



Accepted - 09/23/2022

NV

1920 W. Villa Maria, Ste. 205  
Bryan, Texas 77807  
979.324.2139  
www.teamtimberwolf.com

January 29, 2022

Mr. Cory Smith, Environmental Specialist Supervisor  
New Mexico Oil Conservation Division – District 3  
1000 Rio Brazos Road  
Aztec, New Mexico 87410

Re: Status Report – 4<sup>th</sup> Quarter 2021  
Fifield 5 No. 1 (SE ¼, SW ¼, Sec. 5, T29N, R11W)  
Hilcorp Energy Company  
San Juan County, New Mexico  
OCD Incident No.: NVF1718155324

Dear Mr. Smith:

On behalf of Hilcorp Energy Company (Hilcorp), Timberwolf Environmental, LLC (Timberwolf) presents this report to document activities conducted during the 4<sup>th</sup> quarter 2021 (4Q21) at the Fifield 5 No. 1 (Site). The Site is a plugged well site located in northeast San Juan County, New Mexico (Figures 1 through 3).

### **Environmental Setting and Site Geology**

The area immediately surrounding the Site consists of sparse vegetative cover comprised primarily of scrub brush. Area topography consists of ridges divided by shallow valleys with intermittent streams that flow south into the San Juan River. The Site is situated east of an unnamed mesa; average elevation at the Site is approximately 5,786 feet (ft) above mean sea level. The nearest water way is an unnamed intermittent stream located approximately 1,350 ft west of the Site. The intermittent stream empties into the San Juan River, approximately 3.4 miles south of the Site.

According to the U.S. Department of Agriculture – Natural Resources Conservation Service (USDA-NRCS), the Site soil consists of the Gypsiorthids-Badland-Stumble complex, 5 to 30 percent slopes. The surface layer consists of sandy loam, underlain by lithic bedrock encountered between 16 to 20 inches below ground surface (bgs). Native salinity of the soil is very slightly saline to slightly saline (2.0 to 4.0 millimhos per centimeter (mmhos/cm)).

Timberwolf Project No. HEC-190009

HEC-190009  
January 29, 2022  
Page 2

## **Site History**

### ***Release Event***

The Fifield 5 No. 1 well has been plugged and all surface equipment removed from the Site; however, Hilcorp's Hali Meador #005R is located immediately west of the Site and remains active. Historically, the Site has consisted of a well head, line heater and separator with associated below-grade tank (BGT) for produced water, sales meter, and tank battery comprised of one above-ground storage tank (AST) and one BGT. On or about 06/01/17, removal and closure of the BGT revealed historical contamination beneath the BGT. All surface equipment was removed, and the well was plugged and abandoned.

### ***Investigation and Site Characterization***

Initial assessment efforts were conducted by Rule Engineering, LLC (Rule), a subcontractor of ConocoPhillips Company (ConocoPhillips). Hilcorp acquired the property in 2017 and Rule conducted additional assessments in 2018. All findings by Rule Engineering are documented in Timberwolf's *Site Characterization and Remedial Action Plan*, dated February 28, 2019. The initial assessment identified the following constituents of concern (COCs): benzene, toluene, ethylbenzene, and xylene (BTEX) and Total Petroleum Hydrocarbons (TPH).

On 03/20/19, Timberwolf additional borings were installed at the Site to delineate petroleum hydrocarbon impacts vertically and horizontally in soil. All findings are documented in the Timberwolf's *Site Characterization Report and Remedial Action Plan*, dated June 14, 2019.

### ***Remediation – SVE System***

In 2019, Hilcorp installed a soil vapor extraction (SVE) system to treat impacted soil related to historical pit tank releases. The SVE system is comprised of 18 SVE wells, 6 vent wells, and a SVE trailer (housing: control valves, flow and vacuum gauges, manifolds, fluid-air separator, automated controls, and a vacuum pump). The system remained inoperative while awaiting a power source.

In September 2021, Hilcorp installed a power source for the SVE system. The power source is a skid-mounted gas-fired motor with a pulley and belt drive apparatus to transfer power to a vacuum pump. The new vacuum pump was plumbed into the existing SVE trailer; the automation system was bypassed so that all legs remain open.

Work conducted at this Site is documented in the following reports:

- *Site Characterization and Remedial Action Plan*, dated 02/28/19
- *Site Characterization and Remedial Action Plan*, dated 07/14/19
- *Status Report – 1<sup>st</sup> Quarter 2020*, dated 09/20/21
- *Status Report – 2<sup>nd</sup> Quarter 2020*, dated 09/27/21
- *Status Report – 3<sup>rd</sup> Quarter 2020*, dated 09/27/21
- *Status Report – 4<sup>th</sup> Quarter 2020*, dated 09/27/21
- *Status Report – 1<sup>st</sup> Quarter 2021*, dated 09/27/21
- *Status Report – 2<sup>nd</sup> Quarter 2021*, dated 09/27/21
- *Status Report – 3<sup>rd</sup> Quarter 2021*, dated 11/01/21

HEC-190009  
January 29, 2022  
Page 3

### **SVE System Operations**

Runtimes, flow rates, runtime percentage, and liquid recovery for 4Q21 is documented in the table below:

**Table 1. System Runtime, Flow Rates, and Recovery – 4Q21**

Measured Parameter	4Q21
Runtime (hours)	1,884
Percent Runtime	98.4%
Average CFM	27.3
Recovered Liquids (gallons)	3.1

% - percentage  
CFM – cubic feet per minute  
N/A – not applicable

On 10/19/21, Hilcorp field personnel conducted a Site inspection in response to a Cygnet (i.e., remote monitoring system) alarm and discovered that the SVE system generator and associated equipment had been stolen. After replacing the stolen equipment, the SVE system was restarted on 10/19/21. Hilcorp also installed a 6-ft fencing with security wire on top to prevent future unauthorized access to the SVE trailer, generator, or other equipment.

An hour meter failure was confirmed on 12/8/21; the hour meter was replaced on or about 12/22/2021. Based on O&M inspections, the system was running 100% of the time between 11/02/21 and 12/22/21; therefore, hour meter readings were disregarded as they were proven inaccurate. Remote monitoring via the Cygnet system confirmed operating hours in lieu of the hour meter for this period.

The 4Q21 had 2,208 hours in the quarter. During 4Q21, the SVE system was not shut-in for routine maintenance. The system ran for 2,172; yielding a quarterly runtime percentage of 98.4 percent (%). Eight O&M events were conducted during 4Q21; a field log activity is provided in the attached Table A-1.

### **Collection and Analysis of Initial Soil Gas Sample**

On 11/09/21, a composite soil gas sample was collected from all SVE legs using a single summa canister. The summa canister was prepared by the laboratory and was received with a vacuum reading of 25 inches of mercury. The canister was also equipped with a gauge to monitor canister vacuum.

The summa canister was connected to the SVE trailer sampling port, which is situated downstream of the 3-leg manifold and upstream of the air-water separator. The sampling port valve was opened to purge air within the tubing between the sampling port and summa canister. After purging, the summa canister valve was opened, and the vacuum gauge was monitored until vacuum in the canister became static. Upon stabilization, canister and sample port valves were closed prior to disconnecting the summa canister.

HEC-190009  
January 29, 2022  
Page 4

The soil gas sample (i.e., SVE) was shipped to Pace National in Mt. Juliet, Tennessee for chemical analysis of volatile organic compounds (VOCs) using EPA method Toxic Organics 15 (TO 15). The sample was shipped under proper chain-of-custody protocol. The laboratory report and chain-of-custody documents are attached.

Constituents that exceeded laboratory detection limits are presented in Table 2; analytical results of all constituents are presented in the attached Table A-2.

