Review of 2020 Annual Groundwater Report: Content satisfactory

1. Continue quarterly sampling from monitoring wells MW-1 – MW-5 to examine BTEX, dissolved iron and dissolved manganese in 2021
2. Continue annual sampling of DW-1 and DW-2 in 2021
3. Submit the Annual Monitoring Report to the OCD no later than March 31, 2022

Hilcorp

February 18, 2021

Mr. Cory Smith
New Mexico Oil Conservation Division
1000 Rio Brazos Road
Aztec, NM 87410

RE: 2020 Annual Groundwater Report
Hilcorp Energy Company
Flora Vista 1 – 3RP-173
Incident #: nCS1907338841
San Juan County, New Mexico

Dear Mr. Smith:

Hilcorp Energy Company (Hilcorp) presents the following annual report discussing ground water monitoring activities conducted at the Flora Vista 1 natural gas production well (Site) during 2020. Ground water was impacted by an earthen dehydrator pit. Hilcorp acquired the Site from ConocoPhillips in April 2017. The Site is located on private property in Unit Letter F, Section 22, Township 30N, Range 12W, of San Juan County, NM (Figure 1). This report represents the results for 2020 monitoring events. The site consists of a gas well and associated equipment and installations. A detailed Site Plan is provided as Figure 2. A full history of this site can be found in the annual reports previously submitted.

Methodology

Quarterly groundwater monitoring was conducted by Hilcorp on March 26, June 10, August 28 and November 5. A depth to groundwater was measurable in MW-1 in June and August 2020 but there was not enough water to collect a sample during those quarters. Groundwater elevations are detailed in Table 1.

Prior to sample collection, wells were purged of up to three well volumes. If three well volumes could not be purged, wells were purged until dry and allowed to recharge prior to sampling. While bailing each well, groundwater parameter data, including temperature, pH, conductivity, dissolved and oxidation/reduction potential were collected using a calibrated multi parameter meter. Field parameters are summarized in Table 2.

Collected groundwater samples were placed in laboratory prepared bottles, packed on ice, and shipped under chain of custody documentation to Pace Analytical Services in Mount Juliet, TN. The samples were analyzed for the presence of BTEX by EPA Method 8260 and dissolved iron and manganese according to EPA method 6010.

On June 9, 2020 Hilcorp collected a groundwater sample from a down gradient domestic irrigation well DW-1, located at #32 CR 3581. Another groundwater sample was collected from DW-2, located at 34 CR 3581 on June 9, 2020. Dissolved iron and manganese were added to the analyses for these well samples in addition to BTEX constituents. Well records for these two down gradient wells have been compared to on-site monitor wells and are believed to be completed in the same aquifer as the Site. The wells have been sampled on an annual basis since 2009 (see Table 3).

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Results

All constituents tested from domestic wells DW-1 and DW-2 were recorded at concentrations below the respective laboratory reporting limits (LRLs). Groundwater collected from the Site monitor wells exceeded the NMWQCC standards for the following constituents:

March 2020

- The concentration of dissolved iron from MW-5 were 9.16 mg/L
- The concentration of dissolved manganese in MW-4 and MW-5 were 2.39 mg/L and 0.67 mg/L, respectively
- The concentration of Benzene in MW-1 and MW-5 were 0.0196 mg/L and 0.0171 mg/L, respectively

June 2020

- The concentrations of dissolved manganese from MW-4 and MW-5 were 3.29 mg/L and 5.12 mg/L, respectively
- The concentrations of dissolved Iron from MW-5 was 15.5 mg/L

August 2020

- The concentration of Benzene from MW-5 were 0.0196 mg/L
- The concentration of Xylenes from MW-5 were 0.910 mg/L
- The concentrations of dissolved iron from MW-5 were 10.5 mg/L
- The concentrations of dissolved manganese from MW-4 and MW-5 were 3.22 mg/L and 7.92 mg/L, respectively

November 2020

- The concentrations of Benzene from MW-1 and MW-5 were 0.0426 mg/L and 0.0141 mg/L, respectively
- The concentrations of Dissolved Iron from MW-5 was3.49 mg/L
- The concentrations of Dissolved Manganese from MW-1, MW-4 and MW-5 were 2.25 mg/L, 3.56 mg/L and 3.19 mg/L, respectively

A summary of the historical groundwater laboratory analytical results is presented in Table 3 and the 2020 laboratory reports are included in Attachment 1.

Conclusions/Recommendations

Based on 2020 quarterly monitoring results, a downward trend for BTEX constituents in Site monitor wells shows a diminishing hydrocarbon dissolved-phase plume. Dissolved iron and manganese continue to be detected in some Site wells at concentrations in excess of groundwater standards for these constituents.

Non-detect concentrations of BTEX constituents and dissolved iron and manganese in the down gradient domestic irrigation wells DW-1 and DW-2 serve to delineate the Site contaminant plume with respect to documented COCs and support evidence that the plume is confined to the Site and stable and diminishing. The shallow domestic irrigation wells, operated only during irrigation season, are completed in the same shallow aquifer as Site monitor wells and therefore are representative of Off-site, down-gradient groundwater quality.

Continued quarterly sampling is recommended, as purging the monitoring well enhances oxygen content and natural attenuation. Based on the stability of the Site dissolved-phase groundwater plume, Hilcorp proposes continuing quarterly sampling for monitoring well MW-1 – MW-5 to monitor BTEX, dissolved iron and dissolved

manganese constituents for compliance with NMWQCC standards for eight consecutive quarters. At that time, final closure will be requested. Annual sampling of DW-1 and DW-2 is also recommended for 2021.

If you have any questions or comments regarding this report, do not hesitate to contact me at (505) 324-5128 or by email Jdeal@hilcorp.com.

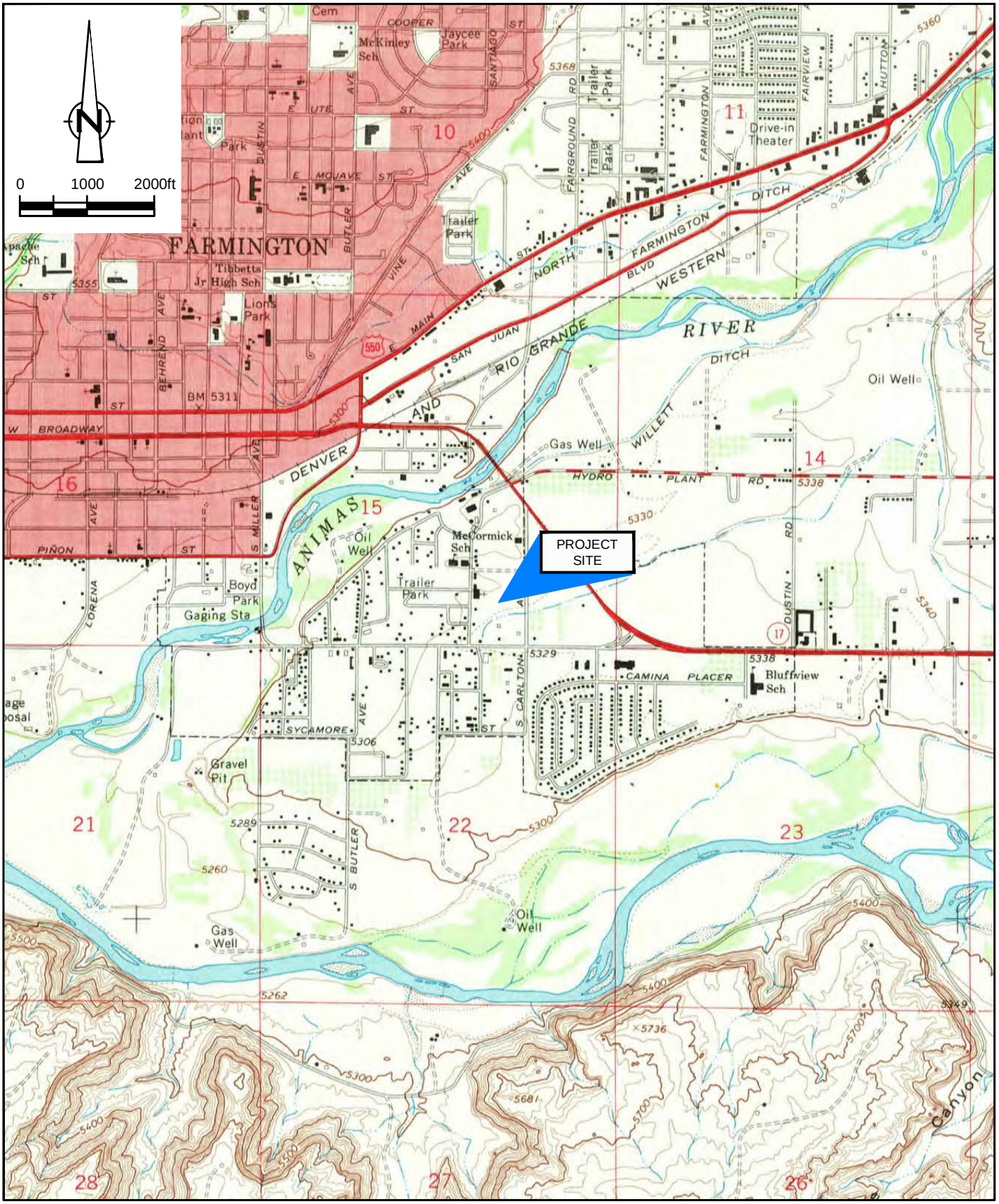
Kind Regards,

Jennifer Deal

Jennifer Deal
Environmental Specialist
Hilcorp Energy Company – L48 West

Attachments:

- Figures 1 & 2
- Table 1 – Ground Water Elevations
- Table 2 – Field Parameter Results
- Table 3 – Petroleum Hydrocarbon Groundwater Analytical Results
- Attachment 1 – Analytical Reports



Source: USGS 7.5 Minute Quad "Farmington, New Mexico"

HILCORP ENERGY COMPANY
FARMINGTON, NEW MEXICO
FARMINGTON B-COM No. 1E

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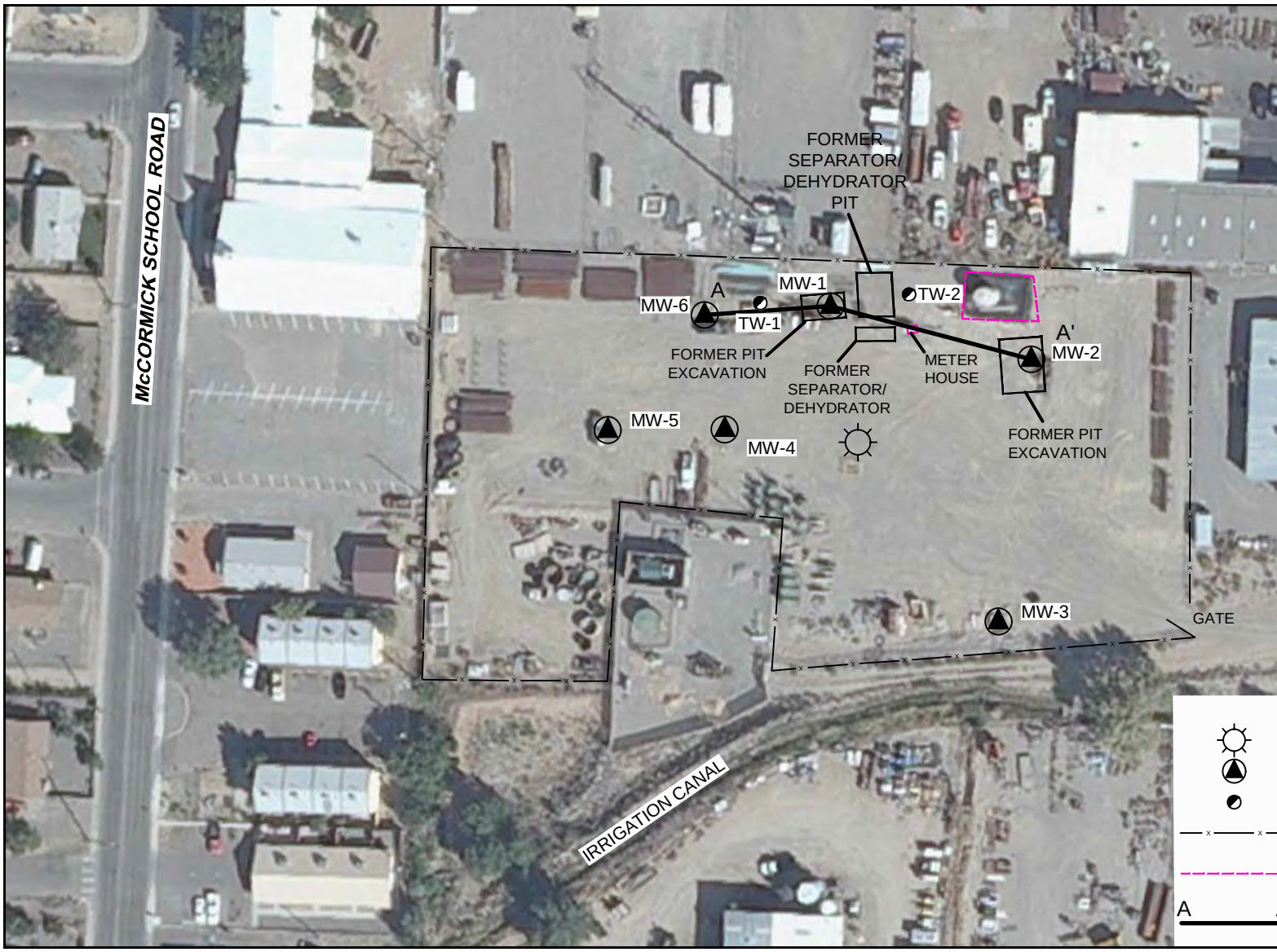
Jan 21, 2019

