District I 1625 N. French Dr., Hobbs, NM 88240 District II 811 S. First St., Artesia, NM 88210 District III 1000 Rio Brazos Road, Aztec, NM 87410 District IV 1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico Energy Minerals and Natural Resources Department

Oil Conservation Division 1220 South St. Francis Dr. Santa Fe, NM 87505

Incident ID	
District RP	
Facility ID	
Application ID	

Release Notification

NMOCD

Responsible Party

JAN 3 0 2019

Responsible Party Hilcorp Energy Company	OGRID 372171 DISTRICT
Contact Name Lindsay Dumas	Contact Telephone 832-839-4585
Contact email Ldumas@hilcorp.com	Incident # (assigned by OCD) NCS1733529093
Contact mailing address 1111 Travis St. Houston, TX 77002	

Location of Release Source

Latitude 36.6067696_

(NAD 83 in decimal degrees to 5 decimal places)

Site Name San Juan 27-5 Unit 110N	Site Type Gas
Date Release Discovered 11/29/17 12:50pm	API# (if applicable) 3003927767

Unit Letter	Section	Township	Range	County	
А	02	27N	05W	Rio Arriba	

Surface Owner: State Federal Tribal Private (Name: _

Nature and Volume of Release

Materia	ul(s) Released (Select all that apply and attach calculations or specifi	ic justification for the volumes provided below)
Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
Produced Water	Volume Released (bbls) 17bbls	Volume Recovered (bbls) 0 bbls
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes No
Condensate	Volume Released (bbls) 33bbls	Volume Recovered (bbls) 0bbls
🗌 Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)
Course of Delegas		

Cause of Release

The release was a result of corrosion on the bottom of the production tank. There was no standing product to recover.

Smith, Cory, EMNRD

From:Smith, Cory, EMNRDSent:Wednesday, February 13, 2019 2:11 PMTo:'Lindsay Dumas'Cc:Fields, Vanessa, EMNRDSubject:RE: [EXTERNAL] RE: Final C-141: San Juan 27-5 110N

Lindsay,

OCD has approved the Closure Report for the San Juan 27-5 #110N. HEC did not provide to the OCD approval for the application of Potassium Permanganate.

IF HEC application of Potassium Permanganate was found not to be sufficient in remediating the residual hydrocarbons HEC maybe required to perform additional remediation.

NCS1733529093 SAN JUAN 27 5 UNIT #110N @ 30-039-27767

General Incident Information

Site Name:	SAN JUAN 27 5 UNIT #110N							
Well:	[30-039-27767] SAN JUAN 27 5 UNIT #110N							
Facility:								
Operator:	[372171] HILCORP ENERGY COMPANY							
Status:	Closure Approved							
Type:	Oil Release							
District:	Aztec							
Incident Location:	A-02-27N-05W Lot. 1 920 FNL 855 FEL							
Lat/Long:	36.6067696,-107.3215485 NAD83							

Cory Smith Environmental Specialist Oil Conservation Division Energy, Minerals, & Natural Resources 1000 Rio Brazos, Aztec, NM 87410 (505)334-6178 ext 115 cory.smith@state.nm.us

From: Smith, Cory, EMNRD
Sent: Friday, January 25, 2019 2:55 PM
To: 'Lindsay Dumas' <ldumas@hilcorp.com>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Subject: RE: [EXTERNAL] RE: Final C-141: San Juan 27-5 110N

Lindsay,

Form C-141	State of New Mexico		Incident ID	1
age 2	Oil Conservation Division		District RP	
			Facility ID	
			Application ID	
Was this a major release as defined by 19.15.29.7(A) NMAC? Yes No	If YES, for what reason(s) does the response Per 19.15.29.7 (A) (a) an unauthorized re- notice given to the OCD? By whom? To w	nsible party consider th elease of a volume, exclu- hom? When and by wh	is a major release? uding gas, of 25 bar nat means (phone, er	rrels or more. mail, etc)?
Yes, to Cory Smith (NMC	OCD), Vanessa Fields (NMOCD), and Bra	ndon Foley (SLO) by L	isa Hunter (Hilcorp) on 11/30/17 at 7:40AM.
The responsible	party must undertake the following actions immediate	ely unless they could create a	safety hazard that would	ł result in injury
 The source of the relevant of the impacted area has Released materials has All free liquids and relivant of the impact of the relevant of the	ease has been stopped. Is been secured to protect human health and ave been contained via the use of berms or ecoverable materials have been removed an	d the environment. dikes, absorbent pads, o nd managed appropriate	or other containmen ly.	t devices.
If all the actions described All actions above were co	d above have <u>not</u> been undertaken, explain ompleted.	why:		
			JAN	3 0 2019
Per 19.15.29.8 B. (4) NM has begun, please attach within a lined containmer	IAC the responsible party may commence a narrative of actions to date. If remedial nt area (see 19.15.29.11(A)(5)(a) NMAC),	remediation immediatel efforts have been succ please attach all informa	DISTRI y after discovery of essfully completed ation needed for clo	f a release. If remediation or if the release occurred osure evaluation.
I hereby certify that the info regulations all operators are public health or the environn failed to adequately investig addition, OCD acceptance o and/or regulations.	rmation given above is true and complete to the required to report and/or file certain release not ment. The acceptance of a C-141 report by the 6 gate and remediate contamination that pose a thr of a C-141 report does not relieve the operator of	best of my knowledge and ifications and perform corr OCD does not relieve the c eat to groundwater, surfacc f responsibility for complia	d understand that purs rective actions for rele operator of liability sh e water, human health nnce with any other fe	suant to OCD rules and eases which may endanger iould their operations have or the environment. In deral, state, or local laws
Printed Name: _Lindsay]	Dumas	Title:Environme	ental Specialist	
Signature:		Date: 1/9/19		
email: _Ldumas@hilcorp	.com	Telephone:832-8	839-4585	
OCD Only				
Received by:		Date:		

Form C-141 Page 6 State of New Mexico Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Closure

The responsible party must attach information demonstrating they have complied with all applicable closure requirements and any conditions or directives of the OCD. This demonstration should be in the form of a comprehensive report (electronic submittals in .pdf format are preferred) including a scaled site map, sampling diagrams, relevant field notes, photographs of any excavation prior to backfilling, laboratory data including chain of custody documents of final sampling, and a narrative of the remedial activities. Refer to 19.15.29.12 NMAC.

Closure Report Attachment Checklist: Each of the following items must be included in the closure report.

A scaled site and sampling diagram as described in 19.15.29.11 NMAC

Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)

Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)

Description of remediation activities

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations. The responsible party acknowledges they must substantially restore, reclaim, and re-vegetate the impacted surface area to the conditions that existed prior to the release or their final land use in accordance with 19.15.29.13 NMAC including notification to the OCD when reclamation and re-vegetation are complete.

Printed Name: _Lindsay Dumas	Title: _Environmental Specialist
Signature manage and	Date: _1/25/19
email: Ldumas@hilcorp.com	Telephone: _832-839-4585
	JAN 28 2019
OCD Only	DISTRICT IVI
Received by: OCD	Date: 1/30/19
Closure approval by the OCD does not relieve the responsible party remediate contamination that poses a threat to groundwater, surface party of compliance with any other federal, state, or local laws and/	of liability should their operations have failed to adequately investigate and water, human health, or the environment nor does not relieve the responsible or regulations.
Closure Approved by:	Date: 2/13/19
Printed Name:	Title: Environmental Spec

On 11/29/2017 Hilcorp had a release of 33bbls of condensate and 17 bbls of produced water on the San Juan 27-5 #110N. Hilcorp contracted Animas Environmental to delineate the release. Animas Environmental delineate the release on 12/11/2017 by hand auger, at 4.5 ft they hit auger refusal. On 1/8/18 a geoprobe was used to complete vertical and horizontal delineation of the site. Due to road conditions and distance to disposal facility, Hilcorp opted to remediate the release on site using bioremediation piles.

On 1/22/18 Hilcorp notified NMOCD & SLO that excavation would begin and sampling of the side walls and base was scheduled on 1/24/18. The Base, South Wall, and East Wall were above NMOCD threshold. The soil from this excavation was remediated on site using bioremediation piles. A subsequent C-141 was submitted with bioremediation pile location, sampling & closure plan, and SDS for the fertilizer Hilcorp added to the bioremediation piles. The piles were turned weekly from 1/29/18 until 3/8/18.

On 3/6/18, Hilcorp notified NMOCD & SLO that the Base, South Wall & East Wall would be excavated further and sampling was scheduled for 3/8/18. On 3/8/18, Hilcorp excavated the Base, South Wall, and East Wall of the excavation, all walls were below NMOCD threshold. Also on 3/8/18, the North Pile and South Pile of the bioremediation piles were sampled, all results were below NMOCD threshold. The soil that was excavated on 3/8/18, was piled separately from the initial soil that was excavated on 1/24/18.

On 5/1/18, Hilcorp notified NMOCD of their intent to spray the base of the excavation with potassium permanganate. On 5/2/18, a notification was sent to NMOCD that the excavation would be sprayed with potassium permanaganate on 5/7/18 and Hilcorp planned to backfill on 5/8/18 with the remediated soil that passed sampling on 3/8/18.

On 5/7/18, Hilcorp sprayed the excavation with potassium permanganate. Hilcorp does not have pictures of this activity, but has provided a dated invoice for record. On 5/8/18, the excavation was backfilled with the remediated soil that was sampled on 3/8/18.

The soil that was excavated on 3/8/18, was turned weekly until 4/26/18 when it was sampled. On 4/23/18, Hilcorp asked NMOCD for their availability that week to sample the biopile soil, NMOCD responded on 4/23/18. On 4/25/18, Hilcorp confirmed that sampling would occur on 4/26/18. Both the North 6 and South 6 samples were below NMOCD threshold. At this time the excavation was backfilled using the remaining soil. Approximately 600 cubic yard of contaminated soil were remediated on site using biopiles.

On 6/27/18, the vadose zone was sampled with NMOCD on site. Hilcorp does not have record of notification to NMOCD, but believes this was a phone conversation with Cory Smith from NMOCD. North and South Vadose Zone samples were below NMOCD threshold.