**Table 2. Initial Soil Gas Analysis – 11/09/21**

Volatile Organic Carbons	SVE* (mg/m <sup>3</sup> )
Acetone	1.3
Benzene	32.3
Cyclohexane	136
Ethanol	0.0232
Ethylbenzene	10.3
4-Ethyltoluene	7.9
Dichlorodifluoromethane	0.00105
Heptane	245
N-Hexane	171
Isopropylbenzene	1.73
2-Propanol	0.0145
Toluene	167
1,2,4-Trimethylbenzene	6.27
1,3,5-Trimethylbenzene	5.15
Total Xylenes	127

mg/m<sup>3</sup> – milligrams per cubic meter

\*composite soil gas sample for all SVE legs and wells

A few notable observations from the laboratory data in Table 2:

- Alcohol is a common laboratory contaminant; ethanol was reported at low concentrations in the sample, which is consistent with a laboratory contaminant
- The following COCs were not analyzed as requested by the OCD: gasoline range organics (GRO), oxygen, and carbon dioxide

### **Mass Removal**

Timberwolf used the results from the soil gas analysis (as reported in Table 2), flow rates, and runtimes to calculate constituent mass removal. Mass removal of BTEX and associated recovered volume for 4Q21 are presented in Table 3 below.

HEC-190009  
January 29, 2022  
Page 5

**Table 3. Mass Removal and Associated Volume – 4Q21**

Constituent	Mass Removal (kg) <sup>1</sup>	Total Mass Removed (lbs) <sup>2</sup>
Benzene	3.25	7.16
Toluene	16.8	37.0
Ethylbenzene	1.04	2.25
Xylene	12.8	28.2
GRO	NC	NC

<sup>1</sup>Calculation = minutes ran \* CFM \* Concentration (mg/m<sup>3</sup>) \* 1 M<sup>3</sup>/35.3147 ft<sup>3</sup>\*1g/1000 mg \* 1 kg/1000 g

<sup>2</sup>Calculation = [Mass Removal] \* 2.2 lbs/kg

GRO = from TPH (GC/MS) Low Fraction (i.e., gasoline range organics)

kg – kilograms

bbl -barrel

lbs – pounds

NC – not calculated

**Assumptions:**

- API Gravity = 52
- Concentrations of VOCs in soil gas vapors have remained static since the collection of initial soil gas sample
- Hour meter reading for end of quarter was calculated based on hour reading from 01/06/22

Note: GRO was not analyzed for the soil gas sample collected in 4Q21; therefore, GRO mass removal could not be calculated. Future soil gas samples will be analyzed for GRO and GRO mass removal calculations will be included in future reports.

### **Summary**

The SVE system runtime during 4Q21 was 98.4% of the total available hours for 4Q21. Stolen equipment was replaced in a timely manner and security fencing was added to the Site to prevent further unauthorized access.

### **Further Actions – First Quarter 2022**

During 1Q22, the following activities are planned for the Site:

- Conduct bi-weekly Site O&M to ensure proper system function and drain any water/condensate accumulation in the moisture separator as needed
- Collect a quarterly soil gas sample and analyze for the following constituents:
  - TO-15
  - GRO
  - Oxygen
  - carbon dioxide
- Calculate the mass removal for GRO in 4Q21 using the 1Q22 soil gas laboratory analysis and file an addendum 4Q21 report with the GRO mass removal data
- Prepare a 1Q22 status report

HEC-190009  
January 29, 2022  
Page 6

If you have any questions regarding this report or need further assistance, please call us at 979-324-2139.

Sincerely,  
Timberwolf Environmental, LLC



Kevin Cole  
Project Manager



Jim Foster  
President

Attachments: Figures  
Laboratory Report

cc: Kate Kaufman, Hilcorp Energy Company

## **Figures**

---

Timberwolf Project No. HEC-190009



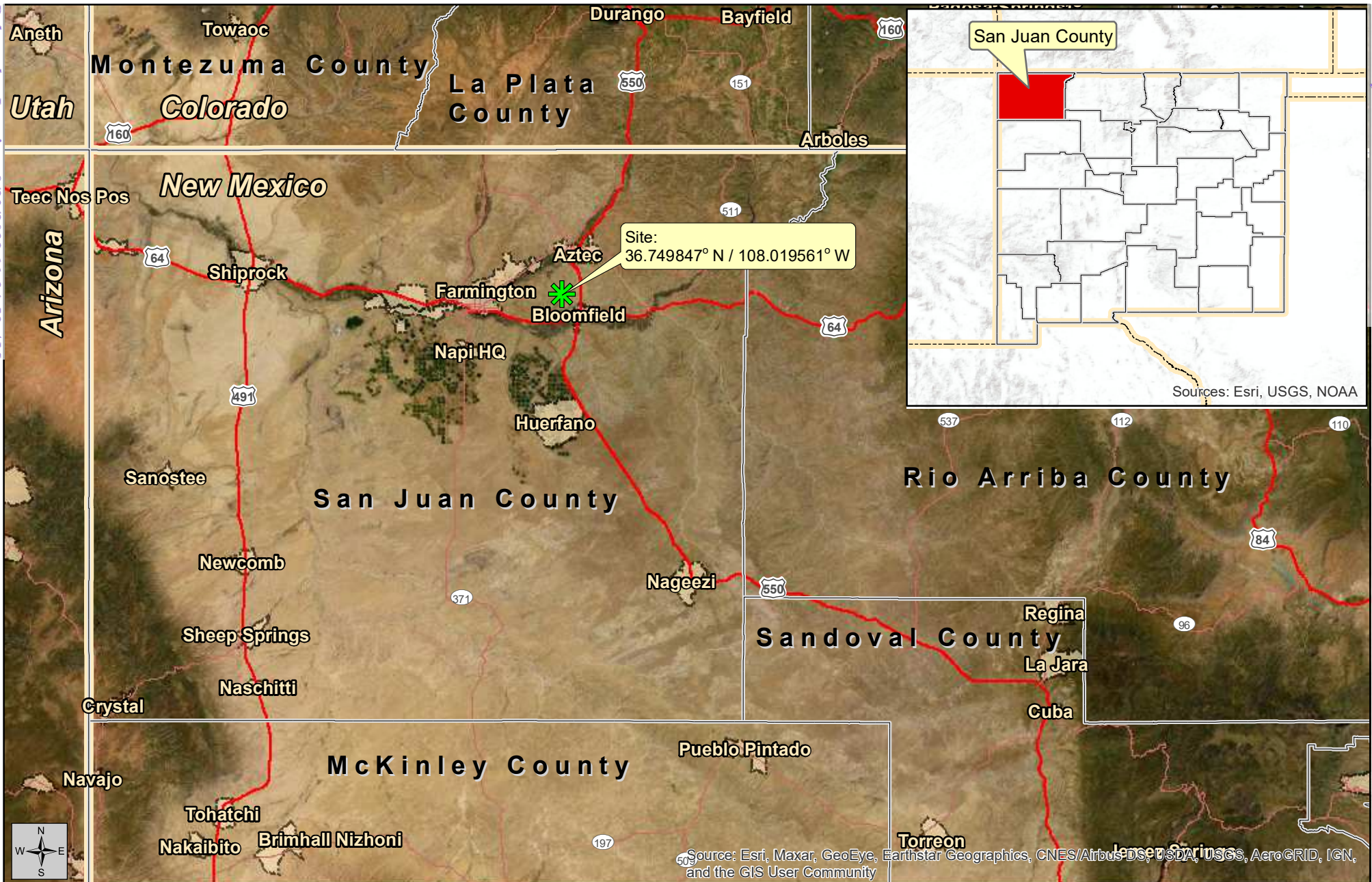


Figure 1  
Site Location Map

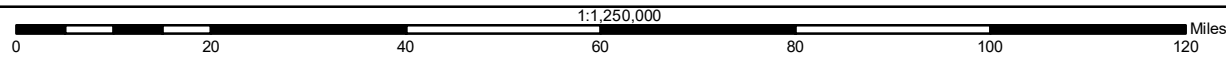
Status Report - 4<sup>th</sup> Quarter 2021