SITE LOCATION MAP

FIGURE 1



ConocoPhillips High Resolution Aerial Imagery

0 50 100ft

HILCORP ENERGY COMPANY
FARMINGTON, NEW MEXICO
FARMINGTON B-COM No. 1E

SITE PLAN

TABLE 1
WELL CONSTRUCTION INFORMATION AND GROUNDWATER ELEVATIONS

FLORA VISTA #1
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Well ID	Total Depth (ft)	Top of Casing Elevation (1)	Screened Interval (ft bgs)	Sample Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (1)
MW-1	26.02	94.38	11.02 - 26.02	6/20/2003	NM	NM
				9/23/2003	17.03	77.35
				12/16/2003	20.11	74.27
				3/16/2004	23.69	70.69
				6/21/2004	19.92	74.46
				9/30/2004	16.82	77.56
				12/13/2004	20.40	73.98
				3/22/2005	24.32	70.06
				6/22/2005	NM	NM
				10/24/2005	NM	NM
				12/13/2005	21.24	73.14
				3/22/2006	24.75	69.63
				6/22/2006	20.48	73.90
				10/20/2006	19.13	75.25
				12/13/2006	21.24	73.14
				11/9/2007	19.71	74.67
				1/15/2008	NM	NM
				3/19/2008	24.35	70.03
				7/23/2008	19.89	74.49
				10/21/2008	19.48	74.90
				1/28/2009	23.96	70.42
				9/30/2009	18.16	76.22
				6/10/2010	21.64	72.74
				9/27/2010	19.31	75.07
				12/14/2010	21.41	72.97
				3/17/2011	24.95	69.43
				6/24/2011	22.55	71.83
				9/29/2011	18.37	76.01
				12/14/2011	20.63	73.75
				3/9/2012	24.12	70.26
		93.96		6/7/2012	23.08	70.88
				9/19/2012	18.94	75.02
				12/13/2012	21.22	72.74
				3/20/2013	24.79	69.17
				6/12/2013	22.51	71.45
				9/11/2013	18.34	75.62
				12/13/2013	21.53	72.43
				3/19/2014	25.26	68.70
				6/17/2014	21.55	72.41
				9/18/2014	19.58	74.38
				12/18/2014	Well inaccessible	
				3/19/2015	25.18	68.78
				6/18/2015	23.56	70.40

Well ID	Total Depth (ft)	Top of Casing Elevation (1)	Screened Interval (ft bgs)	Sample Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (1)
				9/17/2015	21.85	72.11
				12/3/2015	22.65	71.31
				3/31/2016*	26.02	67.94
				6/20/2016	23.52	70.44
				9/6/2016	20.98	72.98
				11/29/2016	21.90	72.06
				3/9/2017	24.72	69.24
	26.02	93.96	11.02 - 26.02	6/15/2017	23.90	70.06
				9/27/2017	21.57	72.39
				12/5/2017	22.30	71.66
				3/15/2018	DRY	--
				6/27/2018	DRY	--
				9/6/2018	22.75	71.21
				12/20/2018	23.10	70.86
				3/6/2019	25.20	68.76
				6/12/2019	25.82	68.14
				9/6/2019	23.26	70.70
				12/9/2019	23.01	70.95
				3/16/2020	25.62	68.34
				6/10/2020	26.11	67.85
				8/28/2020	26.11	67.85
				11/5/2020	21.89	72.07

Well ID	Total Depth (ft)	Top of Casing Elevation (1)	Screened Interval (ft bgs)	Sample Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (1)
MW-2	31.35	97.1	12.35 - 27.35	10/21/2008	20.71	76.39
				1/28/2009	22.75	74.35
				9/30/2009	18.83	78.27
				6/11/2010	22.09	75.01
				9/27/2010	20.12	76.98
				12/14/2010	NM	NM
				3/17/2011	NM	NM
				6/24/2011	22.50	74.60
				9/29/2011	18.95	75.43
				12/14/2011	21.79	75.31
				3/9/2012	25.60	71.50
		97.00		6/7/2012	22.46	74.54
				9/19/2012	17.70	79.30
				12/13/2012	22.43	74.57
				3/20/2013	26.49	70.51
				6/12/2013	22.13	74.87
				9/11/2013	17.95	79.05
				12/13/2013	22.78	74.22
				3/19/2014	26.99	70.01
				6/17/2014	20.31	76.69
				9/18/2014	19.87	77.13
				12/18/2014	23.00	74.00
				3/19/2015	26.92	70.08
				6/18/2015	23.24	73.76
				9/17/2015	22.78	74.22
				12/3/2015	24.23	72.77
				3/31/2016	28.20	68.80
				6/20/2016	25.67	71.33
				9/6/2016	23.57	73.43
				11/29/2016	23.69	73.31
				3/9/2017	26.70	70.30
				6/15/2017	Well inaccessible	
				9/27/2017	23.84	73.16
				12/5/2017	Well inaccessible	
				3/15/2018	27.65	69.35
				6/27/2018	26.36	70.64
				9/6/2018	25.03	71.97
				12/20/2018	25.20	71.80
				3/7/2019	27.51	69.49
	31.35	97.00	12.35 - 27.35	6/13/2019	27.43	69.57
				9/6/2019	25.45	71.55
				12/10/2019	25.19	71.81
				3/26/2020	28.29	68.71
				6/10/2020	27.59	69.41
				8/28/2020	25.31	71.69
				11/5/2020	24.17	72.83

Well ID	Total Depth (ft)	Top of Casing Elevation (1)	Screened Interval (ft bgs)	Sample Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (1)
MW-3	30.87	92.9	11.87 - 26.87	10/21/2008	17.92	74.98
				1/28/2009	21.53	71.37
				9/30/2009	16.43	76.47
				6/10/2010	19.71	73.19
				9/27/2010	17.81	75.09
				12/14/2010	19.61	73.29
				3/17/2011	23.32	69.58
				6/24/2011	20.55	72.35
				9/29/2011	16.84	77.54
				12/14/2011	19.13	73.77
				3/9/2012	22.51	70.39
		92.43		6/7/2012	20.93	71.50
				9/19/2012	17.48	74.95
				12/13/2012	19.78	72.65
				3/20/2013	23.18	69.25
				6/12/2013	20.68	71.75
				9/11/2013	16.90	75.53
				12/13/2013	20.11	72.32
				3/19/2014	23.64	68.79
				6/17/2014	19.85	72.58
				9/18/2014	18.01	74.42
				12/18/2014	Well inaccessible	
				3/19/2015	23.55	68.88
				6/18/2015	21.84	70.59
				9/17/2015	20.18	72.25
				12/3/2015	21.10	71.33
				3/31/2016	24.81	67.62
				6/20/2016	21.66	70.77
				9/6/2016	19.18	73.25
				11/29/2016	20.39	72.04
				3/9/2017	23.35	69.08
				6/15/2017	22.03	70.40
				9/27/2017	Well inaccessible	
				12/5/2017	20.89	71.54
				3/15/2018	24.28	68.15
				6/27/2018	22.42	70.01
				9/6/2018	21.16	71.27
				12/20/2018	21.60	70.83
				3/6/2019	24.13	68.30
				6/12/2019	23.71	68.72
				9/5/2019	21.50	70.93
				12/10/2019	21.55	70.88
				3/16/2020	24.61	67.82
				6/10/2020	23.80	68.63
				8/27/2020	21.41	71.02
				11/5/2020	20.27	72.16

Well ID	Total Depth (ft)	Top of Casing Elevation (1)	Screened Interval (ft bgs)	Sample Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (1)
MW-4	30.42	93.6	11.42 - 26.42	10/21/2008	18.06	75.54
				1/28/2009	24.55	69.05
				9/30/2009	17.89	75.71
				6/10/2010	21.02	72.58
				9/27/2010	18.93	74.67
				12/14/2010	21.04	72.56
				3/17/2011	24.58	69.02
				6/24/2011	21.80	71.80
				9/29/2011	17.94	76.44
				12/14/2011	20.28	73.32
				3/9/2012	23.70	69.90
		93.17		6/7/2012	22.19	70.98
				9/19/2012	18.60	74.57
				12/13/2012	20.96	72.21
				3/20/2013	24.38	68.79
				6/12/2013	21.81	71.36
				9/11/2013	18.89	74.28
				12/13/2013	21.28	71.89
				3/19/2014	24.88	68.29
				6/17/2014	21.21	71.96
				9/18/2014	19.16	74.01
				12/18/2014	21.41	71.76
				3/19/2015	24.80	68.37
				6/18/2015	23.09	70.08
				9/17/2015	21.37	71.80
				12/3/2015	22.29	70.88
				3/31/2016	26.05	67.12
				6/20/2016	22.95	70.22
				9/6/2016	20.40	72.77
				11/29/2016	21.59	71.58
				3/9/2017	24.58	68.59
				6/15/2017	23.40	69.77
				9/27/2017	21.25	71.92
				12/5/2017	22.05	71.12
				3/15/2018	25.54	67.63
				6/27/2018	23.67	69.50
				9/6/2018	22.29	70.88
				12/20/2018	22.75	70.42
				3/6/2019	25.33	67.84
				6/12/2019	24.93	68.24
				9/5/2019	22.71	70.46
				12/9/2019	22.68	70.49
				3/16/2020	25.84	67.33
				6/10/2020	24.93	68.24
				8/27/2020	22.51	70.66
				11/5/2020	21.34	71.83

Well ID	Total Depth (ft)	Top of Casing Elevation (1)	Screened Interval (ft bgs)	Sample Date	Depth to Groundwater (ft BTOC)	Groundwater Elevation (1)
MW-5	29.68	93.82	15-30	9/17/2015	21.59	72.23
				12/3/2015	22.41	71.41
				3/31/2016	26.18	67.64
				6/20/2016	23.18	70.64
				9/6/2016	20.67	73.15
				11/29/2016	21.72	72.10
				3/9/2017	25.04	68.78
				6/15/2017	23.61	70.21
				9/27/2017	Well inaccessible	
				12/5/2017	21.96	71.86
				3/15/2018	25.55	68.27
				6/27/2018	23.93	69.89
				9/6/2018	22.54	71.28
				12/20/2018	22.84	70.98
				3/7/2019	25.39	68.43
				6/13/2019	24.75	69.07
				9/6/2019	22.78	71.04
				12/10/2019	22.84	70.98
				3/26/2020	26.17	67.65
				6/10/2020	25.25	68.57
				8/28/2020	22.87	70.95
				11/5/2020	21.21	72.61

Notes:

(1) - surface elevation based on an arbitrary datum of 100 feet set at the gas well head
bgs - below ground surface
BTOC - below top of casing
ft = feet
NM = Not measured
PSH - phase separated hydrocarbons

TABLE 2
FIELD PARAMETER RESULTS

FLORA VISTA #1
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-1	3/31/2016	No parameters or sample collected due to low well volume.						
	6/20/2016	16.70	6.34	--	1,070	0.41	-132.7	0.25
	9/7/2016	15.55	6.30	0.027	37	9.16	-66.6	1.50
	3/9/2017	No parameters or sample collected due to low well volume.						
	6/15/2017	No parameters or sample collected due to low well volume.						
	12/5/2017	15.07	6.94	4.785	7,364	4.69	-183.5	0.50
	3/15/2018	No parameters or sample collected due to low well volume.						
	6/27/2018	No parameters or sample collected due to low well volume.						
	9/6/2018	16.08	7.10	--	7,138	2.51	-117.9	0.50
	3/6/2019	14.60	7.63	0.640	1,260	--	-40.8	0.25
	6/12/2019	No parameters or sample collected due to low well volume.						
	9/6/2019	21.30	6.99	1.220	2,430	--	-4.0	1.25
	12/9/2019	--	6.25	1.110	2,230	0.60	-17.8	1.00
	3/16/2020	22.40	6.33	1.820	3,630	8.08	-14.1	--
	6/10/2020	No parameters or sample collected due to low well volume.						
	8/28/2020	No parameters or sample collected due to low well volume.						
	11/5/2020	14.70	6.65	1.880	3,750	4.80	-12.6	--
MW-2	3/31/2016	No parameters taken due to low well volume.						
	6/20/2016	17.00	6.40	--	870	2.32	-104.0	1.50
	9/7/2016	15.00	6.57	0.571	879	3.67	-19.9	4.00
	11/29/2016	14.78	7.21	--	909	4.51	-17.1	--
	3/9/2017	No parameters or sample collected due to low well volume.						
	3/15/2018	15.24	7.06	--	977	0.93	56.3	2.00
	6/27/2018	No parameters taken due to low well volume.						
	9/6/2018	16.05	7.30	--	929	1.15	-0.80	3.50
	3/7/2019	19.40	6.96	0.510	1,020	--	-23.7	2.25
	6/13/2019	20.60	6.62	0.500	1,000	--	-10.2	2.00
	9/6/2019	21.00	6.77	0.520	1,030	--	-20.8	3.00
	12/10/2019	--	6.36	0.550	1,120	0.36	-23.3	3.00
	3/26/2020	16.40	6.18	0.530	1,060	8.47	-9.1	--
	6/10/2020	16.50	6.37	0.500	1,000	2.39	-15.1	--
	8/28/2020	14.70	6.67	0.500	1,010	2.21	-12.9	--
	11/5/2020	17.90	6.08	0.490	960	2.30	-7.0	--
MW-3	3/31/2016	14.68	7.13	0.510	800	4.66	-13.0	2.50
	6/20/2016	14.90	7.05	--	750	2.02	83.2	4.00
	9/7/2016	14.19	6.02	0.467	719	5.55	12.5	5.00
	11/29/2016	13.68	7.41	NM	725	5.03	-11.4	--
	3/9/2017	14.44	7.06	0.675	1,038	1.38	-199.9	--
	6/15/2017	13.90	7.67	0.470	723	4.06	-79.1	1.00
	12/5/2017	12.80	7.10	0.513	788	2.09	-135.4	4.00
	3/15/2018	14.54	7.22	--	702	2.71	59.2	2.50
	6/27/2018	15.30	7.12	--	680	2.58	-16.8	3.75
	9/6/2018	14.81	7.49	--	639	4.77	-20.0	4.00
	3/6/2019	--	7.30	0.380	770	--	-21.6	2.5
	6/12/2019	19.40	6.91	0.360	740	--	-57.0	2.00
	9/5/2019	20.00	7.15	0.360	720	--	-29.4	3.25
	12/10/2019	--	6.36	0.390	780	1.36	-1.9	3.00
	3/16/2020	19.60	6.44	0.380	780	8.65	-25.2	--
	6/10/2020	17.60	6.2	0.380	760	2.77	-22.8	--
	8/27/2020	24.10	6.43	0.590	1,180	1.46	-10.7	--
	11/5/2020	14.40	6.43	0.400	800	4.45	-14.3	--