				S	OIL ANALY	TICAL RESULTS						
					SJ 2	7-5 110N						
				HI	LCORP EN	ERGY - L48 WEST						
Soil Sample Identification	Sample Date	Chloride (ppm)	Field Headspace (ppm)	Benzene (mg/kg)	Toluene (mg/kg)	Ethylbenzene (mg/kg)	Total Xylenes (mg/kg)	Total BTEX (mg/kg)	GRO (mg/kg)	DRO (mg/kg)	MRO (mg/kg)	TPH (mg/kg)
Base	1/24/2018	ND		2.2	54	.11	160	227.20	2400	550	0	2,950
West Wall	1/24/2018	65		0.038	0.6	0.082	3.7	4.42	31	38	0	69
South Wall	1/24/2018	76		1.3	94	20	290	405.30	3200	920	0	4,120
North Wall	1/24/2018	ND		0	0	0	0	0.00	0	0	0	0
East Wall	1/25/2018	ND		0	5	3	43	51.00	480	260	0	740
Biopile Comp 1	2/27/2018	-	-	0	0	0	0.49	0.49	85	160	0	245
Biopile Comp 2	2/27/2018	-	-	0	0	0	1.9	1.90	140	190	0	330
North Pile	3/8/2018	-	-	0	0	0	0	0.00	15	120	0	135
South Pile	3/8/2018		+	0	0	0.06	0	0.06	13	130	0	143
South Wall	3/8/2018		· · ·	0	0.089	0	0.16	0.25	7	71	0	78
East Wall	3/8/2018	-	· • ·	0	0.079	. 0.	0.11	0.19	0	0	0	0
Base	3/8/2018	-		0	22	7.8	110	139.80	1400	660	0	2,060
South 6	4/26/2018	-	-	0	0	0	0	0.00	0	78	0	78
North 6	4/26/2018	-	-	0	0	0	0	0.00	0	54	0.00	54
S Vadose Zone	6/27/2018	-	+	0.00105	0	0	0	0.00	0	32	11.40	43
N Vadose Zone	6/27/2018	-	-	0.00155	0	0	0	0.00	0	22	7.72	30
NMOCD Standary	ds			10				50				1,000

San Juan 27-5 110N 1/24/2018 Sampling Event – Base at 5.5'



Biopile Sampling 2/27/18 and 3/8/18



San Juan 27-5 110N

3/8/2018 Sampling Event – Base at 5.5-6'



Biopile Sampling 4/26/18



Vadose Zone Sampling 6/27/18



Biopile Pictures





1/24/18 Sampling Notification and Lab Results

Lindsay Dumas

From:	Lindsay Dumas
Sent:	Tuesday, January 23, 2018 11:48 AM
То:	'Smith, Cory, EMNRD'; 'Foley, Brandon M.'; 'Fields, Vanessa, EMNRD'
Cc:	'Baca, Kenneth'
Subject:	RE: Subsequent C-141: SJ 27-5 110N

All sampling is being pushed to tomorrow afternoon. There was a delay in getting equipment to location due to road condtions. Thanks.

From: Lindsay Dumas
Sent: Monday, January 22, 2018 7:35 AM
To: 'Smith, Cory, EMNRD' <Cory.Smith@state.nm.us>; Foley, Brandon M. <bfoley@slo.state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Cc: Baca, Kenneth <kbaca@slo.state.nm.us>
Subject: RE: Subsequent C-141: SJ 27-5 110N

I'm still working on finalizing the work plan, and it will be submitted soon. The excavation will begin tomorrow and we are planning to sample the base and walls tomorrow afternoon. Thanks!

Kind regards,

Lindsay Dumas

Environmental Specialist Hilcorp Energy – L48 West Office: 832-839-4585 Mobile: 281-794-9159

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Thursday, January 18, 2018 9:04 AM
To: Foley, Brandon M. <<u>bfoley@slo.state.nm.us</u>>; Lindsay Dumas <<u>ldumas@hilcorp.com</u>>; Fields, Vanessa, EMNRD<<<u>Vanessa.Fields@state.nm.us</u>>
Cc: Baca, Kenneth <<u>kbaca@slo.state.nm.us</u>>
Subject: RE: Subsequent C-141: SJ 27-5 110N

Lindsey,

Please submit a complete Work plan in hard copy for approval.

Please make sure you include all the information we talked about on the phone in the work plan. (The attached C-141 does not have everything)

Cory Smith Environmental Specialist Oil Conservation Division



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

February 07, 2018

Lindsay Dumas Hilcorp Energy PO Box 61529 Houston, TX 77208-1529 TEL: (337) 276-7676 FAX

RE: San Juan 27 5 110N

OrderNo.: 1801C57

Dear Lindsay Dumas:

Hall Environmental Analysis Laboratory received 5 sample(s) on 1/26/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 2/7/2018

CLIENT:	Hilcorp Energy			Client Sampl	e ID: Ba	se		
Project:	San Juan 27 5 110N			Collection I	Date: 1/2	4/2018 11:00:00 AM		
Lab I <mark>D</mark> :	1801C57-001	Matrix: S	OIL	Received I	Received Date: 1/26/2018 8:00:00 AM			
Analyses		Result	PQL Qua	Units	DF	Date Analyzed	Batch	
EPA MET	HOD 300.0: ANIONS					Analyst:	MRA	
Chloride		ND	30	mg/Kg	20	2/6/2018 3:21:27 AM	36356	
EPA MET	HOD 8015M/D: DIESEL RA	ANGE ORGANICS				Analyst:	том	
Diesel Ra	ange Organics (DRO)	550	9.7	mg/Kg	1	1/30/2018 4:48:43 PM	36249	
Motor Oil Range Organics (MRO)		ND	48	mg/Kg	1	1/30/2018 4:48:43 PM	36249	
Surr: E	DNOP	113	70-130	%Rec	1	1/30/2018 4:48:43 PM	36249	
EPA MET	HOD 8015D: GASOLINE R	ANGE				Analyst:	RAA	
Gasoline	Range Organics (GRO)	2400	240	mg/Kg	50	1/31/2018 3:19:06 PM	36238	
Surr: E	BFB	220	15-316	%Rec	50	1/31/2018 3:19:06 PM	36238	
EPA MET	HOD 8021B: VOLATILES					Analyst:	RAA	
Methyl te	ert-butyl ether (MTBE)	ND	4.8	mg/Kg	50	1/31/2018 3:19:06 PM	36238	
Benzene		2.2	1.2	mg/Kg	50	1/31/2018 3:19:06 PM	36238	
Toluene		54	2.4	mg/Kg	50	1/31/2018 3:19:06 PM	36238	
Ethylben	zene	11	2.4	mg/Kg	50	1/31/2018 3:19:06 PM	36238	
Xylenes,	Total	160	4.8	mg/Kg	50	1/31/2018 3:19:06 PM	36238	
Surr: 4	I-Bromofluorobenzene	114	80-120	%Rec	50	1/31/2018 3:19:06 PM	36238	

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Date Reported: 2/7/2018

1 1/31/2018 3:42:17 PM 36238

Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

CLIENT:	Hilcorp Energy			Client Sampl	e ID: We	est Wall	
Project:	San Juan 27 5 110N			Collection I	Date: 1/2	4/2018 11:00:00 AM	
Lab ID:	1801C57-002	Matrix: S	OIL	Received I	Date: 1/2	6/2018 8:00:00 AM	
Analyses		Result	PQL Qu	al Units	DF	Date Analyzed	Batch
EPA MET	HOD 300.0: ANIONS					Analyst:	MRA
Chloride		65	30	mg/Kg	20	2/6/2018 3:33:52 AM	36356
EPA MET	HOD 8015M/D: DIESEL RA	NGE ORGANICS				Analyst:	TOM
Diesel Ra	ange Organics (DRO)	38	9.1	mg/Kg	1	1/30/2018 5:10:40 PM	36249
Motor Oil	Range Organics (MRO)	ND	46	mg/Kg	1	1/30/2018 5:10:40 PM	36249
Surr: E	DNOP	109	70-130	%Rec	1	1/30/2018 5:10:40 PM	36249
EPA MET	HOD 8015D: GASOLINE RA	NGE				Analyst:	RAA
Gasoline	Range Organics (GRO)	31	4.7	mg/Kg	1	1/31/2018 3:42:17 PM	36238
Surr: E	BFB	239	15-316	%Rec	1	1/31/2018 3:42:17 PM	36238
EPA MET	HOD 8021B: VOLATILES					Analyst:	RAA
Methyl te	rt-butyl ether (MTBE)	ND	0.095	mg/Kg	1	1/31/2018 3:42:17 PM	36238
Benzene		0.038	0.024	mg/Kg	1	1/31/2018 3:42:17 PM	36238
Toluene		0.60	0.047	mg/Kg	1	1/31/2018 3:42:17 PM	36238
Ethylben	zene	0.082	0.047	mg/Kg	1	1/31/2018 3:42:17 PM	36238
Xylenes,	Total	3.7	0.095	mg/Kg	1	1/31/2018 3:42:17 PM	36238

80-120

%Rec

114

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blan	nk
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	age $2 \text{ of } 9$
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	age 2 01)
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as	specified

10 1/31/2018 4:05:33 PM

100 2/1/2018 10:30:05 AM

10 1/31/2018 4:05:33 PM

36238

36238

36238

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

CLIENT:	Hilcorp Energy		Client Sample ID: South Wall									
Project:	San Juan 27 5 110N				Collectio	on Date: 1/2	4/2018 11:00:00 AM					
Lab ID:	1801C57-003	Matrix: S	OIL		Receive	ed Date: 1/2	6/2018 8:00:00 AM					
Analyses		Result	PQL	Qual	<u>Units</u>	DF	Date Analyzed	Batch				
EPA MET	HOD 300.0: ANIONS						Analyst	MRA				
Chloride		76	30		mg/Kg	20	2/6/2018 4:11:06 AM	36356				
EPA MET	HOD 8015M/D: DIESEL RAN	NGE ORGANICS					Analyst	TOM				
Diesel Ra	ange Organics (DRO)	920	10		mg/Kg	1	1/30/2018 5:32:52 PM	36249				
Motor Oil	Range Organics (MRO)	ND	50		mg/Kg	1	1/30/2018 5:32:52 PM	36249				
Surr: E	DNOP	106	70-130		%Rec	1	1/30/2018 5:32:52 PM	36249				
EPA MET	HOD 8015D: GASOLINE RA	NGE					Analyst	RAA				
Gasoline	Range Organics (GRO)	3200	50		mg/Kg	10	1/31/2018 4:05:33 PM	36238				
Surr: E	BFB	747	15-316	S	%Rec	10	1/31/2018 4:05:33 PM	36238				
EPA MET	HOD 8021B: VOLATILES						Analyst	RAA				
Methyl te	rt-butyl ether (MTBE)	ND	0.99		mg/Kg	10	1/31/2018 4:05:33 PM	36238				
Benzene		1.3	0.25		mg/Kg	10	1/31/2018 4:05:33 PM	36238				
Toluene		94	5.0		mg/Kg	100	2/1/2018 10:30:05 AM	36238				

0.50

9.9

S

80-120

mg/Kg

mg/Kg

%Rec

20

290

141

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method H	Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 3 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	1 450 5 01 5
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit	t as specified

Analytical Report Lab Order 1801C57 Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

EPA METHOD 30	00.0: ANIONS					Analys	st: MRA
Analyses		Result	PQL	Qual Units	DF	Date Analyzed	Batch
Lab ID: 1801C	57-004	Matrix:	SOIL	Received	Date: 1/2	26/2018 8:00:00 AM	
Project: San Ju	an 27 5 110N			Collection	Date: 1/2	24/2018 11:00:00 AN	1
CLIENT: Hilcory	p Energy			Client Samp	le ID: No	orth Wall	

Chloride	ND	30	mg/Kg	20	2/6/2018 4:23:31 AM	36356
EPA METHOD 8015M/D: DIESEL RANGE	ORGANICS	6			Analyst:	том
Diesel Range Organics (DRO)	ND	10	mg/Kg	1	1/30/2018 5:54:46 PM	36249
Motor Oil Range Organics (MRO)	ND	51	mg/Kg	1	1/30/2018 5:54:46 PM	36249
Surr: DNOP	108	70-130	%Rec	1	1/30/2018 5:54:46 PM	36249
EPA METHOD 8015D: GASOLINE RANGI	E				Analyst:	RAA
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	1/31/2018 4:28:55 PM	36238
Surr: BFB	112	15-316	%Rec	1	1/31/2018 4:28:55 PM	36238
EPA METHOD 8021B: VOLATILES					Analyst:	RAA
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	1/31/2018 4:28:55 PM	36238
Benzene	ND	0.024	mg/Kg	1	1/31/2018 4:28:55 PM	36238
Toluene	ND	0.049	mg/Kg	1	1/31/2018 4:28:55 PM	36238
Ethylbenzene	ND	0.049	mg/Kg	1	1/31/2018 4:28:55 PM	36238
Xylenes, Total	ND	0.097	mg/Kg	1	1/31/2018 4:28:55 PM	36238
Surr: 4-Bromofluorobenzene	101	80-120	%Rec	1	1/31/2018 4:28:55 PM	36238