January 13, 2022



Created By:  
Kevin Cole  
TE Project No.: HEC-190009

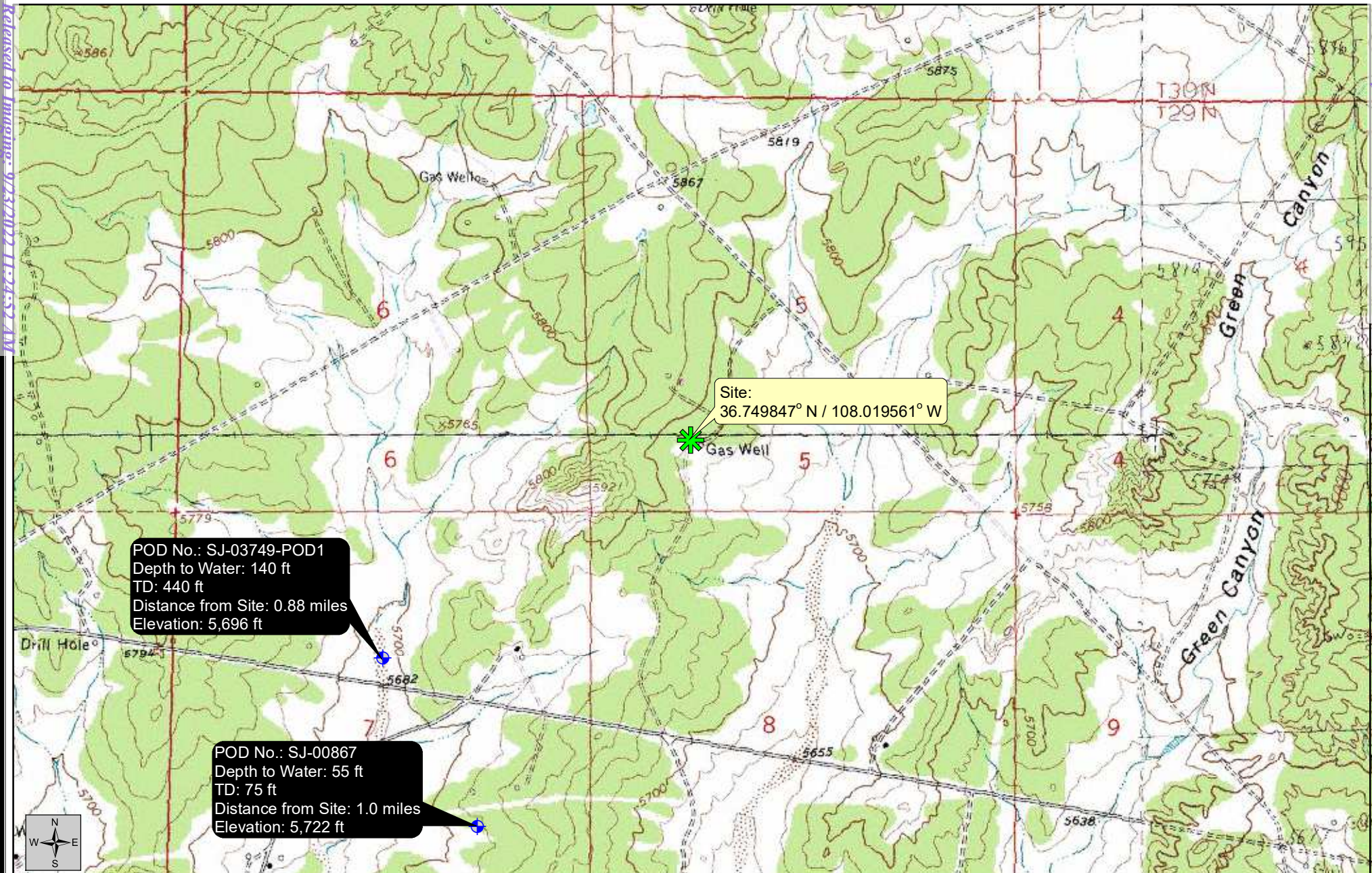
Fifield 5 No. 1 (OCD Incident No. NVF1718155324)  
Hilcorp Energy Company  
San Juan County, New Mexico



Datum: NAD83  
Imagery Source: ESRI  
Vector Source: ESRI and TE

Site





**Figure 2**  
Topographic Map

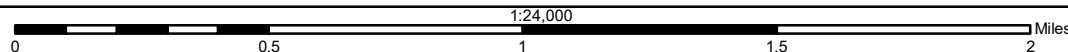
**Status Report - 4<sup>th</sup> Quarter 2021**

January 13, 2022



Created By:  
Kevin Cole  
TE Project No.: HEC-190009

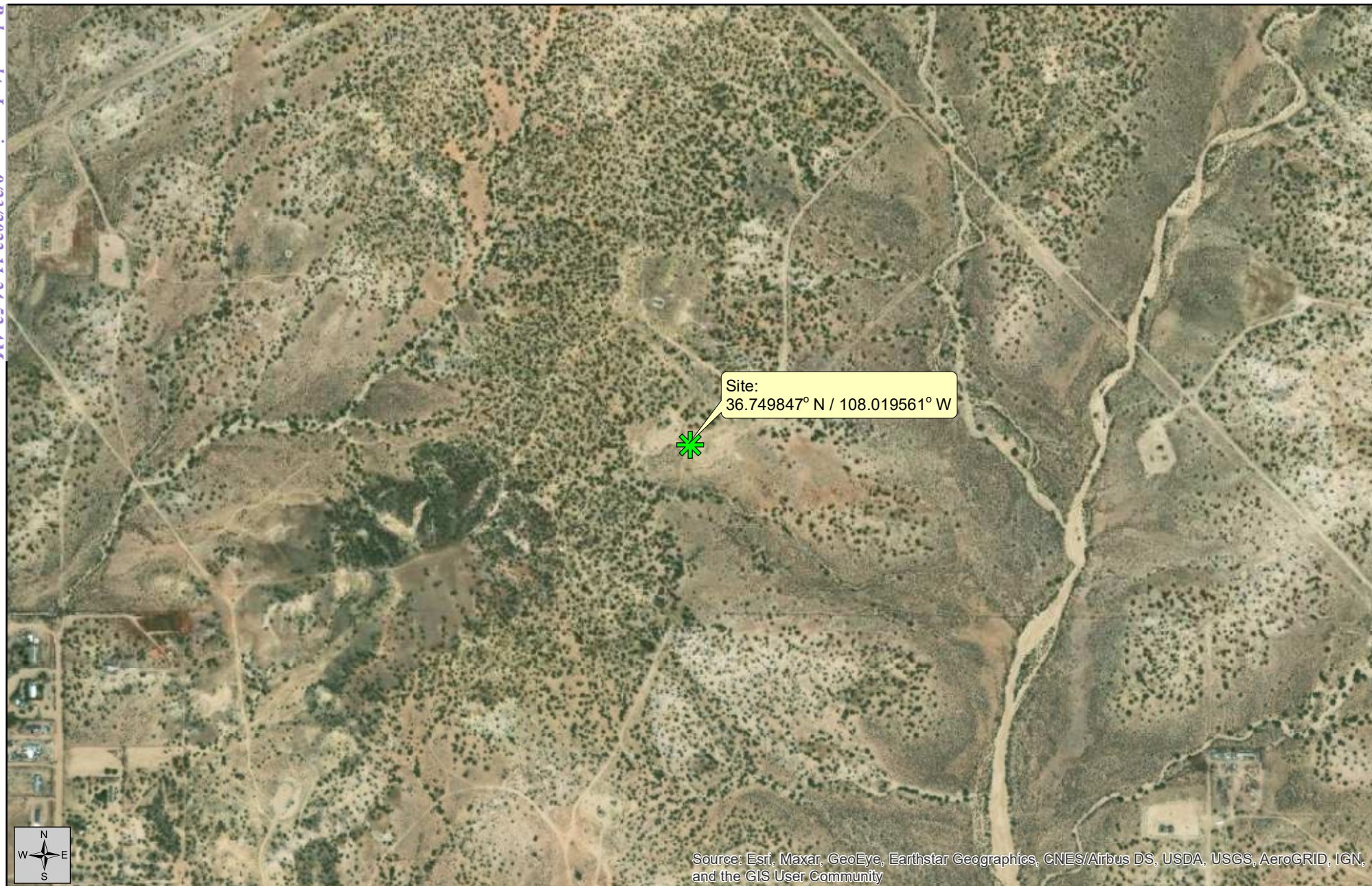
**Fildfield 5 No. 1 (OCD Incident No. NVF1718155324)**  
**Hilcorp Energy Company**  
**San Juan County, New Mexico**



Datum: NAD83  
 Imagery Source: USGS  
 Quads: Aztec, Bloomfield,  
 Flora Vista, Horn Canyon  
 Vector Source: TE