Well ID	Sample Date	Temperature (°C)	pH	TDS (g/L)	Conductivity (uS/cm)	DO (mg/L)	ORP (mV)	Volume (gallons)
MW-4	3/31/2016	15.60	6.98	0.700	1,030	5.73	-47.0	2.25
	6/20/2016	15.20	6.79	--	1,040	1.06	-60.8	3.50
	9/7/2016	14.55	6.40	0.655	1,008	2.48	-59.8	4.50
	11/29/2016	13.58	7.16	--	903	3.04	-80.9	--
	3/9/2017	14.45	6.96	0.753	1,159	1.69	-133.5	--
	6/15/2017	13.63	7.00	1.769	2,721	5.00	-114.3	3.50
	12/5/2017	13.88	6.84	1.721	2,647	1.13	-135.7	4.00
	3/15/2018	15.04	7.04	--	1,180	-0.06	-100.2	2.25
	6/27/2018	15.21	6.80	--	1,315	0.55	-79.0	3.00
	9/6/2018	15.15	7.11	--	1,394	1.05	-73.1	4.00
	3/6/2019	15.90	7.21	0.620	1,260	--	-7.5	2.50
	6/12/2019	19.80	6.66	0.710	1,410	--	6.9	2.50
	9/5/2019	18.10	7.04	0.530	1,070	--	2.7	3.50
	12/9/2019	--	6.10	0.770	1,550	0.00	3.8	3.00
	3/16/2020	13.90	6.48	0.660	1,310	6.03	7.2	--
	6/9/2020	16.70	6.33	0.550	1,060	1.85	16.1	--
	8/27/2020	22.00	6.47	0.510	1,050	1.45	14.6	--
	11/5/2020	14.10	6.09	0.500	1,000	1.76	18.9	--
MW-5	3/31/2016	16.16	7.13	0.600	980	4.74	-97.0	1.75
	6/20/2016	15.90	6.88	--	1,030	0.68	-99.7	3.25
	9/7/2016	14.96	6.34	0.599	918	1.51	-130.2	4.50
	3/9/2017	15.29	7.35	0.793	1,255	8.83	-124.9	--
	6/15/2017	14.56	7.06	3.143	4,842	2.19	-132.6	2.00
	12/5/2017	15.11	6.76	0.706	1,086	0.52	-160.5	2.25
	3/15/2018	14.70	6.75	--	2,400	0.39	-9.2	0.50
	6/27/2018	No parameters taken due to low well volume.						
	9/6/2018	16.47	7.17	--	1,460	1.65	-125.0	1.00
	3/7/2019	19.60	6.92	0.480	940	--	0.3	0.75
	6/13/2019	19.50	6.58	1.460	2,930	--	0.3	1.00
	9/6/2019	26.00	6.50	1.000	2,000	--	17.5	2.00
	12/10/2019	--	6.53	0.240	490	0.47	-3.4	2.00
	3/26/2020	16.10	6.01	0.400	780	9.37	33.1	--
	6/10/2020	14.50	5.99	1.400	2,810	1.69	26.3	--
	8/28/2020	19.10	6.19	1.610	3,190	1.15	12.2	--
	11/5/2020	18.10	6.14	0.880	1,780	3.65	11.4	--

Notes:

g/L - grams per liter

uS/cm - microsiemens per centimeter

mg/L - milligrams per liter

°C - degrees Celcius

DO - dissolved oxygen

mV - millivolts

ORP - oxidation-reduction potential

TDS - total dissolved solids

-- - data not collected

TABLE 3
PETROLEUM HYDROCARBON GROUNDWATER ANALYTICAL RESULTS

FLORA VISTA #1
SAN JUAN COUNTY, NEW MEXICO
HILCORP ENERGY COMPANY

Well ID	Sample ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)
NMWQCC Standards				0.010	0.75	0.75	0.62	1.0
MW-1	MW-1	6/20/2003	(orig)	1.7	0.3	0.49	5.09	--
	MW-1	9/23/2003	(orig)	7.5	0.02	0.66	9.22	--
	MW-1	12/16/2003	(orig)	7.93	0.01	1.18	0.864	--
	MW-1	3/16/2004	(orig)	6.86	ND	1.16	8.47	--
	MW-1	6/21/2004	(orig)	4.14	ND	0.43	3.12	--
	MW-1	9/30/2004	(orig)	9.08	0.03	1.41	9.98	--
	MW-1	12/13/2004	(orig)	8.52	ND	1.34	9.39	--
	MW-1	3/22/2005	(orig)	4.55	ND	0.85	5.95	--
	MW-1	6/22/2005	(orig)	--	0.02188	--	--	--
	MW-1	10/24/2005	(orig)	6.39	ND	1.01	7.416	--
	MW-1	12/13/2005	(orig)	6.17	ND	1.01	7.57	--
	MW-1	3/22/2006	(orig)	3.58	ND	0.77	5.84	--
	MW-1	6/22/2006	(orig)	3.1	ND	0.5	3.5	--
	MW-1	10/20/2006	(orig)	6.6	0.01	1.22	8.91	--
	MW-1	12/13/2006	(orig)	4.23	0.01	1.09	8.13	--
	MW-1	3/27/2007	(orig)	2.37	0.007	0.504	3.749	--
	MW-1	6/25/2007	(orig)	2.87	0.14	0.51	3.89	--
	MW-1	11/9/2007	(orig)	5.6	< 0.0007	0.91	6.8	--
	MW-1	1/15/2008	(orig)	4.2	< 0.0007	0.89	5.7	--
	MW-1	3/19/2008	(orig)	2.7	< 0.005	0.59	4.7	--
	MW-1	7/23/2008	(orig)	2	< 0.005	0.38	1.4	--
	MW-1	10/21/2008	(orig)	4.5	< 0.005	0.63	5.3	--
	MW-1	1/28/2009	(orig)	4	< 0.005	0.88	8.7	--
	MW-1	9/30/2009	(orig)	4.2	0.0016	0.53	5.1	2.08
	MW-1	6/10/2010	(orig)	1.7	0.0012	0.33	0.99	0.126
	MW-1	9/27/2010	(orig)	3.2	0.002	0.53	4.2016	7.73
	MW-1	12/14/2010	(orig)	3.2	0.0012	0.62	5.3016	4.13
	MW-1	3/17/2011	(orig)	1.7	0.0037	0.48	4.3092	1.11
	GW-74926-062411-PG-01	6/24/2011	(orig)	2.1	0.0025	0.494	2.03	< 0.1
	GW-74926-062411-PG-02	6/24/2011	(Duplicate)	1.97	0.0026	0.458	1.94	--
	GW-074926-092911-CM-009	9/29/2011	(orig)	2.44	< 0.005	0.519	3.65	25.2
	GW-074926-121411-CB-MW-1	12/14/2011	(orig)	2.31	0.0055	0.508	3.93	25.4
	GW-074926-3912-CB-MW-1	3/9/2012	(orig)	1.59	< 0.001	0.636	5.04	25.3
	GW-074926-060712-CB-MW-1	6/7/2012	(orig)	1.77	0.127	0.182	0.633	21.4
	GW-074926-091912-JP-MW-1	9/19/2012	(orig)	1.52	< 0.020	0.414	2.49	19
	GW-074926-121312-CM-MW-1	12/13/2012	(orig)	2.02	< 0.025	0.809	5.02	23.8
	GW-074926-032013-CM-MW-1	3/20/2013	(orig)	0.182	< 0.002	0.0406	0.0914	9.39
	GW-074926-061213-JR-MW1	6/12/2013	(orig)	0.698	< 0.001	0.160	0.873	12.8
	GW-074926-091113-CM-MW1	9/11/2013	(orig)	1.05	< 0.020	0.831	5.1	18.0
	GW-074926-121313-CM-MW-1	12/13/2013	(orig)	0.591	0.0015	0.670	1.79	25.4

Well ID	Sample ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)
NMWQCC Standards				0.010	0.75	0.75	0.62	1.0
	GW-074926-031914-CK-MW-1	3/19/2014	(orig)	0.0822	< 0.001	0.039	0.271	--
	GW-074926-061714-CK-MW-1	6/17/2014	(orig)	0.522	< 0.001	0.189	0.398	17.4
	GW-074926-091814-CB-MW-1	9/18/2014	(orig)	0.849	< 0.001	0.299	1.23	23.4
	--	12/18/2014	Well was obstructed and inaccessible due to TRC operations.					
	--	3/19/2015	No sample due to insuffiencient volume					
	GW-074926-061815-CB-MW-1	6/18/2015	(orig)	0.213	< 0.001	0.116	0.691	5.72
	GW-074926-061815-CB-DUP	6/18/2015	(Duplicate)	0.17	< 0.001	0.0684	0.533	--
	GW-074926-091715-CK-MW-1	9/17/2015	(orig)	0.0673	< 0.001	0.0859	0.362	4.22
	GW-074926-12315-CB-MW-1	12/3/2015	(orig)	0.0908	< 0.001	0.0612	0.138	2.69
	--	3/31/2016	No sample due to insuffiencient volume					
	GW-074926-062016-SP-MW-1	6/20/2016	(orig)	0.834	< 0.025	0.533	2.06	40.8
	GW-074926-090716-SP-MW-1	9/7/2016	(orig)	0.525	< 0.020	0.416	1.62	17.6
		10/25/2016	ISCO Injection-15% PersulfOx solution					
		3/9/2017	No sample due to insuffiencient volume					
	GW-074926-061517-CN-MW-1	6/15/2017	(orig)	0.0371	<1.0	0.0404	0.157	--
	GW-11145982-092717-SP-MW-1	9/27/2017	(orig)	0.0231	<1.0	0.0306	0.118	24.2
	GW-11145982-120517-SP-SP-1	12/5/2017	(orig)	0.288	<1.0	0.444	1.07	19.9
		3/15/2018	No sample due to insuffiencient volume					
		6/27/2018	No sample due to insuffiencient volume					
	GW-11145982-090618-CN-MW-1	9/6/2018	(orig)	0.0313	<1.0	0.1730	0.365	11.70
	MW-1	12/20/2018	(orig)	0.0827	<0.001	0.1560	0.468	0.4870
	MW-1	3/6/2019	(orig)	0.0093	<0.005	0.0088	0.0355	0.4970
	MW-1	6/13/2019	No sample due to insuffiencient volume					
	MW-1	9/6/2019	(orig)	0.0174	0.0014	0.0124	0.119	1.38
	MW-1	12/9/2019	(orig)	0.0195	<0.001	<0.001	0.0567	4.54
	MW-1	3/16/2020	(orig)	0.0196	<0.001	0.0174	0.106	--
	MW-1	6/10/2020	No sample due to insuffiencient volume					
	MW-1	8/28/2020	No sample due to insuffiencient volume					
	MW-1	11/5/2020	(orig)	0.0426	<0.001	0.0505	0.345	<0.10

Well ID	Sample ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)
NMWQCC Standards				0.010	0.75	0.75	0.62	1.0
MW-2	MW-2	10/21/2008	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--
	MW-2	1/28/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	ND
	MW-2	9/30/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0223
	MW-2	6/11/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.02
	MW-2	9/27/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.02
	GW-74926-062411-PG-05	6/24/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030	0.191
	GW-074926-092911-CM-006	9/29/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05
	GW-074926-121411-CB-MW-2	12/14/2011	(orig)	0.00031 J	< 0.001	0.0002 J	0.0022 J	0.0133 J
	GW-074926-3912-CB-MW-2	3/9/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05
	GW-074926-060712-CB-MW-2	6/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0822
	GW-074926-091912-JP-MW-2	9/19/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05
	GW-074926-121312-CM-MW-2	12/13/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.05
	GW-074926-032013-CM-MW-2	3/20/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05
	GW-074926-061213-JR-MW2	6/12/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0665
	GW-074926-091113-CM-MW2	9/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-121313-CM-MW-2	12/13/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-031914-CK-MW-2	3/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-061714-CK-MW-2	6/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-091814-CB-MW-2	9/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0656
	GW-074926-121814-CM-MW-2	12/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.709
	GW-074926-031915-CM-MW-2	3/19/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.883
	GW-074926-061815-CB-MW-2	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-091715-CK-MW-2	9/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-12315-CB-MW-2	12/3/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-033116-CM-MW-2	3/31/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0585
	GW-074926-062016-SP-MW-2	6/20/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-090716-SP-MW-2	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0512
	GW-074926-112916-CN-MW-2	11/29/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-11145982-092717-SP-MW-2	9/27/2017	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.50
	GW-11145982-031518-JW-MW-2	3/15/2018	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.50
	GW-11145982-062719-CM-MW-2	6/27/2018	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0512
	GW-11145982-090618-CN-MW-2	9/6/2018	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.104
	MW-2	12/20/2018	(orig)	< 0.001	< 0.003	< 0.002	< 0.004	<0.10
	MW-2	3/7/2019	(orig)	--	--	--	--	--
	MW-2	6/13/2019	(orig)	--	--	--	--	<0.10
	MW-2	9/6/2019	(orig)	--	--	--	--	--
	MW-2	12/10/2019	(orig)	< 0.001	< 0.001	< 0.001	<0.003	<0.10
	MW-2	3/26/2020	(orig)	< 0.001	< 0.001	< 0.001	<0.003	<0.10
	MW-2	6/10/2020	(orig)	< 0.001	< 0.001	< 0.001	<0.003	<0.10
	MW-2	8/28/2020	(orig)	< 0.001	< 0.001	< 0.001	<0.003	<0.10
	MW-2	11/5/2020	(orig)	< 0.001	< 0.001	< 0.001	<0.003	<0.10

