TD78873. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

Volatiles by GCMS By Method SW846 8260B

Matrix: AQ **Batch ID:** V2J3584

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) LA76910-2MS, LA76910-2MSD were used as the QC samples indicated.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: TD78873
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 02/16/22

Lab Sample ID Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD78873-1	**MW-CB-15AS-20220216**					
1,2-Dichloroethane [a]		0.0078	0.0010	0.00041	mg/l	SW846 8260B
TD78873-2	**TRIP BLANK**					
No hits reported in this sample.						

(a) Analysis performed at SGS Scott, LA.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-CB-15AS-20220216		
Lab Sample ID:	TD78873-1	**Date Sampled:**	02/16/22
Matrix:	AQ - Ground Water	**Date Received:**	02/16/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2J0104895.D	1	02/26/22 00:30	ALA	n/a	n/a	L:V2J3584
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0078	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%		75-130%
2037-26-5	Toluene-D8	98%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	TD78873-2	**Date Sampled:**	02/16/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	02/16/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2J0104877.D	1	02/25/22 20:31	ALA	n/a	n/a	L:V2J3584
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%		75-130%
2037-26-5	Toluene-D8	97%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form
- LRC Form (SGS Scott, LA)

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.accutest.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Accutest Quote #: | SGS Accutest Job #: TD78873

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd
City: Houston | State: TX | Zip: 77072
Project Contact: John Ynfante | E-mail:
Phone #: 281-414-1719 | Fax #:
Sampler(s) Name(s): Alif Haeiz | Phone #: 8324199610

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: | State:
Project #:
Client Purchase Order #: 4511250720
Project Manager:

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: | State: | Zip:
Attention:

Requested Analyses

SGS Accutest Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane
	MW-CB-15AS-2.220216	2/16/22	1230	AH	GW	3	X												X
	Trip Blank	2/16/22	0800	AH	WQ	2	X												X

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

LAB USE ONLY

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM25283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		2/16/22 1654	1	2/16/22 1654	2		2	
3	Relinquished by Sampler:		Received By: 3		Relinquished By: 4		Received By: 4	
5	Relinquished by:		Received By 5		Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice / Cooler Temp.

5.1 5

TD78873: Chain of Custody
Page 1 of 3

SGS Sample Receipt Summary

Job Number: TD78873 **Client:** JACOBS **Project:** CHARLIE BURCH-QUARTERLY GROUNDWA

Date / Time Received: 2/16/2022 4:31:00 PM **Delv Method:** CLIENT **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-4; **Temp Adjustment Factor:** -0.1;

Cooler Temps (Initial/Adjusted): #1: (4.6/4.5);

Test Strip Lot #s: **pH 1-12:** 10D0391 **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐

3. Type Of TB Received	W	or	S	N/A
	☑		☐	☐

Misc. Information

Number of terracores: 0 Number of Lab Filtered Metals: 0

Number of 5035 Field Kits: 0

Residual Chlorine Test Strip Lot #:

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☐		☐	☑
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
14. % Solids Jar received?	☐		☐	☑
15. Residual Chlorine Present?	☐		☐	☑

Comments

Sample Receipt Log

Job #: TD78873 **Date / Time Received:** 2/16/2022 4:31:00 PM **Initials:** MAURICIM

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD78873-1	40ml	1	VR213	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.6	-0.1	4.5
1	TD78873-1	40ml	2	VR213	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.6	-0.1	4.5
1	TD78873-1	40ml	3	VR213	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.6	-0.1	4.5
1	TD78873-2	40ml	1	VR213	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.6	-0.1	4.5
1	TD78873-2	40ml	2	VR213	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.6	-0.1	4.5

Appendix A Laboratory Data Package Cover Page

TD78873 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	3/3/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**3/3/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78873**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?			X		
		Were blanks analyzed at the appropriate frequency?			X		
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?			X		
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?			X		
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?			X		
		Were LCSs analyzed at required frequency?			X		
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			X		
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?			X		
		Were MS/MSD analyzed at the appropriate frequency?			X		
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?			X		
		Were the MS/MSD RPDs within laboratory QC limits?			X		
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Gulf Coast	LRC Date:	3/3/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD78873				
Reviewer Name:		Electa Brown	Prep Batch Number(s):					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**3/3/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78873**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is no included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

TD78873 This data package consists of

□□□ This signature page, the laboratory review checklist, and the following reportable data:

□□□ R1 Field chain-of-custody documentation;

□□□ R2 Sample identification cross-reference;

□□□ R3 Test reports (analytical data sheets) for each environmental sample that includes:

- a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
- b) dilution factors,
- c) preparation methods,
- d) cleanup methods, and
- e) if required for the project, tentatively identified compounds (TICs).

□□□ R4 Surrogate recovery data including:

- a) Calculated recovery (%R), and
- b) The laboratory's surrogate QC limits.

□□□ R5 Test reports/summary forms for blank samples;

□□□ R6 Test reports/summary forms for laboratory control samples (LCSs) including:

- a) LCS spiking amounts,
- b) Calculated %R for each analyte, and
- c) The laboratory's LCS QC limits.

□□□ R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

- a) Samples associated with the MS/MSD clearly identified,
- b) MS/MSD spiking amounts,
- c) Concentration of each MS/MSD analyte measured in the parent and
- d) Calculated %Rs and relative percent differences (RPDs), and
- e) The laboratory's MS/MSD QC limits

□□□ R8 Laboratory analytical duplicate (if applicable) recovery and precision:

- a) The amount of analyte measured in the duplicate,
- b) The calculated RPD, and
- c) The laboratory's QC limits for analytical duplicates.

□□□ R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method

□□□ R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin		Laboratory Director	2/28/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**2/28/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78873**
Reviewer Name:	**Penny Cormier**	Prep Batch Number(s):	**V2J3584**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	2/28/2022				
Project Name:		DOWMIM: DOWMIM (Jacobs)	Laboratory Project Number:	TD78873				
Reviewer Name:		Penny Cormier	Prep Batch Number(s):	V2J3584				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**2/28/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD78873**
Reviewer Name:	**Penny Cormier**	Prep Batch Number(s):	**V2J3584**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD78873

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: sylvia.garza@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

V826012DCA ,

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	LAB USE ONLY
1	MW-CB-15AS-20220216		2/16/2022	12:30:00 PM		AQ	3	X								3
2	TRIP BLANK		2/16/2022	8:00:00 AM		AQ	2	X								2

Turnaround Time (Business days)

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 2/28/2022

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS PM): / Date: RUSH (W)

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

Courier 8260 vials to LA

5-40ml - HCL

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by: 1	Date Time: 2-18-22 1200	Received By: 1	Relinquished By: 2	Date Time: 2-21-22 0730	Received By: 2 Donavion Bruno
Relinquished: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # Custody seal	[ ] Intact [ ] Not intact	Preserved where applicable [ ] On Ice [X] Cooler Temp. 2.3 ID 462

Date / Time: 2/17/2022 5:34:24 PM
CSR: SYLVIAG
Job #: TD78873
Client Project: DOWMIM (Jacobs)
Deliverable: TRRP
TAT: Due 2/28/2022

Sub Lab: SGS - Scott, LA
Address: 500 Ambassador Caffery Parkway
City: Scott
State: LA Zip: 70583
Contact: Sample Mgmt
Phone: 337-237-4775

SGS Sample #	Client Sample Description	Analysis	Location	Sampled By	Date Sampled	Time Sampled	Aliquot
TD78873-1	MW-CB-15AS-20220216	V826012DCA ,	VR213 ,		2/16/2022	12:30:00 PM	
TD78873-2	TRIP BLANK	V826012DCA ,	VR213 ,		2/16/2022	8:00:00 AM	

Comments: Courier 8260 vials to LA

Sample Management Receipt: _____ Date: _____

3 = 3-40 mL w/ HCL = RPS55 (VW)
2 40 mL w/ HCL

6.1
6

TD78873: Chain of Custody
Page 2 of 2

MS Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD78873
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2J3584-MB2	2J0104867.D	1	02/25/22	JY	n/a	n/a	V2J3584

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78873-1, TD78873-2

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	94%	75-130%
2037-26-5	Toluene-D8	97%	85-110%
460-00-4	4-Bromofluorobenzene	96%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD78873
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2J3584-BS1	2J0104861.D	1	02/25/22	JY	n/a	n/a	V2J3584
V2J3584-BSD1	2J0104863.D	1	02/25/22	JY	n/a	n/a	V2J3584

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78873-1, TD78873-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.0	100	20.9	105	4	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	97%	98%	75-130%
2037-26-5	Toluene-D8	100%	99%	85-110%
460-00-4	4-Bromofluorobenzene	99%	98%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD78873
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA76910-2MS	2J0104909.D	2	02/26/22	JY	n/a	n/a	V2J3584
LA76910-2MSD	2J0104911.D	2	02/26/22	JY	n/a	n/a	V2J3584
LA76910-2	2J0104885.D	1	02/25/22	JY	n/a	n/a	V2J3584

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD78873-1, TD78873-2

CAS No.	Compound	LA76910-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	ND		40	40.3	101	40	40.9	102	1	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA76910-2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%	103%	98%	75-130%
2037-26-5	Toluene-D8	98%	100%	98%	85-110%
460-00-4	4-Bromofluorobenzene	99%	100%	100%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA79008

Sampling Date: 05/17/22

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 22

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

Sections: 1 2 3 4 5 6

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: LA79008

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA79008-1	05/17/22	11:05	LR	05/17/22	AQ	Water	MW-CB-44_20220517_N_WG
LA79008-1D	05/17/22	11:05	LR	05/17/22	AQ	Water Dup/MSD	MW-CB-44_20220517_N_WG
LA79008-1S	05/17/22	11:05	LR	05/17/22	AQ	Water Matrix Spike	MW-CB-44_20220517_N_WG
LA79008-2	05/17/22	10:38	LR	05/17/22	AQ	Water	MW-CB-48_20220517_N_WG
LA79008-3	05/17/22	10:45	LR	05/17/22	AQ	Water	MW-CB-45_20220517_N_WG
LA79008-4	05/17/22	00:00	LR	05/17/22	AQ	Water	FD-01_20220517_FD_WG
LA79008-5	05/17/22	00:00	LR	05/17/22	AQ	Water	TB-01_20220517_TB_WQ

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA79008
Site:	DOWMIM (JACOBS)	**Report Date**	6/23/2022 7:22:02 PM

5 samples, 0 trip blanks and 0 field blanks were collected on 05/17/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 05/17/2022, properly preserved and cool at 1.80 Deg C. These samples received an SGS job number of LA79008. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1G7538

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA79008-1MS, LA79008-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA79008
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 05/17/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA79008-1	**MW-CB-44_20220517_N_WG**					
No hits reported in this sample.						
LA79008-2	**MW-CB-48_20220517_N_WG**					
No hits reported in this sample.						
LA79008-3	**MW-CB-45_20220517_N_WG**					
1,2-Dichloroethane		0.0027	0.0010	0.00041	mg/l	SW846 8260B
LA79008-4	**FD-01_20220517_FD_WG**					
1,2-Dichloroethane		0.0039	0.0010	0.00041	mg/l	SW846 8260B
LA79008-5	**TB-01_20220517_TB_WQ**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-CB-44_20220517_N_WG		
Lab Sample ID:	LA79008-1	**Date Sampled:**	05/17/22
Matrix:	AQ - Water	**Date Received:**	05/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G0018916.D	1	05/31/22 21:03	MB	n/a	n/a	V1G7538
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	94%		75-130%
2037-26-5	Toluene-D8	96%		85-110%
460-00-4	4-Bromofluorobenzene	90%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-48_20220517_N_WG		
Lab Sample ID:	LA79008-2	**Date Sampled:**	05/17/22
Matrix:	AQ - Water	**Date Received:**	05/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G0018917.D	1	05/31/22 21:26	MB	n/a	n/a	V1G7538
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	101%		75-130%
2037-26-5	Toluene-D8	97%		85-110%
460-00-4	4-Bromofluorobenzene	88%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-45_20220517_N_WG		
Lab Sample ID:	LA79008-3	**Date Sampled:**	05/17/22
Matrix:	AQ - Water	**Date Received:**	05/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G0018918.D	1	05/31/22 21:49	MB	n/a	n/a	V1G7538
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0027	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		75-130%
2037-26-5	Toluene-D8	96%		85-110%
460-00-4	4-Bromofluorobenzene	88%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: FD-01_20220517_FD_WG
Lab Sample ID: LA79008-4
Matrix: AQ - Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 05/17/22
Date Received: 05/17/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G0018919.D	1	05/31/22 22:12	MB	n/a	n/a	V1G7538
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0039	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	97%		85-110%
460-00-4	4-Bromofluorobenzene	88%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TB-01_20220517_TB_WQ
Lab Sample ID: LA79008-5
Matrix: AQ - Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 05/17/22
Date Received: 05/17/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G0018921.D	1	05/31/22 22:34	MB	n/a	n/a	V1G7538
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	96%		85-110%
460-00-4	4-Bromofluorobenzene	86%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

PAGE ___ OF ___

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA79008

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Lorena Ramirez Phone #: 8326017800

Project Information

Project Name: Charlie Burch
Street:
City: Spring State: Texas
Project #:
Client Purchase Order #:
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: State: Zip:
Attention:

Requested Analyses

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	LAB USE ONLY
1	MW-CB-44_20220517_N_WG	5/17/22	11:05	LR	W	3	3												X	3
2	MW-CB-48_20220517_N_WG	5/17/22	10:38	LR	W	3	3												X	3
3	MW-CB-45_20220517_N_WG	5/17/22	10:45	LR	W	3	3												X	3
4	FD-01_20220517_FD_WG	5/17/22	—	LR	W	3	3												X	3
5	TB-01_20220517_TB_WQ				W	2	2												X	2
1	MW-CB-44-20220517_MS	5/17/22	11:05	LR	W	3	3												X	3
1	MW-CB-44-20220517_MSD	5/17/22	11:05	LR	W	3	3												X	3

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283
RL-94 (WW)
http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler: 1 Lorena Ramirez	Date Time: 5/17/22	Received By: 1	Date Time: 17:15/22	Relinquished By: 2	Date Time:	Received By: 2 Gence	Date Time: 5-18-22 0945
Relinquished by Sampler: 3 Gence	Date Time: 5-18-22	Received By: 3	Date Time:	Relinquished By: 4	Date Time:	Received By: 4	Date Time:
Relinquished by: 5	Date Time:	Received By: 5	Date Time:	Custody Seal # CSDC	[X] Intact [ ] Not Intact	Preserved where applicable [X]	On Ice [X] Cooler Temp. IR-9 1.8

SGS Sample Receipt Summary

Job Number: LA79008 **Client:** JACOBS **Project:** CHARLIE BURCH

Date / Time Received: 5/18/2022 9:45:00 AM **Delivery Method:** Accutest Courier **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (1.8/1.8); IR9

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

LA79008: Chain of Custody
Page 2 of 2

Appendix A Laboratory Data Package Cover Page

LA79008 This data package consists of

...	This signature page, the laboratory review checklist, and the following reportable data:		
□□□	R1	Field chain-of-custody documentation;	
□□□	R2	Sample identification cross-reference;	
□□□	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
□□□	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
□□□	R5	Test reports/summary forms for blank samples;	
□□□	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
□□□	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
□□□	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
□□□	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
□□□	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	Laboratory Director	6/24/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**6/24/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA79008**
Reviewer Name:	**Ralph Frye**	Prep Batch Number(s):	**V1G7538**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	6/24/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA79008				
Reviewer	Name:	Ralph Frye	Prep Batch Number(s):	V1G7538				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**6/24/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA79008**
Reviewer Name:	**Ralph Frye**	Prep Batch Number(s):	**V1G7538**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is no included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA79008
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1G7538-MB2	1G0018912.D	1	05/31/22	MB	n/a	n/a	V1G7538

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA79008-1, LA79008-2, LA79008-3, LA79008-4, LA79008-5

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	95%	75-130%
2037-26-5	Toluene-D8	98%	85-110%
460-00-4	4-Bromofluorobenzene	88%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA79008
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1G7538-BS1	1G0018909.D	1	05/31/22	MB	n/a	n/a	V1G7538
V1G7538-BSD1	1G0018910.D	1	05/31/22	MB	n/a	n/a	V1G7538

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA79008-1, LA79008-2, LA79008-3, LA79008-4, LA79008-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	19.5	98	20.7	104	6	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	97%	100%	75-130%
2037-26-5	Toluene-D8	97%	97%	85-110%
460-00-4	4-Bromofluorobenzene	92%	93%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA79008
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA79008-1MS	1G0018927.D	2	06/01/22	MB	n/a	n/a	V1G7538
LA79008-1MSD	1G0018928.D	2	06/01/22	MB	n/a	n/a	V1G7538
LA79008-1	1G0018916.D	1	05/31/22	MB	n/a	n/a	V1G7538

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA79008-1, LA79008-2, LA79008-3, LA79008-4, LA79008-5

CAS No.	Compound	LA79008-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.0	U	40	39.6	99	40	39.5	99	0	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA79008-1	Limits
17060-07-0	1,2-Dichloroethane-D4	94%	93%	94%	75-130%
2037-26-5	Toluene-D8	99%	99%	96%	85-110%
460-00-4	4-Bromofluorobenzene	90%	89%	90%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH

SGS Job Number: TD81114

Sampling Dates: 04/19/22 - 04/20/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 42

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-22-46) AR (21-045-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2021-158) VA (11647)

Table of Contents

SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: TD81114

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD81114-1	04/19/22	13:05		04/20/22	AQ	Ground Water	RW-CB-2-20220419
TD81114-2	04/19/22	12:55		04/20/22	AQ	Ground Water	RW-CB-2R-20220419
TD81114-3	04/19/22	12:30		04/20/22	AQ	Ground Water	RW-CB-4-20220419
TD81114-4	04/19/22	12:35		04/20/22	AQ	Ground Water	MW-CB-1B-20220419
TD81114-5	04/19/22	12:45		04/20/22	AQ	Ground Water	MW-CB-1BS-20220419
TD81114-6	04/19/22	12:40		04/20/22	AQ	Ground Water	MW-CB-1A-20220419
TD81114-7	04/19/22	13:10		04/20/22	AQ	Ground Water	MW-CB-4-20220419
TD81114-8	04/19/22	12:20		04/20/22	AQ	Ground Water	MW-CB-5A-20220419
TD81114-9	04/19/22	13:15		04/20/22	AQ	Ground Water	MW-CB-7B-20220419
TD81114-10	04/19/22	12:10		04/20/22	AQ	Ground Water	MW-CB-12AD-20220419
TD81114-11	04/19/22	12:05		04/20/22	AQ	Ground Water	MW-CB-AD-20220419
TD81114-12	04/19/22	11:00		04/20/22	AQ	Ground Water	TRW-CB-1-20220419
TD81114-13	04/19/22	11:16		04/20/22	AQ	Ground Water	EAB-MW-03-20220419

Sample Summary
(continued)

Dow Chemical Company

Job No: TD81114

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD81114-14	04/20/22	12:25		04/20/22	AQ	Ground Water	MW-CB-15AS-20220420
TD81114-14D	04/20/22	12:25		04/20/22	AQ	Water Dup/MSD	MW-CB-15AS-20220420
TD81114-14S	04/20/22	12:25		04/20/22	AQ	Water Matrix Spike	MW-CB-15AS-20220420
TD81114-15	04/19/22	10:58		04/20/22	AQ	Ground Water	MW-CB-29A-20220419
TD81114-16	04/19/22	08:00		04/20/22	AQ	Trip Blank Water	TRIP BLANK-02-202204119
TD81114-17	04/20/22	00:00		04/20/22	AQ	Ground Water	DUP-02-20220420

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Dow Chemical Company **Job No:** TD81114

Site: DOWMIM (Jacobs) **Report Date** 4/28/2022 7:50:58 PM

16 Samples were collected on between 04/19/2022 and 04/20/2022 and received intact at SGS North America Inc (SGS) on 04/20/2022 and properly preserved in 1 cooler at 1.5 Deg C. The samples received an SGS job number of TD81114. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** VE4147

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD81114-14MS, TD81114-14MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** VG3318

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- VG3318-BSD: Insufficient sample available for MS/MSD.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

Summary of Hits

Job Number: TD81114
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 04/19/22 thru 04/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD81114-1	**RW-CB-2-20220419**					
No hits reported in this sample.						
TD81114-2	**RW-CB-2R-20220419**					
1,2-Dichloroethane		0.00089 J	0.0010	0.00037	mg/l	SW846 8260C
TD81114-3	**RW-CB-4-20220419**					
1,2-Dichloroethane		0.00056 J	0.0010	0.00037	mg/l	SW846 8260C
TD81114-4	**MW-CB-1B-20220419**					
No hits reported in this sample.						
TD81114-5	**MW-CB-1BS-20220419**					
1,2-Dichloroethane		0.0120	0.0010	0.00037	mg/l	SW846 8260C
TD81114-6	**MW-CB-1A-20220419**					
1,2-Dichloroethane		0.0127	0.0010	0.00037	mg/l	SW846 8260C
TD81114-7	**MW-CB-4-20220419**					
1,2-Dichloroethane		0.0065	0.0010	0.00037	mg/l	SW846 8260C
TD81114-8	**MW-CB-5A-20220419**					
No hits reported in this sample.						
TD81114-9	**MW-CB-7B-20220419**					
No hits reported in this sample.						
TD81114-10	**MW-CB-12AD-20220419**					
1,2-Dichloroethane		0.0043	0.0010	0.00037	mg/l	SW846 8260C
TD81114-11	**MW-CB-AD-20220419**					
1,2-Dichloroethane		0.0142	0.0010	0.00037	mg/l	SW846 8260C

Summary of Hits

Job Number: TD81114
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 04/19/22 thru 04/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD81114-12	**TRW-CB-1-20220419**					
1,2-Dichloroethane		0.0075	0.0010	0.00037	mg/l	SW846 8260C
TD81114-13	**EAB-MW-03-20220419**					
1,2-Dichloroethane		0.00045 J	0.0010	0.00037	mg/l	SW846 8260C
TD81114-14	**MW-CB-15AS-20220420**					
1,2-Dichloroethane		0.0125	0.0010	0.00037	mg/l	SW846 8260C
TD81114-15	**MW-CB-29A-20220419**					
No hits reported in this sample.						
TD81114-16	**TRIP BLANK-02-202204119**					
No hits reported in this sample.						
TD81114-17	**DUP-02-20220420**					
1,2-Dichloroethane		0.0128	0.0010	0.00037	mg/l	SW846 8260C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RW-CB-2-20220419		
Lab Sample ID:	TD81114-1	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293525.D	1	04/25/22 20:34	ML	n/a	n/a	VG3318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	107%		68-124%
2037-26-5	Toluene-D8	99%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-2R-20220419		
Lab Sample ID:	TD81114-2	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293526.D	1	04/25/22 20:57	ML	n/a	n/a	VG3318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00089	0.0010	0.00037	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	95%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-4-20220419		
Lab Sample ID:	TD81114-3	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293527.D	1	04/25/22 21:20	ML	n/a	n/a	VG3318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00056	0.0010	0.00037	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		72-122%
17060-07-0	1,2-Dichloroethane-D4	103%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	95%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1B-20220419		
Lab Sample ID:	TD81114-4	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293528.D	1	04/25/22 21:43	ML	n/a	n/a	VG3318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1BS-20220419		
Lab Sample ID:	TD81114-5	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293529.D	1	04/25/22 22:06	ML	n/a	n/a	VG3318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0120	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	96%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1A-20220419		
Lab Sample ID:	TD81114-6	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293530.D	1	04/25/22 22:28	ML	n/a	n/a	VG3318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0127	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		72-122%
17060-07-0	1,2-Dichloroethane-D4	105%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	95%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-4-20220419		
Lab Sample ID:	TD81114-7	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293531.D	1	04/25/22 22:51	ML	n/a	n/a	VG3318
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0065	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		72-122%
17060-07-0	1,2-Dichloroethane-D4	104%		68-124%
2037-26-5	Toluene-D8	101%		80-119%
460-00-4	4-Bromofluorobenzene	96%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-5A-20220419		
Lab Sample ID:	TD81114-8	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090042.D	1	04/25/22 17:18	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		72-122%
17060-07-0	1,2-Dichloroethane-D4	103%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	102%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-7B-20220419		
Lab Sample ID:	TD81114-9	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090043.D	1	04/25/22 17:41	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		72-122%
17060-07-0	1,2-Dichloroethane-D4	104%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-12AD-20220419		
Lab Sample ID:	TD81114-10	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090044.D	1	04/25/22 18:04	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0043	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		72-122%
17060-07-0	1,2-Dichloroethane-D4	106%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

8AD

Report of Analysis

Client Sample ID:	MW-CB-AD-20220419		
Lab Sample ID:	TD81114-11	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090045.D	1	04/25/22 18:27	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0142	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-122%
17060-07-0	1,2-Dichloroethane-D4	104%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRW-CB-1-20220419		
Lab Sample ID:	TD81114-12	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090046.D	1	04/25/22 18:50	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0075	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-122%
17060-07-0	1,2-Dichloroethane-D4	106%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EAB-MW-03-20220419		
Lab Sample ID:	TD81114-13	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090047.D	1	04/25/22 19:13	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00045	0.0010	0.00037	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-15AS-20220420		
Lab Sample ID:	TD81114-14	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090048.D	1	04/25/22 19:37	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0125	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	90%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-29A-20220419		
Lab Sample ID:	TD81114-15	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090051.D	1	04/25/22 20:46	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	105%		80-119%
460-00-4	4-Bromofluorobenzene	97%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK-02-202204119		
Lab Sample ID:	TD81114-16	**Date Sampled:**	04/19/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090052.D	1	04/25/22 21:09	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-02-20220420		
Lab Sample ID:	TD81114-17	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090053.D	1	04/25/22 21:32	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0128	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

PAGE 1 OF 2

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD81114

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston | State: Texas | Zip: 77072
Project Contact: John Ynfante | E-mail:
Phone #: 281-414-1719 | Fax #:
Sampler(s) Name(s): Atif Hafiz | Phone #: 8324199610

Project Information

Project Name: Charlie Burch - April Event
Street:
City: | State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: | State: | Zip:
Attention:

Requested Analyses

8260 - 1,2-Dichloroethane

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED - Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAc+NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	Na2SO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	LAB USE ONLY
1	RW-CB-2-20220419	4/19/22	1305	AH	GW	3	X												X	
2	RW-CB-2R-20220419	4/19/22	1255	AH	GW	3	X												X	
3	RW-CB-4-20220419	4/19/22	1230	AH	GW	3	X												X	
4	MW-CB-1BR-20220419	4/19/22	1235	AH	GW	3	X												X	
5	MW-CB-1BS-20220419	4/19/22	1245	AH	GW	3	X												X	
	~~MW-CB-2A-20220419~~	~~4/19/22~~	~~1335~~	~~AH~~	~~GW~~		~~X~~												~~X~~	
6	MW-CB-1A-20220419	4/19/22	1240	AH	GW	3	X												X	
	~~MW-CB-2B-20220419~~	~~4/19/22~~	~~1325~~	~~AH~~	~~GW~~	~~12~~	~~X~~												~~X~~	
7	MW-CB-4-20220419	4/19/22	1310	AH	GW	3	X												X	
8	MW-CB-5A-20220419	4/19/22	1220	AH	GW	3	X												X	
9	MW-CB-7B-20220419	4/19/22	1315	AH	GW	3	X												X	
10	MW-CB-12AD-20220419	4/19/22	1210	AH	GW	3	X												X	

MS & MSD Collected

Turnaround Time (Business days)

- [ ] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [x] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form SM021-0

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		4/20/22 1454	1	4/20/22 1454	2		2	
3	Relinquished by Sampler:	Date Time:	Received By: 3	Date Time:	Relinquished By: 4	Date Time:	Received By: 4	Date Time:
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	[x] Intact [ ] Not Intact	Preserved where applicable [x]	On Ice [x] Cooler Temp: 5

5.1 5

CHAIN OF CUSTODY

SGS
10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD81114

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston | State: Texas | Zip: 77072
Project Contact: John Ynfante | E-mail:
Phone #: 281-414-1719 | Fax #:
Sampler(s) Name(s): AH; FHaq2 | Phone #: 832419 9616

Project Information

Project Name: Charlie Burch - April Event
Street:
City: | State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: | State: | Zip:
Attention:

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	LAB USE ONLY
11	MW-CB-8A-20220419	4/19/22	1205	AH	GW	3	X												X	
~~[illegible]~~	~~MW-CB-15S-20220419~~	~~4/19/22~~	~~1102~~	~~AH~~	~~GW~~	~~3~~	~~X~~												~~X~~	
12	~~MW~~TRK-CB-1-20220419	4/19/22	1100	AH	GW	3	X												X	
13	EAB-MW-03-20220419	4/19/22	1116	AH	GW	3	X												X	
14	MW-CB-15AS-20220420	4/20/22	1225	AH	GW	3	X												X	MS & MSD Glycol
15	MW-CB-29A-20220419	4/19/22	1058	AH	GW	3	X												X	
16	TripBlank02-20220419	4/19/22	0800	AH	W	2	X												X	
17	Dup-02-20220420	4/20/22	-	AH	GW	3	X												X	

Turnaround Time (Business days)

- [ ] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished By Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	[signature] 4/20/22	1454	1 [signature]	4/20/22 1454	2		2	
3			3		4		4	
5			5		Custody Seal #	☑ Intact ☐ Not Intact	Preserved where applicable ☑	On Ice ☑ Cooler Temp: 1.5

SGS Sample Receipt Summary

Job Number: TD81114 **Client:** JACOBS **Project:** JACOBS

Date / Time Received: 4/20/2022 2:54:00 PM **Delv Method:** SGS-CLIENT **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-4; **Temp Adjustment Factor:** -0.1;

Cooler Temps (Initial/Adjusted): #1: (1.6/1.5);

Test Strip Lot #s: **pH 1-12:** 10D0391 **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Type Of TB Received	W	or	S	N/A
	☐		☐	☐

Misc. Information

Number of terracores: 0 Number of Lab Filtered Metals: 0

Number of 5035 Field Kits: 0

Residual Chlorine Test Strip Lot #:

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☐		☐	☑
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
14. % Solids Jar received?	☐		☐	☑
15. Residual Chlorine Present?	☐		☐	☑

Comments

Sample Receipt Log

Job #: TD81114 **Date / Time Received:** 4/20/2022 2:54:00 PM **Initials:** MICHAEL

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD81114-1	40ml	1	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-1	40ml	2	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-1	40ml	3	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-2	40ml	1	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-2	40ml	2	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-2	40ml	3	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-3	40ml	1	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-3	40ml	2	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-3	40ml	3	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-4	40ml	1	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-4	40ml	2	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-4	40ml	3	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-5	40ml	1	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-5	40ml	2	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-5	40ml	3	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-6	40ml	1	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-6	40ml	2	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-6	40ml	3	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-7	40ml	1	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-7	40ml	2	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-7	40ml	3	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-8	40ml	1	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-8	40ml	2	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5

Sample Receipt Log

Job #: TD81114 **Date / Time Received:** 4/20/2022 2:54:00 PM **Initials:** MICHAEL

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD81114-8	40ml	3	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-9	40ml	1	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-9	40ml	2	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-9	40ml	3	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-10	40ml	1	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-10	40ml	2	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-10	40ml	3	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-11	40ml	1	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-11	40ml	2	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-11	40ml	3	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-12	40ml	1	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-12	40ml	2	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-12	40ml	3	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-13	40ml	1	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-13	40ml	2	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-13	40ml	3	VR27	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-14	40ml	1	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-14	40ml	2	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-14	40ml	3	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-14	40ml	4	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-14	40ml	5	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-14	40ml	6	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-14	40ml	7	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5

Sample Receipt Log

Job #: TD81114 **Date / Time Received:** 4/20/2022 2:54:00 PM **Initials:** MICHAEL

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD81114-14	40ml	8	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-14	40ml	9	VR25	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-15	40ml	1	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-15	40ml	2	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-15	40ml	3	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-16	40ml	1	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-16	40ml	2	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-17	40ml	1	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-17	40ml	2	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5
1	TD81114-17	40ml	3	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1.6	-0.1	1.5

Appendix A Laboratory Data Package Cover Page

TD81114 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	4/28/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**4/28/2022**	
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD81114**	
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**VE4147, VG3318**	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Gulf Coast	LRC Date:	4/28/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD81114				
Reviewer Name:		Electa Brown	Prep Batch Number(s):	VE4147, VG3318				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**4/28/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD81114**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**VE4147, VG3318**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD81114
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG3318-MB	G293511.D	1	04/25/22	ML	n/a	n/a	VG3318

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81114-1, TD81114-2, TD81114-3, TD81114-4, TD81114-5, TD81114-6, TD81114-7

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.37	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	93%	72-122%
17060-07-0	1,2-Dichloroethane-D4	95%	68-124%
2037-26-5	Toluene-D8	103%	80-119%
460-00-4	4-Bromofluorobenzene	98%	72-126%

Method Blank Summary

Job Number: TD81114
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE4147-MB	E0090041.D	1000	04/25/22	MR	n/a	n/a	VE4147

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81114-8, TD81114-9, TD81114-10, TD81114-11, TD81114-12, TD81114-13, TD81114-14, TD81114-15, TD81114-16, TD81114-17

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1000	370	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	91%	72-122%
17060-07-0	1,2-Dichloroethane-D4	100%	68-124%
2037-26-5	Toluene-D8	103%	80-119%
460-00-4	4-Bromofluorobenzene	99%	72-126%

Blank Spike Summary

Job Number: TD81114
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE4147-BS	E0090039.D	1000	04/25/22	MR	n/a	n/a	VE4147

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81114-8, TD81114-9, TD81114-10, TD81114-11, TD81114-12, TD81114-13, TD81114-14, TD81114-15, TD81114-16, TD81114-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
107-06-2	1,2-Dichloroethane	25000	27200	109	68-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	72-122%
17060-07-0	1,2-Dichloroethane-D4	107%	68-124%
2037-26-5	Toluene-D8	101%	80-119%
460-00-4	4-Bromofluorobenzene	105%	72-126%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD81114
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG3318-BS	G293509.D	1	04/25/22	ML	n/a	n/a	VG3318
VG3318-BSD [a]	G293510.D	1	04/25/22	ML	n/a	n/a	VG3318

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81114-1, TD81114-2, TD81114-3, TD81114-4, TD81114-5, TD81114-6, TD81114-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	25	29.2	117	29.6	118	1	68-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	100%	97%	72-122%
17060-07-0	1,2-Dichloroethane-D4	107%	104%	68-124%
2037-26-5	Toluene-D8	98%	100%	80-119%
460-00-4	4-Bromofluorobenzene	98%	97%	72-126%

(a) Insufficient sample available for MS/MSD.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD81114
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD81114-14MS	E0090049.D	1	04/25/22	MR	n/a	n/a	VE4147
TD81114-14MSD	E0090050.D	1	04/25/22	MR	n/a	n/a	VE4147
TD81114-14	E0090048.D	1	04/25/22	MR	n/a	n/a	VE4147

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81114-8, TD81114-9, TD81114-10, TD81114-11, TD81114-12, TD81114-13, TD81114-14, TD81114-15, TD81114-16, TD81114-17

CAS No.	Compound	TD81114-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	12.5		25	34.8	89	25	37.3	99	7	68-121/12

CAS No.	Surrogate Recoveries	MS	MSD	TD81114-14	Limits
1868-53-7	Dibromofluoromethane	92%	90%	90%	72-122%
17060-07-0	1,2-Dichloroethane-D4	97%	95%	102%	68-124%
2037-26-5	Toluene-D8	105%	104%	104%	80-119%
460-00-4	4-Bromofluorobenzene	106%	102%	100%	72-126%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH

SGS Job Number: TD81124

Sampling Date: 04/19/22

Report to:

Jacobs

DowTXDM@jacobs.com
John.Ynfante@jacobs.com; Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com
ATTN: Josh McFarlain

Total number of pages in report: 21

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-22-46) AR (21-045-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2021-158) VA (11647)

Sections: 1 2 3 4 5 6

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Sample Summary

Dow Chemical Company

Job No: TD81124

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD81124-1	04/19/22	14:10		04/20/22	AQ	Ground Water	MW-CB-6BS 0419
TD81124-2	04/19/22	14:15		04/20/22	AQ	Ground Water	MW-CB-26A-20220419
TD81124-3	04/19/22	00:00		04/20/22	AQ	Ground Water	DUP-02-20220419

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Dow Chemical Company **Job No:** TD81124

Site: DOWMIM (Jacobs) **Report Date** 4/28/2022 7:46:35 PM

3 Samples were collected on 04/19/2022 and received intact at SGS North America Inc (SGS) on 04/20/2022 and properly preserved in 1 cooler at 2 Deg C. The samples received an SGS job number of TD81124. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** VE4147

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD81114-14MS, TD81114-14MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

Summary of Hits

Job Number: TD81124
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 04/19/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD81124-1	**MW-CB-6BS-20220419**					
1,2-Dichloroethane		0.0019	0.0010	0.00037	mg/l	SW846 8260C
TD81124-2	**MW-CB-26A-20220419**					
1,2-Dichloroethane		0.0103	0.0010	0.00037	mg/l	SW846 8260C
TD81124-3	**DUP-02-20220419**					
1,2-Dichloroethane		0.0123	0.0010	0.00037	mg/l	SW846 8260C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MW-CB-6BS419
Lab Sample ID: TD81124-1
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: DOWMIM (Jacobs)

Date Sampled: 04/19/22
Date Received: 04/20/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090054.D	1	04/25/22 21:55	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0019	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		72-122%
17060-07-0	1,2-Dichloroethane-D4	103%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-26A-20220419		
Lab Sample ID:	TD81124-2	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090055.D	1	04/25/22 22:18	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0103	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	86%		72-122%
17060-07-0	1,2-Dichloroethane-D4	96%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	101%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-02-20220419		
Lab Sample ID:	TD81124-3	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090056.D	1	04/25/22 22:41	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0123	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		72-122%
17060-07-0	1,2-Dichloroethane-D4	104%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	98%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD81124

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Al. F Haas Phone #: 8324199610

Project Information

Project Name: Charlie Burch - April Event
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: State: Zip:
Attention:

Requested Analyses

Matrix Codes: DW - Drinking Wate; GW - Ground Wate; WW - Water; SW - Surface Wate; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	LAB USE ONLY
1	MW-CB-6BS-20220419	4/19/22	12:10	AM	GW	3	X												X	
2	MW-CB-26A-20220419	4/19/22	1415	AM	GW	3	X												X	
3	Dup-02-20220419	4/19/22	-	AM	GW	3	X												X	

Turnaround Time (Business days)

- [ ] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Approved By (SGS Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form SM021-0

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		1454 4/20/22	1	4/21-22	2		2	
3	Relinquished by Sampler:	Date Time:	Received By: 3	Date Time:	Relinquished By: 4	Date Time:	Received By: 4	Date Time:
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice: Cooler Temp. 2.2 °C

5.1 5

TD81124: Chain of Custody
Page 1 of 3

SGS Sample Receipt Summary

Job Number: TD81124 **Client:** JACOBS **Project:** CHARLIE BURCH-APRIL EVENT

Date / Time Received: 4/20/2022 2:54:00 PM **Delv Method:** CLIENT **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-4; **Temp Adjustment Factor:** -0.1;

Cooler Temps (Initial/Adjusted): #1: (2.1/2);

Test Strip Lot #s: **pH 1-12:** 10D2191 **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑

3. Type Of TB Received	W	or	S	N/A
	☐		☐	☐

Misc. Information

Number of terracores: 0 Number of Lab Filtered Metals: 0

Number of 5035 Field Kits: 0

Residual Chlorine Test Strip Lot #:

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
14. % Solids Jar received?	☐		☐	☑
15. Residual Chlorine Present?	☐		☐	☑

Comments

Sample Receipt Log

Job #: TD81124 **Date / Time Received:** 4/20/2022 2:54:00 PM **Initials:** MAURICIM

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD81124-1	40ml	1	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81124-1	40ml	2	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81124-1	40ml	3	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81124-2	40ml	1	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81124-2	40ml	2	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81124-2	40ml	3	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81124-3	40ml	1	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81124-3	40ml	2	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81124-3	40ml	3	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2

Appendix A Laboratory Data Package Cover Page

TD81124 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	4/28/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**4/28/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD81124**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**VE4147**

# [1]	A [2]	DESCRIPTION	YES	NO	NA [3]	NR [4]	ER # [5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Gulf Coast	LRC Date:	4/28/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD81124				
Reviewer	Name:	Electa Brown	Prep Batch Number(s):	VE4147				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**4/28/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD81124**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**VE4147**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is no included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD81124
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE4147-MB	E0090041.D	1000	04/25/22	MR	n/a	n/a	VE4147

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81124-1, TD81124-2, TD81124-3

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1000	370	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	91%	72-122%
17060-07-0	1,2-Dichloroethane-D4	100%	68-124%
2037-26-5	Toluene-D8	103%	80-119%
460-00-4	4-Bromofluorobenzene	99%	72-126%

Blank Spike Summary

Job Number: TD81124
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE4147-BS	E0090039.D	1000	04/25/22	MR	n/a	n/a	VE4147

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81124-1, TD81124-2, TD81124-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
107-06-2	1,2-Dichloroethane	25000	27200	109	68-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	72-122%
17060-07-0	1,2-Dichloroethane-D4	107%	68-124%
2037-26-5	Toluene-D8	101%	80-119%
460-00-4	4-Bromofluorobenzene	105%	72-126%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD81124
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD81114-14MS	E0090049.D	1	04/25/22	MR	n/a	n/a	VE4147
TD81114-14MSD	E0090050.D	1	04/25/22	MR	n/a	n/a	VE4147
TD81114-14	E0090048.D	1	04/25/22	MR	n/a	n/a	VE4147

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81124-1, TD81124-2, TD81124-3

CAS No.	Compound	TD81114-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	12.5		25	34.8	89	25	37.3	99	7	68-121/12

CAS No.	Surrogate Recoveries	MS	MSD	TD81114-14	Limits
1868-53-7	Dibromofluoromethane	92%	90%	90%	72-122%
17060-07-0	1,2-Dichloroethane-D4	97%	95%	102%	68-124%
2037-26-5	Toluene-D8	105%	104%	104%	80-119%
460-00-4	4-Bromofluorobenzene	106%	102%	100%	72-126%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH

SGS Job Number: TD81125

Sampling Date: 04/19/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 22

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-22-46) AR (21-045-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2021-158) VA (11647)

Sections: 1 2 3 4 5 6

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: TD81125

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD81125-1	04/19/22	10:37		04/20/22	AQ	Ground Water	MW-CB-40-20220419
TD81125-2	04/19/22	08:10		04/20/22	AQ	Trip Blank Water	TRIP BLANK-01

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Dow Chemical Company **Job No:** TD81125

Site: DOWMIM (Jacobs) **Report Date** 4/28/2022 7:40:58 PM

1 Sample was collected on 04/19/2022 and received intact at SGS North America Inc (SGS) on 04/20/2022 and properly preserved in 1 cooler at 2 Deg C. The samples received an SGS job number of TD81125. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection is presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** VE4147

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD81114-14MS, TD81114-14MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** VE4148

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- VE4148-BSD: Insufficient sample available for MS/MSD.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

Summary of Hits

Job Number: TD81125
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 04/19/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD81125-1	**MW-CB-40-20220419**					
1,2-Dichloroethane		0.0013	0.0010	0.00037	mg/l	SW846 8260C
TD81125-2	**TRIP BLANK-01**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MW-CB-40-20220419
Lab Sample ID: TD81125-1
Matrix: AQ - Ground Water
Method: SW846 8260C
Project: DOWMIM (Jacobs)

Date Sampled: 04/19/22
Date Received: 04/20/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090057.D	1	04/25/22 23:04	MR	n/a	n/a	VE4147
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0013	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	92%		72-122%
17060-07-0	1,2-Dichloroethane-D4	105%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK-01
Lab Sample ID: TD81125-2
Matrix: AQ - Trip Blank Water
Method: SW846 8260C
Project: DOWMIM (Jacobs)

Date Sampled: 04/19/22
Date Received: 04/20/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090069.D	1	04/26/22 12:47	MR	n/a	n/a	VE4148
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		72-122%
17060-07-0	1,2-Dichloroethane-D4	99%		68-124%
2037-26-5	Toluene-D8	105%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD81125

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Ariff Hariz Phone #: 8324199610

Project Information

Project Name: Charlie Burch - April Event
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: State: Zip:
Attention:

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAc/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	LAB USE ONLY
1	MW-CB-40-20220419	10:37	4/19/22	AH	GW	3	X												X	
2	Trip blank-01	0810	4/19/22	AH	Aq	2													X	

Turnaround Time (Business days)

- [ ] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Approved By (SGS Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [x] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	AH 4/20/22	1454	1	1454 4/20/22	2		2	
3			3		4		4	
5			5		Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice / Cooler Temp. 2.8°

5.1 5

SGS Sample Receipt Summary

Job Number: TD81125 **Client:** JACOBS **Project:** CHARLIE BURCH-APRIL EVENT

Date / Time Received: 4/20/2022 2:54:00 PM **Delv Method:** CLIENT **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-4; **Temp Adjustment Factor:** -0.1;

Cooler Temps (Initial/Adjusted): #1: (2.1/2);

Test Strip Lot #s: **pH 1-12:** 10D2191 **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐

3. Type Of TB Received	W	or	S	N/A
	☑		☐	☐

Misc. Information

Number of terracores: 0 Number of Lab Filtered Metals: 0

Number of 5035 Field Kits: 0

Residual Chlorine Test Strip Lot #:

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
14. % Solids Jar received?	☐		☐	☑
15. Residual Chlorine Present?	☐		☐	☑

Comments

Sample Receipt Log

Job #: TD81125 **Date / Time Received:** 4/20/2022 2:54:00 PM **Initials:** MAURICIM

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD81125-1	40ml	1	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81125-1	40ml	2	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81125-1	40ml	3	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81125-2	40ml	1	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2
1	TD81125-2	40ml	2	VR26	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	2.1	-0.1	2

TD81125: Chain of Custody
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Appendix A Laboratory Data Package Cover Page

TD81125 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	4/28/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**4/28/2022**					
Project Name:		**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD81125**					
Reviewer Name:		**Electa Brown**	Prep Batch Number(s):	**VE4147, VE4148**					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]	
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**							
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X					
		Were all departures from standard conditions described in an exception report?		X					
R2	**OI**	**Sample and quality control (QC) identification**							
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X					
R3	**OI**	**Test reports**							
		Were samples prepared and analyzed within holding times?		X					
		Other than those results <MQL, were all other raw values bracketed by calibration standards?		X					
		Were calculations checked by a peer or supervisor?		X					
		Were all analyte identifications checked by a peer or supervisor?		X					
		Were sample detection limits reported for all analytes not detected?		X					
		Were all results for soil and sediment samples reported on a dry weight basis?				X			
		Were % moisture (or solids) reported for all soil and sediment samples?				X			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X			
		If required for the project, are TIC's reported?				X			
R4	**O**	**Surrogate recovery data**							
		Were surrogates added prior to extraction?		X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X					
R5	**OI**	**Test reports/summary forms for blank samples**							
		Were appropriate type(s) of blanks analyzed?		X					
		Were blanks analyzed at the appropriate frequency?		X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X					
		Were blank concentrations <MQL?		X					
R6	**OI**	**Laboratory control samples (LCS):**							
		Were all COCs included in the LCS?		X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?		X					
		Were LCSs analyzed at required frequency?		X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X					
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X					
		Was the LCSD RPD within QC limits?		X					
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**							
		Were the project/method specified analytes included in the MS and MSD?		X					
		Were MS/MSD analyzed at the appropriate frequency?		X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?		X					
		Were the MS/MSD RPDs within laboratory QC limits?		X					
R8	**OI**	**Analytical duplicate data**							
		Were appropriate analytical duplicates analyzed for each matrix?				X			
		Were analytical duplicates analyzed at the appropriate frequency?				X			
		Were RPDs or relative standard deviations within the laboratory QC limits?				X			
R9	**OI**	**Method quantitation limits (MQLs):**							
		Are the MQLs for each method analyte included in the laboratory data package?		X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration		X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?			X			**2**	
R10	**OI**	**Other problems/anomalies**							
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X					
		Was applicable and available technology used to lower the SDL to minimize the matrix		X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X				**3**	

Laboratory Name:		Accutest Gulf Coast	LRC Date:	4/28/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD81125				
Reviewer Name:		Electa Brown	Prep Batch Number(s):	VE4147, VE4148				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**4/28/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD81125**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**VE4147, VE4148**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD81125
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE4147-MB	E0090041.D	1000	04/25/22	MR	n/a	n/a	VE4147

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81125-1

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1000	370	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	91%	72-122%
17060-07-0	1,2-Dichloroethane-D4	100%	68-124%
2037-26-5	Toluene-D8	103%	80-119%
460-00-4	4-Bromofluorobenzene	99%	72-126%

Method Blank Summary

Job Number: TD81125
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE4148-MB	E0090068.D	1	04/26/22	MR	n/a	n/a	VE4148

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81125-2

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.37	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	88%	72-122%
17060-07-0	1,2-Dichloroethane-D4	99%	68-124%
2037-26-5	Toluene-D8	103%	80-119%
460-00-4	4-Bromofluorobenzene	100%	72-126%

Blank Spike Summary

Job Number: TD81125
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE4147-BS	E0090039.D	1000	04/25/22	MR	n/a	n/a	VE4147

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81125-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
107-06-2	1,2-Dichloroethane	25000	27200	109	68-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	94%	72-122%
17060-07-0	1,2-Dichloroethane-D4	107%	68-124%
2037-26-5	Toluene-D8	101%	80-119%
460-00-4	4-Bromofluorobenzene	105%	72-126%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD81125
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE4148-BS	E0090065.D	1	04/26/22	MR	n/a	n/a	VE4148
VE4148-BSD [a]	E0090066.D	1	04/26/22	MR	n/a	n/a	VE4148

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81125-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	25	24.6	98	25.9	104	5	68-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	94%	91%	72-122%
17060-07-0	1,2-Dichloroethane-D4	105%	107%	68-124%
2037-26-5	Toluene-D8	103%	102%	80-119%
460-00-4	4-Bromofluorobenzene	104%	103%	72-126%

(a) Insufficient sample available for MS/MSD.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD81125
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD81114-14MS	E0090049.D	1	04/25/22	MR	n/a	n/a	VE4147
TD81114-14MSD	E0090050.D	1	04/25/22	MR	n/a	n/a	VE4147
TD81114-14	E0090048.D	1	04/25/22	MR	n/a	n/a	VE4147

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81125-1

CAS No.	Compound	TD81114-14 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	12.5		25	34.8	89	25	37.3	99	7	68-121/12

CAS No.	Surrogate Recoveries	MS	MSD	TD81114-14	Limits
1868-53-7	Dibromofluoromethane	92%	90%	90%	72-122%
17060-07-0	1,2-Dichloroethane-D4	97%	95%	102%	68-124%
2037-26-5	Toluene-D8	105%	104%	104%	80-119%
460-00-4	4-Bromofluorobenzene	106%	102%	100%	72-126%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH/Biweekly Source Area GW

SGS Job Number: TD81127

Sampling Date: 04/20/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 33

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Kesavalu Bagawandoss
General Manager

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-22-46) AR (21-045-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2021-158) VA (11647)

Sections: 1 2 3 4 5 6 7 8

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: TD81127

DOWMIM (Jacobs)
Project No: CHARLIE BURCH/Biweekly Source Area GW

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD81127-1	04/20/22	13:15		04/20/22	AQ	Ground Water	SA-E-20220420
TD81127-2	04/20/22	13:00		04/20/22	AQ	Ground Water	SA-I-20220420

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Dow Chemical Company **Job No:** TD81127

Site: DOWMIM (Jacobs) **Report Date** 5/31/2022 10:41:36 P

2 Samples were collected on 04/20/2022 and received intact at SGS North America Inc (SGS) on 04/20/2022 and properly preserved in 1 cooler at 0.9 Deg C. The samples received an SGS job number of TD81127. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** VG3326

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD81340-2MS, TD81340-2MSD were used as the QC samples indicated.
- Matrix Spike Recovery and Matrix Spike Duplicate Recovery for Ethyl methacrylate are outside control limits. Probable cause due to matrix interference.

Matrix: AQ **Batch ID:** VG3333

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD81166-6MS, TD81166-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- TD81127-1 for Isobutyl alcohol: Associated CCV outside of control limits low. Low check standard confirms detectability.

MS Semi-volatiles By Method SW846 8270D

Matrix: AQ **Batch ID:** OP57235

- All samples were extracted within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- Sample(s) TD81177-6MS, TD81177-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample TD81127-2 has surrogates outside control limits. Outside control limits biased low. Not associated with target compounds.
- OP57235-BS for Cresol, Total: Advisory control limits.

General Chemistry By Method SM 4500H+B-2011

Matrix: AQ **Batch ID:** GN17096

- Sample TD81127-1DUP was used as the QC sample for pH.
- TD81127-1 for pH:Field analysis required. Received out of hold time and analyzed by request. Temp. 19.5 C.
- TD81127-2 for pH: Field analysis required. Received out of hold time and analyzed by request. Temp. 19.4 C.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

Summary of Hits

Job Number: TD81127
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 04/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD81127-1	**SA-E-20220420**					
Acetone		0.0125 J	0.050	0.010	mg/l	SW846 8260C
Methyl ethyl ketone		0.0022 J	0.010	0.0017	mg/l	SW846 8260C
pH [a]		8.79			su	SM 4500H+ B-2011
TD81127-2	**SA-I-20220420**					
pH [b]		8.41			su	SM 4500H+ B-2011

(a) Temp. 19.5 C.
(b) Temp. 19.4 C.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	SA-E-20220420		
Lab Sample ID:	TD81127-1	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293776.D	1	05/02/22 14:07	ML	n/a	n/a	VG3333
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	MQL	SDL	Units	Q
67-64-1	Acetone	0.0125	0.050	0.010	mg/l	J
71-43-2	Benzene	0.00030 U	0.0010	0.00030	mg/l	
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	
100-41-4	Ethylbenzene	0.00038 U	0.0010	0.00038	mg/l	
97-63-2	Ethyl methacrylate	0.00053 U	0.010	0.00053	mg/l	
78-83-1	Isobutyl alcohol [a]	0.020 U	0.20	0.020	mg/l	
80-62-6	Methyl methacrylate	0.00039 U	0.010	0.00039	mg/l	
78-93-3	Methyl ethyl ketone	0.0022	0.010	0.0017	mg/l	J
108-88-3	Toluene	0.00030 U	0.0010	0.00030	mg/l	
1330-20-7	Xylene (total)	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	96%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	96%		72-126%

(a) Associated CCV outside of control limits low. Low check standard confirms detectability.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	SA-E-20220420		
Lab Sample ID:	TD81127-1	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J205574.D	1	05/24/22 16:22	GJ	04/26/22 08:00	OP57235	EJ3355
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

SVOA Special List

CAS No.	Compound	Result	MQL	SDL	Units	Q
105-67-9	2,4-Dimethylphenol	0.0010 U	0.0048	0.0010	mg/l	
	Cresol, Total	0.00067 U	0.0048	0.00067	mg/l	JL

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	18%		10-66%
4165-62-2	Phenol-d5	11%		10-63%
118-79-6	2,4,6-Tribromophenol	57%		32-128%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound
JL = Indicates a biased low

Report of Analysis

Client Sample ID:	SA-E-20220420		
Lab Sample ID:	TD81127-1	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
pH [a]	8.79		su	1	04/30/22 11:25	MA	SM 4500H+ B-2011

(a) Temp. 19.5 C.

RL = Reporting Limit

Report of Analysis

Client Sample ID:	SA-I-20220420		
Lab Sample ID:	TD81127-2	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293656.D	1	04/28/22 15:36	ML	n/a	n/a	VG3326
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

VOA Special List

CAS No.	Compound	Result	MQL	SDL	Units	Q
67-64-1	Acetone	0.010 U	0.050	0.010	mg/l	
71-43-2	Benzene	0.00030 U	0.0010	0.00030	mg/l	
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	
100-41-4	Ethylbenzene	0.00038 U	0.0010	0.00038	mg/l	
97-63-2	Ethyl methacrylate	0.00053 U	0.010	0.00053	mg/l	
78-83-1	Isobutyl alcohol	0.020 U	0.20	0.020	mg/l	
80-62-6	Methyl methacrylate	0.00039 U	0.010	0.00039	mg/l	
78-93-3	Methyl ethyl ketone	0.0017 U	0.010	0.0017	mg/l	
108-88-3	Toluene	0.00030 U	0.0010	0.00030	mg/l	
1330-20-7	Xylene (total)	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		72-122%
17060-07-0	1,2-Dichloroethane-D4	98%		68-124%
2037-26-5	Toluene-D8	100%		80-119%
460-00-4	4-Bromofluorobenzene	95%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound
JL = Indicates a biased low

Report of Analysis

Client Sample ID:	SA-I-20220420		
Lab Sample ID:	TD81127-2	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8270D SW846 3510C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	J205575.D	1	05/24/22 16:43	GJ	04/26/22 08:00	OP57235	EJ3355
Run #2							

	Initial Volume	Final Volume
Run #1	1050 ml	1.0 ml
Run #2		

SVOA Special List

CAS No.	Compound	Result	MQL	SDL	Units	Q
105-67-9	2,4-Dimethylphenol	0.0010 U	0.0048	0.0010	mg/l	
	Cresol, Total	0.00067 U	0.0048	0.00067	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
367-12-4	2-Fluorophenol	12%		10-66%
4165-62-2	Phenol-d5	9% [a]		10-63%
118-79-6	2,4,6-Tribromophenol	42%		32-128%

(a) Outside control limits biased low. Not associated with target compounds.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound
JL =Indicates a biased low

Report of Analysis

Client Sample ID:	SA-I-20220420		
Lab Sample ID:	TD81127-2	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

General Chemistry

Analyte	Result	RL	Units	DF	Analyzed	By	Method
pH [a]	8.41		su	1	04/30/22 11:25	MA	SM 4500H+ B-2011

(a) Temp. 19.4 C.

RL = Reporting Limit

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

SGS

CHAIN OF CUSTODY

PAGE 1 OF 1

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX 713-271-4770
www.sgs.com/ehouston

FED-EX Tracking #:
Bottle Order Control #:
SGS Quote #:
SGS Job #: TD81127

Client / Reporting Information

Company Name: Jacobs (Former CH2MHill)
Street Address: 5995 Rogerdale Rd
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante
E-mail:
Phone #: 281-414-1719
Fax #:
Sampler(s) Name(s): Lorna Ramirez
Phone #: 8326617800

Project Information

Project Name: Charlie Burch Groundwater Sampling - ICG Property
Street:
City: State:
Project #:
Client Purchase Order #: 4509887117
Project Manager:

Billing Information (if different from Report to)

Company Name: Dow
Street Address:
City: State: Zip:
Attention:

Requested Analyses

1,2-Dichloroethane by 8260C

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAc+NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	LAB USE ONLY
1	SA-E-20220420	4/20/22	13:15	LOR	GW	5	3												5
2	SA-I-20220420	4/20/22	13:00	LOR	GW	5	3												5

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

DOWMIM29283 - A8270SL & V8260SL
1,2-Dichloroethane, 2-Butanone, Acetone, Benzene, Ethylbenzene, Isobutanol, Toluene, Total Xylenes, Ethyl methacrylate, Methyl methacrylate ** 2,4-Dimethylphenol TOB1 CRES1S

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Lorna Ramirez	13:28	1	2		2
3	4/20/22 1453	3	4		4
5		5	Custody Seal #	Intact / Not Intact	Preserved where applicable / On Ice / Cooler Temp.

SGS Sample Receipt Summary

Job Number: TD81127 **Client:** JACOBS **Project:** CHARLIE BURCH GROUNDWATER SAMPLIN

Date / Time Received: 4/20/2022 2:53:00 PM **Delv Method:** FEDEX **Airbill #'s:** 926940450650

# of Coolers: 1 **Therm ID:** IR-4; **Temp Adjustment Factor:** -0.1;

Cooler Temps (Initial/Adjusted): #1: (1/0.9);

Test Strip Lot #s: **pH 1-12:** 10D0391 **pH 12+:** _____ **Other: (Specify)** _____ _____

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐

3. Type Of TB Received	W	or	S	N/A
	☐		☐	☐

Misc. Information

Number of terracores: _____ Number of Lab Filtered Metals: _____

Number of 5035 Field Kits: _____

Residual Chlorine Test Strip Lot #: _____

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☐
14. % Solids Jar received?	☐		☐	☐
15. Residual Chlorine Present?	☐		☐	☐

Comments

Sample Receipt Log

Job #: TD81127 **Date / Time Received:** 4/20/2022 2:53:00 PM **Initials:** MICHAEL

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD81127-1	LAG	1	4CC	N/P	Note #2 - Preservative check not applicable.	IR-4	1	-0.1	0.9
1	TD81127-1	LAG	2	4CC	N/P	Note #2 - Preservative check not applicable.	IR-4	1	-0.1	0.9
1	TD81127-1	40ml	3	VR11	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1	-0.1	0.9
1	TD81127-1	40ml	4	VR11	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1	-0.1	0.9
1	TD81127-1	40ml	5	VR11	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1	-0.1	0.9
1	TD81127-2	LAG	1	4CC	N/P	Note #2 - Preservative check not applicable.	IR-4	1	-0.1	0.9
1	TD81127-2	LAG	2	4CC	N/P	Note #2 - Preservative check not applicable.	IR-4	1	-0.1	0.9
1	TD81127-2	40ml	3	VR11	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1	-0.1	0.9
1	TD81127-2	40ml	4	VR11	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1	-0.1	0.9
1	TD81127-2	40ml	5	VR11	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	1	-0.1	0.9

Appendix A Laboratory Data Package Cover Page

TD81127 This data package consists of

X	This signature page, the laboratory review checklist, and the following reportable data:		
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

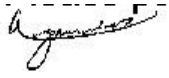
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texa Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Kesavalu Bagawandoss		General Manager	5/31/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/31/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD81127**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**GN17096, OP57235, VG3326, VG3333**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			**4**
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?			X		
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?		X			**4**
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	X				
		Were analytical duplicates analyzed at the appropriate frequency?	X				
		Were RPDs or relative standard deviations within the laboratory QC limits?	X				
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the matrix	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Gulf Coast	LRC Date:	5/31/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD81127				
Reviewer Name:		Electa Brown	Prep Batch Number(s):	GN17096, OP57235, VG3326, VG3333				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**5/31/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD81127**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**GN17096, OP57235, VG3326, VG3333**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.
4	All anomalies are discussed in the case narrative.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD81127
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG3326-MB	G293640.D	1	04/28/22	ML	n/a	n/a	VG3326

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81127-2

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.37	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
97-63-2	Ethyl methacrylate	ND	10	0.53	ug/l	
78-83-1	Isobutyl alcohol	ND	200	20	ug/l	
80-62-6	Methyl methacrylate	ND	10	0.39	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	1.7	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.37	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	93%	72-122%
17060-07-0	1,2-Dichloroethane-D4	99%	68-124%
2037-26-5	Toluene-D8	101%	80-119%
460-00-4	4-Bromofluorobenzene	96%	72-126%

Method Blank Summary

Job Number: TD81127
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG3333-MB	G293772.D	1	05/02/22	ML	n/a	n/a	VG3333

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81127-1

CAS No.	Compound	Result	RL	MDL	Units	Q
67-64-1	Acetone	ND	50	10	ug/l	
71-43-2	Benzene	ND	1.0	0.30	ug/l	
107-06-2	1,2-Dichloroethane	ND	1.0	0.37	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.38	ug/l	
97-63-2	Ethyl methacrylate	ND	10	0.53	ug/l	
78-83-1	Isobutyl alcohol	ND	200	20	ug/l	
80-62-6	Methyl methacrylate	ND	10	0.39	ug/l	
78-93-3	Methyl ethyl ketone	ND	10	1.7	ug/l	
108-88-3	Toluene	ND	1.0	0.30	ug/l	
1330-20-7	Xylene (total)	ND	1.0	0.37	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	72-122%
17060-07-0	1,2-Dichloroethane-D4	98%	68-124%
2037-26-5	Toluene-D8	99%	80-119%
460-00-4	4-Bromofluorobenzene	95%	72-126%

Blank Spike Summary

Job Number: TD81127
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG3326-BS	G293636.D	1	04/28/22	ML	n/a	n/a	VG3326

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81127-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	115	92	46-129
71-43-2	Benzene	25	26.2	105	68-119
107-06-2	1,2-Dichloroethane	25	26.0	104	68-121
100-41-4	Ethylbenzene	25	26.3	105	71-117
97-63-2	Ethyl methacrylate	25	28.8	115	59-118
78-83-1	Isobutyl alcohol	250	281	112	22-162
80-62-6	Methyl methacrylate	25	27.5	110	53-135
78-93-3	Methyl ethyl ketone	125	128	102	51-129
108-88-3	Toluene	25	25.9	104	73-119
1330-20-7	Xylene (total)	75	80.0	107	74-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	95%	72-122%
17060-07-0	1,2-Dichloroethane-D4	99%	68-124%
2037-26-5	Toluene-D8	101%	80-119%
460-00-4	4-Bromofluorobenzene	98%	72-126%

* = Outside of Control Limits.

Blank Spike Summary

Job Number: TD81127
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG3333-BS	G293768.D	1	05/02/22	ML	n/a	n/a	VG3333

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81127-1

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
67-64-1	Acetone	125	108	86	46-129
71-43-2	Benzene	25	26.3	105	68-119
107-06-2	1,2-Dichloroethane	25	26.0	104	68-121
100-41-4	Ethylbenzene	25	26.4	106	71-117
97-63-2	Ethyl methacrylate	25	27.9	112	59-118
78-83-1	Isobutyl alcohol	250	269	108	22-162
80-62-6	Methyl methacrylate	25	27.0	108	53-135
78-93-3	Methyl ethyl ketone	125	126	101	51-129
108-88-3	Toluene	25	26.0	104	73-119
1330-20-7	Xylene (total)	75	80.1	107	74-119

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	99%	72-122%
17060-07-0	1,2-Dichloroethane-D4	99%	68-124%
2037-26-5	Toluene-D8	99%	80-119%
460-00-4	4-Bromofluorobenzene	98%	72-126%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD81127
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD81340-2MS	G293646.D	5	04/28/22	ML	n/a	n/a	VG3326
TD81340-2MSD	G293648.D	5	04/28/22	ML	n/a	n/a	VG3326
TD81340-2	G293644.D	5	04/28/22	ML	n/a	n/a	VG3326

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81127-2

CAS No.	Compound	TD81340-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	1280		625	1820	86	625	1800	83	1	46-129/25
71-43-2	Benzene	ND		125	128	102	125	140	112	9	68-119/12
107-06-2	1,2-Dichloroethane	ND		125	125	100	125	136	109	8	68-121/12
100-41-4	Ethylbenzene	ND		125	128	102	125	141	113	10	71-117/12
97-63-2	Ethyl methacrylate	ND		125	151	121*	125	161	129*	6	59-118/19
78-83-1	Isobutyl alcohol	ND		1250	1510	121	1250	1590	127	5	22-162/30
80-62-6	Methyl methacrylate	ND		125	140	112	125	143	114	2	53-135/21
78-93-3	Methyl ethyl ketone	ND		625	694	111	625	714	114	3	51-129/22
108-88-3	Toluene	ND		125	125	100	125	139	111	11	73-119/13
1330-20-7	Xylene (total)	ND		375	387	103	375	424	113	9	74-119/13

CAS No.	Surrogate Recoveries	MS	MSD	TD81340-2	Limits
1868-53-7	Dibromofluoromethane	97%	97%	94%	72-122%
17060-07-0	1,2-Dichloroethane-D4	100%	99%	99%	68-124%
2037-26-5	Toluene-D8	100%	100%	100%	80-119%
460-00-4	4-Bromofluorobenzene	98%	100%	97%	72-126%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD81127
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD81166-6MS	G293788.D	1	05/02/22	ML	n/a	n/a	VG3333
TD81166-6MSD	G293790.D	1	05/02/22	ML	n/a	n/a	VG3333
TD81166-6	G293786.D	1	05/02/22	ML	n/a	n/a	VG3333

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81127-1

CAS No.	Compound	TD81166-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
67-64-1	Acetone	50	U	125	115	92	125	105	84	9	46-129/25
71-43-2	Benzene	1.0	U	25	24.9	100	25	25.2	101	1	68-119/12
107-06-2	1,2-Dichloroethane	1.0	U	25	24.3	97	25	24.6	98	1	68-121/12
100-41-4	Ethylbenzene	1.0	U	25	25.1	100	25	25.4	102	1	71-117/12
97-63-2	Ethyl methacrylate	10	U	25	26.5	106	25	27.0	108	2	59-118/19
78-83-1	Isobutyl alcohol	200	U	250	255	102	250	272	109	6	22-162/30
80-62-6	Methyl methacrylate	10	U	25	25.2	101	25	26.5	106	5	53-135/21
78-93-3	Methyl ethyl ketone	10	U	125	118	94	125	122	98	3	51-129/22
108-88-3	Toluene	1.0	U	25	24.8	99	25	25.1	100	1	73-119/13
1330-20-7	Xylene (total)	1.0	U	75	75.8	101	75	76.4	102	1	74-119/13

CAS No.	Surrogate Recoveries	MS	MSD	TD81166-6	Limits
1868-53-7	Dibromofluoromethane	96%	95%	97%	72-122%
17060-07-0	1,2-Dichloroethane-D4	96%	97%	96%	68-124%
2037-26-5	Toluene-D8	101%	100%	100%	80-119%
460-00-4	4-Bromofluorobenzene	98%	97%	95%	72-126%

* = Outside of Control Limits.

MS Semi-volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD81127
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57235-MB	J205356.D	1	05/18/22	GJ	04/26/22	OP57235	EJ3350

The QC reported here applies to the following samples: **Method:** SW846 8270D

TD81127-1, TD81127-2

CAS No.	Compound	Result	RL	MDL	Units	Q
105-67-9	2,4-Dimethylphenol	ND	5.0	1.1	ug/l	
	Cresol, Total	ND	5.0	0.71	ug/l	

CAS No.	Surrogate Recoveries		Limits
367-12-4	2-Fluorophenol	30%	10-66%
4165-62-2	Phenol-d5	20%	10-63%
118-79-6	2,4,6-Tribromophenol	87%	32-128%
4165-60-0	Nitrobenzene-d5	85%	29-115%
321-60-8	2-Fluorobiphenyl	80%	34-113%
1718-51-0	Terphenyl-d14	101%	23-138%

Blank Spike Summary

Job Number: TD81127
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57235-BS	J205357.D	1	05/18/22	GJ	04/26/22	OP57235	EJ3350

The QC reported here applies to the following samples: **Method:** SW846 8270D

TD81127-1, TD81127-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
105-67-9	2,4-Dimethylphenol	50	34.2	68	39-107
	Cresol, Total	100	46.5	47* [a]	50-150 [a]

CAS No.	Surrogate Recoveries	BSP	Limits
367-12-4	2-Fluorophenol	32%	10-66%
4165-62-2	Phenol-d5	21%	10-63%
118-79-6	2,4,6-Tribromophenol	82%	32-128%
4165-60-0	Nitrobenzene-d5	81%	29-115%
321-60-8	2-Fluorobiphenyl	77%	34-113%
1718-51-0	Terphenyl-d14	87%	23-138%

(a) Advisory control limits.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD81127
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
OP57235-MS	J205375.D	1	05/18/22	GJ	04/26/22	OP57235	EJ3350
OP57235-MSD	J205376.D	1	05/18/22	GJ	04/26/22	OP57235	EJ3350
TD81177-6	J205374.D	1	05/18/22	GJ	04/26/22	OP57235	EJ3350

The QC reported here applies to the following samples: **Method:** SW846 8270D

TD81127-1, TD81127-2

CAS No.	Compound	TD81177-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
105-67-9	2,4-Dimethylphenol	5.1 U		50	44.4	89	50.3	44.9	89	1	39-107/32
	Cresol, Total	1.5	J	100	65.0	64	101	67.1	65	3	50-150/30 [a]

CAS No.	Surrogate Recoveries	MS	MSD	TD81177-6	Limits
367-12-4	2-Fluorophenol	40%	40%	35%	10-66%
4165-62-2	Phenol-d5	29%	30%	23%	10-63%
118-79-6	2,4,6-Tribromophenol	93%	94%	100%	32-128%
4165-60-0	Nitrobenzene-d5	93%	93%	88%	29-115%
321-60-8	2-Fluorobiphenyl	87%	89%	84%	34-113%
1718-51-0	Terphenyl-d14	89%	88%	86%	23-138%

(a) Advisory control limits.

* = Outside of Control Limits.

General Chemistry

QC Data Summaries

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD81127
Account: DOWMIM - Dow Chemical Company
Project: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
pH	GN17096	TD81127-1	su	8.79	8.82(a)	0.3	0-10%

Associated Samples:
Batch GN17096: TD81127-1, TD81127-2
(*) Outside of QC limits
(a) Temp. 19.6 C.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH

SGS Job Number: TD81128

Sampling Dates: 04/19/22 - 04/20/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: **29**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

John Watson
Technical Director

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-22-46) AR (21-045-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2021-158) VA (11647)

Sections: 1 2 3 4 5 6

Table of Contents

Sample Summary

Dow Chemical Company

Job No: TD81128

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD81128-1	04/19/22	13:35		04/20/22	AQ	Ground Water	MW-CB-2A-20220419
TD81128-2	04/19/22	13:25		04/20/22	AQ	Ground Water	MW-CB-2B-20220419
TD81128-2D	04/19/22	13:25		04/20/22	AQ	Water Dup/MSD	MW-CB-2B-20220419
TD81128-2S	04/19/22	13:25		04/20/22	AQ	Water Matrix Spike	MW-CB-2B-20220419
TD81128-3	04/19/22	13:45		04/20/22	AQ	Ground Water	BDP-3-20220419
TD81128-4	04/19/22	14:05		04/20/22	AQ	Ground Water	BDP-5-20220419
TD81128-5	04/20/22	11:10		04/20/22	AQ	Ground Water	MW-CB-GB-20220420
TD81128-6	04/20/22	00:00		04/20/22	AQ	Ground Water	DUP-01-20220419
TD81128-7	04/20/22	08:00		04/20/22	AQ	Trip Blank Water	TRIP BLANK-01
TD81128-8	04/20/22	13:55		04/20/22	AQ	Ground Water	PMW-08B-20220419

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Dow Chemical Company **Job No:** TD81128

Site: DOWMIM (Jacobs) **Report Date** 4/28/2022 7:37:03 PM

7 Samples were collected on between 04/19/2022 and 04/20/2022 and received intact at SGS North America Inc (SGS) on 04/20/2022 and properly preserved in 1 cooler at 4.1 Deg C. The samples received an SGS job number of TD81128. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260C

Matrix: AQ **Batch ID:** VE4148

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- VE4148-BSD: Insufficient sample available for MS/MSD.