- Site
- Water Well





**Figure 3**  
**Aerial Map**

**Status Report - 4<sup>th</sup> Quarter 2021**

**January 13, 2022**



Created By:  
Kevin Cole  
TE Project No.: HEC-190009

**Fifield 5 No. 1 (OCD Incident No. NVF1718155324)**  
**Hilcorp Energy Company**  
**San Juan County, New Mexico**

Datum: NAD83  
Imagery Source: ESRI  
Vector Source: TE

 **Site**

## **Tables**

---



**Table A-1. Operation and Maintenance Events  
Status Report - 4th Quarter 2021  
Fifield 5 No. 1 (OCD Incident No. NVF1718155324)  
San Juan County, New Mexico**

Date	Hour Meter (hrs)	Water/Condensate Recovered (gal)	Maintenance and Activities Performed
10/01/21	N/A	0	<ul style="list-style-type: none"> <li>Hilcorp operator performed SVE system O&amp;M checks</li> <li>All system functions operating correctly</li> <li>Hour meter installed</li> </ul>
10/13/21	308.0*	1.1	<ul style="list-style-type: none"> <li>Hilcorp operator and Timberwolf personnel performed SVE system O&amp;M checks</li> <li>All system functions operating correctly</li> </ul>
10/18/21	N/A	0	<ul style="list-style-type: none"> <li>Hilcorp operator performed SVE system O&amp;M checks</li> </ul>
10/19/21	N/A	0	<ul style="list-style-type: none"> <li>Found unit generator stolen</li> <li>Generator replaced and system back on-line the same day</li> </ul>
10/20/21	332.0*	0	<ul style="list-style-type: none"> <li>Hilcorp operator replaced gas-fired motor and performed SVE system O&amp;M checks</li> <li>Hilcorp constructed a 6-ft fence with security around the time of equipment replacement</li> <li>New system generator installed; system restart</li> </ul>
11/09/21	N/A	0	<ul style="list-style-type: none"> <li>Hilcorp operator performed SVE system O&amp;M checks</li> <li>All system functions operating correctly</li> <li>Air sample collected (Initial air sample taken on 10/13/21 had to be recollected due to container malfunction)</li> </ul>
12/08/21	843*	0	<ul style="list-style-type: none"> <li>Hilcorp operator performed SVE system O&amp;M checks</li> <li>All system functions operating correctly</li> </ul>
12/15/21	844*	2.0	<ul style="list-style-type: none"> <li>Timberwolf performed SVE system O&amp;M checks</li> <li>Hour meter failure noted; all other system functions operating correctly</li> </ul>
12/22/21	N/A	0	<ul style="list-style-type: none"> <li>Hilcorp operator performed SVE system O&amp;M checks</li> <li>Hour meter replaced</li> <li>All other systems functioning properly</li> </ul>

gal - gallons

hrs - hours

\*Hour meter reading inaccurate due to a failing hour meter

**Table A-2. Initial Gas Analysis 11/09/21  
Status Report - 4th Quarter 2021  
Fifield 5 No. 1  
San Juan County, New Mexico**

Volatiles (mg/m <sup>3</sup> )	SVE
Acetone	1.3
Allyl Chloride	< 0.000626
Benzene	32.3
Benzyl Chloride	< 0.208
Bromodichloromethane	< 0.268
Bromoform	< 1.24
Bromomethane	< 0.000776
1,3-Butadiene	< 0.00443
Carbon Disulfide	< 0.000622
Carbon Tetrachloride	< 0.00126
Chlorobenzene	< 0.185
Chloroethane	< 0.000528
Chloroform	< 0.000973
Chloromethane	< 0.000413
2-Chlorotoluene	< 0.206
Cyclohexane	136
Dibromochloromethane	< 0.34
1,2-Dibromoethane	< 0.308
1,2-Dichlorobenzene	< 0.24
1,3-Dichlorobenzene	< 0.24
1,4-Dichlorobenzene	< 0.24
1,2-Dichloroethane	< 0.162
1,1-Dichloroethane	< 0.000802
1,1-Dichloroethene	< 0.000793
Cis-1,2-Dichloroethene	< 0.000793
Trans-1,2-Dichloroethene	< 0.000793
1,2-Dichloropropane	< 0.185
Cis-1,3-Dichloropropene	< 0.182
Trans-1,3-Dichloropropene	< 0.182
1,4-Dioxane	< 0.144
Ethanol	0.0232
Ethylbenzene	10.3
4-Ethyltoluene	7.9
Trichlorofluoromethane	< 0.00112
Dichlorodifluoromethane	0.00105
1,1,2-Trichlorotrifluoroethane	< 0.00153
1,2-Dichlorotetrafluoroethane	< 0.0014



Heptane	245
Hexachloro-1,3-Butadiene	< 1.35
N-Hexane	171
Isopropylbenzene	1.37
Methylene Chloride	< 0.000694
Methyl Butyl Ketone	< 1.02
2-Butanone (Mek)	< 0.00369
4-Methyl-2-Pentanone (Mibk)	< 1.02
Methyl Methacrylate	< 0.164
Methyl Tert-Butyl Ether	< 0.000721
Naphthalene	< 0.66
2-Propanol	0.0145
Propene	< 0.00215
Styrene	< 0.17
1,1,2,2-Tetrachloroethane	< 0.275
Tetrachloroethene	< 0.272
Tetrahydrofuran	< 0.00059
Toluene	167
1,2,4-Trichlorobenzene	< 0.933
1,1,1-Trichloroethane	< 0.00109
1,1,2-Trichloroethane	< 0.218
Trichloroethene	< 0.214
1,2,4-Trimethylbenzene	6.27
1,3,5-Trimethylbenzene	5.15
2,2,4-Trimethylpentane	< 0.000934
Vinyl Chloride	< 0.000511
Vinyl Bromide	< 0.000875
Vinyl Acetate	< 0.000704
Total Xylene	127
1,4-Bromofluorobenzene	101 102

HEC-190009  
January 29, 2022  
Page 9

## **Laboratory Report and Chain-of-custody Documents**



## ANALYTICAL REPORT

November 15, 2021

**Timberwolf Environmental, LLC**

Sample Delivery Group: L1430061  
Samples Received: 11/11/2021  
Project Number:  
Description:  
Site: FIFIELD 5# 1  
Report To: Jim Foster  
1920 W Villa Maria, Ste 205  
Bryan, TX 77807

<sup>1</sup>Cp<sup>2</sup>Tc<sup>3</sup>Ss<sup>4</sup>Cn<sup>5</sup>Sr<sup>6</sup>Qc<sup>7</sup>Gl<sup>8</sup>Al<sup>9</sup>Sc

Entire Report Reviewed By:

Olivia Studebaker  
Project Manager

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace Analytical National is performed per guidance provided in laboratory standard operating procedures ENV-SOP-MTJL-0067 and ENV-SOP-MTJL-0068. Where sampling conducted by the customer, results relate to the accuracy of the information provided, and as the samples are received.

**Pace Analytical National**12065 Lebanon Rd Mount Juliet, TN 37122 615-758-5858 800-767-5859 [www.pacenational.com](http://www.pacenational.com)

Cp: Cover Page	1	<sup>1</sup> Cp
Tc: Table of Contents	2	
Ss: Sample Summary	3	<sup>2</sup> Tc
Cn: Case Narrative	4	
Sr: Sample Results	5	<sup>3</sup> Ss
SVE    L1430061-01	5	
Qc: Quality Control Summary	7	<sup>4</sup> Cn
Volatile Organic Compounds (MS) by Method TO-15	7	<sup>5</sup> Sr
Gl: Glossary of Terms	12	
Al: Accreditations & Locations	13	<sup>6</sup> Qc
Sc: Sample Chain of Custody	14	<sup>7</sup> Gl
		<sup>8</sup> Al
		<sup>9</sup> Sc

SVE L1430061-01 Air

Collected by  
Kurt

Collected date/time  
11/09/21 13:16

Received date/time  
11/11/21 08:45

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (MS) by Method TO-15	WG1773394	1	11/12/21 20:04	11/12/21 20:04	MBF	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1774462	200	11/15/21 13:19	11/15/21 13:19	MBF	Mt. Juliet, TN
Volatile Organic Compounds (MS) by Method TO-15	WG1774576	2000	11/15/21 14:02	11/15/21 14:02	MBF	Mt. Juliet, TN

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

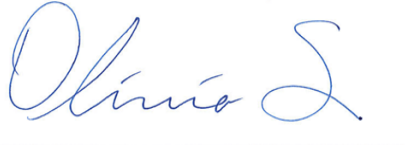
<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc



All sample aliquots were received at the correct temperature, in the proper containers, with the appropriate preservatives, and within method specified holding times, unless qualified or notated within the report. Where applicable, all MDL (LOD) and RDL (LOQ) values reported for environmental samples have been corrected for the dilution factor used in the analysis. All Method and Batch Quality Control are within established criteria except where addressed in this case narrative, a non-conformance form or properly qualified within the sample results. By my digital 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, and no information or data have been knowingly withheld that would affect the quality of the data.