Well ID	Sample ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)
NMWQCC Standards				0.010	0.75	0.75	0.62	1.0
MW-3	MW-3	10/21/2008	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	--
	MW-3	1/28/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	ND
	MW-3	9/30/2009	(orig)	< 0.0005	< 0.0005	< 0.0005	< 0.0005	0.0543
	MW-3	6/10/2010	(orig)	< 0.0005	< 0.001	< 0.001	< 0.001	0.0425
	MW-3	9/27/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.02
	MW-3	12/14/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.02
	MW-3	3/17/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	< 0.02
	GW-74926-062411-PG-03	6/24/2011	(orig)	< 0.0010	< 0.0010	< 0.0010	< 0.0030	0.189
	GW-074926-092911-CM-007	9/29/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05
	GW-074926-121411-CB-MW-3	12/14/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0288 J
	GW-074926-3912-CB-MW-3	3/9/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05
	GW-074926-060712-CB-MW-3	6/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05
	GW-074926-091912-JP-MW-3	9/19/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05
	GW-074926-121312-CM-MW-3	12/13/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0605
	GW-074926-032013-CM-MW-3	3/20/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.05
	GW-074926-061213-JR-MW3	6/12/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.189
	GW-074926-091113-CM-MW3	9/11/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-121313-CM-MW-3	12/13/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-031914-CK-MW-3	3/19/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-061714-CK-MW-3	6/17/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-091814-CB-MW-3	9/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	--	12/18/2014	Wellhead inaccessable due to standing water.					
	GW-074926-031915-CM-MW-3	3/19/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-061815-CB-MW-3	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-091715-CK-MW-3	9/17/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-12315-CB-MW-3	12/3/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-033116-CM-MW-3	3/31/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.138
	GW-074926-062016-SP-MW-3	6/20/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-090716-SP-MW-3	9/7/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-074926-112916-SP-MW-3	11/29/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.103
	GW-074926-030917-CN-MW-3	3/9/2017	(orig)	--	--	--	--	0.878
	GW-074926-061517-CN-MW-3	6/15/2017	(orig)	--	--	--	--	< 0.050
	GW-11145982-120517-SP-MW-3	12/5/2017	(orig)	--	--	--	--	< 0.050
	GW-11145982-031518-JW-MW-3	3/15/2018	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.0642
	GW-11145982-062719-CM-MW-3	6/27/2018	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	< 0.050
	GW-11145982-090618-CN-MW-3	9/6/2018	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	0.85
	MW-3	12/20/2018	(orig)	< 0.001	< 0.003	< 0.002	< 0.004	<0.10
	MW-3	3/6/2019	(orig)	--	--	--	--	--
	MW-3	6/13/2019	(orig)	--	--	--	--	<0.10
	MW-3	9/6/2019	(orig)	--	--	--	--	--
	MW-3	12/10/2019	(orig)	< 0.001	< 0.001	< 0.001	<0.003	0.707
	MW-3	3/16/2020	(orig)	< 0.001	< 0.001	< 0.001	<0.003	<0.10
	MW-3	6/9/2020	(orig)	< 0.001	< 0.001	< 0.001	<0.003	<0.10
	MW-3	8/27/2020	(orig)	< 0.001	< 0.001	< 0.001	<0.003	<0.10
	MW-3	11/5/2020	(orig)	< 0.001	< 0.001	< 0.001	<0.003	<0.10

Well ID	Sample ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)
NMWQCC Standards				0.010	0.75	0.75	0.62	1.0
MW-4	MW-4	10/21/2008	(orig)	0.039	< 0.0005	0.031	0.18	--
	MW-4	1/28/2009	(orig)	0.66	< 0.0005	0.064	0.583	ND
	MW-4	9/30/2009	(orig)	0.34	< 0.0005	0.054	0.572	0.148
	MW-4	6/10/2010	(orig)	0.14	< 0.001	0.027	0.252	0.0566
	MW-4	9/27/2010	(orig)	0.033	< 0.001	0.041	0.274	1.22
	MW-4	12/14/2010	(orig)	0.13	< 0.001	0.093	0.899	1.75
	MW-4	3/17/2011	(orig)	0.017	< 0.001	0.018	0.1966	0.0852
	GW-74926-062411-PG-04	6/24/2011	(orig)	0.0296	< 0.0010	0.0371	0.472	1.5
	GW-074926-092911-CM-008	9/29/2011	(orig)	0.0392	< 0.001	0.0039	0.0536	2.55
	GW-074926-092911-CM-010	9/29/2011	(Duplicate)	0.043	< 0.001	0.0035	0.0483	--
	GW-074926-121411-CB-MW-4	12/14/2011	(orig)	0.101	< 0.001	0.0443	0.378	2.62
	GW-074926-121411-CB-DUP	12/14/2011	(Duplicate)	0.104	< 0.005	0.0437	0.372	--
	GW-074926-3912-CB-MW-4	3/9/2012	(orig)	0.0264	< 0.001	0.0066	0.0651	2.46
	GW-074926-3912-CB-DUP	3/9/2012	(Duplicate)	0.0234	< 0.001	0.0056	0.058	--
	GW-074926-060712-CB-MW-4	6/7/2012	(orig)	0.044	< 0.001	0.0245	0.303	2.07
	GW-074926-060712-CB-DUP	6/7/2012	(Duplicate)	0.026	< 0.001	0.0124	0.155	--
	GW-074926-091912-JP-MW-4	9/19/2012	(orig)	0.0029	< 0.001	0.0048	0.0576	1.93
	GW-074926-091912-JP-DUP	9/19/2012	(Duplicate)	0.0028	< 0.001	0.0045	0.0551	--
	GW-074926-121312-CM-MW-4	12/13/2012	(orig)	0.0941	< 0.002	0.0399	0.385	2.92
	GW-074926-121312-CM-DUP	12/13/2012	(Duplicate)	0.197	< 0.001	0.0712	0.55	--
	GW-074926-032012-CM-MW-4	3/20/2013	(orig)	0.0035	< 0.001	0.002	0.0211	1.82
	GW-074926-032012-CM-DUP	3/20/2013	(Duplicate)	0.0034	< 0.001	0.0022	0.0212	--
	GW-074926-061213-JR-MW4	6/12/2013	(orig)	0.0588	< 0.005	0.0509	0.545	1.53
	GW-074926-061213-JR-DUP	6/12/2013	(Duplicate)	0.0215	< 0.001	0.0213	0.218	--
	GW-074926-091113-CM-MW4	9/11/2013	(orig)	0.0166	< 0.001	0.0231	0.226	3.1
	GW-074926-091113-CM-DUP	9/11/2013	(Duplicate)	0.0156	< 0.001	0.0162	0.158	--
	GW-074926-121313-CM-MW-4	12/13/2013	(orig)	0.0362	< 0.001	0.0199	0.169	2.7
	GW-074926-121313-CM-DUP	12/13/2013	(Duplicate)	0.0357	< 0.001	0.0185	0.16	--
	GW-074926-031914-CK-MW-4	3/19/2014	(orig)	< 0.001	< 0.001	< 0.001	0.0046	1.33
	GW-074926-031914-CK-DUP	3/19/2014	(Duplicate)	< 0.001	< 0.001	< 0.001	0.0049	--
	GW-074926-061714-CK-MW-4	6/17/2014	(orig)	0.0069	< 0.001	< 0.001	< 0.003	2.68
	GW-074926-061714-CK-DUP	6/17/2014	(Duplicate)	0.0063	< 0.001	< 0.001	< 0.003	--
	GW-074926-091814-CB-MW-4	9/18/2014	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	3.43
	GW-074926-091814-CB-DUP	9/18/2014	(Duplicate)	0.0018	< 0.001	< 0.001	< 0.003	--
	GW-074926-121814-CM-MW-4	12/18/2014	(orig)	0.0398	< 0.001	0.0062	0.0486	4.02
	GW-074926-121814-CM-DUP	12/18/2014	(Duplicate)	0.0296	< 0.001	0.0048	0.0354	--
	GW-074926-031915-CM-MW-4	3/19/2015	(orig)	0.0012	< 0.001	< 0.001	< 0.003	1.57
	GW-074926-031915-CM-DUP	3/19/2015	(Duplicate)	0.0011	< 0.001	< 0.001	< 0.003	--
	GW-074926-061815-CB-MW-4	6/18/2015	(orig)	0.067	< 0.001	0.0102	0.0563	3.02
	GW-074926-091715-CK-MW-4	9/17/2015	(orig)	0.0319	< 0.001	0.0297	0.178	3.03
	GW-074926-091715-CK-DUP	11/29/2015	(Duplicate)	0.0318	< 0.001	0.027	0.162	--
	GW-074926-12315-CB-MW-4	12/3/2015	(orig)	0.0676	< 0.01	0.0526	0.354	4.34
	GW-074926-12315-CB-DUP	12/3/2015	(Duplicate)	0.0489	< 0.01	0.0396	0.263	--
	GW-074926-033116-CM-MW-4	3/31/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	1.44
	GW-074926-062016-SP-MW-4	6/20/2016	(orig)	0.0428	<0.001	0.0112	0.0397	4.88

Well ID	Sample ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)
NMWQCC Standards				0.010	0.75	0.75	0.62	1.0
	GW-074926-090716-SP-MW-4	9/7/2016	(orig)	0.0081	< 0.001	< 0.001	< 0.003	4.01
	GW-074926-112916-SP-MW-4	11/29/2016	(orig)	0.0346	< 0.001	0.0077	0.0237	4.31
	GW-074926-030917-CN-MW-4	3/9/2017	(orig)	<0.001	<0.001	<0.001	<0.003	<0.050
	GW-074926-061517-CN-MW-4	6/15/2017	(orig)	0.0224	<0.001	0.0045	0.0206	15.5
	GW-11145982-092717-SP-MW-4	9/27/2017	(orig)	0.0131	<0.001	0.0043	0.0108	22.7
	GW-11145982-120517-SP-MW-4	12/5/2017	(orig)	0.0247	<0.001	0.0074	0.0161	21.1
	GW-11145982-031518-JW-MW-4	3/15/2018	(orig)	<0.001	<0.001	<0.001	<0.003	5.68
	GW-11145982-062718-CM-MW-4	6/27/2018	(orig)	0.0114	<0.001	0.0014	0.0031	<0.050
	GW-11145982-090618-CN-MW-4	9/6/2018	(orig)	0.0179	<0.001	0.0047	0.0068	10.5
	MW-4	12/20/2018	(orig)	0.0253	<0.001	0.0132	0.0236	0.146
	MW-4	3/6/2019	(orig)	0.00147	<0.001	<0.001	<0.003	<0.10
	MW-4	6/12/2019	(orig)	0.0048	<0.001	<0.001	<0.003	<0.10
	MW-4	9/6/2019	(orig)	<0.001	<0.001	<0.001	<0.003	<0.10
	MW-4	12/9/2019	(orig)	0.0318	<0.001	0.0121	0.012	0.169
	MW-4	3/16/2020	(orig)	<0.001	<0.001	<0.001	<0.003	0.222
	MW-4	6/9/2020	(orig)	0.00155	<0.001	<0.001	<0.003	<0.10
	MW-4	8/27/2020	(orig)	0.00311	<0.001	0.00125	<0.003	<0.10
	MW-4	11/5/2020	(orig)	0.00181	<0.001	<0.001	<0.003	<0.10
MW-5	GW-074926-091715-CK-MW-5	9/17/2015	(orig)	0.0182	< 0.001	0.571	4.95	2.72
	GW-074926-12315-CB-MW-5	12/3/2015	(orig)	0.128	< 0.001	1.15	12.4	20.9
	GW-074926-033116-CM-MW-5	3/31/2016	(orig)	< 0.010	< 0.01	0.101	0.936	2.06
	GW-074926-033116-CM-DUP	3/31/2016	(Duplicate)	< 0.010	< 0.01	0.136	1.26	--
	GW-074926-062016-SP-MW-5	6/20/2016	(orig)	0.0404	< 0.025	0.16	2.48	6.48
	GW-074926-090716-SP-MW-5	9/7/2016	(orig)	0.0229	< 0.01	0.332	3.45	4.6
	GW-074926-090716-SP-DUP	9/7/2016	(Duplicate)	0.0216	< 0.010	0.393	4.46	--
		10/26/2016	ISCO Injection-15% PersulfOx solution					
	GW-074926-030917-CN-MW-5	3/9/2017	(orig)	0.0865	<0.010	0.267	3.65	24.6
	GW-074926-061517-CN-MW-5	6/15/2017	(orig)	0.0369	<0.010	0.0956	0.533	7.43
	GW-11145982-120517-SP-MW-5	12/5/2017	(orig)	0.0562	<0.010	0.51	5.95	10.3
	GW-11145982-120517-SP-DUP	12/5/2017	(Duplicate)	0.05	<0.010	0.444	5.97	--
	GW-11145982-031518-JW-MW-5	3/15/2018	(orig)	< 0.020	< 0.020	0.388	1.46	--
	GW-11145982-062718-CM-MW-5	6/27/2018	(orig)	0.0371	< 0.020	0.123	2.13	7.08
	GW-11145982-090618-CN-MW-5	9/6/2018	(orig)	0.0511	<0.010	0.233	1.94	4.9
	MW-5	12/20/2018	(orig)	0.0568	0.00136	0.448	4.48	0.748
	MW-5	3/7/2019	(orig)	0.0124	<.002	0.003	0.146	3.61
	MW-5	6/13/2019	(orig)	0.009	<0.001	0.054	0.376	<0.10
	MW-5	9/6/2019	(orig)	0.032	<.001	<.001	1.67	8.29
	MW-5	12/10/2019	(orig)	0.0024	<0.001	0.0414	0.236	0.829
	MW-5	3/26/2020	(orig)	0.0171	<0.001	0.0133	0.579	9.16
	MW-5	6/10/2020	(orig)	0.00505	<0.005	<0.005	0.296	15.5
	MW-5	8/28/2020	(orig)	0.0196	<0.005	0.0389	0.910	10.5
	MW-5	11/5/2020	(orig)	0.0141	0.00208	0.0987	1.100	3.49

Well ID	Sample ID	Sample Date	Sample Type	Benzene (mg/L)	Toluene (mg/L)	Ethylbenzene (mg/L)	Xylenes (total) (mg/L)	Iron (dissolved) (mg/L)
NMWQCC Standards				0.010	0.75	0.75	0.62	1.0
DW-1	DW-1	12/16/2009	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--
	RS-74926-062411-CB-01	6/24/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	GW-074926-072712-JK-DW-17	7/27/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	DW-074926-061213-JR-32	6/12/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	--	12/18/2014	Attempt to contact landowner regarding well sampling. No response.					
	GW-074926-061815-CB-DOM-32	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	GW-074926-062016-SP-DOM1	6/20/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	GW-11145982-092717-SP-32	9/27/2017	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
		6/27/2018	Unable to sample-homeowner away.					
	DW-1	5/29/2019	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.10
	DW-1	6/9/2020	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.10
DW-2	#34	6/10/2010	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--
	Domestic #34	3/17/2011	(orig)	< 0.001	< 0.001	< 0.001	< 0.001	--
	GW-074926-061712-CB-DW34	6/7/2012	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	DW-074926-061213-JR-34	6/12/2013	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	--	12/18/2014	Attempt to sample well but landowner had shut well in for the winter month					
	GW-074926-061815-CB-DOM-34	6/18/2015	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	GW-074926-062016-SP-DOM2	6/20/2016	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	GW-11145982-092717-SP-34	9/27/2017	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	GW-11145982-062718-CM-D34	6/27/2018	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	--
	DW-2	8/2/2019	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.10
	DW-2	6/9/2020	(orig)	< 0.001	< 0.001	< 0.001	< 0.003	<0.10