Matrix: AQ **Batch ID:** VG3319

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD81128-2MS, TD81128-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

Summary of Hits

Job Number: TD81128
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 04/19/22 thru 04/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD81128-1	**MW-CB-2A-20220419**					
1,2-Dichloroethane		0.0045	0.0010	0.00037	mg/l	SW846 8260C
TD81128-2	**MW-CB-2B-20220419**					
No hits reported in this sample.						
TD81128-3	**BDP-3-20220419**					
1,2-Dichloroethane		0.0145	0.0010	0.00037	mg/l	SW846 8260C
TD81128-4	**BDP-5-20220419**					
1,2-Dichloroethane		0.0066	0.0010	0.00037	mg/l	SW846 8260C
TD81128-5	**MW-CB-GB-20220420**					
No hits reported in this sample.						
TD81128-6	**DUP-01-20220419**					
No hits reported in this sample.						
TD81128-7	**TRIP BLANK-01**					
No hits reported in this sample.						
TD81128-8	**PMW-08B-20220419**					
1,2-Dichloroethane		0.0066	0.0010	0.00037	mg/l	SW846 8260C

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-CB-2A-20220419		
Lab Sample ID:	TD81128-1	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293545.D	1	04/26/22 11:14	ML	n/a	n/a	VG3319
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0045	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		72-122%
17060-07-0	1,2-Dichloroethane-D4	112%		68-124%
2037-26-5	Toluene-D8	97%		80-119%
460-00-4	4-Bromofluorobenzene	96%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-2B-20220419		
Lab Sample ID:	TD81128-2	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293551.D	1	04/26/22 12:51	ML	n/a	n/a	VG3319
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		72-122%
17060-07-0	1,2-Dichloroethane-D4	108%		68-124%
2037-26-5	Toluene-D8	98%		80-119%
460-00-4	4-Bromofluorobenzene	96%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BDP-3-20220419		
Lab Sample ID:	TD81128-3	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293547.D	1	04/26/22 11:46	ML	n/a	n/a	VG3319
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0145	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		72-122%
17060-07-0	1,2-Dichloroethane-D4	110%		68-124%
2037-26-5	Toluene-D8	98%		80-119%
460-00-4	4-Bromofluorobenzene	96%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	BDP-5-20220419		
Lab Sample ID:	TD81128-4	**Date Sampled:**	04/19/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	G293549.D	1	04/26/22 12:18	ML	n/a	n/a	VG3319
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0066	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		72-122%
17060-07-0	1,2-Dichloroethane-D4	112%		68-124%
2037-26-5	Toluene-D8	98%		80-119%
460-00-4	4-Bromofluorobenzene	95%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-GB-20220420		
Lab Sample ID:	TD81128-5	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090070.D	1	04/26/22 13:10	MR	n/a	n/a	VE4148
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-122%
17060-07-0	1,2-Dichloroethane-D4	108%		68-124%
2037-26-5	Toluene-D8	102%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01-20220419		
Lab Sample ID:	TD81128-6	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090071.D	1	04/26/22 13:33	MR	n/a	n/a	VE4148
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	88%		72-122%
17060-07-0	1,2-Dichloroethane-D4	100%		68-124%
2037-26-5	Toluene-D8	105%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK-01		
Lab Sample ID:	TD81128-7	**Date Sampled:**	04/20/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090072.D	1	04/26/22 13:56	MR	n/a	n/a	VE4148
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00037 U	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	89%		72-122%
17060-07-0	1,2-Dichloroethane-D4	102%		68-124%
2037-26-5	Toluene-D8	104%		80-119%
460-00-4	4-Bromofluorobenzene	100%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PMW-08B-20220419		
Lab Sample ID:	TD81128-8	**Date Sampled:**	04/20/22
Matrix:	AQ - Ground Water	**Date Received:**	04/20/22
Method:	SW846 8260C	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	E0090073.D	1	04/26/22 14:19	MR	n/a	n/a	VE4148
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0066	0.0010	0.00037	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	91%		72-122%
17060-07-0	1,2-Dichloroethane-D4	104%		68-124%
2037-26-5	Toluene-D8	103%		80-119%
460-00-4	4-Bromofluorobenzene	99%		72-126%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX 713-271-4770
www.sgs.com/ehouston

FED-EX Tracking #:
SGS Quote #:
Bottle Order Control #:
SGS Job #: TD81128

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): A.H. Hair Phone #: 8326199

Project Information

Project Name: Charlie Burch - April Event
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: State: Zip:
Attention:

Requested Analyses

8260 - 1,2-Dichloroethane

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	Na2SO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	LAB USE ONLY
1	MW-CB-2A-20220419	4/19/22	1335	AH	GW	3	X												X	3
2	MW-CB-2B-20220419	"	1325	AH	GW	9	X												X	MS & MSD Collected 9
3	BDP-3-20220419	"	1345	AH	GW	3	X												X	3
4	BDP-5-20220419	"	1405	AH	GW	3	X												X	3
5	MW-CB-6B-20220419	4/20/22	1110	AH	GW	3	X												X	3
	~~MW-CB-8BR-20220419~~	"	1355	AH	GW	3	X												X	3
6	DW-01-20220419	"	—	AH	GW	3	X												X	3
7	TripBlank-01	"	0800	AH	GW	2	X												X	2
8	PMW-08B-20220419	"	1355	AH	GW	3	X												X	3

Turnaround Time (Business days)

- [ ] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [x] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form SM021-0

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		4/20/22 13	1		2		2	
3		1453	3	4/21/22	4		4	
5	Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice / Cooler Temp: 4.1

5.1 5

SGS Sample Receipt Summary

Job Number: TD81128 **Client:** JACOBS **Project:** CHARLIE BURCH

Date / Time Received: 4/20/2022 2:53:00 PM **Delv Method:** CLIENT **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-4; **Temp Adjustment Factor:** -0.1;

Cooler Temps (Initial/Adjusted): #1: (4.2/4.1);

Test Strip Lot #s: **pH 1-12:** **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	Ice (Bag)			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐

3. Type Of TB Received	W	or	S	N/A
	☑		☐	☐

Misc. Information

Number of terracores: Number of Lab Filtered Metals:

Number of 5035 Field Kits:

Residual Chlorine Test Strip Lot #:

Comments

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☐
14. % Solids Jar received?	☐		☐	☐
15. Residual Chlorine Present?	☐		☐	☐

Sample Receipt Log

Job #: TD81128 **Date / Time Received:** 4/20/2022 2:53:00 PM **Initials:** MICHAEL

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD81128-1	40ml	1	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-1	40ml	2	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-1	40ml	3	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-2	40ml	1	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-2	40ml	2	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-2	40ml	3	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-2	40ml	4	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-2	40ml	5	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-2	40ml	6	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-2	40ml	7	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-2	40ml	8	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-2	40ml	9	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-3	40ml	1	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-3	40ml	2	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-3	40ml	3	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-4	40ml	1	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-4	40ml	2	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-4	40ml	3	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-5	40ml	1	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-5	40ml	2	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-5	40ml	3	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-6	40ml	1	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-6	40ml	2	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1

Sample Receipt Log

Job #: TD81128 **Date / Time Received:** 4/20/2022 2:53:00 PM **Initials:** MICHAEL

Client: JACOBS

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD81128-6	40ml	3	VR4	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-7	40ml	1	VR9	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-7	40ml	2	VR9	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-8	40ml	1	VR10	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-8	40ml	2	VR10	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1
1	TD81128-8	40ml	3	VR10	HCL	Note #1 - Preservative to be checked by analyst at the instrument.	IR-4	4.2	-0.1	4.1

TD81128: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

TD81128 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
John Watson		Technical Director	4/28/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**4/28/2022**					
Project Name:		**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD81128**					
Reviewer	Name:	**Electa Brown**	Prep Batch Number(s):	**VE4148, VG3319**					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]	
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**							
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X					
		Were all departures from standard conditions described in an exception report?		X					
R2	**OI**	**Sample and quality control (QC) identification**							
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X					
R3	**OI**	**Test reports**							
		Were samples prepared and analyzed within holding times?		X					
		Other than those results <MQL, were all other raw values bracketed by calibration standards?		X					
		Were calculations checked by a peer or supervisor?		X					
		Were all analyte identifications checked by a peer or supervisor?		X					
		Were sample detection limits reported for all analytes not detected?		X					
		Were all results for soil and sediment samples reported on a dry weight basis?				X			
		Were % moisture (or solids) reported for all soil and sediment samples?				X			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X			
		If required for the project, are TIC's reported?				X			
R4	**O**	**Surrogate recovery data**							
		Were surrogates added prior to extraction?		X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X					
R5	**OI**	**Test reports/summary forms for blank samples**							
		Were appropriate type(s) of blanks analyzed?		X					
		Were blanks analyzed at the appropriate frequency?		X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X					
		Were blank concentrations <MQL?		X					
R6	**OI**	**Laboratory control samples (LCS):**							
		Were all COCs included in the LCS?		X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?		X					
		Were LCSs analyzed at required frequency?		X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X					
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X					
		Was the LCSD RPD within QC limits?		X					
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**							
		Were the project/method specified analytes included in the MS and MSD?		X					
		Were MS/MSD analyzed at the appropriate frequency?		X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?		X					
		Were the MS/MSD RPDs within laboratory QC limits?		X					
R8	**OI**	**Analytical duplicate data**							
		Were appropriate analytical duplicates analyzed for each matrix?				X			
		Were analytical duplicates analyzed at the appropriate frequency?				X			
		Were RPDs or relative standard deviations within the laboratory QC limits?				X			
R9	**OI**	**Method quantitation limits (MQLs):**							
		Are the MQLs for each method analyte included in the laboratory data package?		X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration		X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?			X			**2**	
R10	**OI**	**Other problems/anomalies**							
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X					
		Was applicable and available technology used to lower the SDL to minimize the matrix		X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X				**3**	

Laboratory Name:		Accutest Gulf Coast	LRC Date:	4/28/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD81128				
Reviewer Name:		Electa Brown	Prep Batch Number(s):	VE4148, VG3319				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**4/28/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD81128**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**VE4148, VG3319**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD81128
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG3319-MB	G293543.D	1	04/26/22	ML	n/a	n/a	VG3319

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81128-1, TD81128-2, TD81128-3, TD81128-4

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.37	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	98%	72-122%
17060-07-0	1,2-Dichloroethane-D4	106%	68-124%
2037-26-5	Toluene-D8	99%	80-119%
460-00-4	4-Bromofluorobenzene	96%	72-126%

Method Blank Summary

Job Number: TD81128
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE4148-MB	E0090068.D	1	04/26/22	MR	n/a	n/a	VE4148

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81128-5, TD81128-6, TD81128-7, TD81128-8

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.37	ug/l	

CAS No.	Surrogate Recoveries		Limits
1868-53-7	Dibromofluoromethane	88%	72-122%
17060-07-0	1,2-Dichloroethane-D4	99%	68-124%
2037-26-5	Toluene-D8	103%	80-119%
460-00-4	4-Bromofluorobenzene	100%	72-126%

Blank Spike Summary

Job Number: TD81128
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VG3319-BS	G293539.D	1	04/26/22	ML	n/a	n/a	VG3319

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81128-1, TD81128-2, TD81128-3, TD81128-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	Limits
107-06-2	1,2-Dichloroethane	25	27.9	112	68-121

CAS No.	Surrogate Recoveries	BSP	Limits
1868-53-7	Dibromofluoromethane	100%	72-122%
17060-07-0	1,2-Dichloroethane-D4	107%	68-124%
2037-26-5	Toluene-D8	99%	80-119%
460-00-4	4-Bromofluorobenzene	99%	72-126%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD81128
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
VE4148-BS	E0090065.D	1	04/26/22	MR	n/a	n/a	VE4148
VE4148-BSD [a]	E0090066.D	1	04/26/22	MR	n/a	n/a	VE4148

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81128-5, TD81128-6, TD81128-7, TD81128-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	25	24.6	98	25.9	104	5	68-121/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
1868-53-7	Dibromofluoromethane	94%	91%	72-122%
17060-07-0	1,2-Dichloroethane-D4	105%	107%	68-124%
2037-26-5	Toluene-D8	103%	102%	80-119%
460-00-4	4-Bromofluorobenzene	104%	103%	72-126%

(a) Insufficient sample available for MS/MSD.

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD81128
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD81128-2MS	G293553.D	1	04/26/22	ML	n/a	n/a	VG3319
TD81128-2MSD	G293555.D	1	04/26/22	ML	n/a	n/a	VG3319
TD81128-2	G293551.D	1	04/26/22	ML	n/a	n/a	VG3319

The QC reported here applies to the following samples: **Method:** SW846 8260C

TD81128-1, TD81128-2, TD81128-3, TD81128-4

CAS No.	Compound	TD81128-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.0	U	25	25.2	101	25	26.8	107	6	68-121/12

CAS No.	Surrogate Recoveries	MS	MSD	TD81128-2	Limits
1868-53-7	Dibromofluoromethane	99%	97%	98%	72-122%
17060-07-0	1,2-Dichloroethane-D4	106%	105%	108%	68-124%
2037-26-5	Toluene-D8	99%	100%	98%	80-119%
460-00-4	4-Bromofluorobenzene	99%	97%	96%	72-126%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA82162

Sampling Date: 08/16/22

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 32

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: LA82162

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA82162-1	08/16/22	11:50		08/17/22	AQ	Ground Water	TRW-CW-1-2022-0816
LA82162-2	08/16/22	11:55		08/17/22	AQ	Ground Water	MW-CB-15AS-20220816
LA82162-3	08/16/22	12:05		08/17/22	AQ	Ground Water	EAB-MW-03-20220816
LA82162-4	08/16/22	11:35		08/17/22	AQ	Ground Water	MW-CB-29-20220816
LA82162-4D	08/16/22	11:35		08/17/22	AQ	Water Dup/MSD	MW-CB-29-20220816
LA82162-4S	08/16/22	11:35		08/17/22	AQ	Water Matrix Spike	MW-CB-29-20220816
LA82162-5	08/16/22	00:00		08/17/22	AQ	Ground Water	DUP-01-20220816
LA82162-6	08/16/22	08:00		08/17/22	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Dow Chemical Company **Job No:** LA82162

Site: DOWMIM (JACOBS) **Report Date** 9/6/2022 3:51:58 PM

5 samples, 1 trip blanks and 0 field blanks were collected on 08/16/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 08/17/2022, properly preserved and cool at 1.4 Deg C. These samples received an SGS job number of LA82162. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1J4137

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82292-11MS, LA82292-11MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V2G6219

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82162-4MS, LA82162-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V2G6232

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82164-1MS, LA82164-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V2Y143

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82164-4MS, LA82164-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA82162
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 08/16/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA82162-1	**TRW-CW-1-2022-0816**					
1,2-Dichloroethane		0.0071	0.0010	0.00041	mg/l	SW846 8260B
LA82162-2	**MW-CB-15AS-20220816**					
1,2-Dichloroethane		0.0129	0.0010	0.00041	mg/l	SW846 8260B
LA82162-3	**EAB-MW-03-20220816**					
1,2-Dichloroethane		0.0016	0.0010	0.00041	mg/l	SW846 8260B
LA82162-4	**MW-CB-29-20220816**					
No hits reported in this sample.						
LA82162-5	**DUP-01-20220816**					
1,2-Dichloroethane		0.0037	0.0010	0.00041	mg/l	SW846 8260B
LA82162-6	**TRIP BLANK**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	TRW-CW-1-2022-0816		
Lab Sample ID:	LA82162-1	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G502973.D	1	08/28/22 20:42	JY	n/a	n/a	V2G6232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0071	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	94%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-15AS-20220816		
Lab Sample ID:	LA82162-2	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G502975.D	1	08/28/22 21:11	JY	n/a	n/a	V2G6232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0129	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	92%		75-130%
2037-26-5	Toluene-D8	105%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EAB-MW-03-20220816		
Lab Sample ID:	LA82162-3	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G502977.D	1	08/28/22 21:40	JY	n/a	n/a	V2G6232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0016	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	89%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-29-20220816		
Lab Sample ID:	LA82162-4	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2G502669.D	1	08/23/22 21:55	JY	n/a	n/a	V2G6219
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	105%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) CCV recovery is above method acceptance criteria for Vinyl Chloride

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01-20220816		
Lab Sample ID:	LA82162-5	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0117864.D	1	08/30/22 20:14	JY	n/a	n/a	V1J4137
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0037	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	LA82162-6	**Date Sampled:**	08/16/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0003282.D	1	08/23/22 00:52	MB	n/a	n/a	V2Y143
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		75-130%
2037-26-5	Toluene-D8	105%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #

Bottle Order Control #

SGS Quote #

SGS Job # LA82162

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Alif Hart Phone #: 832 419 9610

Project Information

Project Name: Charlie Burch - Annual Sampling - 13-AT
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: State: Zip:
Attention:

Requested Analyses

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	Na2SO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	MS /MSD										LAB USE ONLY
1	TRW-CB-1-20220816	11:50	8-16-22	AH	GW	3	✓												✓											3
2	MW-CB-15AS-20220816	11:55	8-16-22	AH	GW	3	✓												✓											3
3	EAB-MW-CB-20220816	8-16-22	12:05	AH	GW	3	✓												✓											3
4	MW-CB-40-20220816	8-16-22	11:26	AH	GW	3	✓												✓											
4 DUP	MW-CB-29-20220816	8-16-22	11:35	AH	GW	9	✓												✓	✓	MS/DUP									9
5 DUP	DUP-01-20220816	8-16-22	—	AH	GW	3	✓												✓											3
6 TRIP	TB-1 TRIP BLANK	8-16-22	0800	# -	W	2	✓												✓											2
	8/18/22																													

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date: RLm-16

Form: SM021-0

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		8/11/221701	1	1701	2			
3		8-17-22 840	3		4		4	
5	Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal # NO C/S	[X] Intact [ ] Not intact	Preserved where applicable [ ]	On Ice [X] Cooler Temp. 1.4 IR001

LA82162: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

CS NAME: Jacobs Date: 8/17/22

Job Number: LA82162 Client: Jacobs

Date/Time Received: 8/17/22 840 Delivery Method: SGS Driver

Project: I3 AT

Airbill #

Cooler Temp: Incl 1.4

Cooler Security	Y	N
1. Custody Seal Present		✓
2. Custody Seal in Tact		✓
3. COC Present	✓	
4 Smpl Date/Time ok?	✓	

Cooler Temperature	Y	N
1. Temp Criteria achieved	✓	
2. Cooler Temp Verification		
3. Cooler Media		

Quality Control Preservation	Y	N	N/A
1. Trip Blank Present/Cooler			
2. Trip Blank listed on COC			
3. Sample preserved Properly	✓		
4. VOC Headspace Free			

Comments

Sample Intergrity-Documentation	Y	N
1. Sample labels present on bottles:	✓	
2. Container labeling complete:	✓	
3. Sample container label/COC agree:	✓	

Sample Intergrity - Condition	Y	N
1. Sample within HT	✓	
2. All containers accounted for	✓	
3. Condition of samples		

Sample Integrity -Instructions	Y	N	N/A
1. Analysis requested is clear			
2. Bottles received for unspecified Tests		✓	
3. Sufficient Volume Recvd for analysis	✓		
4. Compositing instructions clear:			✓
5. Filtering instructions clear:			✓

LA82162: Chain of Custody
Page 2 of 2

Appendix A Laboratory Data Package Cover Page

LA82162 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	9/6/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**9/6/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA82162**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1J4137, V2G6219, V2G6232, V2Y143**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	9/6/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA82162				
Reviewer Name:		Electa Brown	Prep Batch Number(s):	V1J4137, V2G6219, V2G6232, V2Y143				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**9/6/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA82162**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1J4137, V2G6219, V2G6232, V2Y143**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2Y143-MB1	2Y0003280.D	1	08/23/22	MB	n/a	n/a	V2Y143

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-6

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	94%	75-130%
2037-26-5	Toluene-D8	102%	85-110%
460-00-4	4-Bromofluorobenzene	99%	86-115%

Method Blank Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2G6219-MB1 [a]	2G502633.D	1	08/23/22	JY	n/a	n/a	V2G6219

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-4

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	102%	75-130%
2037-26-5	Toluene-D8	106%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

(a) CCV recovery is above method acceptance criteria for Vinyl Chloride

Method Blank Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2G6232-MB1	2G502951.D	1	08/28/22	JY	n/a	n/a	V2G6232

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-1, LA82162-2, LA82162-3

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	91%	75-130%
2037-26-5	Toluene-D8	105%	85-110%
460-00-4	4-Bromofluorobenzene	99%	86-115%

Method Blank Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4137-MB2	1J0117862.D	1	08/30/22	JY	n/a	n/a	V1J4137

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-5

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	96%	75-130%
2037-26-5	Toluene-D8	98%	85-110%
460-00-4	4-Bromofluorobenzene	94%	86-115%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	unknown	.93	35	ug/l	J
	Total TIC, Volatile		35	ug/l	J

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2Y143-BS1	2Y0003276.D	1	08/22/22	MB	n/a	n/a	V2Y143
V2Y143-BSD1	2Y0003278.D	1	08/22/22	MB	n/a	n/a	V2Y143

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	16.7	84	16.5	83	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	94%	91%	75-130%
2037-26-5	Toluene-D8	97%	97%	85-110%
460-00-4	4-Bromofluorobenzene	102%	99%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2G6219-BS1 [a]	2G502629.D	1	08/23/22	JY	n/a	n/a	V2G6219
V2G6219-BSD1 [a]	2G502631.D	1	08/23/22	JY	n/a	n/a	V2G6219

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	21.1	106	20.8	104	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	107%	108%	75-130%
2037-26-5	Toluene-D8	104%	102%	85-110%
460-00-4	4-Bromofluorobenzene	100%	101%	86-115%

(a) CCV recovery is above method acceptance criteria for Vinyl Chloride

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2G6232-BS1	2G502947.D	1	08/28/22	JY	n/a	n/a	V2G6232
V2G6232-BSD1	2G502949.D	1	08/28/22	JY	n/a	n/a	V2G6232

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-1, LA82162-2, LA82162-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.6	103	19.9	100	3	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	94%	97%	75-130%
2037-26-5	Toluene-D8	101%	101%	85-110%
460-00-4	4-Bromofluorobenzene	99%	100%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4137-BS1	1J0117856B.D	1	08/30/22	JY	n/a	n/a	V1J4137
V1J4137-BSD1	1J0117858.D	1	08/30/22	JY	n/a	n/a	V1J4137

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	19.2	96	18.8	94	2	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	101%	98%	75-130%
2037-26-5	Toluene-D8	100%	101%	85-110%
460-00-4	4-Bromofluorobenzene	99%	99%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82164-4MS	2Y0003294.D	2	08/23/22	MB	n/a	n/a	V2Y143
LA82164-4MSD	2Y0003296.D	2	08/23/22	MB	n/a	n/a	V2Y143
LA82164-4	2Y0003292.D	1	08/23/22	MB	n/a	n/a	V2Y143

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-6

CAS No.	Compound	LA82164-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	ND		40	34.9	87	40	34.7	87	1	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82164-4	Limits
17060-07-0	1,2-Dichloroethane-D4	100%	96%	103%	75-130%
2037-26-5	Toluene-D8	101%	100%	104%	85-110%
460-00-4	4-Bromofluorobenzene	103%	104%	99%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82162-4MS [a]	2G502671.D	2	08/23/22	JY	n/a	n/a	V2G6219
LA82162-4MSD [a]	2G502673.D	2	08/23/22	JY	n/a	n/a	V2G6219
LA82162-4 [a]	2G502669.D	1	08/23/22	JY	n/a	n/a	V2G6219

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-4

CAS No.	Compound	LA82162-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.0	U	40	39.8	100	40	39.2	98	2	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82162-4	Limits
17060-07-0	1,2-Dichloroethane-D4	96%	83%	108%	75-130%
2037-26-5	Toluene-D8	106%	110%	105%	85-110%
460-00-4	4-Bromofluorobenzene	100%	101%	102%	86-115%

(a) CCV recovery is above method acceptance criteria for Vinyl Chloride

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82164-1MS	2G502987.D	200	08/29/22	JY	n/a	n/a	V2G6232
LA82164-1MSD	2G502989.D	200	08/29/22	JY	n/a	n/a	V2G6232
LA82164-1	2G502967.D	1	08/28/22	JY	n/a	n/a	V2G6232

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-1, LA82162-2, LA82162-3

CAS No.	Compound	LA82164-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	3.0		4000	4000	100	4000	3890	97	3	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82164-1	Limits
17060-07-0	1,2-Dichloroethane-D4	93%	94%	93%	75-130%
2037-26-5	Toluene-D8	103%	104%	105%	85-110%
460-00-4	4-Bromofluorobenzene	99%	100%	98%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82162
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82292-11MS	1J0117900.D	200	08/31/22	JY	n/a	n/a	V1J4137
LA82292-11MSD	1J0117902.D	200	08/31/22	JY	n/a	n/a	V1J4137
LA82292-11 [a]	1J0117882.D	1	08/31/22	JY	n/a	n/a	V1J4137

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82162-5

CAS No.	Compound	LA82292-11 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	ND		4000	3500	88	4000	3570	89	2	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82292-11	Limits
17060-07-0	1,2-Dichloroethane-D4	96%	97%	98%	75-130%
2037-26-5	Toluene-D8	101%	100%	100%	85-110%
460-00-4	4-Bromofluorobenzene	97%	98%	96%	86-115%

(a) Sample used for QC purposes only.

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA82163

Sampling Date: 08/16/22

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 25

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

Sections: 1 2 3 4 5 6

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Sample Summary

Dow Chemical Company

Job No: LA82163

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Matrix Type	Client Sample ID
LA82163-1	08/16/22	14:00		08/17/22	AQ	Ground Water	MW-CB-6BS-2022816
LA82163-1D	08/16/22	14:00		08/17/22	AQ	Water Dup/MSD	MW-CB-6BS-2022816
LA82163-1S	08/16/22	14:00		08/17/22	AQ	Water Matrix Spike	MW-CB-6BS-2022816
LA82163-2	08/16/22	14:30		08/17/22	AQ	Ground Water	MW-CB-28A-20220816
LA82163-3	08/16/22	13:55		08/17/22	AQ	Ground Water	MW-CB-26A-20220816
LA82163-4	08/16/22	00:00		08/17/22	AQ	Ground Water	DUP-04-20220816
LA82163-5	08/16/22	08:00		08/17/22	AQ	Trip Blank Water	TRIP BLANK

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA82163
Site:	DOWMIM (JACOBS)	**Report Date**	8/31/2022 5:50:31 PM

4 samples, 1 trip blanks and 0 field blanks were collected on 08/16/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 08/17/2022, properly preserved and cool at 0.8 Deg C. These samples received an SGS job number of LA82163. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V2G6231

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82163-1MS, LA82163-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V2J4127

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82159-4MS, LA82159-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA82163
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 08/16/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
LA82163-1	**MW-CB-6BS-2022816**					
1,2-Dichloroethane		0.0028	0.0010	0.00041	mg/l	SW846 8260B
LA82163-2	**MW-CB-28A-20220816**					
No hits reported in this sample.						
LA82163-3	**MW-CB-26A-20220816**					
1,2-Dichloroethane		0.0097	0.0010	0.00041	mg/l	SW846 8260B
LA82163-4	**DUP-04-20220816**					
1,2-Dichloroethane		0.0114	0.0010	0.00041	mg/l	SW846 8260B
LA82163-5	**TRIP BLANK**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-CB-6BS-2022816		
Lab Sample ID:	LA82163-1	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G502920.D	1	08/27/22 18:41	JY	n/a	n/a	V2G6231
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0028	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-28A-20220816		
Lab Sample ID:	LA82163-2	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G502922.D	1	08/27/22 19:10	JY	n/a	n/a	V2G6231
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	93%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-26A-20220816		
Lab Sample ID:	LA82163-3	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G502924.D	1	08/27/22 19:39	JY	n/a	n/a	V2G6231
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0097	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-04-20220816		
Lab Sample ID:	LA82163-4	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G502926.D	1	08/27/22 20:08	JY	n/a	n/a	V2G6231
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0114	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	103%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	LA82163-5	**Date Sampled:**	08/16/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0117680.D	1	08/27/22 17:14	JY	n/a	n/a	V2J4127
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

SGS
10165 Harwin Dr. Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA82163

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Atif Hanif Phone #: 8324199616

Project Information

Project Name: Charlie Burch - Annual Sampling - WERT
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: State: Zip:
Attention:

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	MS/MSD							LAB USE ONLY
1	MW-CB-16BS-20220816	8-16-22	1400	AH	GW	9	✓												✓	-							9
2	MW-CB-28A-20220816	8-16-22	14:30	AH	GW	3	✓												✓								3
3	MW-CB-26A-20220816	8-16-22	13:55	AH	GW	3	✓												✓								3
4	Dup-04-20220816	8-16-22	—	AH	GW	3	✓												✓								3
5	TRIP BLANK-07	8-16-22	08:00	AH	W	2	✓												✓								2

Turnaround Time (Business days)

- [✓] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283
RSL 40 (MS)

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		1701 8/16/22	1	1701	2			0405 8/17/22
3		8-17-22 0845	3		4		4	
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice / Cooler Temp.
					NOCS			1.0

5.1 5

LA82163: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

CS NAME: Jacobs Date: 8-17

Job Number: LA82163 Client: Jacobs

Date/Time Received 8/17 Delivery Method: SGS

Project: Charlie Birch - Vert Airbill #

Cooler Temp: 1.0/0.8

	Y	N	N/A
Cooler Security			
1. Custody Seal Present			
2. Custody Seal in Tact			
3. COC Present			
4 Smpl Date/Time ok?			
Cooler Temperature			
1. Temp Criteria achieved			
2. Cooler Temp Verification			
3. Cooler Media	I Noz Ice (Direct)		
Quality Control Preservation			
1. Trip Blank Present/Cooler			
2. Trip Blank listed on COC			
3. Sample preserved Properly			
4. VOC Headspace Free			

	Y	N	N/A
Sample Intergrity-Documentation			
1. Sample labels present on bottles:			
2. Container labeling complete:			
3. Sample container label/COC agree:			
Sample Intergrity - Condition			
1. Sample within HT			
2. All containers accounted for			
3. Condition of samples	Tackett		
Sample Integrity -Instructions			
1. Analysis requested is clear			
2. Bottles received for unspecified Tests			
3. Sufficient Volume Recvd for analysis			
4. Compositing instructions clear:			
5. Filtering instructions clear:			

Comments

Appendix A Laboratory Data Package Cover Page

LA82163 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	8/31/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**8/31/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA82163**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V2G6231, V2J4127**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	8/31/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA82163				
Reviewer	Name:	Electa Brown	Prep Batch Number(s):	V2G6231, V2J4127				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**8/31/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA82163**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V2G6231, V2J4127**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA82163
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2G6231-MB1	2G502896.D	1	08/27/22	JY	n/a	n/a	V2G6231

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82163-1, LA82163-2, LA82163-3, LA82163-4

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	97%	75-130%
2037-26-5	Toluene-D8	103%	85-110%
460-00-4	4-Bromofluorobenzene	103%	86-115%

Method Blank Summary

Job Number: LA82163
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2J4127-MB2	2J0117676.D	1	08/27/22	JY	n/a	n/a	V2J4127

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82163-5

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	97%	75-130%
2037-26-5	Toluene-D8	101%	85-110%
460-00-4	4-Bromofluorobenzene	96%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82163
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2G6231-BS1	2G502892.D	1	08/27/22	JY	n/a	n/a	V2G6231
V2G6231-BSD1	2G502894.D	1	08/27/22	JY	n/a	n/a	V2G6231

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82163-1, LA82163-2, LA82163-3, LA82163-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	19.7	99	20.4	102	3	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	101%	97%	75-130%
2037-26-5	Toluene-D8	100%	101%	85-110%
460-00-4	4-Bromofluorobenzene	102%	100%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82163
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2J4127-BS1	2J0117670.D	1	08/27/22	JY	n/a	n/a	V2J4127
V2J4127-BSD1	2J0117672.D	1	08/27/22	JY	n/a	n/a	V2J4127

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82163-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	18.2	91	18.3	92	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	96%	97%	75-130%
2037-26-5	Toluene-D8	101%	100%	85-110%
460-00-4	4-Bromofluorobenzene	99%	100%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82163
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82159-4MS	2J0117718.D	50	08/28/22	JY	n/a	n/a	V2J4127
LA82159-4MSD	2J0117720.D	50	08/28/22	JY	n/a	n/a	V2J4127
LA82159-4	2J0117708.D	50	08/27/22	JY	n/a	n/a	V2J4127

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82163-5

CAS No.	Compound	LA82159-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	ND		1000	855	86	1000	848	85	1	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82159-4	Limits
17060-07-0	1,2-Dichloroethane-D4	94%	91%	96%	75-130%
2037-26-5	Toluene-D8	101%	101%	100%	85-110%
460-00-4	4-Bromofluorobenzene	98%	99%	99%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82163
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82163-1MS	2G502953.D	2	08/28/22	JY	n/a	n/a	V2G6231
LA82163-1MSD	2G502955.D	2	08/28/22	JY	n/a	n/a	V2G6231
LA82163-1	2G502920.D	1	08/27/22	JY	n/a	n/a	V2G6231

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82163-1, LA82163-2, LA82163-3, LA82163-4

CAS No.	Compound	LA82163-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	2.8		40	41.2	96	40	41.2	96	0	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82163-1	Limits
17060-07-0	1,2-Dichloroethane-D4	95%	96%	97%	75-130%
2037-26-5	Toluene-D8	101%	102%	104%	85-110%
460-00-4	4-Bromofluorobenzene	99%	100%	98%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA82164

Sampling Date: 08/16/22

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 27

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

Sections: 1 2 3 4 5 6

Table of Contents

Sample Summary

Dow Chemical Company

Job No: LA82164

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
This report contains results reported as ND = Not detected. The following applies:							
Organics ND = Not detected above the MDL							
LA82164-1	08/16/22	13:50		08/17/22	AQ	Ground Water	RDP-5-20220816
LA82164-2	08/16/22	13:15		08/17/22	AQ	Ground Water	RDP-3-20220816
LA82164-3	08/16/22	13:30		08/17/22	AQ	Ground Water	PMW-08B-20220816
LA82164-4	08/16/22	13:05		08/17/22	AQ	Ground Water	MW-CB-2B-20220816
LA82164-4D	08/16/22	13:05		08/17/22	AQ	Water Dup/MSD	MW-CB-2B-20220816
LA82164-4S	08/16/22	13:05		08/17/22	AQ	Water Matrix Spike	MW-CB-2B-20220816
LA82164-5	08/16/22	13:25		08/17/22	AQ	Ground Water	MW-CB-6B-20816
LA82164-6	08/16/22	00:00		08/17/22	AQ	Ground Water	DUP-03-20220816
LA82164-7	08/16/22	08:00		08/17/22	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA82164
Site:	DOWMIM (JACOBS)	**Report Date**	8/31/2022 5:57:30 PM

6 samples, 1 trip blanks and 0 field blanks were collected on 08/16/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 08/17/2022, properly preserved and cool at 1.2 Deg C. These samples received an SGS job number of LA82164. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V2G6232

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82164-1MS, LA82164-1MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V2Y143

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82164-4MS, LA82164-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA82164
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 08/16/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	RL	MDL	Units	Method
LA82164-1	**RDP-5-20220816**					
1,2-Dichloroethane		0.0030	0.0010	0.00041	mg/l	SW846 8260B
LA82164-2	**RDP-3-20220816**					
1,2-Dichloroethane		0.0200	0.0010	0.00041	mg/l	SW846 8260B
LA82164-3	**PMW-08B-20220816**					
1,2-Dichloroethane		0.0060	0.0010	0.00041	mg/l	SW846 8260B
LA82164-4	**MW-CB-2B-20220816**					
No hits reported in this sample.						
LA82164-5	**MW-CB-6B-20816**					
No hits reported in this sample.						
LA82164-6	**DUP-03-20220816**					
1,2-Dichloroethane		0.0209	0.0010	0.00041	mg/l	SW846 8260B
LA82164-7	**TRIP BLANK**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RDP-5-20220816		
Lab Sample ID:	LA82164-1	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G502967.D	1	08/28/22 19:17	JY	n/a	n/a	V2G6232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0030	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	93%		75-130%
2037-26-5	Toluene-D8	105%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RDP-3-20220816		
Lab Sample ID:	LA82164-2	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G502969.D	1	08/28/22 19:45	JY	n/a	n/a	V2G6232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0200	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	92%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PMW-08B-20220816		
Lab Sample ID:	LA82164-3	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G502971.D	1	08/28/22 20:14	JY	n/a	n/a	V2G6232
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0060	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	93%		75-130%
2037-26-5	Toluene-D8	105%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-2B-20220816		
Lab Sample ID:	LA82164-4	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0003292.D	1	08/23/22 03:18	MB	n/a	n/a	V2Y143
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-6B-20816		
Lab Sample ID:	LA82164-5	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0003300.D	1	08/23/22 05:16	MB	n/a	n/a	V2Y143
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-03-20220816		
Lab Sample ID:	LA82164-6	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0003302.D	1	08/23/22 05:45	MB	n/a	n/a	V2Y143
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0209	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		75-130%
2037-26-5	Toluene-D8	105%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	LA82164-7	**Date Sampled:**	08/16/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/17/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0003284.D	1	08/23/22 01:21	MB	n/a	n/a	V2Y143
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

ND = Not detected MDL = Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #:
Bottle Order Control #:
SGS Quote #:
SGS Job #: LA82164

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): A HA Phone #: 8324199910

Project Information

Project Name: Charlie Burch - Annual Sampling - Rummell
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager: JoshuaMcFarlain
Attention:

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: State: Zip:

Requested Analyses

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane MS/MSD	LAB USE ONLY
1	RDP-5-20220816	8-16-22	13:50	AH	GW	3	1												1	3
2	RDP-3-20220816		13:15	AH	GW	3	1												1	3
3	PMW-08B-20220816		13:30	AH	GW	3	1												1	3
4	MW-CB-2B-20220816		13:05	AH	GW	9	1												1	9
5	MW-CB-16B-20220816		13:25	AH	GW	3	1												1	3
6	DUP-03-20220816			AH	GW	3	1												1	3
7	TRIP-Blank		0800	-	W	2													1	2

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [x] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

Ym-35 (VW)

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		8/16/22 1701	1	1701	2			
3		8/17/22 840	3 Bamerican Bravo		4		4	
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal # NO C/S	Intact / Not intact	Preserved where applicable	On Ice ✓ / Cooler Temp. (1.2) IR09

SGS Sample Receipt Summary

CS NAME: Jacobs Date: 8/17/22

Job Number: LA82164 Client: Jacobs

Date/Time Received: 8/17/22 840 Delivery Method: SGS Driver

Project: Charlie Burch- Airbill #

Cooler Temp: IR#1 1.2

Cooler Security	Y	N
1. Custody Seal Present		
2. Custody Seal in Tact		
3. COC Present	✓	
4 Smpl Date/Time ok?		

Cooler Temperature	Y	N
1. Temp Criteria achieved	✓	
2. Cooler Temp Verification		
3. Cooler Media		

Quality Control Preservation	Y	N	N/A
1. Trip Blank Present/Cooler			
2. Trip Blank listed on COC	✓		
3. Sample preserved Properly			
4. VOC Headspace Free			

Sample Intergrity-Documentation	Y	N
1. Sample labels present on bottles:	✓	
2. Container labeling complete:	✓	
3. Sample container label/COC agree:	✓	

Sample Intergrity - Condition	Y	N
1. Sample within HT	✓	
2. All containers accounted for	✓	
3. Condition of samples		

Sample Integrity -Instructions	Y	N	N/A
1. Analysis requested is clear			✓
2. Bottles received for unspecified Tests		✓	
3. Sufficient Volume Recvd for analysis	✓		
4. Compositing instructions clear:			✓
5. Filtering instructions clear:			✓

Comments

LA82164: Chain of Custody
Page 2 of 2

Appendix A Laboratory Data Package Cover Page

LA82164 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	8/31/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:		**Accutest Lafayette**	LRC Date:	**8/31/2022**					
Project Name:		**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA82164**					
Reviewer Name:		**Electa Brown**	Prep Batch Number(s):	**V2G6232, V2Y143**					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]	
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**							
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X					
		Were all departures from standard conditions described in an exception report?		X					
R2	**OI**	**Sample and quality control (QC) identification**							
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X					
R3	**OI**	**Test reports**							
		Were samples prepared and analyzed within holding times?		X					
		Other than those results <MQL, were all other raw values bracketed by calibration standards?		X					
		Were calculations checked by a peer or supervisor?		X					
		Were all analyte identifications checked by a peer or supervisor?		X					
		Were sample detection limits reported for all analytes not detected?		X					
		Were all results for soil and sediment samples reported on a dry weight basis?				X			
		Were % moisture (or solids) reported for all soil and sediment samples?				X			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X			
		If required for the project, are TIC's reported?				X			
R4	**O**	**Surrogate recovery data**							
		Were surrogates added prior to extraction?		X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X					
R5	**OI**	**Test reports/summary forms for blank samples**							
		Were appropriate type(s) of blanks analyzed?		X					
		Were blanks analyzed at the appropriate frequency?		X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X					
		Were blank concentrations <MQL?		X					
R6	**OI**	**Laboratory control samples (LCS):**							
		Were all COCs included in the LCS?		X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?		X					
		Were LCSs analyzed at required frequency?		X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X					
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X					
		Was the LCSD RPD within QC limits?		X					
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**							
		Were the project/method specified analytes included in the MS and MSD?		X					
		Were MS/MSD analyzed at the appropriate frequency?		X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?		X					
		Were the MS/MSD RPDs within laboratory QC limits?		X					
R8	**OI**	**Analytical duplicate data**							
		Were appropriate analytical duplicates analyzed for each matrix?				X			
		Were analytical duplicates analyzed at the appropriate frequency?				X			
		Were RPDs or relative standard deviations within the laboratory QC limits?				X			
R9	**OI**	**Method quantitation limits (MQLs):**							
		Are the MQLs for each method analyte included in the laboratory data package?		X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration		X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?			X			**2**	
R10	**OI**	**Other problems/anomalies**							
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X					
		Was applicable and available technology used to lower the SDL to minimize the		X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X				**3**	

Laboratory Name:		Accutest Lafayette	LRC Date:	8/31/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA82164				
Reviewer	Name:	Electa Brown	Prep Batch Number(s):	V2G6232, V2Y143				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**8/31/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA82164**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V2G6232, V2Y143**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA82164
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2Y143-MB1	2Y0003280.D	1	08/23/22	MB	n/a	n/a	V2Y143

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82164-4, LA82164-5, LA82164-6, LA82164-7

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	94%	75-130%
2037-26-5	Toluene-D8	102%	85-110%
460-00-4	4-Bromofluorobenzene	99%	86-115%

Method Blank Summary

Job Number: LA82164
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2G6232-MB1	2G502951.D	1	08/28/22	JY	n/a	n/a	V2G6232

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82164-1, LA82164-2, LA82164-3

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	91%	75-130%
2037-26-5	Toluene-D8	105%	85-110%
460-00-4	4-Bromofluorobenzene	99%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82164
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2Y143-BS1	2Y0003276.D	1	08/22/22	MB	n/a	n/a	V2Y143
V2Y143-BSD1	2Y0003278.D	1	08/22/22	MB	n/a	n/a	V2Y143

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82164-4, LA82164-5, LA82164-6, LA82164-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	16.7	84	16.5	83	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	94%	91%	75-130%
2037-26-5	Toluene-D8	97%	97%	85-110%
460-00-4	4-Bromofluorobenzene	102%	99%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82164
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2G6232-BS1	2G502947.D	1	08/28/22	JY	n/a	n/a	V2G6232
V2G6232-BSD1	2G502949.D	1	08/28/22	JY	n/a	n/a	V2G6232

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82164-1, LA82164-2, LA82164-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.6	103	19.9	100	3	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	94%	97%	75-130%
2037-26-5	Toluene-D8	101%	101%	85-110%
460-00-4	4-Bromofluorobenzene	99%	100%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82164
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82164-4MS	2Y0003294.D	2	08/23/22	MB	n/a	n/a	V2Y143
LA82164-4MSD	2Y0003296.D	2	08/23/22	MB	n/a	n/a	V2Y143
LA82164-4	2Y0003292.D	1	08/23/22	MB	n/a	n/a	V2Y143

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82164-4, LA82164-5, LA82164-6, LA82164-7

CAS No.	Compound	LA82164-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	ND		40	34.9	87	40	34.7	87	1	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82164-4	Limits
17060-07-0	1,2-Dichloroethane-D4	100%	96%	103%	75-130%
2037-26-5	Toluene-D8	101%	100%	104%	85-110%
460-00-4	4-Bromofluorobenzene	103%	104%	99%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82164
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82164-1MS	2G502987.D	200	08/29/22	JY	n/a	n/a	V2G6232
LA82164-1MSD	2G502989.D	200	08/29/22	JY	n/a	n/a	V2G6232
LA82164-1	2G502967.D	1	08/28/22	JY	n/a	n/a	V2G6232

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82164-1, LA82164-2, LA82164-3

CAS No.	Compound	LA82164-1 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	3.0		4000	4000	100	4000	3890	97	3	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82164-1	Limits
17060-07-0	1,2-Dichloroethane-D4	93%	94%	93%	75-130%
2037-26-5	Toluene-D8	103%	104%	105%	85-110%
460-00-4	4-Bromofluorobenzene	99%	100%	98%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA82225

Sampling Dates: 08/16/22 - 08/17/22

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
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Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: **40**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

Sections: 1 2 3 4 5 6

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Sample Summary

Dow Chemical Company

Job No: LA82225

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA82225-1	08/17/22	10:55	AH	08/18/22	AQ	Ground Water	AZG1-39-44-20220817
LA82225-2	08/17/22	10:40	AH	08/18/22	AQ	Ground Water	AZG1-63-68-20220817
LA82225-3	08/17/22	10:55	AH	08/18/22	AQ	Ground Water	AZG2-18-23-20220817
LA82225-4	08/17/22	11:45	AH	08/18/22	AQ	Ground Water	AZG2-59-64-20220817
LA82225-5	08/17/22	13:41	AH	08/18/22	AQ	Ground Water	AZG4-39-44-20220817
LA82225-6	08/17/22	14:10	AH	08/18/22	AQ	Ground Water	AZG4-59-64-20220817
LA82225-7	08/17/22	13:40	AH	08/18/22	AQ	Ground Water	AZG4-20-25-20220817
LA82225-8	08/17/22	12:30	AH	08/18/22	AQ	Ground Water	AZG6-35-40-20220817
LA82225-9	08/17/22	12:21	AH	08/18/22	AQ	Ground Water	AZG6-45-50-20220817
LA82225-10	08/17/22	13:00	AH	08/18/22	AQ	Ground Water	AZG6-67-72-20220817
LA82225-11	08/16/22	11:26	AH	08/18/22	AQ	Ground Water	MW-CB-40-20220816
LA82225-12	08/16/22	12:45	AH	08/18/22	AQ	Ground Water	MW-CB-8AD-20220816
LA82225-13	08/16/22	12:15	AH	08/18/22	AQ	Ground Water	MW-CB-12AD-20220816

Sample Summary
(continued)

Dow Chemical Company

Job No: LA82225

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA82225-14	08/16/22	00:00	AH	08/18/22	AQ	Ground Water	DUP-02-20220816
LA82225-15	08/16/22	08:00	AH	08/18/22	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Dow Chemical Company **Job No:** LA82225

Site: DOWMIM (JACOBS) **Report Date** 9/6/2022 1:06:00 PM

14 samples, 1 trip blanks and 0 field blanks were collected on between 08/16/2022 and 08/17/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 08/18/2022, properly preserved and cool at 1.8 Deg C. These samples received an SGS job number of LA82225. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1G6231

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82233-2MS, LA82233-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V1J4140

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82316-2MS, LA82316-2MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V2E4325

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82225-8MS, LA82225-8MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- LA82225-3,4,6: Samples analyzed beyond hold time.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA82225
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 08/16/22 thru 08/17/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA82225-1	**AZG1-39-44-20220817**					
1,2-Dichloroethane		0.0297	0.0010	0.00041	mg/l	SW846 8260B
LA82225-2	**AZG1-63-68-20220817**					
No hits reported in this sample.						
LA82225-3	**AZG2-18-23-20220817**					
1,2-Dichloroethane [a]		0.148	0.0010	0.00041	mg/l	SW846 8260B
LA82225-4	**AZG2-59-64-20220817**					
1,2-Dichloroethane [a]		0.168	0.0010	0.00041	mg/l	SW846 8260B
LA82225-5	**AZG4-39-44-20220817**					
1,2-Dichloroethane		0.0141	0.0010	0.00041	mg/l	SW846 8260B
LA82225-6	**AZG4-59-64-20220817**					
1,2-Dichloroethane [a]		0.115	0.0010	0.00041	mg/l	SW846 8260B
LA82225-7	**AZG4-20-25-20220817**					
1,2-Dichloroethane		0.0030	0.0010	0.00041	mg/l	SW846 8260B
LA82225-8	**AZG6-35-40-20220817**					
No hits reported in this sample.						
LA82225-9	**AZG6-45-50-20220817**					
1,2-Dichloroethane		0.0515	0.0010	0.00041	mg/l	SW846 8260B
LA82225-10	**AZG6-67-72-20220817**					
1,2-Dichloroethane		0.805	0.0050	0.0020	mg/l	SW846 8260B
LA82225-11	**MW-CB-40-20220816**					
1,2-Dichloroethane		0.0011	0.0010	0.00041	mg/l	SW846 8260B

Summary of Hits

Job Number: LA82225
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 08/16/22 thru 08/17/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA82225-12	**MW-CB-8AD-20220816**					
1,2-Dichloroethane		0.0102	0.0010	0.00041	mg/l	SW846 8260B
LA82225-13	**MW-CB-12AD-20220816**					
1,2-Dichloroethane		0.0168	0.0010	0.00041	mg/l	SW846 8260B
LA82225-14	**DUP-02-20220816**					
1,2-Dichloroethane		0.0140	0.0010	0.00041	mg/l	SW846 8260B
LA82225-15	**TRIP BLANK**					

No hits reported in this sample.

(a) Sample analyzed beyond hold time.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: AZG1-39-44-20220817
Lab Sample ID: LA82225-1
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 08/17/22
Date Received: 08/18/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E009795.D	1	08/31/22 21:13	NN	n/a	n/a	V2E4325
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0297	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG1-63-68-20220817		
Lab Sample ID:	LA82225-2	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E009797.D	1	08/31/22 21:46	NN	n/a	n/a	V2E4325
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG2-18-23-20220817		
Lab Sample ID:	LA82225-3	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2E009805.D	1	09/01/22 00:02	NN	n/a	n/a	V2E4325
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.148	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	97%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

(a) Sample analyzed beyond hold time.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG2-59-64-20220817		
Lab Sample ID:	LA82225-4	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2E009807.D	1	09/01/22 00:36	NN	n/a	n/a	V2E4325
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.168	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		75-130%
2037-26-5	Toluene-D8	108%		85-110%
460-00-4	4-Bromofluorobenzene	107%		86-115%

(a) Sample analyzed beyond hold time.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG4-39-44-20220817		
Lab Sample ID:	LA82225-5	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E009799.D	1	08/31/22 22:20	NN	n/a	n/a	V2E4325
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0141	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG4-59-64-20220817		
Lab Sample ID:	LA82225-6	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2E009809.D	1	09/01/22 01:10	NN	n/a	n/a	V2E4325
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.115	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	92%		75-130%
2037-26-5	Toluene-D8	108%		85-110%
460-00-4	4-Bromofluorobenzene	106%		86-115%

(a) Sample analyzed beyond hold time.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AZG4-20-25-20220817
Lab Sample ID: LA82225-7
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 08/17/22
Date Received: 08/18/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E009801.D	1	08/31/22 22:54	NN	n/a	n/a	V2E4325
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0030	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		75-130%
2037-26-5	Toluene-D8	108%		85-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AZG6-35-40-20220817
Lab Sample ID: LA82225-8
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 08/17/22
Date Received: 08/18/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2E009803.D	1	08/31/22 23:28	NN	n/a	n/a	V2E4325
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	96%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG6-45-50-20220817		
Lab Sample ID:	LA82225-9	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0117936.D	1	08/31/22 15:40	JY	n/a	n/a	V1J4140
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0515	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	97%		85-110%
460-00-4	4-Bromofluorobenzene	94%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG6-67-72-20220817		
Lab Sample ID:	LA82225-10	**Date Sampled:**	08/17/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0117948.D	5	08/31/22 18:25	JY	n/a	n/a	V1J4140
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.805	0.0050	0.0020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		75-130%
2037-26-5	Toluene-D8	98%		85-110%
460-00-4	4-Bromofluorobenzene	94%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-40-20220816		
Lab Sample ID:	LA82225-11	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G502899.D	1	08/27/22 13:39	JY	n/a	n/a	V1G6231
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0011	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-8AD-20220816		
Lab Sample ID:	LA82225-12	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G502901.D	1	08/27/22 14:08	JY	n/a	n/a	V1G6231
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0102	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		75-130%
2037-26-5	Toluene-D8	103%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-12AD-20220816		
Lab Sample ID:	LA82225-13	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G502903.D	1	08/27/22 14:37	JY	n/a	n/a	V1G6231
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0168	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		75-130%
2037-26-5	Toluene-D8	103%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-02-20220816		
Lab Sample ID:	LA82225-14	**Date Sampled:**	08/16/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G502905.D	1	08/27/22 15:06	JY	n/a	n/a	V1G6231
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0140	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	LA82225-15	**Date Sampled:**	08/16/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G502907.D	1	08/27/22 15:34	JY	n/a	n/a	V1G6231
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX. 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking # | Bottle Order Control #
SGS Quote # | SGS Job # LA82225

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Atif Hanif Phone #:

Project Information

Project Name: Charlie Burch - Annual Sampling
Street:
City: Spring State: TX.
Project #:
Client Purchase Order #:
Project Manager: Joshua McFarlain.

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City State Zip:
Attention:

Requested Analyses

8260 - 1,2-Dichloroethane

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	LAB USE ONLY
11	MW-CB-4D-20220816	8-16-22	11:26	AH	GW	3	✓												3
12	MW-CB-8AD-20220816	8-16-22	12:45	AH	GW	3	✓												3
13	MW-CB-12AD-20220816	8-16-22	12:15	AH	GW	3	✓												3
14	DUP-02-20220816	8-16-22	—	AH	GW	3	✓												3
15	TRIP-BLANK	8-16-22	08:00	—	—	—	✓												4

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [x] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		8/17/22 1625	1		2		2	8-18-22 0445
3	Relinquished by Sampler:	8-18-22 0445	3		4		4	
5	Relinquished by:	Date Time:	5	Date Time:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice / Cooler Temp.
					NO C/S			1.8 Therm

LA82225: Chain of Custody
Page 1 of 2

SGS Sample Receipt Summary

CS NAME: Jacobs Date: 8/18/22

Job Number: LA82225 Client: Jacobs

Date/Time Received 8/18/22 445 Delivery Method: SGS Driver

Project: Charlie

Cooler Temp: 1.8 1.2 0.0 Airbill #

Cooler Security	Y	N
1. Custody Seal Present		✓
2. Custody Seal in Tact	✓ DP	✓
3. COC Present	✓	
4 Smpl Date/Time ok?	✓	

Cooler Temperature	Y	N
1. Temp Criteria achieved	✓	
2. Cooler Temp Verification		
3. Cooler Media		

Quality Control Preservation	Y	N	N/A
1. Trip Blank Present/Cooler			
2. Trip Blank listed on COC	✓		
3. Sample preserved Properly			
4. VOC Headspace Free			

Sample Intergrity-Documentation	Y	N
1. Sample labels present on bottles:	✓	
2. Container labeling complete:	✓	
3. Sample container label/COC agree:	✓	

Sample Intergrity - Condition	Y	N
1. Sample within HT	✓	
2. All containers accounted for	✓	
3. Condition of samples	Intact	

Sample Integrity -Instructions	Y	N	N/A
1. Analysis requested is clear		✓	
2. Bottles received for unspecified Tests			
3. Sufficient Volume Recvd for analysis	✓		
4. Compositing instructions clear:			✓
5. Filtering instructions clear:			✓

Comments

LA82225: Chain of Custody
Page 2 of 2

Appendix A Laboratory Data Package Cover Page

LA82225 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	9/6/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**9/6/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA82225**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1G6231, V1J4140, V2E4325**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?		X			**4**
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	9/6/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA82225				
Reviewer Name:		Electa Brown	Prep Batch Number(s):	V1G6231, V1J4140, V2E4325				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**9/6/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA82225**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1G6231, V1J4140, V2E4325**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.
4	All anomalies are discussed in the case narrative

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA82225
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1G6231-MB1	1G502895.D	1	08/27/22	JY	n/a	n/a	V1G6231

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82225-11, LA82225-12, LA82225-13, LA82225-14, LA82225-15

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	99%	75-130%
2037-26-5	Toluene-D8	102%	85-110%
460-00-4	4-Bromofluorobenzene	99%	86-115%

Method Blank Summary

Job Number: LA82225
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4140-MB2	1J0117920.D	1	08/31/22	JY	n/a	n/a	V1J4140

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82225-9, LA82225-10

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	104%	75-130%
2037-26-5	Toluene-D8	98%	85-110%
460-00-4	4-Bromofluorobenzene	97%	86-115%

Method Blank Summary

Job Number: LA82225
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2E4325-MB1	2E009793.D	1	08/31/22	NN	n/a	n/a	V2E4325

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82225-1, LA82225-2, LA82225-3, LA82225-4, LA82225-5, LA82225-6, LA82225-7, LA82225-8

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	93%	75-130%
2037-26-5	Toluene-D8	107%	85-110%
460-00-4	4-Bromofluorobenzene	105%	86-115%

CAS No.	Tentatively Identified Compounds	R.T.	Est. Conc.	Units	Q
	Total TIC, Volatile		0	ug/l	

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82225
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1G6231-BS1	1G502891.D	1	08/27/22	JY	n/a	n/a	V1G6231
V1G6231-BSD1	1G502893.D	1	08/27/22	JY	n/a	n/a	V1G6231

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82225-11, LA82225-12, LA82225-13, LA82225-14, LA82225-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.2	101	20.4	102	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	99%	100%	75-130%
2037-26-5	Toluene-D8	100%	99%	85-110%
460-00-4	4-Bromofluorobenzene	100%	99%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82225
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4140-BS1	1J0117914.D	1	08/31/22	JY	n/a	n/a	V1J4140
V1J4140-BSD1	1J0117916.D	1	08/31/22	JY	n/a	n/a	V1J4140

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82225-9, LA82225-10

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	19.8	99	20.6	103	4	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	98%	105%	75-130%
2037-26-5	Toluene-D8	101%	100%	85-110%
460-00-4	4-Bromofluorobenzene	99%	98%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82225
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2E4325-BS1	2E009789.D	1	08/31/22	NN	n/a	n/a	V2E4325
V2E4325-BSD1	2E009791.D	1	08/31/22	NN	n/a	n/a	V2E4325

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82225-1, LA82225-2, LA82225-3, LA82225-4, LA82225-5, LA82225-6, LA82225-7, LA82225-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	21.8	109	21.4	107	2	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	100%	102%	75-130%
2037-26-5	Toluene-D8	102%	102%	85-110%
460-00-4	4-Bromofluorobenzene	102%	102%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82225
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82233-2MS	1G502952.D	20	08/28/22	JY	n/a	n/a	V1G6231
LA82233-2MSD	1G502954.D	20	08/28/22	JY	n/a	n/a	V1G6231
LA82233-2	1G502927.D	20	08/27/22	JY	n/a	n/a	V1G6231

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82225-11, LA82225-12, LA82225-13, LA82225-14, LA82225-15

CAS No.	Compound	LA82233-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20 U		400	335	84	400	343	86	2	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82233-2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%	99%	100%	75-130%
2037-26-5	Toluene-D8	104%	102%	104%	85-110%
460-00-4	4-Bromofluorobenzene	99%	101%	100%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82225
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82316-2MS	1J0117962.D	200	08/31/22	JY	n/a	n/a	V1J4140
LA82316-2MSD	1J0117964.D	200	08/31/22	JY	n/a	n/a	V1J4140
LA82316-2	1J0117960.D	1	08/31/22	JY	n/a	n/a	V1J4140

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82225-9, LA82225-10

CAS No.	Compound	LA82316-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	13.4		4000	3530	88	4000	3660	91	4	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82316-2	Limits
17060-07-0	1,2-Dichloroethane-D4	101%	103%	106%	75-130%
2037-26-5	Toluene-D8	100%	99%	99%	85-110%
460-00-4	4-Bromofluorobenzene	98%	97%	96%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82225
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82225-8MS	2E009825.D	200	09/01/22	NN	n/a	n/a	V2E4325
LA82225-8MSD	2E009827.D	200	09/01/22	NN	n/a	n/a	V2E4325
LA82225-8	2E009803.D	1	08/31/22	NN	n/a	n/a	V2E4325

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82225-1, LA82225-2, LA82225-3, LA82225-4, LA82225-5, LA82225-6, LA82225-7, LA82225-8

CAS No.	Compound	LA82225-8 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.0	U	4000	4620	116	4000	4430	111	4	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82225-8	Limits
17060-07-0	1,2-Dichloroethane-D4	106%	103%	96%	75-130%
2037-26-5	Toluene-D8	108%	106%	107%	85-110%
460-00-4	4-Bromofluorobenzene	102%	103%	105%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA82282

Sampling Date: 08/18/22

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: **28**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: LA82282

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA82282-1	08/18/22	10:00		08/18/22	AQ	Ground Water	RW-CB-2-20220818
LA82282-2	08/18/22	10:05		08/18/22	AQ	Ground Water	RW-CB-2R-20220818
LA82282-3	08/18/22	10:55		08/18/22	AQ	Ground Water	RW-CB-4-20220818
LA82282-4	08/18/22	10:20		08/18/22	AQ	Ground Water	MW-CB-1A-20220818
LA82282-5	08/18/22	11:00		08/18/22	AQ	Ground Water	MW-CB-1B-20220818
LA82282-5D	08/18/22	11:00		08/18/22	AQ	Water Dup/MSD	MW-CB-1B-20220818
LA82282-5S	08/18/22	11:00		08/18/22	AQ	Water Matrix Spike	MW-CB-1B-20220818
LA82282-6	08/18/22	10:15		08/18/22	AQ	Ground Water	MW-CB-1BS-20220818
LA82282-7	08/18/22	10:40		08/18/22	AQ	Ground Water	MW-CB-2A-20220818
LA82282-8	08/18/22	09:40		08/18/22	AQ	Ground Water	MW-CB-4-20220818
LA82282-9	08/18/22	09:55		08/18/22	AQ	Ground Water	MW-CB-5A-20220818
LA82282-10	08/18/22	09:50		08/18/22	AQ	Ground Water	MW-CB-7B-20220818
LA82282-11	08/18/22	00:00		08/18/22	AQ	Ground Water	DUP-01-20220818

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA82282
Site:	DOWMIM (JACOBS)	**Report Date**	9/6/2022 4:34:40 PM

11 samples, 0 trip blanks and 0 field blanks were collected on 08/18/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 08/18/2022, properly preserved and cool at 2.3 Deg C. These samples received an SGS job number of LA82282. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V2J4141

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA82282-5MS, LA82282-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA82282
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 08/18/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA82282-1	**RW-CB-2-20220818**					
No hits reported in this sample.						
LA82282-2	**RW-CB-2R-20220818**					
1,2-Dichloroethane		0.0012	0.0010	0.00041	mg/l	SW846 8260B
LA82282-3	**RW-CB-4-20220818**					
No hits reported in this sample.						
LA82282-4	**MW-CB-1A-20220818**					
1,2-Dichloroethane		0.0072	0.0010	0.00041	mg/l	SW846 8260B
LA82282-5	**MW-CB-1B-20220818**					
1,2-Dichloroethane		0.0128	0.0010	0.00041	mg/l	SW846 8260B
LA82282-6	**MW-CB-1BS-20220818**					
1,2-Dichloroethane		0.0094	0.0010	0.00041	mg/l	SW846 8260B
LA82282-7	**MW-CB-2A-20220818**					
1,2-Dichloroethane		0.0042	0.0010	0.00041	mg/l	SW846 8260B
LA82282-8	**MW-CB-4-20220818**					
No hits reported in this sample.						
LA82282-9	**MW-CB-5A-20220818**					
No hits reported in this sample.						
LA82282-10	**MW-CB-7B-20220818**					
No hits reported in this sample.						
LA82282-11	**DUP-01-20220818**					
1,2-Dichloroethane		0.0064	0.0010	0.00041	mg/l	SW846 8260B

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	RW-CB-2-20220818		
Lab Sample ID:	LA82282-1	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0117995.D	1	09/01/22 16:17	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	95%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-2R-20220818		
Lab Sample ID:	LA82282-2	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0117997.D	1	09/01/22 16:45	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0012	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	94%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-4-20220818		
Lab Sample ID:	LA82282-3	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0117999.D	1	09/01/22 17:13	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	94%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1A-20220818		
Lab Sample ID:	LA82282-4	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0118001.D	1	09/01/22 17:40	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0072	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	94%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1B-20220818		
Lab Sample ID:	LA82282-5	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0118003.D	1	09/01/22 18:08	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0128	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	92%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1BS-20220818		
Lab Sample ID:	LA82282-6	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0118005.D	1	09/01/22 18:36	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0094	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	93%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-2A-20220818		
Lab Sample ID:	LA82282-7	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0118007.D	1	09/01/22 19:03	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0042	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	93%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-4-20220818		
Lab Sample ID:	LA82282-8	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0118009.D	1	09/01/22 19:31	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	93%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-5A-20220818		
Lab Sample ID:	LA82282-9	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0118011.D	1	09/01/22 19:58	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	93%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-7B-20220818		
Lab Sample ID:	LA82282-10	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0118013.D	1	09/01/22 20:25	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	92%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01-20220818		
Lab Sample ID:	LA82282-11	**Date Sampled:**	08/18/22
Matrix:	AQ - Ground Water	**Date Received:**	08/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0118015.D	1	09/01/22 20:53	JY	n/a	n/a	V2J4141
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0064	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	93%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

PAGE 1 OF 1

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA82282

Client / Reporting Information

Company Name: Jacobs (former CH2M Hill)
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): HUFHAM Phone #: 8324199116

Project Information

Project Name: Charlie Burch - Annual Sampling
Street:
City: Spring State: Texas
Project #:
Client Purchase Order #:
Project Manager: Joshua McFarlain.

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: State: Zip:
Attention:

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	MS / MSD *	* ONE VOA SET SHORT. **	Contacted Cass PM (Brown & approved (6 bottles) Chemist (John Y) approved using 6 bottles. LOE	* NO TRIP BLANK PROVIDED BY SGS	LAB USE ONLY
1	RW-CB-2-20220818	8-18-22	10:00	AH	GW	3	/												/					
2	RW-CB-2R-20220818		10:05	AH	GW	3	/												/					
3	RW-CB-4-20220818		10:55	AH	GW	3	/												/					
4	MW-CB-1A-20220818		10:20	AH	GW	3	/												/					
5	MW-CB-1B-20220818		11:00	AH	GW	6	/												/	/				
6	MW-CB-1BS-20220818		10:15	AH	GW	3	/												/					
7	MW-CB-2A-20220818		10:40	AH	GW	3	/												/					
8	MW-CB-4-20220818		9:40	AH	GW	3	/												/					
9	MW-CB-5A-20220818		9:55	AH	GW	3	/												/					
10	MW-CB-7B-20220818	↓	9:50	AH	GW	3	/												/					
11	Dup-01-20220818		—	AH	GW	3	/												/					

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Approved By (SGS Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

BM22 (VW)

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

0001

Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	1453 8/18/22	1	8/18/22 1453	2		2	8-19-22
Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
3	8-19-22 0400	3	8/19/22 0400	4		4	
Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice	Cooler Temp.
5		5		NOCS				2.8c

T2.5 (-0.3)

SGS Sample Receipt Summary

CS NAME: Jacobs Date: 8/19/22

Job Number: LA82282 Client: Jacobs

Date/Time Received 8/19/22 Delivery Method: SGS

Project: Charlie Buck Airbill #

Cooler Temp: 2.5/2.3

Cooler Security	Y	N
1. Custody Seal Present		
2. Custody Seal in Tact		
3. COC Present		
4 Smpl Date/Time ok?		

Cooler Temperature	Y	N
1. Temp Criteria achieved		
2. Cooler Temp Verification	IR001	
3. Cooler Media	Ice (direct)	

Quality Control Preservation	Y	N	N/A
1. Trip Blank Present/Cooler			
2. Trip Blank listed on COC			
3. Sample preserved Properly			
4. VOC Headspace Free			

Sample Intergrity-Documentation	Y	N
1. Sample labels present on bottles:		
2. Container labeling complete:		
3. Sample container label/COC agree:		

Sample Intergrity - Condition	Y	N
1. Sample within HT		
2. All containers accounted for		
3. Condition of samples		

Sample Integrity -Instructions	Y	N	N/A
1. Analysis requested is clear			
2. Bottles received for unspecified Tests			
3. Sufficient Volume Recvd for analysis			
4. Compositing instructions clear:			
5. Filtering instructions clear:			

Comments

LA82282: Chain of Custody
Page 2 of 2

Appendix A Laboratory Data Package Cover Page

LA82282 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	9/6/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**9/6/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA82282**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V2J4141**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	9/6/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA82282				
Reviewer	Name:	Electa Brown	Prep Batch Number(s):	V2J4141				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**9/6/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA82282**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V2J4141**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA82282
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2J4141-MB2	2J0117983.D	1	09/01/22	JY	n/a	n/a	V2J4141

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82282-1, LA82282-2, LA82282-3, LA82282-4, LA82282-5, LA82282-6, LA82282-7, LA82282-8, LA82282-9, LA82282-10, LA82282-11

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	103%	75-130%
2037-26-5	Toluene-D8	100%	85-110%
460-00-4	4-Bromofluorobenzene	95%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA82282
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2J4141-BS1	2J0117977.D	1	09/01/22	JY	n/a	n/a	V2J4141
V2J4141-BSD1	2J0117979.D	1	09/01/22	JY	n/a	n/a	V2J4141

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82282-1, LA82282-2, LA82282-3, LA82282-4, LA82282-5, LA82282-6, LA82282-7, LA82282-8, LA82282-9, LA82282-10, LA82282-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.5	103	20.5	103	0	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	102%	101%	75-130%
2037-26-5	Toluene-D8	101%	100%	85-110%
460-00-4	4-Bromofluorobenzene	98%	97%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA82282
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA82282-5MS	2J0118021.D	2	09/01/22	JY	n/a	n/a	V2J4141
LA82282-5MSD	2J0118023.D	2	09/01/22	JY	n/a	n/a	V2J4141
LA82282-5	2J0118003.D	1	09/01/22	JY	n/a	n/a	V2J4141

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA82282-1, LA82282-2, LA82282-3, LA82282-4, LA82282-5, LA82282-6, LA82282-7, LA82282-8, LA82282-9, LA82282-10, LA82282-11

CAS No.	Compound	LA82282-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	12.8		40	44.4	79	40	45.7	82	3	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA82282-5	Limits
17060-07-0	1,2-Dichloroethane-D4	99%	101%	109%	75-130%
2037-26-5	Toluene-D8	99%	99%	99%	85-110%
460-00-4	4-Bromofluorobenzene	98%	99%	92%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA84214

(A.K.A. Adam Olsen Property)

Sampling Date: 10/12/22

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 30

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

Sections: 1 2 3 4 5 6

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: LA84214

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA84214-1	10/12/22	13:08		10/13/22	AQ	Ground Water	MW-CB-48-20221012
LA84214-2	10/12/22	12:19		10/13/22	AQ	Ground Water	MW-CB-47S-20221012
LA84214-3	10/12/22	12:58		10/13/22	AQ	Ground Water	MW-CB-46S-20221012
LA84214-4	10/12/22	13:19		10/13/22	AQ	Ground Water	MW-CB-45-20221012
LA84214-5	10/12/22	13:26		10/13/22	AQ	Ground Water	MW-CB-44-20221012
LA84214-6	10/12/22	13:39		10/13/22	AQ	Ground Water	MW-CB-41S-20221012
LA84214-7	10/12/22	13:48		10/13/22	AQ	Ground Water	MW-CB-40-20221012
LA84214-8	10/12/22	14:04		10/13/22	AQ	Ground Water	MW-CB-39-20221012
LA84214-9	10/12/22	14:19		10/13/22	AQ	Ground Water	MW-CB-37S-20221012
LA84214-10	10/12/22	00:00		10/13/22	AQ	Ground Water	DUP-07-20221012
LA84214-11	10/12/22	00:00		10/13/22	AQ	Trip Blank Water	TB-20221012

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA84214
Site:	DOWMIM (JACOBS)	**Report Date**	10/25/2022 4:09:22 P

11 samples were collected on 10/12/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 10/13/2022, properly preserved and cool at 3.2 Deg C. These samples received an SGS job number of LA84214. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1G6330

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA84214-5MS, LA84214-5MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA84214
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 10/12/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA84214-1	**MW-CB-48-20221012**					
No hits reported in this sample.						
LA84214-2	**MW-CB-47S-20221012**					
No hits reported in this sample.						
LA84214-3	**MW-CB-46S-20221012**					
No hits reported in this sample.						
LA84214-4	**MW-CB-45-20221012**					
1,2-Dichloroethane		0.0047	0.0010	0.00041	mg/l	SW846 8260B
LA84214-5	**MW-CB-44-20221012**					
No hits reported in this sample.						
LA84214-6	**MW-CB-41S-20221012**					
1,2-Dichloroethane		0.0012	0.0010	0.00041	mg/l	SW846 8260B
LA84214-7	**MW-CB-40-20221012**					
1,2-Dichloroethane		0.0011	0.0010	0.00041	mg/l	SW846 8260B
LA84214-8	**MW-CB-39-20221012**					
No hits reported in this sample.						
LA84214-9	**MW-CB-37S-20221012**					
No hits reported in this sample.						
LA84214-10	**DUP-07-20221012**					
No hits reported in this sample.						
LA84214-11	**TB-20221012**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-CB-48-20221012		
Lab Sample ID:	LA84214-1	**Date Sampled:**	10/12/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505396.D	1	10/20/22 14:19	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	91%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-47S-20221012
Lab Sample ID: LA84214-2
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/12/22
Date Received: 10/13/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505398.D	1	10/20/22 14:48	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	91%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-46S-20221012
Lab Sample ID: LA84214-3
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/12/22
Date Received: 10/13/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505400.D	1	10/20/22 15:17	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-45-20221012		
Lab Sample ID:	LA84214-4	**Date Sampled:**	10/12/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505402.D	1	10/20/22 15:46	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0047	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	94%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-44-20221012		
Lab Sample ID:	LA84214-5	**Date Sampled:**	10/12/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505404.D	1	10/20/22 16:15	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	90%		75-130%
2037-26-5	Toluene-D8	105%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-41S-20221012
Lab Sample ID: LA84214-6
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/12/22
Date Received: 10/13/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505406.D	1	10/20/22 16:44	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0012	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	95%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-40-20221012
Lab Sample ID: LA84214-7
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/12/22
Date Received: 10/13/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505408.D	1	10/20/22 17:13	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0011	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		75-130%
2037-26-5	Toluene-D8	108%		85-110%
460-00-4	4-Bromofluorobenzene	94%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-39-20221012		
Lab Sample ID:	LA84214-8	**Date Sampled:**	10/12/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505410.D	1	10/20/22 17:42	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	94%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	92%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-37S-20221012		
Lab Sample ID:	LA84214-9	**Date Sampled:**	10/12/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505412.D	1	10/20/22 18:11	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: DUP-07-20221012
Lab Sample ID: LA84214-10
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/12/22
Date Received: 10/13/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505414.D	1	10/20/22 18:40	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-20221012		
Lab Sample ID:	LA84214-11	**Date Sampled:**	10/12/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505394.D	1	10/20/22 13:50	JY	n/a	n/a	V1G6330
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	86%		75-130%
2037-26-5	Toluene-D8	105%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

SGS Adam Olsen

CHAIN OF CUSTODY

PAGE 1 OF 1

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking # | Bottle Order Control #
SGS Quote # | SGS Job # LA84214

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Lorena Ramirez Phone #: 8326671800

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street: Adam Olsen Property
City: Spring State: TX
Project #:
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address: 818 Town & Country Blvd #500
City: Houston State: TX Zip: 77024
Attention: John Ynfante

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	LAB USE ONLY
1	MW-CB-48-20221012	10-12-22	1308	L.R	GW	3	X												X	3
2	MW-CB-47S-20221012	10-12-22	1219	↑	↑	3	X													3
3	MW-CB-46S-20221012	10-12-22	1258			3	X													3
4	MW-CB-45-20221012	10-12-22	1319			3	X													3
5	MW-CB-44-20221012	10-12-22	1326			3	X													3
6	MW-CB-41S-20221012	10-12-22	1339			3	X													3
7	MW-CB-40-20221012	10-12-22	1348			3	X													3
8	MW-CB-39-20221012	10-12-22	1404			3	X													3
9	MW-CB-37S-20221012	10-12-22	1419	↓	↓	3	X													3
10	DUP-07-20221012	10-12-22	—	L.R	GW	3	X													3
Tes	~~FB-20221012~~ Temp Blank 20221012	—	—	—	W	1														
11	TB-20221012	—	—	—	W	2														2

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

WL 1000 ww

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	Lorena Ramirez	10-12-22 1453	Tanya Babb	10-12-22 1453	2 Tanya Babb	10-12-22 1554	2	10/12/22 1554
3	Relinquished by Sampler:	Date Time: 10/12/22	Received By: 3	Date Time: 10/13/22 0900	Relinquished By: 4	Date Time: 10/13/22	Received By: 4	Date Time: 10/13/22
5	Relinquished By:	Date Time:	Received By: 5	Date Time:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice / Cooler Temp. 1.0°C 3.4

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: LA84214	**CLIENT:** JACOBS
DATE/TIME RECEIVED: 10/13/22 9:00 A.m.	**DELIVERY METHOD:** SGS
PROJECT: CHARLIE BURCH - QUARTERLY Groundwater SAMPLING	**NO. COOLERS:** 1
COOLER TEMPS (Initial/Adjusted): IR002 3.4	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR002		
3. Cooler media:	DIRECT ICE		

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	INTACT		

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☐		☑	
3. Sufficient Volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☐
5. Filtering instructions clear:	☐		☐	☑

SGS Sample Receipt Summary

Job Number: LA84214 **Client:** JACOBS **Project:** CHARLIE BURCH QUARTERLY GROUNDWAT

Date / Time Received: 10/13/2022 9:00:00 AM **Delivery Method:** SGS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3.4/3.2);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	IR002;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Problem Resolution

Job Number: LA84214

CSR: _____ **Response Date:** _____

Response:

LA84214: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

LA84214 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	10/25/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**10/25/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84214**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1G6330**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	10/25/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA84214				
Reviewer Name:		Electa Brown	Prep Batch Number(s):	V1G6330				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**10/25/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84214**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1G6330**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA84214
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1G6330-MB1	1G505392.D	1	10/20/22	JY	n/a	n/a	V1G6330

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84214-1, LA84214-2, LA84214-3, LA84214-4, LA84214-5, LA84214-6, LA84214-7, LA84214-8, LA84214-9, LA84214-10, LA84214-11

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	87%	75-130%
2037-26-5	Toluene-D8	105%	85-110%
460-00-4	4-Bromofluorobenzene	99%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA84214
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1G6330-BS1	1G505388.D	1	10/20/22	JY	n/a	n/a	V1G6330
V1G6330-BSD1	1G505390.D	1	10/20/22	JY	n/a	n/a	V1G6330

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84214-1, LA84214-2, LA84214-3, LA84214-4, LA84214-5, LA84214-6, LA84214-7, LA84214-8, LA84214-9, LA84214-10, LA84214-11

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.4	102	20.4	102	0	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	100%	101%	75-130%
2037-26-5	Toluene-D8	103%	106%	85-110%
460-00-4	4-Bromofluorobenzene	99%	107%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA84214
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84214-5MS	1G505424.D	5	10/20/22	JY	n/a	n/a	V1G6330
LA84214-5MSD	1G505426.D	5	10/20/22	JY	n/a	n/a	V1G6330
LA84214-5	1G505404.D	1	10/20/22	JY	n/a	n/a	V1G6330

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84214-1, LA84214-2, LA84214-3, LA84214-4, LA84214-5, LA84214-6, LA84214-7, LA84214-8, LA84214-9, LA84214-10, LA84214-11

CAS No.	Compound	LA84214-5 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.0	U	100	105	105	100	99.2	99	6	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84214-5	Limits
17060-07-0	1,2-Dichloroethane-D4	103%	103%	90%	75-130%
2037-26-5	Toluene-D8	101%	99%	105%	85-110%
460-00-4	4-Bromofluorobenzene	102%	108%	98%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA84244

Source Area Property

Sampling Date: 10/13/22

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 39

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

Sections: 1 2 3 4 5 6

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: LA84244

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA84244-1	10/13/22	08:53		10/13/22	AQ	Ground Water	OW-2-20221013
LA84244-2	10/13/22	09:06		10/13/22	AQ	Ground Water	MW-CB-5A-20221013
LA84244-3	10/13/22	11:27		10/13/22	AQ	Ground Water	RW-CB-5R-20221013
LA84244-4	10/13/22	11:10		10/13/22	AQ	Ground Water	RW-CB-4R-20221013
LA84244-5	10/13/22	11:02		10/13/22	AQ	Ground Water	RW-CB-4-20221013
LA84244-6	10/13/22	10:54		10/13/22	AQ	Ground Water	RW-CB-3D-20221013
LA84244-7	10/13/22	10:43		10/13/22	AQ	Ground Water	RW-CB-3R-20221013
LA84244-8	10/13/22	10:37		10/13/22	AQ	Ground Water	MW-CB-1B-20221013
LA84244-9	10/13/22	10:13		10/13/22	AQ	Ground Water	MW-CB-1A-20221013
LA84244-10	10/13/22	10:07		10/13/22	AQ	Ground Water	MW-CB-1BS-20221013
LA84244-11	10/13/22	09:57		10/13/22	AQ	Ground Water	RW-CB-2R-20221013
LA84244-12	10/13/22	09:35		10/13/22	AQ	Ground Water	RW-CB-2-20221013
LA84244-12D	10/13/22	09:35		10/13/22	AQ	Water Dup/MSD	RW-CB-2-20221013 MSD

Sample Summary
(continued)

Dow Chemical Company

Job No: LA84244

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA84244-12S	10/13/22	09:35		10/13/22	AQ	Water Matrix Spike	RW-CB-2-20221013 MS
LA84244-13	10/13/22	09:28		10/13/22	AQ	Ground Water	MW-CB-4-20221013
LA84244-14	10/13/22	09:20		10/13/22	AQ	Ground Water	MW-CB-7B-20221013
LA84244-15	10/13/22	00:00		10/13/22	AQ	Ground Water	DUP-01-20221013
LA84244-16	10/13/22	00:00		10/13/22	AQ	Ground Water	DUP-02-20221013
LA84244-17	10/13/22	00:00		10/13/22	AQ	Trip Blank Water	TB-20221013

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA84244
Site:	DOWMIM (JACOBS)	**Report Date**	10/27/2022 12:18:47 A

17 samples were collected on 10/13/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 10/13/2022, properly preserved and cool at 2 Deg C. These samples received an SGS job number of LA84244. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V2Y255

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA84244-12MS, LA84244-12MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- Sample(s) LA84244-1, LA84244-13, LA84244-14, LA84244-15, LA84244-17, LA84244-2, LA84244-4, LA84244-5, LA84244-6, LA84244-8 have surrogates outside control limits. Outside control limits biased high. Sample ND.
- LA84244-1: Outside laboratory control limits but within reasonable method acceptance limits.
- LA84244-13: Outside control limits biased high. Sample ND.
- LA84244-14: Outside control limits biased high. Sample ND.
- LA84244-15: Outside laboratory control limits but within reasonable method acceptance limits.
- LA84244-17: Outside control limits biased high. Sample ND.
- LA84244-2: Outside control limits biased high. Sample ND.
- LA84244-4: Outside laboratory control limits but within reasonable method acceptance limits.
- LA84244-5: Outside control limits biased high. Sample ND.
- LA84244-6: Outside laboratory control limits but within reasonable method acceptance limits.
- LA84244-8: Outside laboratory control limits but within reasonable method acceptance limits.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA84244
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 10/13/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA84244-1	**OW-2-20221013**					
1,2-Dichloroethane [a]		0.0015	0.0010	0.00041	mg/l	SW846 8260B
LA84244-2	**MW-CB-5A-20221013**					
No hits reported in this sample.						
LA84244-3	**RW-CB-5R-20221013**					
1,2-Dichloroethane		0.0050	0.0010	0.00041	mg/l	SW846 8260B
LA84244-4	**RW-CB-4R-20221013**					
1,2-Dichloroethane [a]		0.0015	0.0010	0.00041	mg/l	SW846 8260B
LA84244-5	**RW-CB-4-20221013**					
No hits reported in this sample.						
LA84244-6	**RW-CB-3D-20221013**					
1,2-Dichloroethane [a]		0.0077	0.0010	0.00041	mg/l	SW846 8260B
LA84244-7	**RW-CB-3R-20221013**					
1,2-Dichloroethane		0.0089	0.0010	0.00041	mg/l	SW846 8260B
LA84244-8	**MW-CB-1B-20221013**					
1,2-Dichloroethane [a]		0.0079	0.0010	0.00041	mg/l	SW846 8260B
LA84244-9	**MW-CB-1A-20221013**					
1,2-Dichloroethane		0.0062	0.0010	0.00041	mg/l	SW846 8260B
LA84244-10	**MW-CB-1BS-20221013**					
1,2-Dichloroethane		0.0095	0.0010	0.00041	mg/l	SW846 8260B
LA84244-11	**RW-CB-2R-20221013**					
1,2-Dichloroethane		0.0013	0.0010	0.00041	mg/l	SW846 8260B

Summary of Hits

Job Number: LA84244
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 10/13/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA84244-12	**RW-CB-2-20221013**					
No hits reported in this sample.						
LA84244-13	**MW-CB-4-20221013**					
No hits reported in this sample.						
LA84244-14	**MW-CB-7B-20221013**					
No hits reported in this sample.						
LA84244-15	**DUP-01-20221013**					
1,2-Dichloroethane [a]		0.0016	0.0010	0.00041	mg/l	SW846 8260B
LA84244-16	**DUP-02-20221013**					
1,2-Dichloroethane		0.0117	0.0010	0.00041	mg/l	SW846 8260B
LA84244-17	**TB-20221013**					
No hits reported in this sample.						