Olivia Studebaker  
Project Manager

- <sup>1</sup> Cp
- <sup>2</sup> Tc
- <sup>3</sup> Ss
- <sup>4</sup> Cn
- <sup>5</sup> Sr
- <sup>6</sup> Qc
- <sup>7</sup> Gl
- <sup>8</sup> Al
- <sup>9</sup> Sc

Collected date/time: 11/09/21 13:16

L1430061

## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
Acetone	67-64-1	58.10	250	594	548	1300		200	<a href="#">WG1774462</a>
Allyl chloride	107-05-1	76.53	0.200	0.626	ND	ND		1	<a href="#">WG1773394</a>
Benzene	71-43-2	78.10	40.0	128	10100	32300		200	<a href="#">WG1774462</a>
Benzyl Chloride	100-44-7	127	40.0	208	ND	ND		200	<a href="#">WG1774462</a>
Bromodichloromethane	75-27-4	164	40.0	268	ND	ND		200	<a href="#">WG1774462</a>
Bromoform	75-25-2	253	120	1240	ND	ND		200	<a href="#">WG1774462</a>
Bromomethane	74-83-9	94.90	0.200	0.776	ND	ND		1	<a href="#">WG1773394</a>
1,3-Butadiene	106-99-0	54.10	2.00	4.43	ND	ND		1	<a href="#">WG1773394</a>
Carbon disulfide	75-15-0	76.10	0.200	0.622	ND	ND		1	<a href="#">WG1773394</a>
Carbon tetrachloride	56-23-5	154	0.200	1.26	ND	ND		1	<a href="#">WG1773394</a>
Chlorobenzene	108-90-7	113	40.0	185	ND	ND		200	<a href="#">WG1774462</a>
Chloroethane	75-00-3	64.50	0.200	0.528	ND	ND		1	<a href="#">WG1773394</a>
Chloroform	67-66-3	119	0.200	0.973	ND	ND		1	<a href="#">WG1773394</a>
Chloromethane	74-87-3	50.50	0.200	0.413	ND	ND		1	<a href="#">WG1773394</a>
2-Chlorotoluene	95-49-8	126	40.0	206	ND	ND		200	<a href="#">WG1774462</a>
Cyclohexane	110-82-7	84.20	400	1380	39500	136000		2000	<a href="#">WG1774576</a>
Dibromochloromethane	124-48-1	208	40.0	340	ND	ND		200	<a href="#">WG1774462</a>
1,2-Dibromoethane	106-93-4	188	40.0	308	ND	ND		200	<a href="#">WG1774462</a>
1,2-Dichlorobenzene	95-50-1	147	40.0	240	ND	ND		200	<a href="#">WG1774462</a>
1,3-Dichlorobenzene	541-73-1	147	40.0	240	ND	ND		200	<a href="#">WG1774462</a>
1,4-Dichlorobenzene	106-46-7	147	40.0	240	ND	ND		200	<a href="#">WG1774462</a>
1,2-Dichloroethane	107-06-2	99	40.0	162	ND	ND		200	<a href="#">WG1774462</a>
1,1-Dichloroethane	75-34-3	98	0.200	0.802	ND	ND		1	<a href="#">WG1773394</a>
1,1-Dichloroethene	75-35-4	96.90	0.200	0.793	ND	ND		1	<a href="#">WG1773394</a>
cis-1,2-Dichloroethene	156-59-2	96.90	0.200	0.793	ND	ND		1	<a href="#">WG1773394</a>
trans-1,2-Dichloroethene	156-60-5	96.90	0.200	0.793	ND	ND		1	<a href="#">WG1773394</a>
1,2-Dichloropropane	78-87-5	113	40.0	185	ND	ND		200	<a href="#">WG1774462</a>
cis-1,3-Dichloropropene	10061-01-5	111	40.0	182	ND	ND		200	<a href="#">WG1774462</a>
trans-1,3-Dichloropropene	10061-02-6	111	40.0	182	ND	ND		200	<a href="#">WG1774462</a>
1,4-Dioxane	123-91-1	88.10	40.0	144	ND	ND		200	<a href="#">WG1774462</a>
Ethanol	64-17-5	46.10	1.25	2.36	12.3	23.2		1	<a href="#">WG1773394</a>
Ethylbenzene	100-41-4	106	40.0	173	2370	10300		200	<a href="#">WG1774462</a>
4-Ethyltoluene	622-96-8	120	40.0	196	1610	7900		200	<a href="#">WG1774462</a>
Trichlorofluoromethane	75-69-4	137.40	0.200	1.12	ND	ND		1	<a href="#">WG1773394</a>
Dichlorodifluoromethane	75-71-8	120.92	0.200	0.989	0.212	1.05		1	<a href="#">WG1773394</a>
1,1,2-Trichlorotrifluoroethane	76-13-1	187.40	0.200	1.53	ND	ND		1	<a href="#">WG1773394</a>
1,2-Dichlorotetrafluoroethane	76-14-2	171	0.200	1.40	ND	ND		1	<a href="#">WG1773394</a>
Heptane	142-82-5	100	400	1640	60000	245000		2000	<a href="#">WG1774576</a>
Hexachloro-1,3-butadiene	87-68-3	261	126	1350	ND	ND		200	<a href="#">WG1774462</a>
n-Hexane	110-54-3	86.20	1260	4440	48600	171000		2000	<a href="#">WG1774576</a>
Isopropylbenzene	98-82-8	120.20	40.0	197	278	1370		200	<a href="#">WG1774462</a>
Methylene Chloride	75-09-2	84.90	0.200	0.694	ND	ND		1	<a href="#">WG1773394</a>
Methyl Butyl Ketone	591-78-6	100	250	1020	ND	ND		200	<a href="#">WG1774462</a>
2-Butanone (MEK)	78-93-3	72.10	1.25	3.69	ND	ND		1	<a href="#">WG1773394</a>
4-Methyl-2-pentanone (MIBK)	108-10-1	100.10	250	1020	ND	ND		200	<a href="#">WG1774462</a>
Methyl methacrylate	80-62-6	100.12	40.0	164	ND	ND		200	<a href="#">WG1774462</a>
MTBE	1634-04-4	88.10	0.200	0.721	ND	ND		1	<a href="#">WG1773394</a>
Naphthalene	91-20-3	128	126	660	ND	ND		200	<a href="#">WG1774462</a>
2-Propanol	67-63-0	60.10	1.25	3.07	5.88	14.5		1	<a href="#">WG1773394</a>
Propene	115-07-1	42.10	1.25	2.15	ND	ND		1	<a href="#">WG1773394</a>
Styrene	100-42-5	104	40.0	170	ND	ND		200	<a href="#">WG1774462</a>
1,1,2,2-Tetrachloroethane	79-34-5	168	40.0	275	ND	ND		200	<a href="#">WG1774462</a>
Tetrachloroethylene	127-18-4	166	40.0	272	ND	ND		200	<a href="#">WG1774462</a>
Tetrahydrofuran	109-99-9	72.10	0.200	0.590	ND	ND		1	<a href="#">WG1773394</a>
Toluene	108-88-3	92.10	1000	3770	44300	167000		2000	<a href="#">WG1774576</a>
1,2,4-Trichlorobenzene	120-82-1	181	126	933	ND	ND		200	<a href="#">WG1774462</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Collected date/time: 11/09/21 13:16