Notes:

mg/L - milligrams per liter

J - laboratory flag for estimated concentration

ND - not detected, practical quantitation limit unknown

NE - not established

NMWQCC - New Mexico Water Quality Control Commission

NT - not tested

<0.037 - indicates result less than the stated laboratory reporting limit (PQL)

BOLD - indicates concentration exceeds the NNEPA standard

-- - not analyzed

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

April 01, 2020

HilCorp-Farmington, NM

Sample Delivery Group:	L1203199
Samples Received:	03/27/2020
Project Number:	
Description:	Flora Vista 1
Site:	FLORA VISTA#1
Report To:	Kurt Hoekstra 382 Road 3100 Aztec, NM 87401

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

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MW1 L1203199-01 GW

Collected by: Kurt H | Collected date/time: 03/16/20 15:00 | Received date/time: 03/27/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1451751	1	03/28/20 02:59	03/28/20 02:59	JAH	Mt. Juliet, TN

MW2 L1203199-02 GW

Collected by: Kurt H | Collected date/time: 03/26/20 13:25 | Received date/time: 03/27/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1453050	1	03/31/20 10:16	03/31/20 11:48	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1451751	1	03/28/20 03:20	03/28/20 03:20	JAH	Mt. Juliet, TN

MW3 L1203199-03 GW

Collected by: Kurt H | Collected date/time: 03/16/20 13:30 | Received date/time: 03/27/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1453050	1	03/31/20 10:16	03/31/20 11:58	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1451751	1	03/28/20 03:40	03/28/20 03:40	JAH	Mt. Juliet, TN

MW4 L1203199-04 GW

Collected by: Kurt H | Collected date/time: 03/16/20 11:20 | Received date/time: 03/27/20 08:30

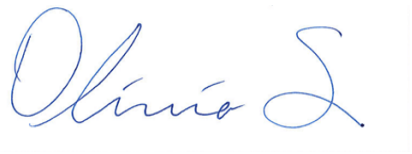
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1453050	1	03/31/20 10:16	03/31/20 12:01	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1451998	1	03/28/20 12:26	03/28/20 12:26	DWR	Mt. Juliet, TN

MW5 L1203199-05 GW

Collected by: Kurt H | Collected date/time: 03/16/20 12:45 | Received date/time: 03/27/20 08:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1453050	1	03/31/20 10:16	03/31/20 12:04	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1451998	1	03/28/20 12:46	03/28/20 12:46	DWR	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1452769	5	03/30/20 14:04	03/30/20 14:04	ACG	Mt. Juliet, TN

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

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0196		0.00100	1	03/28/2020 02:59	WG1451751
Toluene	ND		0.00100	1	03/28/2020 02:59	WG1451751
Ethylbenzene	0.0174		0.00100	1	03/28/2020 02:59	WG1451751
Total Xylenes	0.106		0.00300	1	03/28/2020 02:59	WG1451751
(S) Toluene-d8	*109*		*80.0-120*		*03/28/2020 02:59*	WG1451751
(S) 4-Bromofluorobenzene	*132*	J1	*77.0-126*		*03/28/2020 02:59*	WG1451751
(S) 1,2-Dichloroethane-d4	*99.1*		*70.0-130*		*03/28/2020 02:59*	WG1451751

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	03/31/2020 11:48	WG1453050
Manganese,Dissolved	ND		0.0100	1	03/31/2020 11:48	WG1453050

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	03/28/2020 03:20	WG1451751
Toluene	ND		0.00100	1	03/28/2020 03:20	WG1451751
Ethylbenzene	ND		0.00100	1	03/28/2020 03:20	WG1451751
Total Xylenes	ND		0.00300	1	03/28/2020 03:20	WG1451751
(S) Toluene-d8	*117*		*80.0-120*		*03/28/2020 03:20*	WG1451751
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*03/28/2020 03:20*	WG1451751
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*03/28/2020 03:20*	WG1451751

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	03/31/2020 11:58	WG1453050
Manganese,Dissolved	ND		0.0100	1	03/31/2020 11:58	WG1453050

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	03/28/2020 03:40	WG1451751
Toluene	ND		0.00100	1	03/28/2020 03:40	WG1451751
Ethylbenzene	ND		0.00100	1	03/28/2020 03:40	WG1451751
Total Xylenes	ND		0.00300	1	03/28/2020 03:40	WG1451751
(S) Toluene-d8	*113*		*80.0-120*		*03/28/2020 03:40*	WG1451751
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*03/28/2020 03:40*	WG1451751
(S) 1,2-Dichloroethane-d4	*102*		*70.0-130*		*03/28/2020 03:40*	WG1451751

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	0.222		0.100	1	03/31/2020 12:01	WG1453050
Manganese,Dissolved	2.39		0.0100	1	03/31/2020 12:01	WG1453050

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	03/28/2020 12:26	WG1451998
Toluene	ND		0.00100	1	03/28/2020 12:26	WG1451998
Ethylbenzene	ND		0.00100	1	03/28/2020 12:26	WG1451998
Total Xylenes	ND		0.00300	1	03/28/2020 12:26	WG1451998
(S) Toluene-d8	*98.5*		*80.0-120*		*03/28/2020 12:26*	WG1451998
(S) 4-Bromofluorobenzene	*99.9*		*77.0-126*		*03/28/2020 12:26*	WG1451998
(S) 1,2-Dichloroethane-d4	*92.1*		*70.0-130*		*03/28/2020 12:26*	WG1451998

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	9.16		0.100	1	03/31/2020 12:04	WG1453050
Manganese,Dissolved	1.67		0.0100	1	03/31/2020 12:04	WG1453050

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0171		0.00100	1	03/28/2020 12:46	WG1451998
Toluene	ND		0.00100	1	03/28/2020 12:46	WG1451998
Ethylbenzene	0.0133		0.00100	1	03/28/2020 12:46	WG1451998
Total Xylenes	0.579		0.00300	5	03/30/2020 14:04	WG1452769
(S) Toluene-d8	*90.8*		*80.0-120*		*03/28/2020 12:46*	WG1451998
(S) Toluene-d8	*91.3*		*80.0-120*		*03/30/2020 14:04*	WG1452769
(S) 4-Bromofluorobenzene	*91.5*		*77.0-126*		*03/28/2020 12:46*	WG1451998
(S) 4-Bromofluorobenzene	*80.1*		*77.0-126*		*03/30/2020 14:04*	WG1452769
(S) 1,2-Dichloroethane-d4	*90.3*		*70.0-130*		*03/28/2020 12:46*	WG1451998
(S) 1,2-Dichloroethane-d4	*89.2*		*70.0-130*		*03/30/2020 14:04*	WG1452769

Method Blank (MB)

(MB) R3514282-1 03/31/20 11:43

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Iron,Dissolved	U		0.0141	0.100
Manganese,Dissolved	U		0.00120	0.0100

Laboratory Control Sample (LCS)

(LCS) R3514282-2 03/31/20 11:45

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Iron,Dissolved	10.0	9.68	96.8	80.0-120	
Manganese,Dissolved	1.00	0.946	94.6	80.0-120	

L1203199-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1203199-02 03/31/20 11:48 • (MS) R3514282-4 03/31/20 11:53 • (MSD) R3514282-5 03/31/20 11:56

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %
Iron,Dissolved	10.0	ND	9.50	9.55	95.0	95.5	1	75.0-125			0.514
Manganese,Dissolved	1.00	ND	0.933	0.938	93.2	93.7	1	75.0-125			0.568

Method Blank (MB)

(MB) R3513863-2 03/27/20 20:52

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	*113*			*80.0-120*
(S) 4-Bromofluorobenzene	*103*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*106*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3513863-1 03/27/20 19:32

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00485	97.0	70.0-123	
Ethylbenzene	0.00500	0.00489	97.8	79.0-123	
Toluene	0.00500	0.00497	99.4	79.0-120	
Xylenes, Total	0.0150	0.0151	101	79.0-123	
(S) Toluene-d8			*112*	*80.0-120*	
(S) 4-Bromofluorobenzene			*107*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*103*	*70.0-130*	

Method Blank (MB)

(MB) R3513906-2 03/28/20 11:05

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.000331	0.00100
Ethylbenzene	U		0.000384	0.00100
Toluene	U		0.000412	0.00100
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	*103*			*80.0-120*
(S) 4-Bromofluorobenzene	*106*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*92.3*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3513906-1 03/28/20 09:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00527	105	70.0-123	
Ethylbenzene	0.00500	0.00483	96.6	79.0-123	
Toluene	0.00500	0.00484	96.8	79.0-120	
Xylenes, Total	0.0150	0.0142	94.7	79.0-123	
(S) Toluene-d8			*101*	*80.0-120*	
(S) 4-Bromofluorobenzene			*104*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*92.6*	*70.0-130*	

L1203254-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1203254-01 03/28/20 13:27 • (MS) R3513906-3 03/28/20 18:51 • (MSD) R3513906-4 03/28/20 19:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %
Benzene	0.00500	U	0.00391	0.00517	78.2	103	1	17.0-158		J3	27.8
Ethylbenzene	0.00500	U	0.00350	0.00479	70.0	95.8	1	30.0-155		J3	31.1
Toluene	0.00500	U	0.00351	0.00461	70.2	92.2	1	26.0-154			27.1
Xylenes, Total	0.0150	U	0.0103	0.0140	68.7	93.3	1	29.0-154		J3	30.5
(S) Toluene-d8					*102*	*101*		*80.0-120*			
(S) 4-Bromofluorobenzene					*104*	*105*		*77.0-126*			
(S) 1,2-Dichloroethane-d4					*90.4*	*91.2*		*70.0-130*			

Method Blank (MB)

(MB) R3513953-2 03/30/20 12:31

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Xylenes, Total	U		0.00106	0.00300
(S) Toluene-d8	*99.0*			*80.0-120*
(S) 4-Bromofluorobenzene	*86.9*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*87.4*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3513953-1 03/30/20 11:50

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Xylenes, Total	0.0150	0.0164	109	79.0-123	
(S) Toluene-d8			*96.9*	*80.0-120*	
(S) 4-Bromofluorobenzene			*91.9*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*88.1*	*70.0-130*	

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 Reporting Limit (or MDL where applicable).
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 Reporting Limit (or MDL where applicable).
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.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.
J3	The associated batch QC was outside the established quality control range for precision.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

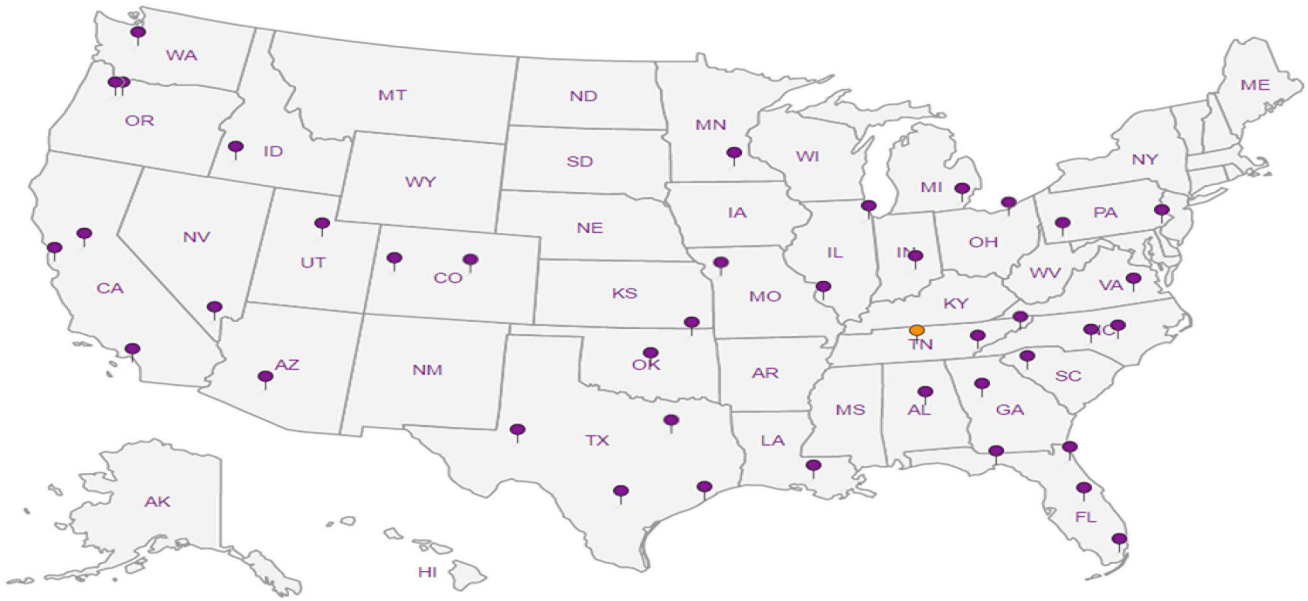
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



Hilcorp-Farmington, NM 382 Road 3100 Aztec, NM 87401	Billing Information: PO Box 61529 Houston, TX 77208	Pres Chk
Report to: Kurt Hoekstra	Email To: jdeal@hilcorp.com;khoekstra@hilcorp.com	
Project Description: Flora Vista 1	City/State Collected:	Please Circle: PT MT CT ET
Phone: 505-486-9543 Fax:	Client Project #	Lab Project # HILCORANM-FLORAVISTA
Collected by (print): KURT HOEKSTRA	Site/Facility ID # FLORA VISTA # 1	P.O. #
Collected by (signature): Kurt Hoekstra Immediately Packed on Ice N ___ Y X	Rush? (Lab MUST Be Notified) ___ Same Day X Five Day ___ Next Day ___ 5 Day (Rad Only) ___ Two Day ___ 10 Day (Rad Only) ___ Three Day Date Results Needed	Quote #

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Dissolved Fe, Mn 250ml HDPE-NoPres	V8260BTEX 40ml Amb-HCl	No Samples Field Filtered	
MW1		GW		3-16	3:00	2 4	X	X	X	HOLD TIME ABOU
MW2		GW		3-26	1:25	4	X	X	X	
MW3		GW		3-16	1:30	4	X	X	X	(HOLD TIME ABO
MW4		GW		3-16	11:20	4	X	X	X	
MW5		GW		3-26	12:45	4	X	X	X	

Analysis / Container / Preservative

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

COC
COC
Bott
Corr
Suff
VOA
Pres
RAD

Samples returned via: UPS FedEx Courier _____

Tracking # 1145 2233 2994

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Kurt Hoekstra	3-26-20	2:00		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				3.6-0.2=3.4 18
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				3/27/20 0830