(a) Outside laboratory control limits but within reasonable method acceptance limits.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	OW-2-20221013		
Lab Sample ID:	LA84244-1	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Y0006182.D	1	10/23/22 01:12	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0015	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		75-130%
2037-26-5	Toluene-D8	111%		85-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

(a) Outside laboratory control limits but within reasonable method acceptance limits.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-5A-20221013		
Lab Sample ID:	LA84244-2	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Y0006184.D	1	10/23/22 01:41	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	101%		75-130%
2037-26-5	Toluene-D8	112%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

(a) Outside control limits biased high. Sample ND.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-5R-20221013		
Lab Sample ID:	LA84244-3	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0006186.D	1	10/23/22 02:11	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0050	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	110%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-4R-20221013		
Lab Sample ID:	LA84244-4	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Y0006188.D	1	10/23/22 02:40	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0015	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	112%		85-110%
460-00-4	4-Bromofluorobenzene	107%		86-115%

(a) Outside laboratory control limits but within reasonable method acceptance limits.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-4-20221013		
Lab Sample ID:	LA84244-5	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Y0006190.D	1	10/23/22 03:10	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	111%		85-110%
460-00-4	4-Bromofluorobenzene	104%		86-115%

(a) Outside control limits biased high. Sample ND.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-3D-20221013		
Lab Sample ID:	LA84244-6	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Y0006192.D	1	10/23/22 03:39	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0077	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	111%		85-110%
460-00-4	4-Bromofluorobenzene	106%		86-115%

(a) Outside laboratory control limits but within reasonable method acceptance limits.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-3R-20221013		
Lab Sample ID:	LA84244-7	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0006194.D	1	10/23/22 04:09	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0089	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	110%		85-110%
460-00-4	4-Bromofluorobenzene	104%		86-115%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1B-20221013		
Lab Sample ID:	LA84244-8	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Y0006196.D	1	10/23/22 04:38	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0079	0.0010	0.00041	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	111%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Outside laboratory control limits but within reasonable method acceptance limits.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1A-20221013		
Lab Sample ID:	LA84244-9	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0006198.D	1	10/23/22 05:08	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0062	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	110%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1BS-20221013		
Lab Sample ID:	LA84244-10	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0006200.D	1	10/23/22 05:38	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0095	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%		75-130%
2037-26-5	Toluene-D8	108%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-2R-20221013		
Lab Sample ID:	LA84244-11	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0006202.D	1	10/23/22 06:07	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0013	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	110%		75-130%
2037-26-5	Toluene-D8	109%		85-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RW-CB-2-20221013		
Lab Sample ID:	LA84244-12	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0006204.D	1	10/23/22 06:37	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%		75-130%
2037-26-5	Toluene-D8	110%		85-110%
460-00-4	4-Bromofluorobenzene	104%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-4-20221013		
Lab Sample ID:	LA84244-13	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Y0006206.D	1	10/23/22 07:06	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	111%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Outside control limits biased high. Sample ND.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-7B-20221013		
Lab Sample ID:	LA84244-14	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Y0006208.D	1	10/23/22 07:36	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	112%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Outside control limits biased high. Sample ND.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-01-20221013		
Lab Sample ID:	LA84244-15	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Y0006210.D	1	10/23/22 08:05	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0016	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	111%		85-110%
460-00-4	4-Bromofluorobenzene	108%		86-115%

(a) Outside laboratory control limits but within reasonable method acceptance limits.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-02-20221013		
Lab Sample ID:	LA84244-16	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2Y0006212.D	1	10/23/22 08:35	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0117	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	109%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-20221013		
Lab Sample ID:	LA84244-17	**Date Sampled:**	10/13/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/13/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	2Y0006180.D	1	10/23/22 00:42	MB	n/a	n/a	V2Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%		75-130%
2037-26-5	Toluene-D8	113%		85-110%
460-00-4	4-Bromofluorobenzene	105%		86-115%

(a) Outside control limits biased high. Sample ND.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

SOURCE AREA

CHAIN OF CUSTODY

SGS
10165 Harwin Dr. Ste 150 Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #:
Bottle Order Control #:
SGS Quote #:
SGS Job #: LA84244

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Ramirez, Lorena Phone #: 832 661 7900

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street: 25607 Richards Rd
City: Spring State: TX
Project #:
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address: 310 TOWN & COUNTRY BLVD. 500
City: Houston State: TX Zip: 77024
Attention: JOHN YNFANTE

Requested Analyses

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Preserved Bottles: HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	MS / MSD	LAB USE ONLY
1	MW-2-20221013	10-13-22	0853	L.R	GW	3	X												X		3
2	MW-CB-5A-20221013	10-13-22	0906	L.R	GW	3	X												X		3
3	RW-CB-5A-20221013	10-13-22	1127	L.R	GW	3	X												X		3
4	RW-CB-4A-20221013	10-13-22	1110	L.R	GW	3	X												X		3
5	RW-CB-4-20221013	10-13-22	1102	L.R	GW	3	X												X		3
6	RW-CB-3D-20221013	10-13-22	1054	L.R	GW	3	X												X		3
7	RW-CB-3R-20221013	10-13-22	1043	L.R	GW	3	X												X	Broken sample	3
8	MW-CB-1B-20221013	10-13-22	1027	L.R	GW	3	X												X		3
9	MW-CB-1A-20221013	10-13-22	1013	L.R	GW	3	X												X	X LOR	3
10	MW-CB-1BS-20221013	10-13-22	1007	L.R	GW	3	X												X		3
11	RW-CB-2A-20221013	10-13-22	0957	L.R	GW	3	X												X		3
12	RW-CB-2-20221013	10-13-22	0935	L.R	GW	VA	X												X	X	9

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

Turnaround Time (Business days)

- [x] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Approved By (SGS Accutest PM): / Date:

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [x] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

Zoo | vw

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1		10.13.22 15:43	1 Tania Baba	10-13-22 1544	2 Tania Baba	10-13-22 1652		1658
3	Relinquished by Sampler:	Date Time:	3 Genex	10-14-22 0920	Relinquished By: 4 Genex	Date Time: 10-14-22 0940	Received By: 4	Date Time: 10/14/22
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice / Cooler Temp:

IR002 2.2

LA84244: Chain of Custody
Page 1 of 5

SGS SOURCE AREA

CHAIN OF CUSTODY

PAGE 2 OF 2

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA 84244

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Phone #:

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: State:
Project #:
Client Purchase Order #: 4511250720
Project Manager:

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address:
City: State: Zip:
Attention:

Requested Analyses

Matrix Codes: DW - Drinking Wat; GW - Ground Wat; WW - Water; SW - Surface Wat; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	MS/MSD	LAB USE ONLY
13	MW-CB-4-20221013	10-13-22	0928	L.R	GW	3	X												X		3
14	MW-CB-7B-20221013	10-13-22	0920	L.R	GW	3	X												X		3
15	DUP-02-20221013	10-13-22	—	L.R	GW	3	X												X		3
16	DUP-02-20221013	10-1322	—	L.R	GW	3	X												X		3
(17) Temp BFB	-20221013		-	-	W	1															
17	TB-20221013	↓	-	-	W	2															2

Turnaround Time (Business days)

- Standard
- 5 Day *RUSH*
- 4 Day *RUSH*
- 3 Day *RUSH*
- 2 Day *RUSH*
- 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- Commercial "A" (Level 1)
- Commercial "B" (Level 2)
- FULT1 (Level 3+4)
- REDT1 (Level 3+4)
- Commercial "C"
- [X] TRRP
- EDD Format
- Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

DOWMIM29283

2001 YW

Form: SM021-0

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	Lucinda Ramirez 10-13-22	15:43	Tanica Baker	10-13-22 1544	Tanica Baker	10-13-22 1653		10/13/22 1678
2	Relinquished by Sampler:	Date Time: 10/13/22	Received By: Genca	Date Time: 10-14-22 0355	Relinquished By: Genca	Date Time: 10-14-22 0355	Received By: 4	Date Time:
3	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice / Cooler Temp: 1000 2.2

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: LA 84244	**CLIENT:** JACOBS
DATE/TIME RECEIVED: 10/14/22 8:40 A.m.	**DELIVERY METHOD:** SGS
PROJECT: CHARLIE BURCH - QUARTERLY SAMPLING	**NO. COOLERS:** 1
COOLER TEMPS (Initial/Adjusted): IR002 22	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR002		
3. Cooler media:	DIRECT ICE		

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	INTACT		

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☐		☑	
3. Sufficient Volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☐
5. Filtering instructions clear:	☐		☐	☑

SGS Sample Receipt Summary

Job Number: LA84244 **Client:** JACOBS **Project:** CHARLIE BURCH QUARTERLY SAMPLING

Date / Time Received: 10/13/2022 8:40:00 AM **Delivery Method:** SGS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2.2/2);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	IR002;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Problem Resolution

Job Number: LA84244

CSR: _____ **Response Date:** _____

Response:

Appendix A Laboratory Data Package Cover Page

LA84244 This data package consists of

X	This signature page, the laboratory review checklist, and the following reportable data:		
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

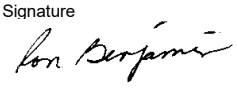
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin		General Manager	10/27/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**10/27/2022**	
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84244**	
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V2Y255**	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X			**4**
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	10/27/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA84244				
Reviewer Name:		Electa Brown	Prep Batch Number(s):	V2Y255				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**10/27/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84244**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V2Y255**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.
4	All anomalies are discussed in the case narrative.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA84244
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2Y255-MB2	2Y0006178.D	1	10/23/22	MB	n/a	n/a	V2Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84244-1, LA84244-2, LA84244-3, LA84244-4, LA84244-5, LA84244-6, LA84244-7, LA84244-8, LA84244-9, LA84244-10, LA84244-11, LA84244-12, LA84244-13, LA84244-14, LA84244-15, LA84244-16, LA84244-17

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	103%	75-130%
2037-26-5	Toluene-D8	108%	85-110%
460-00-4	4-Bromofluorobenzene	105%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA84244
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2Y255-BS1	2Y0006172.D	1	10/22/22	MB	n/a	n/a	V2Y255
V2Y255-BSD1	2Y0006174.D	1	10/22/22	MB	n/a	n/a	V2Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84244-1, LA84244-2, LA84244-3, LA84244-4, LA84244-5, LA84244-6, LA84244-7, LA84244-8, LA84244-9, LA84244-10, LA84244-11, LA84244-12, LA84244-13, LA84244-14, LA84244-15, LA84244-16, LA84244-17

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	19.4	97	18.5	93	5	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	98%	96%	75-130%
2037-26-5	Toluene-D8	102%	102%	85-110%
460-00-4	4-Bromofluorobenzene	100%	100%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA84244
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84244-12MS	2Y0006214.D	2	10/23/22	MB	n/a	n/a	V2Y255
LA84244-12MSD	2Y0006216.D	2	10/23/22	MB	n/a	n/a	V2Y255
LA84244-12	2Y0006204.D	1	10/23/22	MB	n/a	n/a	V2Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84244-1, LA84244-2, LA84244-3, LA84244-4, LA84244-5, LA84244-6, LA84244-7, LA84244-8, LA84244-9, LA84244-10, LA84244-11, LA84244-12, LA84244-13, LA84244-14, LA84244-15, LA84244-16, LA84244-17

CAS No.	Compound	LA84244-12 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.0	U	40	38.3	96	40	39.8	100	4	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84244-12	Limits
17060-07-0	1,2-Dichloroethane-D4	108%	105%	103%	75-130%
2037-26-5	Toluene-D8	103%	102%	110%	85-110%
460-00-4	4-Bromofluorobenzene	104%	102%	104%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA84245

Sampling Date: 10/13/22

Capstick Property (Previously Wert)

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 29

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

Sections: 1 2 3 4 5 6

Table of Contents

Sample Summary

Dow Chemical Company

Job No: LA84245

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA84245-1	10/13/22	13:07		10/14/22	AQ	Ground Water	MW-CB-25A-20221013
LA84245-2	10/13/22	13:19		10/14/22	AQ	Ground Water	MW-CB-6BS-20221013
LA84245-3	10/13/22	13:30		10/14/22	AQ	Ground Water	MW-CB-26A-20221013
LA84245-3D	10/13/22	13:30		10/14/22	AQ	Water Dup/MSD	MW-CB-26A-20221013 MSD
LA84245-3S	10/13/22	13:30		10/14/22	AQ	Water Matrix Spike	MW-CB-26A-20221013 MS
LA84245-4	10/13/22	13:46		10/14/22	AQ	Ground Water	PMW-17-20221013
LA84245-5	10/13/22	13:54		10/14/22	AQ	Ground Water	MW-CB-28A-20221013
LA84245-6	10/13/22	00:00		10/14/22	AQ	Ground Water	DUP-04-20221013
LA84245-7	10/13/22	00:00		10/14/22	AQ	Trip Blank Water	TB-20221013

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA84245
Site:	DOWMIM (JACOBS)	**Report Date**	10/25/2022 11:41:19 P

7 samples were collected on 10/13/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 10/14/2022, properly preserved and cool at 1.8 Deg C. These samples received an SGS job number of LA84245. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1G6338

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA84425-3MS, LA84425-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V1Y255

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA84245-3MS, LA84245-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA84245
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 10/13/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA84245-1	**MW-CB-25A-20221013**					
1,2-Dichloroethane		0.0030	0.0010	0.00041	mg/l	SW846 8260B
LA84245-2	**MW-CB-6BS-20221013**					
1,2-Dichloroethane		0.0037	0.0010	0.00041	mg/l	SW846 8260B
LA84245-3	**MW-CB-26A-20221013**					
1,2-Dichloroethane		0.0132	0.0010	0.00041	mg/l	SW846 8260B
LA84245-4	**PMW-17-20221013**					
1,2-Dichloroethane		0.0024	0.0010	0.00041	mg/l	SW846 8260B
LA84245-5	**MW-CB-28A-20221013**					
No hits reported in this sample.						
LA84245-6	**DUP-04-20221013**					
1,2-Dichloroethane		0.0026	0.0010	0.00041	mg/l	SW846 8260B
LA84245-7	**TB-20221013**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: MW-CB-25A-20221013
Lab Sample ID: LA84245-1
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/13/22
Date Received: 10/14/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006181.D	1	10/23/22 00:57	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0030	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	101%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-6BS-20221013
Lab Sample ID: LA84245-2
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/13/22
Date Received: 10/14/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006183.D	1	10/23/22 01:27	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0037	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	102%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-26A-20221013		
Lab Sample ID:	LA84245-3	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006185.D	1	10/23/22 01:56	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0132	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	108%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PMW-17-20221013
Lab Sample ID: LA84245-4
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/13/22
Date Received: 10/14/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006187.D	1	10/23/22 02:26	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0024	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	102%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-28A-20221013		
Lab Sample ID:	LA84245-5	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006189.D	1	10/23/22 02:55	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	101%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-04-20221013		
Lab Sample ID:	LA84245-6	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006191.D	1	10/23/22 03:25	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0026	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-20221013		
Lab Sample ID:	LA84245-7	**Date Sampled:**	10/13/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1G505638.D	1	10/23/22 16:25	MB	n/a	n/a	V1G6338
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	103%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

SGS

WERT - CARSICK

CHAIN OF CUSTODY

PAGE 1 OF 1

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #:
Bottle Order Control #:
SGS Quote #:
SGS Job #: CA84245

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Lorena Ramirez 832 661 7800 Phone #:

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street: 25533 Richards Rd
City: Spring State: Texas
Project #:
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address: 818 Town & Country Blvd Ste #
City: Houston State: TX Zip: 77024
Attention: John Ynfante

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	MS / MSD	LAB USE ONLY
1	MW-CB-25A-20221013	10-13-22	1307	LR	GW	3	X												X		3
2	MW-CB-16BS-20221013	10-13-22	1319	LR		3	X												X		3
3	MW-CB-26A-20221013	10-13-22	1330	LR		9	X												X	X	9
(10)	~~MW-CB-27A-20221013~~	10-13-22		LR			X												X		
4	PMW-17-20221013	10-13-22	1346	LR		3	X												X		3
5	MW-CB-28A-20221013	10-13-22	1354	LR		3	X												X		3
6 (11)	DUP-01-20221013	10-13-22	—	LR	GW	3	X												X		3
Temp B	~~FB-20221013~~	10-13-22	—	—		1															
7	TB-20221013	10-13-22	—	—		2															2

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day RUSH
- [ ] 4 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

WCM 18 | VW

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	Lorena Ramirez	10-13-22 1543	1 Tanica Beba	10-13-22 1543	Tanica Beba	10-13-22 1650		10/13/22 1650
3	Relinquished by Sampler:	Date Time: 10/13/22	Received By: 3 Genci	Date Time: 10-14-22 0738	Relinquished By: 4 Genci	Date Time: 10-14-22 0858	Received By: 4	Date Time: 10/14/22
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice / Cooler Temp

1.6002.2.0

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: LA84245	**CLIENT:** JACOBS
DATE/TIME RECEIVED: 10/14/22 8:40 am.	**DELIVERY METHOD:** SGS
PROJECT: CHARLIE BURCH - QUARTERLY GROUNDWATER SAMPLING	**NO. COOLERS:** 1
COOLER TEMPS (Initial/Adjusted): IR002 2.0	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR002		
3. Cooler media:	DIRECT ICE		

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	INTACT		

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☐		☑	
3. Sufficient Volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

SGS Sample Receipt Summary

Job Number: LA84245 **Client:** JACOBS **Project:** CHARLIE BURCH QUARTERLY GROUNDWAT

Date / Time Received: 10/14/2022 8:40:00 AM **Delivery Method:** SGS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2/1.8);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	IR002;	
3. Cooler media:	Ice (direct contact)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	☐
2. Trip Blank listed on COC:	☑	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Problem Resolution

Job Number: LA84245

CSR: _____ **Response Date:** _____

Response:

LA84245: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

LA84245 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

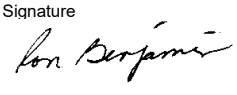
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin		General Manager	10/25/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**10/25/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84245**
Reviewer Name:	**Jenny Babin**	Prep Batch Number(s):	**V1G6338, V1Y255**

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	10/25/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA84245				
Reviewer Name:		Jenney Babin	Prep Batch Number(s):	V1G6338, V1Y255				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**10/25/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84245**
Reviewer Name:	**Jenney Babin**	Prep Batch Number(s):	**V1G6338, V1Y255**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA84245
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1Y255-MB2	1Y0006177.D	1	10/22/22	MB	n/a	n/a	V1Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84245-1, LA84245-2, LA84245-3, LA84245-4, LA84245-5, LA84245-6

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	101%	75-130%
2037-26-5	Toluene-D8	105%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Method Blank Summary

Job Number: LA84245
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1G6338-MB2	1G505636.D	1	10/23/22	MB	n/a	n/a	V1G6338

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84245-7

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	102%	75-130%
2037-26-5	Toluene-D8	102%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA84245
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1Y255-BS1	1Y0006171.D	1	10/22/22	MB	n/a	n/a	V1Y255
V1Y255-BSD1	1Y0006173.D	1	10/22/22	MB	n/a	n/a	V1Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84245-1, LA84245-2, LA84245-3, LA84245-4, LA84245-5, LA84245-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	18.8	94	17.8	89	5	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	96%	95%	75-130%
2037-26-5	Toluene-D8	98%	99%	85-110%
460-00-4	4-Bromofluorobenzene	100%	101%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA84245
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1G6338-BS1	1G505630.D	1	10/23/22	MB	n/a	n/a	V1G6338
V1G6338-BSD1	1G505634.D	1	10/23/22	MB	n/a	n/a	V1G6338

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84245-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	21.8	109	20.7	104	5	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	109%	112%	75-130%
2037-26-5	Toluene-D8	102%	102%	85-110%
460-00-4	4-Bromofluorobenzene	103%	109%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA84245
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84245-3MS	1Y0006209.D	2	10/23/22	MB	n/a	n/a	V1Y255
LA84245-3MSD	1Y0006211.D	2	10/23/22	MB	n/a	n/a	V1Y255
LA84245-3	1Y0006185.D	1	10/23/22	MB	n/a	n/a	V1Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84245-1, LA84245-2, LA84245-3, LA84245-4, LA84245-5, LA84245-6

CAS No.	Compound	LA84245-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	13.2		40	45.7	81	40	47.9	87	5	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84245-3	Limits
17060-07-0	1,2-Dichloroethane-D4	111%	106%	105%	75-130%
2037-26-5	Toluene-D8	104%	102%	108%	85-110%
460-00-4	4-Bromofluorobenzene	101%	103%	100%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA84245
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84425-3MS	1G505668.D	2	10/23/22	MB	n/a	n/a	V1G6338
LA84425-3MSD	1G505670.D	2	10/24/22	MB	n/a	n/a	V1G6338
LA84425-3	1G505654.D	1	10/23/22	MB	n/a	n/a	V1G6338

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84245-7

CAS No.	Compound	LA84425-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	ND		40	40.7	102	40	42.9	107	5	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84425-3	Limits
17060-07-0	1,2-Dichloroethane-D4	105%	107%	102%	75-130%
2037-26-5	Toluene-D8	102%	108%	104%	85-110%
460-00-4	4-Bromofluorobenzene	100%	101%	96%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA84246

Sampling Date: 10/13/22

Rummell

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 27

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

Sections: 1 2 3 4 5 6

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: LA84246

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA84246-1	10/13/22	11:44		10/14/22	AQ	Ground Water	MW-CB-2B-20221013
LA84246-2	10/13/22	11:54		10/14/22	AQ	Ground Water	MW-CB-2A-20221013
LA84246-3	10/13/22	12:07		10/14/22	AQ	Ground Water	RDP-3-20221013
LA84246-4	10/13/22	12:50		10/14/22	AQ	Ground Water	PMW-09B-20221013
LA84246-4D	10/13/22	12:50		10/14/22	AQ	Water Dup/MSD	PMW-09B-20221013
LA84246-4S	10/13/22	12:50		10/14/22	AQ	Water Matrix Spike	PMW-09B-20221013
LA84246-5	10/13/22	12:33		10/14/22	AQ	Ground Water	PMW-08B-20221013
LA84246-6	10/13/22	12:14		10/14/22	AQ	Ground Water	MW-CB-6B-20221013
LA84246-7	10/13/22	12:43		10/14/22	AQ	Ground Water	RDP-5-20221013
LA84246-8	10/13/22	00:00		10/14/22	AQ	Ground Water	DUP-03-20221013

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA84246
Site:	DOWMIM (JACOBS)	**Report Date**	10/27/2022 12:30:05 A

8 samples were collected on 10/13/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 10/14/2022, properly preserved and cool at 2.8 Deg C. These samples received an SGS job number of LA84246. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1Y255

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA84246-4MS, LA84246-4MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA84246
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 10/13/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA84246-1	**MW-CB-2B-20221013**					
No hits reported in this sample.						
LA84246-2	**MW-CB-2A-20221013**					
1,2-Dichloroethane		0.0033	0.0010	0.00041	mg/l	SW846 8260B
LA84246-3	**RDP-3-20221013**					
1,2-Dichloroethane		0.0088	0.0010	0.00041	mg/l	SW846 8260B
LA84246-4	**PMW-09B-20221013**					
1,2-Dichloroethane		0.0086	0.0010	0.00041	mg/l	SW846 8260B
LA84246-5	**PMW-08B-20221013**					
1,2-Dichloroethane		0.0078	0.0010	0.00041	mg/l	SW846 8260B
LA84246-6	**MW-CB-6B-20221013**					
1,2-Dichloroethane		0.00045 J	0.0010	0.00041	mg/l	SW846 8260B
LA84246-7	**RDP-5-20221013**					
1,2-Dichloroethane		0.0063	0.0010	0.00041	mg/l	SW846 8260B
LA84246-8	**DUP-03-20221013**					
1,2-Dichloroethane		0.0218	0.0010	0.00041	mg/l	SW846 8260B

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-CB-2B-20221013		
Lab Sample ID:	LA84246-1	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006193.D	1	10/23/22 03:54	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-2A-20221013		
Lab Sample ID:	LA84246-2	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006195.D	1	10/23/22 04:24	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0033	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	103%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RDP-3-20221013		
Lab Sample ID:	LA84246-3	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006197.D	1	10/23/22 04:53	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0088	0.0010	0.00041	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	108%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PMW-09B-20221013		
Lab Sample ID:	LA84246-4	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006199.D	1	10/23/22 05:23	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0086	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: PMW-08B-20221013
Lab Sample ID: LA84246-5
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/13/22
Date Received: 10/14/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006201.D	1	10/23/22 05:53	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0078	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-6B-20221013		
Lab Sample ID:	LA84246-6	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006203.D	1	10/23/22 06:22	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00045	0.0010	0.00041	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	100%		86-115%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	RDP-5-20221013		
Lab Sample ID:	LA84246-7	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006205.D	1	10/23/22 06:52	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0063	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-03-20221013		
Lab Sample ID:	LA84246-8	**Date Sampled:**	10/13/22
Matrix:	AQ - Ground Water	**Date Received:**	10/14/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006207.D	1	10/23/22 07:21	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0218	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

SGS Rummel

CHAIN OF CUSTODY

PAGE 1 OF 1

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA84246

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Lorena Ramirez 832 661 7800

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street: 25531 Richards Rd
City: Spring State: TX
Project #:
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address: 816 TOWN & COUNTRY #500
City: Houston State: TX Zip: 77024
Attention: John Ynfante

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	MS / MSD	LAB USE ONLY
1	MW-CB-2B-20221013	10-13-22	1144	L.R	GW	3	X												X		3
2	MW-CB-2A-20221013	10-13-22	1154			3	X												X		3
3	BDP-3-20221013	10-13-22	1207			3	X												X		3
4	PMW-08A-20221013	10-13-22	1250			9	X												X	X	9
5	PMW-08B-20221013	10-13-22	1233			3	X												X		3
6	MW-CB-6B-20221013	10-13-22	1214			3	X												X		3
7	RDP-5-20221013	10-13-22	1243			3	X												X		3
8	DUP-03-20221013	10-13-22	—	↓	↓	3	X												X		3
	FB-20221013	10-13 22	—	—	W	1															
	TB-20221013	10-13 22	—	—	W	2															

Number of preserved Bottles

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form. SM021-0

Comments / Special Instructions

DOWMIM29283

W13 vw

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date/Time:
1	Lorena Ramirez	10-13-22 15:93	Tania Baba	10-13 22 1541	Tania Baba	10 13 22 1658		10/13/22 1658
2	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
3		10/13/22	Gene'	10/14/22 0330	Gene'	10-14-22 0830		10/14/22
4	Relinquished by:	Date Time:	Received By:	Date Time:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice / Cooler Temp
5								R002 3.0

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: LA84246	**CLIENT:** JACOBS
DATE/TIME RECEIVED: 8:40 AM 10/13/22	**DELIVERY METHOD:** SGS
PROJECT: CHARLIE BURCH-QUARTERLY Groundwater Sampling	**NO. COOLERS:** 1
COOLER TEMPS (Initial/Adjusted): IR002 3.0	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR002		
3. Cooler media:	DUCT ICE		

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	INTACT		

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☐		☑	
3. Sufficient Volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

SGS Sample Receipt Summary

Job Number: LA84246 **Client:** JACOBS **Project:** CHARLIE BURCH-QUARTERLY GROUNDWAT

Date / Time Received: 10/14/2022 8:40:00 AM **Delivery Method:** SGS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3/2.8);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	IR002;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Problem Resolution

Job Number: LA84246

CSR: _____ **Response Date:** _____

Response:

LA84246: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

LA84246 This data package consists of

X	This signature page, the laboratory review checklist, and the following reportable data:		
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	10/27/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**10/27/2022**	
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84246**	
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1Y255**	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	10/27/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA84246				
Reviewer Name:		Electa Brown	Prep Batch Number(s):	V1Y255				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**10/27/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84246**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1Y255**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA84246
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1Y255-MB2	1Y0006177.D	1	10/22/22	MB	n/a	n/a	V1Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84246-1, LA84246-2, LA84246-3, LA84246-4, LA84246-5, LA84246-6, LA84246-7, LA84246-8

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	101%	75-130%
2037-26-5	Toluene-D8	105%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA84246
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1Y255-BS1	1Y0006171.D	1	10/22/22	MB	n/a	n/a	V1Y255
V1Y255-BSD1	1Y0006173.D	1	10/22/22	MB	n/a	n/a	V1Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84246-1, LA84246-2, LA84246-3, LA84246-4, LA84246-5, LA84246-6, LA84246-7, LA84246-8

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	18.8	94	17.8	89	5	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	96%	95%	75-130%
2037-26-5	Toluene-D8	98%	99%	85-110%
460-00-4	4-Bromofluorobenzene	100%	101%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA84246
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84246-4MS	1Y0006213.D	2	10/23/22	MB	n/a	n/a	V1Y255
LA84246-4MSD	1Y0006215.D	2	10/23/22	MB	n/a	n/a	V1Y255
LA84246-4	1Y0006199.D	1	10/23/22	MB	n/a	n/a	V1Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84246-1, LA84246-2, LA84246-3, LA84246-4, LA84246-5, LA84246-6, LA84246-7, LA84246-8

CAS No.	Compound	LA84246-4 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	8.6		40	48.7	100	40	48.0	99	1	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84246-4	Limits
17060-07-0	1,2-Dichloroethane-D4	100%	103%	106%	75-130%
2037-26-5	Toluene-D8	100%	99%	106%	85-110%
460-00-4	4-Bromofluorobenzene	102%	100%	100%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA84320

Sampling Date: 10/17/22

13 - AT Property

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: **41**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: LA84320

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA84320-1	10/17/22	10:25		10/18/22	AQ	Ground Water	TRW-CB-4-2022101
LA84320-2	10/17/22	10:17		10/18/22	AQ	Ground Water	TRW-CB-3-2022101
LA84320-3	10/17/22	11:13		10/18/22	AQ	Ground Water	MW-CB-33A-2022101
LA84320-4	10/17/22	11:25		10/18/22	AQ	Ground Water	TRW-CB-2-22022101
LA84320-5	10/17/22	12:05		10/18/22	AQ	Ground Water	MW-CB-14AS-2022101
LA84320-6	10/17/22	11:40		10/18/22	AQ	Ground Water	TRW-CB-1-2022101
LA84320-6D	10/17/22	11:40		10/18/22	AQ	Water Dup/MSD	TRW-CB-1-2022101 MSD
LA84320-6S	10/17/22	11:40		10/18/22	AQ	Water Matrix Spike	TRW-CB-1-2022101 MS
LA84320-7	10/17/22	11:50		10/18/22	AQ	Ground Water	MW-CB-15AS-2022101
LA84320-8	10/17/22	12:25		10/18/22	AQ	Ground Water	EAB-MW-03-2022101
LA84320-9	10/17/22	12:40		10/18/22	AQ	Ground Water	MW-CB-13AS-2022101
LA84320-10	10/17/22	13:05		10/18/22	AQ	Ground Water	MW-CB-12AS-2022-101
LA84320-11	10/17/22	13:15		10/18/22	AQ	Ground Water	MW-CB-12AD-2022101

Sample Summary
(continued)

Dow Chemical Company

Job No: LA84320

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA84320-12	10/17/22	13:35		10/18/22	AQ	Ground Water	MW-CB-8AD-2022101
LA84320-12D	10/17/22	13:35		10/18/22	AQ	Water Dup/MSD	MW-CB-8AD-2022101 MSD
LA84320-12S	10/17/22	13:35		10/18/22	AQ	Water Matrix Spike	MW-CB-8AD-2022101 MS
LA84320-13	10/17/22	13:45		10/18/22	AQ	Ground Water	MW-CB-16AS-2022101
LA84320-14	10/17/22	00:00		10/18/22	AQ	Ground Water	DUP-05-2022101
LA84320-15	10/17/22	00:00		10/18/22	AQ	Ground Water	DUP-06-2022101
LA84320-16	10/17/22	00:00		10/18/22	AQ	Trip Blank Water	TB-2022101

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA84320
Site:	DOWMIM (JACOBS)	**Report Date**	11/9/2022 12:15:58 P

15 samples were collected on 10/17/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 10/18/2022, properly preserved and cool at 4.6 Deg C. These samples received an SGS job number of LA84320. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1J4340

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA84320-12MS, LA84320-12MSD, LA84320-6MS, LA84320-6MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V2J4336

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA84320
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 10/17/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA84320-1	**TRW-CB-4-2022101**					
1,2-Dichloroethane		0.0028	0.0010	0.00041	mg/l	SW846 8260B
LA84320-2	**TRW-CB-3-2022101**					
1,2-Dichloroethane		0.0033	0.0010	0.00041	mg/l	SW846 8260B
LA84320-3	**MW-CB-33A-2022101**					
1,2-Dichloroethane		0.0088	0.0010	0.00041	mg/l	SW846 8260B
LA84320-4	**TRW-CB-2-22022101**					
1,2-Dichloroethane		0.0035	0.0010	0.00041	mg/l	SW846 8260B
LA84320-5	**MW-CB-14AS-2022101**					
1,2-Dichloroethane		0.0022	0.0010	0.00041	mg/l	SW846 8260B
LA84320-6	**TRW-CB-1-2022101**					
1,2-Dichloroethane		0.0066	0.0010	0.00041	mg/l	SW846 8260B
LA84320-7	**MW-CB-15AS-2022101**					
1,2-Dichloroethane		0.0042	0.0010	0.00041	mg/l	SW846 8260B
LA84320-8	**EAB-MW-03-2022101**					
1,2-Dichloroethane		0.0044	0.0010	0.00041	mg/l	SW846 8260B
LA84320-9	**MW-CB-13AS-2022101**					
No hits reported in this sample.						
LA84320-10	**MW-CB-12AS-2022-101**					
1,2-Dichloroethane		0.00064 J	0.0010	0.00041	mg/l	SW846 8260B
LA84320-11	**MW-CB-12AD-2022101**					
1,2-Dichloroethane		0.0081	0.0010	0.00041	mg/l	SW846 8260B

Summary of Hits

Job Number: LA84320
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 10/17/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA84320-12	**MW-CB-8AD-2022101**					
1,2-Dichloroethane		0.0014	0.0010	0.00041	mg/l	SW846 8260B
LA84320-13	**MW-CB-16AS-2022101**					
1,2-Dichloroethane		0.00062 J	0.0010	0.00041	mg/l	SW846 8260B
LA84320-14	**DUP-05-2022101**					
No hits reported in this sample.						
LA84320-15	**DUP-06-2022101**					
No hits reported in this sample.						
LA84320-16	**TB-2022101**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: TRW-CB-4-2022101
Lab Sample ID: LA84320-1
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/17/22
Date Received: 10/18/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0121513.D	1	10/28/22 03:25	JY	n/a	n/a	V2J4336
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0028	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	111%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRW-CB-3-2022101		
Lab Sample ID:	LA84320-2	**Date Sampled:**	10/17/22
Matrix:	AQ - Ground Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0121515.D	1	10/28/22 03:52	JY	n/a	n/a	V2J4336
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0033	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-33A-2022101		
Lab Sample ID:	LA84320-3	**Date Sampled:**	10/17/22
Matrix:	AQ - Ground Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0121517.D	1	10/28/22 04:20	JY	n/a	n/a	V2J4336
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0088	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRW-CB-2-22022101
Lab Sample ID: LA84320-4
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/17/22
Date Received: 10/18/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0121519.D	1	10/28/22 04:48	JY	n/a	n/a	V2J4336
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0035	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	111%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	99%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-14AS-2022101
Lab Sample ID: LA84320-5
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/17/22
Date Received: 10/18/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0121521.D	1	10/28/22 05:15	JY	n/a	n/a	V2J4336
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0022	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	112%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRW-CB-1-2022101		
Lab Sample ID:	LA84320-6	**Date Sampled:**	10/17/22
Matrix:	AQ - Ground Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121640.D	1	10/28/22 19:30	JY	n/a	n/a	V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0066	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	94%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-15AS-2022101		
Lab Sample ID:	LA84320-7	**Date Sampled:**	10/17/22
Matrix:	AQ - Ground Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121622.D	1	10/28/22 15:21	JY	n/a	n/a	V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0042	0.0010	0.00041	mg/l	**J**

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	117%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	94%		86-115%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	EAB-MW-03-2022101		
Lab Sample ID:	LA84320-8	**Date Sampled:**	10/17/22
Matrix:	AQ - Ground Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121624.D	1	10/28/22 15:49	JY	n/a	n/a	V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0044	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	95%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-13AS-2022101		
Lab Sample ID:	LA84320-9	**Date Sampled:**	10/17/22
Matrix:	AQ - Ground Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121626.D	1	10/28/22 16:16	JY	n/a	n/a	V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-12AS-2022-101
Lab Sample ID: LA84320-10
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/17/22
Date Received: 10/18/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121628.D	1	10/28/22 16:44	JY	n/a	n/a	V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00064	0.0010	0.00041	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	102%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-12AD-2022101
Lab Sample ID: LA84320-11
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/17/22
Date Received: 10/18/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121630.D	1	10/28/22 17:12	JY	n/a	n/a	V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0081	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%		75-130%
2037-26-5	Toluene-D8	103%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-8AD-2022101		
Lab Sample ID:	LA84320-12	**Date Sampled:**	10/17/22
Matrix:	AQ - Ground Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121632.D	1	10/28/22 17:39	JY	n/a	n/a	V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0014	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-16AS-2022101		
Lab Sample ID:	LA84320-13	**Date Sampled:**	10/17/22
Matrix:	AQ - Ground Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121634.D	1	10/28/22 18:07	JY	n/a	n/a	V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00062	0.0010	0.00041	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-05-2022101		
Lab Sample ID:	LA84320-14	**Date Sampled:**	10/17/22
Matrix:	AQ - Ground Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121636.D	1	10/28/22 18:35	JY	n/a	n/a	V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	94%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-06-2022101		
Lab Sample ID:	LA84320-15	**Date Sampled:**	10/17/22
Matrix:	AQ - Ground Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121638.D	1	10/28/22 19:02	JY	n/a	n/a	V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	95%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-2022101		
Lab Sample ID:	LA84320-16	**Date Sampled:**	10/17/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/18/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2J0121511.D	1	10/28/22 02:57	JY	n/a	n/a	V2J4336
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	108%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

Forestry - 13AT/RBH

CHAIN OF CUSTODY

PAGE 1 OF 2

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #:
Bottle Order Control #:
SGS Quote #:
SGS Job #: LA84320

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Lorena Ramirez 832 661 7800

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street: Forestry // 13AT-RBH
City: Spring State: TX
Project #:
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlane

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address: 818 TOWN & COUNTRY BLVD.
City: Houston State: TX Zip: 77024
Attention: John Ynfante

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	MS / MSD	LAB USE ONLY
1	TRH-CB-4-2022101	10/17/22	10:25	LR	GW	3	X												X		3
2	TRH-CB-3-2022101	10/17/22	10:17			3	X												X		3
3	MW-CB-33A-2022101	10/17/22	11:13			3	X												X		3
4	TRH-CB-2-2022101	10/17/22	11:25			3	X												X		3
5	MW-CB-14AS-2022101	10/17/22	12:05			3	X												X		3
6	TRH-CB-1-2022101	10/17/22	11:40			9	X												X	X	9
7	MW-CB-15AS-2022101	10/17/22	11:50			3	X												X		3
8	EAB-MW-03-2022101	10/17/22	12:25			3	X												X		3
9	MW-CB-13AS-2022101	10/17/22	12:40			3	X												X		3
10	MW-CB-12AS-2022101	10/17/22	13:05			3	X												X		3
11	MW-CB-12AD-2022101	10/17/22	13:15			3	X												X		3
12	MW-CB-8AD-2022101	10/17/22	13:35		GW	9	X												X	X	9

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

BDM 254 vw

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	[signature]	14:30 10-17-22	[signature]	10/17/22	2 [signature]		[signature]	10/18/22 0:35
3	[signature]	10/18/22	3		4		4 [signature]	10/18/22
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice / Cooler Temp. 2.0c

IR-002 4R

Forestry - 13AT/ R&H

CHAIN OF CUSTODY

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX. 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA84320

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Lorena Ramirez 832 [illegible] 7800 Phone #:

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street: Forestry - 13AT/ R&H
City: Spring State: TX
Project #:
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address: 818 Town & Country Blvd #500
City: Houston State: TX Zip: 77024
Attention: John Ynfante

Requested Analyses

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	MS / MSD	LAB USE ONLY
13	MW-CB-16AS-2022101	10/17/22	13:45	LR	GW	3	X												√		3
14	DUP-05-2022101	10/17/22	—	LR	↓	3	X												√		3
15	DUP-06-2022101	10/17/22	—	LR	↓	3	X												√		3
	~~FB-2022101~~																				
16	TB-2022101	10/17/22	—			2															2
	Temp Blank	10/17/22	—			1						X									

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

Turnaround Time (Business days)

- [X] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	[signature]	14:30 10-17-22	[signature]	10/17/22	2 [signature]		[signature]	10/18/22 0935
3	[signature]	10/18/22	3		4		4 [signature]	10/18/22 0938
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [✓]	On Ice [✓] Cooler Temp: 1.9 2.0°c

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: LA 84320	CLIENT: JACOBS
DATE/TIME RECEIVED: 10/18/22 @ 8:30 A.M.	DELIVERY METHOD: SGS
PROJECT: CHARITE BURCH - Quarterly Groundwater Sampling	NO. COOLERS: 1
COOLER TEMPS (Initial/Adjusted): IR002 4.8	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR002		
3. Cooler media:	DIRECT ICE		

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	INTACT		

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☑		☐	
3. Sufficient Volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☐
5. Filtering instructions clear:	☐		☐	☑

SGS Sample Receipt Summary

Job Number: LA84320 **Client:** JACOBS **Project:** CHARLIE BURCH QUARTERLY GROUNDWAT

Date / Time Received: 10/18/2022 8:30:00 AM **Delivery Method:** SGS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (4.8/4.6);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	IR002;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Problem Resolution

Job Number: LA84320

CSR: _____ **Response Date:** _____

Response:

Appendix A Laboratory Data Package Cover Page

LA84320 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	11/9/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:		**Accutest Lafayette**	LRC Date:	**11/9/2022**					
Project Name:		**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84320**					
Reviewer Name:		**Electa Brown**	Prep Batch Number(s):	**V1J4340, V2J4336**					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]	
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**							
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X					
		Were all departures from standard conditions described in an exception report?		X					
R2	**OI**	**Sample and quality control (QC) identification**							
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X					
R3	**OI**	**Test reports**							
		Were samples prepared and analyzed within holding times?		X					
		Other than those results <MQL, were all other raw values bracketed by calibration standards?		X					
		Were calculations checked by a peer or supervisor?		X					
		Were all analyte identifications checked by a peer or supervisor?		X					
		Were sample detection limits reported for all analytes not detected?		X					
		Were all results for soil and sediment samples reported on a dry weight basis?				X			
		Were % moisture (or solids) reported for all soil and sediment samples?				X			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X			
		If required for the project, are TIC's reported?				X			
R4	**O**	**Surrogate recovery data**							
		Were surrogates added prior to extraction?		X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X					
R5	**OI**	**Test reports/summary forms for blank samples**							
		Were appropriate type(s) of blanks analyzed?		X					
		Were blanks analyzed at the appropriate frequency?		X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X					
		Were blank concentrations <MQL?		X					
R6	**OI**	**Laboratory control samples (LCS):**							
		Were all COCs included in the LCS?		X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?		X					
		Were LCSs analyzed at required frequency?		X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X					
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X					
		Was the LCSD RPD within QC limits?		X					
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**							
		Were the project/method specified analytes included in the MS and MSD?		X					
		Were MS/MSD analyzed at the appropriate frequency?		X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?		X					
		Were the MS/MSD RPDs within laboratory QC limits?		X					
R8	**OI**	**Analytical duplicate data**							
		Were appropriate analytical duplicates analyzed for each matrix?				X			
		Were analytical duplicates analyzed at the appropriate frequency?				X			
		Were RPDs or relative standard deviations within the laboratory QC limits?				X			
R9	**OI**	**Method quantitation limits (MQLs):**							
		Are the MQLs for each method analyte included in the laboratory data package?		X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration		X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?			X			**2**	
R10	**OI**	**Other problems/anomalies**							
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X					
		Was applicable and available technology used to lower the SDL to minimize the		X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X				**3**	

Laboratory Name:		Accutest Lafayette	LRC Date:	11/9/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA84320				
Reviewer	Name:	Electa Brown	Prep Batch Number(s):	V1J4340, V2J4336				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**11/9/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84320**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1J4340, V2J4336**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

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QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA84320
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2J4336-MB1	2J0121509.D	1	10/28/22	JY	n/a	n/a	V2J4336

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84320-1, LA84320-2, LA84320-3, LA84320-4, LA84320-5, LA84320-16

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	107%	75-130%
2037-26-5	Toluene-D8	99%	85-110%
460-00-4	4-Bromofluorobenzene	98%	86-115%

Method Blank Summary

Job Number: LA84320
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4340-MB2	1J0121612.D	1	10/28/22	JY	n/a	n/a	V1J4340

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84320-6, LA84320-7, LA84320-8, LA84320-9, LA84320-10, LA84320-11, LA84320-12, LA84320-13, LA84320-14, LA84320-15

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	108%	75-130%
2037-26-5	Toluene-D8	101%	85-110%
460-00-4	4-Bromofluorobenzene	95%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA84320
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2J4336-BS1	2J0121505.D	1	10/28/22	JY	n/a	n/a	V2J4336
V2J4336-BSD1	2J0121507.D	1	10/28/22	JY	n/a	n/a	V2J4336

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84320-1, LA84320-2, LA84320-3, LA84320-4, LA84320-5, LA84320-16

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.4	102	20.2	101	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	104%	104%	75-130%
2037-26-5	Toluene-D8	99%	100%	85-110%
460-00-4	4-Bromofluorobenzene	100%	103%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA84320
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4340-BS1	1J0121606.D	1	10/28/22	JY	n/a	n/a	V1J4340
V1J4340-BSD1	1J0121608.D	1	10/28/22	JY	n/a	n/a	V1J4340

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84320-6, LA84320-7, LA84320-8, LA84320-9, LA84320-10, LA84320-11, LA84320-12, LA84320-13, LA84320-14, LA84320-15

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.9	105	20.6	103	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	105%	108%	75-130%
2037-26-5	Toluene-D8	100%	98%	85-110%
460-00-4	4-Bromofluorobenzene	100%	101%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA84320
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84320-6MS	1J0121650.D	2	10/28/22	JY	n/a	n/a	V1J4340
LA84320-6MSD	1J0121652.D	2	10/28/22	JY	n/a	n/a	V1J4340
LA84320-6	1J0121640.D	1	10/28/22	JY	n/a	n/a	V1J4340

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84320-6

CAS No.	Compound	LA84320-6 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	6.6		40	44.6	95	40	45.0	96	1	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84320-6	Limits
17060-07-0	1,2-Dichloroethane-D4	104%	107%	109%	75-130%
2037-26-5	Toluene-D8	99%	99%	102%	85-110%
460-00-4	4-Bromofluorobenzene	99%	100%	94%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA84320
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84320-12MS	1J0121654.D	2	10/28/22	JY	n/a	n/a	V1J4340
LA84320-12MSD	1J0121656.D	2	10/28/22	JY	n/a	n/a	V1J4340
LA84320-12	1J0121632.D	1	10/28/22	JY	n/a	n/a	V1J4340

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84320-7, LA84320-8, LA84320-9, LA84320-10, LA84320-11, LA84320-12, LA84320-13, LA84320-14, LA84320-15

CAS No.	Compound	LA84320-12 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.4		40	42.3	102	40	42.7	103	1	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84320-12	Limits
17060-07-0	1,2-Dichloroethane-D4	107%	106%	105%	75-130%
2037-26-5	Toluene-D8	100%	100%	100%	85-110%
460-00-4	4-Bromofluorobenzene	101%	101%	98%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA84402

Sampling Date: 10/18/22

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 29

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

Sections:

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: LA84402

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA84402-1	10/18/22	10:46		10/19/22	AQ	Ground Water	AZG6-67-72-20221018
LA84402-2	10/18/22	11:25		10/19/22	AQ	Ground Water	AZG6-45-50-20221018
LA84402-3	10/18/22	11:45		10/19/22	AQ	Ground Water	AZG6-35-40-20221018
LA84402-4	10/18/22	12:40		10/19/22	AQ	Ground Water	AZG2-59-64-20221018
LA84402-5	10/18/22	13:10		10/19/22	AQ	Ground Water	AZG2-18-23-20221018
LA84402-6	10/18/22	14:25		10/19/22	AQ	Ground Water	AZG-40-45-20221018
LA84402-7	10/18/22	00:00		10/19/22	AQ	Trip Blank Water	TB-20221018

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA84402
Site:	DOWMIM (JACOBS)	**Report Date**	11/9/2022 12:28:00 P

7 samples were collected on 10/18/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 10/19/2022, properly preserved and cool at 3 Deg C. These samples received an SGS job number of LA84402. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1Y255

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA84245-3MS, LA84245-3MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V2G6337

- All samples were analyzed within the recommended method holding time.
- Sample(s) FA99671-7MS, FA99671-7MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA84402
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 10/18/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA84402-1	**AZG6-67-72-20221018**					
1,2-Dichloroethane		0.821	0.0050	0.0020	mg/l	SW846 8260B
LA84402-2	**AZG6-45-50-20221018**					
1,2-Dichloroethane		0.0747	0.0010	0.00041	mg/l	SW846 8260B
LA84402-3	**AZG6-35-40-20221018**					
1,2-Dichloroethane		0.0021	0.0010	0.00041	mg/l	SW846 8260B
LA84402-4	**AZG2-59-64-20221018**					
1,2-Dichloroethane		0.727	0.0050	0.0020	mg/l	SW846 8260B
LA84402-5	**AZG2-18-23-20221018**					
1,2-Dichloroethane		0.0057	0.0010	0.00041	mg/l	SW846 8260B
LA84402-6	AZG2-40-45-20221018					
1,2-Dichloroethane		0.0039	0.0010	0.00041	mg/l	SW846 8260B
LA84402-7	**TB-20221018**					

No hits reported in this sample.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AZG6-67-72-20221018		
Lab Sample ID:	LA84402-1	**Date Sampled:**	10/18/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G505597.D	5	10/23/22 03:45	MB	n/a	n/a	V2G6337
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.821	0.0050	0.0020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	102%		75-130%
2037-26-5	Toluene-D8	103%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AZG6-45-50-20221018
Lab Sample ID: LA84402-2
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/18/22
Date Received: 10/19/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G505599.D	1	10/23/22 04:15	MB	n/a	n/a	V2G6337
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0747	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	98%		75-130%
2037-26-5	Toluene-D8	104%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG6-35-40-20221018		
Lab Sample ID:	LA84402-3	**Date Sampled:**	10/18/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G505601.D	1	10/23/22 04:44	MB	n/a	n/a	V2G6337
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0021	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG2-59-64-20221018		
Lab Sample ID:	LA84402-4	**Date Sampled:**	10/18/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G505603.D	5	10/23/22 05:13	MB	n/a	n/a	V2G6337
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.727	0.0050	0.0020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	100%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AZG2-18-23-20221018
Lab Sample ID: LA84402-5
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/18/22
Date Received: 10/19/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G505605.D	1	10/23/22 05:43	MB	n/a	n/a	V2G6337
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0057	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	98%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG2-40-45-20221018		
Lab Sample ID:	LA84402-6	**Date Sampled:**	10/18/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	2G505607.D	1	10/23/22 06:12	MB	n/a	n/a	V2G6337
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0039	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	107%		86-115%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TB-20221018		
Lab Sample ID:	LA84402-7	**Date Sampled:**	10/18/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/19/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1Y0006179.D	1	10/23/22 00:27	MB	n/a	n/a	V1Y255
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

CHAIN OF CUSTODY

SGS North America Inc. - Houston
10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

PAGE ___ OF ___

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA84402

Client / Reporting Information

Company Name: JACOBS
Street Address: 5995 Rogerdale Road
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail: John.Ynfante@Jacobs.com
Phone #: 281-414-1719
Sampler(s) Name(s): Lorena Ramirez Phone #: 832-661-7800

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street: Source Area - AZG Wells
City: Spring State: TX
Project #:
Client Purchase Order #: 4511250720
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOW
Street Address: 818 Town & Country Blvd #500
City: Houston State: TX Zip: 77024
Attention: John Ynfante

Requested Analyses

8260 - 1,2-Dichloroethane

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED - Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB - Equipment Blank
RB - Rinse Blank
TB - Trip Blank

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZA/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	LAB USE ONLY
1	AZG6-67-72-20221018	10-18-22	10:46	L.R.	GW	3	X											X	3
2	AZG6-45-50-20221018		11:25		GW	3	X											X	3
3	AZG6-35-40-20221018		11:45		GW	3	X											X	3
4	AZG2-59-64-20221018		12:40		GW	3	X											X	3
5	AZG2-18-23-20221018		13:10		GW	3	X											X	3
6	AZG2-40-45-20221018		14:25		GW	3	X											X	3
7	TB-20221018	—	—	Lab	—	2													2
	Temp Blank	—	—	—	—	1							X						

Turnaround Time (Business days)

- [X] Standard 10 Business Days
- [ ] 5 Business Days *RUSH*
- [ ] 4 Business Days *RUSH*
- [ ] 3 Business Days *RUSH*
- [ ] 2 Business Days *RUSH*
- [ ] 1 Business Day *EMERGENCY*

Approved By (SGS PM): / Date:

Emergency & Rush T/A data available via Lablink. Approval needed for RUSH/Emergency TAT

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw Data

Comments / Special Instructions

Dow WMIM 29283
RL 94 ww

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished By:	Date / Time:	Received By:	Date / Time:
1		10-18-22 16:19	1	
2		10/19/22 0900	2	10/19/22
3		10/19/22	3	
4			4	10/19/22 9:00
5			5	

Custody Seal # ☑ Intact ☐ Not intact ☐ Absent
Preserved where applicable ☑ Ice ☐
Therm. ID: Cooler Temp. °C: 3.4

http://www.sgs.com/en/terms-and-conditions

FHDA-QAC-0004-00 FORM Houston - Standard COC

5.1 5

LA84402: Chain of Custody
Page 1 of 4

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: LA84402	CLIENT: JACOBS
DATE/TIME RECEIVED: 10/19/22 9:00 a.m	DELIVERY METHOD: SGS
PROJECT: CHARLIE BUCH - QUARTERLY groundwater sampling	NO. COOLERS: 1
COOLER TEMPS (Initial/Adjusted): IR002 3.2	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR002		
3. Cooler media:	DIRECT ICE		

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	INTACT		

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☐		☑	
3. Sufficient Volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

SGS Sample Receipt Summary

Job Number: LA84402 **Client:** JACOBS **Project:** CHARLIE BURCH- QUARTERLY

Date / Time Received: 10/19/2022 9:00:00 AM **Delivery Method:** SGS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3.2/3);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	IR002;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Problem Resolution

Job Number: LA84402

CSR: _____ **Response Date:** _____

Response:

LA84402: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

LA84402 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	10/31/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:		**Accutest Lafayette**	LRC Date:	**10/31/2022**					
Project Name:		**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84402**					
Reviewer Name:		**Electa Brown**	Prep Batch Number(s):	**V1Y255, V2G6337**					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]	
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**							
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X					
		Were all departures from standard conditions described in an exception report?		X					
R2	**OI**	**Sample and quality control (QC) identification**							
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X					
R3	**OI**	**Test reports**							
		Were samples prepared and analyzed within holding times?		X					
		Other than those results <MQL, were all other raw values bracketed by calibration standards?		X					
		Were calculations checked by a peer or supervisor?		X					
		Were all analyte identifications checked by a peer or supervisor?		X					
		Were sample detection limits reported for all analytes not detected?		X					
		Were all results for soil and sediment samples reported on a dry weight basis?				X			
		Were % moisture (or solids) reported for all soil and sediment samples?				X			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X			
		If required for the project, are TIC's reported?				X			
R4	**O**	**Surrogate recovery data**							
		Were surrogates added prior to extraction?		X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X					
R5	**OI**	**Test reports/summary forms for blank samples**							
		Were appropriate type(s) of blanks analyzed?		X					
		Were blanks analyzed at the appropriate frequency?		X					
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X					
		Were blank concentrations <MQL?		X					
R6	**OI**	**Laboratory control samples (LCS):**							
		Were all COCs included in the LCS?		X					
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?		X					
		Were LCSs analyzed at required frequency?		X					
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?		X					
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X					
		Was the LCSD RPD within QC limits?		X					
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**							
		Were the project/method specified analytes included in the MS and MSD?		X					
		Were MS/MSD analyzed at the appropriate frequency?		X					
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?		X					
		Were the MS/MSD RPDs within laboratory QC limits?		X					
R8	**OI**	**Analytical duplicate data**							
		Were appropriate analytical duplicates analyzed for each matrix?				X			
		Were analytical duplicates analyzed at the appropriate frequency?				X			
		Were RPDs or relative standard deviations within the laboratory QC limits?				X			
R9	**OI**	**Method quantitation limits (MQLs):**							
		Are the MQLs for each method analyte included in the laboratory data package?		X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration		X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?			X			**2**	
R10	**OI**	**Other problems/anomalies**							
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X					
		Was applicable and available technology used to lower the SDL to minimize the		X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X				**3**	

Laboratory Name:		Accutest Lafayette	LRC Date:	10/31/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA84402				
Reviewer	Name:	Electa Brown	Prep Batch Number(s):	V1Y255, V2G6337				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**10/31/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84402**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1Y255, V2G6337**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA84402
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1Y255-MB2	1Y0006177.D	1	10/22/22	MB	n/a	n/a	V1Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84402-7

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	101%	75-130%
2037-26-5	Toluene-D8	105%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Method Blank Summary

Job Number: LA84402
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2G6337-MB2	2G505587.D	1	10/23/22	MB	n/a	n/a	V2G6337

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84402-1, LA84402-2, LA84402-3, LA84402-4, LA84402-5, LA84402-6

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	99%	75-130%
2037-26-5	Toluene-D8	102%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA84402
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1Y255-BS1	1Y0006171.D	1	10/22/22	MB	n/a	n/a	V1Y255
V1Y255-BSD1	1Y0006173.D	1	10/22/22	MB	n/a	n/a	V1Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84402-7

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	18.8	94	17.8	89	5	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	96%	95%	75-130%
2037-26-5	Toluene-D8	98%	99%	85-110%
460-00-4	4-Bromofluorobenzene	100%	101%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA84402
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2G6337-BS1	2G505581A.D	1	10/22/22	MB	n/a	n/a	V2G6337
V2G6337-BSD1	2G505583.D	1	10/23/22	MB	n/a	n/a	V2G6337

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84402-1, LA84402-2, LA84402-3, LA84402-4, LA84402-5, LA84402-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	19.3	97	19.1	96	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	107%	110%	75-130%
2037-26-5	Toluene-D8	96%	100%	85-110%
460-00-4	4-Bromofluorobenzene	104%	112%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA84402
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84245-3MS	1Y0006209.D	2	10/23/22	MB	n/a	n/a	V1Y255
LA84245-3MSD	1Y0006211.D	2	10/23/22	MB	n/a	n/a	V1Y255
LA84245-3	1Y0006185.D	1	10/23/22	MB	n/a	n/a	V1Y255

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84402-7

CAS No.	Compound	LA84245-3 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	13.2		40	45.7	81	40	47.9	87	5	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84245-3	Limits
17060-07-0	1,2-Dichloroethane-D4	111%	106%	105%	75-130%
2037-26-5	Toluene-D8	104%	102%	108%	85-110%
460-00-4	4-Bromofluorobenzene	101%	103%	100%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA84402
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
FA99671-7MS	2G505615.D	10	10/23/22	MB	n/a	n/a	V2G6337
FA99671-7MSD	2G505617.D	10	10/23/22	MB	n/a	n/a	V2G6337
FA99671-7	2G505591.D	1	10/23/22	MB	n/a	n/a	V2G6337

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84402-1, LA84402-2, LA84402-3, LA84402-4, LA84402-5, LA84402-6

CAS No.	Compound	FA99671-7 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	ND		200	157	79	200	187	94	17	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	FA99671-7	Limits
17060-07-0	1,2-Dichloroethane-D4	102%	106%	100%	75-130%
2037-26-5	Toluene-D8	114%*	101%	103%	85-110%
460-00-4	4-Bromofluorobenzene	104%	104%	98%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (JACOBS)

CHARLIE BURCH

SGS Job Number: LA84522

Sampling Date: 10/21/22

Report to:

Jacobs
5995 Rogerdale Road
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@jacobs.com; Ashley.Rivera@jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: 22

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Ron Benjamin
Lab Director

Client Service contact: Electa Brown 337-237-4775

Certifications: LDEQ(2048), LDHH(LA150012), AR(14-045-04), AZ(AZ0805), FL(E87657), IL(200082), KY(#31), NC(487), SC(73004001), NJ(LA007), TX(T104704186-18-16), WV(257)

Sections:

1 2 3 4 5 6

Table of Contents

Sample Summary

Dow Chemical Company

Job No: LA84522

DOWMIM (JACOBS)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
LA84522-1	10/21/22	08:20		10/22/22	AQ	Ground Water	AZG5-40-45-20221021
LA84522-2	10/21/22	08:45		10/22/22	AQ	Ground Water	AZG5-20-25-20221021
LA84522-3	10/21/22	00:00		10/22/22	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	LA84522
Site:	DOWMIM (JACOBS)	**Report Date**	11/16/2022 6:09:39 P

3 samples were collected on 10/21/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 10/22/2022, properly preserved and cool at 2.4 Deg C. These samples received an SGS job number of LA84522. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1J4350

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA84579-16MS, LA84579-16MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

Summary of Hits

Job Number: LA84522
Account: Dow Chemical Company
Project: DOWMIM (JACOBS)
Collected: 10/21/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
LA84522-1	**AZG5-40-45-20221021**					
No hits reported in this sample.						
LA84522-2	**AZG5-20-25-20221021**					
1,2-Dichloroethane		0.0032	0.0010	0.00041	mg/l	SW846 8260B
LA84522-3	**TRIP BLANK**					
No hits reported in this sample.						

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID: AZG5-40-45-20221021
Lab Sample ID: LA84522-1
Matrix: AQ - Ground Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/21/22
Date Received: 10/22/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121870.D	1	10/31/22 00:49	JY	n/a	n/a	V1J4350
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	113%		75-130%
2037-26-5	Toluene-D8	102%		85-110%
460-00-4	4-Bromofluorobenzene	93%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG5-20-25-20221021		
Lab Sample ID:	LA84522-2	**Date Sampled:**	10/21/22
Matrix:	AQ - Ground Water	**Date Received:**	10/22/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (JACOBS)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121872.D	1	10/31/22 01:17	JY	n/a	n/a	V1J4350
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0032	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	114%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: TRIP BLANK
Lab Sample ID: LA84522-3
Matrix: AQ - Trip Blank Water
Method: SW846 8260B
Project: DOWMIM (JACOBS)

Date Sampled: 10/21/22
Date Received: 10/22/22
Percent Solids: n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	1J0121860.D	1	10/30/22 22:30	JY	n/a	n/a	V1J4350
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	109%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form

SGS

CHAIN OF CUSTODY

Source Area

PAGE 1 OF 1

SGS North America Inc. - Houston
10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #:
Bottle Order Control #:
SGS Quote #:
SGS Job #: LA84522

Client / Reporting Information

Company Name: Jacobs
Street Address: 910 Town & Country #600
City: Houston State: TX Zip: 77024
Project Contact: John Yntante E-mail: John.Yntante@jacobs.com
Phone #: (281)414-1719
Sampler(s) Name(s): Lorena Ramirez Phone #: 832 664 7800

Project Information

Project Name: Charlie Ranch.
Street:
City: Spring, State: TX
Project #:
Client Purchase Order #:
Project Manager: Joshua McFarlain.

Billing Information (if different from Report to)

Company Name:
Street Address:
City State Zip:
Attention:

Requested Analyses

1,2 - DCA

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB - Field Blank
EB - Equipment Blank
RB - Rinse Blank
TB - Trip Blank

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAc/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	1,2 - DCA	LAB USE ONLY
1	AZ45-40-45-20221021	10.21.22	8:20	LDF	GW	3	X												X	3
2	AZ45-20-25-20221021	10.21.22	8:45	LDF	GW	3	X												X	3
3																				2

Turnaround Time (Business days)

- [x] Standard 10 Business Days
- [ ] 5 Business Days *RUSH*
- [ ] 4 Business Days *RUSH*
- [ ] 3 Business Days *RUSH*
- [ ] 2 Business Days *RUSH*
- [ ] 1 Business Day *EMERGENCY*

Approved By (SGS PM): / Date:

Emergency & Rush T/A data available via Lablink. Approval needed for RUSH/Emergency TAT

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw Data

Comments / Special Instructions

YR-14 (WW)

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date / Time:	Received By:	Date / Time:
1	Lorena Ramirez	10/21/22 9:03	1	10/21/22 0945
2			2	
3	Eddie Cuch	10/22/22 9:00	3 Mark Reed	10/22/22 900
4			4	
5			5	

Custody Seal #: CSGC ☑ Intact ☐ Not intact ☐ Absent
Preserved where applicable
On Ice ☑ Cooler Temp. °C: 2.8
Therm. ID: 9

http://www.sgs.com/en/terms-and-conditions

EHSA-QAC-0024-00-FORM-Houston - Standard COC

2.4 10001

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: LA84522	CLIENT: Jacobs
DATE/TIME RECEIVED: 10/22/22 9:00	DELIVERY METHOD: SGS
PROJECT: Charlie Burch	NO. COOLERS: 1
COOLER TEMPS (Initial/Adjusted): 2.4 IR001	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:			

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:			

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☑		☐	
3. Sufficient Volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☐
5. Filtering instructions clear:	☐		☐	☑

SGS Sample Receipt Summary

Job Number: LA84522 **Client:** JACOBS **Project:** CHARLIE BURCH

Date / Time Received: 10/22/2022 9:00:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (2.4/2.4);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	IR001;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Problem Resolution

Job Number: LA84522

CSR: _____ **Response Date:** _____

Response:

LA84522: Chain of Custody
Page 4 of 4

Appendix A Laboratory Data Package Cover Page

LA84522 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[ ] [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	11/16/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**11/16/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84522**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1J4350**

# [1]	A [2]	DESCRIPTION	YES	NO	NA [3]	NR [4]	ER # [5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?	X				
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?	X				
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	11/16/2022				
Project Name:		DOWMIM (JACOBS)	Laboratory Project Number:	LA84522				
Reviewer	Name:	Electa Brown	Prep Batch Number(s):	V1J4350				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?				X		
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?				X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?				X		
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**11/16/2022**
Project Name:	**DOWMIM (JACOBS)**	Laboratory Project Number:	**LA84522**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**V1J4350**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

MS Volatiles

6

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: LA84522
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4350-MB1	1J0121840.D	1	10/30/22	JY	n/a	n/a	V1J4350

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84522-1, LA84522-2, LA84522-3

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	0.50	0.32	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	111%	84-124%
2037-26-5	Toluene-D8	98%	83-115%
460-00-4	4-Bromofluorobenzene	101%	89-111%

Blank Spike/Blank Spike Duplicate Summary

Job Number: LA84522
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4350-BS1	1J0121836.D	1	10/30/22	JY	n/a	n/a	V1J4350
V1J4350-BSD1	1J0121838.D	1	10/30/22	JY	n/a	n/a	V1J4350

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84522-1, LA84522-2, LA84522-3

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	21.5	108	21.4	107	0	74-127/30

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	110%	110%	84-124%
2037-26-5	Toluene-D8	99%	99%	83-115%
460-00-4	4-Bromofluorobenzene	104%	103%	89-111%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: LA84522
Account: DOWMIM Dow Chemical Company
Project: DOWMIM (JACOBS)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84579-16MS	1J0121882.D	5	10/31/22	JY	n/a	n/a	V1J4350
LA84579-16MSD	1J0121884.D	5	10/31/22	JY	n/a	n/a	V1J4350
LA84579-16	1J0121874.D	1	10/31/22	JY	n/a	n/a	V1J4350

The QC reported here applies to the following samples: **Method:** SW846 8260B

LA84522-1, LA84522-2, LA84522-3

CAS No.	Compound	LA84579-16 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.0	U	100	108	108	100	106	106	2	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84579-16	Limits
17060-07-0	1,2-Dichloroethane-D4	111%	108%	113%	75-130%
2037-26-5	Toluene-D8	101%	102%	101%	85-110%
460-00-4	4-Bromofluorobenzene	102%	103%	101%	86-115%

* = Outside of Control Limits.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH

SGS Job Number: TD83671

Sampling Date: 10/19/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: **116**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Kesavalu Bagawandoss
General Manager

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-22-46) AR (21-045-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2021-158) VA (11647)

April 13, 2023

Jacobs CH2M
5985 Rogerdale Rd. Tower 2
Houston Tx 77072

The final report for SGS Job TD83671 has been amended from the original. This report replaces in its entirety any previously submitted copy. Per client request, Ethane and Ethene results are being reported. The attached report incorporates these revisions.

Please contact me at 337-237-4775 if I may be of further assistance in this matter, or if you have any further questions regarding this data report

Sincerely,

Rebecca Hebert

SGS North America Inc.-Gulf Coast

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Sections:

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SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: TD83671

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD83671-1	10/19/22	09:55		10/19/22	AQ	Ground Water	AZG1-39-44-20221019
TD83671-1D	10/19/22	09:55		10/19/22	AQ	Water Dup/MSD	AZG1-39-44-20221019 MSD
TD83671-1F	10/19/22	09:55		10/19/22	AQ	Groundwater Filtered	AZG1-39-44-20221019
TD83671-1R	10/19/22	09:55		10/19/22	AQ	Ground Water	AZG1-39-44-20221019
TD83671-1S	10/19/22	09:55		10/19/22	AQ	Water Matrix Spike	AZG1-39-44-20221019 MS
TD83671-2	10/19/22	10:00		10/19/22	AQ	Ground Water	AZG1-63-68-20221019
TD83671-2F	10/19/22	10:00		10/19/22	AQ	Groundwater Filtered	AZG1-63-68-20221019
TD83671-2R	10/19/22	10:00		10/19/22	AQ	Ground Water	AZG1-63-68-20221019
TD83671-3	10/19/22	13:05		10/19/22	AQ	Ground Water	AZG4-20-25-20221019
TD83671-3F	10/19/22	13:05		10/19/22	AQ	Groundwater Filtered	AZG4-20-25-20221019
TD83671-3R	10/19/22	13:05		10/19/22	AQ	Ground Water	AZG4-20-25-20221019
TD83671-4	10/19/22	13:00		10/19/22	AQ	Ground Water	AZG4-59-64-20221019
TD83671-4F	10/19/22	13:00		10/19/22	AQ	Groundwater Filtered	AZG4-59-64-20221019

Sample Summary
(continued)

Dow Chemical Company

Job No: TD83671

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD83671-4R	10/19/22	13:00		10/19/22	AQ	Ground Water	AZG4-59-64-20221019
TD83671-5	10/19/22	00:00		10/19/22	AQ	Ground Water	DUP-08-20221019

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: Dow Chemical Company **Job No:** TD83671

Site: DOWMIM (Jacobs) **Report Date** 11/17/2022 2:12:25 P

5 Samples were collected on 10/19/2022 and received intact at SGS North America Inc (SGS) on 10/19/2022 and properly preserved in 1 cooler at 2.2 Deg C. The samples received an SGS job number of TD83671. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** L:V1J4340

- All data for batch L:MS9130 was analyzed at SGS North America Inc. - Scott, LA.