L1430061

## Volatile Organic Compounds (MS) by Method TO-15

Analyte	CAS #	Mol. Wt.	RDL1 ppbv	RDL2 ug/m3	Result ppbv	Result ug/m3	Qualifier	Dilution	Batch
1,1,1-Trichloroethane	71-55-6	133	0.200	1.09	ND	ND		1	<a href="#">WG1773394</a>
1,1,2-Trichloroethane	79-00-5	133	40.0	218	ND	ND		200	<a href="#">WG1774462</a>
Trichloroethylene	79-01-6	131	40.0	214	ND	ND		200	<a href="#">WG1774462</a>
1,2,4-Trimethylbenzene	95-63-6	120	40.0	196	1370	6720		200	<a href="#">WG1774462</a>
1,3,5-Trimethylbenzene	108-67-8	120	40.0	196	1050	5150		200	<a href="#">WG1774462</a>
2,2,4-Trimethylpentane	540-84-1	114.22	0.200	0.934	ND	ND		1	<a href="#">WG1773394</a>
Vinyl chloride	75-01-4	62.50	0.200	0.511	ND	ND		1	<a href="#">WG1773394</a>
Vinyl Bromide	593-60-2	106.95	0.200	0.875	ND	ND		1	<a href="#">WG1773394</a>
Vinyl acetate	108-05-4	86.10	0.200	0.704	ND	ND		1	<a href="#">WG1773394</a>
m&p-Xylene	1330-20-7	106	80.0	347	24900	108000		200	<a href="#">WG1774462</a>
o-Xylene	95-47-6	106	40.0	173	4380	19000		200	<a href="#">WG1774462</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		606		<a href="#">J1</a>		<a href="#">WG1773394</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		107				<a href="#">WG1774462</a>
(S) 1,4-Bromofluorobenzene	460-00-4	175	60.0-140		102				<a href="#">WG1774576</a>

1 Cp

2 Tc

3 Ss

4 Cn

5 Sr

6 Qc

7 Gl

8 Al

9 Sc

Volatile Organic Compounds (MS) by Method TO-15

L1430061-01

Method Blank (MB)

(MB) R3728991-3 11/12/21 09:51

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,1,1-Trichloroethane	U		0.0736	0.200
1,1,2-Trichlorotrifluoroethane	U		0.0793	0.200
1,1-Dichloroethane	U		0.0723	0.200
1,1-Dichloroethene	U		0.0762	0.200
1,2-Dichlorotetrafluoroethane	U		0.0890	0.200
1,3-Butadiene	U		0.104	2.00
2,2,4-Trimethylpentane	U		0.133	0.200
2-Butanone (MEK)	U		0.0814	1.25
2-Propanol	U		0.264	1.25
Allyl Chloride	U		0.114	0.200
Bromomethane	U		0.0982	0.200
Carbon disulfide	U		0.102	0.200
Carbon tetrachloride	U		0.0732	0.200
Chloroethane	U		0.0996	0.200
Chloroform	U		0.0717	0.200
Chloromethane	U		0.103	0.200
cis-1,2-Dichloroethene	U		0.0784	0.200
Dichlorodifluoromethane	U		0.137	0.200
Ethanol	U		0.265	1.25
MTBE	U		0.0647	0.200
Methylene Chloride	U		0.0979	0.200
Propene	0.112	U	0.0932	1.25
Tetrahydrofuran	U		0.0734	0.200
trans-1,2-Dichloroethene	U		0.0673	0.200
Trichlorofluoromethane	U		0.0819	0.200
Vinyl acetate	U		0.116	0.200
Vinyl Bromide	U		0.0852	0.200
Vinyl chloride	U		0.0949	0.200
(S) 1,4-Bromofluorobenzene	102			60.0-140

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3728991-1 11/12/21 08:33 • (LCSD) R3728991-2 11/12/21 09:13

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,1,1-Trichloroethane	3.75	4.19	4.12	112	110	70.0-130			1.68	25
1,1,2-Trichlorotrifluoroethane	3.75	4.22	4.10	113	109	70.0-130			2.88	25
1,1-Dichloroethane	3.75	4.41	4.30	118	115	70.0-130			2.53	25
1,1-Dichloroethene	3.75	4.38	4.35	117	116	70.0-130			0.687	25

QUALITY CONTROL SUMMARY

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3728991-1 11/12/21 08:33 • (LCSD) R3728991-2 11/12/21 09:13

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
1,2-Dichlorotetrafluoroethane	3.75	4.27	4.18	114	111	70.0-130			2.13	25
1,3-Butadiene	3.75	4.67	4.52	125	121	70.0-130			3.26	25
2,2,4-Trimethylpentane	3.75	4.38	4.34	117	116	70.0-130			0.917	25
2-Butanone (MEK)	3.75	4.32	4.22	115	113	70.0-130			2.34	25
2-Propanol	3.75	4.47	4.37	119	117	70.0-139			2.26	25
Allyl Chloride	3.75	4.60	4.55	123	121	70.0-130			1.09	25
Bromomethane	3.75	4.21	4.12	112	110	70.0-130			2.16	25
Carbon disulfide	3.75	4.32	4.24	115	113	70.0-130			1.87	25
Carbon tetrachloride	3.75	4.15	4.08	111	109	70.0-130			1.70	25
Chloroethane	3.75	4.43	4.32	118	115	70.0-130			2.51	25
Chloroform	3.75	4.24	4.19	113	112	70.0-130			1.19	25
Chloromethane	3.75	4.44	4.31	118	115	70.0-130			2.97	25
cis-1,2-Dichloroethene	3.75	4.45	4.37	119	117	70.0-130			1.81	25
Dichlorodifluoromethane	3.75	4.29	4.20	114	112	64.0-139			2.12	25
Ethanol	3.75	4.35	4.21	116	112	55.0-148			3.27	25
MTBE	3.75	4.31	4.26	115	114	70.0-130			1.17	25
Methylene Chloride	3.75	4.44	4.34	118	116	70.0-130			2.28	25
Propene	3.75	4.59	4.50	122	120	64.0-144			1.98	25
Tetrahydrofuran	3.75	4.51	4.45	120	119	70.0-137			1.34	25
trans-1,2-Dichloroethene	3.75	4.40	4.36	117	116	70.0-130			0.913	25
Trichlorofluoromethane	3.75	4.28	4.21	114	112	70.0-130			1.65	25
Vinyl acetate	3.75	4.13	3.94	110	105	70.0-130			4.71	25
Vinyl Bromide	3.75	4.20	4.09	112	109	70.0-130			2.65	25
Vinyl chloride	3.75	4.45	4.31	119	115	70.0-130			3.20	25
(S) 1,4-Bromofluorobenzene				102	104	60.0-140				

<sup>1</sup> Cp

<sup>2</sup> Tc

<sup>3</sup> Ss

<sup>4</sup> Cn

<sup>5</sup> Sr

<sup>6</sup> Qc

<sup>7</sup> Gl

<sup>8</sup> Al

<sup>9</sup> Sc



Volatile Organic Compounds (MS) by Method TO-15

L1430061-01

Method Blank (MB)

(MB) R3729541-2 11/15/21 10:07

Analyte	MB Result ppbv	MB Qualifier	MB MDL ppbv	MB RDL ppbv
1,1,2,2-Tetrachloroethane	U		0.0743	0.200
1,1,2-Trichloroethane	U		0.0775	0.200
1,2,4-Trichlorobenzene	U		0.148	0.630
1,2,4-Trimethylbenzene	U		0.0764	0.200
1,2-Dibromoethane	U		0.0721	0.200
1,2-Dichlorobenzene	U		0.128	0.200
1,2-Dichloroethane	U		0.0700	0.200
1,2-Dichloropropane	U		0.0760	0.200
1,3,5-Trimethylbenzene	U		0.0779	0.200
1,3-Dichlorobenzene	U		0.182	0.200
1,4-Dichlorobenzene	U		0.0557	0.200
1,4-Dioxane	U		0.0833	0.200
2-Chlorotoluene	U		0.0828	0.200
4-Ethyltoluene	U		0.0783	0.200
4-Methyl-2-pentanone (MIBK)	U		0.0765	1.25
Acetone	U		0.584	1.25
Benzene	U		0.0715	0.200
Benzyl Chloride	U		0.0598	0.200
Bromodichloromethane	U		0.0702	0.200
Bromoform	U		0.0732	0.600
Chlorobenzene	U		0.0832	0.200
Dibromochloromethane	U		0.0727	0.200
cis-1,3-Dichloropropene	U		0.0689	0.200
Ethylbenzene	U		0.0835	0.200
Hexachloro-1,3-butadiene	U		0.105	0.630
Isopropylbenzene	U		0.0777	0.200
m&p-Xylene	U		0.135	0.400
Methyl Butyl Ketone	U		0.133	1.25
Methyl Methacrylate	U		0.0876	0.200
Naphthalene	U		0.350	0.630
o-Xylene	U		0.0828	0.200
Styrene	U		0.0788	0.200
Tetrachloroethylene	U		0.0814	0.200
trans-1,3-Dichloropropene	U		0.0728	0.200
Trichloroethylene	U		0.0680	0.200
(S) 1,4-Bromofluorobenzene	102			60.0-140