If pre

Hold:

ANALYTICAL REPORT

June 18, 2020

HilCorp-Farmington, NM

Sample Delivery Group:	L1228287
Samples Received:	06/11/2020
Project Number:	
Description:	Flora Vista 1
Site:	FLOR VISTA #1
Report To:	Kurt Hoekstra 382 Road 3100 Aztec, NM 87401

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

TABLE OF CONTENTS

MW2 L1228287-01 GW

Collected by: Kurt | Collected date/time: 06/10/20 10:15 | Received date/time: 06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1492339	1	06/14/20 23:26	06/15/20 17:37	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491940	1	06/13/20 09:01	06/13/20 09:01	ADM	Mt. Juliet, TN

MW3 L1228287-02 GW

Collected by: Kurt | Collected date/time: 06/09/20 14:00 | Received date/time: 06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1492339	1	06/14/20 23:26	06/15/20 17:39	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491940	1	06/13/20 09:21	06/13/20 09:21	ADM	Mt. Juliet, TN

MW4 L1228287-03 GW

Collected by: Kurt | Collected date/time: 06/09/20 12:30 | Received date/time: 06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1492339	1	06/14/20 23:26	06/15/20 17:47	EL	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1494147	1	06/17/20 16:54	06/17/20 16:54	DWR	Mt. Juliet, TN

MW5 L1228287-04 GW

Collected by: Kurt | Collected date/time: 06/10/20 09:00 | Received date/time: 06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1494002	1	06/18/20 00:13	06/18/20 11:18	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1494147	5	06/17/20 17:13	06/17/20 17:13	DWR	Mt. Juliet, TN

DW1 L1228287-05 GW

Collected by: Kurt | Collected date/time: 06/09/20 11:45 | Received date/time: 06/11/20 09:00

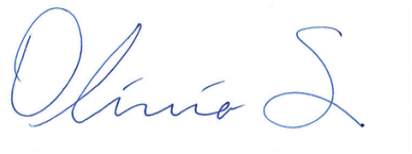
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1494002	1	06/18/20 00:13	06/18/20 11:21	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1491940	1	06/13/20 10:22	06/13/20 10:22	ADM	Mt. Juliet, TN

DW2 L1228287-06 GW

Collected by: Kurt | Collected date/time: 06/09/20 10:30 | Received date/time: 06/11/20 09:00

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1494002	1	06/18/20 00:13	06/18/20 11:24	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1494147	1	06/17/20 17:34	06/17/20 17:34	DWR	Mt. Juliet, TN

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

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	06/15/2020 17:37	WG1492339
Manganese,Dissolved	ND		0.0100	1	06/15/2020 17:37	WG1492339

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/13/2020 09:01	WG1491940
Toluene	ND		0.00100	1	06/13/2020 09:01	WG1491940
Ethylbenzene	ND		0.00100	1	06/13/2020 09:01	WG1491940
Total Xylenes	ND		0.00300	1	06/13/2020 09:01	WG1491940
(S) Toluene-d8	*98.6*		*80.0-120*		*06/13/2020 09:01*	WG1491940
(S) 4-Bromofluorobenzene	*93.4*		*77.0-126*		*06/13/2020 09:01*	WG1491940
(S) 1,2-Dichloroethane-d4	*112*		*70.0-130*		*06/13/2020 09:01*	WG1491940

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	06/15/2020 17:39	WG1492339
Manganese,Dissolved	ND		0.0100	1	06/15/2020 17:39	WG1492339

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/13/2020 09:21	WG1491940
Toluene	ND		0.00100	1	06/13/2020 09:21	WG1491940
Ethylbenzene	ND		0.00100	1	06/13/2020 09:21	WG1491940
Total Xylenes	ND		0.00300	1	06/13/2020 09:21	WG1491940
(S) Toluene-d8	*95.3*		*80.0-120*		*06/13/2020 09:21*	WG1491940
(S) 4-Bromofluorobenzene	*92.9*		*77.0-126*		*06/13/2020 09:21*	WG1491940
(S) 1,2-Dichloroethane-d4	*113*		*70.0-130*		*06/13/2020 09:21*	WG1491940

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	06/15/2020 17:47	WG1492339
Manganese,Dissolved	3.29		0.0100	1	06/15/2020 17:47	WG1492339

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00155		0.00100	1	06/17/2020 16:54	WG1494147
Toluene	ND		0.00100	1	06/17/2020 16:54	WG1494147
Ethylbenzene	ND		0.00100	1	06/17/2020 16:54	WG1494147
Total Xylenes	ND		0.00300	1	06/17/2020 16:54	WG1494147
(S) Toluene-d8	*114*		*80.0-120*		*06/17/2020 16:54*	WG1494147
(S) 4-Bromofluorobenzene	*92.9*		*77.0-126*		*06/17/2020 16:54*	WG1494147
(S) 1,2-Dichloroethane-d4	*109*		*70.0-130*		*06/17/2020 16:54*	WG1494147

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	15.5		0.100	1	06/18/2020 11:18	WG1494002
Manganese,Dissolved	5.12		0.0100	1	06/18/2020 11:18	WG1494002

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00505		0.00500	5	06/17/2020 17:13	WG1494147
Toluene	ND		0.00500	5	06/17/2020 17:13	WG1494147
Ethylbenzene	ND		0.00500	5	06/17/2020 17:13	WG1494147
Total Xylenes	0.296		0.0150	5	06/17/2020 17:13	WG1494147
(S) Toluene-d8	*113*		*80.0-120*		*06/17/2020 17:13*	WG1494147
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*06/17/2020 17:13*	WG1494147
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*06/17/2020 17:13*	WG1494147

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	06/18/2020 11:21	WG1494002
Manganese,Dissolved	ND		0.0100	1	06/18/2020 11:21	WG1494002

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/13/2020 10:22	WG1491940
Toluene	ND		0.00100	1	06/13/2020 10:22	WG1491940
Ethylbenzene	ND		0.00100	1	06/13/2020 10:22	WG1491940
Total Xylenes	ND		0.00300	1	06/13/2020 10:22	WG1491940
(S) Toluene-d8	*95.1*		*80.0-120*		*06/13/2020 10:22*	WG1491940
(S) 4-Bromofluorobenzene	*92.8*		*77.0-126*		*06/13/2020 10:22*	WG1491940
(S) 1,2-Dichloroethane-d4	*122*		*70.0-130*		*06/13/2020 10:22*	WG1491940

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	06/18/2020 11:24	WG1494002
Manganese,Dissolved	ND		0.0100	1	06/18/2020 11:24	WG1494002

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	06/17/2020 17:34	WG1494147
Toluene	ND		0.00100	1	06/17/2020 17:34	WG1494147
Ethylbenzene	ND		0.00100	1	06/17/2020 17:34	WG1494147
Total Xylenes	ND		0.00300	1	06/17/2020 17:34	WG1494147
(S) Toluene-d8	*109*		*80.0-120*		*06/17/2020 17:34*	WG1494147
(S) 4-Bromofluorobenzene	*88.5*		*77.0-126*		*06/17/2020 17:34*	WG1494147
(S) 1,2-Dichloroethane-d4	*107*		*70.0-130*		*06/17/2020 17:34*	WG1494147

QUALITY CONTROL SUMMARY

L1228287-01,02,03

Method Blank (MB)

(MB) R3539000-1 06/15/20 17:15

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Iron,Dissolved	U		0.0458	0.100
Manganese,Dissolved	U		0.00327	0.0100

Laboratory Control Sample (LCS)

(LCS) R3539000-2 06/15/20 17:18

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Iron,Dissolved	10.0	10.1	101	80.0-120	
Manganese,Dissolved	1.00	0.995	99.5	80.0-120	

L1228493-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1228493-01 06/15/20 17:20 • (MS) R3539000-4 06/15/20 17:26 • (MSD) R3539000-5 06/15/20 17:28

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %
Iron,Dissolved	10.0	ND	9.96	10.0	99.6	100	1	75.0-125			0.542
Manganese,Dissolved	1.00	ND	0.980	0.979	98.0	97.9	1	75.0-125			0.133

Method Blank (MB)

(MB) R3540098-1 06/18/20 11:02

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Iron,Dissolved	U		0.0458	0.100
Manganese,Dissolved	U		0.00327	0.0100

Laboratory Control Sample (LCS)

(LCS) R3540098-2 06/18/20 11:04

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Iron,Dissolved	10.0	9.89	98.9	80.0-120	
Manganese,Dissolved	1.00	0.977	97.7	80.0-120	

Method Blank (MB)

(MB) R3539571-3 06/13/20 05:10

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*97.8*			*80.0-120*
(S) 4-Bromofluorobenzene	*94.0*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*110*			*70.0-130*

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

(LCS) R3539571-1 06/13/20 04:11 • (LCSD) R3539571-2 06/13/20 04:31

Analyte	Spike Amount mg/l	LCS Result mg/l	LCSD Result mg/l	LCS Rec. %	LCSD Rec. %	Rec. Limits %	LCS Qualifier	LCSD Qualifier	RPD %	RPD Limits %
Benzene	0.00500	0.00524	0.00566	105	113	70.0-123			7.71	20
Ethylbenzene	0.00500	0.00468	0.00493	93.6	98.6	79.0-123			5.20	20
Toluene	0.00500	0.00468	0.00487	93.6	97.4	79.0-120			3.98	20
Xylenes, Total	0.0150	0.0137	0.0146	91.3	97.3	79.0-123			6.36	20
(S) Toluene-d8				*95.0*	*95.5*	*80.0-120*				
(S) 4-Bromofluorobenzene				*95.8*	*93.2*	*77.0-126*				
(S) 1,2-Dichloroethane-d4				*114*	*112*	*70.0-130*				

Method Blank (MB)

(MB) R3539815-3 06/17/20 15:48

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*114*			*80.0-120*
(S) 4-Bromofluorobenzene	*98.3*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*103*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3539815-1 06/17/20 14:43

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00474	94.8	70.0-123	
Ethylbenzene	0.00500	0.00505	101	79.0-123	
Toluene	0.00500	0.00510	102	79.0-120	
Xylenes, Total	0.0150	0.0157	105	79.0-123	
(S) Toluene-d8			*107*	*80.0-120*	
(S) 4-Bromofluorobenzene			*101*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*102*	*70.0-130*	

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 Reporting Limit (or MDL where applicable).
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 Reporting Limit (or MDL where applicable).
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.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

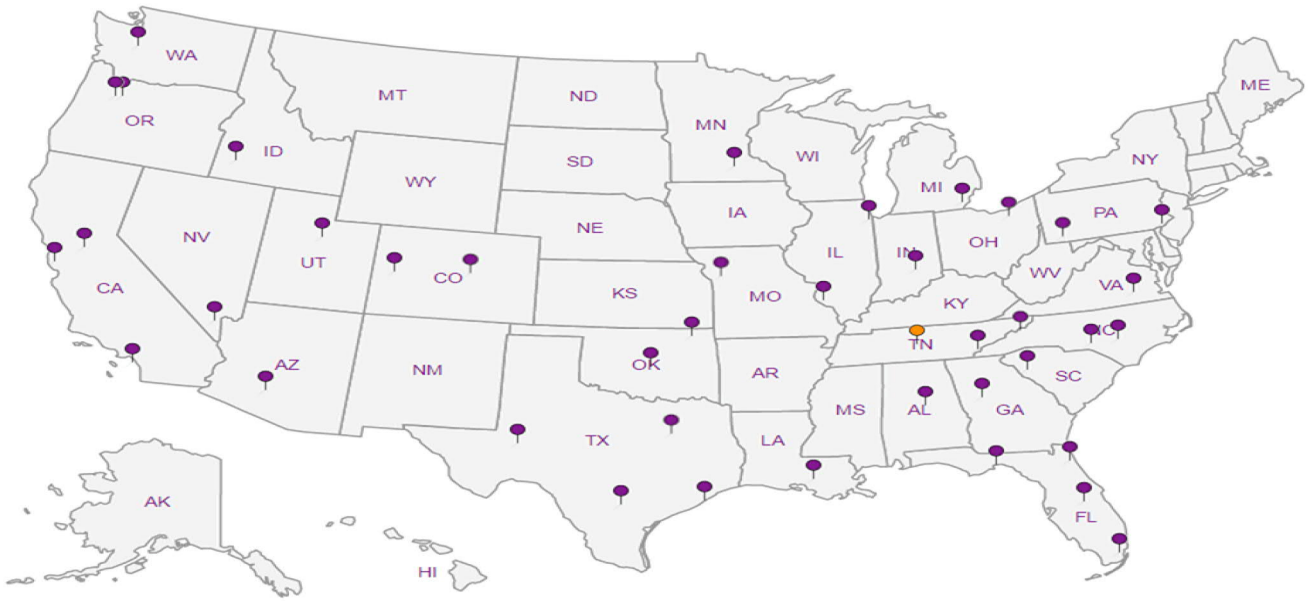
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



HilCorp-Farmington, NM
382 Road 3100
Aztec, NM 87401

Billing Information:
PO Box 61529
Houston, TX 77208

Pres Chk

Report to: Kurt Hoekstra

Email To: jdeal@hilcorp.com;khoekstra@hilcorp.com

Project Description: Flora Vista 1

City/State Collected:

Please Circle: PT MT CT ET

Phone: 505-486-9543

Client Project #

Lab Project # HILCORANM-FLORAVISTA

Collected by (print): KURT

Site/Facility ID # FLORA VISTA #1

P.O. #

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day X Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Dissolved Fe, Mn 250mlHDPE-NoPres	V8260BTEX 40mlAmb-HCl	NO SAMPLES FIELD FILTERED					
MW1		GW		6-10	~~—~~	4	X	X	X			NO SAMP		
MW2		GW		6-10	10:15	4	X	X	X					
MW3		GW		6-9	2:00	4	X	X	X					
MW4		GW		6-9	12:30	4	X	X	X					
MW5		GW		6-10	9:00	4	X	X	X					
DW1		GW		6-9	11:45	4	X	X	X					
DW2		GW		6-9	10:30	4	X	X	X					

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via:
__ UPS __ FedEx __ Courier _____

Tracking # 167627569809

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes (No) HCL / MeoH TBR
Kurt Hoekstra	6-10-20	12:15		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				2.5.2=2.3 AG 24
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
				6/11/20 0980

ANALYTICAL REPORT

September 08, 2020

HilCorp-Farmington, NM

Sample Delivery Group:	L1256208
Samples Received:	08/29/2020
Project Number:	
Description:	Flora Vista 1