Matrix: AQ **Batch ID:** L:V1J4359

- All data for batch L:MS9130 was analyzed at SGS North America Inc. - Scott, LA.

Matrix: AQ **Batch ID:** L:V1Y278

- All data for batch L:MS9130 was analyzed at SGS North America Inc. - Scott, LA.

Matrix: AQ **Batch ID:** L:V2J4371

- All data for batch L:MS9130 was analyzed at SGS North America Inc. - Scott, LA.

GC Volatiles By Method RSK-175

Matrix: AQ **Batch ID:** N:GAA2661

- All data for batch N:GC60477 was analyzed at SGS North America Inc. - Dayton, NJ.
- TD83671-4: (pH=5)Sample pH did not satisfy field preservation criteria. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
- TD83671-2: (pH=5)Sample pH did not satisfy field preservation criteria. 1mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
- TD83671-1: (pH=5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.

Matrix: AQ **Batch ID:** N:GWW5605

- All data for batch N:GC60476 was analyzed at SGS North America Inc. - Dayton, NJ.
- TD83671-1: (pH=4)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. 1mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
- TD83671-3: (pH=6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. Analysis performed at SGS Dayton, NJ.
- TD83671-4: (pH=6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.

Metals Analysis By Method SW846 6010C

Matrix: AQ **Batch ID:** L:MP25295

- All data for batch L:MP25295 was analyzed at SGS North America Inc. - Scott, LA.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** N:GP43044

- All data for batch N:GP43044 was analyzed at SGS North America Inc. - Dayton, NJ.

General Chemistry By Method EPA 353.2/LACHAT

Matrix:	AQ	Batch ID:	N:GP43063

- All data for batch N:GP43063 was analyzed at SGS North America Inc. - Dayton, NJ.

General Chemistry By Method SM2320 B-11

Matrix:	AQ	Batch ID:	N:GN34831

- All data for batch N:GN34831 was analyzed at SGS North America Inc. - Dayton, NJ.
- TD83671-1 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space. Analysis performed at SGS Dayton, NJ.
- TD83671-2 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space. Analysis performed at SGS Dayton, NJ.
- TD83671-3 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space. Analysis performed at SGS Dayton, NJ.
- TD83671-4 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space. Analysis performed at SGS Dayton, NJ.

General Chemistry By Method SM4500NO2 B-11

Matrix:	AQ	Batch ID:	N:GN34662

- All data for batch N:GN34662 was analyzed at SGS North America Inc. - Dayton, NJ.
- TD83671-4 for Nitrogen, Nitrite: Analysis performed at SGS Dayton, NJ.
- TD83671-3 for Nitrogen, Nitrite: Analysis performed at SGS Dayton, NJ.

General Chemistry By Method SM5310 B-2011

Matrix:	AQ	Batch ID:	L:GP10477

- All data for batch L:GP10477 was analyzed at SGS North America Inc. - Scott, LA.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client: SGS Houston, TX **Job No:** TD83671

Site: DOWMIM: DOWMIM (Jacobs) **Report Date** 11/15/2022 4:38:55 P

5 samples were collected on 10/19/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 10/19/2022, properly preserved and cool at 2.8 Deg C. These samples received an SGS job number of TD83671. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1J4340

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) LA84320-12MS, LA84320-12MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** V1J4359

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) LA84662-2MS, LA84662-2MSD were used as the QC samples indicated.

Matrix: AQ **Batch ID:** V1Y278

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V2J4371

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA84466-2QMS, LA84466-2QMSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- TD83671-4: Initial analysis within holding time. Reanalysis for required dilution was past holding time.
- TD83671-2: Initial analysis within holding time. Reanalysis for required dilution was past holding time.

Metals Analysis By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25295

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD83671-1FMS, TD83671-1FMSD, TD83671-1FSDL were used as the QC samples for metals.

General Chemistry By Method SM5310 B-2011

Matrix: AQ **Batch ID:** GP10477

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) LA84431-1MSD, LA84431-1MS were used as the QC samples for Total Organic Carbon.
- Matrix Spike Recovery(s) for Total Organic Carbon are outside control limits. Outside control limits due to matrix interference and/or sample nonhomogeneity.
- Matrix Spike Duplicate Recovery(s) for Total Organic Carbon are outside control limits. Probable cause due to matrix interference.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: SGS Houston, TX **Job No:** TD83671

Site: DOWMIM: DOWMIM (Jacobs) **Report Date** 4/11/2023 5:20:56 PM

On 10/20/2022, 4 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 2.2 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of TD83671 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

GC Volatiles By Method RSK-175

Matrix: AQ **Batch ID:** GAA2661

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD83687-1DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- TD83671-1: (pH=5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace.
- TD83671-2: (pH=5)Sample pH did not satisfy field preservation criteria. 1mm diameter bubble present in headspace.
- TD83671-3: (pH=5)Sample pH did not satisfy field preservation criteria.
- TD83671-4: (pH=5)Sample pH did not satisfy field preservation criteria. 4mm diameter bubble present in headspace.

Matrix: AQ **Batch ID:** GWW5605

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD83671-2DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- TD83671-3: (pH=6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time.
- TD83671-2: (pH=4)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time.
- TD83671-1: (pH=4)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. 1mm diameter bubble present in headspace.
- TD83671-4: (pH=6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. 4mm diameter bubble present in headspace.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP43044

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD54176-1DUP, JD54176-1MS were used as the QC samples for the Sulfate analysis.

General Chemistry By Method EPA 353.2/LACHAT

Matrix: AQ **Batch ID:** GP43063

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD54078-3DUP, JD54078-3MS were used as the QC samples for the Nitrogen, Nitrate + Nitrite analysis.

General Chemistry By Method EPA353.2/SM4500NO2B

Matrix:	AQ	Batch ID:	R200046

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- TD83671-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix:	AQ	Batch ID:	R200047

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- TD83671-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix:	AQ	Batch ID:	R200048

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- TD83671-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix:	AQ	Batch ID:	R200049

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- TD83671-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM2320 B-11

Matrix:	AQ	Batch ID:	GN34831

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD54278-2DUP were used as the QC samples for the Alkalinity, Total as CaCO3 analysis.
- TD83671-4 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space.
- TD83671-3 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space.
- TD83671-2 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space.
- TD83671-1 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space.

General Chemistry By Method SM4500NO2 B-11

Matrix:	AQ	Batch ID:	GN34662

- All method blanks for this batch meet method specific criteria.
- Sample(s) JD54055-8MS, JD54055-8MSD were used as the QC samples for the Nitrogen, Nitrite analysis.
- TD83671-1 for Nitrogen, Nitrite: Analysis done out of holding time.
- TD83671-2 for Nitrogen, Nitrite: Analysis done out of holding time.

SGS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting SGS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SGS indicated via signature on the report cover.

Summary of Hits

Job Number: TD83671
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 10/19/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD83671-1	**AZG1-39-44-20221019**					
1,2-Dichloroethane [a]		0.0344	0.0010	0.00041	mg/l	SW846 8260B
Methane [b]		0.00345	0.00011	0.000080	mg/l	RSK-175
Carbon Dioxide [c]		64.0	5.0	2.5	mg/l	RSK-175
Alkalinity, Total as CaCO3 [d]		31.0	5.0	3.6	mg/l	SM2320 B-11
Nitrogen, Nitrate [e]		0.097 J	0.11	0.093	mg/l	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite [f]		0.097 J	0.10	0.090	mg/l	EPA 353.2/LACHAT
Sulfate [f]		148	2.0	0.89	mg/l	EPA 300/SW846 9056A
Total Organic Carbon [a]		3.7	1.0	0.37	mg/l	SM5310 B-2011
TD83671-1F	**AZG1-39-44-20221019**					
Lead [a]		0.0509	0.010	0.0037	mg/l	SW846 6010C
TD83671-1R	**AZG1-39-44-20221019**					
No hits reported in this sample.						
TD83671-2	**AZG1-63-68-20221019**					
1,2-Dichloroethane [g]		0.699	0.010	0.0041	mg/l	SW846 8260B
Methane [h]		0.0138	0.00011	0.000080	mg/l	RSK-175
Carbon Dioxide [i]		58.5	2.5	1.3	mg/l	RSK-175
Sulfate [f]		1080	12	5.3	mg/l	EPA 300/SW846 9056A
Total Organic Carbon [a]		32.3	1.0	0.37	mg/l	SM5310 B-2011
TD83671-2F	**AZG1-63-68-20221019**					
Lead [a]		0.0796	0.010	0.0037	mg/l	SW846 6010C
TD83671-2R	**AZG1-63-68-20221019**					
Ethane [f]		0.00019 J	0.00023	0.00014	mg/l	RSK-175
Ethene [f]		0.00063	0.00031	0.00016	mg/l	RSK-175
TD83671-3	**AZG4-20-25-20221019**					
1,2-Dichloroethane [a]		0.0016	0.0010	0.00041	mg/l	SW846 8260B
Methane [j]		0.0167	0.00011	0.000080	mg/l	RSK-175
Carbon Dioxide [k]		22.8	2.5	1.3	mg/l	RSK-175
Alkalinity, Total as CaCO3 [d]		84.5	5.0	3.6	mg/l	SM2320 B-11
Sulfate [f]		72.6	2.0	0.89	mg/l	EPA 300/SW846 9056A
Total Organic Carbon [a]		3.0	1.0	0.37	mg/l	SM5310 B-2011

Summary of Hits

Job Number: TD83671
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 10/19/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD83671-3F	**AZG4-20-25-20221019**					
Lead [a]		0.0632	0.010	0.0037	mg/l	SW846 6010C
TD83671-3R	**AZG4-20-25-20221019**					
No hits reported in this sample.						
TD83671-4	**AZG4-59-64-20221019**					
1,2-Dichloroethane [g]		0.598	0.0050	0.0020	mg/l	SW846 8260B
Methane [l]		0.0149	0.00011	0.000080	mg/l	RSK-175
Carbon Dioxide [m]		53.0	1.3	0.63	mg/l	RSK-175
Alkalinity, Total as CaCO3 [d]		48.0	5.0	3.6	mg/l	SM2320 B-11
Sulfate [f]		934	10	4.4	mg/l	EPA 300/SW846 9056A
Total Organic Carbon [a]		17.5	1.0	0.37	mg/l	SM5310 B-2011
TD83671-4F	**AZG4-59-64-20221019**					
Lead [a]		0.0878	0.010	0.0037	mg/l	SW846 6010C
TD83671-4R	**AZG4-59-64-20221019**					
No hits reported in this sample.						
TD83671-5	**DUP-08-20221019**					
1,2-Dichloroethane [a]		1.24	0.010	0.0041	mg/l	SW846 8260B

(a) Analysis performed at SGS Scott, LA.
(b) (pH= 5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(c) (pH= 4)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. 1mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(d) Sample was titrated to a final pH of 4.5.Sample received with head space. Analysis performed at SGS Dayton, NJ.
(e) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite) Analysis performed at SGS Dayton, NJ.
(f) Analysis performed at SGS Dayton, NJ.
(g) Initial analysis within holding time. Reanalysis for required dilution was past holding time. Analysis performed at SGS Scott, LA.
(h) (pH= 5)Sample pH did not satisfy field preservation criteria. 1mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(i) (pH= 4)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. Analysis performed at SGS Dayton, NJ.
(j) (pH= 5)Sample pH did not satisfy field preservation criteria. Analysis performed at SGS Dayton, NJ.

Summary of Hits

Job Number: TD83671
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 10/19/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method

(k) (pH= 6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. Analysis performed at SGS Dayton, NJ.
(l) (pH= 5)Sample pH did not satisfy field preservation criteria. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(m) (pH= 6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AZG1-39-44-20221019		
Lab Sample ID:	TD83671-1	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1J0121642.D	1	10/28/22 19:57	ALA	n/a	n/a	L:V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0344	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	102%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	95%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG1-39-44-20221019		
Lab Sample ID:	TD83671-1	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97546.D	1	10/31/22 11:55	ANJ	n/a	n/a	N:GAA2661
Run #2 [b]	WW142426.D	100	10/25/22 09:48	ANJ	n/a	n/a	N:GWW5605

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.00345	0.00011	0.000080	mg/l	
124-38-9	Carbon Dioxide	64.0 [c]	5.0	2.5	mg/l	

(a) (pH= 5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(b) (pH= 4)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. 1mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AZG1-39-44-20221019
Lab Sample ID: TD83671-1
Matrix: AQ - Ground Water
Project: DOWMIM (Jacobs)

Date Sampled: 10/19/22
Date Received: 10/19/22
Percent Solids: n/a

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	31.0	5.0	3.6	mg/l	1	10/26/22 15:15	ANJ	SM2320 B-11
Nitrogen, Nitrate [b]	0.097 J	0.11	0.093	mg/l	1	10/25/22 17:15	ANJ	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite [c]	0.097 J	0.10	0.090	mg/l	1	10/25/22 17:15	ANJ	EPA 353.2/LACHAT
Nitrogen, Nitrite [d]	0.0030 U	0.010	0.0030	mg/l	1	10/21/22 13:00	ANJ	SM4500NO2 B-11
Sulfate [c]	148	2.0	0.89	mg/l	1	10/24/22 21:15	ANJ	EPA 300/SW846 9056A
Total Organic Carbon [e]	3.7	1.0	0.37	mg/l	1	10/24/22 22:46	ALA	SM5310 B-2011

(a) Sample was titrated to a final pH of 4.5. Sample received with head space. Analysis performed at SGS Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite) Analysis performed at SGS Dayton, NJ.
(c) Analysis performed at SGS Dayton, NJ.
(d) Analysis done out of holding time. Analysis performed at SGS Dayton, NJ.
(e) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	AZG1-39-44-20221019		
Lab Sample ID:	TD83671-1F	**Date Sampled:**	10/19/22
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/19/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	0.0509	0.010	0.0037	mg/l	1	10/26/22	10/26/22	ALA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: L:MA24923
(2) Prep QC Batch: L:MP25295

(a) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	AZG1-39-44-20221019		
Lab Sample ID:	TD83671-1R	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97546.D	1	10/31/22 11:55	ANJ	n/a	n/a	N:GAA2661
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-84-0	Ethane	0.00014 U	0.00023	0.00014	mg/l	
74-85-1	Ethene	0.00016 U	0.00031	0.00016	mg/l	

(a) Analysis performed at SGS Dayton, NJ.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG1-63-68-20221019		
Lab Sample ID:	TD83671-2	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1J0121616.D	1	10/28/22 13:58	ALA	n/a	n/a	L:V1J4340
Run #2 [b]	2J0122290.D	10	11/04/22 06:28	ALA	n/a	n/a	L:V2J4371

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.699 [c]	0.010	0.0041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	103%	106%	75-130%
2037-26-5	Toluene-D8	101%	100%	85-110%
460-00-4	4-Bromofluorobenzene	97%	100%	86-115%

(a) Analysis performed at SGS Scott, LA.
(b) Initial analysis within holding time. Reanalysis for required dilution was past holding time. Analysis performed at SGS Scott, LA.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG1-63-68-20221019		
Lab Sample ID:	TD83671-2	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97547.D	1	10/31/22 12:09	ANJ	n/a	n/a	N:GAA2661
Run #2 [b]	WW142427.D	50	10/25/22 10:14	ANJ	n/a	n/a	N:GWW5605

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.0138	0.00011	0.000080	mg/l	
124-38-9	Carbon Dioxide	58.5 [c]	2.5	1.3	mg/l	

(a) (pH= 5)Sample pH did not satisfy field preservation criteria. 1mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(b) (pH= 4)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. Analysis performed at SGS Dayton, NJ.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AZG1-63-68-20221019
Lab Sample ID: TD83671-2
Matrix: AQ - Ground Water
Project: DOWMIM (Jacobs)

Date Sampled: 10/19/22
Date Received: 10/19/22
Percent Solids: n/a

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	3.6 U	5.0	3.6	mg/l	1	10/26/22 15:15	ANJ	SM2320 B-11
Nitrogen, Nitrate [b]	0.093 U	0.11	0.093	mg/l	1	10/25/22 17:16	ANJ	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite [c]	0.090 U	0.10	0.090	mg/l	1	10/25/22 17:16	ANJ	EPA 353.2/LACHAT
Nitrogen, Nitrite [d]	0.0030 U	0.010	0.0030	mg/l	1	10/21/22 13:00	ANJ	SM4500NO2 B-11
Sulfate [c]	1080	12	5.3	mg/l	6	10/25/22 15:47	ANJ	EPA 300/SW846 9056A
Total Organic Carbon [e]	32.3	1.0	0.37	mg/l	1	10/24/22 23:46	ALA	SM5310 B-2011

(a) Sample was titrated to a final pH of 4.5. Sample received with head space. Analysis performed at SGS Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite) Analysis performed at SGS Dayton, NJ.
(c) Analysis performed at SGS Dayton, NJ.
(d) Analysis done out of holding time. Analysis performed at SGS Dayton, NJ.
(e) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	AZG1-63-68-20221019		
Lab Sample ID:	TD83671-2F	**Date Sampled:**	10/19/22
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/19/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	0.0796	0.010	0.0037	mg/l	1	10/26/22	10/26/22	ALA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: L:MA24923
(2) Prep QC Batch: L:MP25295

(a) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	AZG1-63-68-20221019		
Lab Sample ID:	TD83671-2R	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97547.D	1	10/31/22 12:09	ANJ	n/a	n/a	N:GAA2661
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-84-0	Ethane	0.00019	0.00023	0.00014	mg/l	J
74-85-1	Ethene	0.00063	0.00031	0.00016	mg/l	

(a) Analysis performed at SGS Dayton, NJ.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG4-20-25-20221019		
Lab Sample ID:	TD83671-3	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1J0122025.D	1	11/01/22 22:55	ALA	n/a	n/a	L:V1J4359
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0016	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	118%		75-130%
2037-26-5	Toluene-D8	101%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG4-20-25-20221019		
Lab Sample ID:	TD83671-3	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97548.D	1	10/31/22 12:22	ANJ	n/a	n/a	N:GAA2661
Run #2 [b]	WW142429.D	50	10/25/22 10:46	ANJ	n/a	n/a	N:GWW5605

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.0167	0.00011	0.000080	mg/l	
124-38-9	Carbon Dioxide	22.8 [c]	2.5	1.3	mg/l	

(a) (pH= 5)Sample pH did not satisfy field preservation criteria. Analysis performed at SGS Dayton, NJ.
(b) (pH= 6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. Analysis performed at SGS Dayton, NJ.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AZG4-20-25-20221019
Lab Sample ID: TD83671-3
Matrix: AQ - Ground Water
Project: DOWMIM (Jacobs)

Date Sampled: 10/19/22
Date Received: 10/19/22
Percent Solids: n/a

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	84.5	5.0	3.6	mg/l	1	10/26/22 15:15	ANJ	SM2320 B-11
Nitrogen, Nitrate [b]	0.093 U	0.11	0.093	mg/l	1	10/25/22 17:17	ANJ	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite [c]	0.090 U	0.10	0.090	mg/l	1	10/25/22 17:17	ANJ	EPA 353.2/LACHAT
Nitrogen, Nitrite [c]	0.0030 U	0.010	0.0030	mg/l	1	10/21/22 13:00	ANJ	SM4500NO2 B-11
Sulfate [c]	72.6	2.0	0.89	mg/l	1	10/25/22 13:21	ANJ	EPA 300/SW846 9056A
Total Organic Carbon [d]	3.0	1.0	0.37	mg/l	1	10/25/22 00:08	ALA	SM5310 B-2011

(a) Sample was titrated to a final pH of 4.5. Sample received with head space. Analysis performed at SGS Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite) Analysis performed at SGS Dayton, NJ.
(c) Analysis performed at SGS Dayton, NJ.
(d) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	AZG4-20-25-20221019		
Lab Sample ID:	TD83671-3F	**Date Sampled:**	10/19/22
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/19/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	0.0632	0.010	0.0037	mg/l	1	10/26/22	10/26/22	ALA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: L:MA24923
(2) Prep QC Batch: L:MP25295

(a) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	AZG4-20-25-20221019		
Lab Sample ID:	TD83671-3R	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97548.D	1	10/31/22 12:22	ANJ	n/a	n/a	N:GAA2661
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-84-0	Ethane	0.00014 U	0.00023	0.00014	mg/l	
74-85-1	Ethene	0.00016 U	0.00031	0.00016	mg/l	

(a) Analysis performed at SGS Dayton, NJ.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG4-59-64-20221019		
Lab Sample ID:	TD83671-4	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1J0122027.D	1	11/01/22 23:22	ALA	n/a	n/a	L:V1J4359
Run #2 [b]	2J0122292.D	5	11/04/22 06:56	ALA	n/a	n/a	L:V2J4371

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.598 [c]	0.0050	0.0020	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	117%	107%	75-130%
2037-26-5	Toluene-D8	99%	101%	85-110%
460-00-4	4-Bromofluorobenzene	97%	98%	86-115%

(a) Analysis performed at SGS Scott, LA.
(b) Initial analysis within holding time. Reanalysis for required dilution was past holding time. Analysis performed at SGS Scott, LA.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG4-59-64-20221019		
Lab Sample ID:	TD83671-4	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97549.D	1	10/31/22 12:34	ANJ	n/a	n/a	N:GAA2661
Run #2 [b]	WW142430.D	25	10/25/22 11:02	ANJ	n/a	n/a	N:GWW5605

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.0149	0.00011	0.000080	mg/l	
124-38-9	Carbon Dioxide	53.0 [c]	1.3	0.63	mg/l	

(a) (pH= 5)Sample pH did not satisfy field preservation criteria. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(b) (pH= 6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AZG4-59-64-20221019
Lab Sample ID: TD83671-4
Matrix: AQ - Ground Water
Project: DOWMIM (Jacobs)

Date Sampled: 10/19/22
Date Received: 10/19/22
Percent Solids: n/a

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	48.0	5.0	3.6	mg/l	1	10/26/22 15:15	ANJ	SM2320 B-11
Nitrogen, Nitrate [b]	0.093 U	0.11	0.093	mg/l	1	10/25/22 17:18	ANJ	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite [c]	0.090 U	0.10	0.090	mg/l	1	10/25/22 17:18	ANJ	EPA 353.2/LACHAT
Nitrogen, Nitrite [c]	0.0030 U	0.010	0.0030	mg/l	1	10/21/22 13:00	ANJ	SM4500NO2 B-11
Sulfate [c]	934	10	4.4	mg/l	5	10/25/22 17:09	ANJ	EPA 300/SW846 9056A
Total Organic Carbon [d]	17.5	1.0	0.37	mg/l	1	10/25/22 00:27	ALA	SM5310 B-2011

(a) Sample was titrated to a final pH of 4.5. Sample received with head space. Analysis performed at SGS Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite) Analysis performed at SGS Dayton, NJ.
(c) Analysis performed at SGS Dayton, NJ.
(d) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	AZG4-59-64-20221019		
Lab Sample ID:	TD83671-4F	**Date Sampled:**	10/19/22
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/19/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Lead [a]	0.0878	0.010	0.0037	mg/l	1	10/26/22	10/26/22	ALA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: L:MA24923
(2) Prep QC Batch: L:MP25295

(a) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	AZG4-59-64-20221019		
Lab Sample ID:	TD83671-4R	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97549.D	1	10/31/22 12:34	ANJ	n/a	n/a	N:GAA2661
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-84-0	Ethane	0.00014 U	0.00023	0.00014	mg/l	
74-85-1	Ethene	0.00016 U	0.00031	0.00016	mg/l	

(a) Analysis performed at SGS Dayton, NJ.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-08-20221019		
Lab Sample ID:	TD83671-5	**Date Sampled:**	10/19/22
Matrix:	AQ - Ground Water	**Date Received:**	10/19/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1Y0006734.D	10	10/28/22 22:01	ALA	n/a	n/a	L:V1Y278
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	1.24	0.010	0.0041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	99%		75-130%
2037-26-5	Toluene-D8	110%		85-110%
460-00-4	4-Bromofluorobenzene	97%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form
- LRC Form (SGS Dayton, NJ)

CHAIN OF CUSTODY

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX 713-271-4770
www.sgs.com/ehsusa

PAGE ___ OF ___

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD83671

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston | State: Texas | Zip: 77072
Project Contact: John Ynfante | E-mail:
Phone #: 281-414-1719 | Fax #:
Sampler(s) Name(s): Lorena Ramirez | Phone #: 8926601800

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: Spring | State: Texas
Project #: COTM022
Client Purchase Order #:
Project Manager: Joshua.MCFarlain
Collection

Billing Information (if different from Report to)
Company Name: DOWMIM
Street Address: 816 Town & Country #1000
City: Houston | State: Texas | Zip: 77024
Attention: JohnYfante

Requested Analyses

Number of preserved Bottles

SGS Sample #	Field ID / Point of Collection	Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	ZnAcOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	SO4, NO3, Alkalinity (1) Liter	Dissolved Iron (250 ml)	Dissolved Methane/PSI (3 vials)	TOC (2 vials)	CO2 / RSK 175 (2 vials	V8260 12DCA	MS / MSD	LAB USE ONLY
1	AZG1-39-44-20221019	10.19.22	9:55	L.R	GW														✓	✓	✓	✓	✓	✓	✓	✓	
2	AZG1-63-68-20221019	10.19.22	10:00	L.R																✓	✓	✓	✓	✓	✓		
3	AZG4-20-25-20221019	10.19.22	13:05	L.R																✓	✓	✓	✓	✓	✓		
4	AZG4-59-64-20221019	10.19.22	13:00	L.R	↓															✓	✓	✓	✓	✓	✓		
5	DUP-08-20221019	10.19.22	—	L.R																✓							

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED - Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank

Turnaround Time (Business days)

- [ ] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Labl ink

Approved By (SGS Accutest PM): / Date:

Form: SM021-0

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

DOWMIM29283
Did not use filter on AZG1 63-68 & AZG4-20-25; Please Filter

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

1 Relinquished by Sampler: Lorena Ramirez	Date Time: 10.19.2022	Received By: 1	Date Time: 10/19/22 1635	Relinquished By: 2	Date Time:	Received By: 2	Date Time:	
3 Relinquished by Sampler:	Date Time:	Received By: 3	Date Time:	Relinquished By: 4	Date Time:	Received By: 4	Date Time:	
5 Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	Intact / Not Intact	Preserved where applicable	On Ice	Cooler Temp: 2.2c

5.1.5

SGS Sample Receipt Summary

Job Number: TD83671 **Client:** JACOBS **Project:** CHARLIE BURCH - QUARTERLY GROUNDW

Date / Time Received: 10/19/2022 16:38:00PM **Delv Method:** CLIENT **Airbill #'s:**

# of Coolers: 1 **Therm ID:** IR-9 **Temp Adjustment Factor:** 0.1

Cooler Temps (Initial/Adjusted): #1: (2.1/2.2);

Test Strip Lot #s: **pH 1-12:** 10D2191 **pH 12+:** **Other: (Specify)**

Cooler Information	Y	or	N	N/A
1. Custody Seals Present:	☑		☐	☐
2. Custody Seals Intact:	☑		☐	
3. Temp criteria achieved:	☑		☐	
4. Cooler temp verification:				
3. Cooler media:	ICE			

Trip Blank Information	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Type Of TB Received	W	or	S	N/A
	☐		☐	☐

Misc. Information

Number of terracores: 0 Number of Lab Filtered Metals: 0

Number of 5035 Field Kits: 0

Residual Chlorine Test Strip Lot #:

Sample Information	Y	or	N	N/A
1. Sample labels present on bottles:	☑		☐	
2. Samples preserved properly:	☑		☐	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Condition of sample:	Intact			
5. Sample recvd within HT:	☑		☐	
6. Dates/Times/IDs on COC match Sample Label	☑		☐	
7. Container labeling complete:	☑		☐	
8. Analysis requested is clear:	☑		☐	
9. VOCs headspace free:	☑		☐	☐
10. Bottles received for unspecified tests	☐		☑	
11. COC Present:	☑		☐	
12. Special Instructions (compositing/filtering) clear:	☐		☐	☑
13. Voa Soil Kits/Jars received past 48hrs?	☐		☐	☑
14. % Solids Jar received?	☐		☐	☑
15. Residual Chlorine Present?	☐		☐	☑

Comments

Lab received 1 set of trip blank 40ml vials not listed on the chain of custody and placed at the end of the job.

Sample Receipt Log

Job #: TD83671 **Date / Time Received:** 10/19/2022 16:38:00PM **Initials:** BELINDG

Client:

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD83671-1	1000ml	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
1	TD83671-1	250ml	2	SUB	HNO3	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	3	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	4	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	5	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	6	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	7	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	8	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	9	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	10	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	11	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	12	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	13	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	14	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	15	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	16	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	17	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
1	TD83671-1	40ml	18	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
	TD83671-2	1000ml	1	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-2	250ml	2	SUB	HNO3	pH < 2				
	TD83671-2	40ml	3	SUB	HCL	pH < 2				
	TD83671-2	40ml	4	SUB	HCL	pH < 2				
	TD83671-2	40ml	5	SUB	HCL	pH < 2				

Sample Receipt Log

Job #: TD83671 **Date / Time Received:** 10/19/2022 16:38:00PM **Initials:** BELINDG

Client:

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
	TD83671-2	40ml	6	SUB	HCL	pH < 2				
	TD83671-2	40ml	7	SUB	HCL	pH < 2				
	TD83671-2	40ml	8	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-2	40ml	9	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-2	40ml	10	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-2	40ml	11	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-2	40ml	12	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-3	1000ml	1	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-3	250ml	2	SUB	HNO3	pH < 2				
	TD83671-3	40ml	3	SUB	HCL	pH < 2				
	TD83671-3	40ml	4	SUB	HCL	pH < 2				
	TD83671-3	40ml	5	SUB	HCL	pH < 2				
	TD83671-3	40ml	6	SUB	HCL	pH < 2				
	TD83671-3	40ml	7	SUB	HCL	pH < 2				
	TD83671-3	40ml	8	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-3	40ml	9	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-3	40ml	10	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-3	40ml	11	SUB	N/P	Note #2 - Preservative check not applicable.				
	TD83671-3	40ml	12	SUB	N/P	Note #2 - Preservative check not applicable.				
1	TD83671-4	1000ml	1	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
1	TD83671-4	250ml	2	SUB	HNO3	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	3	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	4	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2

Sample Receipt Log

Job #: TD83671 **Date / Time Received:** 10/19/2022 16:38:00PM **Initials:** BELINDG

Client:

Cooler #	Sample ID:	Vol	Bot #	Location	Pres	pH	Therm ID	Initial Temp	Therm CF	Corrected Temp
1	TD83671-4	40ml	5	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	6	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	7	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	8	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	9	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	10	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	11	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	12	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	13	SUB	HCL	pH < 2	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	14	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	15	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	16	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	17	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
1	TD83671-4	40ml	18	SUB	N/P	Note #2 - Preservative check not applicable.	IR-9	2.1	0.1	2.2
	TD83671-5	40ml	1	SUB	HCL	pH < 2				
	TD83671-5	40ml	2	SUB	HCL	pH < 2				
	TD83671-5	40ml	3	SUB	HCL	pH < 2				
	TD83671-6	40ml	1	SUB	HCL	pH < 2				
	TD83671-6	40ml	2	SUB	HCL	pH < 2				
	TD83671-6	40ml	3	SUB	HCL	pH < 2				
	TD83671-6	40ml	4	SUB	HCL	pH < 2				

Appendix A Laboratory Data Package Cover Page

TD83671 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

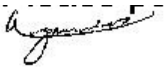
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method fo which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Kesavalu Bagawandoss		General Manager	11/17/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**11/17/2022**					
Project Name:		**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD83671**					
Reviewer Name:		**Electa Brown**	Prep Batch Number(s):						
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]	
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**							
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X					
		Were all departures from standard conditions described in an exception report?		X					
R2	**OI**	**Sample and quality control (QC) identification**							
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X					
R3	**OI**	**Test reports**							
		Were samples prepared and analyzed within holding times?		X					
		Other than those results <MQL, were all other raw values bracketed by calibration standards?		X					
		Were calculations checked by a peer or supervisor?		X					
		Were all analyte identifications checked by a peer or supervisor?		X					
		Were sample detection limits reported for all analytes not detected?		X					
		Were all results for soil and sediment samples reported on a dry weight basis?				X			
		Were % moisture (or solids) reported for all soil and sediment samples?				X			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X			
		If required for the project, are TIC's reported?				X			
R4	**O**	**Surrogate recovery data**							
		Were surrogates added prior to extraction?		X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X					
R5	**OI**	**Test reports/summary forms for blank samples**							
		Were appropriate type(s) of blanks analyzed?				X			
		Were blanks analyzed at the appropriate frequency?				X			
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X					
		Were blank concentrations <MQL?				X			
R6	**OI**	**Laboratory control samples (LCS):**							
		Were all COCs included in the LCS?				X			
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?				X			
		Were LCSs analyzed at required frequency?				X			
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?				X			
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X					
		Was the LCSD RPD within QC limits?				X			
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**							
		Were the project/method specified analytes included in the MS and MSD?				X			
		Were MS/MSD analyzed at the appropriate frequency?				X			
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?				X			
		Were the MS/MSD RPDs within laboratory QC limits?				X			
R8	**OI**	**Analytical duplicate data**							
		Were appropriate analytical duplicates analyzed for each matrix?				X			
		Were analytical duplicates analyzed at the appropriate frequency?				X			
		Were RPDs or relative standard deviations within the laboratory QC limits?				X			
R9	**OI**	**Method quantitation limits (MQLs):**							
		Are the MQLs for each method analyte included in the laboratory data package?		X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration		X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?			X			**2**	
R10	**OI**	**Other problems/anomalies**							
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X					
		Was applicable and available technology used to lower the SDL to minimize the matrix		X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X				**3**	

Laboratory Name:		Accutest Gulf Coast	LRC Date:	11/17/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD83671				
Reviewer	Name:	Electa Brown	Prep Batch Number(s):					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?		X				
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?		X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X				
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**11/17/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD83671**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is no included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

This data packages consists of:

X This signature page, the laboratory review checklist, and the following reportable data:

X R1 Field chain-of-custody documentation;

X R2 Sample identification cross-reference;

X R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

X R5 Test reports/summary forms for blank samples;

X R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c) The laboratory's LCS QC limits.

X R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

X R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) The amount of analyte measured in the duplicate,
b) The calculated RPD, and
c) The laboratory's QC limits for analytical duplicates.

X R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;

X R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC&25.6 and was last inspected by [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible forreleasing this data package and is by signature affirming the above release statement is true.

Zhongyun Ma		QA Officer	11/10/2022
Name (Printed)	Signature	Official Title (printed)	Date

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: SGS- Dayton	LRC Date:11/10/2022
Project Name: DOWMIM: DOWMIM (Jacobs)	Laboratory Job Number: TD83671
Reviewer Name: Zhongyun Ma	Prep Batch Number(s): GAA2661, GWW5605, GP43044, GP43063, R200046 through R200049, GN34831, GN34662

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		x			1
		Were all departures from standard conditions described in an exception report?	x				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?	x				
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	x				
		Were % moisture (or solids) reported for all soil and sediment samples?	x				
		Were bulk soil/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, TICs reported?			x		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			x		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			x		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?			X		
		Were blanks analyzed at the appropriate frequency?			X		
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?			x		
		Were blank concentrations < MQL?			x		
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	x				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	x				
		Were LCSs analyzed at the required frequency?	x				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			X		
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?			x		
		Was the LCSD RPD within QC limits?			x		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	X				
		Were MS/MSD RPDs within laboratory QC limits?	x				
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	x				
		Were analytical duplicates analyzed at the appropriate frequency?	x				
		Were RPDs or relative standard deviations within the laboratory QC limits?	x				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL minimize the matrix interference affects on the sample results?	X				
		Is the Laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	x				

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: SGS – Dayton	LRC Date: 11/10/2022
Project Name: DOWMIM: DOWMIM (Jacobs)	Laboratory Job Number: TD83671
Reviewer Name: Zhongyun Ma	Prep Batch Number(s): GAA2661, GWW5605, GP43044, GP43063, R200046 through R200049, GN34831, GN34662

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	x				
		Were percent differences for each analyte within the method-required QC limits?	x				
		Was the ICAL curve verified for each analyte?	x				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	x				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			x		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			x		
S5	OI	**Raw data (NELAC section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?			x		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			x		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			x		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?			**x**		
		Is the MDL either adjusted or supported by the analysis of DCSs?			x		
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	x				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports

Laboratory Name: SGS - Dayton	LRC Date: 11/10/2022
Project Name: DOWMIM: DOWMIM (Jacobs)	Laboratory Job Number: TD83671
Reviewer Name: Zhongyun Ma	Prep Batch Number(s): GAA2661, GWW5605, GP43044, GP43063, R200046 through R200049, GN34831, GN34662

	DESCRIPTION
1	GAA2661 TD83671-1: (pH=5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace. TD83671-2: (pH=5)Sample pH did not satisfy field preservation criteria. 1mm diameter bubble present in headspace. TD83671-4: (pH=5)Sample pH did not satisfy field preservation criteria. 4mm diameter bubble present in headspace. GWW5605 TD83671-3,-4 (pH=6)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. TD83671-1,-2: (pH=4)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time. GN34662 TD83671-1,-2 for Nitrogen, Nitrite: Analysis done out of holding time.

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O= organic analyses; I= inorganic analyses (and general chemistry, when applicable);
3. NA = Not Applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

SGS North America Inc - Dayton

2022 - Q2 - DCS

						Q2 LOQ (50-150%)	
LIST	Matrix	Instrument	Units	LOQ	RL	Value	% Rec
NO3X	AQ	lachat E	mg/l	0.1	0.1	0.053	53

SGS North America Inc - Dayton

2022 - Q3 - DCS

						Q4	
						LOQ (50-150%)	
LIST	Matrix	Instrument	Units	LOQ	RL	Value	% Rec
NO2	AQ	spec N	mg/L	0.01	0.01	0.00940	94

SGS North America Inc - Dayton

2022 - Q3 - DCS - EPA 300/SW-846 9056A

							Q3	
							LOQ (50-150%)	
no	LIST	Matrix	Instrument	Units	LOQ	RL	Value	% Rec
IONC300X	F	AQ	IC-F	mg/L	0.2	0.2	0.19	95
	CHL				2	2	1.5	75
	SO4				2	2	1.5	75
	BRO				0.5	0.5	0.49	98

Method:	RSK-175 (V8015ALK)	**Matrix:**	AQ
Instrument:	GCAA	**Quant Factor:**	1
Analyst:	Multiple	**Injection Range:**	01/12/2022-01/12/2022
Prep. Method:		**Units:**	ug/l

LOD Verification

Cmpd./Element/Parm. Name	Lab Datafile	Inj. Date	Spike Amt.	MDL	Spk/MDL	Result	Recovery	LOD	Test
Ethane	AA92903.D	1/12/2022	0.14	0.14	1	0.265	189	0.2	Pass
Ethene	AA92903.D	1/12/2022	0.19	0.16	1.18	0.344	182	0.25	Pass
Methane	AA92903.D	1/12/2022	0.07	0.08	0.84	0.06	89.5	0.09	Pass

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS
10165 Harwin Drive, Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD83671

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	TOCSM5310 ,V826012DCA	FILTERMET ,PB ,	V826012DCA ,	LAB USE ONLY
1	AZG1-39-44-20221019		10/19/2022	9:55:00 AM		AQ										X			16
1F	AZG1-39-44-20221019		10/19/2022	9:55:00 AM		AQ											X		1
2	AZG1-63-68-20221019		10/19/22	10:00:00 AM		AQ										X			14
2F	AZG1-63-68-20221019		10/19/22	10:00:00 AM		AQ											X		1
3	AZG4-20-25-20221019		10/19/22	1:05:00 PM		AQ										X			14
3F	AZG4-20-25-20221019		10/19/22	1:05:00 PM		AQ											X		1
4	AZG4-59-64-20221019		10/19/22	1:00:00 PM		AQ										X			16
4F	AZG4-59-64-20221019		10/19/22	1:00:00 PM		AQ											X		1
5	DUP-08-20221019		10/19/22	12:00:00 AM		AQ												X	13
6																			3

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 10/31/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

la
3w2
BRm6vw
6 BS185

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		1 Gene 10-21-22 0315	2 Gene	10-21-22 0315	2
Relinquished: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	Intact / Not intact	Preserved where applicable / On Ice / Cooler Temp.

10/24/22 8:46
12002
3.0

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: TD83671	CLIENT: SGS
DATE/TIME RECEIVED: 10/21/22 8:40 AM	DELIVERY METHOD: SGS
PROJECT: DOWMIM (JACOBS)	NO. COOLERS: 1
COOLER TEMPS (Initial/Adjusted): 1 R002 3.0	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR002		
3. Cooler media:	DIRECT ICE		

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	INTACT		

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☐		☑	
3. Sufficient Volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

SGS Sample Receipt Summary

Job Number: TD83671 **Client:** SGS **Project:** DOWMIM (JACOBS)

Date / Time Received: 10/21/2022 8:40:00 AM **Delivery Method:** SGS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3/2.8);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	IR002;	
3. Cooler media:	Ice (direct contact)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☐	☑
2. Trip Blank listed on COC:	☐	☐	☑
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☐	☐	☑

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Problem Resolution

Job Number: TD83671

CSR: _____ **Response Date:** _____

Response:

TD83671: Chain of Custody
Page 4 of 4

MS Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1Y278-MB2	1Y0006702.D	1	10/28/22	JY	n/a	n/a	V1Y278

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-5

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	97%	75-130%
2037-26-5	Toluene-D8	105%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Method Blank Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4340-MB2	1J0121612.D	1	10/28/22	JY	n/a	n/a	V1J4340

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-1, TD83671-2

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	108%	75-130%
2037-26-5	Toluene-D8	101%	85-110%
460-00-4	4-Bromofluorobenzene	95%	86-115%

Method Blank Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4359-MB2	1J0121989.D	1	11/01/22	JS	n/a	n/a	V1J4359

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-3, TD83671-4

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	108%	75-130%
2037-26-5	Toluene-D8	100%	85-110%
460-00-4	4-Bromofluorobenzene	97%	86-115%

Method Blank Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2J4371-MB2	2J0122266.D	1	11/04/22	JY	n/a	n/a	V2J4371

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-2, TD83671-4

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	105%	75-130%
2037-26-5	Toluene-D8	100%	85-110%
460-00-4	4-Bromofluorobenzene	97%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1Y278-BS1	1Y0006696.D	1	10/28/22	JY	n/a	n/a	V1Y278
V1Y278-BSD1	1Y0006698.D	1	10/28/22	JY	n/a	n/a	V1Y278

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	18.7	94	17.5	88	7	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	97%	100%	75-130%
2037-26-5	Toluene-D8	98%	99%	85-110%
460-00-4	4-Bromofluorobenzene	100%	102%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4340-BS1	1J0121606.D	1	10/28/22	JY	n/a	n/a	V1J4340
V1J4340-BSD1	1J0121608.D	1	10/28/22	JY	n/a	n/a	V1J4340

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-1, TD83671-2

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.9	105	20.6	103	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	105%	108%	75-130%
2037-26-5	Toluene-D8	100%	98%	85-110%
460-00-4	4-Bromofluorobenzene	100%	101%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4359-BS1	1J0121983.D	1	11/01/22	JS	n/a	n/a	V1J4359
V1J4359-BSD1	1J0121985.D	1	11/01/22	JS	n/a	n/a	V1J4359

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-3, TD83671-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	21.0	105	21.1	106	0	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	111%	114%	75-130%
2037-26-5	Toluene-D8	96%	98%	85-110%
460-00-4	4-Bromofluorobenzene	101%	102%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V2J4371-BS1	2J0122260.D	1	11/03/22	JY	n/a	n/a	V2J4371
V2J4371-BSD1	2J0122262.D	1	11/04/22	JY	n/a	n/a	V2J4371

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-2, TD83671-4

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	19.5	98	20.3	102	4	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	105%	104%	75-130%
2037-26-5	Toluene-D8	100%	101%	85-110%
460-00-4	4-Bromofluorobenzene	101%	101%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84320-12MS	1J0121654.D	2	10/28/22	JY	n/a	n/a	V1J4340
LA84320-12MSD	1J0121656.D	2	10/28/22	JY	n/a	n/a	V1J4340
LA84320-12	1J0121632.D	1	10/28/22	JY	n/a	n/a	V1J4340

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-1, TD83671-2

CAS No.	Compound	LA84320-12 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.4		40	42.3	102	40	42.7	103	1	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84320-12	Limits
17060-07-0	1,2-Dichloroethane-D4	107%	106%	105%	75-130%
2037-26-5	Toluene-D8	100%	100%	100%	85-110%
460-00-4	4-Bromofluorobenzene	101%	101%	98%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84662-2MS	1J0122031.D	5	11/02/22	JS	n/a	n/a	V1J4359
LA84662-2MSD	1J0122033.D	5	11/02/22	JS	n/a	n/a	V1J4359
LA84662-2	1J0122009.D	1	11/01/22	JS	n/a	n/a	V1J4359

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-3, TD83671-4

CAS No.	Compound	LA84662-2 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.0	U	100	93.2	93	100	87.1	87	7	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84662-2	Limits
17060-07-0	1,2-Dichloroethane-D4	118%	113%	121%	75-130%
2037-26-5	Toluene-D8	100%	100%	101%	85-110%
460-00-4	4-Bromofluorobenzene	101%	101%	98%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84466-2QMS	2J0122298.D	2	11/04/22	JY	n/a	n/a	V2J4371
LA84466-2QMSD	2J0122300.D	2	11/04/22	JY	n/a	n/a	V2J4371
LA84466-2Q [a]	2J0122288.D	1	11/04/22	JY	n/a	n/a	V2J4371

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83671-2, TD83671-4

CAS No.	Compound	LA84466-2Q ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.0 U		40	36.4	91	40	37.8	95	4	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84466-2Q	Limits
17060-07-0	1,2-Dichloroethane-D4	101%	103%	106%	75-130%
2037-26-5	Toluene-D8	101%	100%	100%	85-110%
460-00-4	4-Bromofluorobenzene	101%	100%	99%	86-115%

(a) Sample analyzed beyond hold time.

* = Outside of Control Limits.

Misc. Forms

Custody Documents and Other Forms

(SGS Dayton, NJ)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS

GW

PAGE ___ OF ___

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD83671

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston | State: Texas | Zip: 77072
Project Contact: John Ynfante | E-mail:
Phone #: 281-414-1719 | Fax #:
Sampler(s) Name(s): Lorena Ramirez | Phone #: 8926017800

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: Spring | State: Texas
Project #: COTM022
Client Purchase Order #:
Project Manager: Joshua McFarlain

Billing Information (If different from Report to)

Company Name: DOWMIM
Street Address: 818 Town & Country #1000
City: Houston | State: Texas | Zip: 77024
Attention: John Ynfante

Requested Analyses

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Preserved: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	SO_4, NO_3 / Alkalinity (1) Lite	Dissolved Iron (250 ml)	Dissolved Methane/PSK 175 (3 vials)	TOC (2 vials)	CO_2 / PSK 175 (2 vials)	V8260 12DCA	MS / MSD	LAB USE ONLY
1	AZG1-39-44-20221019	10.19.22	9:55	L.R	GW	6													✓	✓	✓	✓	✓	✓	✓	✓	G74
2	AZG1-63-68-20221019	10.19.22	10:00	L.R		6													✓	✓	✓	✓	✓	✓	✓		K952
3	AZG4-20-25-20221019	10.19.22	13:05	L.R		6													✓	✓	✓	✓	✓	✓	✓		
4	AZG4-59-64-20221019	10.19.22	13:00	L.R	↓	6													✓	✓	✓	✓	✓	✓	✓		V850
5	DUP-08-20221019	10.19.22	—	L.R															✓								
JK																											

Turnaround Time (Business days)

- [ ] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:
Initial Assessment: TC 2B
Lethal Verification:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

8 WP7
DOWMIM29283
Did not use filter on AZG1 63-68 & AZG4-20-25; please filter

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	Lorena Ramirez	10.19.2022	1	10-19-22 1638	2		2 Fed Ex	
3	Relinquished by Sampler: Fed Ex	Date Time: 10/20/22 9:20	Received By: 3	Date Time: 10/20/22 9:20	Relinquished By:	Date Time:	Received By: 4	Date Time:
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	☑ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☑ Cooler Temp. 2.2°C

TD83671: Chain of Custody
Page 1 of 6
SGS Dayton, NJ

SGS Sample Receipt Summary

Job Number: TD83671 **Client:** _____ **Project:** _____

Date / Time Received: 10/20/2022 9:20:00 AM **Delivery Method:** Fed Ex **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (2.2);

Cooler Temps (Corrected) °C: Cooler 1: (2.2);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control _Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify) _____ _____

Comments
1) -1 to -4 Did not receive volume for dissolved iron.
2) Did not receive sample Dup-08-20221019.

8.1

8

Responded to by: Michelle Response Date: 10/21

SUBFORM sent to Receiving, NJ is only running ALK, NO3O, SO4, RSK CH4 and RSK CO2

CHAIN OF CUSTODY

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #

Bottle Order Control #

SGS Quote #

SGS Job # TD83671

Client / Reporting Information	Project Information	Requested Analysis (see TEST CODE sheet)	Matrix Codes
Company Name: SGS North America Inc.	Project Name: DOWMIM (Jacobs)	ALK ,NO3OIC300 ,SO4IC300 ,VRSK175CH4 ,VRSK175CO2 ,	DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL- Sludge SED-Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB-Equipment Blank RB- Rinse Blank TB-Trip Blank
Street Address: 10165 Harwin Drive	Street	Billing Information (if different from Report to)	
City: Houston State: TX Zip: 77036	City State	Company Name	
Project Contact: electa.brown@sgs.com E-mail	Project #	Street Address	
Phone #: 713-271-4700 Fax #	Client Purchase Order #	City State Zip	
Sampler(s) Name(s) Phone	Project Manager	Attention:	

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE		LAB USE ONLY
1	AZG1-39-44-20221019		10/19/2022	9:55:00 AM		AQ										X	
2	AZG1-63-68-20221019		10/19/2022	10:00:00 AM		AQ										X	
3	AZG4-20-25-20221019		10/19/22	1:05:00 PM		AQ										X	
4	AZG4-59-64-20221019		10/19/22	1:00:00 PM		AQ										X	

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 10/31/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions: nj

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date Tin	Received By:	Relinquished By:	Date Time:	Received By:
1		1	2		2
Relinquished:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice / Cooler Temp.
5		5	[ ] Intact [ ] Not intact	[ ]	[ ]

8.1

8

TD83671: Chain of Custody
Page 4 of 6

Job Change Order: TD83671

Requested Date: 4/4/2023
Account Name: Dow Chemical Company
Project Description: DOWMIM (Jacobs)
CSR: ELECTAB

Received Date: 10/19/2022
Due Date: 10/31/2022
Deliverable: TRRP
TAT (Days): 3

Sample #: TD83671-1R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

Sample #: TD83671-2R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

Sample #: TD83671-3R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

Sample #: TD83671-4R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

Above Changes Per: Client

Date/Time: 4/4/2023 11:30:46 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

8.1

Job Change Order: TD83671

Requested Date:	4/4/2023	**Received Date:**	10/19/2022
Account Name:	Dow Chemical Company	**Due Date:**	10/31/2022
Project Description:	DOWMIM (Jacobs)	**Deliverable:**	TRRP
CSR:	ELECTAB	**TAT (Days):**	3

Above Changes Per: Client **Date/Time:** 4/4/2023 11:30:46 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

8.1

GC Volatiles

QC Data Summaries

(SGS Dayton, NJ)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GWW5605-MB	WW142425.D	1	10/25/22	JN	n/a	n/a	GWW5605

The QC reported here applies to the following samples: **Method:** RSK-175

TD83671-1, TD83671-2, TD83671-3, TD83671-4

CAS No.	Compound	Result	RL	MDL	Units	Q
124-38-9	Carbon Dioxide	ND	50	25	ug/l	

Method Blank Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA2661-MB	AA97531.D	1	10/31/22	WC	n/a	n/a	GAA2661

The QC reported here applies to the following samples: **Method:** RSK-175

TD83671-1, TD83671-2, TD83671-3, TD83671-4, TD83671-1R, TD83671-2R, TD83671-3R, TD83671-4R

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.11	0.080	ug/l	
74-84-0	Ethane	ND	0.23	0.14	ug/l	
74-85-1	Ethene	ND	0.31	0.16	ug/l	

Laboratory Control Sample Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GWW5605-LCS	WW142423.D	1	10/25/22	JN	n/a	n/a	GWW5605

The QC reported here applies to the following samples: **Method:** RSK-175

TD83671-1, TD83671-2, TD83671-3, TD83671-4

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
124-38-9	Carbon Dioxide	164	152	93	50-150

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA2661-LCS	AA97529.D	1	10/31/22	WC	n/a	n/a	GAA2661

The QC reported here applies to the following samples: **Method:** RSK-175

TD83671-1, TD83671-2, TD83671-3, TD83671-4, TD83671-1R, TD83671-2R, TD83671-3R, TD83671-4R

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
74-82-8	Methane	11	11.1	101	50-150
74-84-0	Ethane	23	24.2	105	50-150
74-85-1	Ethene	31	32.4	105	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD83671-2DUP [a]	WW142428.D	50	10/25/22	JN	n/a	n/a	GWW5605
TD83671-2 [a]	WW142427.D	50	10/25/22	JN	n/a	n/a	GWW5605

The QC reported here applies to the following samples: **Method:** RSK-175

TD83671-1, TD83671-2, TD83671-3, TD83671-4

CAS No.	Compound	TD83671-2 ug/l	Q	DUP ug/l	Q	RPD	Limits
124-38-9	Carbon Dioxide	58500		54700		7	20

(a) (pH= 4)Sample is not acid preservation per method/client criteria. Sample analyzed within 7 days holding time.

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD83687-1DUP [a]	AA97535.D	1	10/31/22	WC	n/a	n/a	GAA2661
TD83687-1 [a]	AA97534.D	1	10/31/22	WC	n/a	n/a	GAA2661

The QC reported here applies to the following samples: **Method:** RSK-175

TD83671-1, TD83671-2, TD83671-3, TD83671-4, TD83671-1R, TD83671-2R, TD83671-3R, TD83671-4R

CAS No.	Compound	TD83687-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	3.26		3.24		1	20
74-84-0	Ethane	0.23 U		ND		nc	20
74-85-1	Ethene	0.31 U		ND		nc	20

(a) (pH= 5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace.

* = Outside of Control Limits.

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS
10165 Harwin Drive, Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD83671

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	TOCSM5310 ,V826012DCA	FILTERMET ,PB ,	V826012DCA ,	LAB USE ONLY
1	AZG1-39-44-20221019		10/19/2022	9:55:00 AM		AQ										X			6
1F	AZG1-39-44-20221019		10/19/2022	9:55:00 AM		AQ											X		1
2	AZG1-63-68-20221019		10/19/22	10:00:00 AM		AQ										X			4
2F	AZG1-63-68-20221019		10/19/22	10:00:00 AM		AQ											X		1
3	AZG4-20-25-20221019		10/19/22	1:05:00 PM		AQ										X			4
3F	AZG4-20-25-20221019		10/19/22	1:05:00 PM		AQ											X		1
4	AZG4-59-64-20221019		10/19/22	1:00:00 PM		AQ										X			6
4F	AZG4-59-64-20221019		10/19/22	1:00:00 PM		AQ											X		1
5	DUP-08-20221019		10/19/22	12:00:00 AM		AQ												X	3
6																			3

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 10/31/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

la
3w2
BRm6vw
6 BS185

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by: 1	Date Time:	Received By: 1 Gene	10-21-22 0315	Relinquished By: 2 Gene	Date Time: 10-21-22	Received By: 2	10/21/22
Relinquished: 3	Date Time:	Received By: 3		Relinquished By: 4	Date Time:	Received By: 4	
Relinquished by: 5	Date Time:	Received By: 5		Custody Seal #	Intact / Not intact	Preserved where applicable	On Ice: ✓ Cooler Temp. 1.0 0.2 3.0

10.1 10

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: TD83671	CLIENT: SGS
DATE/TIME RECEIVED: 10/21/22 8:40 AM	DELIVERY METHOD: SGS
PROJECT: DOWMIM (JACOBS)	NO. COOLERS: 1
COOLER TEMPS (Initial/Adjusted): 1 R002 3.0	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR002		
3. Cooler media:	DIRECT IR		

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	INTACT		

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☐		☐	☑
3. Sufficient Volume rec'd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

SGS Sample Receipt Summary

Job Number: TD83671 **Client:** SGS **Project:** DOWMIM (JACOBS)

Date / Time Received: 10/21/2022 8:40:00 AM **Delivery Method:** SGS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3/2.8);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	IR002;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☐	☑
2. Trip Blank listed on COC:	☐		☐	☑
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☐		☐	☑

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Problem Resolution

Job Number: TD83671

CSR: _____ **Response Date:** _____

Response:

Metals Analysis

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- Metals CCB MDL Check

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

QC Batch ID: MP25295
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/26/22

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	4.9	25		
Antimony	6.0	1.2	3.6		
Arsenic	10	2.6	8.6		
Barium	10	.13	1.7		
Beryllium	4.0	.04	.9		
Boron	100	.46	42		
Cadmium	5.0	.2	.9		
Calcium	100	4.1	32		
Chromium	10	.29	1.2		
Cobalt	10	.3	1.1		
Copper	10	.54	2.8		
Iron	100	34	18		
Lead	10	1.3	3.7	2.0	<10
Lithium	10	.93	4.3		
Magnesium	100	12	40		
Manganese	10	.22	.9		
Molybdenum	10	.27	1.7		
Nickel	10	.41	1.5		
Potassium	500	21	120		
Selenium	10	1.9	4.3		
Silver	10	.25	3.7		
Sodium	500	9.9	120		
Strontium	10	.06	3		
Thallium	10	1.4	4.6		
Tin	10	.82	1.7		
Titanium	10	.24	.8		
Vanadium	10	.31	1.5		
Zinc	20	.17	12		

Associated samples MP25295: TD83671-1F, TD83671-2F, TD83671-3F, TD83671-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

QC Batch ID: MP25295
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/26/22

Metal	TD83671-1F Original MS		Spikelot ICPSPIKE1% Rec		QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron	anr				
Lead	50.9	1010	1000	95.9	75-125
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP25295: TD83671-1F, TD83671-2F, TD83671-3F, TD83671-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

QC Batch ID: MP25295
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/26/22

Metal	TD83671-1F Original	MSD	Spikelot ICPSPIKE1%	Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron	anr					
Lead	50.9	1010	1000	95.9	0.0	20
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP25295: TD83671-1F, TD83671-2F, TD83671-3F, TD83671-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

QC Batch ID: MP25295
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/26/22

Metal	BSP Result	Spikelot ICPSPIKE1%	Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	anr			
Lead	1020	1000	102.0	80-120
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25295: TD83671-1F, TD83671-2F, TD83671-3F, TD83671-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

QC Batch ID: MP25295
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/26/22

Metal	TD83671-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	anr			
Lead	50.9	55.8	9.6	0-10
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25295: TD83671-1F, TD83671-2F, TD83671-3F, TD83671-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Metals CCB MDL Check

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

The following elements are braketed by CCB's at or above the MDL.

Sample	Element	Run ID	Time	MDL	Units	CCB Before	CCB After

No CCB's found at or above MDL.

Calibration blank validation to the MDL is not a method requirement, but is included for information purposes only.

General Chemistry

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- General Chemistry CCB MDL Check

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Total Organic Carbon	GP10477/GN23045	1.0	0.0	mg/l	25	25.1	100.4	85-115%

Associated Samples:
Batch GP10477: TD83671-1, TD83671-2, TD83671-3, TD83671-4
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Total Organic Carbon	GP10477/GN23045	LA84431-1	mg/l	5.4	25	36.5	124.4N(a)	85-115%

Associated Samples:
Batch GP10477: TD83671-1, TD83671-2, TD83671-3, TD83671-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Outside control limits due to matrix interference and/or sample nonhomogeneity.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP10477/GN23045	LA84431-1	mg/l	5.4	25	37.5	2.7	15%

Associated Samples:
Batch GP10477: TD83671-1, TD83671-2, TD83671-3, TD83671-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

General Chemistry CCB MDL Check

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

The following parameters are braketed by CCB's at or above the MDL.

Sample	Parameter	Run ID	Time	MDL	Units	CCB Before	CCB After

No CCB's found at or above MDL.

Calibration blank validation to the MDL is not a method requirement, but is included for information purposes only.

Misc. Forms

Custody Documents and Other Forms

(SGS Dayton, NJ)

Includes the following where applicable:

- Chain of Custody

GW

CHAIN OF CUSTODY

PAGE ___ OF ___ 2

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #:

Bottle Order Control #:

SGS Quote #:

SGS Job #: TD83671

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Lorena Ramirez Phone #: 8926017800

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: Spring State: Texas
Project #: COTM022
Client Purchase Order #:
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address: 818 Town & Country #1000
City: Houston State: Texas Zip: 77024
Attention: John Ynfante

Requested Analyses

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Preserved: HCl	NaOH	ZnAc/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	SO_4, NO_3 / Alkalinity (1) Lite	Dissolved Iron (250 ml)	Dissolved Methane/RSK 175 (3 vials)	TOC (2 vials)	CO_2 / RSK 175 (2 vials)	V8260 12DCA	MS / MSD	LAB USE ONLY
1	AZG1-39-44-20221019	10.19.22	9:55	LR	GW	6													✓	✓	✓	✓	✓	✓	✓	✓	G74
2	AZG1-63-68-20221019	10.19.22	10:00	LR		6													✓	✓	✓	✓	✓	✓	✓		K952
3	AZG4-20-25-20221019	10.19.22	13:05	LR		6													✓	✓	✓	✓	✓	✓	✓		
4	AZG4-59-64-20221019	10.19.22	13:00	LR	↓	6													✓	✓	✓	✓	✓	✓	✓		V850
5	DUP-08-20221019	10.19.22	—	LR															✓								
JK																											

Turnaround Time (Business days)

- [ ] Standard
- [ ] 5 Day RUSH
- [ ] 4 Day RUSH
- [ ] 3 Day RUSH
- [ ] 2 Day RUSH
- [ ] 1 Day EMERGENCY

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Initial Approval: TC 2B

Lethal Verification:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

8 WP7
DOWMIM29283
Did not use filter on AZG1 63-68 & AZG4-20-25; please filter

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	Lorena Ramirez	10.19.2022	1	10-20-22 1638	2		2 Fed Ex	
3	Fed Ex	10/20/22 9:20	3	10/20/22 9:20			4	
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable	On Ice: 8 Cooler Temp. 2.2°C

13.1
13

TD83671: Chain of Custody
Page 1 of 6
SGS Dayton, NJ

SGS Sample Receipt Summary

Job Number: TD83671 **Client:** _____ **Project:** _____

Date / Time Received: 10/20/2022 9:20:00 AM **Delivery Method:** Fed Ex **Airbill #'s:** _____

Cooler Temps (Raw Measured) °C: Cooler 1: (2.2);

Cooler Temps (Corrected) °C: Cooler 1: (2.2);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Cooler temp verification:		
3. Cooler media:	Ice (Bag)	
4. No. Coolers:	1	

Quality Control _Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☐	☑	☐
2. Trip Blank listed on COC:	☐	☑	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify) _____ _____

Comments

1) -1 to -4 Did not receive volume for dissolved iron.

2) Did not receive sample Dup-08-20221019.

Responded to by: Michelle Response Date: 10/21

SUBFORM sent to Receiving, NJ is only running ALK, NO3O, SO4, RSK CH4 and RSK CO2

TD83671: Chain of Custody
Page 3 of 6

CHAIN OF CUSTODY

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #

Bottle Order Control #

SGS Quote #

SGS Job # TD83671

Client / Reporting Information

Company Name: SGS North America Inc.

Street Address: 10165 Harwin Drive

City: Houston State: TX Zip: 77036

Project Contact: electa.brown@sgs.com E-mail

Phone #: 713-271-4700 Fax #

Sampler(s) Name(s) Phone

Project Information

Project Name: DOWMIM (Jacobs)

Street

City State

Project #

Client Purchase Order #

Project Manager

Billing Information (if different from Report to)

Company Name

Street Address

City State Zip

Attention:

Requested Analysis (see TEST CODE sheet)

ALK ,NO3OIC300 ,SO4IC300 ,VRSK175CH4 ,VRSK175CO2 ,

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	ALK ,NO3OIC300 ,SO4IC300 ,VRSK175CH4 ,VRSK175CO2 ,	LAB USE ONLY
1	AZG1-39-44-20221019		10/19/2022	9:55:00 AM		AQ										X	
2	AZG1-63-68-20221019		10/19/2022	10:00:00 AM		AQ										X	
3	AZG4-20-25-20221019		10/19/22	1:05:00 PM		AQ										X	
4	AZG4-59-64-20221019		10/19/22	1:00:00 PM		AQ										X	

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 10/31/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only

Commercial "B" = Results + QC Summary

NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

nj

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date Tin	Received By:	Relinquished By:	Date Time:	Received By:
1		1	2		2
Relinquished:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by:	Date Time:	Received By:	Custody Seal #	Preserved where applicable	On Ice	Cooler Temp.
5		5	Intact / Not intact			

13.1 13

TD83671: Chain of Custody
Page 4 of 6

Job Change Order: TD83671

Requested Date:	4/4/2023	**Received Date:**	10/19/2022
Account Name:	Dow Chemical Company	**Due Date:**	10/31/2022
Project Description:	DOWMIM (Jacobs)	**Deliverable:**	TRRP
CSR:	ELECTAB	**TAT (Days):**	3

==========

Sample #: TD83671-1R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

==========

==========

Sample #: TD83671-2R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

==========

==========

Sample #: TD83671-3R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

==========

==========

Sample #: TD83671-4R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

==========

Above Changes Per: Client

Date/Time: 4/4/2023 11:30:46 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

Job Change Order: TD83671

Requested Date:	4/4/2023	**Received Date:**	10/19/2022
Account Name:	Dow Chemical Company	**Due Date:**	10/31/2022
Project Description:	DOWMIM (Jacobs)	**Deliverable:**	TRRP
CSR:	ELECTAB	**TAT (Days):**	3

Above Changes Per: Client **Date/Time:** 4/4/2023 11:30:46 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

TD83671: Chain of Custody
Page 6 of 6

General Chemistry

QC Data Summaries

(SGS Dayton, NJ)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- General Chemistry CCB MDL Check

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN34831			mg/l	50	49.0	98.0	90-110%
Alkalinity, Total as CaCO3	GN34831	5.0	0.0	mg/l	250	249	99.6	90-110%
Nitrogen, Nitrate + Nitrite	GP43063/GN34804	0.10	0.0	mg/l	2	1.84	92.0	80-120%
Nitrogen, Nitrite	GN34662	0.010	0.0	mg/l	0.04	0.039	97.5	90-110%
Nitrogen, Nitrite	GN34662	0.010	0.0	mg/l	0.04	0.039	97.5	90-110%
Sulfate	GP43044/GN34751	2.0	0.0	mg/l	80	83.3	104.1	90-110%

Associated Samples:
Batch GN34662: TD83671-1, TD83671-2, TD83671-3, TD83671-4
Batch GN34831: TD83671-1, TD83671-2, TD83671-3, TD83671-4
Batch GP43044: TD83671-1, TD83671-2, TD83671-3, TD83671-4
Batch GP43063: TD83671-1, TD83671-2, TD83671-3, TD83671-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN34831	JD54278-2	mg/l	285	285	0.0	0-10%
Nitrogen, Nitrate + Nitrite	GP43063/GN34804	JD54078-3	mg/l	0.0	0.0	0.0	0-33%
Sulfate	GP43044/GN34751	JD54176-1	mg/l	3.5	3.5	0.0	0-20%

Associated Samples:
Batch GN34831: TD83671-1, TD83671-2, TD83671-3, TD83671-4
Batch GP43044: TD83671-1, TD83671-2, TD83671-3, TD83671-4
Batch GP43063: TD83671-1, TD83671-2, TD83671-3, TD83671-4
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Nitrogen, Nitrate + Nitrite	GP43063/GN34804	JD54078-3	mg/l	0.0	1	1.1	110.0	80-120%
Nitrogen, Nitrite	GN34662	JD54055-8	mg/l	0.0080	0.04	0.041	82.5	22-140%
Sulfate	GP43044/GN34751	JD54176-1	mg/l	3.5	80	78.9	94.3	80-120%

Associated Samples:
Batch GN34662: TD83671-1, TD83671-2, TD83671-3, TD83671-4
Batch GP43044: TD83671-1, TD83671-2, TD83671-3, TD83671-4
Batch GP43063: TD83671-1, TD83671-2, TD83671-3, TD83671-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83671
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Nitrogen, Nitrite	GN34662	JD54055-8	mg/l	0.0080	0.04	0.041	0.0	20%

Associated Samples:
Batch GN34662: TD83671-1, TD83671-2, TD83671-3, TD83671-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

General Chemistry CCB MDL Check

Job Number: TD83671
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

The following parameters are braketed by CCB's at or above the MDL.

Sample	Parameter	Run ID	Time	MDL	Units	CCB Before		CCB After	
TD83671-1	Nitrogen, Nitrate + Nitrite	GN34804	17:15	.090	mg/l	CCB11	-0.0819	CCB12	-0.0941
TD83671-2	Nitrogen, Nitrate + Nitrite	GN34804	17:16	.090	mg/l	CCB11	-0.0819	CCB12	-0.0941
TD83671-3	Nitrogen, Nitrate + Nitrite	GN34804	17:17	.090	mg/l	CCB11	-0.0819	CCB12	-0.0941
TD83671-4	Nitrogen, Nitrate + Nitrite	GN34804	17:18	.090	mg/l	CCB11	-0.0819	CCB12	-0.0941

Calibration blank validation to the MDL is not a method requirement, but is included for information purposes only.

The results set forth herein are provided by SGS North America Inc.

e-Hardcopy 2.0
Automated Report

Technical Report for

Dow Chemical Company

DOWMIM (Jacobs)

CHARLIE BURCH

SGS Job Number: TD83687

Sampling Date: 10/20/22

Report to:

Jacobs
5995 Rogerdale Rd.
Houston, TX 77072
DowTXDM@jacobs.com; John.Ynfante@jacobs.com;
Joshua.McFarlain@Jacobs.com; Ashley.Rivera@Jacobs.com;
ATTN: Josh McFarlain

Total number of pages in report: **113**

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Program and/or state specific certification programs as applicable.

Kesavalu Bagawandoss
General Manager

Client Service contact: Electa Brown 713-271-4700

Certifications: TX (T104704220-22-46) AR (21-045-0) AZ (AZ0769) FL (E87628) KS (E-10366) LA (85695/04004) NJ (TX010) OK (2021-158) VA (11647)

April 13, 2023

Jacobs CH2M
5985 Rogerdale Rd. Tower 2
Houston Tx 77072

The final report for SGS Job TD83687 has been amended from the original. This report replaces in its entirety any previously submitted copy. Per client request, Ethane and Ethene results are being reported. The attached report incorporates these revisions.

Please contact me at 337-237-4775 if I may be of further assistance in this matter, or if you have any further questions regarding this data report

Sincerely,

Rebecca Hebert

SGS North America Inc.-Gulf Coast

Sections:

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Sections:

Table of Contents

SGS North America Inc.

Sample Summary

Dow Chemical Company

Job No: TD83687

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD83687-1	10/20/22	10:00		10/20/22	AQ	Ground Water	AZG4-39-44-20221020
TD83687-1F	10/20/22	10:00		10/20/22	AQ	Groundwater Filtered	AZG4-39-44-20221020
TD83687-1R	10/20/22	10:00		10/20/22	AQ	Ground Water	AZG4-39-44-20221020
TD83687-2	10/20/22	12:45		10/20/22	AQ	Ground Water	MW-CB-1BS-20221020
TD83687-2F	10/20/22	12:45		10/20/22	AQ	Groundwater Filtered	MW-CB-1BS-202210209
TD83687-2R	10/20/22	12:45		10/20/22	AQ	Ground Water	MW-CB-1BS-20221020
TD83687-3	10/20/22	12:00		10/20/22	AQ	Ground Water	MW-CB-2A-20221020
TD83687-3F	10/20/22	12:00		10/20/22	AQ	Groundwater Filtered	MW-CB-2A-20221020
TD83687-3R	10/20/22	12:00		10/20/22	AQ	Ground Water	MW-CB-2A-20221020
TD83687-4	10/20/22	00:00		10/20/22	AQ	Ground Water	PMW-09B-20221020
TD83687-4F	10/20/22	00:00		10/20/22	AQ	Groundwater Filtered	PMW-09B-20221020
TD83687-4R	10/20/22	00:00		10/20/22	AQ	Ground Water	PMW-09B-20221020

This report contains results reported as ND = Not detected. The following applies:
Organics ND = Not detected above the MDL

Sample Summary
(continued)

Dow Chemical Company

Job No: TD83687

DOWMIM (Jacobs)
Project No: CHARLIE BURCH

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
TD83687-5	10/20/22	00:00		10/20/22	AQ	Ground Water	DUP-09-20221020
TD83687-6	10/20/22	00:00		10/20/22	AQ	Trip Blank Water	TRIP BLANK

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	Dow Chemical Company	**Job No:**	TD83687
Site:	DOWMIM (Jacobs)	**Report Date**	11/30/2022 9:21:37 P

6 Samples were collected on 10/20/2022 and received intact at SGS North America Inc (SGS) on 10/20/2022 and properly preserved in 1 cooler at 3 Deg C. The samples received an SGS job number of TD83687. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

The SGS-Lafayette laboratory performed the TOC ((Total Organic Carbon). Due to laboratory error in login. the TOC analysis was analyze outdside of the holding time.

The SGS Dayton-NJ laboratory perforemed the CO2 (Carbon Dioxide) analyses. Due to schedule issue in lab, CO2 analyses were ran outside of the holding time.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** L:V1J4340

- All data for batch L:MS9130 was analyzed at SGS North America Inc. - Scott, LA.

Matrix: AQ **Batch ID:** L:V1Y278

- All data for batch L:MS9130 was analyzed at SGS North America Inc. - Scott, LA.

GC Volatiles By Method RSK-175

Matrix: AQ **Batch ID:** N:GAA2661

- All data for batch N:GC60529 was analyzed at SGS North America Inc. - Dayton, NJ.
- TD83687-4: (pH=5)Sample pH did not satisfy field preservation criteria. 5mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
- TD83687-2: (pH=5)Sample pH did not satisfy field preservation criteria. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
- TD83687-3: (pH=8)Sample pH did not satisfy field preservation criteria. Analysis performed at SGS Dayton, NJ.

Matrix: AQ **Batch ID:** N:GWW5607

- All data for batch N:GC60528 was analyzed at SGS North America Inc. - Dayton, NJ.
- TD83687-2: (pH=5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
- TD83687-1: (pH=5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 3mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
- TD83687-3: (pH=8)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. Analysis performed at SGS Dayton, NJ.
- TD83687-4: (pH=5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 5mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.

Metals Analysis By Method SW846 6010C

Matrix: AQ **Batch ID:** L:MP25295

- All data for batch L:MP25295 was analyzed at SGS North America Inc. - Scott, LA.

General Chemistry By Method EPA 300/SW846 9056A

Matrix:	AQ	Batch ID:	N:GP43167

- All data for batch N:GP43167 was analyzed at SGS North America Inc. - Dayton, NJ.

General Chemistry By Method EPA 353.2/LACHAT

Matrix:	AQ	Batch ID:	N:GP43385

- All data for batch N:GP43385 was analyzed at SGS North America Inc. - Dayton, NJ.

General Chemistry By Method SM2320 B-11

Matrix:	AQ	Batch ID:	N:GN34936

- All data for batch N:GN34936 was analyzed at SGS North America Inc. - Dayton, NJ.
- TD83687-3 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space. Analysis performed at SGS Dayton, NJ.
- TD83687-4 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space. Analysis performed at SGS Dayton, NJ.
- TD83687-1 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space. Analysis performed at SGS Dayton, NJ.
- TD83687-2 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space. Analysis performed at SGS Dayton, NJ.

General Chemistry By Method SM4500NO2 B-11

Matrix:	AQ	Batch ID:	N:GN35255

- All data for batch N:GN35255 was analyzed at SGS North America Inc. - Dayton, NJ.

General Chemistry By Method SM5310 B-2011

Matrix:	AQ	Batch ID:	L:GP10583

- All data for batch L:GP10583 was analyzed at SGS North America Inc. - Scott, LA.

SGS certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data Quality Objectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used.