<sup>1</sup>Cp

<sup>2</sup>Tc

<sup>3</sup>Ss

<sup>4</sup>Cn

<sup>5</sup>Sr

<sup>6</sup>Qc

<sup>7</sup>Gl

<sup>8</sup>Al

<sup>9</sup>Sc

Volatile Organic Compounds (MS) by Method TO-15

L1430061-01

## Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3729541-1 11/15/21 09:29 • (LCSD) R3729541-3 11/15/21 10:47

Analyte	Spike Amount ppbv	LCS Result ppbv	LCSD Result ppbv	LCS Rec. %	LCSD Rec. %	Rec. Limits %	<u>LCS Qualifier</u>	<u>LCSD Qualifier</u>	RPD %	RPD Limits %
1,1,2,2-Tetrachloroethane	3.75	4.01	4.06	107	108	70.0-130			1.24	25
1,1,2-Trichloroethane	3.75	4.01	4.03	107	107	70.0-130			0.498	25
1,2,4-Trichlorobenzene	3.75	3.58	3.67	95.5	97.9	70.0-160			2.48	25
1,2,4-Trimethylbenzene	3.75	4.26	4.33	114	115	70.0-130			1.63	25
1,2-Dibromoethane	3.75	4.06	4.09	108	109	70.0-130			0.736	25
1,2-Dichlorobenzene	3.75	4.01	4.05	107	108	70.0-130			0.993	25
1,2-Dichloroethane	3.75	4.24	4.16	113	111	70.0-130			1.90	25
1,2-Dichloropropane	3.75	4.05	4.09	108	109	70.0-130			0.983	25
1,3,5-Trimethylbenzene	3.75	4.30	4.35	115	116	70.0-130			1.16	25
1,3-Dichlorobenzene	3.75	4.02	4.01	107	107	70.0-130			0.249	25
1,4-Dichlorobenzene	3.75	3.93	3.97	105	106	70.0-130			1.01	25
1,4-Dioxane	3.75	4.37	4.34	117	116	70.0-140			0.689	25
2-Chlorotoluene	3.75	4.13	4.16	110	111	70.0-130			0.724	25
4-Ethyltoluene	3.75	4.18	4.22	111	113	70.0-130			0.952	25
4-Methyl-2-pentanone (MIBK)	3.75	4.37	4.48	117	119	70.0-139			2.49	25
Acetone	3.75	4.12	4.16	110	111	70.0-130			0.966	25
Benzene	3.75	3.99	3.99	106	106	70.0-130			0.000	25
Benzyl Chloride	3.75	3.88	3.99	103	106	70.0-152			2.80	25
Bromodichloromethane	3.75	4.08	4.02	109	107	70.0-130			1.48	25
Bromoform	3.75	4.09	4.09	109	109	70.0-130			0.000	25
Chlorobenzene	3.75	4.02	4.05	107	108	70.0-130			0.743	25
Dibromochloromethane	3.75	4.06	4.04	108	108	70.0-130			0.494	25
cis-1,3-Dichloropropene	3.75	4.19	4.18	112	111	70.0-130			0.239	25
Ethylbenzene	3.75	4.18	4.20	111	112	70.0-130			0.477	25
Hexachloro-1,3-butadiene	3.75	4.07	4.13	109	110	70.0-151			1.46	25
Isopropylbenzene	3.75	4.33	4.35	115	116	70.0-130			0.461	25
m&p-Xylene	7.50	8.48	8.54	113	114	70.0-130			0.705	25
Methyl Butyl Ketone	3.75	4.44	4.46	118	119	70.0-149			0.449	25
Methyl Methacrylate	3.75	4.13	4.16	110	111	70.0-130			0.724	25
Naphthalene	3.75	3.85	3.88	103	103	70.0-159			0.776	25
o-Xylene	3.75	4.26	4.32	114	115	70.0-130			1.40	25
Styrene	3.75	4.20	4.24	112	113	70.0-130			0.948	25
Tetrachloroethylene	3.75	4.04	4.03	108	107	70.0-130			0.248	25
trans-1,3-Dichloropropene	3.75	4.17	4.16	111	111	70.0-130			0.240	25
Trichloroethylene	3.75	4.09	4.14	109	110	70.0-130			1.22	25
(S) 1,4-Bromofluorobenzene				104	104	60.0-140				

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc

Method Blank (MB)

(MB) R3729563-2 11/15/21 10:07

Analyte	MB Result	MB Qualifier	MB MDL	MB RDL
	ppbv		ppbv	ppbv
Cyclohexane	U		0.0753	0.200
Heptane	U		0.104	0.200
n-Hexane	U		0.206	0.630
Toluene	U		0.0870	0.500
(S) 1,4-Bromofluorobenzene	102			60.0-140

Laboratory Control Sample (LCS) • Laboratory Control Sample Duplicate (LCSD)

(LCS) R3729563-1 11/15/21 09:29 • (LCSD) R3729563-3 11/15/21 10:47

Analyte	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits
	ppbv	ppbv	ppbv	%	%	%			%	%
n-Hexane	3.75	4.29	4.37	114	117	70.0-130			1.85	25
Cyclohexane	3.75	4.27	4.31	114	115	70.0-130			0.932	25
Heptane	3.75	4.11	4.33	110	115	70.0-130			5.21	25
Toluene	3.75	4.12	4.15	110	111	70.0-130			0.726	25
(S) 1,4-Bromofluorobenzene				104	104	60.0-140				

1Cp

2Tc

3Ss

4Cn

5Sr

6Qc

7Gl

8Al

9Sc

## Guide to Reading and Understanding Your Laboratory Report

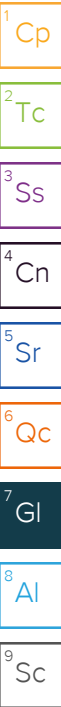
The information below is designed to better explain the various terms used in your report of analytical results from the Laboratory. This is not intended as a comprehensive explanation, and if you have additional questions please contact your project representative.

Results Disclaimer - Information that may be provided by the customer, and contained within this report, include Permit Limits, Project Name, Sample ID, Sample Matrix, Sample Preservation, Field Blanks, Field Spikes, Field Duplicates, On-Site Data, Sampling Collection Dates/Times, and Sampling Location. Results relate to the accuracy of this information provided, and as the samples are received.