Report To: Kurt Hoekstra
382 Road 3100
Aztec, NM 87401

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

TABLE OF CONTENTS

MW2 L1256208-01 GW

Collected by: Kurt H | Collected date/time: 08/28/20 10:10 | Received date/time: 08/29/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1537110	1	09/02/20 18:45	09/03/20 02:02	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1536001	1	09/01/20 11:46	09/01/20 11:46	BMB	Mt. Juliet, TN

MW3 L1256208-02 GW

Collected by: Kurt H | Collected date/time: 08/27/20 14:30 | Received date/time: 08/29/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1537110	1	09/02/20 18:45	09/03/20 02:05	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1536001	1	09/01/20 12:06	09/01/20 12:06	BMB	Mt. Juliet, TN

MW4 L1256208-03 GW

Collected by: Kurt H | Collected date/time: 08/27/20 12:50 | Received date/time: 08/29/20 09:30

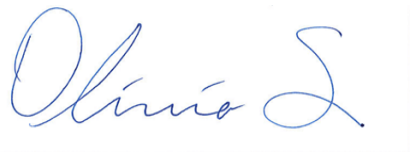
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1537110	1	09/02/20 18:45	09/03/20 02:08	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1536001	1	09/01/20 12:26	09/01/20 12:26	BMB	Mt. Juliet, TN

MW5 L1256208-04 GW

Collected by: Kurt H | Collected date/time: 08/28/20 09:15 | Received date/time: 08/29/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1537110	1	09/02/20 18:45	09/03/20 02:11	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1536001	5	09/01/20 17:11	09/01/20 17:11	BMB	Mt. Juliet, TN

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

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	09/03/2020 02:02	WG1537110
Manganese,Dissolved	ND		0.0100	1	09/03/2020 02:02	WG1537110

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/01/2020 11:46	WG1536001
Toluene	ND		0.00100	1	09/01/2020 11:46	WG1536001
Ethylbenzene	ND		0.00100	1	09/01/2020 11:46	WG1536001
Total Xylenes	ND		0.00300	1	09/01/2020 11:46	WG1536001
(S) Toluene-d8	*104*		*80.0-120*		*09/01/2020 11:46*	WG1536001
(S) 4-Bromofluorobenzene	*111*		*77.0-126*		*09/01/2020 11:46*	WG1536001
(S) 1,2-Dichloroethane-d4	*93.9*		*70.0-130*		*09/01/2020 11:46*	WG1536001

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	09/03/2020 02:05	WG1537110
Manganese,Dissolved	ND		0.0100	1	09/03/2020 02:05	WG1537110

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	09/01/2020 12:06	WG1536001
Toluene	ND		0.00100	1	09/01/2020 12:06	WG1536001
Ethylbenzene	ND		0.00100	1	09/01/2020 12:06	WG1536001
Total Xylenes	ND		0.00300	1	09/01/2020 12:06	WG1536001
(S) Toluene-d8	*105*		*80.0-120*		*09/01/2020 12:06*	WG1536001
(S) 4-Bromofluorobenzene	*108*		*77.0-126*		*09/01/2020 12:06*	WG1536001
(S) 1,2-Dichloroethane-d4	*92.6*		*70.0-130*		*09/01/2020 12:06*	WG1536001

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	09/03/2020 02:08	WG1537110
Manganese,Dissolved	3.22		0.0100	1	09/03/2020 02:08	WG1537110

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00311		0.00100	1	09/01/2020 12:26	WG1536001
Toluene	ND		0.00100	1	09/01/2020 12:26	WG1536001
Ethylbenzene	0.00125		0.00100	1	09/01/2020 12:26	WG1536001
Total Xylenes	ND		0.00300	1	09/01/2020 12:26	WG1536001
(S) Toluene-d8	*100*		*80.0-120*		*09/01/2020 12:26*	WG1536001
(S) 4-Bromofluorobenzene	*107*		*77.0-126*		*09/01/2020 12:26*	WG1536001
(S) 1,2-Dichloroethane-d4	*94.9*		*70.0-130*		*09/01/2020 12:26*	WG1536001

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	10.5		0.100	1	09/03/2020 02:11	WG1537110
Manganese,Dissolved	7.92		0.0100	1	09/03/2020 02:11	WG1537110

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0196		0.00500	5	09/01/2020 17:11	WG1536001
Toluene	ND		0.00500	5	09/01/2020 17:11	WG1536001
Ethylbenzene	0.0389		0.00500	5	09/01/2020 17:11	WG1536001
Total Xylenes	0.910		0.0150	5	09/01/2020 17:11	WG1536001
(S) Toluene-d8	*94.2*		*80.0-120*		*09/01/2020 17:11*	WG1536001
(S) 4-Bromofluorobenzene	*104*		*77.0-126*		*09/01/2020 17:11*	WG1536001
(S) 1,2-Dichloroethane-d4	*90.1*		*70.0-130*		*09/01/2020 17:11*	WG1536001

Method Blank (MB)

(MB) R3566806-1 09/03/20 01:22

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Iron,Dissolved	U		0.0458	0.100
Manganese,Dissolved	U		0.00327	0.0100

Laboratory Control Sample (LCS)

(LCS) R3566806-2 09/03/20 01:25

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Iron,Dissolved	10.0	9.78	97.8	80.0-120	
Manganese,Dissolved	1.00	0.980	98.0	80.0-120	

L1255734-05 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1255734-05 09/03/20 01:28 • (MS) R3566806-4 09/03/20 01:33 • (MSD) R3566806-5 09/03/20 01:35

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %
Iron,Dissolved	10.0	0.675	10.3	10.4	96.7	97.0	1	75.0-125			0.306
Manganese,Dissolved	1.00	0.285	1.25	1.25	96.5	96.8	1	75.0-125			0.233

Method Blank (MB)

(MB) R3567768-2 09/01/20 10:04

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*104*			*80.0-120*
(S) 4-Bromofluorobenzene	*110*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*93.6*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3567768-1 09/01/20 09:23

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00481	96.2	70.0-123	
Ethylbenzene	0.00500	0.00522	104	79.0-123	
Toluene	0.00500	0.00495	99.0	79.0-120	
Xylenes, Total	0.0150	0.0154	103	79.0-123	
(S) Toluene-d8			*103*	*80.0-120*	
(S) 4-Bromofluorobenzene			*113*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*95.1*	*70.0-130*	

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 Reporting Limit (or MDL where applicable).
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 Reporting Limit (or MDL where applicable).
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.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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

The remainder of this page intentionally left blank, there are no qualifiers applied to this SDG.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

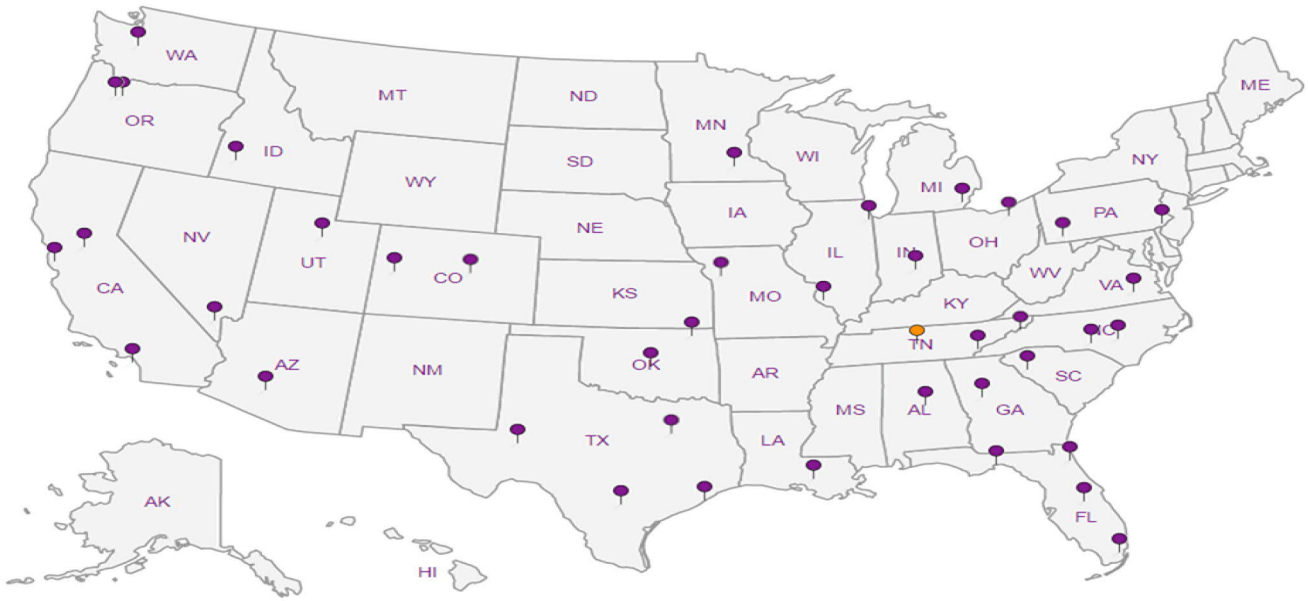
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



HilCorp-Farmington, NM

382 Road 3100
Aztec, NM 87401

Billing Information:
Clara Cardoza
PO Box 61529
Houston, TX 77208

Pres Chk

Report to: Kurt Hoekstra

Email To: jdeal@hilcorp.com;khoekstra@hilcorp.com

Project Description: Flora Vista 1

City/State Collected:

Please Circle: PT MT CT ET

Phone: 505-486-9543

Client Project #

Lab Project # HILCORANM-FLORAVISTA

Collected by (print): Kurt

Collected by (signature): Kurt Hoekstra

Immediately Packed on Ice N ___ Y X

Site/Facility ID # FLORA VISTA # 1

P.O. #

Quote #

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Dissolved Fe, Mn 250mlHDPE-NoPres	V8260BTEX 40mlAmb-HCl	No SAMPLES FIELD FILTERED						
MW1 No Sample	~~—~~	~~GW~~				4	X	X							
MW2		GW		8-28	10:10	4	X	X	X						
MW3		GW		8-27	2:30	4	X	X	X						
MW4		GW		8-27	12:50	4	X	X	X						
MW5		GW		8-28	9:15	4	X	X	X						

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: __ UPS __ FedEx __ Courier _____

Tracking # 1749 9997 3601

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Kurt Hoekstra	8-28-20	1:30		
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				5.3+0=5.3 NO 16
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			Olivia Tuuu	8/29/20 930

Pace Analytical®
National Center for Testing & Innovation

ANALYTICAL REPORT

November 16, 2020

HilCorp-Farmington, NM

Sample Delivery Group:	L1283271
Samples Received:	11/07/2020
Project Number:	
Description:	Flora Vista 1
Site:	FLORA VISTA #1
Report To:	Kurt Hoekstra 382 Road 3100 Aztec, NM 87401

Entire Report Reviewed By:

Olivia Studebaker
Project Manager

TABLE OF CONTENTS

MW1 L1283271-01 GW

Collected by: Kurt | Collected date/time: 11/05/20 10:17 | Received date/time: 11/07/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1574794	1	11/14/20 17:20	11/16/20 10:25	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1574918	1	11/11/20 21:14	11/11/20 21:14	JAH	Mt. Juliet, TN

MW2 L1283271-02 GW

Collected by: Kurt | Collected date/time: 11/05/20 14:42 | Received date/time: 11/07/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1574794	1	11/14/20 17:20	11/16/20 10:28	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1574918	1	11/11/20 21:35	11/11/20 21:35	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1576907	1	11/15/20 17:58	11/15/20 17:58	JAH	Mt. Juliet, TN

MW3 L1283271-03 GW

Collected by: Kurt | Collected date/time: 11/05/20 11:34 | Received date/time: 11/07/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1574794	1	11/14/20 17:20	11/16/20 10:30	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1574918	1	11/11/20 21:55	11/11/20 21:55	JAH	Mt. Juliet, TN

MW4 L1283271-04 GW

Collected by: Kurt | Collected date/time: 11/05/20 09:28 | Received date/time: 11/07/20 09:30

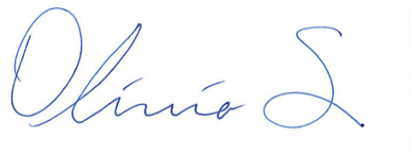
Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1574794	1	11/14/20 17:20	11/16/20 10:33	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1574918	1	11/11/20 22:15	11/11/20 22:15	JAH	Mt. Juliet, TN

MW5 L1283271-05 GW

Collected by: Kurt | Collected date/time: 11/05/20 13:11 | Received date/time: 11/07/20 09:30

Method	Batch	Dilution	Preparation date/time	Analysis date/time	Analyst	Location
Metals (ICP) by Method 6010B	WG1574794	1	11/14/20 17:20	11/16/20 10:36	CCE	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1574918	1	11/11/20 22:36	11/11/20 22:36	JAH	Mt. Juliet, TN
Volatile Organic Compounds (GC/MS) by Method 8260B	WG1576907	20	11/15/20 21:04	11/15/20 21:04	JAH	Mt. Juliet, TN

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

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	11/16/2020 10:25	WG1574794
Manganese,Dissolved	2.25		0.0100	1	11/16/2020 10:25	WG1574794

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0426		0.00100	1	11/11/2020 21:14	WG1574918
Toluene	ND		0.00100	1	11/11/2020 21:14	WG1574918
Ethylbenzene	0.0505		0.00100	1	11/11/2020 21:14	WG1574918
Total Xylenes	0.345		0.00300	1	11/11/2020 21:14	WG1574918
(S) Toluene-d8	*113*		*80.0-120*		*11/11/2020 21:14*	WG1574918
(S) 4-Bromofluorobenzene	*110*		*77.0-126*		*11/11/2020 21:14*	WG1574918
(S) 1,2-Dichloroethane-d4	*90.9*		*70.0-130*		*11/11/2020 21:14*	WG1574918

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	11/16/2020 10:28	WG1574794
Manganese,Dissolved	ND		0.0100	1	11/16/2020 10:28	WG1574794