SAMPLE DELIVERY GROUP CASE NARRATIVE

Client:	SGS Houston, TX	**Job No:**	TD83687
Site:	DOWMIM: DOWMIM (Jacobs)	**Report Date**	11/15/2022 4:58:36 P

7 sample were collected on 10/20/2022 and were received intact at SGS North America Inc.-Scott (SGS) on 10/20/2022, properly preserved and cool at 3.2 Deg C. These samples received an SGS job number of TD83687. A listing of the Laboratory Sample ID, Client Sample ID and dates of collection are presented in the Results Summary Section of this report.

Except as noted below, all method specified calibrations and quality control performance criteria were met for this job. For more information, please refer to QC summary pages.

MS Volatiles By Method SW846 8260B

Matrix: AQ **Batch ID:** V1J4340

- All samples were analyzed within the recommended method holding time.
- Sample(s) LA84320-12MS, LA84320-12MSD were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.

Matrix: AQ **Batch ID:** V1Y278

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.

Metals Analysis By Method SW846 6010C

Matrix: AQ **Batch ID:** MP25295

- All samples were digested within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) TD83671-1FMS, TD83671-1FMSD, TD83671-1FSDL were used as the QC samples for metals.
- Matrix Spike Duplicate Recovery(s) for Iron are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SGS North America Inc.-Scott (SGS) certifies that this report meets the project requirements for analytical data produced for the samples as received at SGS and as stated on the COC. SGS certifies that the data meets the Data QualityObjectives for precision, accuracy and completeness as specified in the SGS Quality Manual except as noted above. This report is to be used in its entirety. SGS is not responsible for any assumptions of data quality if partial data packages are used

CASE NARRATIVE / CONFORMANCE SUMMARY

Client: SGS Houston, TX **Job No:** TD83687

Site: DOWMIM: DOWMIM (Jacobs) **Report Date** 4/11/2023 5:15:32 PM

On 10/28/2022, 4 sample(s), 0 Trip Blank(s), and 0 Field Blank(s) were received at SGS North America Inc. (SGS) at a temperature of 3.1 °C. The samples were intact and properly preserved, unless noted below. An SGS Job Number of TD83687 was assigned to the project. The lab sample ID, client sample ID, and date of sample collection are detailed in the report's Results Summary.

Specified quality control criteria were achieved for this job except as noted below. For more information, please refer to the analytical results and QC summary pages.

GC Volatiles By Method RSK-175

Matrix: AQ **Batch ID:** GAA2661

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD83687-1DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- TD83687-3: (pH=8)Sample pH did not satisfy field preservation criteria.
- TD83687-4: (pH=5)Sample pH did not satisfy field preservation criteria. 5mm diameter bubble present in headspace.
- TD83687-1: (pH=5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace.
- TD83687-2: (pH=5)Sample pH did not satisfy field preservation criteria. 4mm diameter bubble present in headspace.

Matrix: AQ **Batch ID:** GWW5607

- All samples were analyzed within the recommended method holding time.
- Sample(s) TD83687-2DUP were used as the QC samples indicated.
- All method blanks for this batch meet method specific criteria.
- TD83687-1: (pH=5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 3mm diameter bubble present in headspace.
- TD83687-2: (pH=5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 4mm diameter bubble present in headspace.
- TD83687-2DUP: (pH=5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 4mm diameter bubble present in headspace.
- TD83687-4: (pH=5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 5mm diameter bubble present in headspace.
- TD83687-3: (pH=8)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request.

General Chemistry By Method EPA 300/SW846 9056A

Matrix: AQ **Batch ID:** GP43167

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD54482-1DUP, JD54482-1MS were used as the QC samples for the Sulfate analysis.
- The matrix spike (MS) recovery(s) of Sulfate are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

General Chemistry By Method EPA 353.2/LACHAT

Matrix: AQ	Batch ID: GP43385

- All samples were prepared within the recommended method holding time.
- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD54927-1DUP, TD83687-1MS were used as the QC samples for the Nitrogen, Nitrate + Nitrite analysis.

General Chemistry By Method EPA353.2/SM4500NO2B

Matrix: AQ	Batch ID: R200323

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- TD83687-1 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R200324

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- TD83687-2 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R200325

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- TD83687-3 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

Matrix: AQ	Batch ID: R200326

- The data for EPA353.2/SM4500NO2B meets quality control requirements.
- TD83687-4 for Nitrogen, Nitrate: Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite)

General Chemistry By Method SM2320 B-11

Matrix: AQ	Batch ID: GN34936

- All samples were analyzed within the recommended method holding time.
- All method blanks for this batch meet method specific criteria.
- Sample(s) JD54262-1DUP were used as the QC samples for the Alkalinity, Total as CaCO3 analysis.
- TD83687-3 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space.
- TD83687-2 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space.
- TD83687-1 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space.
- TD83687-4 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space.

General Chemistry By Method SM4500NO2 B-11

Matrix: AQ	Batch ID: GN35255

- All method blanks for this batch meet method specific criteria.
- Sample(s) JD55042-1MS, JD55042-1MSD were used as the QC samples for the Nitrogen, Nitrite analysis.
- The following samples were run outside of holding time for method SM4500NO2 B-11: TD83687-1, TD83687-2, TD83687-3, TD83687-4 Analysis done out of holding time.

SGS certifies that data reported for samples received, listed on the associated custody chain or analytical task order, were produced to specifications meeting SGS's Quality System precision, accuracy and completeness objectives except as noted.

Estimated non-standard method measurement uncertainty data is available on request, based on quality control bias and implicit for standard methods. Acceptable uncertainty requires tested parameter quality control data to meet method criteria.

SGS is not responsible for data quality assumptions if partial reports are used and recommends that this report be used in its entirety. This report is authorized by SGS indicated via signature on the report cover.

Summary of Hits

Job Number: TD83687
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 10/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD83687-1	**AZG4-39-44-20221020**					
1,2-Dichloroethane [a]		0.0142	0.0010	0.00041	mg/l	SW846 8260B
Methane [b]		0.00326	0.00011	0.000080	mg/l	RSK-175
Carbon Dioxide [c]		33.0	0.50	0.25	mg/l	RSK-175
Alkalinity, Total as CaCO3 [d]		36.0	5.0	3.6	mg/l	SM2320 B-11
Sulfate [e]		86.0	2.0	0.89	mg/l	EPA 300/SW846 9056A
Total Organic Carbon [f]		2.9	1.0	0.37	mg/l	SM5310 B-2011
TD83687-1F	**AZG4-39-44-20221020**					
Iron [a]		13.2	0.10	0.018	mg/l	SW846 6010C
TD83687-1R	**AZG4-39-44-20221020**					
No hits reported in this sample.						
TD83687-2	**MW-CB-1BS-20221020**					
1,2-Dichloroethane [a]		0.0071	0.0010	0.00041	mg/l	SW846 8260B
Methane [g]		0.00039	0.00011	0.000080	mg/l	RSK-175
Carbon Dioxide [h]		13.0	0.50	0.25	mg/l	RSK-175
Alkalinity, Total as CaCO3 [d]		36.0	5.0	3.6	mg/l	SM2320 B-11
Sulfate [e]		20.0	2.0	0.89	mg/l	EPA 300/SW846 9056A
Total Organic Carbon [f]		0.95 J	1.0	0.37	mg/l	SM5310 B-2011
TD83687-2F	**MW-CB-1BS-202210209**					
Iron [a]		0.251	0.10	0.018	mg/l	SW846 6010C
TD83687-2R	**MW-CB-1BS-20221020**					
No hits reported in this sample.						
TD83687-3	**MW-CB-2A-20221020**					
1,2-Dichloroethane [a]		0.00066 J	0.0010	0.00041	mg/l	SW846 8260B
Methane [i]		0.0888	0.00011	0.000080	mg/l	RSK-175
Alkalinity, Total as CaCO3 [d]		89.5	5.0	3.6	mg/l	SM2320 B-11
Sulfate [e]		4.3	2.0	0.89	mg/l	EPA 300/SW846 9056A
Total Organic Carbon [f]		9.2	1.0	0.37	mg/l	SM5310 B-2011
TD83687-3F	**MW-CB-2A-20221020**					
Iron [a]		0.0244 J	0.10	0.018	mg/l	SW846 6010C

Summary of Hits

Job Number: TD83687
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 10/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method
TD83687-3R	**MW-CB-2A-20221020**					
Ethene [e]		0.00057	0.00031	0.00016	mg/l	RSK-175
TD83687-4	**PMW-09B-20221020**					
1,2-Dichloroethane [a]		0.0181	0.0010	0.00041	mg/l	SW846 8260B
Methane [j]		4.76	0.011	0.0080	mg/l	RSK-175
Carbon Dioxide [k]		35.5	0.50	0.25	mg/l	RSK-175
Alkalinity, Total as CaCO3 [d]		102	5.0	3.6	mg/l	SM2320 B-11
Sulfate [e]		40.9	2.0	0.89	mg/l	EPA 300/SW846 9056A
Total Organic Carbon [f]		3.1	1.0	0.37	mg/l	SM5310 B-2011
TD83687-4F	**PMW-09B-20221020**					
Iron [a]		2.16	0.10	0.018	mg/l	SW846 6010C
TD83687-4R	**PMW-09B-20221020**					
No hits reported in this sample.						
TD83687-5	**DUP-09-20221020**					
1,2-Dichloroethane [a]		0.0144	0.0010	0.00041	mg/l	SW846 8260B
TD83687-6	**TRIP BLANK**					
No hits reported in this sample.						

(a) Analysis performed at SGS Scott, LA.
(b) (pH= 5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(c) (pH= 5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 3mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(d) Sample was titrated to a final pH of 4.5.Sample received with head space. Analysis performed at SGS Dayton, NJ.
(e) Analysis performed at SGS Dayton, NJ.
(f) Sample analyzed beyond hold time. Analysis performed at SGS Scott, LA.
(g) (pH= 5)Sample pH did not satisfy field preservation criteria. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(h) (pH= 5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(i) (pH= 8)Sample pH did not satisfy field preservation criteria. Analysis performed at SGS Dayton, NJ.
(j) (pH= 5)Sample pH did not satisfy field preservation criteria. 5mm diameter bubble present in headspace.

Summary of Hits

Job Number: TD83687
Account: Dow Chemical Company
Project: DOWMIM (Jacobs)
Collected: 10/20/22

Lab Sample ID / Analyte	Client Sample ID	Result/ Qual	MQL	SDL	Units	Method

Analysis performed at SGS Dayton, NJ.

(k) (pH= 5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 5mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	AZG4-39-44-20221020		
Lab Sample ID:	TD83687-1	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1J0121644.D	1	10/28/22 20:25	ALA	n/a	n/a	L:V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0142	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	96%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	AZG4-39-44-20221020		
Lab Sample ID:	TD83687-1	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97534.D	1	10/31/22 08:50	ANJ	n/a	n/a	N:GAA2661
Run #2 [b]	WW142474.D	10	10/31/22 08:27	ANJ	n/a	n/a	N:GWW5607

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.00326	0.00011	0.000080	mg/l	
124-38-9	Carbon Dioxide	33.0 [c]	0.50	0.25	mg/l	

(a) (pH= 5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(b) (pH= 5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 3mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: AZG4-39-44-20221020
Lab Sample ID: TD83687-1
Matrix: AQ - Ground Water
Project: DOWMIM (Jacobs)

Date Sampled: 10/20/22
Date Received: 10/20/22
Percent Solids: n/a

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	36.0	5.0	3.6	mg/l	1	10/28/22 16:20	ANJ	SM2320 B-11
Nitrogen, Nitrate [b]	0.093 U	0.11	0.093	mg/l	1	11/08/22 14:58	ANJ	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite [c]	0.090 U	0.10	0.090	mg/l	1	11/08/22 14:58	ANJ	EPA 353.2/LACHAT
Nitrogen, Nitrite [d]	0.0030 U	0.010	0.0030	mg/l	1	11/05/22 09:48	ANJ	SM4500NO2 B-11
Sulfate [c]	86.0	2.0	0.89	mg/l	1	10/28/22 19:15	ANJ	EPA 300/SW846 9056A
Total Organic Carbon [e]	2.9	1.0	0.37	mg/l	1	11/23/22 21:38	ALA	SM5310 B-2011

(a) Sample was titrated to a final pH of 4.5. Sample received with head space. Analysis performed at SGS Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite) Analysis performed at SGS Dayton, NJ.
(c) Analysis performed at SGS Dayton, NJ.
(d) Analysis done out of holding time. Analysis performed at SGS Dayton, NJ.
(e) Sample analyzed beyond hold time. Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	AZG4-39-44-20221020		
Lab Sample ID:	TD83687-1F	**Date Sampled:**	10/20/22
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/20/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron [a]	13.2	0.10	0.018	mg/l	1	10/26/22	10/26/22	ALA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: L:MA24923
(2) Prep QC Batch: L:MP25295

(a) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	AZG4-39-44-20221020		
Lab Sample ID:	TD83687-1R	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97534.D	1	10/31/22 08:50	ANJ	n/a	n/a	N:GAA2661
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-84-0	Ethane	0.00014 U	0.00023	0.00014	mg/l	
74-85-1	Ethene	0.00016 U	0.00031	0.00016	mg/l	

(a) Analysis performed at SGS Dayton, NJ.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1BS-20221020		
Lab Sample ID:	TD83687-2	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1J0121646.D	1	10/28/22 20:52	ALA	n/a	n/a	L:V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0071	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	100%		85-110%
460-00-4	4-Bromofluorobenzene	95%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-1BS-20221020		
Lab Sample ID:	TD83687-2	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97536.D	1	10/31/22 09:27	ANJ	n/a	n/a	N:GAA2661
Run #2 [b]	WW142475.D	10	10/31/22 08:45	ANJ	n/a	n/a	N:GWW5607

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.00039	0.00011	0.000080	mg/l	
124-38-9	Carbon Dioxide	13.0 [c]	0.50	0.25	mg/l	

(a) (pH= 5)Sample pH did not satisfy field preservation criteria. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(b) (pH= 5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 4mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-1BS-20221020
Lab Sample ID: TD83687-2
Matrix: AQ - Ground Water
Project: DOWMIM (Jacobs)

Date Sampled: 10/20/22
Date Received: 10/20/22
Percent Solids: n/a

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	36.0	5.0	3.6	mg/l	1	10/28/22 16:20	ANJ	SM2320 B-11
Nitrogen, Nitrate [b]	0.093 U	0.11	0.093	mg/l	1	11/08/22 14:59	ANJ	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite [c]	0.090 U	0.10	0.090	mg/l	1	11/08/22 14:59	ANJ	EPA 353.2/LACHAT
Nitrogen, Nitrite [d]	0.0030 U	0.010	0.0030	mg/l	1	11/05/22 09:48	ANJ	SM4500NO2 B-11
Sulfate [c]	20.0	2.0	0.89	mg/l	1	10/28/22 19:28	ANJ	EPA 300/SW846 9056A
Total Organic Carbon [e]	0.95 J	1.0	0.37	mg/l	1	11/23/22 21:58	ALA	SM5310 B-2011

(a) Sample was titrated to a final pH of 4.5. Sample received with head space. Analysis performed at SGS Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite) Analysis performed at SGS Dayton, NJ.
(c) Analysis performed at SGS Dayton, NJ.
(d) Analysis done out of holding time. Analysis performed at SGS Dayton, NJ.
(e) Sample analyzed beyond hold time. Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	MW-CB-1BS-202210209		
Lab Sample ID:	TD83687-2F	**Date Sampled:**	10/20/22
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/20/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron [a]	0.251	0.10	0.018	mg/l	1	10/26/22	10/26/22	ALA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: L:MA24923
(2) Prep QC Batch: L:MP25295

(a) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	MW-CB-1BS-20221020		
Lab Sample ID:	TD83687-2R	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97536.D	1	10/31/22 09:27	ANJ	n/a	n/a	N:GAA2661
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-84-0	Ethane	0.00014 U	0.00023	0.00014	mg/l	
74-85-1	Ethene	0.00016 U	0.00031	0.00016	mg/l	

(a) Analysis performed at SGS Dayton, NJ.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-2A-20221020		
Lab Sample ID:	TD83687-3	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1J0121648.D	1	10/28/22 21:19	ALA	n/a	n/a	L:V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00066	0.0010	0.00041	mg/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	107%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	95%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-CB-2A-20221020		
Lab Sample ID:	TD83687-3	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97537.D	1	10/31/22 09:40	ANJ	n/a	n/a	N:GAA2661
Run #2 [b]	WW142479.D	1	10/31/22 09:56	ANJ	n/a	n/a	N:GWW5607

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	0.0888	0.00011	0.000080	mg/l	
124-38-9	Carbon Dioxide	ND [c]	0.050	0.025	mg/l	

(a) (pH= 8)Sample pH did not satisfy field preservation criteria. Analysis performed at SGS Dayton, NJ.
(b) (pH= 8)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. Analysis performed at SGS Dayton, NJ.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID: MW-CB-2A-20221020
Lab Sample ID: TD83687-3
Matrix: AQ - Ground Water
Project: DOWMIM (Jacobs)

Date Sampled: 10/20/22
Date Received: 10/20/22
Percent Solids: n/a

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	89.5	5.0	3.6	mg/l	1	10/28/22 16:50	ANJ	SM2320 B-11
Nitrogen, Nitrate [b]	0.093 U	0.11	0.093	mg/l	1	11/08/22 15:00	ANJ	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite [c]	0.090 U	0.10	0.090	mg/l	1	11/08/22 15:00	ANJ	EPA 353.2/LACHAT
Nitrogen, Nitrite [d]	0.0030 U	0.010	0.0030	mg/l	1	11/05/22 09:48	ANJ	SM4500NO2 B-11
Sulfate [c]	4.3	2.0	0.89	mg/l	1	10/28/22 19:41	ANJ	EPA 300/SW846 9056A
Total Organic Carbon [e]	9.2	1.0	0.37	mg/l	1	11/23/22 22:20	ALA	SM5310 B-2011

(a) Sample was titrated to a final pH of 4.5. Sample received with head space. Analysis performed at SGS Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite) Analysis performed at SGS Dayton, NJ.
(c) Analysis performed at SGS Dayton, NJ.
(d) Analysis done out of holding time. Analysis performed at SGS Dayton, NJ.
(e) Sample analyzed beyond hold time. Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	MW-CB-2A-20221020		
Lab Sample ID:	TD83687-3F	**Date Sampled:**	10/20/22
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/20/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron [a]	0.0244 J	0.10	0.018	mg/l	1	10/26/22	10/26/22	ALA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: L:MA24923
(2) Prep QC Batch: L:MP25295

(a) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	MW-CB-2A-20221020		
Lab Sample ID:	TD83687-3R	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97537.D	1	10/31/22 09:40	ANJ	n/a	n/a	N:GAA2661
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-84-0	Ethane	0.00014 U	0.00023	0.00014	mg/l	
74-85-1	Ethene	0.00057	0.00031	0.00016	mg/l	

(a) Analysis performed at SGS Dayton, NJ.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PMW-09B-20221020		
Lab Sample ID:	TD83687-4	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1Y0006712.D	1	10/28/22 14:54	ALA	n/a	n/a	L:V1Y278
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0181	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	106%		75-130%
2037-26-5	Toluene-D8	106%		85-110%
460-00-4	4-Bromofluorobenzene	101%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PMW-09B-20221020		
Lab Sample ID:	TD83687-4	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	WW142481.D	10	10/31/22 10:25	ANJ	n/a	n/a	N:GWW5607
Run #2 [b]	AA97539.D	100	10/31/22 10:06	ANJ	n/a	n/a	N:GAA2661

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-82-8	Methane	4.76 [c]	0.011	0.0080	mg/l	
124-38-9	Carbon Dioxide	35.5	0.50	0.25	mg/l	

(a) (pH= 5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 5mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(b) (pH= 5)Sample pH did not satisfy field preservation criteria. 5mm diameter bubble present in headspace. Analysis performed at SGS Dayton, NJ.
(c) Result is from Run# 2

U = Not detected SDL = Sample Detection Limit J = Indicates an estimated value
MQL = Method Quantitation Limit B = Indicates analyte found in associated method blank
E = Indicates value exceeds calibration range N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	PMW-09B-20221020		
Lab Sample ID:	TD83687-4	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

General Chemistry

Analyte	Result	MQL	SDL	Units	DF	Analyzed	By	Method
Alkalinity, Total as CaCO3 [a]	102	5.0	3.6	mg/l	1	10/28/22 16:50	ANJ	SM2320 B-11
Nitrogen, Nitrate [b]	0.093 U	0.11	0.093	mg/l	1	11/08/22 15:01	ANJ	EPA353.2/SM4500NO2B
Nitrogen, Nitrate + Nitrite [c]	0.090 U	0.10	0.090	mg/l	1	11/08/22 15:01	ANJ	EPA 353.2/LACHAT
Nitrogen, Nitrite [d]	0.0030 U	0.010	0.0030	mg/l	1	11/05/22 09:48	ANJ	SM4500NO2 B-11
Sulfate [c]	40.9	2.0	0.89	mg/l	1	10/28/22 19:54	ANJ	EPA 300/SW846 9056A
Total Organic Carbon [e]	3.1	1.0	0.37	mg/l	1	11/23/22 22:41	ALA	SM5310 B-2011

(a) Sample was titrated to a final pH of 4.5. Sample received with head space. Analysis performed at SGS Dayton, NJ.
(b) Calculated as: (Nitrogen, Nitrate + Nitrite) - (Nitrogen, Nitrite) Analysis performed at SGS Dayton, NJ.
(c) Analysis performed at SGS Dayton, NJ.
(d) Analysis done out of holding time. Analysis performed at SGS Dayton, NJ.
(e) Sample analyzed beyond hold time. Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	PMW-09B-20221020		
Lab Sample ID:	TD83687-4F	**Date Sampled:**	10/20/22
Matrix:	AQ - Groundwater Filtered	**Date Received:**	10/20/22
		Percent Solids:	n/a
Project:	DOWMIM (Jacobs)		

Dissolved Metals Analysis

Analyte	Result	MQL	SDL	Units	DF	Prep	Analyzed	By	Method	Prep Method
Iron [a]	2.16	0.10	0.018	mg/l	1	10/26/22	10/26/22	ALA	SW846 6010C [1]	SW846 3010A [2]

(1) Instrument QC Batch: L:MA24923
(2) Prep QC Batch: L:MP25295

(a) Analysis performed at SGS Scott, LA.

MQL = Method Quantitation Limit
SDL = Sample Detection Limit

U = Indicates a result < SDL
J = Indicates a result > = SDL but < MQL

Report of Analysis

Client Sample ID:	PMW-09B-20221020		
Lab Sample ID:	TD83687-4R	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	RSK-175	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	AA97538.D	1	10/31/22 09:53	ANJ	n/a	n/a	N:GAA2661
Run #2							

CAS No.	Compound	Result	MQL	SDL	Units	Q
74-84-0	Ethane	0.00014 U	0.00023	0.00014	mg/l	
74-85-1	Ethene	0.00016 U	0.00031	0.00016	mg/l	

(a) Analysis performed at SGS Dayton, NJ.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	DUP-09-20221020		
Lab Sample ID:	TD83687-5	**Date Sampled:**	10/20/22
Matrix:	AQ - Ground Water	**Date Received:**	10/20/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1Y0006714.D	1	10/28/22 15:23	ALA	n/a	n/a	L:V1Y278
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.0144	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	104%		75-130%
2037-26-5	Toluene-D8	107%		85-110%
460-00-4	4-Bromofluorobenzene	102%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	TRIP BLANK		
Lab Sample ID:	TD83687-6	**Date Sampled:**	10/20/22
Matrix:	AQ - Trip Blank Water	**Date Received:**	10/20/22
Method:	SW846 8260B	**Percent Solids:**	n/a
Project:	DOWMIM (Jacobs)		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1 [a]	1J0121620.D	1	10/28/22 14:53	ALA	n/a	n/a	L:V1J4340
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

CAS No.	Compound	Result	MQL	SDL	Units	Q
107-06-2	1,2-Dichloroethane	0.00041 U	0.0010	0.00041	mg/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
17060-07-0	1,2-Dichloroethane-D4	105%		75-130%
2037-26-5	Toluene-D8	99%		85-110%
460-00-4	4-Bromofluorobenzene	95%		86-115%

(a) Analysis performed at SGS Scott, LA.

U = Not detected SDL = Sample Detection Limit
MQL = Method Quantitation Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody
- LRC Form
- LRC Form (SGS Scott, LA)
- LRC Form (SGS Dayton, NJ)

CHAIN OF CUSTODY

SGS North America Inc. - Houston
10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

PAGE 1 OF 1

SGS Job # TD83687

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rt-818 Town & Country
City: #SUITE 600 Hou State: TX Zip: 77024
Project Contact: John Yntante E-mail:
Phone #: 281-414-1719
Sampler(s) Name(s): Lorena Ramirez Phone #:

Project Information

Project Name: Charlie Burch - 4th Quarter GW Sampling
Project #:
Client Purchase Order #:
Project Manager: Joshua McFarlain

Billing Information (If different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analyses

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAc/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	Other	8260 - 1,2-Dichloroethane (3 vials)	SO4, NO3, Alkalinity (1)	Dissolved Iron (250 ml)	Dissolved methane/ethane/ethene (3 vials)	TOC (2 vials)	CO2/BSK 175 (2 vials)	VB260 12DCA (3 vials)	LAB USE ONLY
1	MZG4-39-44-20221020	10-20-22	10:00	LR	GW	12												✓	✓	✓	✓	✓	✓	✓	
	~~PMW-09B-20221020~~	~~10-20-22~~	~~12:45~~																						
2	MW-CB-1BS-20221020	10-20-22	1245	↓	↓	9													✓	✓	✓	✓	✓		
3	MW-CB-2A-20221020	10-20-22	12:00	↓	↓	9													✓	✓	✓	✓	✓		
4	PMW-09B-20221020	10-20-22		↓	↓	9													✓	✓	✓	✓	✓		
5	DUP-09-20221020	10-20-22	—	↓	↓	3												✓						✓	
	Temp Blank	—																							
6	Trip Blank	—	—	—	—																				

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED - Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB - Equipment Blank; RB - Rinse Blank; TB - Trip Blank

Turnaround Time (Business days)

- [ ] Standard 10 Business Days
- [ ] 5 Business Days *RUSH*
- [ ] 4 Business Days *RUSH*
- [ ] 3 Business Days *RUSH*
- [ ] 2 Business Days *RUSH*
- [ ] 1 Business Day *EMERGENCY*

Approved By (SGS PM): / Date:

Emergency & Rush T/A data available via Labiink. Approval needed for RUSH/Emergency TAT

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw Data

Comments / Special Instructions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by	Date / Time	Received By	Date / Time	Relinquished By	Date / Time	Received By	Date / Time
1	Lorena Ramirez	10-20-22 1655	1		2		2	
3			3		4		4	
5	Relinquished by:		5		Custody Seal #	☑ Intact ☐ Not intact ☐ Absent	Preserved where applicable ☑	On Ice ☐ Cooler Temp. °C: 3.0 Therm. ID:

http://www.sgs.com/en/terms-and-conditions

EHSA-QAC-0024-00-FORM-Houston - Standard COC

TD83687: Chain of Custody
Page 1 of 1

Appendix A Laboratory Data Package Cover Page

TD83687 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and spiked
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

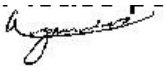
The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method fo which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: This laboratory meets an exception under 30 TAC&25.6 and was last inspection by
[ ]

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Kesavalu Bagawandoss		General Manager	11/30/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:		**Accutest Gulf Coast**	LRC Date:	**11/30/2022**					
Project Name:		**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD83687**					
Reviewer Name:		**Electa Brown**	Prep Batch Number(s):						
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]	
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**							
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		X					
		Were all departures from standard conditions described in an exception report?		X					
R2	**OI**	**Sample and quality control (QC) identification**							
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?		X					
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?		X					
R3	**OI**	**Test reports**							
		Were samples prepared and analyzed within holding times?			X			**4**	
		Other than those results <MQL, were all other raw values bracketed by calibration standards?		X					
		Were calculations checked by a peer or supervisor?		X					
		Were all analyte identifications checked by a peer or supervisor?		X					
		Were sample detection limits reported for all analytes not detected?		X					
		Were all results for soil and sediment samples reported on a dry weight basis?				X			
		Were % moisture (or solids) reported for all soil and sediment samples?				X			
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?				X			
		If required for the project, are TIC's reported?				X			
R4	**O**	**Surrogate recovery data**							
		Were surrogates added prior to extraction?		X					
		Were surrogate percent recoveries in all samples within the laboratory QC limits?		X					
R5	**OI**	**Test reports/summary forms for blank samples**							
		Were appropriate type(s) of blanks analyzed?				X			
		Were blanks analyzed at the appropriate frequency?				X			
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?		X					
		Were blank concentrations <MQL?				X			
R6	**OI**	**Laboratory control samples (LCS):**							
		Were all COCs included in the LCS?				X			
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?				X			
		Were LCSs analyzed at required frequency?				X			
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?				X			
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?		X					
		Was the LCSD RPD within QC limits?				X			
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**							
		Were the project/method specified analytes included in the MS and MSD?				X			
		Were MS/MSD analyzed at the appropriate frequency?				X			
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?				X			
		Were the MS/MSD RPDs within laboratory QC limits?				X			
R8	**OI**	**Analytical duplicate data**							
		Were appropriate analytical duplicates analyzed for each matrix?				X			
		Were analytical duplicates analyzed at the appropriate frequency?				X			
		Were RPDs or relative standard deviations within the laboratory QC limits?				X			
R9	**OI**	**Method quantitation limits (MQLs):**							
		Are the MQLs for each method analyte included in the laboratory data package?		X					
		Do the MQLs correspond to the concentration of the lowest non-zero calibration		X					
		Are unadjusted MQLs and DCSs included in the laboratory data package?			X			**2**	
R10	**OI**	**Other problems/anomalies**							
		Are all known problems/anomalies/special conditions noted in this LRC and ER?		X					
		Was applicable and available technology used to lower the SDL to minimize the matrix		X					
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?		X				**3**	

Laboratory Name:		Accutest Gulf Coast	LRC Date:	11/30/2022				
Project Name:		DOWMIM (Jacobs)	Laboratory Project Number:	TD83687				
Reviewer	Name:	Electa Brown	Prep Batch Number(s):					
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?		X				
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?		X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X				
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Gulf Coast**	LRC Date:	**11/30/2022**
Project Name:	**DOWMIM (Jacobs)**	Laboratory Project Number:	**TD83687**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is no included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.
4	All anomalies are discussed in the case narrative

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

TD83687 This data package consists of

X		This signature page, the laboratory review checklist, and the following reportable data:	
X	R1	Field chain-of-custody documentation;	
X	R2	Sample identification cross-reference;	
X	R3	Test reports (analytical data sheets) for each environmental sample that includes:	
		a)	Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
		b)	dilution factors,
		c)	preparation methods,
		d)	cleanup methods, and
		e)	if required for the project, tentatively identified compounds (TICs).
X	R4	Surrogate recovery data including:	
		a)	Calculated recovery (%R), and
		b)	The laboratory's surrogate QC limits.
X	R5	Test reports/summary forms for blank samples;	
X	R6	Test reports/summary forms for laboratory control samples (LCSs) including:	
		a)	LCS spiking amounts,
		b)	Calculated %R for each analyte, and
		c)	The laboratory's LCS QC limits.
X	R7	Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:	
		a)	Samples associated with the MS/MSD clearly identified,
		b)	MS/MSD spiking amounts,
		c)	Concentration of each MS/MSD analyte measured in the parent and
		d)	Calculated %Rs and relative percent differences (RPDs), and
		e)	The laboratory's MS/MSD QC limits
X	R8	Laboratory analytical duplicate (if applicable) recovery and precision:	
		a)	The amount of analyte measured in the duplicate,
		b)	The calculated RPD, and
		c)	The laboratory's QC limits for analytical duplicates.
X	R9	List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method	
X	R10	Other problems or anomalies.	

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable:
[ ]

This laboratory meets an exception under 30 TAC&25.6 and was last inspection by

[X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible for releasing this data package and is by signature affirming the above release statement is true.

QA Manager

Name (Printed)	Signature	Official Title (printed)	Date
Ron Benjamin	Ron Benjamin	General Manager	11/29/2022

LABORATORY REVIEW CHECKLIST: REPORTABLE DATA

Laboratory Name:	**Accutest Lafayette**	LRC Date:	**11/29/2022**	
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD83687**	
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**GP10583, MP25295, V1J4340, V1Y278**	

#[1]	A[2]	DESCRIPTION	YES	NO	NA[3]	NR[4]	ER #[5]
R1	**OI**	**CHAIN-OF-CUSTODY (C-O-C):**					
		Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?	X				
		Were all departures from standard conditions described in an exception report?	X				
R2	**OI**	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	**OI**	**Test reports**					
		Were samples prepared and analyzed within holding times?		X			**4**
		Other than those results <MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?			X		
		Were % moisture (or solids) reported for all soil and sediment samples?			X		
		Were bulk soils/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, are TIC's reported?			X		
R4	**O**	**Surrogate recovery data**					
		Were surrogates added prior to extraction?	X				
		Were surrogate percent recoveries in all samples within the laboratory QC limits?	X				
R5	**OI**	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?	X				
		Were blanks analyzed at the appropriate frequency?	X				
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?	X				
		Were blank concentrations <MQL?	X				
R6	**OI**	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	X				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	X				
		Were LCSs analyzed at required frequency?	X				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?	X				
		Does the detectablility check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?	X				
		Was the LCSD RPD within QC limits?	X				
R7	**OI**	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	X				
		Were MS/MSD analyzed at the appropriate frequency?	X				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC Limits?		X			**4**
		Were the MS/MSD RPDs within laboratory QC limits?	X				
R8	**OI**	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?			X		
		Were analytical duplicates analyzed at the appropriate frequency?			X		
		Were RPDs or relative standard deviations within the laboratory QC limits?			X		
R9	**OI**	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?		X			**2**
R10	**OI**	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL to minimize the	X				
		Is the laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package?	X				**3**

Laboratory Name:		Accutest Lafayette	LRC Date:	11/29/2022				
Project Name:		DOWMIM: DOWMIM (Jacobs)	Laboratory Project Number:	TD83687				
Reviewer Name:		Electa Brown	Prep Batch Number(s):	GP10583, MP25295, V1J4340, V1Y278				
#[1]	A[2]	DESCRIPTION		YES	NO	NA[3]	NR[4]	ER #[5]
S1	OI	**Initial calibration (ICAL)**						
		Were response factors and/or relative response factors for each analyte within QC limits?		X				
		Were percent RSDs or correlation coefficient criteria met?		X				
		Was the number of standards recommended in the method used for all analytes?		X				
		Were all points generated between the lowest and highest standard used to calculate the curve?		X				
		Are ICAL data available for all instruments used?		X				
		Has the initial calibration curve been verified using an appropriate second source standard?		X				
S2	OI	**Initial and continuing calibration verification (ICCV AND CCV) and continuing**						
		Was the CCV analyzed at the method-required frequency?		X				
		Were percent differences for each analyte within the method-required QC limits?		X				
		Was the ICAL curve verified for each analyte?		X				
		Was the absolute value of the analyte concentration in the inorganic CCB<MDL?		X				
S3	O	**Mass spectral tuning**						
		Was the appropriate compound for the method used for tuning?		X				
		Were ion abundance data within the method-required QC limits?		X				
S4	O	**Internal standards (IS)**						
		Were IS area counts and retention times within the method-required QC limits?		X				
S5	OI	**Raw data (NELAC Section 5.5.10)**						
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?		X				
		Were data associated with manual integrations flagged on the raw data?		X				
S6	O	**Dual column confirmation**						
		Did dual column confirmation results meet the method-required QC?				X		
S7	O	**Tentatively identified compounds (TICs):**						
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?				X		
S8	I	**Interference Check Sample (ICS) results**						
		Were percent recoveries within method QC limits?		X				
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**						
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?		X				
S10	OI	**Method detection limit (MDL) studies**						
		Was a MDL study performed for each reported analyte?		X				
		Is the MDL either adjusted or supported by the analysis of DCSs?		X				
S11	OI	**Proficiency test reports**						
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?		X				
S12	OI	**Standards documentation**						
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate source?		X				
S13	OI	**Compound/analyte identification procedures**						
		Are the procedures for compound/analyte identification documented?		X				
S14	OI	**Demonstration of analyst competency (DOC)**						
		Was DOC conducted consistent with NELAC Chapter 5?		X				
		Is documentation of the analyst's competency up-to-date and on file?		X				
S15	OI	**Verification/validation documentation for methods (NELAC Chapter 5)**						
		Are all the methods used to generate the data documentated, verified, and validated, where applicable?		X				
S16	OI	**Laboratory standard operating procedures (SOPs)**						
		Are laboratory SOPs current and on file for each method performed?		X				

LABORATORY REVIEW CHECKLIST (continued): Exception Reports			
Laboratory Name:	**Accutest Lafayette**	LRC Date:	**11/29/2022**
Project Name:	**DOWMIM: DOWMIM (Jacobs)**	Laboratory Project Number:	**TD83687**
Reviewer Name:	**Electa Brown**	Prep Batch Number(s):	**GP10583, MP25295, V1J4340, V1Y278**

ER#[1]	Description
1	For reporting purposes, the MQL is defined in the report as the RL. The unadjusted MQL/RL is reported in the method blank. The SDL is defined in the report as the MDL.
2	For reporting purposes, the method blank represents the unadjusted MQL. The DCS is on file in the laboratory and is not included in the laboratory data package.
3	The laboratory is NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices, and methods associated with this laboratory data package for analytes that are listed in the Texas Fields of Accreditation.
4	All anomalies are discussed in the case narrative.

1ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the

Appendix A Laboratory Data Package Cover Page

This data packages consists of:

X This signature page, the laboratory review checklist, and the following reportable data:

X R1 Field chain-of-custody documentation;

X R2 Sample identification cross-reference;

X R3 Test reports (analytical data sheets) for each environmental sample that includes:

a) Items consistent with NELAC 5.13 or ISO/IEC 17025 Section 5.10
b) dilution factors,
c) preparation methods,
d) cleanup methods, and
e) if required for the project, tentatively identified compounds (TICs).

R4 Surrogate recovery data including:

a) Calculated recovery (%R), and
b) The laboratory's surrogate QC limits.

X R5 Test reports/summary forms for blank samples;

X R6 Test reports/summary forms for laboratory control samples (LCSs) including:

a) LCS spiking amounts,
b) Calculated %R for each analyte, and
c) The laboratory's LCS QC limits.

X R7 Test reports for project matrix spike/matrix spike duplicates (MS/MSDs) including:

a) Samples associated with the MS/MSD clearly identified,
b) MS/MSD spiking amounts,
c) Concentration of each MS/MSD analyte measured in the parent and spiked samples,
d) Calculated %Rs and relative percent differences (RPDs), and
e) The laboratory's MS/MSD QC limits

X R8 Laboratory analytical duplicate (if applicable) recovery and precision:

a) The amount of analyte measured in the duplicate,
b) The calculated RPD, and
c) The laboratory's QC limits for analytical duplicates.

X R9 List of method quantitation limits (MQLs) and detectability check sample results for each analyte for each method and matrix;

X R10 Other problems or anomalies.

The Exception Report for each "No" or "Not Reviewed (NR)" item in Laboratory Review Checklist and for each analyte, matrix, and method for which the laboratory does not hold NELAC accreditation under the Texas Laboratory Accreditation Program.

Release Statement: I am responsible for the release of this laboratory data package. This laboratory is NELAC accredited under the Texas Laboratory Accreditation Program for all the methods, analytes, and matrices reported in this data package except as noted in the Exception Report. This data package has been reviewed by the laboratory and is complete and technically compliant with the requirements of the methods used, except where noted by the laboratory in the attached exception reports. By my signature below, I affirm to the best of my knowledge, all problems/anomalies, observed by the laboratory as having the potential to affect the quality of the data, have been identified by the laboratory in the Laboratory Review Checklist, and no information or data have been knowingly withheld.

Check, if applicable: [ ] This laboratory meets an exception under 30 TAC&25.6 and was last inspected by [X] TCEQ or [ ] _____ on April 2011. Any findings affecting the data in this laboratory data package are noted in the Exception Reports herein. The official signing the cover page of the report in which these data are used is responsible forreleasing this data package and is by signature affirming the above release statement is true.

Zhongyun Ma		QA Officer	11/10/2022
Name (Printed)	Signature	Official Title (printed)	Date

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: SGS- Dayton	LRC Date:11/10/2022
Project Name: DOWMIM: DOWMIM (Jacobs)	Laboratory Job Number: TD83687
Reviewer Name: Zhongyun Ma	Prep Batch Number(s): GAA2661, GWW5607, GP43167, GN34936, GP43385, R200323 through R200326, GN35255

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
		Chain-of-custody (C-O-C)					
R1	OI	Did samples meet the laboratory's standard conditions of sample acceptability upon receipt?		x			1
		Were all departures from standard conditions described in an exception report?	x				
R2	OI	**Sample and quality control (QC) identification**					
		Are all field sample ID numbers cross-referenced to the laboratory ID numbers?	X				
		Are all laboratory ID numbers cross-referenced to the corresponding QC data?	X				
R3	OI	**Test reports**					
		Were all samples prepared and analyzed within holding times?		x			2
		Other than those results < MQL, were all other raw values bracketed by calibration standards?	X				
		Were calculations checked by a peer or supervisor?	X				
		Were all analyte identifications checked by a peer or supervisor?	X				
		Were sample detection limits reported for all analytes not detected?	X				
		Were all results for soil and sediment samples reported on a dry weight basis?	x				
		Were % moisture (or solids) reported for all soil and sediment samples?	x				
		Were bulk soil/solids samples for volatile analysis extracted with methanol per SW846 Method 5035?			X		
		If required for the project, TICs reported?			x		
R4	O	**Surrogate recovery data**					
		Were surrogates added prior to extraction?			x		
		Were surrogate percent recoveries in all samples within the laboratory QC limits?			x		
R5	OI	**Test reports/summary forms for blank samples**					
		Were appropriate type(s) of blanks analyzed?			X		
		Were blanks analyzed at the appropriate frequency?			X		
		Were method blanks taken through the entire analytical process, including preparation and, if applicable, cleanup procedures?			x		
		Were blank concentrations < MQL?			x		
R6	OI	**Laboratory control samples (LCS):**					
		Were all COCs included in the LCS?	x				
		Was each LCS taken through the entire analytical procedure, including prep and cleanup steps?	x				
		Were LCSs analyzed at the required frequency?	x				
		Were LCS (and LCSD, if applicable) %Rs within the laboratory QC limits?			X		
		Does the detectability check sample data document the laboratory's capability to detect the COCs at the MDL used to calculate the SDLs?			x		
		Was the LCSD RPD within QC limits?			x		
R7	OI	**Matrix spike (MS) and matrix spike duplicate (MSD) data**					
		Were the project/method specified analytes included in the MS and MSD?	x				
		Were MS/MSD analyzed at the appropriate frequency?	x				
		Were MS (and MSD, if applicable) %Rs within the laboratory QC limits?	x				
		Were MS/MSD RPDs within laboratory QC limits?		x			3
R8	OI	**Analytical duplicate data**					
		Were appropriate analytical duplicates analyzed for each matrix?	x				
		Were analytical duplicates analyzed at the appropriate frequency?	x				
		Were RPDs or relative standard deviations within the laboratory QC limits?	x				
R9	OI	**Method quantitation limits (MQLs):**					
		Are the MQLs for each method analyte included in the laboratory data package?	X				
		Do the MQLs correspond to the concentration of the lowest non-zero calibration standard?	X				
		Are unadjusted MQLs and DCSs included in the laboratory data package?	X				
R10	OI	**Other problems/anomalies**					
		Are all known problems/anomalies/special conditions noted in this LRC and ER?	X				
		Was applicable and available technology used to lower the SDL minimize the matrix interference affects on the sample results?	X				
		Is the Laboratory NELAC-accredited under the Texas Laboratory Accreditation Program for the analytes, matrices and methods associated with this laboratory data package?	x				

Appendix A (cont'd): Laboratory Review Checklist: Reportable Data

Laboratory Name: SGS – Dayton	LRC Date: 11/10/2022
Project Name: DOWMIM: DOWMIM (Jacobs)	Laboratory Job Number: TD83687
Reviewer Name: Zhongyun Ma	Prep Batch Number(s): GAA2661, GWW5607, GP43167, GN34936, GP43385, R200323 through R200326, GN35255

#[1]	A[2]	Description	Yes	No	NA[3]	NR[4]	ER#[5]
S1	OI	**Initial calibration (ICAL)**					
		Were response factors and/or relative response factors for each analyte within QC limits?	X				
		Were percent RSDs or correlation coefficient criteria met?	X				
		Was the number of standards recommended in the method used for all analytes?	X				
		Were all points generated between the lowest and highest standard used to calculate the curve?	X				
		Are ICAL data available for all instruments used?	X				
		Has the initial calibration curve been verified using an appropriate second source standard?	X				
S2	OI	**Initial and continuing calibration verification (ICCV and CCV) and continuing calibration**					
		Was the CCV analyzed at the method-required frequency?	x				
		Were percent differences for each analyte within the method-required QC limits?	x				
		Was the ICAL curve verified for each analyte?	x				
		Was the absolute value of the analyte concentration in the inorganic CCB < MDL?	x				
S3	O	**Mass spectral tuning:**					
		Was the appropriate compound for the method used for tuning?			X		
		Were ion abundance data within the method-required QC limits?			x		
S4	O	**Internal standards (IS):**					
		Were IS area counts and retention times within the method-required QC limits?			x		
S5	OI	**Raw data (NELAC section 5.5.10)**					
		Were the raw data (for example, chromatograms, spectral data) reviewed by an analyst?	X				
		Were data associated with manual integrations flagged on the raw data?			x		
S6	O	**Dual column confirmation**					
		Did dual column confirmation results meet the method-required QC?			x		
S7	O	**Tentatively identified compounds (TICs):**					
		If TICs were requested, were the mass spectra and TIC data subject to appropriate checks?			X		
S8	I	**Interference Check Sample (ICS) results:**					
		Were percent recoveries within method QC limits?			X		
S9	I	**Serial dilutions, post digestion spikes, and method of standard additions**					
		Were percent differences, recoveries, and the linearity within the QC limits specified in the method?			x		
S10	OI	**Method detection limit (MDL) studies**					
		Was a MDL study performed for each reported analyte?			**x**		
		Is the MDL either adjusted or supported by the analysis of DCSs?			x		
S11	OI	**Proficiency test reports:**					
		Was the laboratory's performance acceptable on the applicable proficiency tests or evaluation studies?	x				
S12	OI	**Standards documentation**					
		Are all standards used in the analyses NIST-traceable or obtained from other appropriate sources?	X				
S13	OI	**Compound/analyte identification procedures**					
		Are the procedures for compound/analyte identification documented?	X				
S14	OI	**Demonstration of analyst competency (DOC)**					
		Was DOC conducted consistent with NELAC Chapter 5C or ISO/IEC 4?	X				
		Is documentation of the analyst's competency up-to-date and on file?	X				
S15	OI	**Verification/validation documentation for methods** (NELAC Chap 5)					
		Are all the methods used to generate the data documented, verified, and validated, where applicable?	X				
S16	OI	**Laboratory standard operating procedures (SOPs):**					
		Are laboratory SOPs current and on file for each method performed?	X				

Appendix A (cont'd): Laboratory Review Checklist: Exception Reports

Laboratory Name: SGS - Dayton	LRC Date: 11/10/2022
Project Name: DOWMIM: DOWMIM (Jacobs)	Laboratory Job Number: TD83687
Reviewer Name: Zhongyun Ma	Prep Batch Number(s): GAA2661, GWW5607, GP43167, GN34936, GP43385, R200323 through R200326, GN35255

	DESCRIPTION
1	GAA2661 TD83687-1,-2,-4: (pH=5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace TD83687-3: (pH=8) Sample pH did not satisfy field preservation criteria. GWW5607 TD83687-1,-2, -4,TD83687-2DUP: (pH=5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 3mm diameter bubble present in headspace. TD83687-3: (pH=8)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. GN34936 TD83687-1,2,3,4 for Alkalinity, Total as CaCO3: Sample was titrated to a final pH of 4.5.Sample received with head space.
2	GN35255 TD83687-1, TD83687-2, TD83687-3, TD83687-4: Analysis done out of holding time.
3	GP43167 Matrix Spike Recovery(s) for Sulfate are outside control limits. Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

1. Items identified by the letter "R" must be included in the laboratory data package submitted in the TRRP-required report(s). Items identified by the letter "S" should be retained and made available upon request for the appropriate retention period.
2. O= organic analyses; I= inorganic analyses (and general chemistry, when applicable);
3. NA = Not Applicable;
4. NR = Not reviewed;
5. ER# = Exception Report identification number (an Exception Report should be completed for an item if "NR" or "No" is checked on the LRC)

SGS North America Inc - Dayton

2022 - Q2 - DCS

						Q2 LOQ (50-150%)	
LIST	Matrix	Instrument	Units	LOQ	RL	Value	% Rec
NO3X	AQ	lachat E	mg/l	0.1	0.1	0.053	53

SGS North America Inc - Dayton

2022 - Q3 - DCS

						Q4	
						LOQ (50-150%)	
LIST	Matrix	Instrument	Units	LOQ	RL	Value	% Rec
NO2	AQ	spec N	mg/L	0.01	0.01	0.00940	94

SGS North America Inc - Dayton

2022 - Q2 - DCS - EPA 300/SW846 9056A

							Q2	
							LOQ (50-150%)	
Method	LIST	Matrix	Instrument	Units	LOQ	RL	Value	% Rec
IONC300X	F	AQ	IC-C	mg/L	0.2	0.2	0.24	120
	CHL				2	2	2.2	110
	SO4				2	2	2	100
	BRO				0.5	0.5	0.55	110

Method:	RSK-175 (V8015ALK)	**Matrix:**	AQ
Instrument:	GCAA	**Quant Factor:**	1
Analyst:	Multiple	**Injection Range:**	01/12/2022-01/12/2022
Prep. Method:		**Units:**	ug/l

LOD Verification

Cmpd./Element/Parm. Name	Lab Datafile	Inj. Date	Spike Amt.	MDL	Spk/MDL	Result	Recovery	LOD	Test
Ethane	AA92903.D	1/12/2022	0.14	0.14	1	0.265	189	0.2	Pass
Ethene	AA92903.D	1/12/2022	0.19	0.16	1.18	0.344	182	0.25	Pass
Methane	AA92903.D	1/12/2022	0.07	0.08	0.84	0.06	89.5	0.09	Pass

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS

10165 Harwin Drive, Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #

Bottle Order Control #

SGS Quote #

SGS Job # TD83687

Client / Reporting Information	Project Information	Requested Analysis (see TEST CODE sheet)	Matrix Codes
Company Name: SGS North America Inc.	Project Name: DOWMIM (Jacobs)		DW - Drinking Water GW - Ground Water WW - Water SW - Surface Water SO - Soil SL- Sludge SED-Sediment OI - Oil LIQ - Other Liquid AIR - Air SOL - Other Solid WP - Wipe FB-Field Blank EB-Equipment Blank RB- Rinse Blank TB-Trip Blank
Street Address: 10165 Harwin Drive	Street	Billing Information (if different from Report to)	
City: Houston State: TX Zip: 77036	City State	Company Name	
Project Contact: electa.brown@sgs.com E-mail	Project #	Street Address	
Phone #: 713-271-4700 Fax #	Client Purchase Order #	City State Zip	
Sampler(s) Name(s) Phone	Project Manager	Attention:	

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	FE ,FILTERMET ,	LAB USE ONLY
1F	AZG4-39-44-20221020		10/20/2022	10:00:00 AM		AQ										X	
2F	MW-CB-1BS-202210209		10/20/2022	12:45:00 PM		AQ										X	
3F	MW-CB-2A-20221020		10/20/22	12:00:00 PM		AQ										X	
4F	PMW-09B-20221020		10/20/22	12:00:00 AM		AQ										X	

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- ☐ Std. 10 Business Days
- ☐ 5 Day RUSH
- ☐ 3 Day EMERGENCY
- ☐ 2 Day EMERGENCY
- ☐ 1 Day EMERGENCY
- ☒ other Due 10/31/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ FULLT1 (Level 3+4)
- ☐ NJ Reduced
- ☐ Commercial "C"
- ☐ NYASP Category A
- ☐ NYASP Category B
- ☐ State Forms
- ☐ EDD Format
- ☒ Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

la

Revised

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by: 1	Date Tin	Received By: 1	Relinquished By: 2	Date Time:	Received By: 2
Relinquished: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # ☐ Intact ☐ Not Intact	Preserved where applicable ☐	On Ice ☐ Cooler Temp.

6.1 6

TD83687: Chain of Custody
Page 1 of 6
SGS Scott, LA

CHAIN OF CUSTODY

SGS

10165 Harwin Drive, Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: TD83687

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V826012DCA	FILTERMET, PB ,	V826012DCA ,	LAB USE ONLY
1	AZG4-39-44-20221020		10/20/2022	10:00:00 AM		AQ										X			KA 5 6
1F	AZG4-39-44-20221020		10/20/2022	10:00:00 AM		AQ											X		1
2	MW-CB-1BS-20221020		10/20/22	12:45:00 PM		AQ										X			2
2F	MW-CB-1BS-202210209		10/20/22	12:45:00 PM		AQ											X		1
3	MW-CB-2A-20221020		10/20/22	12:00:00 PM		AQ										X			2
3F	MW-CB-2A-20221020		10/20/22	12:00:00 PM		AQ											X		1
4	PMW-09B-20221020		10/20/22	12:00:00 AM		AQ										X			2
4F	PMW-09B-20221020		10/20/22	12:00:00 AM		AQ											X		1
5	DUP-09-20221020		10/20/22	12:00:00 AM		AQ												X	3
6	TI TRIP BLANK		10/20/22	12:00 AM		WTB												X	2

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 10/31/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

la
RSL 23 vw
3w2

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		10/21/22 1700	1	2	10/21/22 0345	2
3			3	4		4
5			5	Custody Seal #	☐ Intact ☑ Not intact	Preserved where applicable ☐ On Ice ☑ Cooler Temp. 1.0 0.2 3.4

TD83687
PAGE ___ OF ___

CHAIN OF CUSTODY

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA844449

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston State: Texas Zip: 77072
Project Contact: John Ynfante E-mail:
Phone #: 281-414-1719 Fax #:
Sampler(s) Name(s): Lorena Ramirez Phone #: 8326017800

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: Spring State: Texas
Project #: COTM022
Client Purchase Order #:
Project Manager: Joshua McFarlain

Billing Information (if different from Report to)

Company Name: DOWMIM
Street Address: 816 Town & Country #1000
City: Houston State: Texas Zip: 77024
Attention: John Ynfante

Requested Analyses

SGS Sample #	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	SO4, NO3 / Alkalinity (1) Liter	Dissolved Iron (250 ml)	Dissolved Methane/RSK 175 (3 vials)	TOC (2 vials)	CO2 / RSK 175 (2 vials)	V8260 12DCA	MS / MSD	LAB USE ONLY
	AZG1-39-44-20221019	10.19.22	9:55	L.R	GW														✓	✓	✓	✓	✓	✓	✓		
	AZG1-63-68-20221019	10.19.22	10:00	L.R															✓	✓	✓	✓	✓	✓	✓		
	AZG4-20-25-20221019	10.19.22	13:05	L.R															✓	✓	✓	✓	✓	✓	✓		
	AZG4-59-64-20221019	10.19.22	13:00	L.R	↓														✓	✓	✓	✓	✓	✓	✓		
	DUP-08-20221019	10.19.22	—	L.R															✓								

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

Turnaround Time (Business days)

- [ ] Standard
- [ ] 5 Day *RUSH*
- [ ] 4 Day *RUSH*
- [ ] 3 Day *RUSH*
- [ ] 2 Day *RUSH*
- [ ] 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [X] TRRP
- [ ] EDD Format
- [ ] Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Form: SM021-0

Comments / Special Instructions

DOWMIM29283
Did not use filter on AZG1 63-68 & AZG4-20-25; Please Filter

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:	Date Time:	Relinquished By:	Date Time:	Received By:	Date Time:
1	Lorena Ramirez	10.19.2022	1	10.19.22	2	10.19.22		
3	Relinquished by Sampler:	Date Time: 10/20/22	Received By: 3	Date Time:	Relinquished By: 4	Date Time:	Received By: 4	Date Time:
5	Relinquished by:	Date Time:	Received By: 5	Date Time:	Custody Seal #	☐ Intact ☐ Not intact	Preserved where applicable ☐	On Ice ☐ Cooler Temp.

6.1.6

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: TD83687	CLIENT: SGS
DATE/TIME RECEIVED: 10/25/22 0435	DELIVERY METHOD: CLIENT
PROJECT: DOWMIM (JACOBS)	NO. COOLERS: 1
COOLER TEMPS (Initial/Adjusted): IR002 3.4	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR002 2		
3. Cooler media:	Direct use		

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☐		☐	☐
2. Trip Blank listed on COC:	☐		☐	☐
3. Samples preserved properly:	☐		☐	
4. VOCs headspace free:	☐		☐	☐

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	INTACT		

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☑		☐	
3. Sufficient Volume rec'd for analysis:	☐		☐	
4. Compositing instructions clear:	☐		☐	
5. Filtering instructions clear:	☐		☐	☑

SGS Sample Receipt Summary

Job Number: TD83687 **Client:** SGS **Project:** DOWMIM (JACOBS)

Date / Time Received: 10/25/2022 4:35:00 AM **Delivery Method:** SGS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3.4/3.2);

Cooler Security	Y	N		Y	N
1. Custody Seals Present:	☑	☐	3. COC Present:	☑	☐
2. Custody Seals Intact:	☑	☐	4. Smpl Dates/Time OK	☑	☐

Cooler Temperature	Y	N
1. Temp criteria achieved:	☑	☐
2. Thermometer ID:	IR002;	
3. Cooler media:	Ice (direct contact)	
4. No. Coolers:	1	

Quality Control Preservation	Y	N	N/A
1. Trip Blank present / cooler:	☑	☐	☐
2. Trip Blank listed on COC:	☑	☐	☐
3. Samples preserved properly:	☑	☐	
4. VOCs headspace free:	☑	☐	☐

Sample Integrity - Documentation	Y	N
1. Sample labels present on bottles:	☑	☐
2. Container labeling complete:	☑	☐
3. Sample container label / COC agree:	☑	☐

Sample Integrity - Condition	Y	N
1. Sample recvd within HT:	☑	☐
2. All containers accounted for:	☑	☐
3. Condition of sample:	Intact	

Sample Integrity - Instructions	Y	N	N/A
1. Analysis requested is clear:	☑	☐	
2. Bottles received for unspecified tests	☐	☑	
3. Sufficient volume recvd for analysis:	☑	☐	
4. Compositing instructions clear:	☐	☐	☑
5. Filtering instructions clear:	☐	☐	☑

Comments

Problem Resolution

Job Number: TD83687

CSR: _____ **Response Date:** _____

Response:

MS Volatiles

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1Y278-MB2	1Y0006702.D	1	10/28/22	JY	n/a	n/a	V1Y278

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83687-4, TD83687-5

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	97%	75-130%
2037-26-5	Toluene-D8	105%	85-110%
460-00-4	4-Bromofluorobenzene	100%	86-115%

Method Blank Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4340-MB2	1J0121612.D	1	10/28/22	JY	n/a	n/a	V1J4340

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83687-1, TD83687-2, TD83687-3, TD83687-6

CAS No.	Compound	Result	RL	MDL	Units	Q
107-06-2	1,2-Dichloroethane	ND	1.0	0.41	ug/l	

CAS No.	Surrogate Recoveries		Limits
17060-07-0	1,2-Dichloroethane-D4	108%	75-130%
2037-26-5	Toluene-D8	101%	85-110%
460-00-4	4-Bromofluorobenzene	95%	86-115%

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1Y278-BS1	1Y0006696.D	1	10/28/22	JY	n/a	n/a	V1Y278
V1Y278-BSD1	1Y0006698.D	1	10/28/22	JY	n/a	n/a	V1Y278

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83687-4, TD83687-5

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	18.7	94	17.5	88	7	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	97%	100%	75-130%
2037-26-5	Toluene-D8	98%	99%	85-110%
460-00-4	4-Bromofluorobenzene	100%	102%	86-115%

* = Outside of Control Limits.

Blank Spike/Blank Spike Duplicate Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
V1J4340-BS1	1J0121606.D	1	10/28/22	JY	n/a	n/a	V1J4340
V1J4340-BSD1	1J0121608.D	1	10/28/22	JY	n/a	n/a	V1J4340

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83687-1, TD83687-2, TD83687-3, TD83687-6

CAS No.	Compound	Spike ug/l	BSP ug/l	BSP %	BSD ug/l	BSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	20	20.9	105	20.6	103	1	72-125/15

CAS No.	Surrogate Recoveries	BSP	BSD	Limits
17060-07-0	1,2-Dichloroethane-D4	105%	108%	75-130%
2037-26-5	Toluene-D8	100%	98%	85-110%
460-00-4	4-Bromofluorobenzene	100%	101%	86-115%

* = Outside of Control Limits.

Matrix Spike/Matrix Spike Duplicate Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
LA84320-12MS	1J0121654.D	2	10/28/22	JY	n/a	n/a	V1J4340
LA84320-12MSD	1J0121656.D	2	10/28/22	JY	n/a	n/a	V1J4340
LA84320-12	1J0121632.D	1	10/28/22	JY	n/a	n/a	V1J4340

The QC reported here applies to the following samples: **Method:** SW846 8260B

TD83687-1, TD83687-2, TD83687-3, TD83687-6

CAS No.	Compound	LA84320-12 ug/l	Q	Spike ug/l	MS ug/l	MS %	Spike ug/l	MSD ug/l	MSD %	RPD	Limits Rec/RPD
107-06-2	1,2-Dichloroethane	1.4		40	42.3	102	40	42.7	103	1	65-136/28

CAS No.	Surrogate Recoveries	MS	MSD	LA84320-12	Limits
17060-07-0	1,2-Dichloroethane-D4	107%	106%	105%	75-130%
2037-26-5	Toluene-D8	100%	100%	100%	85-110%
460-00-4	4-Bromofluorobenzene	101%	101%	98%	86-115%

* = Outside of Control Limits.

Misc. Forms

Custody Documents and Other Forms

(SGS Dayton, NJ)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS

AQ

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com

Page 1 of 1

F
PM

FED-EX Tracking #

Bottle Order Control #

SGS Quote #

SGS Job # TD83687

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

ALK ,NO2 ,NO32 ,NO3OIC300 ,SO4IC300 ,VRSK175CH4 ,VRSK175CO2 ,

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL- Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE		LAB USE ONLY
1	AZG4-39-44-20221020		10/20/2022	10:00:00 AM		AQ										X	C08
2	MW-CB-1BS-20221020		10/20/2022	12:45:00 PM		AQ										X	
3	MW-CB-2A-20221020		10/20/22	12:00:00 PM		AQ										X	V917
4	PMW-09B-20221020		10/20/22	12:00:00 AM		AQ										X	

Turnaround Time (Business days)

Approved By (SCS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 10/31/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULL T1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

nj 4X1000mL NP
5X40ml NP

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Tir	Received By:	Relinquished By:	Date Time:	Received By:
1			Fedex	Fedex	10/26 10:03	
2	Relinquished:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3						
4	Relinquished by:	Date Time:	Received By:	Custody Seal #	Intact / Not intact	Preserved where applicable
5						On Ice / Cooler Temp.

3.1

8.1

8

SGS Sample Receipt Summary

Job Number: TD83687 **Client:** ALGC **Project:**

Date / Time Received: 10/26/2022 10:00:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.1);

Cooler Temps (Corrected) °C: Cooler 1: (3.1);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control _Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify)

Comments
1). All sample Received NO2 anlaysis out side the hold time.
2). All sample Did not received volume for NO32 analysis. Please Confirm.

8.1

8

Responded to by: Michelle

Response Date: 11/4

1) Please run NO2 out of HT
2) Please aliquot and preserve w/H2SO4 and run NO32 please

TD83687: Chain of Custody
Page 3 of 5

Job Change Order: TD83687

Requested Date: 4/4/2023 **Received Date:** 10/20/2022
Account Name: Dow Chemical Company **Due Date:** 10/31/2022
Project Description: DOWMIM (Jacobs) **Deliverable:** TRRP
CSR: ELECTAB **TAT (Days):** 3

Sample #: TD83687-1R **Change:** Relog/Retrieve for VRSK175ethane and VGC+Ethene
Dept:
TAT: 3

Sample #: TD83687-2R **Change:** Relog/Retrieve for VRSK175ethane and VGC+Ethene
Dept:
TAT: 3

Sample #: TD83687-3R **Change:** Relog/Retrieve for VRSK175ethane and VGC+Ethene
Dept:
TAT: 3

Sample #: TD83687-4R **Change:** Relog/Retrieve for VRSK175ethane and VGC+Ethene
Dept:
TAT: 3

Above Changes Per: Client **Date/Time:** 4/4/2023 11:22:07 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

8.1

Job Change Order: TD83687

Requested Date:	4/4/2023	**Received Date:**	10/20/2022
Account Name:	Dow Chemical Company	**Due Date:**	10/31/2022
Project Description:	DOWMIM (Jacobs)	**Deliverable:**	TRRP
CSR:	ELECTAB	**TAT (Days):**	3

Above Changes Per: Client **Date/Time:** 4/4/2023 11:22:07 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

8.1

8

TD83687: Chain of Custody
Page 5 of 5

GC Volatiles

QC Data Summaries

(SGS Dayton, NJ)

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

Method Blank Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA2661-MB	AA97531.D	1	10/31/22	WC	n/a	n/a	GAA2661

The QC reported here applies to the following samples: **Method:** RSK-175

TD83687-1, TD83687-2, TD83687-3, TD83687-4, TD83687-1R, TD83687-2R, TD83687-3R, TD83687-4R

CAS No.	Compound	Result	RL	MDL	Units	Q
74-82-8	Methane	ND	0.11	0.080	ug/l	
74-84-0	Ethane	ND	0.23	0.14	ug/l	
74-85-1	Ethene	ND	0.31	0.16	ug/l	

Method Blank Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GWW5607-MB	WW142472.D	1	10/31/22	JN	n/a	n/a	GWW5607

The QC reported here applies to the following samples: **Method:** RSK-175

TD83687-1, TD83687-2, TD83687-3, TD83687-4

CAS No.	Compound	Result	RL	MDL	Units	Q
124-38-9	Carbon Dioxide	ND	50	25	ug/l	

Laboratory Control Sample Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GAA2661-LCS	AA97529.D	1	10/31/22	WC	n/a	n/a	GAA2661

The QC reported here applies to the following samples: **Method:** RSK-175

TD83687-1, TD83687-2, TD83687-3, TD83687-4, TD83687-1R, TD83687-2R, TD83687-3R, TD83687-4R

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
74-82-8	Methane	11	11.1	101	50-150
74-84-0	Ethane	23	24.2	105	50-150
74-85-1	Ethene	31	32.4	105	50-150

* = Outside of Control Limits.

Laboratory Control Sample Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
GWW5607-LCS	WW142470.D	1	10/31/22	JN	n/a	n/a	GWW5607

The QC reported here applies to the following samples: **Method:** RSK-175

TD83687-1, TD83687-2, TD83687-3, TD83687-4

CAS No.	Compound	Spike ug/l	LCS ug/l	LCS %	Limits
124-38-9	Carbon Dioxide	164	156	95	50-150

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD83687-2DUP [a]	WW142476.D	10	10/31/22	JN	n/a	n/a	GWW5607
TD83687-2 [a]	WW142475.D	10	10/31/22	JN	n/a	n/a	GWW5607

The QC reported here applies to the following samples: **Method:** RSK-175

TD83687-1, TD83687-2, TD83687-3, TD83687-4

CAS No.	Compound	TD83687-2 ug/l	Q	DUP ug/l	Q	RPD	Limits
124-38-9	Carbon Dioxide	13000		13700		5	20

(a) (pH= 5)Sample is not acid preservation per method/client criteria. Analyzed outside of 7 day holding time per client's request. 4mm diameter bubble present in headspace.

* = Outside of Control Limits.

Duplicate Summary

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Sample	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
TD83687-1DUP [a]	AA97535.D	1	10/31/22	WC	n/a	n/a	GAA2661
TD83687-1 [a]	AA97534.D	1	10/31/22	WC	n/a	n/a	GAA2661

The QC reported here applies to the following samples: **Method:** RSK-175

TD83687-1, TD83687-2, TD83687-3, TD83687-4, TD83687-1R, TD83687-2R, TD83687-3R, TD83687-4R

CAS No.	Compound	TD83687-1 ug/l	Q	DUP ug/l	Q	RPD	Limits
74-82-8	Methane	3.26		3.24		1	20
74-84-0	Ethane	0.23 U		ND		nc	20
74-85-1	Ethene	0.31 U		ND		nc	20

(a) (pH= 5)Sample pH did not satisfy field preservation criteria. 3mm diameter bubble present in headspace.

* = Outside of Control Limits.

Misc. Forms

Custody Documents and Other Forms

(SGS Scott, LA)

Includes the following where applicable:

- Chain of Custody

CHAIN OF CUSTODY

SGS

10165 Harwin Drive, Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #:
Bottle Order Control #:
SGS Quote #:
SGS Job #: TD83687

Client / Reporting Information	Project Information	Billing Information (if different from Report to)
Company Name: SGS North America Inc.	Project Name: DOWMIM (Jacobs)	
Street Address: 10165 Harwin Drive	Street	Company Name
City: Houston State: TX Zip: 77036	City State	Street Address
Project Contact: electa.brown@sgs.com E-mail	Project #	City State Zip
Phone #: 713-271-4700 Fax #	Client Purchase Order #	Attention:
Sampler(s) Name(s) Phone	Project Manager	

Requested Analysis (see TEST CODE sheet)

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank; EB-Equipment Blank; RB- Rinse Blank; TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	FE ,FILTERMET ,	LAB USE ONLY
1F	AZG4-39-44-20221020		10/20/2022	10:00:00 AM		AQ										X	
2F	MW-CB-1BS-202210209		10/20/2022	12:45:00 PM		AQ										X	
3F	MW-CB-2A-20221020		10/20/22	12:00:00 PM		AQ										X	
4F	PMW-09B-20221020		10/20/22	12:00:00 AM		AQ										X	

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 10/31/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

la

Revised

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by:	Date Tin	Received By:	Relinquished By:	Date Time:	Received By:
1		1	2		2
Relinquished: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal # ☐ Intact ☐ Not Intact	Preserved where applicable ☐	On Ice ☐ Cooler Temp.

10.1 10

TD83687: Chain of Custody
Page 1 of 6
SGS Scott, LA

CHAIN OF CUSTODY

SGS

10165 Harwin Drive, Houston, TX 77036
TEL: 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #:
Bottle Order Control #:
SGS Quote #:
SGS Job #: TD83687

Client / Reporting Information

Company Name: SGS North America Inc.
Street Address: 10165 Harwin Drive
City: Houston State: TX Zip: 77036
Project Contact: electa.brown@sgs.com E-mail:
Phone #: 713-271-4700 Fax #:
Sampler(s) Name(s): Phone:

Project Information

Project Name: DOWMIM (Jacobs)
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager:

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analysis (see TEST CODE sheet)

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	V826012DCA	FILTERMET, PB,	V826012DCA,	LAB USE ONLY
1	AZG4-39-44-20221020		10/20/2022	10:00:00 AM		AQ										X			KA 5 6
1F	AZG4-39-44-20221020		10/20/2022	10:00:00 AM		AQ											X		1
2	MW-CB-1BS-20221020		10/20/22	12:45:00 PM		AQ										X			2
2F	MW-CB-1BS-202210209		10/20/22	12:45:00 PM		AQ											X		1
3	MW-CB-2A-20221020		10/20/22	12:00:00 PM		AQ										X			2
3F	MW-CB-2A-20221020		10/20/22	12:00:00 PM		AQ											X		1
4	PMW-09B-20221020		10/20/22	12:00:00 AM		AQ										X			2
4F	PMW-09B-20221020		10/20/22	12:00:00 AM		AQ											X		1
5	DUP-09-20221020		10/20/22	12:00:00 AM		AQ												X	3
6	TRIP BLANK		10/20/22	12:00 AM		WTB												X	2

Turnaround Time (Business days)

Approved By (SGS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 10/31/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULLT1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

la
RSL 23 vw
3w2

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1		10/21/22 1700		2	10/21/22 0345	2
3			3	4		4
5			5	Custody Seal #	Intact / Not intact	Preserved where applicable / On Ice / Cooler Temp. 1.0 0.2 3.4

10.1 10

TD83687
PAGE ___ OF ___

CHAIN OF CUSTODY

SGS

10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #: | Bottle Order Control #:
SGS Quote #: | SGS Job #: LA844449

Client / Reporting Information

Company Name: Jacobs
Street Address: 5995 Rogerdale Rd.
City: Houston | State: Texas | Zip: 77072
Project Contact: John Ynfante | E-mail:
Phone #: 281-414-1719 | Fax #:
Sampler(s) Name(s): Lorena Ramirez | Phone #: 8326017800

Project Information

Project Name: Charlie Burch - Quarterly Groundwater Sampling
Street:
City: Spring | State: Texas
Project #: COTM022
Client Purchase Order #:
Project Manager: Joshua McFarlain

Billing Information (If different from Report to)

Company Name: DOWMIM
Street Address: 816 Town & Country #1000
City: Houston | State: Texas | Zip: 77024
Attention: JohnYfante

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL - Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB-Field Blank

SGS Sample #	Field ID / Point of Collection	Collection: Date	Time	Sampled By	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	ZnAcNaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	8260 - 1,2-Dichloroethane	SO4, NO3 / Alkalinity (1) Liter	Dissolved Iron (250 ml)	Dissolved Methane/RSK 175 (3 vials)	TOC (2 vials)	CO2 / RSK 175 (2 vials)	V8260 12DCA	MS / MSD	LAB USE ONLY
	AZG1-39-44-20221019	10.19.22	9:55	L.R	GW														✓	✓	✓	✓	✓	✓	✓	✓	
	AZG1-63-68-20221019	10.19.22	10:00	L.R															✓	✓	✓	✓	✓	✓	✓		
	AZG4-20-25-20221019	10.19.22	13:05	L.R															✓	✓	✓	✓	✓	✓	✓		
	AZG4-59-64-20221019	10.19.22	13:00	L.R	↓														✓	✓	✓	✓	✓	✓	✓		
	DUP-08-20221019	10.19.22	—	L.R															✓								

Turnaround Time (Business days)

- ☐ Standard
- ☐ 5 Day *RUSH*
- ☐ 4 Day *RUSH*
- ☐ 3 Day *RUSH*
- ☐ 2 Day *RUSH*
- ☐ 1 Day *EMERGENCY*

Emergency & Rush T/A data available VIA Lablink

Approved By (SGS Accutest PM): / Date:

Form: SM021-0

Data Deliverable Information

- ☐ Commercial "A" (Level 1)
- ☐ Commercial "B" (Level 2)
- ☐ FULT1 (Level 3+4)
- ☐ REDT1 (Level 3+4)
- ☐ Commercial "C"
- ☒ TRRP
- ☐ EDD Format
- ☐ Other _____

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC & Surrogate Summary

Comments / Special Instructions

DOWMIM29283
Did not use filter on AZG1 63-68 & AZG4-20-25; Please Filter

http://www.sgs.com/en/terms-and-conditions

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by Sampler:	Date Time:	Received By:
1	Lorena Ramirez	10.19.2022	1
2	Relinquished By:	Date Time: 10.19.22 16:30	Received By:
3	Relinquished by Sampler:	Date Time: 10/20/22	Received By: 3
4	Relinquished By:	Date Time:	Received By: 4
5	Relinquished by:	Date Time:	Received By: 5

Custody Seal # | ☐ Intact ☐ Not intact | Preserved where applicable ☐ | On Ice ☐ | Cooler Temp.