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank	
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range	
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of	0
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	/
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified	

20 1/31/2018 4:52:13 PM

36238

Date Reported: 2/7/2018

Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

CLIENT:	Hilcorp Energy			C	lient San	ple ID: Ea	st Wall	
Project:	San Juan 27 5 110N				Collectio	n Date: 1/2	4/2018 11:00:00 AM	
Lab ID:	1801C57-005	Matrix: S	OIL		Receive	d Date: 1/2	6/2018 8:00:00 AM	
Analyses		Result	PQL (Qual	Units	DF	Date Analyzed	Batch
EPA MET	THOD 300.0: ANIONS						Analyst	MRA
Chloride		ND	30		mg/Kg	20	2/6/2018 4:35:56 AM	36356
EPA MET	THOD 8015M/D: DIESEL RA	NGE ORGANICS					Analyst	том
Diesel R	ange Organics (DRO)	260	9.6		mg/Kg	1	1/30/2018 6:16:45 PM	36249
Motor Oi	I Range Organics (MRO)	ND	48		mg/Kg	1	1/30/2018 6:16:45 PM	36249
Surr: I	DNOP	112	70-130		%Rec	1	1/30/2018 6:16:45 PM	36249
EPA MET	THOD 8015D: GASOLINE R	ANGE					Analyst	RAA
Gasoline	e Range Organics (GRO)	480	97	D	mg/Kg	20	1/31/2018 4:52:13 PM	36238
Surr: I	BFB	193	15-316	D	%Rec	20	1/31/2018 4:52:13 PM	36238
EPA MET	THOD 8021B: VOLATILES						Analyst	RAA
Methyl te	ert-butyl ether (MTBE)	ND	1.9	D	mg/Kg	20	1/31/2018 4:52:13 PM	36238
Benzene	3	ND	0.49	D	mg/Kg	20	1/31/2018 4:52:13 PM	36238
Toluene		5.0	0.97	D	mg/Kg	20	1/31/2018 4:52:13 PM	36238
Ethylben	izene	3.0	0.97	D	mg/Kg	20	1/31/2018 4:52:13 PM	36238
Xylenes,	Total	43	1.9	D	mg/Kg	20	1/31/2018 4:52:13 PM	36238

80-120

%Rec

D

105

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of 9
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

07-Feb-18

Client: Hilcorp Energy **Project:** San Juan 27 5 110N Sample ID MB-36356 SampType: mblk TestCode: EPA Method 300.0: Anions Client ID: PBS Batch ID: 36356 RunNo: 48913 Analysis Date: 2/6/2018 Prep Date: 2/5/2018 SeqNo: 1573995 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD **RPDLimit** Qual Chloride ND 1.5 Sample ID LCS-36356 SampType: Ics TestCode: EPA Method 300.0: Anions Client ID: LCSS Batch ID: 36356 RunNo: 48913 Units: mg/Kg Prep Date: 2/5/2018 Analysis Date: 2/6/2018 SegNo: 1573996 SPK value SPK Ref Val %REC LowLimit %RPD RPDLimit Analyte HighLimit Qual Result PQL Chloride 14 1.5 15.00 0 93.5 90 110

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 6 of 9
- ange
- Banarting Detection Limit

Page 7 of 9

07-Feb-18

Client: Hilcorp Energy **Project:** San Juan 27 5 110N Sample ID LCS-36249 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 36249 RunNo: 48775 Prep Date: Analysis Date: 1/30/2018 1/29/2018 SeqNo: 1569177 Units: mg/Kg Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Diesel Range Organics (DRO) 46 10 50.00 0 92.9 70 130 Surr: DNOP 5.000 4.5 90.5 70 130 Sample ID MB-36249 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 36249 RunNo: 48775 Prep Date: 1/29/2018 Analysis Date: 1/30/2018 SeqNo: 1569178 Units: mg/Kg %REC LowLimit Analyte Result PQL SPK value SPK Ref Val HighLimit %RPD **RPDLimit** Qual Diesel Range Organics (DRO) ND 10 Motor Oil Range Organics (MRO) ND 50 Surr: DNOP 9.8 10.00 97.6 70 130 Sample ID LCS-36240 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: LCSS Batch ID: 36240 RunNo: 48775 Prep Date: 1/29/2018 Analysis Date: 1/30/2018 SeqNo: 1570004 Units: %Rec PQL SPK value SPK Ref Val %REC %RPD RPDLimit Analyte Result LowLimit HighLimit Qual Surr: DNOP 5.000 5.1 101 70 130 Sample ID MB-36240 SampType: MBLK TestCode: EPA Method 8015M/D: Diesel Range Organics Client ID: PBS Batch ID: 36240 RunNo: 48775 Prep Date: Analysis Date: 1/30/2018 SegNo: 1570005 1/29/2018 Units: %Rec Analyte Result PQL SPK value SPK Ref Val %REC LowLimit HighLimit %RPD RPDLimit Qual Surr: DNOP 10.00 110 70 11 130

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

WO#: 1801C57

07-Feb-18

Client: Hilco	orp Energy										
Project: San J	uan 27 5 110N	1									
Sample ID LCS-36238	SampT	Type: LC	s	Tes	tCode: E	PA Method	8021B: Vola	tiles			
Client ID: LCSS	Batcl	h ID: 36	238	F	RunNo: 4	8820					
Prep Date: 1/29/2018	Analysis D	Date: 1/	31/2018	5	SeqNo: 1	570883	Units: mg/k	(g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Methyl tert-butyl ether (MTBE)	0.98	0.10	1.000	0	97.7	70.1	121				
Benzene	1.0	0.025	1.000	0	104	77.3	128				
Toluene	1.0	0.050	1.000	0	104	79.2	125				
Ethylbenzene	1.0	0.050	1.000	0	102	80.7	127				
Xylenes, Total	3.1	0.10	3.000	0	105	81.6	129				
Surr: 4-Bromofluorobenzene	1.1		1.000		106	80	120				
Sample ID MB-36238	SampT	уре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles			_
Client ID: PBS	Batch	h ID: 36	238	F	RunNo: 4	8820					
Prep Date: 1/29/2018	Analysis E	Date: 1/	31/2018	S	SeqNo: 1	570885	Units: mg/k	٢g			
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Methyl tert-butyl ether (MTBE)	ND	0.10									
Benzene	ND	0.025									
Toluene	ND	0.050									
Ethylbenzene	ND	0.050									
Xylenes, Total	ND	0.10									
Surr: 4-Bromofluorobenzene	1.0		1.000		104	80	120				

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified
- Page 9 of 9

HALL ENVIR ANALY LABOR	CONMENTAL Ysis Ratory	Hall Environmental Albi TEL: 505-141-1975 Website: www.ha	Analy 490 uquero FAX- illenvi	sis Labora DI Hawkins Jue, NM 87 505-345-4 ronmental.	tory NE 109 107 com	San	nple Log-In Check List
Client Name:	HILCORP ENERGY	Work Order Number	180	1C57			RoptNo: 1
Received By:	Erin Melendrez	1/26/2018 8:00:00 AM			il	nz	, 5
Completed By:	Dennis Suazo	1/26/2018 8:59:45 AM			T2a.	-12-	a number of
Reviewed By:	ENM	1/26/18			1000	7	0
Chain of Cus	tody						
I. Is Chain of Cu	ustody complete?		Yes	~	No		Not Present
). How was the	sample delivered?		<u>Cou</u>	rier			
<u>Log In</u> 3. Was an attem	npt made to cool the samples?		Yes	~	No		NA
 Were all samp 	ples received at a temperature	of >0° C to 6 0°C	Yes	V	No		NA
Sample(s) in p	proper container(s)?		Yes	V	No		
, Sufficient sam	ple volume for indicated test(s)?	Yes		No		
, Are samples (except VOA and ONG) proper	y preserved?	Yes	V	No		
 Was preservat 	tive added to bottles?		Yes		No	\checkmark	NA
. VOA vials have	e zero headspace?		Yes		No		No VOA Vials 🗹
), Were any san	nple containers received broke	n?	Yes		No		# of preserved
1. Does paperwo (Note discrepa	rk match bottle labels? Incies on chain of custody)		Yes	V	No		for pH: (<2 or >12 unless noted
2. Are matrices c	orrectly identified on Chain of	Custody?	Yes	V	No		Adjusted?
], Is it clear what	analyses were requested?		Yes	~	No		
 Were all holdin (If no, notify cu 	ng times able to be met? ustomer for authorization.)		Yes	\checkmark	No		Checked by:
pecial Handli	ing (if applicable)						
5. Was client not	tified of all discrepancies with	this order?	Yes		No		NA 🗸
Person	Notified:	Date:					
By Who	m:	Via:	eM	ail 🗍 Ph	none 🦳	Fax	In Person
Regardi	ng:				antan aratan dalama	***************************************	n film men en an
Client In	istructions:				an taka a kada da da da sa sa		
6. Additional ren	narks:						
7. Cooler Inform Cooler No 1	mation Temp °C Condition Se 2.4 Good Not	eal Intact Seal No S Present	eal Da	ate 3	Signed I	Ву	

unain-or-custody kecord	For the state of t	
Client/Lintsay Dumas Hilcorp	Standard Rush	ANALYSTS LABORATORY
	Project Name:	www.ballenvironmental.com
Mailing Address: 1111 Tratics St.	SanJuan 27-5 #110N	4901 Hawkins NE - Albuquerque, NM 87109
Houston, TX TIOUZ	Project #:	Tel. 505-345-3975 Fax 505-345-4107
Phone #: 281-794-9159		Analysis Request
email or Fax#: LDUMASCHilcorp.com	Project Manager:	
QA/QC Package:	, Lindsay Dumas	s (802 (Gas o PO4,S PCB's
Accreditation:	Sampler: Travis Munkres	
NELAP Other	On Ice: St Yes INO	PAH 8 9504,03 16 8 8 8 0 0 4 0 3 16 8 8 8 8 7 8 8 8 8 8 8 8 8 8 8 8 8 8 8
	Sample Temperature: $3.1 - 0, T(C_{F}) = 3.4$	ATBF A A or 100 (CLL D A) A or 30 (A C A) A or 30 (A A) A or 30 (A A) A or 30 (A) A or 30 (
Date Time Matrix Sample Request II	Container Preservative HEAL No.	(Methania (Methania) (Paral (Methania) (Paral (Methania) (Paral (Methania) (Paral (Methania) (Paral (Methania) (Paral (Methania)) (Paral (Methania
1721118 11=00 - Sert	Type and # Type 1801C57	BTE BTE BTE BTE BTE BTE BTE BTE TPH TPH TPH TPH TPH EDB 83310 83310 RCR Anior 8081 8081 8260 8260 8270 CMI Air Bi Air Bi
1/24/18 11:00 Soil Base	jar 402 001	
1/24/18 11:06 Soil Mest Wall	jar402 002	
1/24/18 11-00 Soil South Wall	iar407 (103	
1/24/18 11:00 Soil North Wall	iar 402 004	
1/24/18 11:00 Soil east wall	jar 407. 005	
	3	
Date: Time: Relinquished by:	Received by: Date Time	Pamarker
1/25/18 INTER Jac Duman	Chart 1, Mal. 1/25/18 1558	Standard turnaround
Date: Time: Relinquished by:	Received by: Date Time	
13/18 1847 Sprister halls	1200000100126/1880	Ψ

If necessary, simples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

3/8/18 Sampling Notification and Lab Results

Lindsay Dumas

From: Sent: To: Subject: Lindsay Dumas Tuesday, March 6, 2018 7:42 AM 'Smith, Cory, EMNRD'; 'Fields, Vanessa, EMNRD'; 'Brandon Foley' RE: San Juan 27-5 Unit 110N

The excavation on the base and south wall of the 110N is scheduled for Thursday 3/8/18, with sampling to occur at noon. Please let me know if you have any questions.