### Abbreviations and Definitions

MDL	Method Detection Limit.
ND	Not detected at the Method Quantitation Limit.
RDL	Reported Detection Limit.
Rec.	Recovery.
RPD	Relative Percent Difference.
SDG	Sample Delivery Group.
(S)	Surrogate (Surrogate Standard) - Analytes added to every blank, sample, Laboratory Control Sample/Duplicate and Matrix Spike/Duplicate; used to evaluate analytical efficiency by measuring recovery. Surrogates are not expected to be detected in all environmental media.
U	Not detected at the Sample Detection Limit.
Analyte	The name of the particular compound or analysis performed. Some Analyses and Methods will have multiple analytes reported.
Dilution	If the sample matrix contains an interfering material, the sample preparation volume or weight values differ from the standard, or if concentrations of analytes in the sample are higher than the highest limit of concentration that the laboratory can accurately report, the sample may be diluted for analysis. If a value different than 1 is used in this field, the result reported has already been corrected for this factor.
Limits	These are the target % recovery ranges or % difference value that the laboratory has historically determined as normal for the method and analyte being reported. Successful QC Sample analysis will target all analytes recovered or duplicated within these ranges.
Qualifier	This column provides a letter and/or number designation that corresponds to additional information concerning the result reported. If a Qualifier is present, a definition per Qualifier is provided within the Glossary and Definitions page and potentially a discussion of possible implications of the Qualifier in the Case Narrative if applicable.
Result	The actual analytical final result (corrected for any sample specific characteristics) reported for your sample. If there was no measurable result returned for a specific analyte, the result in this column may state "ND" (Not Detected) or "BDL" (Below Detectable Levels). The information in the results column should always be accompanied by either an MDL (Method Detection Limit) or RDL (Reporting Detection Limit) that defines the lowest value that the laboratory could detect or report for this analyte.
Uncertainty (Radiochemistry)	Confidence level of 2 sigma.
Case Narrative (Cn)	A brief discussion about the included sample results, including a discussion of any non-conformances to protocol observed either at sample receipt by the laboratory from the field or during the analytical process. If present, there will be a section in the Case Narrative to discuss the meaning of any data qualifiers used in the report.
Quality Control Summary (Qc)	This section of the report includes the results of the laboratory quality control analyses required by procedure or analytical methods to assist in evaluating the validity of the results reported for your samples. These analyses are not being performed on your samples typically, but on laboratory generated material.
Sample Chain of Custody (Sc)	This is the document created in the field when your samples were initially collected. This is used to verify the time and date of collection, the person collecting the samples, and the analyses that the laboratory is requested to perform. This chain of custody also documents all persons (excluding commercial shippers) that have had control or possession of the samples from the time of collection until delivery to the laboratory for analysis.
Sample Results (Sr)	This section of your report will provide the results of all testing performed on your samples. These results are provided by sample ID and are separated by the analyses performed on each sample. The header line of each analysis section for each sample will provide the name and method number for the analysis reported.
Sample Summary (Ss)	This section of the Analytical Report defines the specific analyses performed for each sample ID, including the dates and times of preparation and/or analysis.

Qualifier	Description
J	The identification of the analyte is acceptable; the reported value is an estimate.
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.



## Pace Analytical National 12065 Lebanon Rd Mount Juliet, TN 37122

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN000032021-1
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey--NELAP	TN002
California	2932	New Mexico <sup>1</sup>	TN00003
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina <sup>1</sup>	DW21704
Georgia	NELAP	North Carolina <sup>3</sup>	41
Georgia <sup>1</sup>	923	North Dakota	R-140
Idaho	TN00003	Ohio--VAP	CL0069
Illinois	200008	Oklahoma	9915
Indiana	C-TN-01	Oregon	TN200002
Iowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LA000356
Kentucky <sup>1,6</sup>	KY90010	South Carolina	84004002
Kentucky <sup>2</sup>	16	South Dakota	n/a
Louisiana	AI30792	Tennessee <sup>1,4</sup>	2006
Louisiana	LA018	Texas	T104704245-20-18
Maine	TN00003	Texas <sup>5</sup>	LAB0152
Maryland	324	Utah	TN000032021-11
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	110033
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	998093910
Montana	CERT0086	Wyoming	A2LA
A2LA -- ISO 17025	1461.01	AIHA-LAP, LLC EMLAP	100789
A2LA -- ISO 17025 <sup>5</sup>	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA--Crypto	TN00003		

<sup>1</sup> Drinking Water <sup>2</sup> Underground Storage Tanks <sup>3</sup> Aquatic Toxicity <sup>4</sup> Chemical/Microbiological <sup>5</sup> Mold <sup>6</sup> Wastewater n/a Accreditation not applicable

\* Not all certifications held by the laboratory are applicable to the results reported in the attached report.

\* Accreditation is only applicable to the test methods specified on each scope of accreditation held by Pace Analytical.

<sup>1</sup> Cp<sup>2</sup> Tc<sup>3</sup> Ss<sup>4</sup> Cn<sup>5</sup> Sr<sup>6</sup> Qc<sup>7</sup> Gl<sup>8</sup> Al<sup>9</sup> Sc



## Timberwolf Environmental, LLC

1920 W Villa Maria, Ste 205  
Bryan, TX 77807

## Billing Information:

Accounts Payable  
1920 W Villa Maria, Ste 205  
Bryan, TX 77807Pres  
Chk

## Analysis / Container / Preservative

## Chain of Custody

12065 Lebanon Rd Mount Juliet, TN 37122  
Submitting a sample via this chain of custody  
constitutes acknowledgment and acceptance of the  
Pace Terms and Conditions found at:  
<https://info.pacelabs.com/hubs/pas-standard-terms.pdf>SDG # **L43006**Table **D154**Acctnum: **TIMENVBTX**Template: **T197265**Prelogin: **P885571**PM: **823 - Olivia Studebaker**PB: **CSL-11/13/21**Shipped Via: **FedEX Standard**

Remarks Sample # (lab only)

Report to:  
**Jim Foster**Email To: **jim@teamtimberwolf.com****khoekstra@hlcamp.com**

Project Description:

City/State  
Collected:Please Circle:  
PT MT CT ETPhone: **361-772-8706**

Client Project #

Lab Project #

**TIMENVBTX-SUMMA**

Collected by (print):

Site/Facility ID #

P.O. #

Collected by (signature):

**Rush?** (Lab MUST Be Notified)

Quote #

Same Day Five Day

Next Day 5 Day (Rad Only)

☒ Two Day 10 Day (Rad Only)

Three Day

Date Results Needed

Immediately

Packed on Ice ☒ ☐ ☐No.  
of  
Cntrs

TO-15 Summa

Sample ID

Comp/Grab

Matrix \*

Depth

Date

Time

1

X

**SVE****Air****11-9-21****1:16****-01**

## \* Matrix:

SS - Soil **AIR** - Air **F** - Filter  
GW - Groundwater **B** - Bioassay  
WW - WasteWater  
DW - Drinking Water  
OT - Other

## Remarks:

Samples returned via:

☐ UPS ☐ FedEx ☐ Courier

Tracking #

**9362 4962 0423**

pH Temp

Flow Other

## Sample Receipt Checklist

COC Seal Present/Intact: ☒ ☐ ☐  
COC Signed/Accurate: ☒ ☐ ☐  
Bottles arrive intact: ☒ ☐ ☐  
Correct bottles used: ☒ ☐ ☐  
Sufficient volume sent: ☒ ☐ ☐  
If Applicable  
VOA Zero Headspace: ☐ ☐ ☐  
Preservation Correct/Checked: ☐ ☐ ☐  
RAD Screen <0.5 mR/hr: ☒ ☐ ☐

Relinquished by: (Signature)

Date:

**11-9-21**

Time:

**2:25**

Received by: (Signature)

Trip Blank Received: Yes / No

**HCL / MeOH**  
**TBR**

Relinquished by: (Signature)

Date:

Time:

Received by: (Signature)

Temp: °C

**Amb** **1**

If preservation required by Login: Date/Time

Relinquished by: (Signature)

Date:

Time:

Received for lab by: (Signature)

Date: Time:

**11-11-21** **0845**

Hold:

Condition:

**NCF / (OK)**

**District I**

1625 N. French Dr., Hobbs, NM 88240  
Phone:(575) 393-6161 Fax:(575) 393-0720

**District II**

811 S. First St., Artesia, NM 88210  
Phone:(575) 748-1283 Fax:(575) 748-9720

**District III**

1000 Rio Brazos Rd., Aztec, NM 87410  
Phone:(505) 334-6178 Fax:(505) 334-6170

**District IV**

1220 S. St Francis Dr., Santa Fe, NM 87505  
Phone:(505) 476-3470 Fax:(505) 476-3462

**State of New Mexico**  
**Energy, Minerals and Natural Resources**  
**Oil Conservation Division**  
**1220 S. St Francis Dr.**  
**Santa Fe, NM 87505**

CONDITIONS

Action 82020

**CONDITIONS**

Operator: HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	OGRID: 372171
	Action Number: 82020
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

**CONDITIONS**

Created By	Condition	Condition Date
nvelez	Accepted for the record. See App ID 125737 for most updated status.	9/23/2022