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	11/11/2020 21:35	WG1574918
Toluene	ND		0.00100	1	11/11/2020 21:35	WG1574918
Ethylbenzene	ND		0.00100	1	11/11/2020 21:35	WG1574918
Total Xylenes	ND		0.00300	1	11/15/2020 17:58	WG1576907
(S) Toluene-d8	*105*		*80.0-120*		*11/11/2020 21:35*	WG1574918
(S) Toluene-d8	*94.5*		*80.0-120*		*11/15/2020 17:58*	WG1576907
(S) 4-Bromofluorobenzene	*99.4*		*77.0-126*		*11/11/2020 21:35*	WG1574918
(S) 4-Bromofluorobenzene	*101*		*77.0-126*		*11/15/2020 17:58*	WG1576907
(S) 1,2-Dichloroethane-d4	*91.9*		*70.0-130*		*11/11/2020 21:35*	WG1574918
(S) 1,2-Dichloroethane-d4	*78.6*		*70.0-130*		*11/15/2020 17:58*	WG1576907

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	11/16/2020 10:30	WG1574794
Manganese,Dissolved	ND		0.0100	1	11/16/2020 10:30	WG1574794

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	ND		0.00100	1	11/11/2020 21:55	WG1574918
Toluene	ND		0.00100	1	11/11/2020 21:55	WG1574918
Ethylbenzene	ND		0.00100	1	11/11/2020 21:55	WG1574918
Total Xylenes	ND		0.00300	1	11/11/2020 21:55	WG1574918
(S) Toluene-d8	*107*		*80.0-120*		*11/11/2020 21:55*	WG1574918
(S) 4-Bromofluorobenzene	*99.5*		*77.0-126*		*11/11/2020 21:55*	WG1574918
(S) 1,2-Dichloroethane-d4	*95.6*		*70.0-130*		*11/11/2020 21:55*	WG1574918

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	ND		0.100	1	11/16/2020 10:33	WG1574794
Manganese,Dissolved	3.56		0.0100	1	11/16/2020 10:33	WG1574794

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.00181		0.00100	1	11/11/2020 22:15	WG1574918
Toluene	ND		0.00100	1	11/11/2020 22:15	WG1574918
Ethylbenzene	ND		0.00100	1	11/11/2020 22:15	WG1574918
Total Xylenes	ND		0.00300	1	11/11/2020 22:15	WG1574918
(S) Toluene-d8	*103*		*80.0-120*		*11/11/2020 22:15*	WG1574918
(S) 4-Bromofluorobenzene	*92.9*		*77.0-126*		*11/11/2020 22:15*	WG1574918
(S) 1,2-Dichloroethane-d4	*94.8*		*70.0-130*		*11/11/2020 22:15*	WG1574918

Metals (ICP) by Method 6010B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Iron,Dissolved	3.49		0.100	1	11/16/2020 10:36	WG1574794
Manganese,Dissolved	3.19		0.0100	1	11/16/2020 10:36	WG1574794

Volatile Organic Compounds (GC/MS) by Method 8260B

Analyte	Result mg/l	Qualifier	RDL mg/l	Dilution	Analysis date / time	Batch
Benzene	0.0141		0.00100	1	11/11/2020 22:36	WG1574918
Toluene	0.00208		0.00100	1	11/11/2020 22:36	WG1574918
Ethylbenzene	0.0987		0.00100	1	11/11/2020 22:36	WG1574918
Total Xylenes	1.10		0.0600	20	11/15/2020 21:04	WG1576907
(S) Toluene-d8	*116*		*80.0-120*		*11/11/2020 22:36*	WG1574918
(S) Toluene-d8	*99.1*		*80.0-120*		*11/15/2020 21:04*	WG1576907
(S) 4-Bromofluorobenzene	*145*	J1	*77.0-126*		*11/11/2020 22:36*	WG1574918
(S) 4-Bromofluorobenzene	*102*		*77.0-126*		*11/15/2020 21:04*	WG1576907
(S) 1,2-Dichloroethane-d4	*94.2*		*70.0-130*		*11/11/2020 22:36*	WG1574918
(S) 1,2-Dichloroethane-d4	*78.4*		*70.0-130*		*11/15/2020 21:04*	WG1576907

Method Blank (MB)

(MB) R3593538-1 11/16/20 09:49

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Iron,Dissolved	U		0.0180	0.100
Manganese,Dissolved	U		0.000934	0.0100

Laboratory Control Sample (LCS)

(LCS) R3593538-2 11/16/20 09:52

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Iron,Dissolved	10.0	9.61	96.1	80.0-120	
Manganese,Dissolved	1.00	0.966	96.6	80.0-120	

L1283402-06 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283402-06 11/16/20 09:55 • (MS) R3593538-4 11/16/20 10:00 • (MSD) R3593538-5 11/16/20 10:03

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %
Iron,Dissolved	10.0	ND	9.69	9.53	96.9	95.3	1	75.0-125			1.65
Manganese,Dissolved	1.00	ND	0.946	0.958	94.6	95.8	1	75.0-125			1.29

L1283409-02 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

(OS) L1283409-02 11/16/20 10:05 • (MS) R3593538-6 11/16/20 10:08 • (MSD) R3593538-7 11/16/20 10:11

Analyte	Spike Amount mg/l	Original Result mg/l	MS Result mg/l	MSD Result mg/l	MS Rec. %	MSD Rec. %	Dilution	Rec. Limits %	MS Qualifier	MSD Qualifier	RPD %
Iron,Dissolved	10.0	ND	9.50	9.63	94.6	95.9	1	75.0-125			1.40
Manganese,Dissolved	1.00	0.0675	1.01	1.02	94.1	94.9	1	75.0-125			0.809

Method Blank (MB)

(MB) R3593207-2 11/11/20 20:14

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Benzene	U		0.0000941	0.00100
Ethylbenzene	U		0.000137	0.00100
Toluene	U		0.000278	0.00100
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*105*			*80.0-120*
(S) 4-Bromofluorobenzene	*95.1*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*94.4*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3593207-1 11/11/20 19:33

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Benzene	0.00500	0.00569	114	70.0-123	
Ethylbenzene	0.00500	0.00506	101	79.0-123	
Toluene	0.00500	0.00545	109	79.0-120	
Xylenes, Total	0.0150	0.0156	104	79.0-123	
(S) Toluene-d8			*105*	*80.0-120*	
(S) 4-Bromofluorobenzene			*97.7*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*95.6*	*70.0-130*	

Method Blank (MB)

(MB) R3593524-2 11/15/20 13:50

Analyte	MB Result mg/l	MB Qualifier	MB MDL mg/l	MB RDL mg/l
Xylenes, Total	U		0.000174	0.00300
(S) Toluene-d8	*98.9*			*80.0-120*
(S) 4-Bromofluorobenzene	*103*			*77.0-126*
(S) 1,2-Dichloroethane-d4	*78.7*			*70.0-130*

Laboratory Control Sample (LCS)

(LCS) R3593524-1 11/15/20 13:09

Analyte	Spike Amount mg/l	LCS Result mg/l	LCS Rec. %	Rec. Limits %	LCS Qualifier
Xylenes, Total	0.0150	0.0164	109	79.0-123	
(S) Toluene-d8			*97.9*	*80.0-120*	
(S) 4-Bromofluorobenzene			*102*	*77.0-126*	
(S) 1,2-Dichloroethane-d4			*82.0*	*70.0-130*	

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 Reporting Limit (or MDL where applicable).
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 Reporting Limit (or MDL where applicable).
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.
Original Sample	The non-spiked sample in the prep batch used to determine the Relative Percent Difference (RPD) from a quality control sample. The Original Sample may not be included within the reported SDG.
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
J1	Surrogate recovery limits have been exceeded; values are outside upper control limits.

Pace National is the only environmental laboratory accredited/certified to support your work nationwide from one location. One phone call, one point of contact, one laboratory. No other lab is as accessible or prepared to handle your needs throughout the country. Our capacity and capability from our single location laboratory is comparable to the collective totals of the network laboratories in our industry. The most significant benefit to our one location design is the design of our laboratory campus. The model is conducive to accelerated productivity, decreasing turn-around time, and preventing cross contamination, thus protecting sample integrity. Our focus on premium quality and prompt service allows us to be YOUR LAB OF CHOICE.
* 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 National.

State Accreditations

Alabama	40660	Nebraska	NE-OS-15-05
Alaska	17-026	Nevada	TN-03-2002-34
Arizona	AZ0612	New Hampshire	2975
Arkansas	88-0469	New Jersey–NELAP	TN002
California	2932	New Mexico [1]	n/a
Colorado	TN00003	New York	11742
Connecticut	PH-0197	North Carolina	Env375
Florida	E87487	North Carolina [1]	DW21704
Georgia	NELAP	North Carolina [3]	41
Georgia [1]	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	LAO00356
Kentucky [1 6]	90010	South Carolina	84004
Kentucky [2]	16	South Dakota	n/a
Louisiana	AI30792	Tennessee [1 4]	2006
Louisiana [1]	LA180010	Texas	T104704245-18-15
Maine	TN0002	Texas [5]	LAB0152
Maryland	324	Utah	TN00003
Massachusetts	M-TN003	Vermont	VT2006
Michigan	9958	Virginia	460132
Minnesota	047-999-395	Washington	C847
Mississippi	TN00003	West Virginia	233
Missouri	340	Wisconsin	9980939910
Montana	CERT0086	Wyoming	A2LA

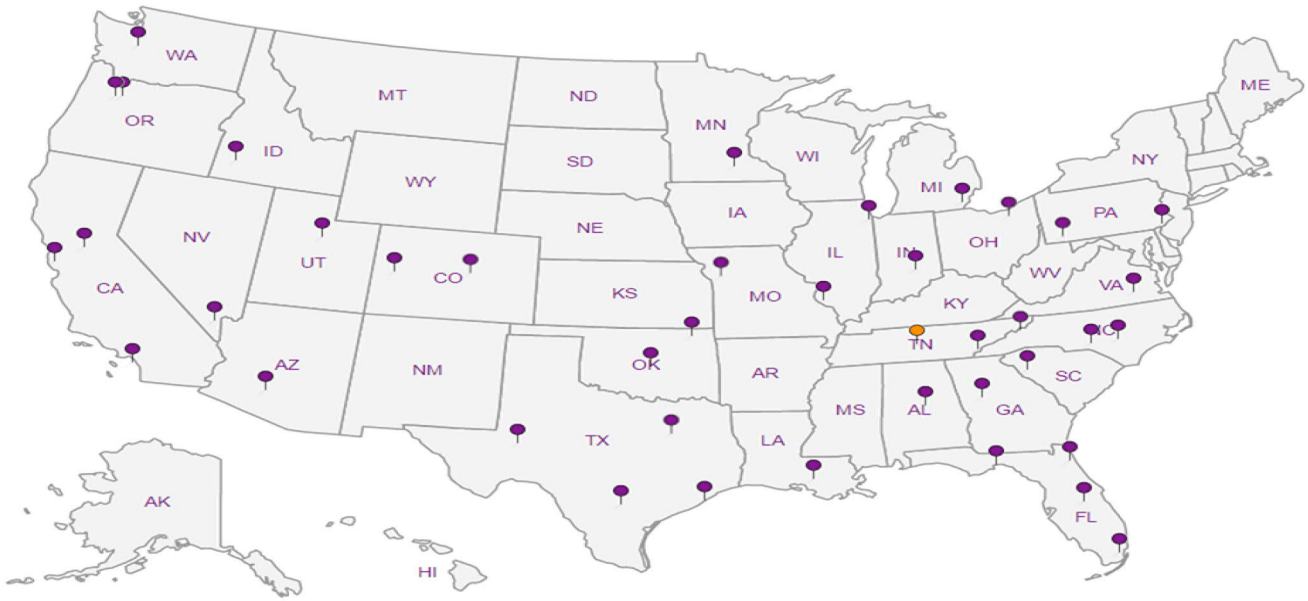
Third Party Federal Accreditations

A2LA – ISO 17025	1461.01	AIHA-LAP,LLC EMLAP	100789
A2LA – ISO 17025 [5]	1461.02	DOD	1461.01
Canada	1461.01	USDA	P330-15-00234
EPA–Crypto	TN00003		

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

Our Locations

Pace National has sixty-four client support centers that provide sample pickup and/or the delivery of sampling supplies. If you would like assistance from one of our support offices, please contact our main office. Pace National performs all testing at our central laboratory.



HilCorp-Farmington, NM

382 Road 3100
Aztec, NM 87401

Billing Information:
~~Clara Cardoza~~
~~PO Box 61229~~
~~Houston, TX 77208~~
JENNIFER DEAL

Pres Chk

Report to: **Kurt Hoekstra**

Email To: jdeal@hilcorp.com;khoekstra@hilcorp.com

Project Description: **Flora Vista 1**

City/State Collected:

Please Circle: PT MT CT ET

Phone: **505-486-9543**

Client Project #

Lab Project # **HILCORANM-FLORAVISTA**

Collected by (print): KURT

Site/Facility ID # FLORA VISTA # 1

P.O. #

Collected by (signature):

Immediately Packed on Ice N ___ Y X

Rush? (Lab MUST Be Notified)
___ Same Day ___ Five Day
___ Next Day ___ 5 Day (Rad Only)
___ Two Day ___ 10 Day (Rad Only)
___ Three Day

Quote #

Date Results Needed

Analysis / Container / Preservative

Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	No. of Cntrs	Dissolved Fe, Mn 250mlHDPE-NoPres	V8260BTEX 40mlAmb-HCl
MW1		GW		11-5	10:17	4	X	X
MW2		GW		11-5	2:42	4	X	X
MW3		GW		11-5	11:34	4	X	X
MW4		GW		11-5	9:28	4	X	X
MW5		GW		11-5	1:11	4	X	X

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

Remarks:

pH _____ Temp _____

Flow _____ Other _____

Samples returned via: UPS FedEx Courier _____

Tracking # 9186 2503 0812

Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Trip Blank Received: Yes / No HCL / MeoH TBR
Kurt Hoekstra	11-6-20	7:00		AJKH
Relinquished by : (Signature)	Date:	Time:	Received by: (Signature)	Temp: °C Bottles Received:
				3.4-.0=3.4 20
Relinquished by : (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: Time:
			MKeppas	11-7-20 930

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

Operator:	OGRID:
HILCORP ENERGY COMPANY 1111 Travis Street Houston, TX 77002	372171
	Action Number: 18290
	Action Type: [UF-GWA] Ground Water Abatement (GROUND WATER ABATEMENT)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Review of 2020 Annual Groundwater Report: Content satisfactory 1. Continue quarterly sampling from monitoring wells MW-1 – MW-5 to examine BTEX, dissolved iron and dissolved manganese in 2021 2. Continue annual sampling of DW-1 and DW-2 in 2021 3. Submit the Annual Monitoring Report to the OCD no later than March 31, 2022	12/28/2021