Date Time: 10/20/22 05:30

10.1 10

SGS SAMPLE RECEIPT SUMMARY

JOB NUMBER: TD83687	CLIENT: SGS
DATE/TIME RECEIVED: 10/25/22 0435	DELIVERY METHOD: CLIENT
PROJECT: DOWMIM (JACOBS)	NO. COOLERS: 1
COOLER TEMPS (Initial/Adjusted): IR002 3.4	
AIRBILL #s:	

COOLER SECURITY	Y	OR	N
1. Custody Seals Present:	☑		☐
2. Custody Seals Intact:	☑		☐
3. COC present:	☑		☐
4. Sample Dates/Time OK?	☑		☐

COOLER TEMPERATURE	Y	OR	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:	IR002 2		
3. Cooler media:	Direct use		

QUALITY CONTROL PRESERVATION	Y	OR	N	N/A
1. Trip Blank present / cooler:	☐		☐	☐
2. Trip Blank listed on COC:	☐		☐	☐
3. Samples preserved properly:	☐		☐	
4. VOCs headspace free:	☐		☐	☐

SAMPLE INTEGRITY – DOCUMENTATION	Y	OR	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label/COC agree:	☑		☐

SAMPLE INTEGRITY – CONDITION	Y	OR	N
1. Sample within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	INTACT		

SAMPLE INTEGRITY - INSTRUCTIONS	Y	OR	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified test:	☑		☐	
3. Sufficient Volume rec'd for analysis:	☐		☐	
4. Compositing instructions clear:	☐		☐	
5. Filtering instructions clear:	☐		☐	☑

10.1 10

SGS Sample Receipt Summary

Job Number: TD83687 **Client:** SGS **Project:** DOWMIM (JACOBS)

Date / Time Received: 10/25/2022 4:35:00 AM **Delivery Method:** SGS **Airbill #'s:**

Cooler Temps (Initial/Adjusted): #1: (3.4/3.2);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Thermometer ID:	IR002;		
3. Cooler media:	Ice (direct contact)		
4. No. Coolers:	1		

Quality Control Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☑		☐	☐
2. Trip Blank listed on COC:	☑		☐	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Comments

Problem Resolution

Job Number: TD83687

CSR: _____ **Response Date:** _____

Response:

Metals Analysis

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank Summaries
- Matrix Spike and Duplicate Summaries
- Blank Spike and Lab Control Sample Summaries
- Serial Dilution Summaries
- Metals CCB MDL Check

BLANK RESULTS SUMMARY
Part 2 - Method Blanks

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

QC Batch ID: MP25295
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/26/22

Metal	RL	IDL	MDL	MB raw	final
Aluminum	100	4.9	25		
Antimony	6.0	1.2	3.6		
Arsenic	10	2.6	8.6		
Barium	10	.13	1.7		
Beryllium	4.0	.04	.9		
Boron	100	.46	42		
Cadmium	5.0	.2	.9		
Calcium	100	4.1	32		
Chromium	10	.29	1.2		
Cobalt	10	.3	1.1		
Copper	10	.54	2.8		
Iron	100	34	18	1.1	<100
Lead	10	1.3	3.7		
Lithium	10	.93	4.3		
Magnesium	100	12	40		
Manganese	10	.22	.9		
Molybdenum	10	.27	1.7		
Nickel	10	.41	1.5		
Potassium	500	21	120		
Selenium	10	1.9	4.3		
Silver	10	.25	3.7		
Sodium	500	9.9	120		
Strontium	10	.06	3		
Thallium	10	1.4	4.6		
Tin	10	.82	1.7		
Titanium	10	.24	.8		
Vanadium	10	.31	1.5		
Zinc	20	.17	12		

Associated samples MP25295: TD83687-1F, TD83687-2F, TD83687-3F, TD83687-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

QC Batch ID: MP25295
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/26/22

Metal	TD83671-1F Original MS		Spikelot ICPSPIKE1%	Rec	QC Limits
Aluminum					
Antimony					
Arsenic					
Barium					
Beryllium					
Boron					
Cadmium					
Calcium					
Chromium					
Cobalt					
Copper					
Iron	17200	18400	1000	120.0	75-125
Lead	anr				
Lithium					
Magnesium					
Manganese					
Molybdenum					
Nickel					
Potassium					
Selenium					
Silver					
Sodium					
Strontium					
Thallium					
Tin					
Titanium					
Vanadium					
Zinc					

Associated samples MP25295: TD83687-1F, TD83687-2F, TD83687-3F, TD83687-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested

MATRIX SPIKE AND DUPLICATE RESULTS SUMMARY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

QC Batch ID: MP25295 Methods: SW846 6010C
Matrix Type: AQUEOUS Units: ug/l

Prep Date: 10/26/22

Metal	TD83671-1F Original	MSD	Spikelot ICPSPIKE1%	Rec	MSD RPD	QC Limit
Aluminum						
Antimony						
Arsenic						
Barium						
Beryllium						
Boron						
Cadmium						
Calcium						
Chromium						
Cobalt						
Copper						
Iron	17200	18600	1000	140.0(a)	1.1	20
Lead	anr					
Lithium						
Magnesium						
Manganese						
Molybdenum						
Nickel						
Potassium						
Selenium						
Silver						
Sodium						
Strontium						
Thallium						
Tin						
Titanium						
Vanadium						
Zinc						

Associated samples MP25295: TD83687-1F, TD83687-2F, TD83687-3F, TD83687-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(anr) Analyte not requested
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

SPIKE BLANK AND LAB CONTROL SAMPLE SUMMARY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

QC Batch ID: MP25295
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/26/22

Metal	BSP Result	Spikelot ICPSPIKE1%	Rec	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	953	1000	95.3	80-120
Lead	anr			
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25295: TD83687-1F, TD83687-2F, TD83687-3F, TD83687-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

SERIAL DILUTION RESULTS SUMMARY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

QC Batch ID: MP25295
Matrix Type: AQUEOUS

Methods: SW846 6010C
Units: ug/l

Prep Date: 10/26/22

Metal	TD83671-1F Original	SDL 1:5	%DIF	QC Limits
Aluminum				
Antimony				
Arsenic				
Barium				
Beryllium				
Boron				
Cadmium				
Calcium				
Chromium				
Cobalt				
Copper				
Iron	17200	17100	0.7	0-10
Lead	anr			
Lithium				
Magnesium				
Manganese				
Molybdenum				
Nickel				
Potassium				
Selenium				
Silver				
Sodium				
Strontium				
Thallium				
Tin				
Titanium				
Vanadium				
Zinc				

Associated samples MP25295: TD83687-1F, TD83687-2F, TD83687-3F, TD83687-4F

Results < IDL are shown as zero for calculation purposes
(*) Outside of QC limits
(anr) Analyte not requested

Metals CCB MDL Check

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

The following elements are braketed by CCB's at or above the MDL.

Sample	Element	Run ID	Time	MDL	Units	CCB Before	CCB After

No CCB's found at or above MDL.

Calibration blank validation to the MDL is not a method requirement, but is included for information purposes only.

General Chemistry

QC Data Summaries

(SGS Scott, LA)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- General Chemistry CCB MDL Check

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Total Organic Carbon	GP10583/GN23338	1.0	0.0	mg/l	25	24.3	97.2	85-115%

Associated Samples:
Batch GP10583: TD83687-1, TD83687-2, TD83687-3, TD83687-4
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Total Organic Carbon	GP10583/GN23338	LA85344-1	mg/l	4.9	25	29.8	99.6	85-115%

Associated Samples:
Batch GP10583: TD83687-1, TD83687-2, TD83687-3, TD83687-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Total Organic Carbon	GP10583/GN23338	LA85344-1	mg/l	4.9	25	29.2	2.0	15%

Associated Samples:
Batch GP10583: TD83687-1, TD83687-2, TD83687-3, TD83687-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

General Chemistry CCB MDL Check

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

The following parameters are braketed by CCB's at or above the MDL.

Sample	Parameter	Run ID	Time	MDL	Units	CCB Before		CCB After	
TD83687-1	Total Organic Carbon	GN23338	21:38	.37	mg/l	CCB1	0.391	CCB2	0.253
TD83687-2	Total Organic Carbon	GN23338	21:58	.37	mg/l	CCB1	0.391	CCB2	0.253
TD83687-3	Total Organic Carbon	GN23338	22:20	.37	mg/l	CCB1	0.391	CCB2	0.253
TD83687-4	Total Organic Carbon	GN23338	22:41	.37	mg/l	CCB1	0.391	CCB2	0.253

Calibration blank validation to the MDL is not a method requirement, but is included for information purposes only.

Misc. Forms

Custody Documents and Other Forms

(SGS Dayton, NJ)

Includes the following where applicable:

- Chain of Custody

SGS

AQ

CHAIN OF CUSTODY

Page 1 of 1

F
PM

10165 Harwin Drive, Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com

FED-EX Tracking #

Bottle Order Control #

SGS Quote #

SGS Job # TD83687

Client / Reporting Information

Company Name: SGS North America Inc.

Street Address: 10165 Harwin Drive

City: Houston State: TX Zip: 77036

Project Contact: electa.brown@sgs.com E-mail

Phone #: 713-271-4700 Fax #

Sampler(s) Name(s) Phone

Project Information

Project Name: DOWMIM (Jacobs)

Street

City State

Project #

Client Purchase Order #

Project Manager

Billing Information (if different from Report to)

Company Name

Street Address

City State Zip

Attention:

Requested Analysis (see TEST CODE sheet)

SGS Sample #	Field ID / Point of Collection	MEOH/DI Vial #	Collection Date	Collection Time	Sampled by	Matrix	# of bottles	Number of preserved Bottles: HCl	NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	ENCORE	ALK ,NO2 ,NO32 ,NO3OIC300 ,SO4IC300 ,VRSK175CH4 ,VRSK175CO2 ,	LAB USE ONLY
1	AZG4-39-44-20221020		10/20/2022	10:00:00 AM		AQ										X	COB
2	MW-CB-1BS-20221020		10/20/2022	12:45:00 PM		AQ										X	
3	MW-CB-2A-20221020		10/20/22	12:00:00 PM		AQ										X	V917
4	PMW-09B-20221020		10/20/22	12:00:00 AM		AQ										X	

Matrix Codes

DW - Drinking Water
GW - Ground Water
WW - Water
SW - Surface Water
SO - Soil
SL - Sludge
SED-Sediment
OI - Oil
LIQ - Other Liquid
AIR - Air
SOL - Other Solid
WP - Wipe
FB-Field Blank
EB-Equipment Blank
RB- Rinse Blank
TB-Trip Blank

Turnaround Time (Business days)

Approved By (SCS PM): / Date:

- [ ] Std. 10 Business Days
- [ ] 5 Day RUSH
- [ ] 3 Day EMERGENCY
- [ ] 2 Day EMERGENCY
- [ ] 1 Day EMERGENCY
- [X] other Due 10/31/2022

Emergency & Rush T/A data available VIA Lablink

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULL T1 (Level 3+4)
- [ ] NJ Reduced
- [ ] Commercial "C"
- [ ] NYASP Category A
- [ ] NYASP Category B
- [ ] State Forms
- [ ] EDD Format
- [X] Other TRRP

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
NJ Reduced = Results + QC Summary + Partial Raw data

Comments / Special Instructions

nj 4xVOOmL NP
5x40ml NP

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by: 1	Date Tir	Received By: 1 Fdex	Relinquished By: 2 Fdex	Date Time: 10/26 10:03	Received By: 2 ZP		
Relinquished: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4		
Relinquished by: 5	Date Time:	Received By: 5	Custody Seal #	[ ] Intact [ ] Not intact	Preserved where applicable [ ]	On Ice [ ]	Cooler Temp.

3.1

13.1
13

SGS Sample Receipt Summary

Job Number: TD83687 **Client:** ALGC **Project:**

Date / Time Received: 10/26/2022 10:00:00 AM **Delivery Method:** **Airbill #'s:**

Cooler Temps (Raw Measured) °C: Cooler 1: (3.1);

Cooler Temps (Corrected) °C: Cooler 1: (3.1);

Cooler Security	Y	or	N		Y	or	N
1. Custody Seals Present:	☑		☐	3. COC Present:	☑		☐
2. Custody Seals Intact:	☑		☐	4. Smpl Dates/Time OK	☑		☐

Cooler Temperature	Y	or	N
1. Temp criteria achieved:	☑		☐
2. Cooler temp verification:			
3. Cooler media:	Ice (Bag)		
4. No. Coolers:	1		

Quality Control _Preservation	Y	or	N	N/A
1. Trip Blank present / cooler:	☐		☑	☐
2. Trip Blank listed on COC:	☐		☑	☐
3. Samples preserved properly:	☑		☐	
4. VOCs headspace free:	☑		☐	☐

Sample Integrity - Documentation	Y	or	N
1. Sample labels present on bottles:	☑		☐
2. Container labeling complete:	☑		☐
3. Sample container label / COC agree:	☑		☐

Sample Integrity - Condition	Y	or	N
1. Sample recvd within HT:	☑		☐
2. All containers accounted for:	☑		☐
3. Condition of sample:	Intact		

Sample Integrity - Instructions	Y	or	N	N/A
1. Analysis requested is clear:	☑		☐	
2. Bottles received for unspecified tests	☐		☑	
3. Sufficient volume recvd for analysis:	☑		☐	
4. Compositing instructions clear:	☐		☐	☑
5. Filtering instructions clear:	☐		☐	☑

Test Strip Lot #s: pH 1-12: 231619 pH 12+: 203117A Other: (Specify)

Comments
1). All sample Received NO2 anlaysis out side the hold time.
2). All sample Did not received volume for NO32 analysis. Please Confirm.

Responded to by: Michelle

Response Date: 11/4

1) Please run NO2 out of HT
2) Please aliquot and preserve w/H2SO4 and run NO32 please

TD83687: Chain of Custody
Page 3 of 5

Job Change Order: TD83687

Requested Date: 4/4/2023
Account Name: Dow Chemical Company
Project Description: DOWMIM (Jacobs)
CSR: ELECTAB

Received Date: 10/20/2022
Due Date: 10/31/2022
Deliverable: TRRP
TAT (Days): 3

Sample #: TD83687-1R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

Sample #: TD83687-2R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

Sample #: TD83687-3R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

Sample #: TD83687-4R
Dept:
TAT: 3

Change:
Relog/Retrieve for VRSK175ethane and VGC+Ethene

Above Changes Per: Client

Date/Time: 4/4/2023 11:22:07 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

Job Change Order: TD83687

Requested Date:	4/4/2023	**Received Date:**	10/20/2022
Account Name:	Dow Chemical Company	**Due Date:**	10/31/2022
Project Description:	DOWMIM (Jacobs)	**Deliverable:**	TRRP
CSR:	ELECTAB	**TAT (Days):**	3

Above Changes Per: Client **Date/Time:** 4/4/2023 11:22:07 AM

To Client: This Change Order is confirmation of the revisions, previously discussed with the Client Service Representative.

TD83687: Chain of Custody
Page 5 of 5

General Chemistry

QC Data Summaries

(SGS Dayton, NJ)

Includes the following where applicable:

- Method Blank and Blank Spike Summaries
- Duplicate Summaries
- Matrix Spike Summaries
- General Chemistry CCB MDL Check

METHOD BLANK AND SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	RL	MB Result	Units	Spike Amount	BSP Result	BSP %Recov	QC Limits
Alkalinity, Total as CaCO3	GN34936	5.0	0.0	mg/l	50	51.5	103.0	90-110%
Alkalinity, Total as CaCO3	GN34936			mg/l	250	252	100.8	90-110%
Chloride	GP43167/GN34953	2.0	0.0	mg/l	80	83.6	104.5	90-110%
Nitrogen, Nitrate + Nitrite	GP43385/GN35369	0.10	0.0	mg/l	2	2.39	119.5	80-120%
Nitrogen, Nitrate + Nitrite	GP43385/GN35369	0.10	0.0	mg/l	2	2.40	120.0	80-120%
Nitrogen, Nitrite	GN35255	0.010	0.0	mg/l	0.04	0.039	97.5	90-110%
Sulfate	GP43167/GN34953	2.0	0.0	mg/l	80	81.6	102.0	90-110%

Associated Samples:
Batch GN34936: TD83687-1, TD83687-2, TD83687-3, TD83687-4
Batch GN35255: TD83687-1, TD83687-2, TD83687-3, TD83687-4
Batch GP43167: TD83687-1, TD83687-2, TD83687-3, TD83687-4
Batch GP43385: TD83687-1, TD83687-2, TD83687-3, TD83687-4
(*) Outside of QC limits

DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	DUP Result	RPD	QC Limits
Alkalinity, Total as CaCO3	GN34936	JD54262-1	mg/l	193	193	0.0	0-10%
Chloride	GP43167/GN34953	JD54482-1	mg/l	187	187	0.0	0-20%
Chloride	GP43167/GN34953	JD54482-1	mg/l	197	187	0.0	0-20%
Nitrogen, Nitrate + Nitrite	GP43385/GN35369	JD54927-1	mg/l	0.0	0.0	0.0	0-33%
Sulfate	GP43167/GN35004	JD54482-1	mg/l	4630	4600	12.5	0-20%

Associated Samples:
Batch GN34936: TD83687-1, TD83687-2, TD83687-3, TD83687-4
Batch GP43167: TD83687-1, TD83687-2, TD83687-3, TD83687-4
Batch GP43385: TD83687-1, TD83687-2, TD83687-3, TD83687-4
(*) Outside of QC limits

MATRIX SPIKE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MS Result	%Rec	QC Limits
Chloride	GP43167/GN34953	JD54482-1	mg/l	187	80	263	95.0	80-120%
Chloride	GP43167/GN34953	JD54482-1	mg/l	197	80	263	95.0	80-120%
Nitrogen, Nitrate + Nitrite	GP43385/GN35369	TD83687-1	mg/l	0.090 U	1	1.2	120.0	80-120%
Nitrogen, Nitrite	GN35255	JD55042-1	mg/l	0.0	0.04	0.040	100.0	22-140%
Sulfate	GP43167/GN35004	JD54482-1	mg/l	4630	80	4610	687.5(a)	80-120%

Associated Samples:
Batch GN35255: TD83687-1, TD83687-2, TD83687-3, TD83687-4
Batch GP43167: TD83687-1, TD83687-2, TD83687-3, TD83687-4
Batch GP43385: TD83687-1, TD83687-2, TD83687-3, TD83687-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits
(a) Spike amount low relative to the sample amount. Refer to lab control or spike blank for recovery information.

MATRIX SPIKE DUPLICATE RESULTS SUMMARY
GENERAL CHEMISTRY

Login Number: TD83687
Account: ALGC - SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

Analyte	Batch ID	QC Sample	Units	Original Result	Spike Amount	MSD Result	RPD	QC Limit
Nitrogen, Nitrite	GN35255	JD55042-1	mg/l	0.0	0.04	0.040	0.0	20%

Associated Samples:
Batch GN35255: TD83687-1, TD83687-2, TD83687-3, TD83687-4
(*) Outside of QC limits
(N) Matrix Spike Rec. outside of QC limits

General Chemistry CCB MDL Check

Job Number: TD83687
Account: ALGC SGS Houston, TX
Project: DOWMIM: DOWMIM (Jacobs)

The following parameters are braketed by CCB's at or above the MDL.

Sample	Parameter	Run ID	Time	MDL	Units	CCB Before		CCB After	
TD83687-1	Nitrogen, Nitrate + Nitrite	GN35369	14:58	.090	mg/l	CCB1	-0.0978	CCB2	-0.0926
TD83687-2	Nitrogen, Nitrate + Nitrite	GN35369	14:59	.090	mg/l	CCB1	-0.0978	CCB2	-0.0926
TD83687-3	Nitrogen, Nitrate + Nitrite	GN35369	15:00	.090	mg/l	CCB1	-0.0978	CCB2	-0.0926
TD83687-4	Nitrogen, Nitrate + Nitrite	GN35369	15:01	.090	mg/l	CCB1	-0.0978	CCB2	-0.0926

Calibration blank validation to the MDL is not a method requirement, but is included for information purposes only.

LELAP Certificate Number: 01955
A2LA Accredited (DoD ELAP-QSM 5.4) Certificate Number: 6429.01

ANALYTICAL RESULTS

PERFORMED BY

Pace Analytical Gulf Coast
7979 Innovation Park Dr.
Baton Rouge, LA 70820
(225) 769-4900

Report Date 11/11/2022

Report # 222102127

Project Charlie Burch

Samples Collected 10/19/22

Deliver To	***Additional Recipients***
John Ynfante Jacobs 14701 St. Marys Lane Suite 300 Houston, TX 77079 713 462 0161	Josh McFarlain, Jacobs

A2LA ACCREDITED
CERT # 6429.01

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with Pace Gulf Coast's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

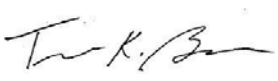
J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics - The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

Sample receipt at Pace Gulf Coast is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of Pace Gulf Coast. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.



Authorized Signature
Pace Gulf Coast Report 222102127

Certifications

Certification	Certification Number
A2LA Accredited (DoD ELAP-QSM 5.4)	6429.01
Alabama	01955
Arkansas	88-0655
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
Washington	C929
USDA Soil Permit	P330-16-00234

Case Narrative

Client: CH2M Hill - Houston, TX **Report:** 222102127

Pace Analytical Gulf Coast received and analyzed the sample(s) listed on the Report Sample Summary page of this report. Receipt of the sample(s) is documented by the attached chain of custody. This applies only to the sample(s) listed in this report. No sample integrity or quality control exceptions were identified unless noted below.

No anomalies were found for the analyzed sample(s).

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22210212701	AZG1-39-44-20221019	Water	10/19/22 09:50	10/20/22 10:51
22210212702	AZG1-63-68-20221019	Water	10/19/22 10:00	10/20/22 10:51
22210212703	AZG4-20-25-20221019	Water	10/19/22 13:00	10/20/22 10:51
22210212704	AZG4-59-64-20221019	Water	10/19/22 13:05	10/20/22 10:51
22210212705	TB-20221019	Water	10/19/22 00:01	10/20/22 10:51
22210212706	AZG1-39-44-20221019	Bubble Strip	10/19/22 09:50	10/20/22 10:51
22210212707	AZG1-63-68-20221019	Bubble Strip	10/19/22 10:00	10/20/22 10:51
22210212708	AZG4-59-64-20221019	Bubble Strip	10/19/22 13:05	10/20/22 10:51

Detect Summary

Results and Detection Limits are adjusted for dilution and moisture when applicable

AM23G

Lab ID	Client ID	Parameter	Units	Result	Dil.	%Moist
22210212701	AZG1-39-44-20221019	Acetic Acid	mg/L	2.5J	20	NA
22210212701	AZG1-39-44-20221019	Formic Acid	mg/L	110	20	NA
22210212702	AZG1-63-68-20221019	Formic Acid	mg/L	64	10	NA
22210212703	AZG4-20-25-20221019	Formic Acid	mg/L	98	20	NA
22210212704	AZG4-59-64-20221019	Butyric Acid	mg/L	0.67J	10	NA
22210212704	AZG4-59-64-20221019	Formic Acid	mg/L	53	10	NA
22210212704	AZG4-59-64-20221019	Propionic Acid	mg/L	0.71J	10	NA
22210212705	TB-20221019	Formic Acid	mg/L	110	20	NA

AM20GAX

Lab ID	Client ID	Parameter	Units	Result	Dil.	%Moist
22210212706	AZG1-39-44-20221019	Hydrogen	nM	2.9	1	NA
22210212707	AZG1-63-68-20221019	Hydrogen	nM	75	2	NA
22210212708	AZG4-59-64-20221019	Hydrogen	nM	2.5	1	NA

Sample Results

AZG1-39-44-20221019

Collect Date	10/19/2022 09:50	**Lab ID**	22210212701
Receive Date	10/20/2022 10:51	**Matrix**	Water

AM23G

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	10/25/22 21:22	752625	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
64-19-7	**Acetic Acid**	**2.5J**	10	2.5	0.12	mg/L
107-92-6	Butyric Acid	1.2U	10	1.2	0.058	mg/L
64-18-6	**Formic Acid**	**110**	10	1.1	0.055	mg/L
142-62-1	Hexanoic Acid	1.2U	10	1.2	0.058	mg/L
646-07-1	i-Hexanoic Acid	1.1U	10	1.1	0.056	mg/L
503-74-2	i-Pentanoic Acid	1.2U	10	1.2	0.061	mg/L
50-21-5	Lactic Acid	1.1U	10	1.1	0.053	mg/L
109-52-4	Pentanoic Acid	1.1U	10	1.1	0.056	mg/L
79-09-4	Propionic Acid	1.1U	10	1.1	0.053	mg/L
127-17-3	Pyruvic Acid	1.2U	10	1.2	0.060	mg/L

AZG1-63-68-20221019

Collect Date	10/19/2022 10:00	**Lab ID**	22210212702
Receive Date	10/20/2022 10:51	**Matrix**	Water

AM23G

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	10	10/25/22 21:44	752625	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
64-19-7	Acetic Acid	1.2U	5.0	1.2	0.12	mg/L
107-92-6	Butyric Acid	0.58U	5.0	0.58	0.058	mg/L
64-18-6	**Formic Acid**	**64**	5.0	0.55	0.055	mg/L
142-62-1	Hexanoic Acid	0.58U	5.0	0.58	0.058	mg/L
646-07-1	i-Hexanoic Acid	0.56U	5.0	0.56	0.056	mg/L
503-74-2	i-Pentanoic Acid	0.61U	5.0	0.61	0.061	mg/L
50-21-5	Lactic Acid	0.53U	5.0	0.53	0.053	mg/L
109-52-4	Pentanoic Acid	0.56U	5.0	0.56	0.056	mg/L
79-09-4	Propionic Acid	0.53U	5.0	0.53	0.053	mg/L
127-17-3	Pyruvic Acid	0.60U	5.0	0.60	0.060	mg/L

AZG4-20-25-20221019

Collect Date	10/19/2022 13:00	**Lab ID**	22210212703
Receive Date	10/20/2022 10:51	**Matrix**	Water

AM23G

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	10/25/22 22:05	752625	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
64-19-7	Acetic Acid	2.5U	10	2.5	0.12	mg/L
107-92-6	Butyric Acid	1.2U	10	1.2	0.058	mg/L
64-18-6	**Formic Acid**	**98**	10	1.1	0.055	mg/L
142-62-1	Hexanoic Acid	1.2U	10	1.2	0.058	mg/L
646-07-1	i-Hexanoic Acid	1.1U	10	1.1	0.056	mg/L

Sample Results

AZG4-20-25-20221019

Collect Date 10/19/2022 13:00 **Lab ID** 22210212703
Receive Date 10/20/2022 10:51 **Matrix** Water

AM23G (Continued)

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	10/25/22 22:05	752625	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
503-74-2	i-Pentanoic Acid	1.2U	10	1.2	0.061	mg/L
50-21-5	Lactic Acid	1.1U	10	1.1	0.053	mg/L
109-52-4	Pentanoic Acid	1.1U	10	1.1	0.056	mg/L
79-09-4	Propionic Acid	1.1U	10	1.1	0.053	mg/L
127-17-3	Pyruvic Acid	1.2U	10	1.2	0.060	mg/L

AZG4-59-64-20221019

Collect Date 10/19/2022 13:05 **Lab ID** 22210212704
Receive Date 10/20/2022 10:51 **Matrix** Water

AM23G

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	10	10/25/22 22:27	752625	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
64-19-7	Acetic Acid	1.2U	5.0	1.2	0.12	mg/L
107-92-6	**Butyric Acid**	**0.67J**	5.0	0.58	0.058	mg/L
64-18-6	**Formic Acid**	**53**	5.0	0.55	0.055	mg/L
142-62-1	Hexanoic Acid	0.58U	5.0	0.58	0.058	mg/L
646-07-1	i-Hexanoic Acid	0.56U	5.0	0.56	0.056	mg/L
503-74-2	i-Pentanoic Acid	0.61U	5.0	0.61	0.061	mg/L
50-21-5	Lactic Acid	0.53U	5.0	0.53	0.053	mg/L
109-52-4	Pentanoic Acid	0.56U	5.0	0.56	0.056	mg/L
79-09-4	**Propionic Acid**	**0.71J**	5.0	0.53	0.053	mg/L
127-17-3	Pyruvic Acid	0.60U	5.0	0.60	0.060	mg/L

TB-20221019

Collect Date 10/19/2022 00:01 **Lab ID** 22210212705
Receive Date 10/20/2022 10:51 **Matrix** Water

AM23G

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	10/25/22 22:49	752625	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
64-19-7	Acetic Acid	2.5U	10	2.5	0.12	mg/L
107-92-6	Butyric Acid	1.2U	10	1.2	0.058	mg/L
64-18-6	**Formic Acid**	**110**	10	1.1	0.055	mg/L
142-62-1	Hexanoic Acid	1.2U	10	1.2	0.058	mg/L
646-07-1	i-Hexanoic Acid	1.1U	10	1.1	0.056	mg/L
503-74-2	i-Pentanoic Acid	1.2U	10	1.2	0.061	mg/L
50-21-5	Lactic Acid	1.1U	10	1.1	0.053	mg/L
109-52-4	Pentanoic Acid	1.1U	10	1.1	0.056	mg/L
79-09-4	Propionic Acid	1.1U	10	1.1	0.053	mg/L

Sample Results

TB-20221019

Collect Date 10/19/2022 00:01 **Lab ID** 22210212705
Receive Date 10/20/2022 10:51 **Matrix** Water

AM23G (Continued)

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	10/25/22 22:49	752625	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
127-17-3	Pyruvic Acid	1.2U	10	1.2	0.060	mg/L

AZG1-39-44-20221019

Collect Date 10/19/2022 09:50 **Lab ID** 22210212706
Receive Date 10/20/2022 10:51 **Matrix** Bubble Strip

AM20GAX

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	1	10/26/22 11:21	752723	LMB	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
1333-74-0	Hydrogen	2.9	1.9	0.49	0.49	nM

AZG1-63-68-20221019

Collect Date 10/19/2022 10:00 **Lab ID** 22210212707
Receive Date 10/20/2022 10:51 **Matrix** Bubble Strip

AM20GAX

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	2	10/26/22 12:34	752723	LMB	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
1333-74-0	Hydrogen	75	3.8	0.98	0.49	nM

AZG4-59-64-20221019

Collect Date 10/19/2022 13:05 **Lab ID** 22210212708
Receive Date 10/20/2022 10:51 **Matrix** Bubble Strip

AM20GAX

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	1	10/26/22 11:46	752723	LMB	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
1333-74-0	Hydrogen	2.5	1.9	0.49	0.49	nM

General Chemistry QC Summary

Analytical Batch 752625	Client ID	MB752625		LCS752625				LCSD752625				
	Lab ID	2412669		2412670				2412671				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	10/25/22 16:20		10/25/22 15:59				10/25/22 23:53				
	Matrix	Water		Water				Water				
AM23G		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Acetic Acid	64-19-7	0.12U	0.12	2.0	1.6	82	70 - 130	2.0	1.6	82	0	20
Butyric Acid	107-92-6	0.058U	0.058	2.0	1.6	82	70 - 130	2.0	1.5	77	7	20
Formic Acid	64-18-6	0.055U	0.055	2.0	1.6	82	70 - 130	2.0	1.6	82	1	20
Hexanoic Acid	142-62-1	0.058U	0.058	2.0	1.5	77	70 - 130	2.0	1.5	76	2	20
i-Hexanoic Acid	646-07-1	0.056U	0.056	2.0	1.7	84	70 - 130	2.0	1.6	78	8	20
i-Pentanoic Acid	503-74-2	0.061U	0.061	2.0	1.7	83	70 - 130	2.0	1.5	73	13	20
Lactic Acid	50-21-5	0.053U	0.053	2.0	1.7	87	70 - 130	2.0	1.7	85	2	20
Pentanoic Acid	109-52-4	0.056U	0.056	2.0	1.5	76	70 - 130	2.0	1.4	71	7	20
Propionic Acid	79-09-4	0.053U	0.053	2.0	1.7	83	70 - 130	2.0	1.6	81	3	20
Pyruvic Acid	127-17-3	0.060U	0.060	2.0	1.6	80	70 - 130	2.0	1.5	76	5	20

General Chromatography QC Summary

Analytical Batch 752723	Client ID	MB752723		LCS752723				LCSD752723				
	Lab ID	2413286		2413287				2413288				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	10/26/22 10:11		10/26/22 09:10				10/26/22 09:58				
	Matrix	Bubble Strip		Bubble Strip				Bubble Strip				
AM20GAX		Units Result	nM DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Hydrogen	1333-74-0	0.49U	0.49	12	14	117	70 - 130	12	12	106	10	20

Client ID: CH2M-H - CH2M Hill - Houston, TX
SDG: 222102127
PM: RWe

CHAIN OF CUSTODY

SGS North America Inc. - Houston
10165 Harwin Dr, Ste 150 Houston, TX 77036
TEL. 713-271-4700 FAX: 713-271-4770
www.sgs.com/ehsusa

FED-EX Tracking #
SGS Quote #

Client / Reporting Information

Company Name: Jacobs
Street Address: 818 Town & County Blvd #500
City: Houston State: TX Zip: 77024
Project Contact: John Ynfante E-mail: John.Ynfante@Jacobs.com
Phone #: 281-414-1719
Sampler(s) Name(s): Phone #

Project Information

Project Name: Charlie Burch
Street:
City: State:
Project #:
Client Purchase Order #:
Project Manager: Joshua McFairlane

Billing Information (if different from Report to)

Company Name:
Street Address:
City: State: Zip:
Attention:

Requested Analyses

Matrix Codes: DW - Drinking Water; GW - Ground Water; WW - Water; SW - Surface Water; SO - Soil; SL- Sludge; SED-Sediment; OI - Oil; LIQ - Other Liquid; AIR - Air; SOL - Other Solid; WP - Wipe; FB - Field Blank; EB - Equipment Blank; RB - Rinse Blank; TB - Trip Blank

SGS Sample #	Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	HCl	NaOH	Zn/NaOH	HNO3	H2SO4	NONE	DI Water	MEOH	TSP	NaHSO4	ENCORE	OTHER	VFA	Hydrogen	LAB USE ONLY
	AZG1-39-44-20221019	10/19/22	09:50	LR	GW	2												X	X		1
	AZG1-63-68-20221019		10:00		GW	2												X	X		2
	AZG4-20-25-20221019		13:00		GW	2												X	X		3
	AZG4-59-64-20221019		13:05		GW	2												X	X		4
	TB-20221019		—	—	—	2						X									5
	Temp Blank		—	—	—	1						X									
	AZG1-39-44-20221019	10/19/22	09:50	LR	Air	1						X								X	6
	AZG1-63-68-20221019		10:00		Air	1						X								X	7
	AZG4-59-64-20221019		13:05		Air	1						X								X	8

Turnaround Time (Business days)

- [x] Standard 10 Business Days
- [ ] 5 Business Days *RUSH*
- [ ] 4 Business Days *RUSH*
- [ ] 3 Business Days *RUSH*
- [ ] 2 Business Days *RUSH*
- [ ] 1 Business Day *EMERGENCY*

Approved By (SGS PM): / Date:

Emergency & Rush T/A data available via Lablink. Approval needed for RUSH/Emergency TAT

Data Deliverable Information

- [ ] Commercial "A" (Level 1)
- [ ] Commercial "B" (Level 2)
- [ ] FULT1 (Level 3+4)
- [ ] REDT1 (Level 3+4)
- [ ] Commercial "C"
- [ ] TRRP
- [ ] EDD Format
- [ ] Other ___

Commercial "A" = Results Only
Commercial "B" = Results + QC Summary
Commercial "C" = Results + QC Summary + Partial Raw Data

Comments / Special Instructions

7702497920446 0.1EA2

Sample Custody must be documented below each time samples change possession, including courier delivery.

	Relinquished by:	Date / Time:	Received By:	Date / Time:	Relinquished By:	Date / Time:	Received By:	Date / Time:
1	Neal Tuby	10/19/22 1800	1		2		2	
3	FedEx	10-20-22 10:51	3 DocieMcClure	10-20-22 10:51	4		4	
5	Relinquished by:	Date / Time:	Received By: 5	Date / Time:	Custody Seal # ☐ Intact ☐ Not intact ☐ Absent	Preserved where applicable ☐	On Ice ☐ Therm. ID:	Cooler Temp. °C

http://www.sgs.com/en/terms-and-conditions

EHSA-QAC-0024-00-FORM-Houston - Standard COC

SAMPLE RECEIVING CHECKLIST

SAMPLE DELIVERY GROUP 222102127	
Client **PM** RWe CH2M-H - CH2M Hill - Houston, TX	**Transport Method** FEDEX
Profile Number 294838	**Received By** Roberts, George S.
Line Item(s) 1 - VFA 2 - Hydrogen	**Receive Date(s)** 10/20/22

CHECKLIST	YES	NO
Samples received with proper thermal preservation?	☑	☐
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	☑	☐
COC relinquished and complete (including sampleIDs, collect times, and sampler)?	☑	☐
All containers received in good condition and within hold time?	☑	☐
All sample labels and containers received match the chain of custody?	☑	☐
Preservative added to any containers?	☐	☑
If received, was headspace for VOC water containers < 6mm?	☑	☐
Samples collected in containers provided by Pace Gulf Coast?	☑	☐

COOLERS

Airbill	Thermometer ID: E42	Temp °C
770249792046		0.1

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.6

LELAP Certificate Number: 01955
A2LA Accredited (DoD ELAP-QSM 5.4) Certificate Number: 6429.01

ANALYTICAL RESULTS

PERFORMED BY

Pace Analytical Gulf Coast
7979 Innovation Park Dr.
Baton Rouge, LA 70820
(225) 769-4900

Report Date 11/11/2022

Report # 222102131

Project Charlie Burch

Samples Collected 10/20/22

Deliver To	***Additional Recipients***
John Ynfante Jacobs 14701 St. Marys Lane Suite 300 Houston, TX 77079 713 462 0161	Josh McFarlain, Jacobs

A2LA ACCREDITED
CERT # 6429.01

Laboratory Endorsement

Sample analysis was performed in accordance with approved methodologies provided by the Environmental Protection Agency or other recognized agencies. The samples and their corresponding extracts will be maintained for a period of 30 days unless otherwise arranged. Following this retention period the samples will be disposed in accordance with Pace Gulf Coast's Standard Operating Procedures.

Common Abbreviations that may be Utilized in this Report

ND	Indicates the result was Not Detected at the specified reporting limit
NO	Indicates the sample did not ignite when preliminary test performed for EPA Method 1030
DO	Indicates the result was Diluted Out
MI	Indicates the result was subject to Matrix Interference
TNTC	Indicates the result was Too Numerous To Count
SUBC	Indicates the analysis was Sub-Contracted
FLD	Indicates the analysis was performed in the Field
DL	Detection Limit
LOD	Limit of Detection
LOQ	Limit of Quantitation
RE	Re-analysis
CF	HPLC or GC Confirmation
00:01	Reported as a time equivalent to 12:00 AM

Reporting Flags that may be Utilized in this Report

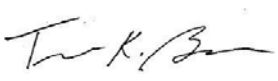
J or I	Indicates the result is between the MDL and LOQ
J	DOD flag on analyte in the parent sample for MS/MSD outside acceptance criteria
U	Indicates the compound was analyzed for but not detected
B or V	Indicates the analyte was detected in the associated Method Blank
Q	Indicates a non-compliant QC Result (See Q Flag Application Report)
*****	Indicates a non-compliant or not applicable QC recovery or RPD – see narrative
E	Organics - The result is estimated because it exceeded the instrument calibration range
E	Metals - % diference for the serial dilution is > 10%
L	Reporting Limits adjusted to meet risk-based limit.
P	RPD between primary and confirmation result is greater than 40
DL	Diluted analysis – when appended to Client Sample ID

Sample receipt at Pace Gulf Coast is documented through the attached chain of custody. In accordance with NELAC, this report shall be reproduced only in full and with the written permission of Pace Gulf Coast. The results contained within this report relate only to the samples reported. The documented results are presented within this report.

This report pertains only to the samples listed in the Report Sample Summary and should be retained as a permanent record thereof. The results contained within this report are intended for the use of the client. Any unauthorized use of the information contained in this report is prohibited.

I certify that this data package is in compliance with The NELAC Institute (TNI) Standard 2009 and terms and conditions of the contract and Statement of Work both technically and for completeness, for other than the conditions in the case narrative. Release of the data contained in this hardcopy data package and in the computer readable data submitted has been authorized by the Quality Assurance Manager or his/her designee, as verified by the following signature.

Estimated uncertainty of measurement is available upon request. This report is in compliance with the DOD QSM as specified in the contract if applicable.



Authorized Signature
Pace Gulf Coast Report 222102131

Certifications

Certification	Certification Number
A2LA Accredited (DoD ELAP-QSM 5.4)	6429.01
Alabama	01955
Arkansas	88-0655
Colorado	01955
Delaware	01955
Florida	E87854
Georgia	01955
Hawaii	01955
Idaho	01955
Illinois	200048
Indiana	01955
Kansas	E-10354
Kentucky	95
Louisiana	01955
Maryland	01955
Massachusetts	01955
Michigan	01955
Mississippi	01955
Missouri	01955
Montana	N/A
Nebraska	01955
New Mexico	01955
North Carolina	618
North Dakota	R-195
Oklahoma	9403
South Carolina	73006001
South Dakota	01955
Tennessee	01955
Texas	T104704178
Vermont	01955
Virginia	460215
Washington	C929
USDA Soil Permit	P330-16-00234

Case Narrative

Client: CH2M Hill - Houston, TX **Report:** 222102131

Pace Analytical Gulf Coast received and analyzed the sample(s) listed
on the Report Sample Summary page of this report. Receipt of the sample(s) is documented
by the attached chain of custody. This applies only to the sample(s) listed in this report.
No sample integrity or quality control exceptions were identified unless noted below.

COC ANOMALIES

COC Anomalies\Changes - Per client email, the sample ID “AZG1-16-21-20221020” listed on the chain is incorrect should be AZG4-20-25-20221020 (Ruth Welsh(Do Not 10/25/2022 14:32)

Sample Summary

Lab ID	Client ID	Matrix	Collect Date	Receive Date
22210213101	AZG4-39-44-20221020	Water	10/20/22 10:00	10/21/22 09:37
22210213102	MW-CB-1BS-20221020	Water	10/20/22 12:45	10/21/22 09:37
22210213103	MW-CB-2A-20221020	Water	10/20/22 12:00	10/21/22 09:37
22210213104	PMW-09B-20221020	Water	10/20/22 00:01	10/21/22 09:37
22210213105	AZG4-39-44-20221020	Bubble Strip	10/20/22 10:00	10/21/22 09:37
22210213106	MW-CB-1BS-20221020	Bubble Strip	10/20/22 12:45	10/21/22 09:37
22210213107	MW-CB-2A-20221020	Bubble Strip	10/20/22 12:00	10/21/22 09:37
22210213109	AZG4-20-25-20221020	Bubble Strip	10/20/22 09:25	10/21/22 09:37

Detect Summary

Results and Detection Limits are adjusted for dilution and moisture when applicable

AM23G

Lab ID	Client ID	Parameter	Units	Result	Dil.	%Moist
22210213101	AZG4-39-44-20221020	Acetic Acid	mg/L	5.2J	20	NA
22210213101	AZG4-39-44-20221020	Butyric Acid	mg/L	1.2J	20	NA
22210213101	AZG4-39-44-20221020	Formic Acid	mg/L	110	20	NA
22210213102	MW-CB-1BS-20221020	Acetic Acid	mg/L	2.7J	10	NA
22210213102	MW-CB-1BS-20221020	Formic Acid	mg/L	49	10	NA
22210213103	MW-CB-2A-20221020	Acetic Acid	mg/L	2.8J	10	NA
22210213103	MW-CB-2A-20221020	Formic Acid	mg/L	52	10	NA
22210213104	PMW-09B-20221020	Acetic Acid	mg/L	2.6J	10	NA
22210213104	PMW-09B-20221020	Formic Acid	mg/L	56	10	NA
22210213104	PMW-09B-20221020	Lactic Acid	mg/L	1.7J	10	NA

AM20GAX

Lab ID	Client ID	Parameter	Units	Result	Dil.	%Moist
22210213105	AZG4-39-44-20221020	Hydrogen	nM	1.7J	1	NA
22210213106	MW-CB-1BS-20221020	Hydrogen	nM	3.7	1	NA
22210213107	MW-CB-2A-20221020	Hydrogen	nM	29	1	NA
22210213109	AZG4-20-25-20221020	Hydrogen	nM	1.5J	1	NA

Sample Results

AZG4-39-44-20221020

Collect Date 10/20/2022 10:00 **Lab ID** 22210213101
Receive Date 10/21/2022 09:37 **Matrix** Water

AM23G

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	20	10/26/22 16:45	752719	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
64-19-7	**Acetic Acid**	**5.2J**	10	2.5	0.12	mg/L
107-92-6	**Butyric Acid**	**1.2J**	10	1.2	0.058	mg/L
64-18-6	**Formic Acid**	**110**	10	1.1	0.055	mg/L
142-62-1	Hexanoic Acid	1.2U	10	1.2	0.058	mg/L
646-07-1	i-Hexanoic Acid	1.1U	10	1.1	0.056	mg/L
503-74-2	i-Pentanoic Acid	1.2U	10	1.2	0.061	mg/L
50-21-5	Lactic Acid	1.1U	10	1.1	0.053	mg/L
109-52-4	Pentanoic Acid	1.1U	10	1.1	0.056	mg/L
79-09-4	Propionic Acid	1.1U	10	1.1	0.053	mg/L
127-17-3	Pyruvic Acid	1.2U	10	1.2	0.060	mg/L

MW-CB-1BS-20221020

Collect Date 10/20/2022 12:45 **Lab ID** 22210213102
Receive Date 10/21/2022 09:37 **Matrix** Water

AM23G

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	10	10/26/22 17:07	752719	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
64-19-7	**Acetic Acid**	**2.7J**	5.0	1.2	0.12	mg/L
107-92-6	Butyric Acid	0.58U	5.0	0.58	0.058	mg/L
64-18-6	**Formic Acid**	**49**	5.0	0.55	0.055	mg/L
142-62-1	Hexanoic Acid	0.58U	5.0	0.58	0.058	mg/L
646-07-1	i-Hexanoic Acid	0.56U	5.0	0.56	0.056	mg/L
503-74-2	i-Pentanoic Acid	0.61U	5.0	0.61	0.061	mg/L
50-21-5	Lactic Acid	0.53U	5.0	0.53	0.053	mg/L
109-52-4	Pentanoic Acid	0.56U	5.0	0.56	0.056	mg/L
79-09-4	Propionic Acid	0.53U	5.0	0.53	0.053	mg/L
127-17-3	Pyruvic Acid	0.60U	5.0	0.60	0.060	mg/L

MW-CB-2A-20221020

Collect Date 10/20/2022 12:00 **Lab ID** 22210213103
Receive Date 10/21/2022 09:37 **Matrix** Water

AM23G

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	10	10/26/22 17:28	752719	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
64-19-7	**Acetic Acid**	**2.8J**	5.0	1.2	0.12	mg/L
107-92-6	Butyric Acid	0.58U	5.0	0.58	0.058	mg/L
64-18-6	**Formic Acid**	**52**	5.0	0.55	0.055	mg/L
142-62-1	Hexanoic Acid	0.58U	5.0	0.58	0.058	mg/L
646-07-1	i-Hexanoic Acid	0.56U	5.0	0.56	0.056	mg/L

Sample Results

MW-CB-2A-20221020

Collect Date	10/20/2022 12:00	Lab ID	22210213103
Receive Date	10/21/2022 09:37	Matrix	Water

AM23G (Continued)

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	10	10/26/22 17:28	752719	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
503-74-2	i-Pentanoic Acid	0.61U	5.0	0.61	0.061	mg/L
50-21-5	Lactic Acid	0.53U	5.0	0.53	0.053	mg/L
109-52-4	Pentanoic Acid	0.56U	5.0	0.56	0.056	mg/L
79-09-4	Propionic Acid	0.53U	5.0	0.53	0.053	mg/L
127-17-3	Pyruvic Acid	0.60U	5.0	0.60	0.060	mg/L

PMW-09B-20221020

Collect Date	10/20/2022 00:01	Lab ID	22210213104
Receive Date	10/21/2022 09:37	Matrix	Water

AM23G

*Results and limits are adjusted for dilution.

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	10	10/26/22 17:50	752719	LHM	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
64-19-7	**Acetic Acid**	**2.6J**	5.0	1.2	0.12	mg/L
107-92-6	Butyric Acid	0.58U	5.0	0.58	0.058	mg/L
64-18-6	**Formic Acid**	**56**	5.0	0.55	0.055	mg/L
142-62-1	Hexanoic Acid	0.58U	5.0	0.58	0.058	mg/L
646-07-1	i-Hexanoic Acid	0.56U	5.0	0.56	0.056	mg/L
503-74-2	i-Pentanoic Acid	0.61U	5.0	0.61	0.061	mg/L
50-21-5	**Lactic Acid**	**1.7J**	5.0	0.53	0.053	mg/L
109-52-4	Pentanoic Acid	0.56U	5.0	0.56	0.056	mg/L
79-09-4	Propionic Acid	0.53U	5.0	0.53	0.053	mg/L
127-17-3	Pyruvic Acid	0.60U	5.0	0.60	0.060	mg/L

AZG4-39-44-20221020

Collect Date	10/20/2022 10:00	Lab ID	22210213105
Receive Date	10/21/2022 09:37	Matrix	Bubble Strip

AM20GAX

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	1	10/26/22 13:48	752723	LMB	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
1333-74-0	**Hydrogen**	**1.7J**	1.9	0.49	0.49	nM

Sample Results

MW-CB-1BS-20221020

Collect Date	10/20/2022 12:45	Lab ID	22210213106
Receive Date	10/21/2022 09:37	Matrix	Bubble Strip

AM20GAX

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	1	10/26/22 14:00	752723	LMB	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
1333-74-0	Hydrogen	3.7	1.9	0.49	0.49	nM

MW-CB-2A-20221020

Collect Date	10/20/2022 12:00	Lab ID	22210213107
Receive Date	10/21/2022 09:37	Matrix	Bubble Strip

AM20GAX

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	1	10/26/22 14:12	752723	LMB	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
1333-74-0	Hydrogen	29	1.9	0.49	0.49	nM

AZG4-20-25-20221020

Collect Date	10/20/2022 09:25	Lab ID	22210213109
Receive Date	10/21/2022 09:37	Matrix	Bubble Strip

AM20GAX

Prep Date	Prep Batch	Prep Method	Dilution	Run Date	Run Batch	Analyst	%Moisture
NA	NA	NA	1	10/27/22 11:46	752793	LMB	NA

CAS#	Parameter	Result	MQL	SDL	DL	Units
1333-74-0	Hydrogen	1.5J	1.9	0.49	0.49	nM

General Chemistry QC Summary

Analytical Batch 752719	Client ID	MB752719		LCS752719				LCSD752719				
	Lab ID	2413262		2413263				2413264				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	10/26/22 16:02		10/26/22 15:41				10/27/22 00:18				
	Matrix	Water		Water				Water				
AM23G		Units Result	mg/L DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Acetic Acid	64-19-7	0.12U	0.12	2.0	1.7	83	70 - 130	2.0	1.7	83	0	20
Butyric Acid	107-92-6	0.058U	0.058	2.0	1.7	85	70 - 130	2.0	1.7	83	3	20
Formic Acid	64-18-6	0.055U	0.055	2.0	1.7	83	70 - 130	2.0	1.7	84	2	20
Hexanoic Acid	142-62-1	0.058U	0.058	2.0	1.6	78	70 - 130	2.0	1.6	80	3	20
i-Hexanoic Acid	646-07-1	0.056U	0.056	2.0	1.6	80	70 - 130	2.0	1.5	77	4	20
i-Pentanoic Acid	503-74-2	0.061U	0.061	2.0	1.7	86	70 - 130	2.0	1.8	89	4	20
Lactic Acid	50-21-5	0.053U	0.053	2.0	1.8	88	70 - 130	2.0	1.8	89	0	20
Pentanoic Acid	109-52-4	0.056U	0.056	2.0	1.6	79	70 - 130	2.0	1.6	78	1	20
Propionic Acid	79-09-4	0.053U	0.053	2.0	1.7	85	70 - 130	2.0	1.7	83	2	20
Pyruvic Acid	127-17-3	0.060U	0.060	2.0	1.6	81	70 - 130	2.0	1.6	79	3	20

General Chromatography QC Summary

Analytical Batch 752723	Client ID	MB752723		LCS752723				LCSD752723				
	Lab ID	2413286		2413287				2413288				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	10/26/22 10:11		10/26/22 09:10				10/26/22 09:58				
	Matrix	Bubble Strip		Bubble Strip				Bubble Strip				
AM20GAX		Units Result	nM DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Hydrogen	1333-74-0	0.49U	0.49	12	14	117	70 - 130	12	12	106	10	20

Analytical Batch 752793	Client ID	MB752793		LCS752793				LCSD752793				
	Lab ID	2413829		2413830				2413831				
	Sample Type	MB		LCS				LCSD				
	Prep Date	NA		NA				NA				
	Analysis Date	10/27/22 06:33		10/27/22 06:05				10/27/22 06:17				
	Matrix	Bubble Strip		Bubble Strip				Bubble Strip				
AM20GAX		Units Result	nM DL	Spike Added	Result	%R	Control Limits%R	Spike Added	Result	%R	RPD	RPD Limit
Hydrogen	1333-74-0	0.49U	0.49	12	13	107	70 - 130	12	12	101	6	20

Pace Analytical

CHAIN-OF-CUSTODY Analytical Request Document

Chain-of-Custody is a LEGAL DOCUMENT - Complete all relevent fields

LAB USE ONLY- Affix Wor

ALL SHAD

Client ID: CH2M-H - CH2M Hill - Houston, TX

SDG: 222102131

PM: RWe

Container Preservative Ty

Company: Jacobs Engineering, Inc.	Billing Information:
Address: 918 Town & Country Blvd #600	
Houston, TX 77024	Email To: Joshua.McFarlain@jacobs.com
Copy To: John.Ynfante & JoshuaMcFarlain	Site Collection Info/Address: Spring
Customer Project Name/Number: Charlie Burch	State: TX / County/City: Montgomery / Time Zone Collected: [ ]PT [ ]MT [✓]CT [ ]ET
Phone: 281 414 1779 / Email: John.Ynfante@jacobs.com	Site/Facility ID #: / Compliance Monitoring? [✓] Yes [ ] No
Collected By (print): Lorena Ramirez	Purchase Order #: / Quote #: / DW PWS ID #: / DW Location Code:
Collected By (signature): LCRamirez	Turnaround Date Required: Standard / Immediately Packed on Ice: [✓] Yes [ ] No
Sample Disposal: [ ] Dispose as appropriate [ ] Return [ ] Archive: [ ] Hold:	Rush: [ ] Same Day [ ] Next Day [ ] 2 Day [ ] 3 Day [ ] 4 Day [ ] 5 Day (Expedite Charges Apply) / Field Filtered (if applicable): [ ] Yes [✓] No / Analysis:

* Matrix Codes (Insert in Matrix box below): Drinking Water (DW), Ground Water (GW), Wastewater (WW), Product (P), Soil/Solid (SL), Oil (OL), Wipe (WP), Air (AR), Tissue (TS), Bioassay (B), Vapor (V), Other (OT)

* Preservative Types: (1) nitric acid, (2) sulfuric acid, (3) hydrochloric acid, (4) sodium hydroxide, (5) zinc acetate, (6) methanol, (7) sodium bisulfate, (8) sodium thiosulfate, (9) hexane, (A) ascorbic acid, (B) ammonium sulfate, (C) ammonium hydroxide, (D) TSP, (U) Unpreserved, (O) Other _____

Customer Sample ID	Matrix *	Comp / Grab	Collected (or Composite Start) Date	Collected (or Composite Start) Time	Composite End Date	Composite End Time	Res Cl	# of Ctns	Analyses: VFA=(2)40 ml Vials w/ Benzalkonium Chloride	Analyses: Hydrogen = 22cc vapor vial	Lab Profile/Line:	(W)
AZ64-39-44-20221020	GW	Grab	10.20.22	10:00				3	X	X	1	5
MW-CB-1BS-20221020	↓	↓	↓	12:45				3	X	X	2	6
MW-CB-2A-20221020	↓	↓	↓	12:00				3	X	X	3	7
MW-09B-20221020	↓	↓	↓					3	X	XX	4	8
AZ61-116-21-20221020	GAS	↓	↓	9:25				1		X		9

Lab Sample Receipt Checklist:

Custody Seals Present/Intact	Y	N	NA
Custody Signatures Present	Y	N	NA
Collector Signature Present	Y	N	NA
Bottles Intact	Y	N	NA
Correct Bottles	Y	N	NA
Sufficient Volume	Y	N	NA
Samples Received on Ice	Y	N	NA
VOA - Headspace Acceptable	Y	N	NA
USDA Regulated Soils	Y	N	NA
Samples in Holding Time	Y	N	NA
Residual Chlorine Present	Y	N	NA
Cl Strips: _____			
Sample pH Acceptable	Y	N	NA
pH Strips: _____			
Sulfide Present	Y	N	NA
Lead Acetate Strips: _____			

LAB USE ONLY:
Lab Sample # / Comments:

Customer Remarks / Special Conditions / Possible Hazards:

Type of Ice Used: Wet Blue Dry None

Packing Material Used: 2202 6541 6178

Radchem sample(s) screened (<500 cpm): Y N NA

SHORT HOLDS PRESENT (<72 hours): Y N N/A

Lab Tracking #: 2875584

Samples received via: FEDEX UPS Client Courier Pace Courier

Lab Sample Temperature Info:
Temp Blank Received: Y N NA
Therm ID#: _____
Cooler 1 Temp Upon Receipt: _____oC
Cooler 1 Therm Corr. Factor: _____oC
Cooler 1 Corrected Temp: _____oC
Comments: EH2 2 3

Relinquished by/Company: (Signature) LCRamirez / Jacobs	Date/Time: 10.20.22	Received by/Company: (Signature)	Date/Time:	MTJL LAB USE ONLY
Relinquished by/Company: (Signature) FedEx	Date/Time: 937 10/21/22	Received by/Company: (Signature)	Date/Time: 937 10/21/22	Table #: / Acctnum: / Template: / Prelogin: / PM: / PB:
Relinquished by/Company: (Signature)	Date/Time:	Received by/Company: (Signature)	Date/Time:	

Trip Blank Received: Y N NA
HCL MeOH TSP Other

Non Conformance(s): YES / NO

Page: _____ of: _____

SAMPLE RECEIVING CHECKLIST

SAMPLE DELIVERY GROUP 222102131	
Client **PM** RWe CH2M-H - CH2M Hill - Houston, TX	**Transport Method** FEDEX
Profile Number 294838	**Received By** Roberts, George S.
Line Item(s) 1 - VFA 2 - Hydrogen	**Receive Date(s)** 10/21/22

CHECKLIST	YES	NO
Samples received with proper thermal preservation?	☑	☐
Radioactivity is <1600 cpm? If no, record cpm value in notes section.	☑	☐
COC relinquished and complete (including sampleIDs, collect times, and sampler)?	☑	☐
All containers received in good condition and within hold time?	☑	☐
All sample labels and containers received match the chain of custody?	☑	☐
Preservative added to any containers?	☐	☑
If received, was headspace for VOC water containers < 6mm?	☑	☐
Samples collected in containers provided by Pace Gulf Coast?	☑	☐

COOLERS

Airbill	Thermometer ID: E42	Temp °C
770265416178		3.3

DISCREPANCIES

None

LAB PRESERVATIONS

None

NOTES

Revision 1.6

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: John Ynfante
CH2M HILL
14701 St. Mary's Lane
Suite 300
Houston, TX 77079

Phone: 281.721.8546

Fax:

Identifier: 073TJ **Date Rec:** 10/20/2022 **Report Date:** 10/28/2022

Client Project #: DWACHB21-OMA **Client Project Name:** Charlie Burch

Purchase Order #: 148029570

Test results provided for: CENSUS

Reviewed By:

Charles Slater

Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **CH2M HILL**
Project: Charlie Burch

MI Project Number: **073TJ**
Date Received: 10/20/2022

Sample Information

Client Sample ID:		**AZG1-39-41-202 21019**	**AZG1-63-68-20 221019**	**AZG4-20-25-20 221019**	**AZG4-59-64-20 221019**	**AZG4-39-44-20 221020**
Sample Date:		10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/20/2022
Units:		cells/mL	cells/mL	cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		BB/CS	BB/CS	BB/CS	BB/CS	BB/CS
Dechlorinating Bacteria						
Dehalococcoides	*DHC*	**1.20E+00**	<7.00E-01	**1.83E+01**	**4.20E+00**	**6.00E+00**
Dehalobacter spp.	*DHBt*	**3.64E+01**	**4.60E+00 (J)**	**9.77E+01**	**3.97E+01**	**3.66E+01**
Dehalogenimonas spp.	*DHG*	<9.10E+00	<6.70E+00	<4.80E+00	<5.30E+00	<9.10E+00
Desulfitobacterium spp.	*DSB*	**8.20E+00 (J)**	**1.50E+00 (J)**	**6.84E+01**	**2.06E+01**	**7.50E+00 (J)**
Functional Genes						
Soluble Methane Monooxygenase	SMMO	<9.10E+00	<6.70E+00	<4.80E+00	<5.30E+00	<9.10E+00
1, 2 DCA Reductase	DCAR	<9.10E+00	<6.70E+00	<4.80E+00	<5.30E+00	<9.10E+00

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CENSUS

Client: **CH2M HILL**
Project: Charlie Burch

MI Project Number: **073TJ**
Date Received: 10/20/2022

Sample Information

Client Sample ID:		**MW-CB-1BS-20221020**	**MW-CB-2A-20221020**	**PMW-09B-20221020**
Sample Date:		10/20/2022	10/20/2022	10/20/2022
Units:		cells/mL	cells/mL	cells/mL
Analyst/Reviewer:		BB/CS	BB/CS	BB/CS
Dechlorinating Bacteria				
Dehalococcoides	*DHC*	**1.80E+00**	**2.10E+00**	**3.68E+01**
Dehalobacter spp.	*DHBt*	<6.70E+00	**1.67E+03**	**2.75E+02**
Dehalogenimonas spp.	*DHG*	**1.33E+02**	**6.57E+01**	**6.40E+00**
Desulfitobacterium spp.	*DSB*	**2.53E+01**	**1.36E+04**	**2.71E+02**
Functional Genes				
Soluble Methane Monooxygenase	SMMO	<6.70E+00	<4.80E+00	<5.30E+00
1, 2 DCA Reductase	DCAR	<6.70E+00	<4.80E+00	**1.00E-01 (J)**

Legend:
NA = Not Analyzed NS = Not Sampled J = Estimated gene copies below PQL but above LQL I = Inhibited
< = Result not detected

Quality Assurance/Quality Control Data

Samples Received **10/20/2022**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/20/2022	10/27/2022	0 °C	99%	non-detect	non-detect
DHBt	10/20/2022	10/27/2022	0 °C	114%	non-detect	non-detect
DSB	10/20/2022	10/27/2022	0 °C	108%	non-detect	non-detect
DCAR	10/20/2022	10/27/2022	0 °C	103%	non-detect	non-detect
DHG	10/20/2022	10/27/2022	0 °C	104%	non-detect	non-detect
SMMO	10/20/2022	10/27/2022	0 °C	101%	non-detect	non-detect

Samples Received **10/21/2022**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control	Extraction Blank	Negative Control
DHC	10/21/2022	10/27/2022	0 °C	102%	non-detect	non-detect
DHBt	10/21/2022	10/27/2022	0 °C	114%	non-detect	non-detect
DHG	10/21/2022	10/27/2022	0 °C	104%	non-detect	non-detect
DSB	10/21/2022	10/27/2022	0 °C	108%	non-detect	non-detect
DCAR	10/21/2022	10/27/2022	0 °C	103%	non-detect	non-detect
SMMO	10/21/2022	10/27/2022	0 °C	101%	non-detect	non-detect

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

Client: John Ynfante
CH2M HILL
14701 St. Mary's Lane
Suite 300
Houston, TX 77079

Phone: 281.721.8546

Fax:

Identifier: 073TJ **Date Rec:** 10/20/2022 **Report Date:** 11/11/2022

Client Project #: DWACHB21-OMA **Client Project Name:** Charlie Burch

Purchase Order #: 148029570

Test results provided for: CSIA

Reviewed By:

Results relate only to the items tested and the sample(s) as received by the laboratory.

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CSIA

Client: **CH2M HILL**
Project: Charlie Burch

MI Project Number: **073TJ**
Date Received: 10/20/2022

Sample Information

Client Sample ID:	AZG1-39-41-202 21019	AZG1-63-68-20 221019	AZG4-20-25-20 221019	AZG4-59-64-20 221019	AZG4-39-44-20 221020
Sample Date:	10/19/2022	10/19/2022	10/19/2022	10/19/2022	10/20/2022
Analyst/Reviewer:	SB/MW	SB/MW	SB/MW	SB/MW	SB/MW
Carbon	**Units**				
$^{13}C/^{12}C$ 1,2-DCA (‰)	$\delta^{13}C$, VPDB (‰)	**-21.9**	**-23.4**	**-24.2 (J)**	**-20.6**	**-23.8**

Legend:
NA= Not Analyzed NS=Not Sampled J= Estimated concentration below PQL but above LQL ND= Not Detected

MICROBIAL INSIGHTS, INC.

10515 Research Dr., Knoxville, TN 37932
Tel. (865) 573-8188 Fax. (865) 573-8133

CSIA

Client: **CH2M HILL**
Project: Charlie Burch

MI Project Number: **073TJ**
Date Received: 10/20/2022

Sample Information

Client Sample ID:	**MW-CB-1BS-20221020**	**MW-CB-2A-20221020**	**PMW-09B-20221020**
Sample Date:	10/20/2022	10/20/2022	10/20/2022
Analyst/Reviewer:	SB/MW	SB/MW	SB/MW

Carbon	**Units**			
$^{13}C/^{12}C$ 1,2-DCA (‰)	$\delta^{13}C$, VPDB (‰)	**-21.4**	**NA**	**-23.1**

Legend:
NA= Not Analyzed NS=Not Sampled J= Estimated concentration below PQL but above LQL ND= Not Detected

Quality Assurance/Quality Control Data

Samples Received **10/20/2022**

Component	Date Prepared	Date Analyzed	Arrival Temperature	Positive Control (‰ Std. Dev.)*	Blank
$^{13}C/^{12}C$ 1,2-DCA (‰)	10/21/2022	11/11/2022	0 °C	0.2	Pass

* $\delta^{13}C$ positive control values are within +- 0.5‰ of true value.

10515 Research Drive
Knoxville, TN 37932
Phone: (865) 573-8188
Fax: (865) 573-8133

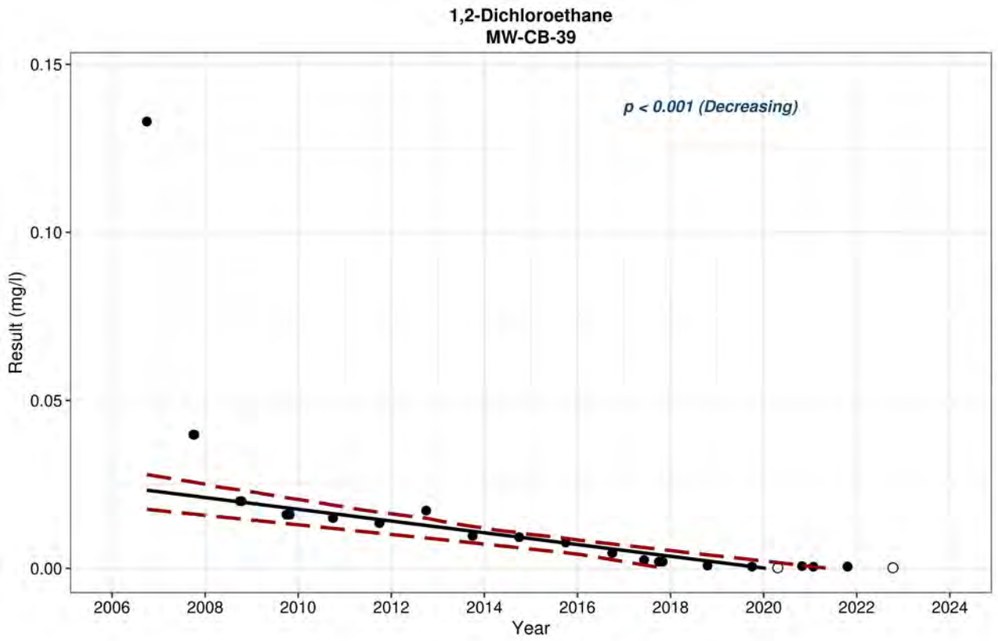
Identifier: 073TJ **Date Rec:** 10/20/2022 **Report Date:** 11/11/2022

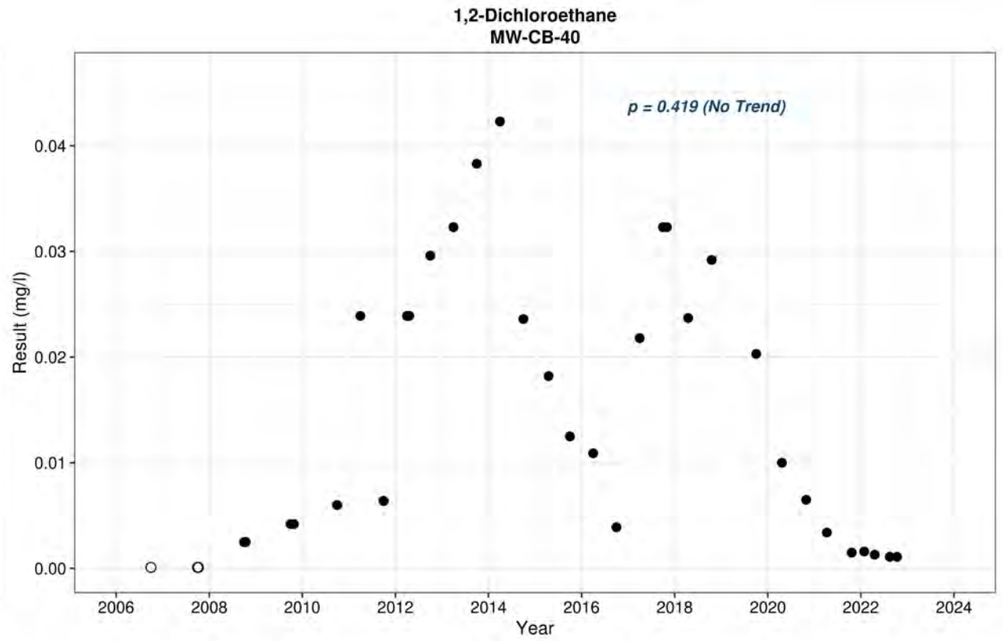
Client Project #: DWACHB21-OMA **Client Project Name:** Charlie Burch

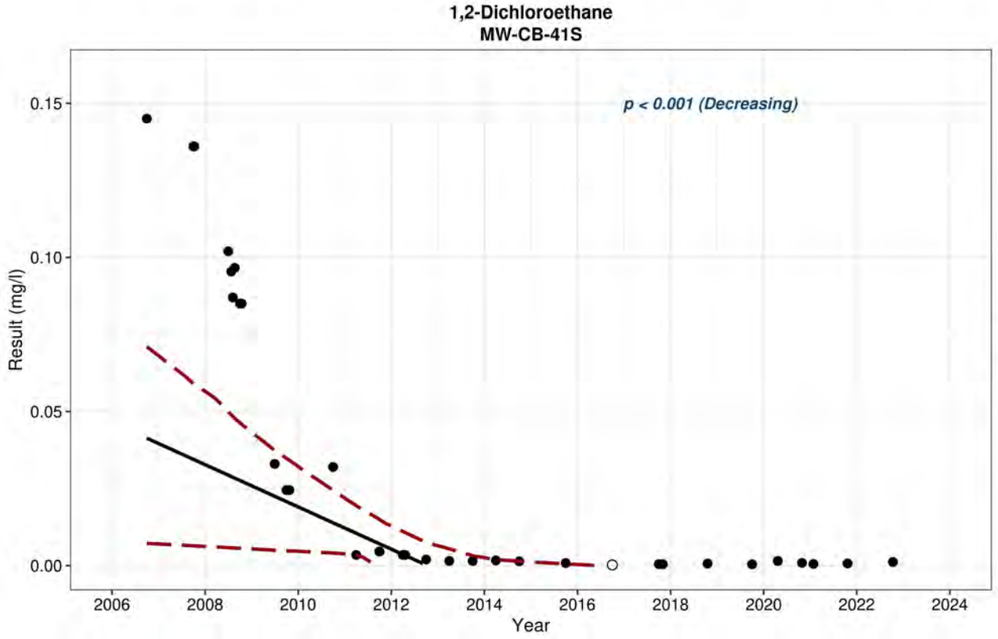
Purchase Order #: 148029570

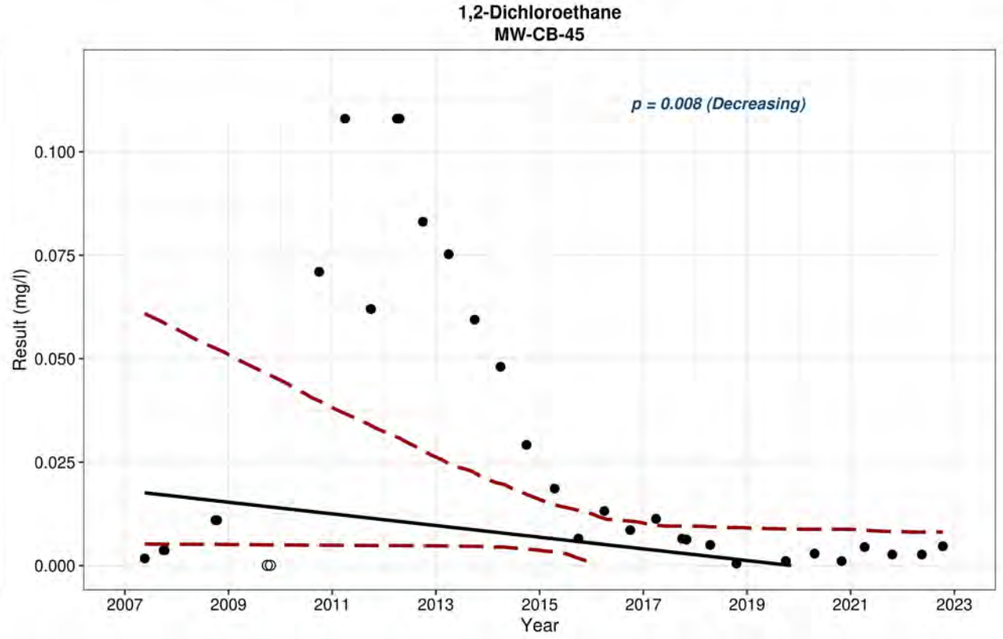
Comments: An in-house screening method was used to estimate VOC concentrations. Compounds expected to be below the CSIA limit of detection after required dilutions were not analyzed (NA).