Kind regards,

Lindsay Dumas Environmental Specialist Hilcorp Energy – L48 West Office: 832-839-4585 Mobile: 281-794-9159

From: Lindsay Dumas
Sent: Monday, March 5, 2018 9:31 AM
To: 'Smith, Cory, EMNRD' <Cory.Smith@state.nm.us>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>; Brandon Foley <bfoley@slo.state.nm.us>
Subject: RE: San Juan 27-5 Unit 110N

The plan is to keep them separate. I grabbed a sample of the biopiles last week (labs attached) and they are looking pretty good. I plan to have it sampled either at the same time we re-sample the excavation or the following week for formal closure. Once we know the soil is remediated, pile it up and have new windrows of the freshly excavated soil.

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Monday, March 5, 2018 9:26 AM
To: Lindsay Dumas <<u>Idumas@hilcorp.com</u>>; Fields, Vanessa, EMNRD <<u>Vanessa.Fields@state.nm.us</u>>; Brandon Foley
<<u>bfoley@slo.state.nm.us</u>>
Subject: RE: San Juan 27-5 Unit 110N

Lindsay,

I would recommend to keep the new excavated soils separate from the soils that have been biopiled the last 5 weeks.

Cory Smith Environmental Specialist Oil Conservation Division Energy, Minerals, & Natural Resources



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

March 14, 2018

Lindsay Dumas Hilcorp Energy PO Box 61529 Houston, TX 77208-1529 TEL: (337) 276-7676 FAX

RE: SJ 27-5 110N

OrderNo.: 1803595

Dear Lindsay Dumas:

Hall Environmental Analysis Laboratory received 5 sample(s) on 3/10/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 3/14/2018

CLIENT: Hilcorp Energy	Client Sample ID: North Pile								
Project: SJ 27-5 110N	Collection Date: 3/8/2018 1:00:00 PM								
Lab ID: 1803595-001	Matrix:	SOIL	Received	Received Date: 3/10/2018 8:00:00 AM					
Analyses	Result	PQL Qu	al Units	DF	Date Analyzed	Batch			
EPA METHOD 8015M/D: DIESEL RAN	GE ORGANICS	5			Analys	t: TOM			
Diesel Range Organics (DRO)	120	9.2	mg/Kg	1	3/14/2018 5:19:10 AM	36967			
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	3/14/2018 5:19:10 AM	36967			
Surr: DNOP	117	70-130	%Rec	1	3/14/2018 5:19:10 AM	36967			
EPA METHOD 8015D: GASOLINE RAM	IGE				Analys	t: NSB			
Gasoline Range Organics (GRO)	15	4.8	mg/Kg	1	3/13/2018 7:25:43 PM	36964			
Surr: BFB	186	15-316	%Rec	1	3/13/2018 7:25:43 PM	36964			
EPA METHOD 8021B: VOLATILES					Analys	t: NSB			
Methyl tert-butyl ether (MTBE)	ND	0.096	mg/Kg	1	3/13/2018 7:25:43 PM	36964			
Benzene	ND	0.024	mg/Kg	1	3/13/2018 7:25:43 PM	36964			
Toluene	ND	0.048	mg/Kg	1	3/13/2018 7:25:43 PM	36964			
Ethylbenzene	ND	0.048	mg/Kg	1	3/13/2018 7:25:43 PM	36964			
Xylenes, Total	0.21	0.096	mg/Kg	1	3/13/2018 7:25:43 PM	36964			
Surr: 4-Bromofluorobenzene	96.1	80-120	%Rec	1	3/13/2018 7:25:43 PM	36964			

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method E	Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range	
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits	Page 1 of 8
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range	rage roro
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit	
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit	as specified

Date Reported: 3/14/2018

Hall Environmental Analysis Laboratory, Inc.

CLIENT: Hilcorp Energy	Client Sample ID: South Pile Collection Date: 3/8/2018 1:00:00 PM								
Project: SJ 27-5 110N									
Lab ID: 1803595-002	Matrix: S	SOIL	Received						
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch			
EPA METHOD 8015M/D: DIESEL RA	NGE ORGANICS				Analys	: том			
Diesel Range Organics (DRO)	130	9.6	mg/Kg	1	3/14/2018 5:44:01 AM	36967			
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	3/14/2018 5:44:01 AM	36967			
Surr: DNOP	114	70-130	%Rec	1	3/14/2018 5:44:01 AM	36967			
EPA METHOD 8015D: GASOLINE RA	ANGE				Analys	NSB			
Gasoline Range Organics (GRO)	13	4.9	mg/Kg	1	3/13/2018 7:49:12 PM	36964			
Surr: BFB	164	15-316	%Rec	1	3/13/2018 7:49:12 PM	36964			
EPA METHOD 8021B: VOLATILES					Analyst	NSB			
Methyl tert-butyl ether (MTBE)	ND	0.099	mg/Kg	1	3/13/2018 7:49:12 PM	36964			
Benzene	ND	0.025	mg/Kg	1	3/13/2018 7:49:12 PM	36964			
Toluene	0.060	0.049	mg/Kg	1	3/13/2018 7:49:12 PM	36964			
Ethylbenzene	ND	0.049	mg/Kg	1	3/13/2018 7:49:12 PM	36964			
Xylenes, Total	0.22	0.099	mg/Kg	1	3/13/2018 7:49:12 PM	36964			
Surr: 4-Bromofluorobenzene	97.4	80-120	%Rec	1	3/13/2018 7:49:12 PM	36964			

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 8
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 3/14/2018

CLIENT: Hilcorp Energy		(Client Sampl	e ID: So	uth	
Project: SJ 27-5 110N			Collection 1	Date: 3/8	3/2018 12:30:00 PM	
Lab ID: 1803595-003	Matrix:	SOIL	Received	Date: 3/1	0/2018 8:00:00 AM	
Analyses	Result	PQL Qual	Units	DF	Date Analyzed	Batch
EPA METHOD 8015M/D: DIESEL RANG	GE ORGANICS	5			Analyst	том
Diesel Range Organics (DRO)	71	9.9	mg/Kg	1	3/14/2018 6:08:37 AM	36967
Motor Oil Range Organics (MRO)	ND	50	mg/Kg	1	3/14/2018 6:08:37 AM	36967
Surr: DNOP	110	70-130	%Rec	1	3/14/2018 6:08:37 AM	36967
EPA METHOD 8015D: GASOLINE RAN	IGE				Analyst	: NSB
Gasoline Range Organics (GRO)	7.2	4.8	mg/Kg	1	3/13/2018 8:12:44 PM	36964
Surr: BFB	139	15-316	%Rec	1	3/13/2018 8:12:44 PM	36964
EPA METHOD 8021B: VOLATILES					Analyst	NSB
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	3/13/2018 8:12:44 PM	36964
Benzene	ND	0.024	mg/Kg	1	3/13/2018 8:12:44 PM	36964
Toluene	0.089	0.048	mg/Kg	1	3/13/2018 8:12:44 PM	36964
Ethylbenzene	ND	0.048	mg/Kg	1	3/13/2018 8:12:44 PM	36964
Xylenes, Total	0.16	0.097	mg/Kg	1	3/13/2018 8:12:44 PM	36964
Surr: 4-Bromofluorobenzene	94.3	80-120	%Rec	1	3/13/2018 8:12:44 PM	36964

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Η	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 3 of 8
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 3/14/2018

CLIENT: Hilcorp Energy	Client Sample ID: East								
Project: SJ 27-5 110N	Collection Date: 3/8/2018 12:30:00 PM								
Lab ID: 1803595-004	Matrix:	SOIL	Received	Received Date: 3/10/2018 8:00:00 AM					
Analyses	Result	PQL Qua	l Units	DF	Date Analyzed	Batch			
EPA METHOD 8015M/D: DIESEL RANG	E ORGANICS	6			Analyst	TOM			
Diesel Range Organics (DRO)	ND	9.3	mg/Kg	1	3/14/2018 6:33:25 AM	36967			
Motor Oil Range Organics (MRO)	ND	46	mg/Kg	1	3/14/2018 6:33:25 AM	36967			
Surr: DNOP	115	70-130	%Rec	1	3/14/2018 6:33:25 AM	36967			
EPA METHOD 8015D: GASOLINE RAN	GE				Analyst	NSB			
Gasoline Range Organics (GRO)	ND	4.9	mg/Kg	1	3/13/2018 8:36:15 PM	36964			
Surr: BFB	99.7	15-316	%Rec	1	3/13/2018 8:36:15 PM	36964			
EPA METHOD 8021B: VOLATILES					Analyst	NSB			
Methyl tert-butyl ether (MTBE)	ND	0.097	mg/Kg	1	3/13/2018 8:36:15 PM	36964			
Benzene	ND	0.024	mg/Kg	1	3/13/2018 8:36:15 PM	36964			
Toluene	0.079	0.049	mg/Kg	1	3/13/2018 8:36:15 PM	36964			
Ethylbenzene	ND	0.049	mg/Kg	1	3/13/2018 8:36:15 PM	36964			
Xylenes, Total	0.11	0.097	mg/Kg	1	3/13/2018 8:36:15 PM	36964			
Surr: 4-Bromofluorobenzene	91.9	80-120	%Rec	1	3/13/2018 8:36:15 PM	36964			

Refer to the QC Summary report and sample login checklist for flagged QC data and preservation information.

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 4 of 8
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Hall Environmental Analysis Laboratory, Inc.