Appendix B
Mann-Kendall Statistical Trend Analysis









Appendix B: Exhibit 1
Sentinel Wells
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The
Dow Chemical Company VCP No. 421

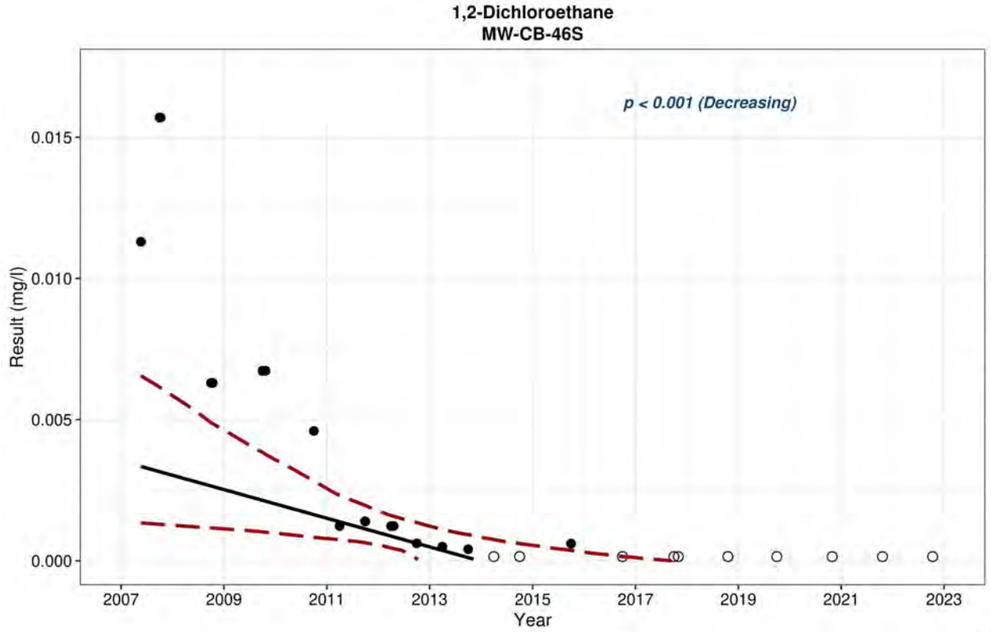
N

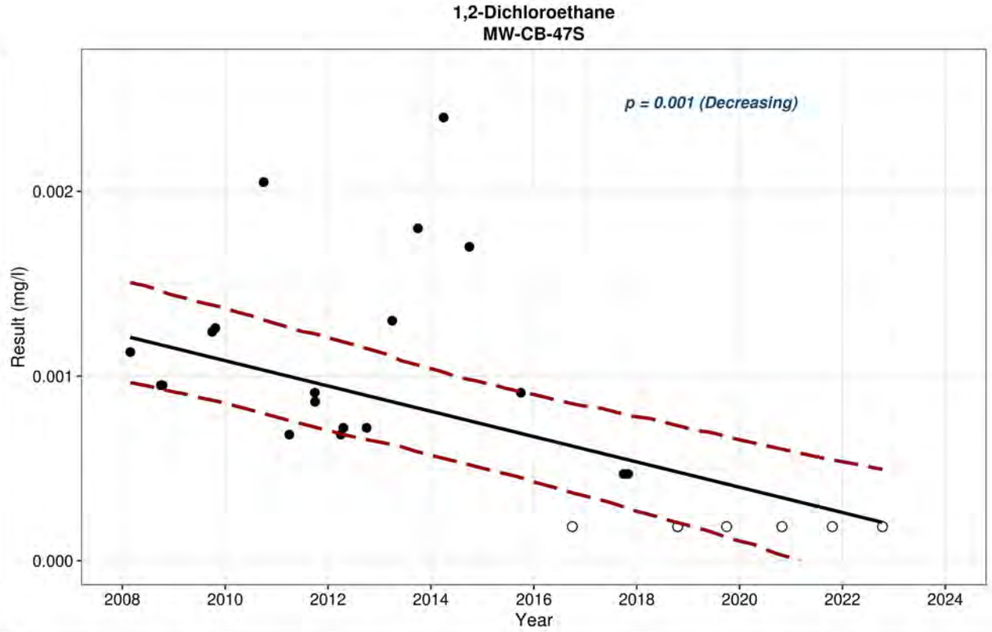
Drawing Date: 5/5/2023

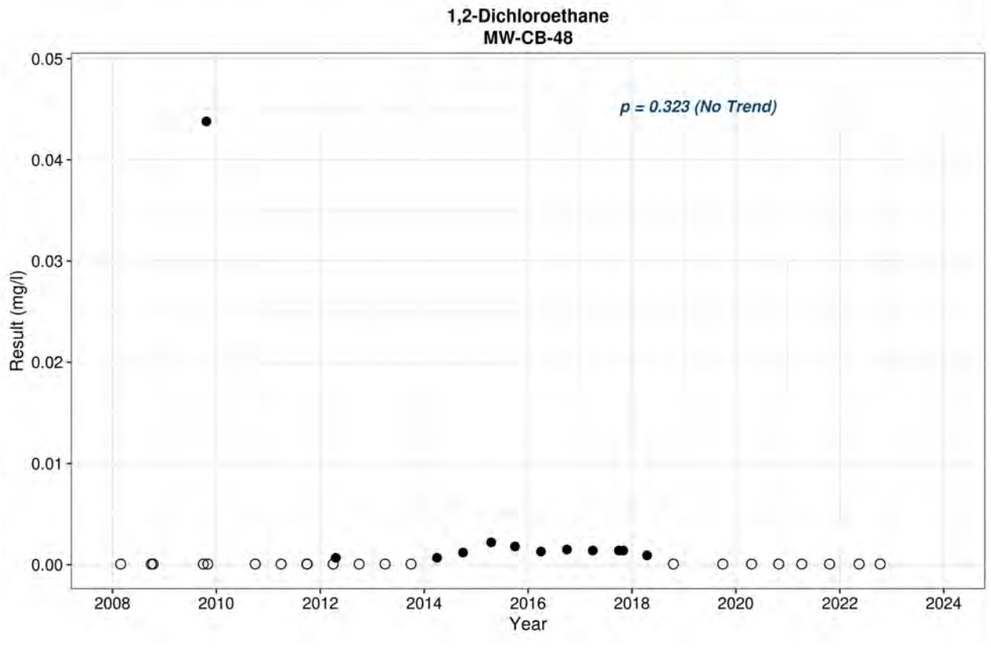
Drawn By: LA

Jacobs

\\DC1VS01\GISPROJ\D\DOWCHEMICALS\CHARLIEBURCH\MAPS\REPORT\VICINITYMAP.MXD MUNOZLA 4/4/2023







Appendix B: Exhibit 2
Sentinel Wells
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

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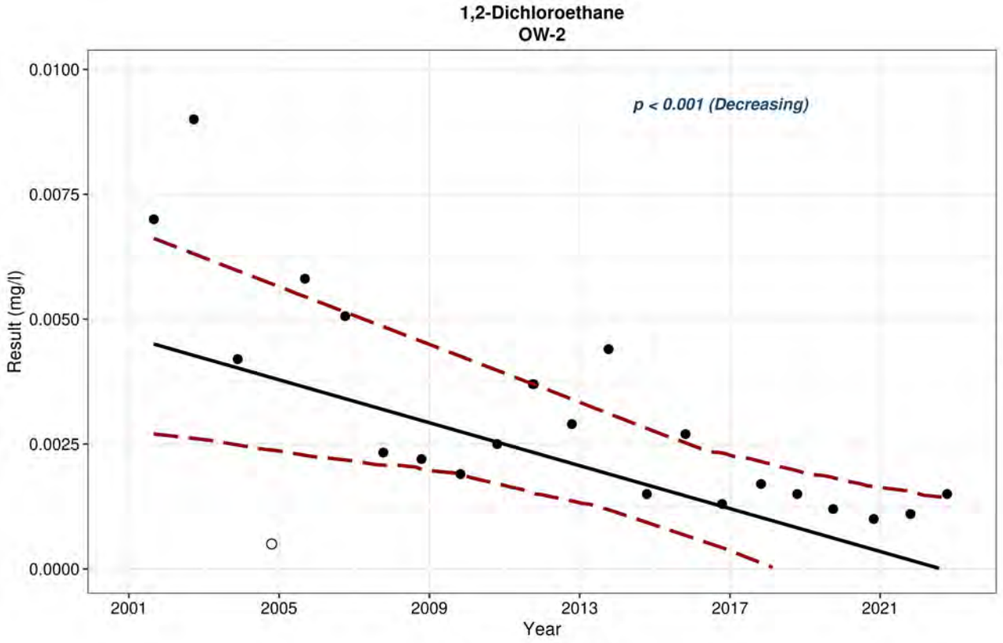

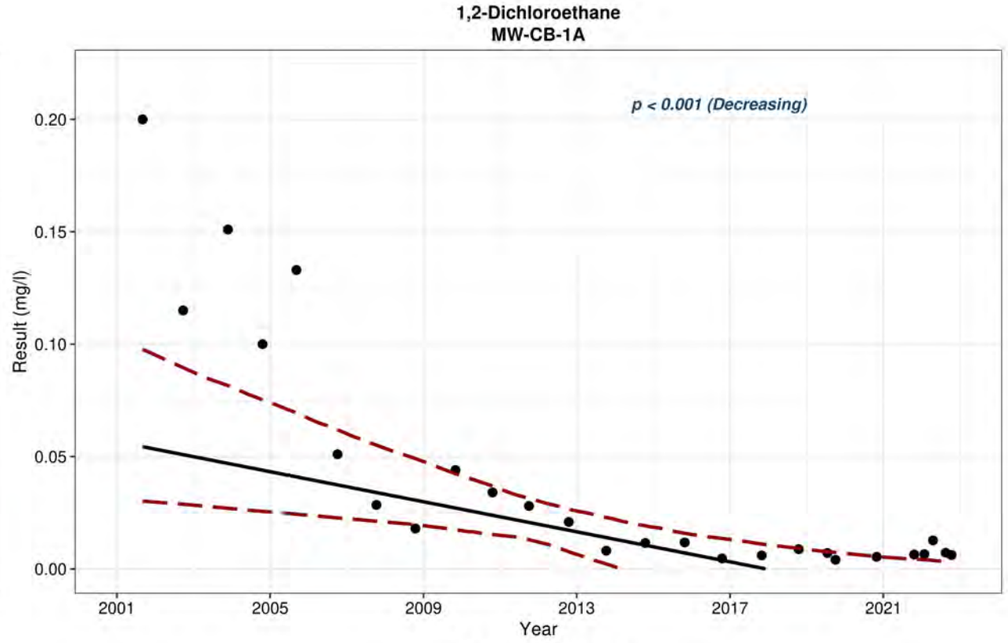

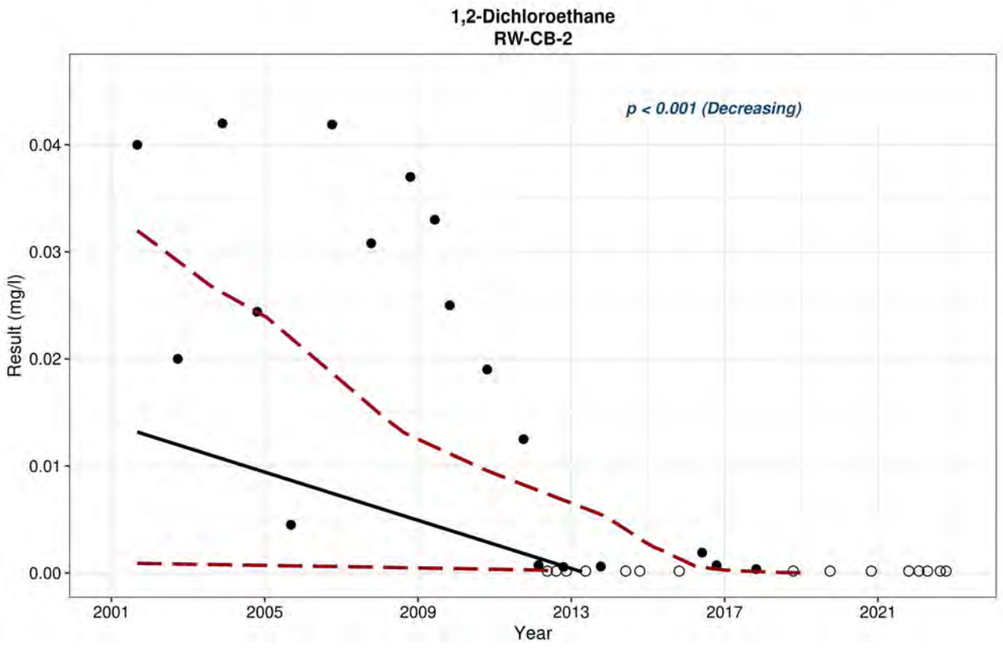

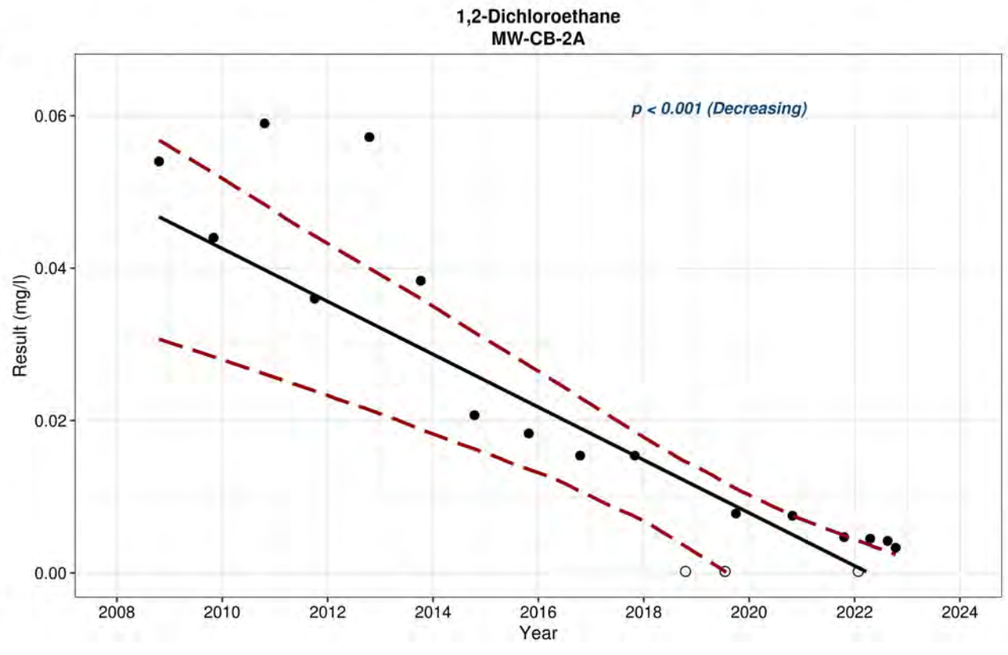

Appendix B: Exhibit 3
Source Area Wells
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

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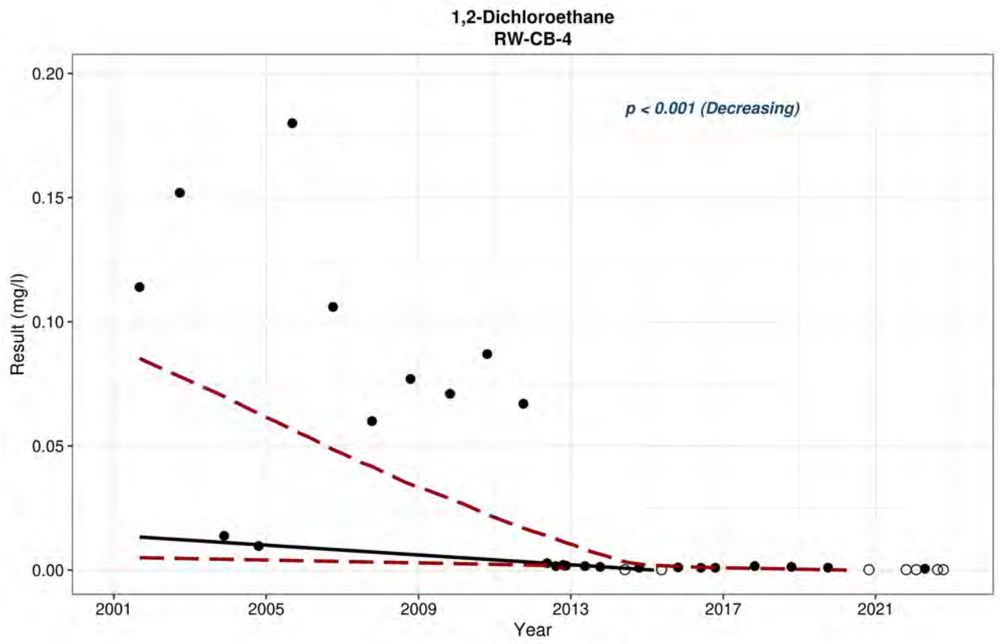

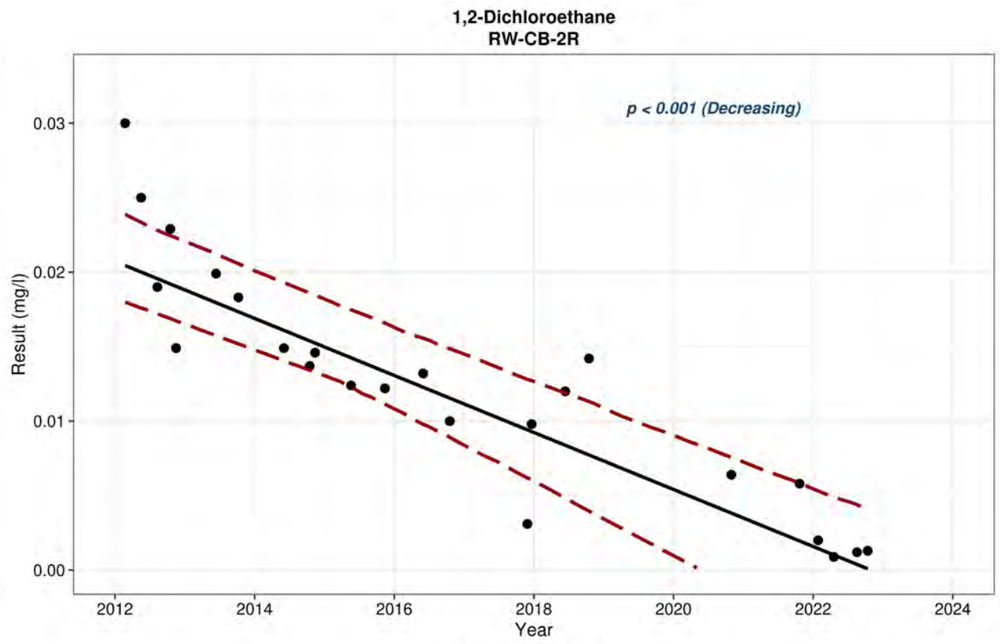

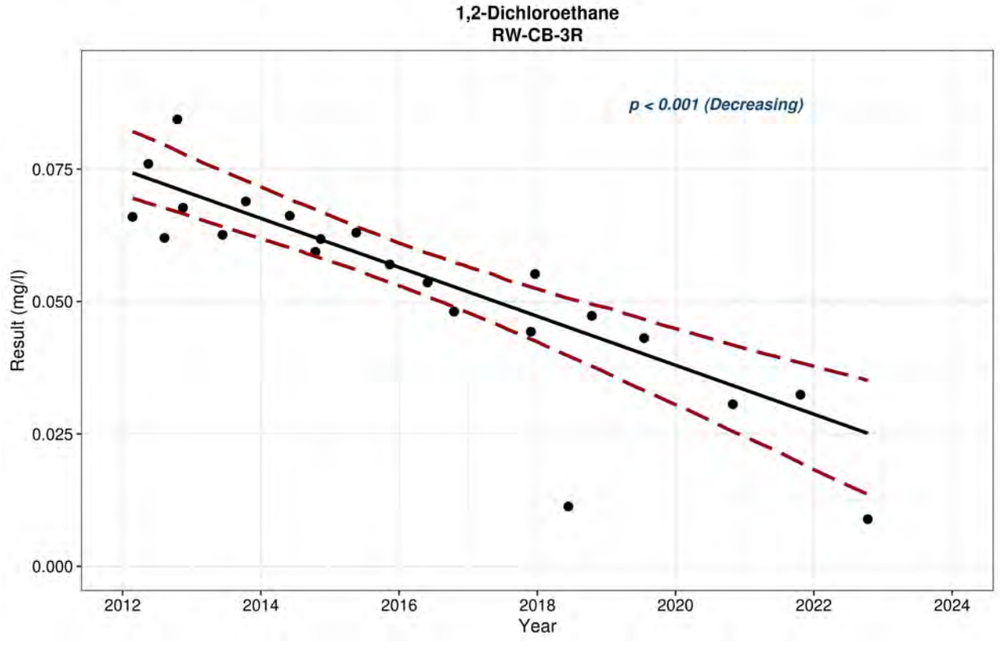

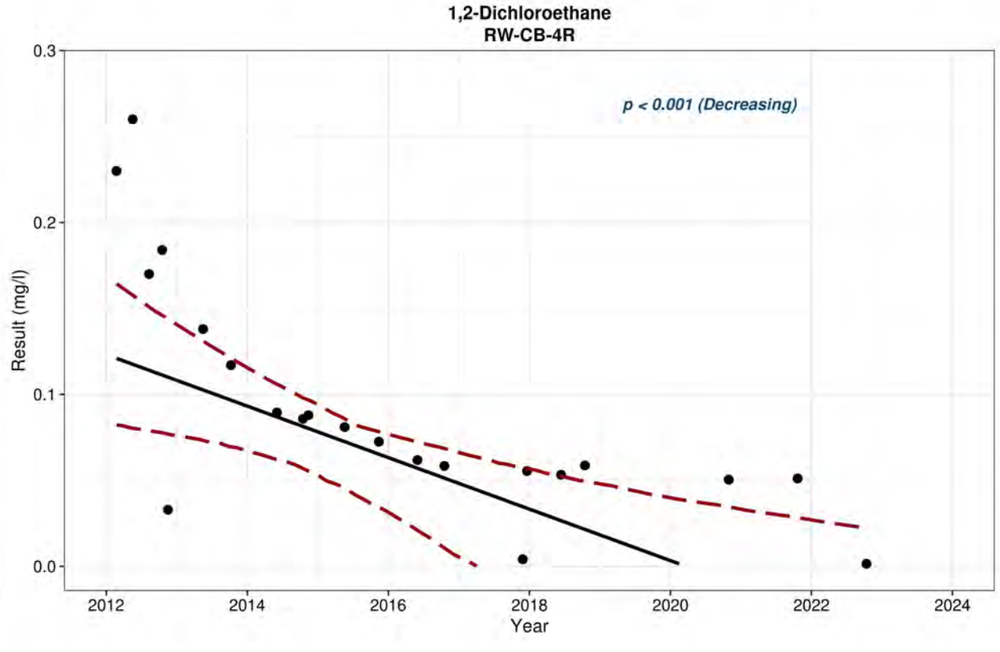

Appendix B: Exhibit 4
Source Area Wells
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

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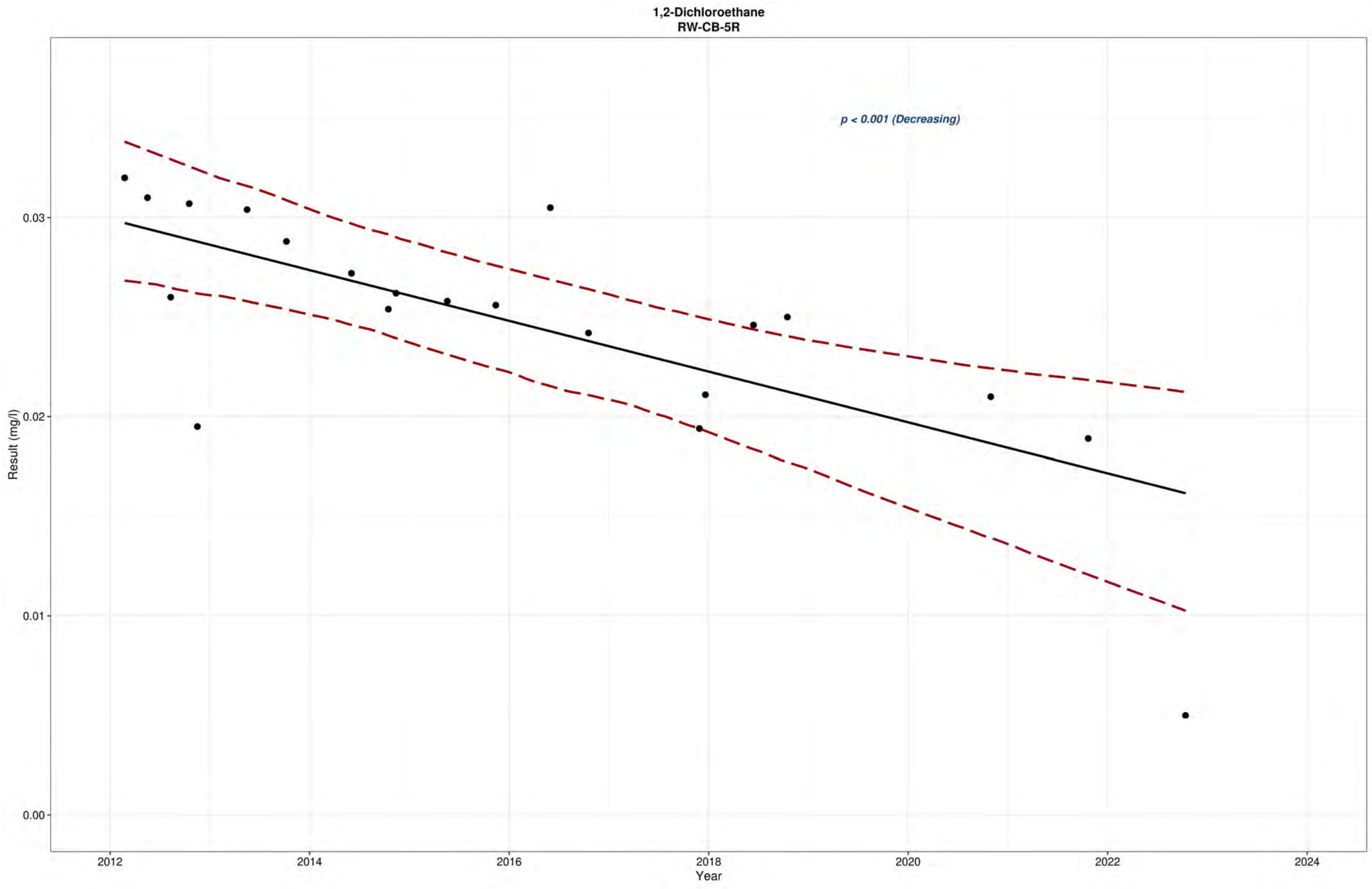

Appendix B: Exhibit 5
Source Area Wells
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

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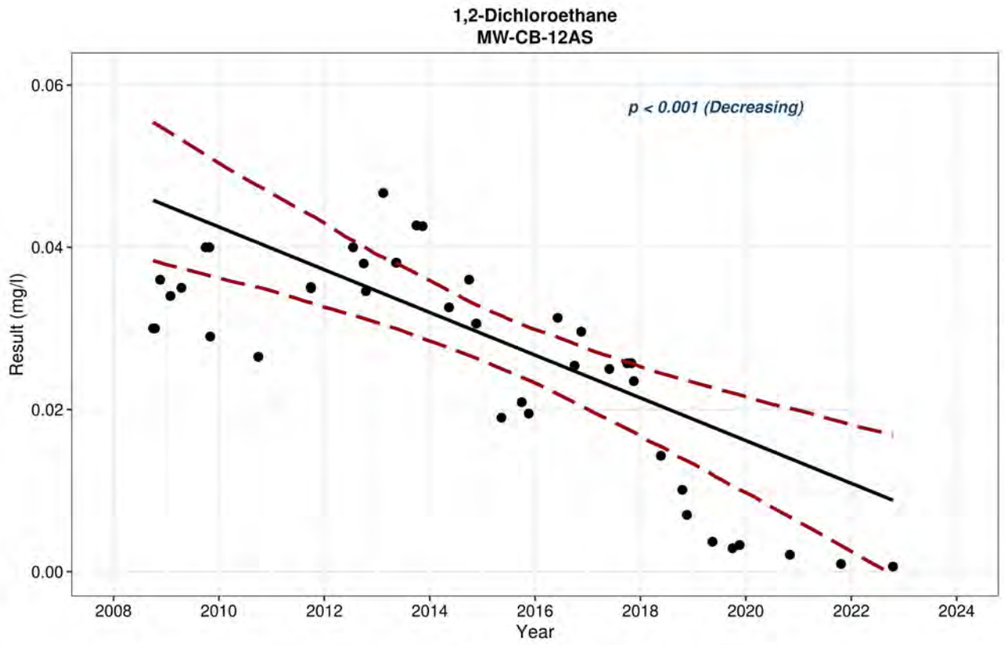

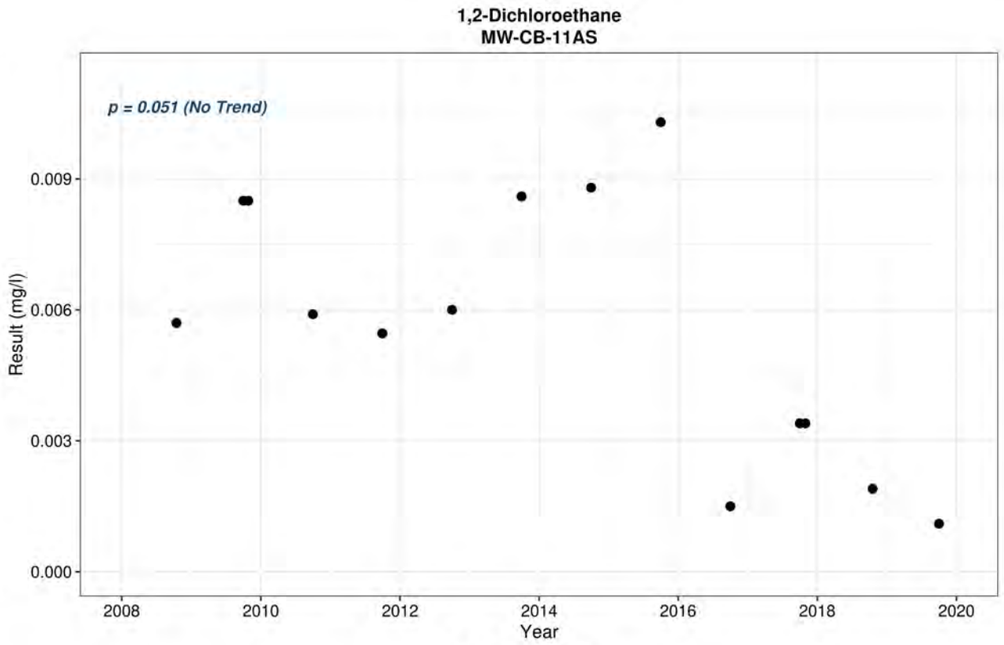

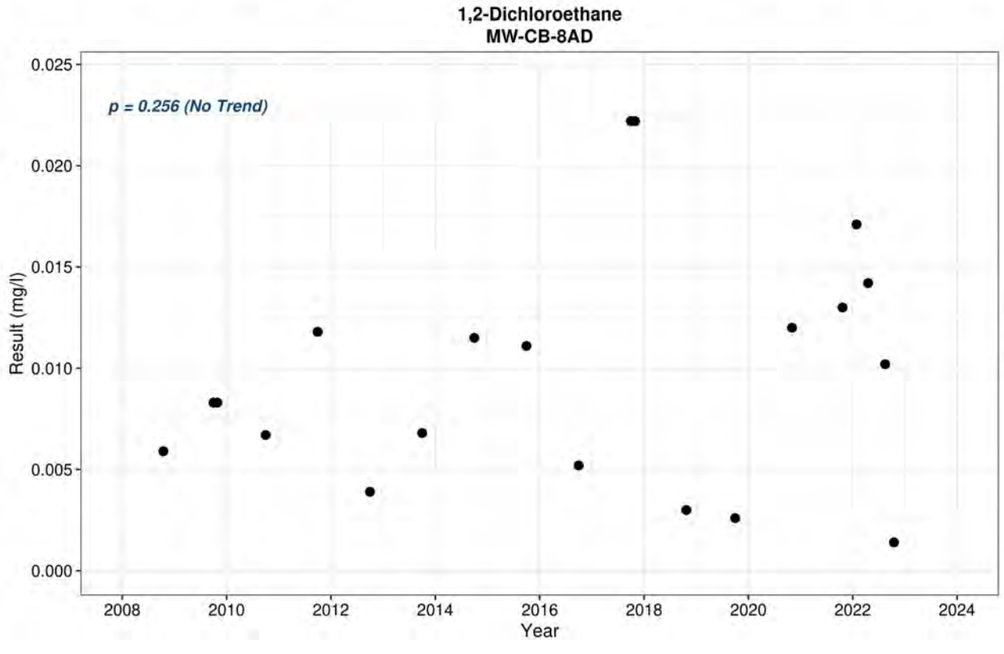

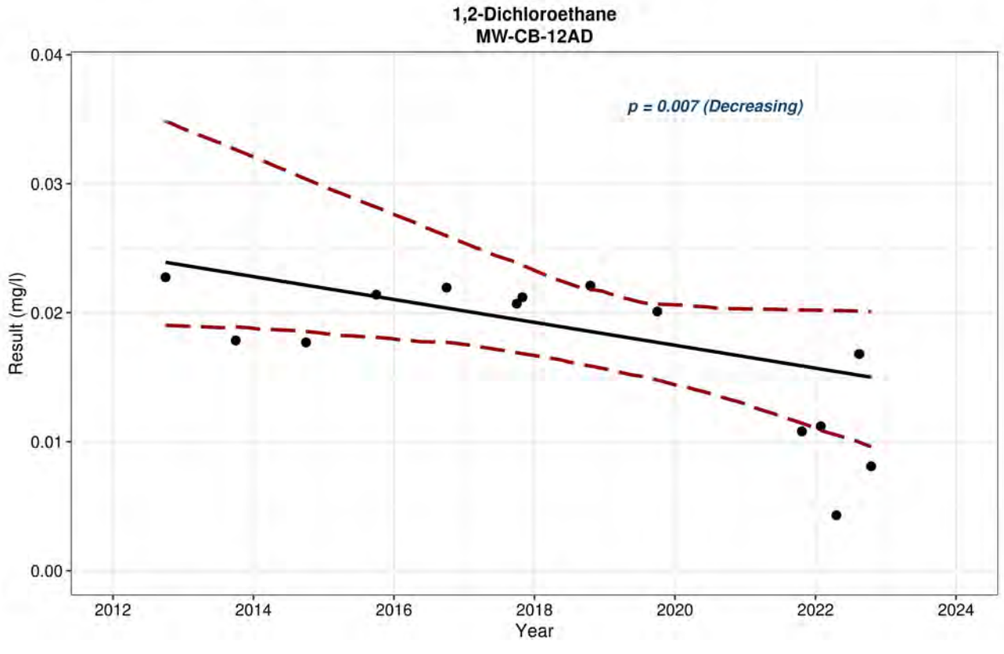

Appendix B: Exhibit 6
Zone A Downgradient Wells
Charlie Burch Site
Spring, Texas
Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

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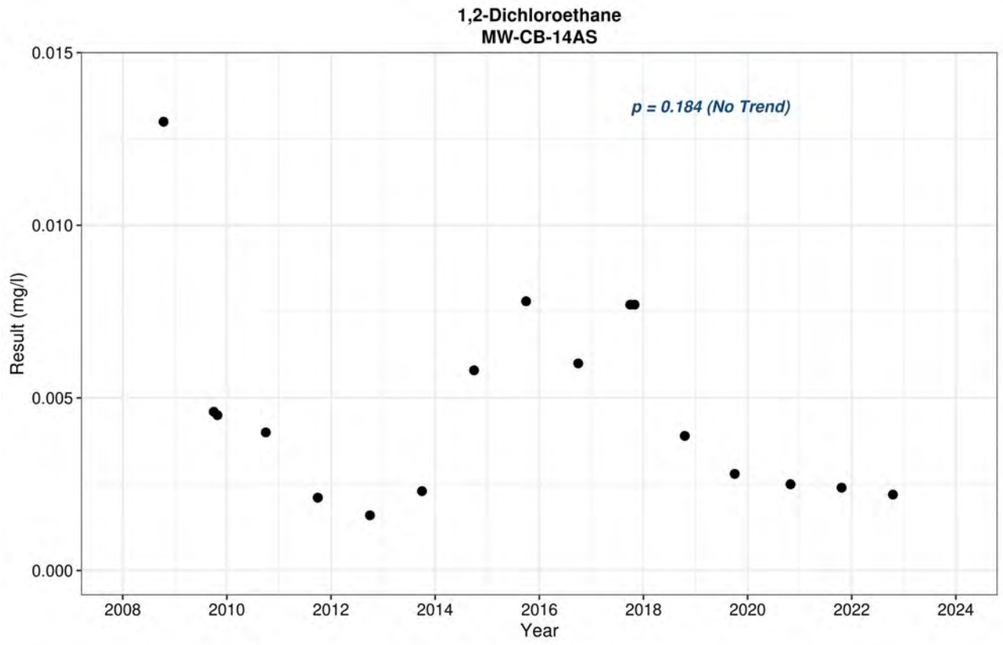

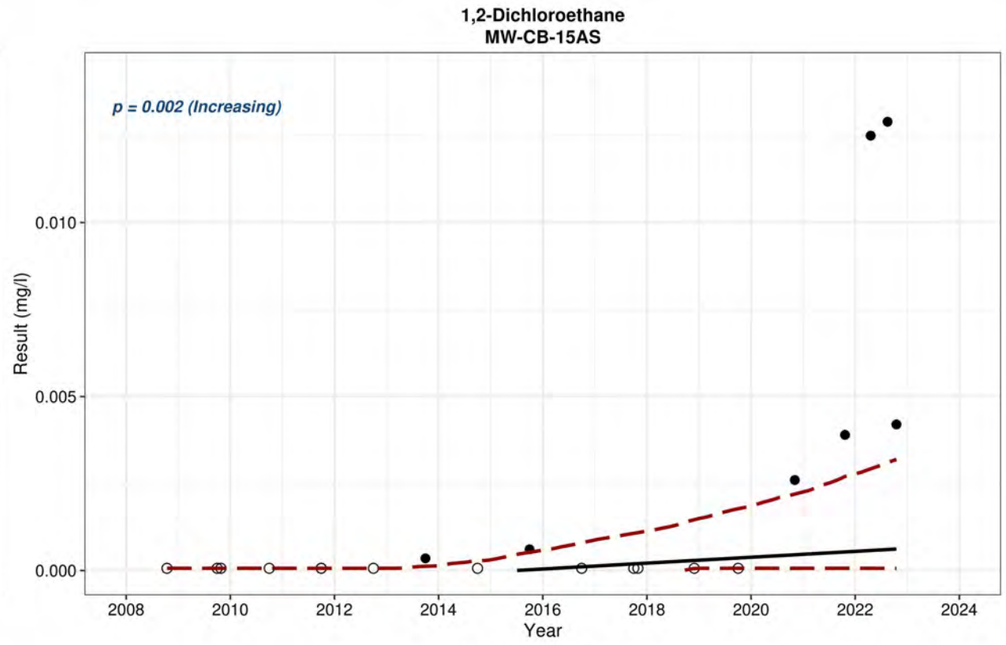

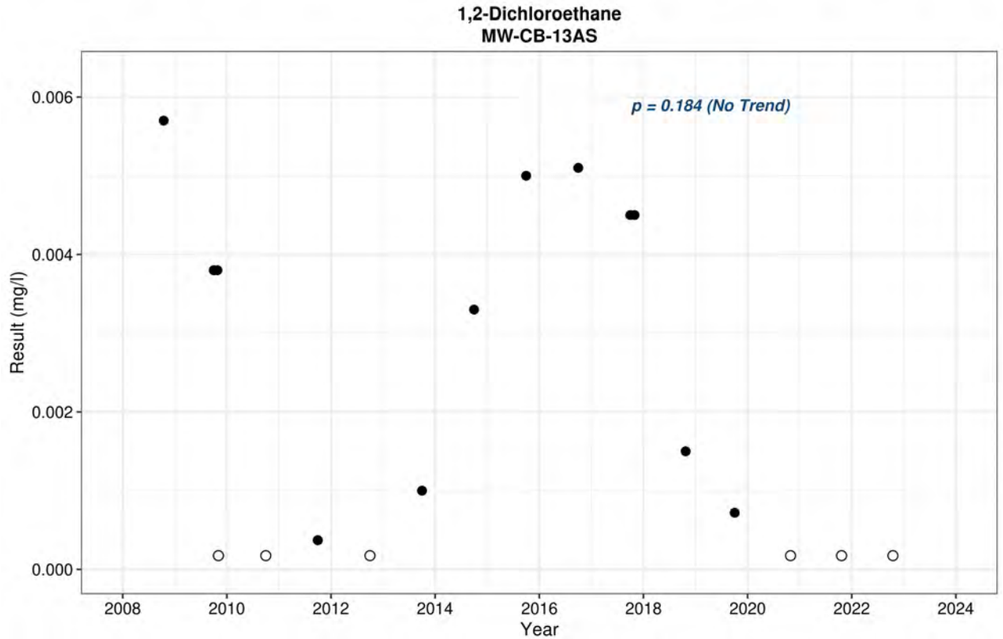

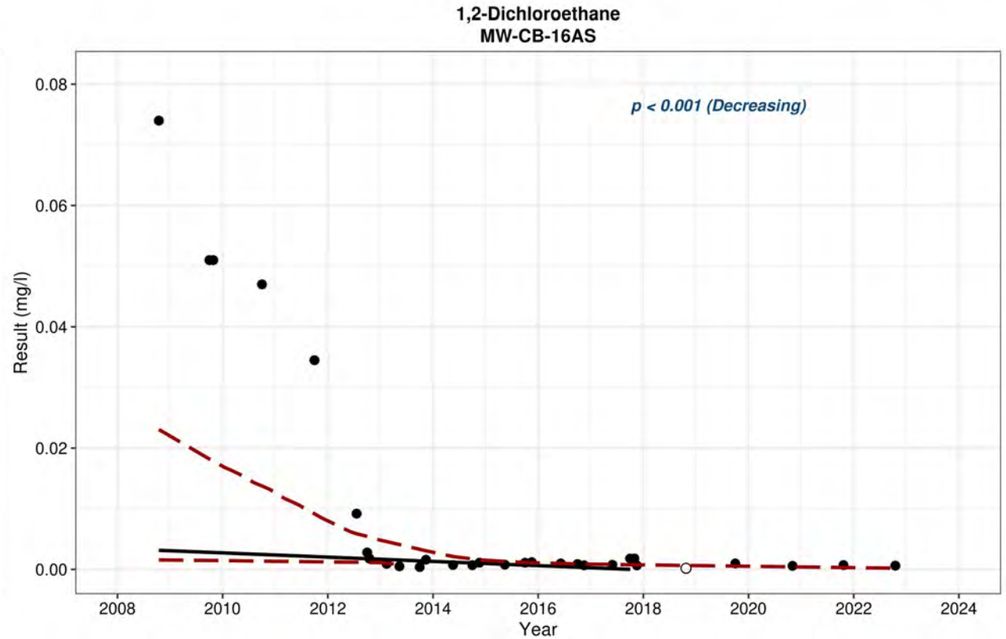

Appendix B: Exhibit 7
Zone A Downgradient Wells
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

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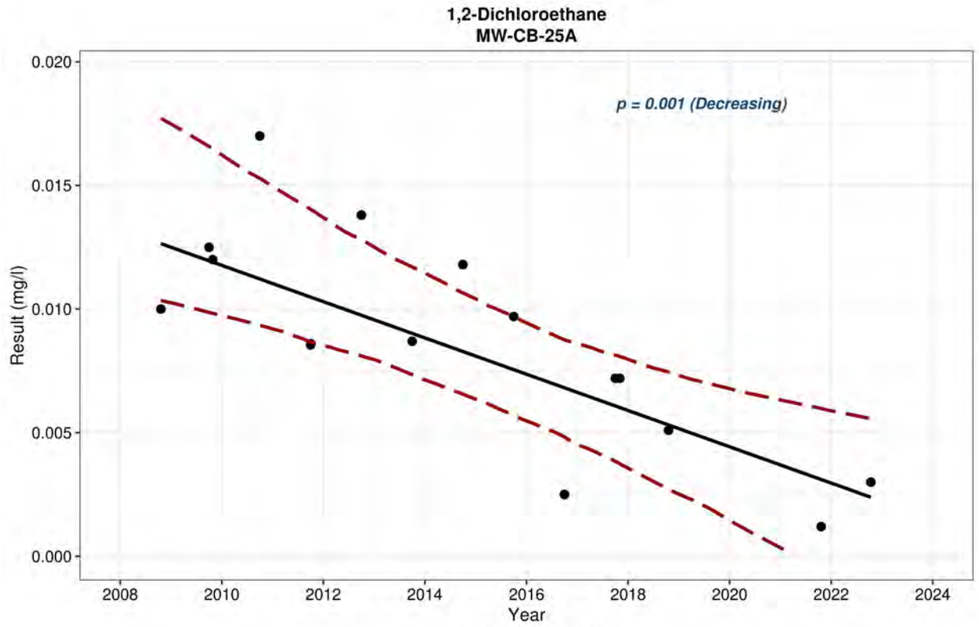

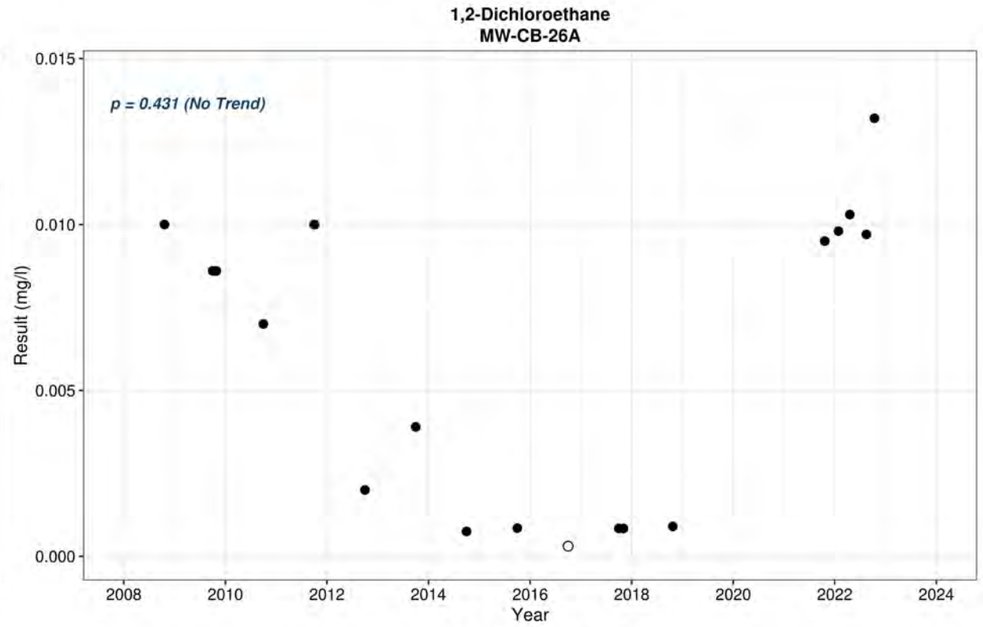

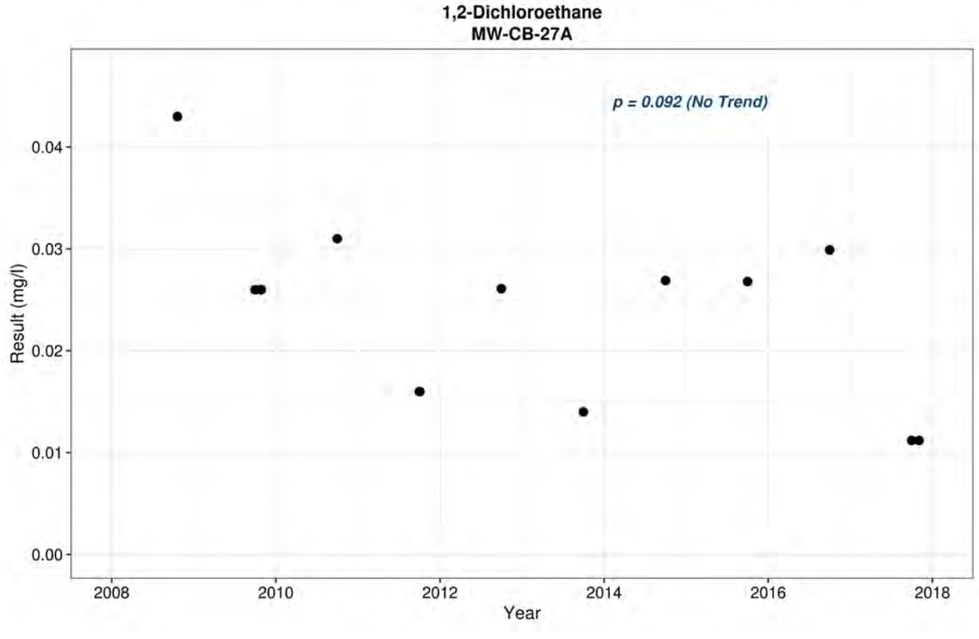

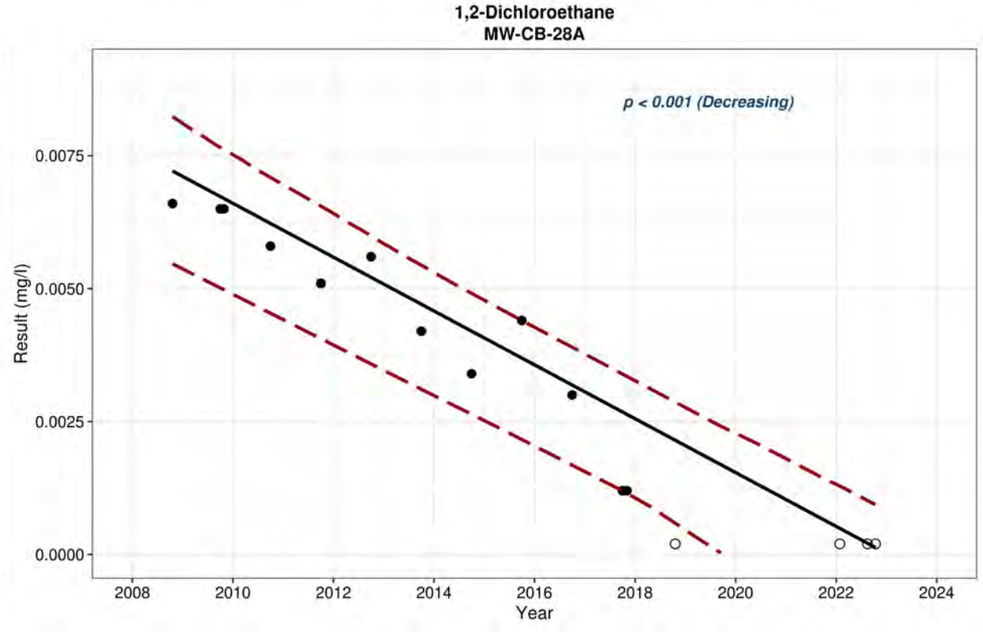

Appendix B: Exhibit 8
Zone A Downgradient Wells
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

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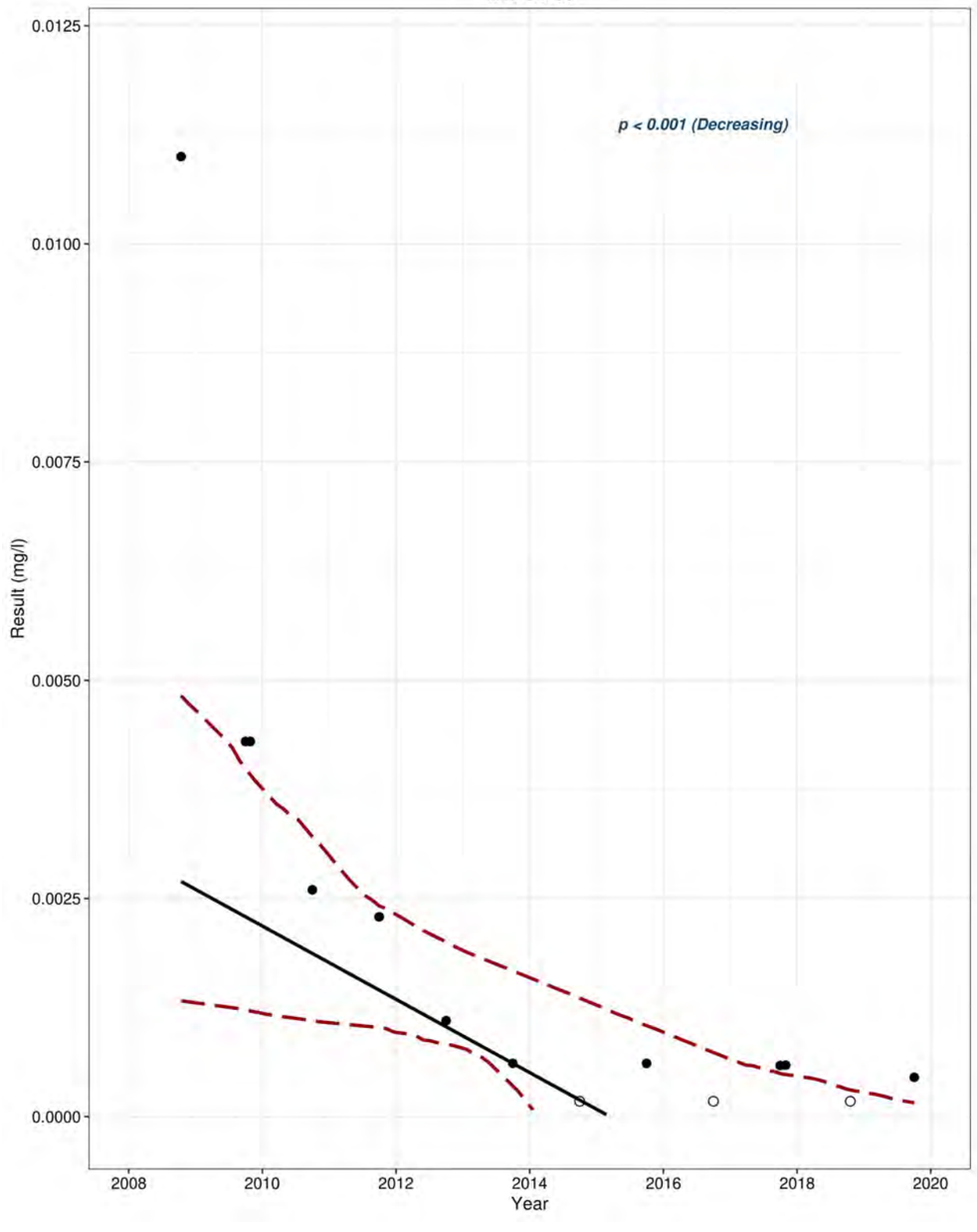

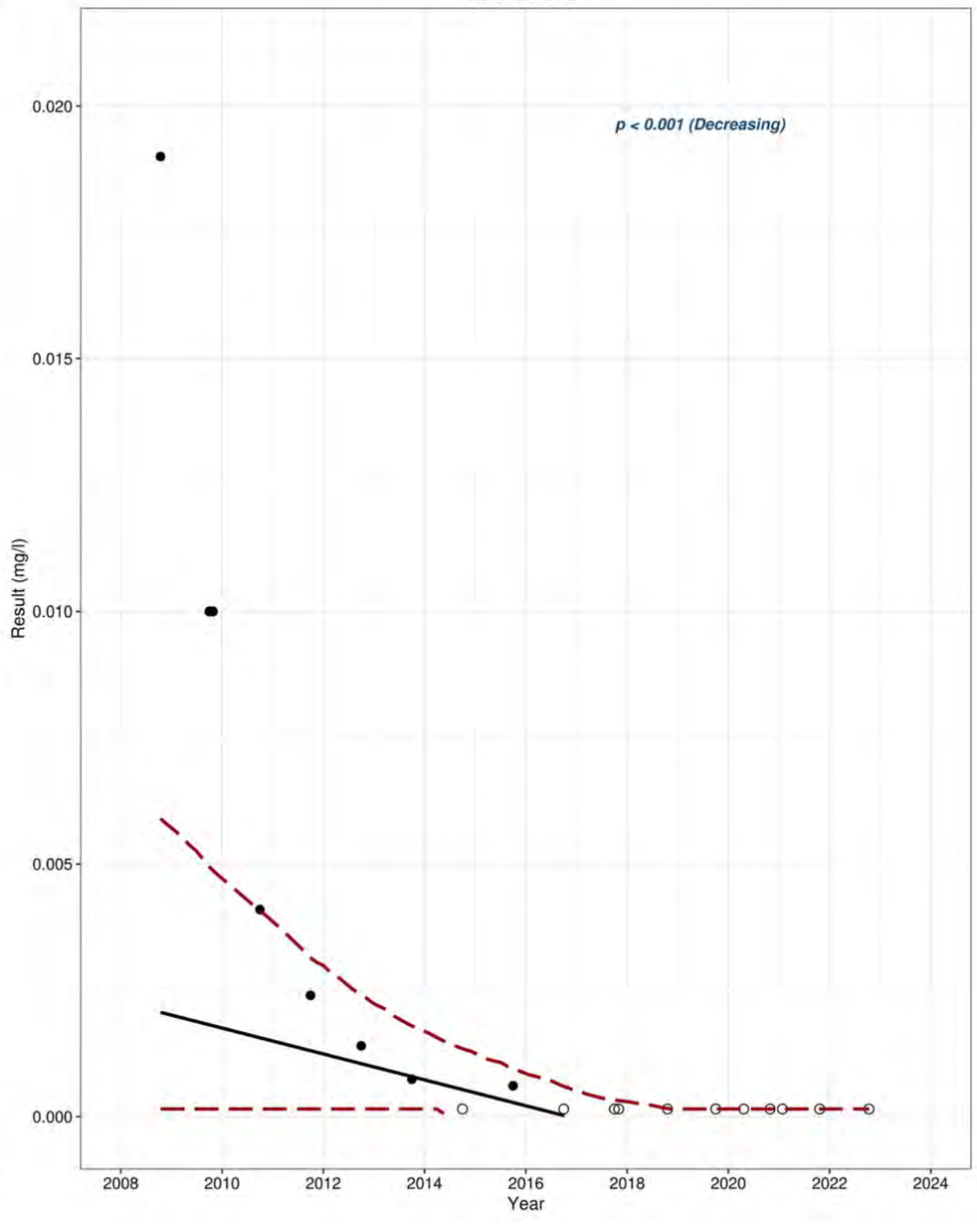

Appendix B: Exhibit 9
Zone A Downgradient Wells
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

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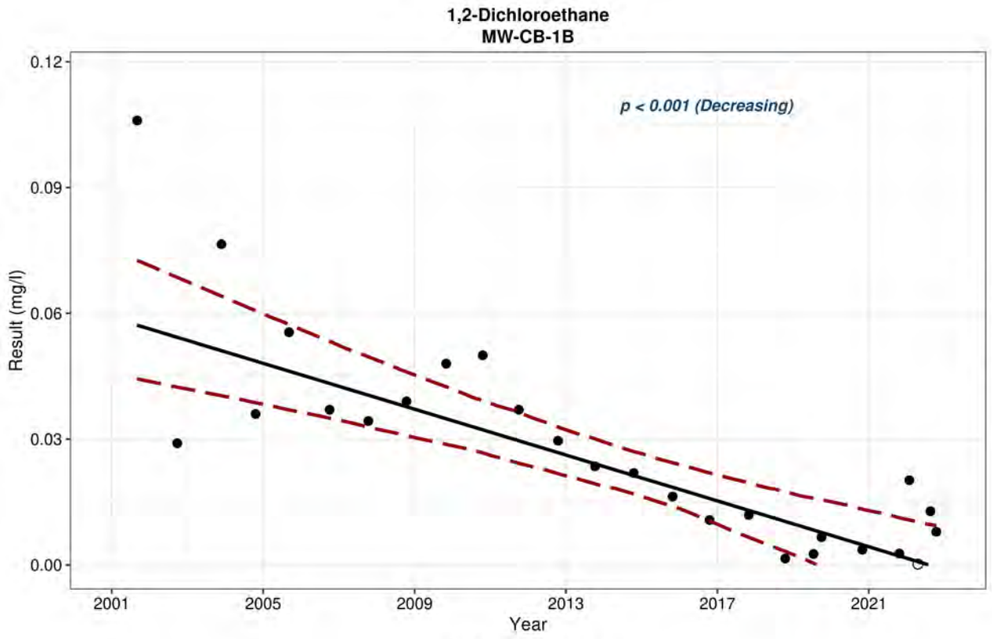

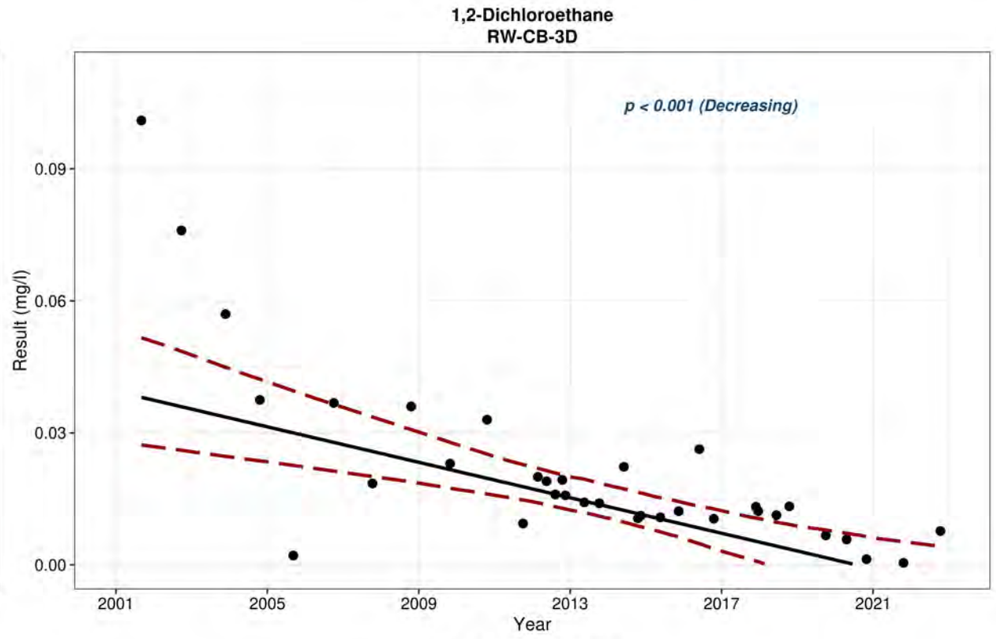

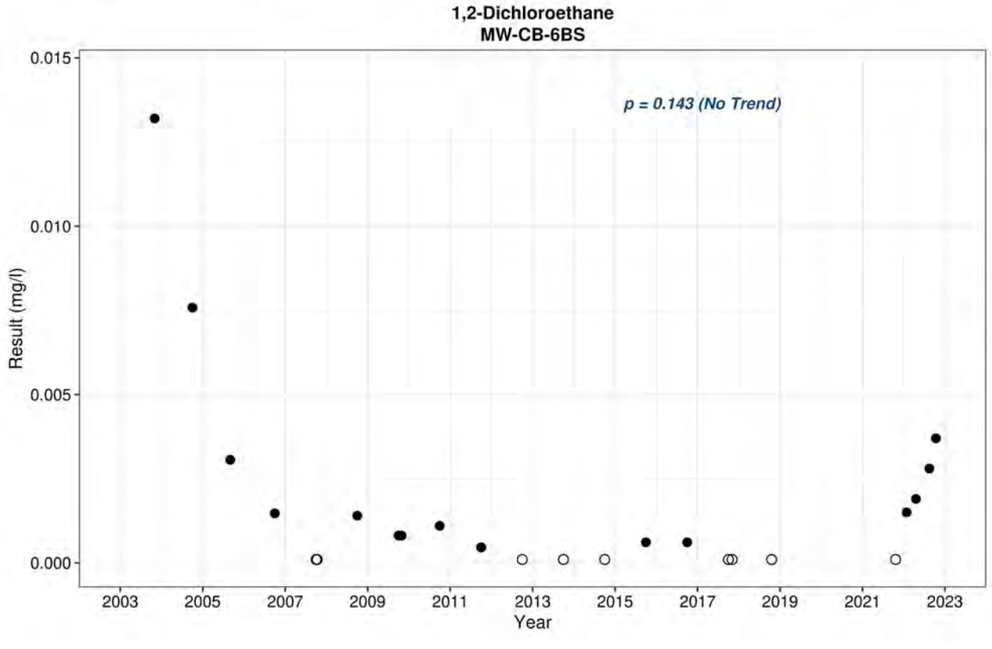

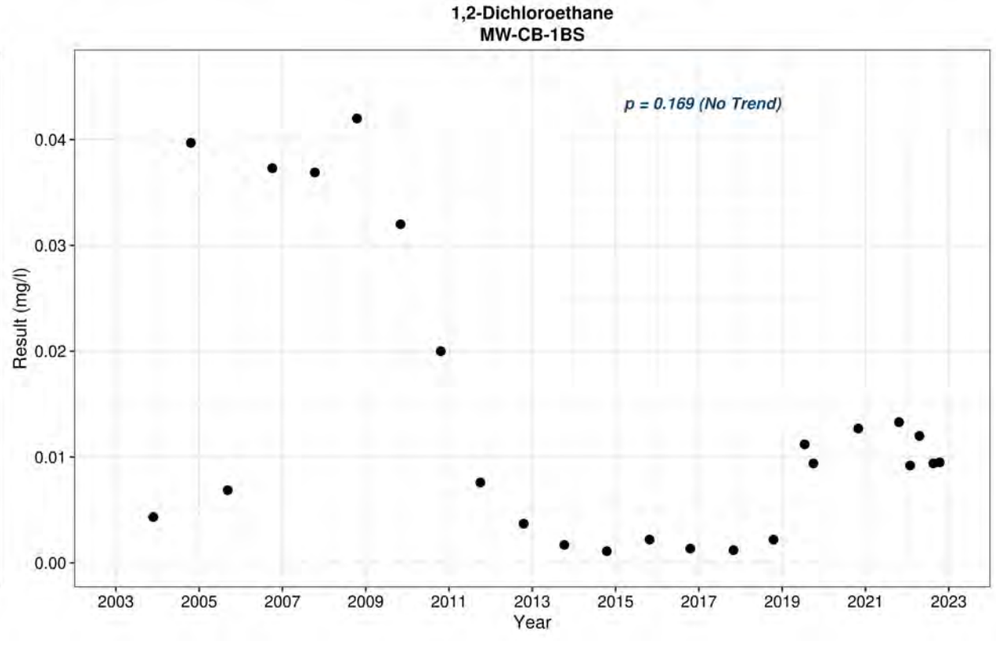

Appendix B: Exhibit 10
13 Acre Tract Area Wells
Charlie Burch Site
Spring, Texas

Rohm and Haas
A Wholly Owned Subsidiary of The Dow Chemical Company VCP No. 421

N

Drawing Date: 5/5/2023

Drawn By: LA

Jacobs

\\DC1VS01\GISPROJ\D\DOWCHEMICALS\CHARLIEBURCH\MAPS\REPORT\VICINITYMAP.MXD MUNOZLA 4/4/2023

Appendix C
Data Usability Summary

APPENDIX C

Data Usability Summary
Dow Charlie Burch, Houston, Texas
Groundwater Monitoring 2022

A Jacobs project chemist reviewed twelve data packages from SGS North America Inc. of Houston, Texas and thirteen data packages from SGS North America Inc. of Scott, Louisiana for the analysis of groundwater samples collected from January 27 to October 21, 2022, at the Dow Charlie Burch facility (site) in Houston, Texas.

Data were reviewed for conformance to the requirements of the Texas Commission on Environmental Quality (TCEQ) guidance document, *Review and Reporting of COC Concentration Data Under TRRP* (RG-366/Texas Risk Reduction Program (TRRP)-13) and adherence to project objectives.

Jacobs asserts that at the time the laboratory data were generated for the project, the laboratories were accredited by the National Environmental Laboratory Accreditation Conference under the Texas Laboratory Accreditation Program for the matrix, analyte, and method of analysis requested on the chain-of-custody documentation. Copies of the National Environmental Laboratory Accreditation Program certificate applicable to the period during which the laboratories generated the data in this report are included with this data usability summary (DUS) as an attachment.

Intended Use of Data: The laboratory data included in this report provide information on concentrations of the chemicals of concern (COCs) in the groundwater at the site to support the preparation of the annual groundwater monitoring report for 2022.

The following analysis was performed:

- SW-846 5030/8260B – 1,2-Dichloroethane by Gas Chromatography/Mass Spectrometry (GC/MS)

Data were reviewed and validated as described in *Review and Reporting of COC Concentration Data Under TRRP,* (RG-366/TRRP-13). The results of the review and validation are discussed in this DUS. The following laboratory submittals were examined:

- Reportable data
- Laboratory review checklists (LRCs) and associated exception reports (ERs)
- Observations regarding sampling procedures, and preservation procedures before shipping the samples to the laboratory

The results of supporting quality control (QC) analyses were summarized in the LRCs, ERs, and case narratives. The LRCs, associated ERs, and reportable data included in this review are attached to this DUS.

Introduction

A total of 162 groundwater samples were analyzed for VOCs. Additionally, field QC samples analyzed included twenty-two field duplicates and eighteen trip blanks. Table 1 lists the sample identifications cross-referenced to laboratory identifications.

Table 1. Cross-referenced Field Sample Identifications and Laboratory Identifications
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Laboratory Identification	Matrix	Date Collected
MW-CB-26A-20220127	TD78144-1	Water	1/27/2022
MW-CB-28A-20220127	TD78144-2	Water	1/27/2022
MW-CB-6BS-20220127	TD78144-3	Water	1/27/2022
MW-CB-40-20220127	TD78145-1	Water	1/27/2022
TRW-CB-1-20220127	TD78145-2	Water	1/27/2022
EAB-MW-03-20220127	TD78145-3	Water	1/27/2022
DUP-01	TD78145-4	Water	1/27/2022
RDP-5-20220127	TD78146-1	Water	1/27/2022
RDP-3-20220127	TD78146-2	Water	1/27/2022
DMW-08B-20220128	TD78146-3	Water	1/28/2022
MW-CB-2B-20220127	TD78146-4	Water	1/27/2022
MW-CB-6B-20220128	TD78146-5	Water	1/28/2022
DUP-02-20220127	TD78146-6	Water	1/27/2022
RW-CB-2-20220127	TD78150-1	Water	1/27/2022
RW-CB-2R-20220127	TD78150-2	Water	1/27/2022
RW-CB-4-20220127	TD78150-3	Water	1/27/2022
MW-CB-1A-20220127	TD78150-4	Water	1/27/2022
MW-CB-1B-20220127	TD78150-5	Water	1/27/2022
MW-CB-1BS-20220127	TD78150-6	Water	1/27/2022
MW-CB-2A-20220127	TD78150-7	Water	1/27/2022
MW-CB-4-20220127	TD78150-8	Water	1/27/2022
MW-CB-5A-20220127	TD78150-9	Water	1/27/2022
MW-CB-7B-20220127	TD78150-10	Water	1/27/2022
AZG1-39-44-20220128	TD78150-11	Water	1/28/2022
AZG1-63-68-20220128	TD78150-12	Water	1/28/2022
AZG2-40-45-20220128	TD78150-13	Water	1/28/2022
AZG2-59-64-20220128	TD78150-14	Water	1/28/2022
MW-CB-12AD-20220128	TD78150-15	Water	1/28/2022
MW-CB-8AD-20220128	TD78150-16	Water	1/28/2022
TRIP BLANK	TD78150-17	Water	1/28/2022
DUP-03	TD78150-18	Water	1/28/2022
AZG1-16-21-20220201	TD78292-1	Water	2/1/2022

Table 1. Cross-referenced Field Sample Identifications and Laboratory Identifications
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Laboratory Identification	Matrix	Date Collected
AZG2-18-23-20220201	TD78292-2	Water	2/1/2022
AZG4-20-25-20220201	TD78292-3	Water	2/1/2022
AZG4-39-44-20220201	TD78292-4	Water	2/1/2022
AZG4-59-64-20220201	TD78292-5	Water	2/1/2022
AZG6-35-40-20220201	TD78292-6	Water	2/1/2022
AZG6-45-50-20220201	TD78292-7	Water	2/1/2022
AZG6-67-72-20220201	TD78292-8	Water	2/1/2022
TB-01-20220201	TD78292-9	Water	2/1/2022
DUP_01_20220201	TD78292-10	Water	2/1/2022
MW-CB-15AS-20220216	TD78873-1	Water	2/16/2022
TRIP BLANK	TD78873-2	Water	2/16/2022
RW-CB-2-20220419	TD81114-1	Water	4/19/2022
RW-CB-2R-20220419	TD81114-2	Water	4/19/2022
RW-CB-4-20220419	TD81114-3	Water	4/19/2022
MW-CB-1B-20220419	TD81114-4	Water	4/19/2022
MW-CB-1BS-20220419	TD81114-5	Water	4/19/2022
MW-CB-1A-20220419	TD81114-6	Water	4/19/2022
MW-CB-4-20220419	TD81114-7	Water	4/19/2022
MW-CB-5A-20220419	TD81114-8	Water	4/19/2022
MW-CB-7B-20220419	TD81114-9	Water	4/19/2022
MW-CB-12AD-20220419	TD81114-10	Water	4/19/2022
MW-CB-AD-20220419	TD81114-11	Water	4/19/2022
TRW-CB-1-20220419	TD81114-12	Water	4/19/2022
EAB-MW-03-20220419	TD81114-13	Water	4/19/2022
MW-CB-15AS-20220420	TD81114-14	Water	4/20/2022
MW-CB-29A-20220419	TD81114-15	Water	4/19/2022
TRIP BLANK-02-202204119	TD81114-16	Water	4/19/2022
DUP-02-20220420	TD81114-17	Water	4/20/2022
MW-CB-GBS-20220419	TD81124-1	Water	4/19/2022
MW-CB-26A-20220419	TD81124-2	Water	4/19/2022
DUP-02-20220419	TD81124-3	Water	4/19/2022
MW-CB-40-20220419	TD81125-1	Water	4/19/2022

Table 1. Cross-referenced Field Sample Identifications and Laboratory Identifications
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Laboratory Identification	Matrix	Date Collected
TRIP BLANK-01	TD81125-2	Water	4/19/2022
MW-CB-2A-20220419	TD81128-1	Water	4/19/2022
MW-CB-2B-20220419	TD81128-2	Water	4/19/2022
BDP-3-20220419	TD81128-3	Water	4/19/2022
BDP-5-20220419	TD81128-4	Water	4/19/2022
MW-CB-GB-20220420	TD81128-5	Water	4/20/2022
DUP-01-20220419	TD81128-6	Water	4/19/2022
TRIP BLANK-01	TD81128-7	Water	4/19/2022
PMW-08B-20220419	TD81128-8	Water	4/19/2022
MW-CB-44_20220517_N_WG	LA79008-1	Water	5/17/2022
MW-CB-48_20220517_N_WG	LA79008-2	Water	5/17/2022
MW-CB-45_20220517_N_WG	LA79008-3	Water	5/17/2022
FD-01_20220517_FD_WG	LA79008-4	Water	5/17/2022
TB-01_20220517_TB_WQ	LA79008-5	Water	5/17/2022
TRW-CW-1-2022-0816	LA82162-1	Water	8/16/2022
MW-CB-15AS-20220816	LA82162-2	Water	8/16/2022
EAB-MW-03-20220816	LA82162-3	Water	8/16/2022
MW-CB-29-20220816	LA82162-4	Water	8/16/2022
DUP-01-20220816	LA82162-5	Water	8/16/2022
TRIP BLANK	LA82162-6	Water	8/16/2022
MW-CB-6BS-2022816	LA82163-1	Water	8/16/2022
MW-CB-28A-20220816	LA82163-2	Water	8/16/2022
MW-CB-26A-20220816	LA82163-3	Water	8/16/2022
DUP-04-20220816	LA82163-4	Water	8/16/2022
TRIP BLANK	LA82163-5	Water	8/16/2022
RDP-5-20220816	LA82164-1	Water	8/16/2022
RDP-3-20220816	LA82164-2	Water	8/16/2022
PMW-08B-20220816	LA82164-3	Water	8/16/2022
MW-CB-2B-20220816	LA82164-4	Water	8/16/2022
MW-CB-6B-20816	LA82164-5	Water	8/16/2022
DUP-03-20220816	LA82164-6	Water	8/16/2022
TRIP BLANK	LA82164-7	Water	8/16/2022

Table 1. Cross-referenced Field Sample Identifications and Laboratory Identifications
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Laboratory Identification	Matrix	Date Collected
AZG1-39-44-20220817	LA82225-1	Water	8/17/2022
AZG1-63-68-20220817	LA82225-2	Water	8/17/2022
AZG2-18-23-20220817	LA82225-3	Water	8/17/2022
AZG2-59-64-20220817	LA82225-4	Water	8/17/2022
AZG4-39-44-20220817	LA82225-5	Water	8/17/2022
AZG4-59-64-20220817	LA82225-6	Water	8/17/2022
AZG4-20-25-20220817	LA82225-7	Water	8/17/2022
AZG6-35-40-20220817	LA82225-8	Water	8/17/2022
AZG6-45-50-20220817	LA82225-9	Water	8/17/2022
AZG6-67-72-20220817	LA82225-10	Water	8/17/2022
MW-CB-40-20220816	LA82225-11	Water	8/16/2022
MW-CB-8AD-20220816	LA82225-12	Water	8/16/2022
MW-CB-12AD-20220816	LA82225-13	Water	8/16/2022
DUP-02-20220816	LA82225-14	Water	8/16/2022
TRIP BLANK	LA82225-15	Water	8/16/2022
RW-CB-2-20220818	LA82282-1	Water	8/18/2022
RW-CB-2R-20220818	LA82282-2	Water	8/18/2022
RW-CB-4-20220818	LA82282-3	Water	8/18/2022
MW-CB-1A-20220818	LA82282-4	Water	8/18/2022
MW-CB-1B-20220818	LA82282-5	Water	8/18/2022
MW-CB-1BS-20220818	LA82282-6	Water	8/18/2022
MW-CB-2A-20220818	LA82282-7	Water	8/18/2022
MW-CB-4-20220818	LA82282-8	Water	8/18/2022
MW-CB-5A-20220818	LA82282-9	Water	8/18/2022
MW-CB-7B-20220818	LA82282-10	Water	8/18/2022
DUP-01-20220818	LA82282-11	Water	8/18/2022
MW-CB-48-20221012	LA84214-1	Water	10/12/2022
MW-CB-47S-20221012	LA84214-2	Water	10/12/2022
MW-CB-46S-20221012	LA84214-3	Water	10/12/2022
MW-CB-45-20221012	LA84214-4	Water	10/12/2022
MW-CB-44-20221012	LA84214-5	Water	10/12/2022
MW-CB-41S-20221012	LA84214-6	Water	10/12/2022

Table 1. Cross-referenced Field Sample Identifications and Laboratory Identifications
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Laboratory Identification	Matrix	Date Collected
MW-CB-40-20221012	LA84214-7	Water	10/12/2022
MW-CB-39-20221012	LA84214-8	Water	10/12/2022
MW-CB-37S-20221012	LA84214-9	Water	10/12/2022
DUP-07-20221012	LA84214-10	Water	10/12/2022
TB-20221012	LA84214-11	Water	10/12/2022
OW-2-20221013	LA84244-1	Water	10/13/2022
MW-CB-5A-20221013	LA84244-2	Water	10/13/2022
RW-CB-5R-20221013	LA84244-3	Water	10/13/2022
RW-CB-4R-20221013	LA84244-4	Water	10/13/2022
RW-CB-4-20221013	LA84244-5	Water	10/13/2022
RW-CB-3D-20221013	LA84244-6	Water	10/13/2022
RW-CB-3R-20221013	LA84244-7	Water	10/13/2022
MW-CB-1B-20221013	LA84244-8	Water	10/13/2022
MW-CB-1A-20221013	LA84244-9	Water	10/13/2022
MW-CB-1BS-20221013	LA84244-10	Water	10/13/2022
RW-CB-2R-20221013	LA84244-11	Water	10/13/2022
RW-CB-2-20221013	LA84244-12	Water	10/13/2022
MW-CB-4-20221013	LA84244-13	Water	10/13/2022
MW-CB-7B-20221013	LA84244-14	Water	10/13/2022
DUP-01-20221013	LA84244-15	Water	10/13/2022
DUP-02-20221013	LA84244-16	Water	10/13/2022
TB-20221013	LA84244-17	Water	10/13/2022
MW-CB-25A-20221013	LA84245-1	Water	10/13/2022
MW-CB-6BS-20221013	LA84245-2	Water	10/13/2022
MW-CB-26A-20221013	LA84245-3	Water	10/13/2022
PMW-17-20221013	LA84245-4	Water	10/13/2022
MW-CB-28A-20221013	LA84245-5	Water	10/13/2022
DUP-04-20221013	LA84245-6	Water	10/13/2022
TB-20221013	LA84245-7	Water	10/13/2022
MW-CB-2B-20221013	LA84246-1	Water	10/13/2022
MW-CB-2A-20221013	LA84246-2	Water	10/13/2022
RDP-3-20221013	LA84246-3	Water	10/13/2022

Table 1. Cross-referenced Field Sample Identifications and Laboratory Identifications
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Laboratory Identification	Matrix	Date Collected
PMW-09B-20221013	LA84246-4	Water	10/13/2022
PMW-08B-20221013	LA84246-5	Water	10/13/2022
MW-CB-6B-20221013	LA84246-6	Water	10/13/2022
RDP-5-20221013	LA84246-7	Water	10/13/2022
DUP-03-20221013	LA84246-8	Water	10/13/2022
TRW-CB-4-2022101	LA84320-1	Water	10/17/2022
TRW-CB-3-2022101	LA84320-2	Water	10/17/2022
MW-CB-33A-2022101	LA84320-3	Water	10/17/2022
TRW-CB-2-22022101	LA84320-4	Water	10/17/2022
MW-CB-14AS-2022101	LA84320-5	Water	10/17/2022
TRW-CB-1-2022101	LA84320-6	Water	10/17/2022
MW-CB-15AS-2022101	LA84320-7	Water	10/17/2022
EAB-MW-03-2022101	LA84320-8	Water	10/17/2022
MW-CB-13AS-2022101	LA84320-9	Water	10/17/2022
MW-CB-12AS-2022-101	LA84320-10	Water	10/17/2022
MW-CB-12AD-2022101	LA84320-11	Water	10/17/2022
MW-CB-8AD-2022101	LA84320-12	Water	10/17/2022
MW-CB-16AS-2022101	LA84320-13	Water	10/17/2022
DUP-05-2022101	LA84320-14	Water	10/17/2022
DUP-06-2022101	LA84320-15	Water	10/17/2022
TB-2022101	LA84320-16	Water	10/17/2022
AZG6-67-72-20221018	LA84402-1	Water	10/18/2022
AZG6-45-50-20221018	LA84402-2	Water	10/18/2022
AZG6-35-40-20221018	LA84402-3	Water	10/18/2022
AZG2-59-64-20221018	LA84402-4	Water	10/18/2022
AZG2-18-23-20221018	LA84402-5	Water	10/18/2022
AZG-40-45-20221018	LA84402-6	Water	10/18/2022
TB-20221018	LA84402-7	Water	10/18/2022
AZG5-40-45-20221021	LA84522-1	Water	10/21/2022
AZG5-20-25-20221021	LA84522-2	Water	10/21/2022
TRIP BLANK	LA84522-3	Water	10/21/2022
AZG1-39-44-20221019	TD83671-1	Water	10/19/2022

Table 1. Cross-referenced Field Sample Identifications and Laboratory Identifications
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Laboratory Identification	Matrix	Date Collected
AZG1-63-68-20221019	TD83671-2	Water	10/19/2022
AZG4-20-25-20221019	TD83671-3	Water	10/19/2022
AZG4-59-64-20221019	TD83671-4	Water	10/19/2022
DUP-08-20221019	TD83671-5	Water	10/19/2022
AZG4-39-44-20221020	TD83687-1	Water	10/20/2022
MW-CB-1BS-20221020	TD83687-2	Water	10/20/2022
MW-CB-2A-20221020	TD83687-3	Water	10/20/2022
PMW-09B-20221020	TD83687-4	Water	10/20/2022
DUP-09-20221020	TD83687-5	Water	10/20/2022
TRIP BLANK	TD83687-6	Water	10/20/2022

Project Measurement Quality Objectives

Organic Analytes:

- LCS/LCSD recoveries and MS/MSD recoveries within 60 to 140 percent or laboratory control limits if more restrictive.
- LCS/LCSD RPDs and MS/MSD RPDs less than or equal to 20 percent or laboratory control limits if more restrictive.
- Sample and field duplicate RPD less than or equal to 30 percent or plus or minus 2 times the MQL if concentrations are less than 5 times MQL
- Completeness greater than or equal to 95 percent

Data Review and Validation Results

Analytical Results

Nondetected results are reported as less than the sample detection limit (SDL) as defined by the Texas Risk Reduction Program rule. Data qualified during the data validation process are listed in Table 2.

Table 2. Qualified Analytical Data
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Analytical Method	Analyte	Result	Units	Qualification	Reason for Qualification
AZG1-63-68-20220128	8260B	1,2-Dichloroethane	0.658	mg/l	JL	Analyzed outside holding time.

Table 2. Qualified Analytical Data
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Analytical Method	Analyte	Result	Units	Qualification	Reason for Qualification
AZG2-59-64-20220128	8260B	1,2-Dichloroethane	0.776	mg/l	JL	Analyzed outside holding time.
AZG1-16-21-20220201	8260B	1,2-Dichloroethane	0.0036	mg/l	JL	Analyzed outside holding time.
AZG2-18-23-20220201	8260B	1,2-Dichloroethane	0.00041 J	mg/l	JL	Analyzed outside holding time.
AZG4-20-25-20220201	8260B	1,2-Dichloroethane	0.003	mg/l	JL	Analyzed outside holding time.
AZG4-39-44-20220201	8260B	1,2-Dichloroethane	0.0158	mg/l	JL	Analyzed outside holding time.
AZG4-59-64-20220201	8260B	1,2-Dichloroethane	0.66	mg/l	JL	Analyzed outside holding time.
AZG6-35-40-20220201	8260B	1,2-Dichloroethane	0.00041 U	mg/l	UJL	Analyzed outside holding time.
AZG6-45-50-20220201	8260B	1,2-Dichloroethane	0.0524	mg/l	JL	Analyzed outside holding time.
AZG6-67-72-20220201	8260B	1,2-Dichloroethane	0.84	mg/l	JL	Analyzed outside holding time.
DUP_01_20220201	8260B	1,2-Dichloroethane	0.0595	mg/l	JL	Analyzed outside holding time.
AZG1-16-21-20220201	8260B	1,2-Dichloroethane	0.0036	mg/l	JL	Analyzed outside holding time.
AZG2-18-23-20220201	8260B	1,2-Dichloroethane	0.00041 J	mg/l	JL	Analyzed outside holding time.
AZG4-20-25-20220201	8260B	1,2-Dichloroethane	0.003	mg/l	JL	Analyzed outside holding time.
AZG4-39-44-20220201	8260B	1,2-Dichloroethane	0.0158	mg/l	JL	Analyzed outside holding time.
AZG4-59-64-20220201	8260B	1,2-Dichloroethane	0.66	mg/l	JL	Analyzed outside holding time.
AZG6-35-40-20220201	8260B	1,2-Dichloroethane	0.00041 U	mg/l	UJL	Analyzed outside holding time.
AZG6-45-50-20220201	8260B	1,2-Dichloroethane	0.0524	mg/l	JL	Analyzed outside holding time.
AZG6-67-72-20220201	8260B	1,2-Dichloroethane	0.84	mg/l	JL	Analyzed outside holding time.
DUP_01_20220201	8260B	1,2-Dichloroethane	0.0595	mg/l	JL	Analyzed outside holding time.
AZG2-18-23-20220817	8260B	1,2-Dichloroethane	0.148	mg/l	JL	Analyzed outside holding time.

Table 2. Qualified Analytical Data
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Analytical Method	Analyte	Result	Units	Qualification	Reason for Qualification
AZG2-59-64-20220817	8260B	1,2-Dichloroethane	0.168	mg/l	JL	Analyzed outside holding time.
AZG4-59-64-20220817	8260B	1,2-Dichloroethane	0.115	mg/l	JL	Analyzed outside holding time.
AZG4-59-64-20221019	8260B	1,2-Dichloroethane	0.598	mg/l	JL	Analyzed outside holding time.
AZG1-63-68-20221019	8260B	1,2-Dichloroethane	0.699	mg/l	JL	Analyzed outside holding time. Field duplicate RPD > 30%.
MW-CB-7B-20220127	8260B	1,2-Dichloroethane	0.00041 U	mg/l	UJ	Analyzed outside tune window.
DUP-01-20220816	8260B	1,2-Dichloroethane	0.0037	mg/l	J	Field duplicate RPD > 30%.
EAB-MW-03-20220816	8260B	1,2-Dichloroethane	0.0016	mg/l	J	Field duplicate RPD > 30%.
DUP-02-20221013	8260B	1,2-Dichloroethane	0.0117	mg/l	J	Field duplicate RPD > 30%.
MW-CB-1B-20221013	8260B	1,2-Dichloroethane	0.0079	mg/l	J	Field duplicate RPD > 30%.
DUP-03-20221013	8260B	1,2-Dichloroethane	0.0218	mg/l	J	Field duplicate RPD > 30%.
RDP-3-20221013	8260B	1,2-Dichloroethane	0.0088	mg/l	J	Field duplicate RPD > 30%.
DUP-06-2022101	8260B	1,2-Dichloroethane	0.00041 U	mg/l	UJ	Field duplicate RPD > 30%.
MW-CB-15AS-2022101	8260B	1,2-Dichloroethane	0.0042	mg/l	J	Field duplicate RPD > 30%.
DUP-08-20221019	8260B	1,2-Dichloroethane	1.24	mg/l	J	Field duplicate RPD > 30%.

mg/L = milligram per liter
U = The analyte was analyzed for but was not detected above the reported SDL or concentration.
UJ = The analyte was analyzed for but was not detected above the reported SDL; SDL is an estimate and may be inaccurate or imprecise.
UJL = The analyte was analyzed for but was not detected above the reported SDL; SDL is an estimate and may be inaccurate or imprecise, and is likely biased low.
J (in Result column) = Result > SDL < MQL
J (in Qualification column) = Estimated data; the reported sample concentration is approximated due to exceedance of one or more QC requirements.
JL = Estimated data; the reported sample concentration is approximated due to exceedance of one or more QC requirements; bias in result likely to be low.

Preservation and Holding Times

Samples were evaluated for agreement with the chain-of-custody documentation. Samples were received in the appropriate containers and in good condition with proper completion of the chain-of-custody documentation.

Sample receipt temperatures were less than or equal to 6 degrees Celsius (°C) as listed in the Code of Federal Regulations (CFR). Samples were preserved as specified in SW-846 Tables 2-40(A) and 2-40(B).

Twenty-five samples were analyzed for 1,2-dichloroethane outside of the 14-day holding time. Twenty-three detections in these samples were qualified as estimated and potentially biased low (JL), and two non-detect results were qualified as not detected at an estimated low-biased detection limit (UJL). Other samples were prepared and analyzed within holding times specified in SW-846 Tables 2-40(A) and 2-40(B)

Calibrations and Tunes

According to the LRCs and case narratives, initial calibration and continuing calibration data met SW-846 method requirements.

The LRCs also document satisfactory instrument performance calibrations (GC/MS tunes) for the GC/MS analyses (VOCs) with the exception of sample MW-CB-7B-20220127 (TD78150-10) which was analyzed outside of the 12-hour tune window. The sample was reanalyzed outside of holding time and confirmed the initial non-detect result which was qualified as not detected at an estimated detection limit (UJ).

Blanks

No target analytes were detected in any laboratory blank or trip blank at any concentration that required data qualification.

Surrogate Recoveries and Internal Standard Recoveries

Surrogate recoveries for VOCs analyses were within acceptance criteria. According to the LRCs and case narratives, internal standard areas were within SW-846 method acceptance criteria.

Laboratory Control Samples

LCSs and LCSDs were spiked with the target analyte of interest for the analytical method. LCS/LCSD recoveries and RPDs were within acceptance criteria.

Matrix Spike and Matrix Spike Duplicates

MS/MSDs were spiked with the target analyte of interest for the analytical method. MS/MSD recoveries and RPDs were within acceptance criteria.

Field Precision

Table 3 summarizes field duplicate precision calculations. Based on the RPD between the concentrations detected and the proximity of the concentrations to the MQL, overall field

duplicate precision was within the project acceptance criteria. The RPDs for 1,2-dichloroethane in five samples and their associated field duplicates exceeded the 30 percent acceptance criteria and were therefore qualified as estimated (J).

Field Procedures

Samples were collected following standard operating procedures detailed in the project sampling instructions. No anomalies were observed during sampling.

Table 3. Field Precision
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Analyte	Sample Result	Duplicate Result	RPD[a]	Qualified
EAB-MW-03-20220127	1,2-Dichloroethane	0.0107	0.0108	0.9%	A
RDP-3-20220127	1,2-Dichloroethane	0.0222	0.0228	2.7%	A
MW-CB-12AD-20220128	1,2-Dichloroethane	0.0112	0.0131	15.6%	A
AZG6-45-50-20220201	1,2-Dichloroethane	0.0524	0.0595	12.7%	A
MW-CB-15AS-20220420	1,2-Dichloroethane	0.0125	0.0128	2.4%	A
MW-CB-26A-20220419	1,2-Dichloroethane	0.0103	0.0123	17.7%	A
MW-CB-45_20220517_N_WG	1,2-Dichloroethane	0.0027	0.0039	36.4%	A
EAB-MW-03-20220816	1,2-Dichloroethane	0.0016	0.0037	79.2%	J
MW-CB-26A-20220816	1,2-Dichloroethane	0.0097	0.0114	16.1%	A
RDP-3-20220816	1,2-Dichloroethane	0.02	0.0209	4.4%	A
MW-CB-12AD-20220816	1,2-Dichloroethane	0.0168	0.014	18.2%	A
MW-CB-1A-20220818	1,2-Dichloroethane	0.0072	0.0064	11.8%	A
OW-2-20221013	1,2-Dichloroethane	0.0015	0.0016	6.5%	A
MW-CB-1B-20221013	1,2-Dichloroethane	0.0079	0.0117	38.8%	J
MW-CB-25A-20221013	1,2-Dichloroethane	0.003	0.0026	14.3%	A
RDP-3-20221013	1,2-Dichloroethane	0.0088	0.0218	85.0%	J

Table 3. Field Precision
Data Usability Summary
Dow Charlie Burch facility, Houston, Texas

Field Identification	Analyte	Sample Result	Duplicate Result	RPD[a]	Qualified
MW-CB-15AS-20221017	1,2-Dichloroethane	0.0042	0.00041 U	164.4%	J
AZG1-63-68-20221019	1,2-Dichloroethane	0.699	1.24	55.8%	J
AZG4-39-44-20221020	1,2-Dichloroethane	0.0142	0.0144	1.4%	A

[a] RPD = ((SR - DR)*200)/(SR + DR)
A = Acceptable Data
J = Estimated data due to field duplicate precision outside of acceptance criteria
U = Not detected at reported detection limit
SR = Sample Result
DR = Duplicate Result
MQL = method quantitation limit
RPD = relative percent difference
SDL = sample detection limit

Summary

Overall, the quality of the analytical data was found to be within the QC limits established by the project data quality objectives, the analytical methods, and the review criteria presented in *Review and Reporting of COC Concentration Data Under TRRP* (RG-366/TRRP-13).

The following data quality indicators were found to be within project acceptance criteria and did not require data qualification:

- Sample receipt conditions
- Sample preservation
- Initial calibrations
- Continuing calibration verification
- Blanks
- Internal standard recoveries
- Surrogate recoveries
- LCS/LCSD recoveries and RPDs
- MS/MSD recoveries and RPDs

Twenty-three detections of 1,2-dichloroethane were qualified as estimated and potentially biased low (JL) and two non-detect results were qualified as not detected at an estimated low-biased detection limit (UJL) due to being analyzed outside of holding time. Results for five samples and their field duplicates were qualified as estimated (J) or not detected at an estimated detection limit (UJ) due to field duplicate imprecision. One result was qualified as estimated (J) due to being analyzed outside of the 12-hour tune window.

No results were rejected, giving the data set a 100 percent completeness. The analytical results may be used to support project decisions.

Attachment
National Environmental Laboratory
Accreditation Program Certificates

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

SGS North America Inc. – Houston

10165 Harwin Drive, Suite 150
Houston, TX 77036-1622

in accordance with Texas Water Code Chapter 5, Subchapter R, Title 30 Texas Administrative Code Chapter 25, and the National Environmental Laboratory Accreditation Program.

The laboratory's scope of accreditation includes the fields of accreditation that accompany this certificate. Continued accreditation depends upon successful ongoing participation in the program. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current location(s) and accreditation status for particular methods and analyses (www.tceq.texas.gov/goto/lab). Accreditation does not imply that a product, process, system or person is approved by the Texas Commission on Environmental Quality.

Certificate Number: T104704220-21-42
Effective Date: 9/16/2021
Expiration Date: 3/31/2022

Executive Director Texas Commission on Environmental Quality

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

SGS North America Inc. – Houston

10165 Harwin Drive, Suite 150
Houston, TX 77036-1622

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Certificate Number: T104704220-22-44
Effective Date: 4/1/2022
Expiration Date: 3/31/2023

Executive Director Texas Commission on Environmental Quality

Texas Commission on Environmental Quality

NELAP-Recognized Laboratory Accreditation is hereby awarded to

SGS North America Inc. – Scott

500 Ambassador Caffery Parkway
Scott, LA 70583-8544

in accordance with Texas Water Code Chapter 5, Subchapter R, Title 30 Texas Administrative Code Chapter 25, and the National Environmental Laboratory Accreditation Program.

The laboratory's scope of accreditation includes the fields of accreditation that accompany this certificate. Continued accreditation depends upon successful ongoing participation in the program. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current location(s) and accreditation status for particular methods and analyses (www.tceq.texas.gov/goto/lab). Accreditation does not imply that a product, process, system or person is approved by the Texas Commission on Environmental Quality.

Certificate Number: T104704186-21-20
Effective Date: 1/1/2022
Expiration Date: 12/31/2022

Executive Director Texas Commission on Environmental Quality

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704186-21-20
Expiration Date: 12/31/2022
Issue Date: 1/1/2022

SGS North America Inc. – Scott

500 Ambassador Caffery Parkway
Scott, LA 70583-8544

These fields of accreditation supercede all previous fields. The Texas Commission on Environmental Quality urges customers to verify the laboratory's current accreditation status for particular methods and analyses.

Matrix: ***Non-Potable Water***

Method EPA 120.1

Analyte	AB	Analyte ID	Method ID
Conductivity	LA-DEQ	1610	10006403

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	LA-DEQ	849	10118806

Method EPA 160.4

Analyte	AB	Analyte ID	Method ID
Residue-volatile	LA-DEQ	1970	10010409

Method EPA 1664

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	LA-DEQ	1803	10127807
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	LA-DEQ	10220	10127807

Method EPA 180.1

Analyte	AB	Analyte ID	Method ID
Turbidity	LA-DEQ	2055	10011606

Method EPA 200.7

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DEQ	1000	10013806
Antimony	LA-DEQ	1005	10013806
Arsenic	LA-DEQ	1010	10013806
Barium	LA-DEQ	1015	10013806
Beryllium	LA-DEQ	1020	10013806
Boron	LA-DEQ	1025	10013806
Cadmium	LA-DEQ	1030	10013806
Calcium	LA-DEQ	1035	10013806
Chromium	LA-DEQ	1040	10013806
Cobalt	LA-DEQ	1050	10013806
Copper	LA-DEQ	1055	10013806
Iron	LA-DEQ	1070	10013806
Lead	LA-DEQ	1075	10013806

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Matrix: ***Non-Potable Water***

Magnesium	LA-DEQ	1085	10013806
Manganese	LA-DEQ	1090	10013806
Molybdenum	LA-DEQ	1100	10013806
Nickel	LA-DEQ	1105	10013806
Potassium	LA-DEQ	1125	10013806
Selenium	LA-DEQ	1140	10013806
Silver	LA-DEQ	1150	10013806
Sodium	LA-DEQ	1155	10013806
Strontium	LA-DEQ	1160	10013806
Thallium	LA-DEQ	1165	10013806
Tin	LA-DEQ	1175	10013806
Titanium	LA-DEQ	1180	10013806
Vanadium	LA-DEQ	1185	10013806
Zinc	LA-DEQ	1190	10013806

Method EPA 200.8

Analyte	**AB**	**Analyte ID**	**Method ID**
Aluminum	LA-DEQ	1000	10014605
Antimony	LA-DEQ	1005	10014605
Arsenic	LA-DEQ	1010	10014605
Barium	LA-DEQ	1015	10014605
Beryllium	LA-DEQ	1020	10014605
Boron	LA-DEQ	1025	10014605
Cadmium	LA-DEQ	1030	10014605
Calcium	LA-DEQ	1035	10014605
Chromium	LA-DEQ	1040	10014605
Cobalt	LA-DEQ	1050	10014605
Copper	LA-DEQ	1055	10014605
Iron	LA-DEQ	1070	10014605
Lead	LA-DEQ	1075	10014605
Magnesium	LA-DEQ	1085	10014605

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Matrix: ***Non-Potable Water***

Manganese	LA-DEQ	1090	10014605
Molybdenum	LA-DEQ	1100	10014605
Nickel	LA-DEQ	1105	10014605
Potassium	LA-DEQ	1125	10014605
Selenium	LA-DEQ	1140	10014605
Silver	LA-DEQ	1150	10014605
Sodium	LA-DEQ	1155	10014605
Strontium	LA-DEQ	1160	10014605
Thallium	LA-DEQ	1165	10014605
Tin	LA-DEQ	1175	10014605
Titanium	LA-DEQ	1180	10014605
Uranium	LA-DEQ	3035	10014605
Vanadium	LA-DEQ	1185	10014605
Zinc	LA-DEQ	1190	10014605

Method EPA 245.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	LA-DEQ	1095	10036609

Method EPA 300.0

Analyte	**AB**	**Analyte ID**	**Method ID**
Bromide	LA-DEQ	1540	10053200
Chloride	LA-DEQ	1575	10053200
Fluoride	LA-DEQ	1730	10053200
Nitrate as N	LA-DEQ	1810	10053200
Nitrite as N	LA-DEQ	1840	10053200
Sulfate	LA-DEQ	2000	10053200

Method EPA 410.4

Analyte	**AB**	**Analyte ID**	**Method ID**
Chemical oxygen demand (COD)	LA-DEQ	1565	10077404

Method EPA 420.1

Analyte	**AB**	**Analyte ID**	**Method ID**
Total phenolics	LA-DEQ	1905	10079400

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Matrix: ***Non-Potable Water***

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DEQ	1000	10155201
Antimony	LA-DEQ	1005	10155201
Arsenic	LA-DEQ	1010	10155201
Barium	LA-DEQ	1015	10155201
Beryllium	LA-DEQ	1020	10155201
Boron	LA-DEQ	1025	10155201
Cadmium	LA-DEQ	1030	10155201
Calcium	LA-DEQ	1035	10155201
Chromium	LA-DEQ	1040	10155201
Cobalt	LA-DEQ	1050	10155201
Copper	LA-DEQ	1055	10155201
Iron	LA-DEQ	1070	10155201
Lead	LA-DEQ	1075	10155201
Lithium	LA-DEQ	1080	10155201
Magnesium	LA-DEQ	1085	10155201
Manganese	LA-DEQ	1090	10155201
Molybdenum	LA-DEQ	1100	10155201
Nickel	LA-DEQ	1105	10155201
Potassium	LA-DEQ	1125	10155201
Selenium	LA-DEQ	1140	10155201
Silver	LA-DEQ	1150	10155201
Sodium	LA-DEQ	1155	10155201
Strontium	LA-DEQ	1160	10155201
Thallium	LA-DEQ	1165	10155201
Tin	LA-DEQ	1175	10155201
Titanium	LA-DEQ	1180	10155201
Vanadium	LA-DEQ	1185	10155201
Zinc	LA-DEQ	1190	10155201

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Matrix: ***Non-Potable Water***

Method EPA 602

Analyte	AB	Analyte ID	Method ID
1,2-Dichlorobenzene	LA-DEQ	4610	10102202
1,3-Dichlorobenzene	LA-DEQ	4615	10102202
1,4-Dichlorobenzene	LA-DEQ	4620	10102202
Benzene	LA-DEQ	4375	10102202
Chlorobenzene	LA-DEQ	4475	10102202
Ethylbenzene	LA-DEQ	4765	10102202
m+p-xylene	LA-DEQ	5240	10102202
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10102202
o-Xylene	LA-DEQ	5250	10102202
Toluene	LA-DEQ	5140	10102202
Xylene (total)	LA-DEQ	5260	10102202

Method EPA 6020

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DEQ	1000	10156204
Antimony	LA-DEQ	1005	10156204
Arsenic	LA-DEQ	1010	10156204
Barium	LA-DEQ	1015	10156204
Beryllium	LA-DEQ	1020	10156204
Boron	LA-DEQ	1025	10156204
Cadmium	LA-DEQ	1030	10156204
Calcium	LA-DEQ	1035	10156204
Chromium	LA-DEQ	1040	10156204
Cobalt	LA-DEQ	1050	10156204
Copper	LA-DEQ	1055	10156204
Iron	LA-DEQ	1070	10156204
Lead	LA-DEQ	1075	10156204
Lithium	LA-DEQ	1080	10156204
Magnesium	LA-DEQ	1085	10156204
Manganese	LA-DEQ	1090	10156204

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Matrix: ***Non-Potable Water***

Molybdenum	LA-DEQ	1100	10156204
Nickel	LA-DEQ	1105	10156204
Potassium	LA-DEQ	1125	10156204
Selenium	LA-DEQ	1140	10156204
Silver	LA-DEQ	1150	10156204
Sodium	LA-DEQ	1155	10156204
Strontium	LA-DEQ	1160	10156204
Thallium	LA-DEQ	1165	10156204
Tin	LA-DEQ	1175	10156204
Titanium	LA-DEQ	1180	10156204
Vanadium	LA-DEQ	1185	10156204
Zinc	LA-DEQ	1190	10156204

Method EPA 624.1

Analyte	AB	Analyte ID	Method ID
1,1,1-Trichloroethane	LA-DEQ	5160	10298121
1,1,2,2-Tetrachloroethane	LA-DEQ	5110	10298121
1,1,2-Trichloroethane	LA-DEQ	5165	10298121
1,1-Dichloroethane	LA-DEQ	4630	10298121
1,1-Dichloroethylene	LA-DEQ	4640	10298121
1,2-Dibromoethane (EDB, Ethylene dibromide)	LA-DEQ	4585	10298121
1,2-Dichlorobenzene	LA-DEQ	4610	10298121
1,2-Dichloroethane (Ethylene dichloride)	LA-DEQ	4635	10298121
1,2-Dichloropropane	LA-DEQ	4655	10298121
1,3-Dichlorobenzene	LA-DEQ	4615	10298121
1,4-Dichlorobenzene	LA-DEQ	4620	10298121
2-Butanone (Methyl ethyl ketone, MEK)	LA-DEQ	4410	10298121
2-Chloroethyl vinyl ether	LA-DEQ	4500	10298121
Acetone (2-Propanone)	LA-DEQ	4315	10298121
Acrolein (Propenal)	LA-DEQ	4325	10298121
Acrylonitrile	LA-DEQ	4340	10298121

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Matrix: ***Non-Potable Water***

Benzene	LA-DEQ	4375	10298121
Bromodichloromethane	LA-DEQ	4395	10298121
Bromoform	LA-DEQ	4400	10298121
Carbon tetrachloride	LA-DEQ	4455	10298121
Chlorobenzene	LA-DEQ	4475	10298121
Chlorodibromomethane	LA-DEQ	4575	10298121
Chloroethane (Ethyl chloride)	LA-DEQ	4485	10298121
Chloroform	LA-DEQ	4505	10298121
cis-1,2-Dichloroethylene	LA-DEQ	4645	10298121
cis-1,3-Dichloropropene	LA-DEQ	4680	10298121
Ethylbenzene	LA-DEQ	4765	10298121
m+p-xylene	LA-DEQ	5240	10298121
Methyl bromide (Bromomethane)	LA-DEQ	4950	10298121
Methyl chloride (Chloromethane)	LA-DEQ	4960	10298121
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10298121
Methylene chloride (Dichloromethane)	LA-DEQ	4975	10298121
Naphthalene	LA-DEQ	5005	10298121
o-Xylene	LA-DEQ	5250	10298121
Tetrachloroethylene (Perchloroethylene)	LA-DEQ	5115	10298121
Toluene	LA-DEQ	5140	10298121
trans-1,2-Dichloroethylene	LA-DEQ	4700	10298121
trans-1,3-Dichloropropylene	LA-DEQ	4685	10298121
Trichloroethene (Trichloroethylene)	LA-DEQ	5170	10298121
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	LA-DEQ	5175	10298121
Vinyl chloride	LA-DEQ	5235	10298121
Xylene (total)	LA-DEQ	5260	10298121

Method EPA 625.1

Analyte	AB	Analyte ID	Method ID
1,2,4,5-Tetrachlorobenzene	LA-DEQ	6715	10300024
1,2,4-Trichlorobenzene	LA-DEQ	5155	10300024

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Scott, LA 70583-8544

Issue Date: 1/1/2022

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Matrix: ***Non-Potable Water***

1,2-Dichlorobenzene	LA-DEQ	4610	10300024
1,2-Diphenylhydrazine	LA-DEQ	6221	10300024
1,3-Dichlorobenzene	LA-DEQ	4615	10300024
1,4-Dichlorobenzene	LA-DEQ	4620	10300024
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	LA-DEQ	4659	10300024
2,3,4,6-Tetrachlorophenol	LA-DEQ	6735	10300024
2,4,5-Trichlorophenol	LA-DEQ	6835	10300024
2,4,6-Trichlorophenol	LA-DEQ	6840	10300024
2,4-Dichlorophenol	LA-DEQ	6000	10300024
2,4-Dimethylphenol	LA-DEQ	6130	10300024
2,4-Dinitrophenol	LA-DEQ	6175	10300024
2,4-Dinitrotoluene (2,4-DNT)	LA-DEQ	6185	10300024
2,6-Dinitrotoluene (2,6-DNT)	LA-DEQ	6190	10300024
2-Chloronaphthalene	LA-DEQ	5795	10300024
2-Chlorophenol	LA-DEQ	5800	10300024
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	LA-DEQ	6360	10300024
2-Methylphenol (o-Cresol)	LA-DEQ	6400	10300024
2-Nitrophenol	LA-DEQ	6490	10300024
3,3'-Dichlorobenzidine	LA-DEQ	5945	10300024
4-Bromophenyl phenyl ether (BDE-3)	LA-DEQ	5660	10300024
4-Chloro-3-methylphenol	LA-DEQ	5700	10300024
4-Chlorophenyl phenylether	LA-DEQ	5825	10300024
4-Methylphenol (p-Cresol)	LA-DEQ	6410	10300024
4-Nitrophenol	LA-DEQ	6500	10300024
Acenaphthene	LA-DEQ	5500	10300024
Acenaphthylene	LA-DEQ	5505	10300024
Anthracene	LA-DEQ	5555	10300024
Benzidine	LA-DEQ	5595	10300024
Benzo(a)anthracene	LA-DEQ	5575	10300024
Benzo(a)pyrene	LA-DEQ	5580	10300024

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NELAP - Recognized Laboratory Fields of Accreditation

SGS North America Inc. – Scott

500 Ambassador Caffery Parkway
Scott, LA 70583-8544

Certificate: T104704186-21-20
Expiration Date: 12/31/2022
Issue Date: 1/1/2022

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Matrix: ***Non-Potable Water***

Benzo(b)fluoranthene	LA-DEQ	5585	10300024
Benzo(g,h,i)perylene	LA-DEQ	5590	10300024
Benzo(k)fluoranthene	LA-DEQ	5600	10300024
bis(2-Chloroethoxy)methane	LA-DEQ	5760	10300024
bis(2-Chloroethyl) ether	LA-DEQ	5765	10300024
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	LA-DEQ	6065	10300024
Butyl benzyl phthalate	LA-DEQ	5670	10300024
Chrysene	LA-DEQ	5855	10300024
Dibenz(a,h) anthracene	LA-DEQ	5895	10300024
Diethyl phthalate	LA-DEQ	6070	10300024
Dimethyl phthalate	LA-DEQ	6135	10300024
Di-n-butyl phthalate	LA-DEQ	5925	10300024
Di-n-octyl phthalate	LA-DEQ	6200	10300024
Fluoranthene	LA-DEQ	6265	10300024
Fluorene	LA-DEQ	6270	10300024
Hexachlorobenzene	LA-DEQ	6275	10300024
Hexachlorobutadiene	LA-DEQ	4835	10300024
Hexachlorocyclopentadiene	LA-DEQ	6285	10300024
Hexachloroethane	LA-DEQ	4840	10300024
Indeno(1,2,3-cd) pyrene	LA-DEQ	6315	10300024
Isophorone	LA-DEQ	6320	10300024
Naphthalene	LA-DEQ	5005	10300024
Nitrobenzene	LA-DEQ	5015	10300024
n-Nitrosodiethylamine	LA-DEQ	6525	10300024
n-Nitrosodimethylamine	LA-DEQ	6530	10300024
n-Nitrosodi-n-butylamine	LA-DEQ	5025	10300024
n-Nitrosodi-n-propylamine	LA-DEQ	6545	10300024
n-Nitrosodiphenylamine	LA-DEQ	6535	10300024
Pentachlorobenzene	LA-DEQ	6590	10300024
Pentachlorophenol	LA-DEQ	6605	10300024

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Matrix: ***Non-Potable Water***

Phenanthrene	LA-DEQ	6615	10300024
Phenol	LA-DEQ	6625	10300024
Pyrene	LA-DEQ	6665	10300024
Pyridine	LA-DEQ	5095	10300024

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	LA-DEQ	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	LA-DEQ	1095	10165603

Method EPA 7770

Analyte	**AB**	**Analyte ID**	**Method ID**
Sodium	LA-DEQ	1155	10170000

Method EPA 8011

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2-Dibromo-3-chloropropane (DBCP)	LA-DEQ	4570	10173009
1,2-Dibromoethane (EDB, Ethylene dibromide)	LA-DEQ	4585	10173009

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Diesel range organics (DRO)	LA-DEQ	9369	10173203
Gasoline range organics (GRO)	LA-DEQ	9408	10173203

Method EPA 8021

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4-Trimethylbenzene	LA-DEQ	5210	10174400
1,2-Dichlorobenzene	LA-DEQ	4610	10174400
1,3,5-Trimethylbenzene	LA-DEQ	5215	10174400
1,3-Dichlorobenzene	LA-DEQ	4615	10174400
1,4-Dichlorobenzene	LA-DEQ	4620	10174400
Benzene	LA-DEQ	4375	10174400
Chlorobenzene	LA-DEQ	4475	10174400
Ethylbenzene	LA-DEQ	4765	10174400

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Matrix: ***Non-Potable Water***

m+p-xylene	LA-DEQ	5240	10174400
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10174400
Naphthalene	LA-DEQ	5005	10174400
o-Xylene	LA-DEQ	5250	10174400
Toluene	LA-DEQ	5140	10174400
Xylene (total)	LA-DEQ	5260	10174400

Method EPA 8260

Analyte	AB	Analyte ID	Method ID
1,1,1,2-Tetrachloroethane	LA-DEQ	5105	10184404
1,1,1-Trichloroethane	LA-DEQ	5160	10184404
1,1,2,2-Tetrachloroethane	LA-DEQ	5110	10184404
1,1,2-Trichloroethane	LA-DEQ	5165	10184404
1,1-Dichloroethane	LA-DEQ	4630	10184404
1,1-Dichloroethylene	LA-DEQ	4640	10184404
1,1-Dichloropropene	LA-DEQ	4670	10184404
1,2,3-Trichlorobenzene	LA-DEQ	5150	10184404
1,2,3-Trichloropropane	LA-DEQ	5180	10184404
1,2,4-Trichlorobenzene	LA-DEQ	5155	10184404
1,2,4-Trimethylbenzene	LA-DEQ	5210	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	LA-DEQ	4585	10184404
1,2-Dichlorobenzene	LA-DEQ	4610	10184404
1,2-Dichloroethane (Ethylene dichloride)	LA-DEQ	4635	10184404
1,2-Dichloropropane	LA-DEQ	4655	10184404
1,3,5-Trimethylbenzene	LA-DEQ	5215	10184404
1,3-Dichlorobenzene	LA-DEQ	4615	10184404
1,3-Dichloropropane	LA-DEQ	4660	10184404
1,4-Dichlorobenzene	LA-DEQ	4620	10184404
1,4-Dioxane (1,4-Diethyleneoxide)	LA-DEQ	4735	10184404
2,2-Dichloropropane	LA-DEQ	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	LA-DEQ	4410	10184404

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Matrix: ***Non-Potable Water***

2-Chloroethyl vinyl ether	LA-DEQ	4500	10184404
2-Chlorotoluene	LA-DEQ	4535	10184404
2-Hexanone (MBK)	LA-DEQ	4860	10184404
2-Nitropropane	LA-DEQ	5020	10184404
4-Chlorotoluene	LA-DEQ	4540	10184404
4-Methyl-2-pentanone (MIBK)	LA-DEQ	4995	10184404
Acetone (2-Propanone)	LA-DEQ	4315	10184404
Acetonitrile	LA-DEQ	4320	10184404
Acrolein (Propenal)	LA-DEQ	4325	10184404
Acrylonitrile	LA-DEQ	4340	10184404
Allyl chloride (3-Chloropropene)	LA-DEQ	4355	10184404
Benzene	LA-DEQ	4375	10184404
Bromobenzene	LA-DEQ	4385	10184404
Bromochloromethane	LA-DEQ	4390	10184404
Bromodichloromethane	LA-DEQ	4395	10184404
Bromoform	LA-DEQ	4400	10184404
Carbon disulfide	LA-DEQ	4450	10184404
Carbon tetrachloride	LA-DEQ	4455	10184404
Chlorobenzene	LA-DEQ	4475	10184404
Chlorodibromomethane	LA-DEQ	4575	10184404
Chloroethane (Ethyl chloride)	LA-DEQ	4485	10184404
Chloroform	LA-DEQ	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	LA-DEQ	4525	10184404
cis-1,2-Dichloroethylene	LA-DEQ	4645	10184404
cis-1,3-Dichloropropene	LA-DEQ	4680	10184404
cis-1,4-Dichloro-2-butene	LA-DEQ	4600	10184404
Dibromomethane (Methylene bromide)	LA-DEQ	4595	10184404
Dichlorodifluoromethane (Freon-12)	LA-DEQ	4625	10184404
Diethyl ether	LA-DEQ	4725	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	LA-DEQ	4745	10184404

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Matrix: ***Non-Potable Water***

Ethanol	LA-DEQ	4750	10184404
Ethyl acetate	LA-DEQ	4755	10184404
Ethyl methacrylate	LA-DEQ	4810	10184404
Ethylbenzene	LA-DEQ	4765	10184404
Hexachlorobutadiene	LA-DEQ	4835	10184404
Hexachloroethane	LA-DEQ	4840	10184404
Iodomethane (Methyl iodide)	LA-DEQ	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	LA-DEQ	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	LA-DEQ	4895	10184404
Isopropylbenzene (Cumene)	LA-DEQ	4900	10184404
m+p-xylene	LA-DEQ	5240	10184404
Methyl acrylate	LA-DEQ	4945	10184404
Methyl bromide (Bromomethane)	LA-DEQ	4950	10184404
Methyl chloride (Chloromethane)	LA-DEQ	4960	10184404
Methyl methacrylate	LA-DEQ	4990	10184404
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10184404
Methylene chloride (Dichloromethane)	LA-DEQ	4975	10184404
Naphthalene	LA-DEQ	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	LA-DEQ	4425	10184404
n-Butylbenzene	LA-DEQ	4435	10184404
n-Propylbenzene	LA-DEQ	5090	10184404
o-Xylene	LA-DEQ	5250	10184404
Propionitrile (Ethyl cyanide)	LA-DEQ	5080	10184404
sec-Butylbenzene	LA-DEQ	4440	10184404
Styrene	LA-DEQ	5100	10184404
tert-Butyl alcohol	LA-DEQ	4420	10184404
tert-Butylbenzene	LA-DEQ	4445	10184404
Tetrachloroethylene (Perchloroethylene)	LA-DEQ	5115	10184404
Toluene	LA-DEQ	5140	10184404
trans-1,2-Dichloroethylene	LA-DEQ	4700	10184404

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Matrix: ***Non-Potable Water***

trans-1,3-Dichloropropylene	LA-DEQ	4685	10184404
trans-1,4-Dichloro-2-butene	LA-DEQ	4605	10184404
Trichloroethene (Trichloroethylene)	LA-DEQ	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	LA-DEQ	5175	10184404
Vinyl acetate	LA-DEQ	5225	10184404
Vinyl chloride	LA-DEQ	5235	10184404
Xylene (total)	LA-DEQ	5260	10184404

Method EPA 8270

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4,5-Tetrachlorobenzene	LA-DEQ	6715	10185203
1,2,4-Trichlorobenzene	LA-DEQ	5155	10185203
1,2-Dichlorobenzene	LA-DEQ	4610	10185203
1,2-Dinitrobenzene	LA-DEQ	6155	10185203
1,2-Diphenylhydrazine	LA-DEQ	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	LA-DEQ	6885	10185203
1,3-Dichlorobenzene	LA-DEQ	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	LA-DEQ	6160	10185203
1,4-Dichlorobenzene	LA-DEQ	4620	10185203
1,4-Dinitrobenzene	LA-DEQ	6165	10185203
1,4-Naphthoquinone	LA-DEQ	6420	10185203
1,4-Phenylenediamine	LA-DEQ	6630	10185203
1-Chloronaphthalene	LA-DEQ	5790	10185203
1-Naphthylamine	LA-DEQ	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	LA-DEQ	4659	10185203
2,3,4,6-Tetrachlorophenol	LA-DEQ	6735	10185203
2,4,5-Trichlorophenol	LA-DEQ	6835	10185203
2,4,6-Trichlorophenol	LA-DEQ	6840	10185203
2,4-Dichlorophenol	LA-DEQ	6000	10185203
2,4-Dimethylphenol	LA-DEQ	6130	10185203
2,4-Dinitrophenol	LA-DEQ	6175	10185203

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Matrix: ***Non-Potable Water***

2,4-Dinitrotoluene (2,4-DNT)	LA-DEQ	6185	10185203
2,6-Dichlorophenol	LA-DEQ	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	LA-DEQ	6190	10185203
2-Acetylaminofluorene	LA-DEQ	5515	10185203
2-Chloronaphthalene	LA-DEQ	5795	10185203
2-Chlorophenol	LA-DEQ	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	LA-DEQ	6360	10185203
2-Methylaniline (o-Toluidine)	LA-DEQ	5145	10185203
2-Methylnaphthalene	LA-DEQ	6385	10185203
2-Methylphenol (o-Cresol)	LA-DEQ	6400	10185203
2-Naphthylamine	LA-DEQ	6430	10185203
2-Nitroaniline	LA-DEQ	6460	10185203
2-Nitrophenol	LA-DEQ	6490	10185203
2-Picoline (2-Methylpyridine)	LA-DEQ	5050	10185203
3,3'-Dichlorobenzidine	LA-DEQ	5945	10185203
3,3'-Dimethylbenzidine	LA-DEQ	6120	10185203
3-Methylcholanthrene	LA-DEQ	6355	10185203
3-Methylphenol (m-Cresol)	LA-DEQ	6405	10185203
3-Nitroaniline	LA-DEQ	6465	10185203
4-Aminobiphenyl	LA-DEQ	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	LA-DEQ	5660	10185203
4-Chloro-3-methylphenol	LA-DEQ	5700	10185203
4-Chloroaniline	LA-DEQ	5745	10185203
4-Chlorophenyl phenylether	LA-DEQ	5825	10185203
4-Dimethyl aminoazobenzene	LA-DEQ	6105	10185203
4-Methylphenol (p-Cresol)	LA-DEQ	6410	10185203
4-Nitroaniline	LA-DEQ	6470	10185203
4-Nitrophenol	LA-DEQ	6500	10185203
4-Nitroquinoline-1-oxide	LA-DEQ	6510	10185203
5-Nitro-o-toluidine	LA-DEQ	6570	10185203

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Matrix: ***Non-Potable Water***

7,12-Dimethylbenz(a) anthracene	LA-DEQ	6115	10185203
a-a-Dimethylphenethylamine	LA-DEQ	6125	10185203
Acenaphthene	LA-DEQ	5500	10185203
Acenaphthylene	LA-DEQ	5505	10185203
Acetophenone	LA-DEQ	5510	10185203
Aniline	LA-DEQ	5545	10185203
Anthracene	LA-DEQ	5555	10185203
Aramite	LA-DEQ	5560	10185203
Atrazine	LA-DEQ	7065	10185203
Benzenethiol (Thiophenol)	LA-DEQ	6750	10185203
Benzidine	LA-DEQ	5595	10185203
Benzo(a)anthracene	LA-DEQ	5575	10185203
Benzo(a)pyrene	LA-DEQ	5580	10185203
Benzo(b)fluoranthene	LA-DEQ	5585	10185203
Benzo(g,h,i)perylene	LA-DEQ	5590	10185203
Benzo(k)fluoranthene	LA-DEQ	5600	10185203
Benzoic acid	LA-DEQ	5610	10185203
Benzyl alcohol	LA-DEQ	5630	10185203
Biphenyl	LA-DEQ	5640	10185203
bis(2-Chloroethoxy)methane	LA-DEQ	5760	10185203
bis(2-Chloroethyl) ether	LA-DEQ	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	LA-DEQ	6065	10185203
Butyl benzyl phthalate	LA-DEQ	5670	10185203
Caprolactam	LA-DEQ	7180	10185203
Carbazole	LA-DEQ	5680	10185203
Chlorobenzilate	LA-DEQ	7260	10185203
Chrysene	LA-DEQ	5855	10185203
Diallate	LA-DEQ	7405	10185203
Dibenz(a,h) anthracene	LA-DEQ	5895	10185203
Dibenzofuran	LA-DEQ	5905	10185203

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Matrix: ***Non-Potable Water***

Diethyl phthalate	LA-DEQ	6070	10185203
Dimethoate	LA-DEQ	7475	10185203
Dimethyl phthalate	LA-DEQ	6135	10185203
Di-n-butyl phthalate	LA-DEQ	5925	10185203
Di-n-octyl phthalate	LA-DEQ	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	LA-DEQ	8620	10185203
Diphenylamine	LA-DEQ	6205	10185203
Disulfoton	LA-DEQ	8625	10185203
Ethyl methanesulfonate	LA-DEQ	6260	10185203
Famphur	LA-DEQ	7580	10185203
Fluoranthene	LA-DEQ	6265	10185203
Fluorene	LA-DEQ	6270	10185203
Hexachlorobenzene	LA-DEQ	6275	10185203
Hexachlorobutadiene	LA-DEQ	4835	10185203
Hexachlorocyclopentadiene	LA-DEQ	6285	10185203
Hexachloroethane	LA-DEQ	4840	10185203
Hexachlorophene	LA-DEQ	6290	10185203
Hexachloropropene	LA-DEQ	6295	10185203
Indeno(1,2,3-cd) pyrene	LA-DEQ	6315	10185203
Isodrin	LA-DEQ	7725	10185203
Isophorone	LA-DEQ	6320	10185203
Isosafrole	LA-DEQ	6325	10185203
Kepone	LA-DEQ	7740	10185203
Methapyrilene	LA-DEQ	6345	10185203
Methyl methanesulfonate	LA-DEQ	6375	10185203
Methyl parathion (Parathion, methyl)	LA-DEQ	7825	10185203
Naphthalene	LA-DEQ	5005	10185203
Nitrobenzene	LA-DEQ	5015	10185203
n-Nitrosodiethylamine	LA-DEQ	6525	10185203
n-Nitrosodimethylamine	LA-DEQ	6530	10185203

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Matrix: ***Non-Potable Water***

n-Nitrosodi-n-butylamine	LA-DEQ	5025	10185203
n-Nitrosodi-n-propylamine	LA-DEQ	6545	10185203
n-Nitrosodiphenylamine	LA-DEQ	6535	10185203
n-Nitrosomethylethylamine	LA-DEQ	6550	10185203
n-Nitrosomorpholine	LA-DEQ	6555	10185203
n-Nitrosopiperidine	LA-DEQ	6560	10185203
n-Nitrosopyrrolidine	LA-DEQ	6565	10185203
o,o,o-Triethyl phosphorothioate	LA-DEQ	8290	10185203
Parathion, ethyl	LA-DEQ	7955	10185203
Pentachlorobenzene	LA-DEQ	6590	10185203
Pentachloronitrobenzene (PCNB)	LA-DEQ	6600	10185203
Pentachlorophenol	LA-DEQ	6605	10185203
Phenacetin	LA-DEQ	6610	10185203
Phenanthrene	LA-DEQ	6615	10185203
Phenol	LA-DEQ	6625	10185203
Phorate	LA-DEQ	7985	10185203
Pronamide (Kerb)	LA-DEQ	6650	10185203
Pyrene	LA-DEQ	6665	10185203
Pyridine	LA-DEQ	5095	10185203
Quinoline	LA-DEQ	6670	10185203
Safrole	LA-DEQ	6685	10185203
Sulfotepp	LA-DEQ	8155	10185203
Thionazin (Zinophos)	LA-DEQ	8235	10185203

Method EPA 8315

Analyte	AB	Analyte ID	Method ID
Acetaldehyde	LA-DEQ	4300	10187801
Formaldehyde	LA-DEQ	4815	10187801

Method EPA 9040

Analyte	AB	Analyte ID	Method ID
pH	LA-DEQ	1900	10196802

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SGS North America Inc. – Scott

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Scott, LA 70583-8544

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Matrix: ***Non-Potable Water***

Method EPA 9056

Analyte	AB	Analyte ID	Method ID
Bromide	LA-DEQ	1540	10199209
Chloride	LA-DEQ	1575	10199209
Fluoride	LA-DEQ	1730	10199209
Nitrate as N	LA-DEQ	1810	10199209
Nitrite as N	LA-DEQ	1840	10199209
Sulfate	LA-DEQ	2000	10199209

Method EPA 9065

Analyte	AB	Analyte ID	Method ID
Total phenolics	LA-DEQ	1905	10200405

Method EPA 9070

Analyte	AB	Analyte ID	Method ID
n-Hexane Extractable Material (HEM) (O&G)	LA-DEQ	1803	10201000
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	LA-DEQ	10220	10201000

Method SM 2120 B

Analyte	AB	Analyte ID	Method ID
Color	LA-DEQ	1605	20223807

Method SM 2340 B

Analyte	AB	Analyte ID	Method ID
Total hardness as CaCO3	LA-DEQ	1755	20046008

Method SM 2340 C

Analyte	AB	Analyte ID	Method ID
Total hardness as CaCO3	LA-DEQ	1755	20047001

Method SM 2510 B

Analyte	AB	Analyte ID	Method ID
Conductivity	LA-DEQ	1610	20048004

Method SM 2540 B

Analyte	AB	Analyte ID	Method ID
Residue-total (total solids)	LA-DEQ	1950	20004608

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Matrix: ***Non-Potable Water***

Method	Analyte	AB	Analyte ID	Method ID
SM 2540 C	Residue-filterable (TDS)	LA-DEQ	1955	20049803
SM 2540 D	Residue-nonfilterable (TSS)	LA-DEQ	1960	20004802
SM 2540 F	Residue-settleable	LA-DEQ	1965	20005009
SM 3111 B	Sodium	LA-DEQ	1155	20054802
SM 4500-Cl G	Total residual chlorine	LA-DEQ	1940	20020604
SM 4500-H+ B	pH	LA-DEQ	1900	20104603
SM 4500-$NO2^{-}$ B	Nitrite as N	LA-DEQ	1840	20024004
SM 4500-NO3 E	Nitrate as N	LA-DEQ	1810	20114209
	Nitrate-nitrite	LA-DEQ	1820	20114209
SM 4500-P E	Orthophosphate as P	LA-DEQ	1870	20025803
SM 4500-$SO3^{-}$ B	Sulfite	LA-DEQ	2015	20026806

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Matrix: ***Non-Potable Water***

Method SM 5210 B

Analyte	AB	Analyte ID	Method ID
Biochemical oxygen demand (BOD)	LA-DEQ	1530	20027401
Carbonaceous BOD, CBOD	LA-DEQ	1555	20027401

Method SM 5220 D

Analyte	AB	Analyte ID	Method ID
Chemical oxygen demand (COD)	LA-DEQ	1565	20027809

Method SM 5540 C

Analyte	AB	Analyte ID	Method ID
Surfactants - MBAS	LA-DEQ	2025	20144405

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Matrix: ***Solid & Chemical Materials***

Method EPA 1030

Analyte	AB	Analyte ID	Method ID
Ignitability	LA-DEQ	1780	10117201

Method EPA 1311

Analyte	AB	Analyte ID	Method ID
TCLP	LA-DEQ	849	10118806

Method EPA 1312

Analyte	AB	Analyte ID	Method ID
SPLP	LA-DEQ	850	10119003

Method EPA 6010

Analyte	AB	Analyte ID	Method ID
Aluminum	LA-DEQ	1000	10155201
Antimony	LA-DEQ	1005	10155201
Arsenic	LA-DEQ	1010	10155201
Barium	LA-DEQ	1015	10155201
Beryllium	LA-DEQ	1020	10155201
Boron	LA-DEQ	1025	10155201
Cadmium	LA-DEQ	1030	10155201
Calcium	LA-DEQ	1035	10155201
Chromium	LA-DEQ	1040	10155201
Cobalt	LA-DEQ	1050	10155201
Copper	LA-DEQ	1055	10155201
Iron	LA-DEQ	1070	10155201
Lead	LA-DEQ	1075	10155201
Lithium	LA-DEQ	1080	10155201
Magnesium	LA-DEQ	1085	10155201
Manganese	LA-DEQ	1090	10155201
Molybdenum	LA-DEQ	1100	10155201
Nickel	LA-DEQ	1105	10155201
Potassium	LA-DEQ	1125	10155201
Selenium	LA-DEQ	1140	10155201

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Matrix: ***Solid & Chemical Materials***

Silver	LA-DEQ	1150	10155201
Sodium	LA-DEQ	1155	10155201
Strontium	LA-DEQ	1160	10155201
Thallium	LA-DEQ	1165	10155201
Tin	LA-DEQ	1175	10155201
Titanium	LA-DEQ	1180	10155201
Vanadium	LA-DEQ	1185	10155201
Zinc	LA-DEQ	1190	10155201

Method EPA 6020

Analyte	**AB**	**Analyte ID**	**Method ID**
Aluminum	LA-DEQ	1000	10156204
Antimony	LA-DEQ	1005	10156204
Arsenic	LA-DEQ	1010	10156204
Barium	LA-DEQ	1015	10156204
Beryllium	LA-DEQ	1020	10156204
Boron	LA-DEQ	1025	10156204
Cadmium	LA-DEQ	1030	10156204
Calcium	LA-DEQ	1035	10156204
Chromium	LA-DEQ	1040	10156204
Cobalt	LA-DEQ	1050	10156204
Copper	LA-DEQ	1055	10156204
Iron	LA-DEQ	1070	10156204
Lead	LA-DEQ	1075	10156204
Lithium	LA-DEQ	1080	10156204
Magnesium	LA-DEQ	1085	10156204
Manganese	LA-DEQ	1090	10156204
Molybdenum	LA-DEQ	1100	10156204
Nickel	LA-DEQ	1105	10156204
Potassium	LA-DEQ	1125	10156204
Selenium	LA-DEQ	1140	10156204

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Matrix: ***Solid & Chemical Materials***

Silver	LA-DEQ	1150	10156204
Sodium	LA-DEQ	1155	10156204
Strontium	LA-DEQ	1160	10156204
Thallium	LA-DEQ	1165	10156204
Tin	LA-DEQ	1175	10156204
Titanium	LA-DEQ	1180	10156204
Vanadium	LA-DEQ	1185	10156204
Zinc	LA-DEQ	1190	10156204

Method EPA 7196

Analyte	**AB**	**Analyte ID**	**Method ID**
Chromium (VI)	LA-DEQ	1045	10162206

Method EPA 7470

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	LA-DEQ	1095	10165603

Method EPA 7471

Analyte	**AB**	**Analyte ID**	**Method ID**
Mercury	LA-DEQ	1095	10166004

Method EPA 7770

Analyte	**AB**	**Analyte ID**	**Method ID**
Sodium	LA-DEQ	1155	10170000

Method EPA 8015

Analyte	**AB**	**Analyte ID**	**Method ID**
Diesel range organics (DRO)	LA-DEQ	9369	10173203
Gasoline range organics (GRO)	LA-DEQ	9408	10173203

Method EPA 8021

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4-Trimethylbenzene	LA-DEQ	5210	10174400
1,2-Dichlorobenzene	LA-DEQ	4610	10174400
1,3,5-Trimethylbenzene	LA-DEQ	5215	10174400
1,3-Dichlorobenzene	LA-DEQ	4615	10174400
1,4-Dichlorobenzene	LA-DEQ	4620	10174400

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Matrix: ***Solid & Chemical Materials***

Benzene	LA-DEQ	4375	10174400
Chlorobenzene	LA-DEQ	4475	10174400
Ethylbenzene	LA-DEQ	4765	10174400
m+p-xylene	LA-DEQ	5240	10174400
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10174400
Naphthalene	LA-DEQ	5005	10174400
o-Xylene	LA-DEQ	5250	10174400
Toluene	LA-DEQ	5140	10174400
Xylene (total)	LA-DEQ	5260	10174400

Method EPA 8260

Analyte	**AB**	**Analyte ID**	**Method ID**
1,1,1,2-Tetrachloroethane	LA-DEQ	5105	10184404
1,1,1-Trichloroethane	LA-DEQ	5160	10184404
1,1,2,2-Tetrachloroethane	LA-DEQ	5110	10184404
1,1,2-Trichloroethane	LA-DEQ	5165	10184404
1,1-Dichloroethane	LA-DEQ	4630	10184404
1,1-Dichloroethylene	LA-DEQ	4640	10184404
1,1-Dichloropropene	LA-DEQ	4670	10184404
1,2,3-Trichlorobenzene	LA-DEQ	5150	10184404
1,2,3-Trichloropropane	LA-DEQ	5180	10184404
1,2,4-Trichlorobenzene	LA-DEQ	5155	10184404
1,2,4-Trimethylbenzene	LA-DEQ	5210	10184404
1,2-Dibromoethane (EDB, Ethylene dibromide)	LA-DEQ	4585	10184404
1,2-Dichlorobenzene	LA-DEQ	4610	10184404
1,2-Dichloroethane (Ethylene dichloride)	LA-DEQ	4635	10184404
1,2-Dichloropropane	LA-DEQ	4655	10184404
1,3,5-Trimethylbenzene	LA-DEQ	5215	10184404
1,3-Dichlorobenzene	LA-DEQ	4615	10184404
1,3-Dichloropropane	LA-DEQ	4660	10184404
1,4-Dichlorobenzene	LA-DEQ	4620	10184404

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Matrix: ***Solid & Chemical Materials***

1,4-Dioxane (1,4-Diethyleneoxide)	LA-DEQ	4735	10184404
2,2-Dichloropropane	LA-DEQ	4665	10184404
2-Butanone (Methyl ethyl ketone, MEK)	LA-DEQ	4410	10184404
2-Chloroethyl vinyl ether	LA-DEQ	4500	10184404
2-Chlorotoluene	LA-DEQ	4535	10184404
2-Hexanone (MBK)	LA-DEQ	4860	10184404
2-Nitropropane	LA-DEQ	5020	10184404
4-Chlorotoluene	LA-DEQ	4540	10184404
4-Methyl-2-pentanone (MIBK)	LA-DEQ	4995	10184404
Acetone (2-Propanone)	LA-DEQ	4315	10184404
Acetonitrile	LA-DEQ	4320	10184404
Acrolein (Propenal)	LA-DEQ	4325	10184404
Acrylonitrile	LA-DEQ	4340	10184404
Allyl chloride (3-Chloropropene)	LA-DEQ	4355	10184404
Benzene	LA-DEQ	4375	10184404
Bromobenzene	LA-DEQ	4385	10184404
Bromochloromethane	LA-DEQ	4390	10184404
Bromodichloromethane	LA-DEQ	4395	10184404
Bromoform	LA-DEQ	4400	10184404
Carbon disulfide	LA-DEQ	4450	10184404
Carbon tetrachloride	LA-DEQ	4455	10184404
Chlorobenzene	LA-DEQ	4475	10184404
Chlorodibromomethane	LA-DEQ	4575	10184404
Chloroethane (Ethyl chloride)	LA-DEQ	4485	10184404
Chloroform	LA-DEQ	4505	10184404
Chloroprene (2-Chloro-1,3-butadiene)	LA-DEQ	4525	10184404
cis-1,2-Dichloroethylene	LA-DEQ	4645	10184404
cis-1,3-Dichloropropene	LA-DEQ	4680	10184404
cis-1,4-Dichloro-2-butene	LA-DEQ	4600	10184404
Dibromomethane (Methylene bromide)	LA-DEQ	4595	10184404

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Matrix: ***Solid & Chemical Materials***

Dichlorodifluoromethane (Freon-12)	LA-DEQ	4625	10184404
Diethyl ether	LA-DEQ	4725	10184404
Epichlorohydrin (1-Chloro-2,3-epoxypropane)	LA-DEQ	4745	10184404
Ethanol	LA-DEQ	4750	10184404
Ethyl acetate	LA-DEQ	4755	10184404
Ethyl methacrylate	LA-DEQ	4810	10184404
Ethylbenzene	LA-DEQ	4765	10184404
Hexachlorobutadiene	LA-DEQ	4835	10184404
Hexachloroethane	LA-DEQ	4840	10184404
Iodomethane (Methyl iodide)	LA-DEQ	4870	10184404
Isobutyl alcohol (2-Methyl-1-propanol)	LA-DEQ	4875	10184404
Isopropyl alcohol (2-Propanol, Isopropanol)	LA-DEQ	4895	10184404
Isopropylbenzene (Cumene)	LA-DEQ	4900	10184404
m+p-xylene	LA-DEQ	5240	10184404
Methacrylonitrile	LA-DEQ	4925	10184404
Methyl acrylate	LA-DEQ	4945	10184404
Methyl bromide (Bromomethane)	LA-DEQ	4950	10184404
Methyl chloride (Chloromethane)	LA-DEQ	4960	10184404
Methyl methacrylate	LA-DEQ	4990	10184404
Methyl tert-butyl ether (MTBE)	LA-DEQ	5000	10184404
Methylene chloride (Dichloromethane)	LA-DEQ	4975	10184404
Naphthalene	LA-DEQ	5005	10184404
n-Butyl alcohol (1-Butanol, n-Butanol)	LA-DEQ	4425	10184404
n-Butylbenzene	LA-DEQ	4435	10184404
n-Propylbenzene	LA-DEQ	5090	10184404
o-Xylene	LA-DEQ	5250	10184404
Propionitrile (Ethyl cyanide)	LA-DEQ	5080	10184404
sec-Butylbenzene	LA-DEQ	4440	10184404
Styrene	LA-DEQ	5100	10184404
tert-Butyl alcohol	LA-DEQ	4420	10184404

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Matrix: ***Solid & Chemical Materials***

tert-Butylbenzene	LA-DEQ	4445	10184404
Tetrachloroethylene (Perchloroethylene)	LA-DEQ	5115	10184404
Toluene	LA-DEQ	5140	10184404
trans-1,2-Dichloroethylene	LA-DEQ	4700	10184404
trans-1,3-Dichloropropylene	LA-DEQ	4685	10184404
trans-1,4-Dichloro-2-butene	LA-DEQ	4605	10184404
Trichloroethene (Trichloroethylene)	LA-DEQ	5170	10184404
Trichlorofluoromethane (Fluorotrichloromethane, Freon 11)	LA-DEQ	5175	10184404
Vinyl acetate	LA-DEQ	5225	10184404
Vinyl chloride	LA-DEQ	5235	10184404
Xylene (total)	LA-DEQ	5260	10184404

Method EPA 8270

Analyte	**AB**	**Analyte ID**	**Method ID**
1,2,4,5-Tetrachlorobenzene	LA-DEQ	6715	10185203
1,2,4-Trichlorobenzene	LA-DEQ	5155	10185203
1,2-Dichlorobenzene	LA-DEQ	4610	10185203
1,2-Dinitrobenzene	LA-DEQ	6155	10185203
1,2-Diphenylhydrazine	LA-DEQ	6220	10185203
1,3,5-Trinitrobenzene (1,3,5-TNB)	LA-DEQ	6885	10185203
1,3-Dichlorobenzene	LA-DEQ	4615	10185203
1,3-Dinitrobenzene (1,3-DNB)	LA-DEQ	6160	10185203
1,4-Dichlorobenzene	LA-DEQ	4620	10185203
1,4-Dinitrobenzene	LA-DEQ	6165	10185203
1,4-Naphthoquinone	LA-DEQ	6420	10185203
1,4-Phenylenediamine	LA-DEQ	6630	10185203
1-Chloronaphthalene	LA-DEQ	5790	10185203
1-Naphthylamine	LA-DEQ	6425	10185203
2,2'-Oxybis(1-chloropropane) (bis(2-Chloro-1-methylethyl)ether)	LA-DEQ	4659	10185203
2,3,4,6-Tetrachlorophenol	LA-DEQ	6735	10185203
2,4,5-Trichlorophenol	LA-DEQ	6835	10185203

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Matrix: ***Solid & Chemical Materials***

2,4,6-Trichlorophenol	LA-DEQ	6840	10185203
2,4-Dichlorophenol	LA-DEQ	6000	10185203
2,4-Dimethylphenol	LA-DEQ	6130	10185203
2,4-Dinitrophenol	LA-DEQ	6175	10185203
2,4-Dinitrotoluene (2,4-DNT)	LA-DEQ	6185	10185203
2,6-Dichlorophenol	LA-DEQ	6005	10185203
2,6-Dinitrotoluene (2,6-DNT)	LA-DEQ	6190	10185203
2-Acetylaminofluorene	LA-DEQ	5515	10185203
2-Chloronaphthalene	LA-DEQ	5795	10185203
2-Chlorophenol	LA-DEQ	5800	10185203
2-Methyl-4,6-dinitrophenol (4,6-Dinitro-2-methylphenol)	LA-DEQ	6360	10185203
2-Methylaniline (o-Toluidine)	LA-DEQ	5145	10185203
2-Methylnaphthalene	LA-DEQ	6385	10185203
2-Methylphenol (o-Cresol)	LA-DEQ	6400	10185203
2-Naphthylamine	LA-DEQ	6430	10185203
2-Nitroaniline	LA-DEQ	6460	10185203
2-Nitrophenol	LA-DEQ	6490	10185203
2-Picoline (2-Methylpyridine)	LA-DEQ	5050	10185203
3,3'-Dichlorobenzidine	LA-DEQ	5945	10185203
3,3'-Dimethylbenzidine	LA-DEQ	6120	10185203
3-Methylcholanthrene	LA-DEQ	6355	10185203
3-Methylphenol (m-Cresol)	LA-DEQ	6405	10185203
3-Nitroaniline	LA-DEQ	6465	10185203
4-Aminobiphenyl	LA-DEQ	5540	10185203
4-Bromophenyl phenyl ether (BDE-3)	LA-DEQ	5660	10185203
4-Chloro-3-methylphenol	LA-DEQ	5700	10185203
4-Chloroaniline	LA-DEQ	5745	10185203
4-Chlorophenyl phenylether	LA-DEQ	5825	10185203
4-Dimethyl aminoazobenzene	LA-DEQ	6105	10185203
4-Methylphenol (p-Cresol)	LA-DEQ	6410	10185203

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Matrix: ***Solid & Chemical Materials***

4-Nitroaniline	LA-DEQ	6470	10185203
4-Nitrophenol	LA-DEQ	6500	10185203
4-Nitroquinoline-1-oxide	LA-DEQ	6510	10185203
5-Nitro-o-toluidine	LA-DEQ	6570	10185203
7,12-Dimethylbenz(a) anthracene	LA-DEQ	6115	10185203
a-a-Dimethylphenethylamine	LA-DEQ	6125	10185203
Acenaphthene	LA-DEQ	5500	10185203
Acenaphthylene	LA-DEQ	5505	10185203
Acetophenone	LA-DEQ	5510	10185203
Aniline	LA-DEQ	5545	10185203
Anthracene	LA-DEQ	5555	10185203
Aramite	LA-DEQ	5560	10185203
Atrazine	LA-DEQ	7065	10185203
Benzenethiol (Thiophenol)	LA-DEQ	6750	10185203
Benzidine	LA-DEQ	5595	10185203
Benzo(a)anthracene	LA-DEQ	5575	10185203
Benzo(a)pyrene	LA-DEQ	5580	10185203
Benzo(b)fluoranthene	LA-DEQ	5585	10185203
Benzo(g,h,i)perylene	LA-DEQ	5590	10185203
Benzo(k)fluoranthene	LA-DEQ	5600	10185203
Benzoic acid	LA-DEQ	5610	10185203
Benzyl alcohol	LA-DEQ	5630	10185203
Biphenyl	LA-DEQ	5640	10185203
bis(2-Chloroethoxy)methane	LA-DEQ	5760	10185203
bis(2-Chloroethyl) ether	LA-DEQ	5765	10185203
bis(2-Ethylhexyl) phthalate (Di(2-Ethylhexyl) phthalate, DEHP)	LA-DEQ	6065	10185203
Butyl benzyl phthalate	LA-DEQ	5670	10185203
Caprolactam	LA-DEQ	7180	10185203
Carbazole	LA-DEQ	5680	10185203
Chlorobenzilate	LA-DEQ	7260	10185203

Texas Commission on Environmental Quality

NELAP - Recognized Laboratory Fields of Accreditation

Certificate: T104704186-21-20
Expiration Date: 12/31/2022
Issue Date: 1/1/2022

SGS North America Inc. – Scott

500 Ambassador Caffery Parkway
Scott, LA 70583-8544

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Matrix: ***Solid & Chemical Materials***

Chrysene	LA-DEQ	5855	10185203
Diallate	LA-DEQ	7405	10185203
Dibenz(a,h) anthracene	LA-DEQ	5895	10185203
Dibenzofuran	LA-DEQ	5905	10185203
Diethyl phthalate	LA-DEQ	6070	10185203
Dimethoate	LA-DEQ	7475	10185203
Dimethyl phthalate	LA-DEQ	6135	10185203
Di-n-butyl phthalate	LA-DEQ	5925	10185203
Di-n-octyl phthalate	LA-DEQ	6200	10185203
Dinoseb (2-sec-butyl-4,6-dinitrophenol, DNBP)	LA-DEQ	8620	10185203
Diphenylamine	LA-DEQ	6205	10185203
Disulfoton	LA-DEQ	8625	10185203
Ethyl methanesulfonate	LA-DEQ	6260	10185203
Famphur	LA-DEQ	7580	10185203
Fluoranthene	LA-DEQ	6265	10185203
Fluorene	LA-DEQ	6270	10185203
Hexachlorobenzene	LA-DEQ	6275	10185203
Hexachlorobutadiene	LA-DEQ	4835	10185203
Hexachlorocyclopentadiene	LA-DEQ	6285	10185203
Hexachloroethane	LA-DEQ	4840	10185203
Hexachlorophene	LA-DEQ	6290	10185203
Hexachloropropene	LA-DEQ	6295	10185203
Indeno(1,2,3-cd) pyrene	LA-DEQ	6315	10185203
Isodrin	LA-DEQ	7725	10185203
Isophorone	LA-DEQ	6320	10185203
Isosafrole	LA-DEQ	6325	10185203
Kepone	LA-DEQ	7740	10185203
Methapyrilene	LA-DEQ	6345	10185203
Methyl methanesulfonate	LA-DEQ	6375	10185203
Methyl parathion (Parathion, methyl)	LA-DEQ	7825	10185203

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Matrix: ***Solid & Chemical Materials***

Naphthalene	LA-DEQ	5005	10185203
Nitrobenzene	LA-DEQ	5015	10185203
n-Nitrosodiethylamine	LA-DEQ	6525	10185203
n-Nitrosodimethylamine	LA-DEQ	6530	10185203
n-Nitrosodi-n-butylamine	LA-DEQ	5025	10185203
n-Nitrosodi-n-propylamine	LA-DEQ	6545	10185203
n-Nitrosodiphenylamine	LA-DEQ	6535	10185203
n-Nitrosomethylethylamine	LA-DEQ	6550	10185203
n-Nitrosomorpholine	LA-DEQ	6555	10185203
n-Nitrosopiperidine	LA-DEQ	6560	10185203
n-Nitrosopyrrolidine	LA-DEQ	6565	10185203
o,o,o-Triethyl phosphorothioate	LA-DEQ	8290	10185203
Parathion, ethyl	LA-DEQ	7955	10185203
Pentachlorobenzene	LA-DEQ	6590	10185203
Pentachloronitrobenzene (PCNB)	LA-DEQ	6600	10185203
Pentachlorophenol	LA-DEQ	6605	10185203
Phenacetin	LA-DEQ	6610	10185203
Phenanthrene	LA-DEQ	6615	10185203
Phenol	LA-DEQ	6625	10185203
Phorate	LA-DEQ	7985	10185203
Pronamide (Kerb)	LA-DEQ	6650	10185203
Pyrene	LA-DEQ	6665	10185203
Pyridine	LA-DEQ	5095	10185203
Quinoline	LA-DEQ	6670	10185203
Safrole	LA-DEQ	6685	10185203
Sulfotepp	LA-DEQ	8155	10185203
Thionazin (Zinophos)	LA-DEQ	8235	10185203

Method EPA 8315

Analyte	**AB**	**Analyte ID**	**Method ID**
Acetaldehyde	LA-DEQ	4300	10187801

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Matrix: ***Solid & Chemical Materials***

Formaldehyde	LA-DEQ	4815	10187801

Method EPA 9045

Analyte	**AB**	**Analyte ID**	**Method ID**
pH	LA-DEQ	1900	10197805

Method EPA 9056

Analyte	**AB**	**Analyte ID**	**Method ID**
Chloride	LA-DEQ	1575	10199209
Fluoride	LA-DEQ	1730	10199209
Nitrate as N	LA-DEQ	1810	10199209
Nitrite as N	LA-DEQ	1840	10199209
Sulfate	LA-DEQ	2000	10199209

Method EPA 9065

Analyte	**AB**	**Analyte ID**	**Method ID**
Total phenolics	LA-DEQ	1905	10200405

Method EPA 9071

Analyte	**AB**	**Analyte ID**	**Method ID**
n-Hexane Extractable Material (HEM) (O&G)	LA-DEQ	1803	10201204
Silica Gel Treated n-Hexane Extractable Material (SGT-HEM)	LA-DEQ	10220	10201204

Appendix D
Checklist for Report Completeness

Checklist for Report Completeness

Use this checklist to determine the portions of the form that must be submitted for this report. Answer all questions by checking Yes or No. If the answer is Yes include that portion of the report. If the answer is No, do not complete or submit that portion of the report. All form contents that are marked "Required" must be submitted. Form contents marked with an asterisk (*) are not included in the blank form and are to be provided by the person.

			Report Contents	
		Required	**Cover Page**	☒
		Required	**Executive Summary**	☒
		Required	**Checklist for Report Completeness**	☒
		Required	**Worksheet 1.0** Response Action Objectives	☒
		Required	**Attachment 1A*** Maps and Cross Sections	☒
		Required	**Attachment 1B*** Graphs	☒
		Required	**Attachment 1C*** Response Action Diagrams	☒
No ☒	Is a plume management zone being used as part of the response action?	☐ Yes	**Worksheet 2.0** Plume Management Zone	☐
			Attachment 2A* Map of Plume Management Zone	☐
No ☒	Was an area of technical impracticability approved for use as part of the response action?	☐ Yes	**Worksheet 3.0** Technical Impracticability	☐
			Attachment 3A* Map of Technical Impracticability	☐
No ☐	Are institutional controls used or required as part of the response action?	☒ Yes	**Worksheet 4.0** Institutional Controls	☒
		Required	**Worksheet 5.0** Performance Measures and Problems	☒
No ☐	Have any operation and maintenance activities been conducted?	☒ Yes	**Worksheet 6.0** Operation and Maintenance	☒
No ☒	Has there been any change to the plans for post-response action care from that submitted in the RAP?	☐ Yes	**Worksheet 7.0** Post-Response Action Care	☐
No ☐	Was any information for this report obtained from outside sources?	☒ Yes	**Appendix 1*** References	☒
No ☒	Is an ESA and/or Compensatory Restoration being used as part of the response action?	☐ Yes	**Appendix 2*** ESA and Compensatory Restoration	☐
No ☐	Are institutional controls or landowner concurrence required in the response action?	☒ Yes	**Appendix 3*** Institutional Controls and Landowner Concurrence	☒

Checklist for Report Completeness	Page _2_ of _2__	
	ID No.	Report Date:

Report Contents

No ☐	Is there data or boring/monitor well information not previously submitted?	☒ Yes →	**Appendix 4*** Data Tables, Boring Logs, and Well Completions	☒
No ☒	Did sampling procedures differ from those described in the RAP?	☐ Yes →	**Appendix 5*** Sampling Procedures	☐
No ☐	Has any sampling been conducted for which the analytical results were not previously submitted?	☒ Yes →	**Appendix 6*** Laboratory Data Packages	☒
No ☒	Were statistics or geostatistics used in the response action?	☐ Yes →	**Appendix 7*** Statistical Methodology	☐
No ☒	Were any wastes generated that were not reported through STEERS?	☐ Yes →	**Appendix 8*** Waste Disposition	☐