Date Reported: 3/14/2018

CLIENT:	Hilcorp Energy Client Sample ID: Base										
Project:	SJ 27-5 110N			Collection	Date: 3/8	3/2018 12:30:00 PM					
Lab ID:	1803595-005	Matrix: S	OIL	IL Received Date: 3/10/2018 8:00:00 AM							
Analyses		Result	PQL Qual	Units	DF	Date Analyzed	Batch				
EPA MET	HOD 8015M/D: DIESEL RAI	NGE ORGANICS				Analyst	том				
Diesel Ra	ange Organics (DRO)	660	9.4	mg/Kg	1	3/14/2018 6:57:51 AM	36967				
Motor Oil	Range Organics (MRO)	ND	47	mg/Kg	1	3/14/2018 6:57:51 AM	36967				
Surr: E	DNOP	114	70-130	%Rec	1	3/14/2018 6:57:51 AM	36967				
EPA MET	HOD 8015D: GASOLINE RA	NGE				Analyst	NSB				
Gasoline	Range Organics (GRO)	1400	240	mg/Kg	50	3/13/2018 8:59:45 PM	36964				
Surr: E	BFB	181	15-316	%Rec	50	3/13/2018 8:59:45 PM	36964				
EPA MET	HOD 8021B: VOLATILES					Analyst	NSB				
Methyl te	ert-butyl ether (MTBE)	ND	4.9	mg/Kg	50	3/13/2018 8:59:45 PM	36964				
Benzene		ND	1.2	mg/Kg	50	3/13/2018 8:59:45 PM	36964				
Toluene	8	22	2.4	mg/Kg	50	3/13/2018 8:59:45 PM	36964				
Ethylben	zene	7.8	2.4	mg/Kg	50	3/13/2018 8:59:45 PM	36964				
Xylenes,	Total	110	4.9	mg/Kg	50	3/13/2018 8:59:45 PM	36964				
Surr: 4	l-Bromofluorobenzene	98.7	80-120	%Rec	50	3/13/2018 8:59:45 PM	36964				

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 5 of
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

WO#: **1803595**

14-Mar-18

Client:	Hilcorp	Energy									
Project:	SJ 27-5	110N									
Sample ID LC	ID LCS-36967 SampType: LCS TestCode: EPA Method 8015M/D: Diesel Range Organics										
Client ID: LC	SS	Batch ID: 36967 RunNo: 49733									
Prep Date: 3	/12/2018	Analysis Date: 3/13/2018 SeqNo: 1610106 Units: mg/Kg									
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	52	10	50.00	0	104	70	130			
Surr: DNOP		<mark>5</mark> .1		5.000		102	70	130			
Sample ID ME	B-36967	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: PE	3S	Batch	n ID: 36	967	F	RunNo: 4	9733				
Prep Date: 3	/12/2018	Analysis D	ate: 3/	13/2018	5	SeqNo: 1	610107	Units: mg/k	(g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Orga	anics (DRO)	ND	10								
Motor Oil Range O	rganics (MRO)	ND	50								
Surr: DNOP		11		10.00		107	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 6 of 8

Hild Fr **Client: Project:** SJ 27-5 110N

Hilcorp E	nergy
SI 27 5 1	10NI

Sample ID MB-36964	Samp	SampType: MBLK TestCode: EPA Method 8015D: Gasoline Range								
Client ID: PBS	Batc	h ID: 36	964	R	RunNo: 4	9750				
Prep Date: 3/12/2018	Analysis [Date: 3/	13/2018	S	SeqNo: 1	609795	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Range Organics (GRO)	ND	5.0								
Surr: BFB	930		1000		92.8	15	316			
	64 SampType: LCS TestCode: EPA Method 8015D: Gasoline Range									
Sample ID LCS-36964	Samp	Type: LC	S	Tes	tCode: El	PA Method	8015D: Gaso	line Rang	e	
Sample ID LCS-36964 Client ID: LCSS	Samp Batc	Type: LC	:S 964	Tes R	tCode: El	PA Method 9750	8015D: Gasc	line Rang	e	
Sample ID LCS-36964 Client ID: LCSS Prep Date: 3/12/2018	Samp Batc Analysis [Type: LC h ID: 36 Date: 3/	S 964 13/2018	Tesi R S	tCode: El RunNo: 4 SeqNo: 10	PA Method 9750 609796	8015D: Gasc Units: mg/K	iline Rang	9	
Sample ID LCS-36964 Client ID: LCSS Prep Date: 3/12/2018 Analyte	SampT Batcl Analysis I Result	Fype: LC h ID: 369 Date: 3/ PQL	5 964 13/2018 SPK value	Tes R S SPK Ref Val	tCode: El RunNo: 49 SeqNo: 10 %REC	PA Method 9750 609796 LowLimit	8015D: Gasc Units: mg/K HighLimit	line Rang (g %RPD	e RPDLimit	Qual
Sample ID LCS-36964 Client ID: LCSS Prep Date: 3/12/2018 Analyte Gasoline Range Organics (GRO)	SampT Batcl Analysis E Result 26	Fype: LC h ID: 36 Date: 3/ PQL 5.0	S 964 13/2018 SPK value 25.00	Tes F S SPK Ref Val 0	tCode: El RunNo: 4 SeqNo: 1 <u>%REC</u> 105	PA Method 9750 609796 LowLimit 75.9	8015D: Gasc Units: mg/K HighLimit 131	iline Rang Sg %RPD	e RPDLimit	Qual

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- J Analyte detected below quantitation limits
- Р Sample pH Not In Range
- RL Reporting Detection Limit
- Sample container temperature is out of limit as specified W

Page 7 of 8

1.0

3.1

0.95

0.050

0.10

1.000

3.000

1.000

Client: Hilcorp Energy Project: SJ 27-5 110N

3										
Sample ID MB-36964	Samp	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Volat	iles		
Client ID: PBS	Batc	h ID: 36	964	F	RunNo: 4	9750				
Prep Date: 3/12/2018	Analysis E	Date: 3/	13/2018	5	SeqNo: 1	609836	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	ND	0.10								
Benzene	ND	0.025								
Toluene	ND	0.050								
Ethylbenzene	ND	0.050								
Xylenes, Total	ND	0.10								
Surr: 4-Bromofluorobenzene	0.90		1.000		89.8	80	120			
Sample ID LCS-36964	Samp	Type: LC	S	Tes	tCode: E	PA Method	8021B: Volat	iles		
Client ID: LCSS	Batc	h ID: 36	964	F	RunNo: 4	9750				
Prep Date: 3/12/2018	Analysis [Date: 3/	13/2018	S	SeqNo: 1	609837	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Methyl tert-butyl ether (MTBE)	1.0	0.10	1.000	0	103	70.1	121			
Benzene	1.0	0.025	1.000	0	105	77.3	128			
Toluene	1.0	0.050	1.000	0	104	79.2	125			

0

0

103

105

95.3

80.7

81.6

80

127

129

120

Qualifiers:

Ethylbenzene

Xylenes, Total

Surr: 4-Bromofluorobenzene

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

HALL ENVIRONMENTAL ANALYSIS LABORATORY	Hall Environmental Analysis Labore 4901 Hawkin Albuquerque, NM 8 TEL: 505-345-3975 FAX: 505-345- Website: www.hallenvironmental	Nory s NE 7109 Sample Log-In Check List 1107 com
Client Name: HILCORP ENERGY	Vork Order Number: 1803595	RcptNo: 1
Received By: Isaiah Ortiz 3/1	0/2018 8:00:00 AM	IG
Completed By Isaiah Ortiz 3/1	2/2018 9:26:26 AM	ICH
Reviewed By SPLC 03/12/18	labelid	by: Ay
Chain of Custody		Ũ
1. Is Chain of Custody complete?	Yes 🗹	No Not Present
2. How was the sample delivered?	Courier	
Log In 3. Was an attempt made to cool the samples?	Yes 🗹	No NA
 Were all samples received at a temperature of >0 	* C to 6.0 * C Yes 🗹	No NA
5. Sample(s) in proper container(s)?	Yes 🗸	No 🗌
6. Sufficient sample volume for indicated test(s)?	Yes 🗹	No 🗌
7. Are samples (except VOA and ONG) properly pres	erved? Yes 🗹	No 🗌
8. Was preservative added to bottles?	Yes	No 🗹 NA 🗌
9. VOA vials have zero headspace?	Yes	No 🗌 No VCA Vials 🗹
0. Were any sample containers received broken?	Yes	No 🖌 # of preserved
1. Does paperwork match bottle labels? (Note discrepancies on chain of custody)	Yes 🗹	No for pH: (<2 or >12 unless note
2. Are matrices correctly identified on Chain of Custo	dy? Yes 🗹	No Adjusted?
Is it clear what analyses were requested?	Yes 🗹	No
 Were all holding times able to be met? (If no, notify customer for authorization.) 	Yes 🗹	No Checked by:
pecial Handling (if applicable)		
5. Was client notified of all discrepancies with this or	der? Yes	No NA 🗸
Person Notified	Date:	
By Whom:	Via eMail Pl	hone Fax In Person
Regarding:		
Client Instructions:		
6. Additional remarks:		
7. Cooler Information	ort Cool No Cool Data	Signed Bu
1 0.4 Good Ves	ici Seal No Seal Date	Signed By

C	hain-	of-Cu	istody Record	Tum-Around	Time:																
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	11100			Project Name): 					-		h lles i		13				KA	10	RI	1
Mailing	Address	:111	Travics St	57 27-	5 HON			400	4 11	v	www.	nane		onn	nent	al.co		400			
	Uo	ucha	Tr 77007	Project #:				490	50	SWKIN		2 -) 75	AIDU	oupi	erque	e, Ni	M 87	109			
Phone	# 82	2.8	29-4585				23	16	. 50	Analysis Request					59	1					
email or	Fax#: L	Duma	Se hitoro.com	Project Mana	ger			1						1	- Vore et						
QA/QC	Package:			linde	Dum	15	021	uos	Dies					1.50	B's						
□ Stan	dard		Level 4 (Full Validation)	Linuse																	
Accredi	tation:			Sampler: T	avis Mu	nkres	TTPH (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)							T							
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	(Type)_		T	Sample rem	perature: (9. 1	ATBI	ITBI	pot	pou	Per	Aor	Meta	J.	ticid	S	>-in				SS (Y
Date	Time	Matrix	Sample Request ID	Container	Preservative	HEAL No.	4+7	+	Meth	(Met	(Met	M	480	S (F	Pes	S	(Ser				pple
BUR				Type and #	Туре	1903595	E	E	Hd	Hd	DB	310	SCR	nion	081	260	270				ir Bu
318	1.00	SUL	Nuch Dile	402:00	-		X		V			~	<u>x</u>	◄	8	8	8	-+			A
312	1:00	Sail	South sile	102101		- 002	$\overline{\mathbf{v}}$			-	+	+		+				-+	-		+
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48_	1200	SOL	LUSI	40zjar			A				+		·	-	-	-		-+			+-
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		4 191	3-2-1-1-			of the man	4											and an address of the second	Non-Selected States		-

If necessary, gamples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report,

4/26/18 Sampling Notification and Lab Results

Lindsay Dumas

Lindsay Dumas
Wednesday, April 25, 2018 11:15 AM
'Smith, Cory, EMNRD'
Fields, Vanessa, EMNRD
RE: SJ 27-6 110N - 1803595

Travis Munkres will be on location at 10AM 4-26-18 to sample. Please confirm that this time works for you.

-----Original Message-----From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us] Sent: Monday, April 23, 2018 3:28 PM To: Lindsay Dumas <ldumas@hilcorp.com> Cc: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us> Subject: RE: SJ 27-6 110N - 1803595

Lindsay,

Thursday or Friday before 1:30PM preferably.

Cory Smith Environmental Specialist Oil Conservation Division Energy, Minerals, & Natural Resources 1000 Rio Brazos, Aztec, NM 87410 (505)334-6178 ext 115 cory.smith@state.nm.us

-----Original Message-----From: Lindsay Dumas <ldumas@hilcorp.com> Sent: Monday, April 23, 2018 1:56 PM To: Smith, Cory, EMNRD <Cory.Smith@state.nm.us> Cc: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us> Subject: RE: SJ 27-6 110N - 1803595

Cory - What day this week works for your schedule for us to sample the biopile?

Kind regards,

Lindsay Dumas Environmental Specialist Hilcorp Energy – L48 West Office: 832-839-4585 Mobile: 281-794-9159

-----Original Message-----



Hall Environmental Analysis Laboratory 4901 Hawkins NE Albuquerque, NM 87109 TEL: 505-345-3975 FAX: 505-345-4107 Website: www.hallenvironmental.com

May 01, 2018

Lindsay Dumas Hilcorp Energy PO Box 61529 Houston, TX 77208-1529 TEL: (337) 276-7676 FAX

RE: SJ 27-5 110N Landfarm 2

OrderNo.: 1804D57

Dear Lindsay Dumas:

Hall Environmental Analysis Laboratory received 2 sample(s) on 4/27/2018 for the analyses presented in the following report.

These were analyzed according to EPA procedures or equivalent. To access our accredited tests please go to <u>www.hallenvironmental.com</u> or the state specific web sites. In order to properly interpret your results, it is imperative that you review this report in its entirety. See the sample checklist and/or the Chain of Custody for information regarding the sample receipt temperature and preservation. Data qualifiers or a narrative will be provided if the sample analysis or analytical quality control parameters require a flag. When necessary, data qualifiers are provided on both the sample analysis report and the QC summary report, both sections should be reviewed. All samples are reported, as received, unless otherwise indicated. Lab measurement of analytes considered field parameters that require analysis within 15 minutes of sampling such as pH and residual chlorine are qualified as being analyzed outside of the recommended holding time.

Please don't hesitate to contact HEAL for any additional information or clarifications.

ADHS Cert #AZ0682 -- NMED-DWB Cert #NM9425 -- NMED-Micro Cert #NM0190

Sincerely,

andy

Andy Freeman Laboratory Manager 4901 Hawkins NE Albuquerque, NM 87109

Analytical Report Lab Order 1804D57 Date Reported: 5/1/2018

Hall Environmental Analysis Laboratory, Inc.

 CLIENT: Hilcorp Energy
 Client Sample ID: South 6

 Project:
 SJ 27-5 110N Landfarm 2
 Collection Date: 4/26/2018 10:00:00 AM

 Lab ID:
 1804D57-001
 Matrix: SOIL
 Received Date: 4/27/2018 7:00:00 AM

 Analyses
 Result
 PQL
 Qual
 Units
 DF
 Date Analyzed
 Batch

EPA METHOD 8015M/D: DIESEL RANGE	ORGANIC	S			Analyst:	том
Diesel Range Organics (DRO)	78	9.6	mg/Kg	1	4/30/2018 6:14:30 PM	37838
Motor Oil Range Organics (MRO)	ND	48	mg/Kg	1	4/30/2018 6:14:30 PM	37838
Surr: DNOP	102	70-130	%Rec	1	4/30/2018 6:14:30 PM	37838
EPA METHOD 8015D: GASOLINE RANGE					Analyst:	NSB
Gasoline Range Organics (GRO)	ND	4.7	mg/Kg	1	4/30/2018 11:15:42 AM	37835
Surr: BFB	106	15-316	%Rec	1	4/30/2018 11:15:42 AM	37835
EPA METHOD 8021B: VOLATILES					Analyst:	NSB
Methyl tert-butyl ether (MTBE)	ND	0.094	mg/Kg	1	4/30/2018 11:15:42 AM	37835
Benzene	ND	0.023	mg/Kg	1	4/30/2018 11:15:42 AM	37835
Toluene	ND	0.047	mg/Kg	1	4/30/2018 11:15:42 AM	37835
Ethylbenzene	ND	0.047	mg/Kg	1	4/30/2018 11:15:42 AM	37835
Xylenes, Total	ND	0.094	mg/Kg	1	4/30/2018 11:15:42 AM	37835
Surr: 4-Bromofluorobenzene	104	80-120	%Rec	1	4/30/2018 11:15:42 AM	37835

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	Е	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 1 of 6
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

Date Reported: 5/1/2018

4/30/2018 11:39:03 AM 37835

Hall Environmental Analysis Laboratory, Inc.

Surr: 4-Bromofluorobenzene

CLIENT:	Hilcorp Energy	Client Sample ID: North 6								
Project:	SJ 27-5 110N Landfarm 2		26/2018 10:00:00 AM							
Lab ID:	1804D57-002	Matrix: S	SOIL	Received	Date: 4/2	7/2018 7:00:00 AM				
Analyses		Result	PQL Qua	l Units	DF	Date Analyzed	Batch			
EPA MET	HOD 8015M/D: DIESEL RANG	E ORGANICS				Analyst	том			
Diesel Ra	ange Organics (DRO)	54	9.2	mg/Kg	1	4/30/2018 6:36:45 PM	37838			
Motor Oil	Range Organics (MRO)	ND	46	mg/Kg	1	4/30/2018 6:36:45 PM	37838			
Surr: E	ONOP	107	70-130	%Rec	1	4/30/2018 6:36:45 PM	37838			
EPA MET	HOD 8015D: GASOLINE RAN	GE				Analyst	NSB			
Gasoline	Range Organics (GRO)	ND	4.7	mg/Kg	1	4/30/2018 11:39:03 AM	37835			
Surr: E	3FB	99.0	15-316	%Rec	1	4/30/2018 11:39:03 AM	37835			
EPA MET	HOD 8021B: VOLATILES					Analyst	NSB			
Methyl te	ert-butyl ether (MTBE)	ND	0.095	mg/Kg	1	4/30/2018 11:39:03 AM	37835			
Benzene		ND	0.024	mg/Kg	1	4/30/2018 11:39:03 AM	37835			
Toluene		ND	0.047	mg/Kg	1	4/30/2018 11:39:03 AM	37835			
Ethylben	zene	ND	0.047	mg/Kg	1	4/30/2018 11:39:03 AM	37835			
Xylenes,	Total	ND	0.095	mg/Kg	1	4/30/2018 11:39:03 AM	37835			

80-120

%Rec

1

106

Qualifiers:	*	Value exceeds Maximum Contaminant Level.	В	Analyte detected in the associated Method Blank
	D	Sample Diluted Due to Matrix	E	Value above quantitation range
	Н	Holding times for preparation or analysis exceeded	J	Analyte detected below quantitation limits Page 2 of 6
	ND	Not Detected at the Reporting Limit	Р	Sample pH Not In Range
	PQL	Practical Quanitative Limit	RL	Reporting Detection Limit
	S	% Recovery outside of range due to dilution or matrix	W	Sample container temperature is out of limit as specified

WO#: 1804D57

01-May-18

 Client:
 Hilcorp Energy

 Project:
 SJ 27-5 110N Landfarm 2

 Sample ID
 LCS-37838
 SampType: LCS
 TestCode: EPA Method 8015M/D: Diesel Range Organics

 Client ID:
 LCSS
 Batch ID: 37838
 RunNo: 50909

 Prep Date:
 4/27/2018
 Analysis Date: 4/30/2018
 SeqNo: 1653303
 Units: mg/Kg

Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	48	10	50.00	0	96.0	70	130			
Surr: DNOP	4.8		5.000		96.3	70	130			
Sample ID MB-37838	SampT	ype: ME	BLK	Tes	tCode: El	PA Method	8015M/D: Di	esel Range	e Organics	
Client ID: PBS	Batcl	n ID: 37	838	F	RunNo: 5	0909				
Prep Date: 4/27/2018	Analysis D	ate: 4/	30/2018	S	SeqNo: 1	653304	Units: mg/K	g		
Analyte	Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Diesel Range Organics (DRO)	ND	10								
Motor Oil Range Organics (MRO)	ND	50								
Surr: DNOP	10		10.00		102	70	130			

Qualifiers:

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

Page 3 of 6

Page 4 of 6

01-May-18

Client:	Hilcorp I	Energy								
Project:	SJ 27-5 1	10N Landfarm	12							
Sample ID	MB-37835	SampType:	MBLK	Test	Code: El	PA Method	8015D: Gasol	line Rang	e	
Client ID:	PBS	Batch ID:	37835	R	unNo: 5	0929				
Prep Date:	4/27/2018	Analysis Date:	4/30/2018	S	eqNo: 1	653363	Units: mg/K	g		
Analyte		Result PC	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	e Organics (GRO)	ND	5.0							
Surr: BFB		950	1000		94.9	15	316			
Sample ID	LCS-37835	SampType:	LCS	Test	Code: El	PA Method	8015D: Gasol	ine Rang	e	
Client ID:	LCSS	Batch ID:	37835	R	unNo: 5	0929				
Prep Date:	4/27/2018	Analysis Date:	4/30/2018	S	eqNo: 1	653364	Units: mg/Kg	g		
Analyte		Result PC	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Gasoline Rang	ge Organics (GRO)	26	5.0 25.00	0	105	75.9	131			
Surr: BFB		1100	1000		107	15	316			
Sample ID	MB-37842	SampType:	MBLK	Test	Code: El	PA Method	8015D: Gasol	line Rang	e	
Client ID:	PBS	Batch ID:	37842	R	unNo: 5	0929				
Prep Date:	4/27/2018	Analysis Date:	4/30/2018	S	eqNo: 1	653372	Units: %Rec			
Analyte		Result PC	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		880	1000		87.7	15	316			
Sample ID	LCS-37842	SampType:	LCS	Test	Code: El	PA Method	8015D: Gasol	ine Rang	e	
Client ID:	LCSS	Batch ID:	37842	R	unNo: 5	0929				
Prep Date:	4/27/2018	Analysis Date:	4/30/2018	S	eqNo: 1	653373	Units: %Rec			
Analyte		Result PC	L SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: BFB		1100	1000		106	15	316			

- * Value exceeds Maximum Contaminant Level.
- D Sample Diluted Due to Matrix
- H Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- B Analyte detected in the associated Method Blank
- E Value above quantitation range
- J Analyte detected below quantitation limits
- P Sample pH Not In Range
- RL Reporting Detection Limit
- W Sample container temperature is out of limit as specified

QC	SUMMARY REPORT	
Hall	Environmental Analysis Labor	ratory, Inc.

01-May-18

Client: Project:	Hilcorp SJ 27-5	Energy 110N Land	lfarm 2									
Sample ID	MB-37835	SampT	Гуре: МЕ	BLK	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID:	PBS	Batc	h ID: 37	835	F	RunNo: 50929						
Prep Date:	4/27/2018	Analysis E	Date: 4/	30/2018	S	SeqNo: 1	653384	Units: mg/H	٢g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	_
Methyl tert-buty	yl ether (MTBE)	ND	0.10									
Benzene		ND	0.025									
Toluene		ND	0.050									
Ethylbenzene		ND	0.050									
Xylenes, Total		ND	0.10									
Surr: 4-Brom	nofluorobenzene	1.1		1.000		110	80	120				_
Sample ID	LCS-37835	Samp1	Type: LC	S	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID:	LCSS	Batc	h ID: 37	835	F	RunNo: 5	0929					
Prep Date:	4/27/2018	Analysis [Date: 4/	30/2018	5	SeqNo: 1	653385	Units: mg/k	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	_
Methyl tert-buty	yl ether (MTBE)	0.93	0.10	1.000	0	92.9	70.1	121				
Benzene		0.97	0.025	1.000	0	96.6	77.3	128				
Toluene		0.98	0.050	1.000	0	98.4	79.2	125				
Ethylbenzene		0.97	0.050	1.000	0	96.7	80.7	127				
Xylenes, Total		3.0	0.10	3.000	0	99.7	81.6	129				
Surr: 4-Brom	nofluorobenzene	1.1		1.000		109	80	120				_
Sample ID	1804D57-002AM	S Samp1	Гуре: МЗ	6	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID:	North 6	Batc	h ID: 37	835	RunNo: 50929							
Prep Date:	4/27/2018	Analysis E	Date: 4/	30/2018	5	SeqNo: 1	653388	Units: mg/k	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Methyl tert-buty	yl ether (MTBE)	0.88	0.094	0.9363	0	94.4	56.9	130				
Benzene		0.90	0.023	0.9363	0	95.6	68.5	133				
Toluene		0.92	0.047	0.9363	0.008357	97.4	75	130				
Ethylbenzene		0.92	0.047	0.9363	0.01235	97.4	79.4	128				
Xylenes, Total		2.8	0.094	2.809	0.01709	101	77.3	131				
Surr: 4-Brom	nofluorobenzene	0.99		0.9363		106	80	120				_
Sample ID	1804D57-002AM	SD Samp1	Гуре: МS	SD	Tes	tCode: El	PA Method	8021B: Vola	tiles			
Client ID:	North 6	Batcl	h ID: 37	835	F	RunNo: 5	0929					
Prep Date:	4/27/2018	Analysis E	Date: 4/	30/2018	S	SeqNo: 1	653389	Units: mg/k	(g			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual	
Methyl tert-buty	yl ether (MTBE)	0.85	0.095	0.9533	0	89.5	56.9	130	3.61	20		
Benzene		0.85	0.024	0.9533	0	89.6	68.5	133	4.66	20		
Toluene		0.91	0.048	0.9533	0.008357	95.0	75	130	0.677	20		
Ethylbenzene		0.93	0.048	0.9533	0.01235	96.5	79.4	128	0.808	20		
Qualifiers: * Value	exceeds Maximum	Contaminant	Level.		B Analyte	detected in	n the associat	ted Method Bla	ink			

- Sample Diluted Due to Matrix D
- Н Holding times for preparation or analysis exceeded
- ND Not Detected at the Reporting Limit
- PQL Practical Quanitative Limit
- S % Recovery outside of range due to dilution or matrix
- Value above quantitation range Е
- J Analyte detected below quantitation limits

- Р Sample pH Not In Range Reporting Detection Limit RL
- W Sample container temperature is out of limit as specified

Page 5 of 6

QC SUMMARY REPORT

Value exceeds Maximum Contaminant Level.

Practical Quanitative Limit PQL

Sample Diluted Due to Matrix

Qualifiers: *

D

Н

ND

- S % Recovery outside of range due to dilution or matrix
- В Analyte detected in the associated Method Blank
- Е Value above quantitation range
- Analyte detected below quantitation limits J
- Р Sample pH Not In Range
- Reporting Detection Limit RL
- W Sample container temperature is out of limit as specified

Project:	SJ 27-5 1	10N Landfa	rm 2								
Sample ID	1804D57-002AMS	D SampTyp	be: MS	SD	Tes	tCode: El	PA Method	8021B: Volati	les		
Client ID:	North 6	Batch I	D: 37	835	R	RunNo: 5	0929				
Prep Date:	4/27/2018	Analysis Dat	te: 4/	30/2018	S	SeqNo: 1	653389	Units: mg/K	g		
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Xylenes, Total		2.9	0.095	2.860	0.01709	100	77.3	131	1.60	20	
Surr: 4-Brom	nofluorobenzene	0.97		0.9533		102	80	120	0	0	
Sample ID MB-37842 SampType: MBLK TestCode: EPA Method 8021B: Volatiles											
Client ID:	PBS	Batch ID: 37842 RunNo: 50929									
Prep Date:	4/27/2018	Analysis Dat	te: 4/	30/2018	S	SeqNo: 1	653392	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Brom	nofluorobenzene	1.0		1.000		101	80	120			
Sample ID	LCS-37842	SampTy	be: LC	s	Test	tCode: El	PA Method	8021B: Volati	les		
Client ID:	LCSS	Batch I	D: 37	842	R	RunNo: 5	0929				
Prep Date:	4/27/2018	Analysis Dat	te: 4/	30/2018	S	SeqNo: 1	653393	Units: %Rec			
Analyte		Result	PQL	SPK value	SPK Ref Val	%REC	LowLimit	HighLimit	%RPD	RPDLimit	Qual
Surr: 4-Brom	ofluorobenzene	11		1 000		109	80	120			

Client: Hilcorp Energy CL 07 5 11011 10 -

Hall Environmental Analysis Laboratory, Inc.

WO#: 1804D57

01-May-18

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HALL Hai ENVIRONMENTAL ANALYSIS LABORATORY	ll Envirc tal Analysis Labo 4901 Hawk Albuquerque, NM L: 505-345-3975 FAX: 505-34 Website: www.hallenvironment	natory ins NE 87109 Sam 5-4107 al.com	ple Log-In Check List
Client Name: HILCORP ENERGY Work	Order Number: 1804D57		RcptNo: 1
	× 3. ×		
Received By: Anne Thome 4/27/20	18 7:00:00 AM	anne Am	- · · · ·
Completed By: Anne Thorne 4/27/20	18 7:44:01 AM	Den A.	
Reviewed By: IMO 427	18	Crane pro-	
MW 4/27/18 Chain of Custody			
1. Is Chain of Custody complete?	Yes 🗹	No 🗌	Not Present
2 How was the sample delivered?	Courier		
The second se			
Log In	Var de	No 🗌	
Was an attempt made to cool the samples?	Yes 🖤	. NO 🗀 .	
4. Were all samples received at a temperature of >0° C	to 6.0°C Yes 🖌	No 🗌	
5. Sample(s) in proper container(s)?	Yes 🗹	No 🗌 .	
6. Sufficient sample volume for indicated test(s)?	Yes 🖌	No 🗌	
7. Are samples (except VOA and ONG) properly preserve	ed? Yes 🗹	No 🗌	
8. Was preservative added to bottles?	Yes 🗌	No 🗹	NA 🗌
9. VOA vials have zero headspace?	Yes	No 🗌	No VOA Vials 🗹
10, Were any sample containers received broken?	Yes	No 🗹	
11. Does paperwork match bottle labels?	Yes 🔽	No 🗌	# of preserved bottles checked for pH:
(Note discrepancies on chain of custody)	Vac V	No 🗍	Adjusted
13. Is it clear what analyses were requested?	Yes 🗸		and
14. Were all holding times able to be met? (If no, notify customer for authorization.)	Yes 🗸	No 🗆	Checked by:
Special Handling (if applicable)			*., ·
15. Was client notified of all discrepancies with this order?	Yes 🗌	No 🗋	NA 🗹
Person Notified:	Date	and an	
By Whom:	Via: 🗌 eMail 🗌	Phone 🗌 Fax	In Person
Regarding:			
Client Instructions:			
16. Additional remarks:			5
17. <u>Cooler Information</u> <u>Cooler No</u> Temp °C Condition Seal Intact 1 1.0 Good Yes	Seal No Seal Date	Signed By	
•			

С	hain	-of-Cu	stody Record	Turn-Around	Time:]											.			I
Client:	Hilcon	pEn	ergy Company	Standard	🗆 Rush					A		LL Al	YS	STS	S L	AF	30	RA	TC	AI DR	Y
			J 1 1 0	Project Name	Э:				N.	-		v hol	lonu	iron	mon	toloc					
Mailing	Address		Travis St.	5527-5	5110N L	andfarm-2	4901 Hawkins NE - Albuquerque, NM 87109														
	How	ston. T	X 77002	Project #:		an ya ku ana ang ang ang ang ang ang ang ang ang		Te	al. 50)5-34	15-39	975	F	Fax	505	-345	-4107	7			
Phone a	#: 83	2-83	9-4585									A	naly	/sis	Req	uest			lta		
email or	r Fax#: [Dum	as@hilcorp.com	Project Mana	iger:		=	Ô					04			nt)	ľ				
QA/QC Package:			Lindsa	y Dumo	XS	302	MR	B's		NS		4, S			bse						
🗆 Stan	dard		Level 4 (Full Validation)			•	3's (8	102	PC		0SIN		PO,			nt/A					
Accredi	tation:	Az Co	mpliance	Sampler: TY	Favis Mu	inkres	TME	DID!	3082		827		NO2			ese					
	AC	□ Other		On Ice:	XYes	<u>⊡ No</u>	1 m	RO	es/8	50	0 or	s	3, 1		OA	(Pr					
	(Type)	1		# of Coolers:	of Coolers:			D(G	ticid	thod	831(Aeta	N	(A	V-in	form					
				Container	Preservative	HEALNo	TEX / N	PH:8015	181 Pes	DB (Met	AHs by	CRA 8 N	, F, Br,	260 (VO	270 (Ser	otal Coli					
Date	Time	Matrix	Sample Name	Type and #	Туре	1804351	m	F	. 8	Ξ	A	R	Ö	8	8	Ĕ	\vdash		\rightarrow		_
4/210/18	IVAM	Soil	Jouth 6	Hoziar		-601	X	\times											·	_	
4/24/18	IOAM	Soil	North Le	Hoziar		-262	$\cdot \times$	\times													
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Date:	Time:	Relinquish	ed by:	Received by Via: Date Time				AFE # 1850852													
120/18-1030 / Thristin L. Dalla				1 m	an A	000															

If necessary, sakoples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

5/7/18 Potassium Permanganate Spraying

Lindsay Dumas

From:	Lindsay Dumas
Sent:	Wednesday, May 2, 2018 4:08 PM
То:	'Smith, Cory, EMNRD'; Fields, Vanessa, EMNRD
Subject:	RE: SJ 27-5 110N Landfarm Results

Currently, the excavation is scheduled to be sprayed with potassium permanganate on May 7th and backfilled on May 8th. Please let me know if you have any concerns.

Kind regards,

Lindsay Dumas Environmental Specialist Hilcorp Energy – L48 West Office: 832-839-4585 Mobile: 281-794-9159

From: Smith, Cory, EMNRD [mailto:Cory.Smith@state.nm.us]
Sent: Wednesday, May 2, 2018 8:01 AM
To: Lindsay Dumas <ldumas@hilcorp.com>; Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Subject: RE: SJ 27-5 110N Landfarm Results

Lindsay,

Do you have the samples from the last round of excavation sampling?

Cory Smith Environmental Specialist Oil Conservation Division Energy, Minerals, & Natural Resources 1000 Rio Brazos, Aztec, NM 87410 (505)334-6178 ext 115 cory.smith@state.nm.us

From: Lindsay Dumas <ldumas@hilcorp.com>
Sent: Tuesday, May 1, 2018 12:08 PM
To: Smith, Cory, EMNRD <<u>Cory.Smith@state.nm.us</u>>; Fields, Vanessa, EMNRD <<u>Vanessa.Fields@state.nm.us</u>>
Subject: SJ 27-5 110N Landfarm Results

Please see the attached landfarm results. Based on these I'd like to propose spraying the existing excavation with potassium permanganate and backfilling with the remediated soil. Should I send an updated C-141 with this info?

Kind regards,

Lindsay Dumas Environmental Specialist Hilcorp Energy – L48 West Office: 832-839-4585 Mobile: 281-794-9159

Hilcorp Energy Company's address is 1111 Travis St, Houston, TX 77002

NRE Field Services, LLC 3040 Southside River Road Farmington, NM 87401 505-258-4259 office@nrefieldservices.com Invoice



AILL TO Hilcorp San Juan, L.P. c/o Hilcorp Energy Company PO Box 61529 Houston, TX 77208-1529

INVOICE #	DATE	TOTAL DUE	DUE DATE	TERMS	ENCLOSED
1390	05/10/2018	\$729.70	06/09/2018	Net 30	
		5			

-SALES REP

Travis Munkres

DATE	ACTIVITY	OTY	RATE	AMOUNT
05/07/2018	7009 - Unit 7009 Unit 7009	4	18.00	72.00T
05/07/2018	Potassium Permanganate Potassium	2.50	100.00	250.00T
05/07/2018	Water Trailer Charge Water Trailer Charge	4	15.00	60.00T
05/07/2018	Roustabout Operator Roustabout Operator	4	40.00	160.00T
05/07/2018	Roustabout Laborer Roustabout Laborer	4	34.00	136.00T
San Juan 27-	5 Unit 110N	SUB.	TOTAL	678.00
Spray location	n with Potassium Permangant	e TAX	(7.625%)	51.70
Thank you for	vour business	TOT	AL	729.70
indin you for	your outerroot	BALA	ANCE DUE	\$729.70

Hilcorp Energy Company	
Travis Munkres	
AFE #: 1850852	
Billing Category: 9/10.113	
Signature: Trai Much	
Date: 5/22/18	-
	and the second sec

6/27/18 Vadose Zone Sampling and Lab Results



ANALYTICAL REPORT

July 09, 2018

HilCorp-Farmington, NM

Sample Delivery Group: Samples Received: Project Number: Description: Site: Report To: L1005502 06/29/2018

SJ 27-5 UNIT 110N Kurt Hoekstra and Lindsay Dumas 382 Road 3100 Aztec, NM 87401

Entire Report Reviewed By:

Naphne R Richards

Daphne Richards Technical Service Representative

Results relate only to the items tested or calibrated and are reported as rounded values. This test report shall not be reproduced, except in full, without written approval of the laboratory. Where applicable, sampling conducted by Pace National is performed per guidance provided in laboratory standard operating procedures: 060302, 060303, and 060304.

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Cn

Sr

Qc

GI

AI

Sc

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Cn: Case Narrative	4				
Sr: Sample Results	5				
S VADOS L1005502-01	5				
N VADOS L1005502-02	6				
Qc: Quality Control Summary					
Volatile Organic Compounds (GC) by Method 8015/8021	7				
Semi-Volatile Organic Compounds (GC) by Method 8015	9				
GI: Glossary of Terms	10				
Al: Accreditations & Locations	11				
Sc: Sample Chain of Custody	12				

 ACCOUNT:
 PROJECT:
 SDG:
 DATE/TIME:

 HilCorp-Farmington, NM
 L1005502
 07/09/18 09:10

PAGE: 2 of 12

SAMPLE SUMMARY

ONE LAB. NATIONWIDE.

S VADOS 11005502-01 Solid			Collected by Kurt	Collected date/time 06/27/18 13:50	Received date/time 06/29/18 08:45
Method	Batch	Dilution	Preparation	Analysis	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1132779	1	06/29/18 10:30	07/02/18 15:54	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1133536	1	07/05/18 18:32	07/06/18 16:57	MTJ
N VADOS L1005502-02 Solid			Collected by Kurt	Collected date/time 06/28/18 13:55	Received date/time 06/29/18 08:45
Method	Batch	Dilution	Preparation	Analysis date/time	Analyst
Volatile Organic Compounds (GC) by Method 8015/8021	WG1132779	1	06/29/18 10:30	07/02/18 15:33	BMB
Semi-Volatile Organic Compounds (GC) by Method 8015	WG1133536	1	07/05/18 18:32	07/06/18 16:30	MTJ

ACCOUNT: HilCorp-Farmington, NM

CASE NARRATIVE

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 radiochemical sample results for solids are reported on a dry weight basis with the exception of tritium, carbon-14 and radon, unless wet weight was requested by the client. 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.

Japline R Richards

Daphne Richards Technical Service Representative





DATE/TIME: 07/09/18 09:10

S VADOS Collected date/time: 06/27/18 13:50

SAMPLE RESULTS - 01

Sc

PAGE:

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Volatile Organic Compounds (GC) by Method 8015/8021

	Result	Qualifier	RDL	Dilution	Analysis	Batch	СР
Analyte	mg/kg		mg/kg		date / time		2
Benzene	0.00105		0.000500	1	07/02/2018 15:54	WG1132779	Tc
Toluene	ND		0.00500	1	07/02/2018 15:54	WG1132779	
Ethylbenzene	ND		0.000500	1	07/02/2018 15:54	WG1132779	3 Sc
Total Xylene	ND		0.00150	1	07/02/2018 15:54	WG1132779	55
TPH (GC/FID) Low Fraction	ND		0.100	1	07/02/2018 15:54	WG1132779	4
(S) a,a,a-Trifluorotoluene(FID)	99.5		77.0-120		07/02/2018 15:54	WG1132779	Cn
(S) a,a,a-Trifluorotoluene(PID)	105		75.0-128		07/02/2018 15:54	WG1132779	

Semi-Volatile Organic Compounds (GC) by Method 8015

ACCOUNT:

HilCorp-Farmington, NM

	Result	Qualifier	RDL	Dilution	Analysis	Batch	600
Analyte	mg/kg		mg/kg		date / time		QC
C10-C28 Diesel Range	31.9		4.00	1	07/06/2018 16:57	WG1133536	7
C28-C40 Oil Range	11.4		4.00	1	07/06/2018 16:57	WG1133536	GI
(S) o-Terphenyl	75.1		18.0-148		07/06/2018 16:57	WG1133536	
							⁸ Al

SDG:

L1005502

PROJECT:

DATE/TIME:

07/09/18 09:10

Collected date/time: 06/28/18 13:55

SAMPLE RESULTS - 02

Sc

Volatile Organic Compounds (GC) by Method 8015/8021

	Result	Qualifier	RDL	Dilution	Analysis	Batch	Ch
Analyte	mg/kg		mg/kg		date / time		2
Benzene	0.00155		0.000500	1	07/02/2018 15:33	WG1132779	Tc
Toluene	ND		0.00500	1	07/02/2018 15:33	WG1132779	
Ethylbenzene	ND		0.000500	1	07/02/2018 15:33	WG1132779	³ Sc
Total Xylene	ND		0.00150	1	07/02/2018 15:33	WG1132779	55
TPH (GC/FID) Low Fraction	ND		0.100	1	07/02/2018 15:33	WG1132779	4
(S) a,a,a-Trifluorotoluene(FID)	99.3		77.0-120		07/02/2018 15:33	WG1132779	Cn
(S) a,a,a-Trifluorotoluene(PID)	106		75.0-128		07/02/2018 15:33	WG1132779	

Semi-Volatile Organic Compounds (GC) by Method 8015

	Result	Qualifier	RDL	Dilution	Analysis	Batch	6
Analyte	mg/kg		mg/kg		date / time		QC
C10-C28 Diesel Range	22.1		4.00	1	07/06/2018 16:30	WG1133536	7
C28-C40 Oil Range	7.72		4.00	1	07/06/2018 16:30	WG1133536	GI
(S) o-Terphenyl	77.3		18.0-148		07/06/2018 16:30	WG1133536	
							⁸ Al

WG1132779

Volatile Organic Compounds (GC) by Method 8015/8021

QUALITY CONTROL SUMMARY L1005502-01,02

ONE LAB. NATIONWIDE.

Ср

Тс

Ss

Cn

Sr

Method Blank (MB)

(MB) R3322588-4 07/02	/18 11:07				
	MB Result	MB Qualifier	MB MDL	MB RDL	
Analyte	mg/kg		mg/kg	mg/kg	
Benzene	U		0.000120	0.000500	
Toluene	U		0.000150	0.00500	
Ethylbenzene	U		0.000110	0.000500	
Total Xylene	U		0.000460	0.00150	
TPH (GC/FID) Low Fraction	U		0.0217	0.100	
(S) a,a,a-Trifluorotoluene(FID)	101			77.0-120	
(S) a,a,a-Trifluorotoluene(PID)	108			75.0-128	

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

Laboratory Contro	I Sample (L	CS) • Labo	ratory Con	trol Sample	e Duplicate	e (LCSD)					7			
(LCS) R3322588-1 07/02	_CS) R3322588-1 07/02/18 09:22 • (LCSD) R3322588-2 07/02/18 09:43													
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits				
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%	⁸ Al			
Benzene	0.0500	0.0444	0.0449	88.8	89.7	71.0-121			1.06	20				
Toluene	0.0500	0.0466	0.0469	93.3	93.8	72.0-120			0.548	20	9			
Ethylbenzene	0.0500	0.0533	0.0535	107	107	76.0-121			0.428	20	Sc			
Total Xylene	0.150	0.163	0.163	109	109	75.0-124			0.184	20				
(S) a,a,a-Trifluorotoluene(FID)				99.9	99.6	77.0-120								
(S) a,a,a-Trifluorotoluene(PID)				104	104	75.0-128								

Laboratory Control Sample (LCS)

(LCS) R3322588-3 07/02	2/18 10:25				
	Spike Amount	LCS Result	LCS Rec.	Rec. Limits	LCS Qualifier
Analyte	mg/kg	mg/kg	%	%	
TPH (GC/FID) Low Fraction	5.50	5.26	95.7	70.0-136	
(S) a,a,a-Trifluorotoluene(FID)			85.6	77.0-120	
(S) a,a,a-Trifluorotoluene(PID)			111	75.0-128	

ACCOUNT:	
HilCorp-Farmington,	NM

SDG: L1005502

WG1132779

Volatile Organic Compounds (GC) by Method 8015/8021

QUALITY CONTROL SUMMARY

ONE LAB. NATIONWIDE.

L1004629-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

	()					/						1	Cn
/18 16:36 • (MS)	R3322588-5 C	7/02/18 16:57	7 • (MSD) R3322	2588-6 07/02	2/18 17:18								Ср
Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits	2	
mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%	2_	Тс
0.0500	13.3	66.4	65.7	106	105	1000	10.0-146			1.10	29		
0.0500	155	186	212	62.6	115	1000	10.0-143			13.1	30	3,	Sc
0.0500	80.0	129	136	98.5	111	1000	10.0-147			4.78	31		55
0.150	543	612	640	46.0	64.7	1000	10.0-149	E J6	E J6	4.47	30	4	
				101	96.6		77.0-120					L C	Cn
				107	107		75.0-128					5	Sr
	/18 16:36 • (MS) Spike Amount mg/kg 0.0500 0.0500 0.0500 0.150	/18 16:36 • (MS) R3322588-5 C Spike Amount Original Result mg/kg mg/kg 0.0500 13.3 0.0500 155 0.0500 80.0 0.150 543	/18 16:36 • (MS) R3322588-5 07/02/18 16:57 Spike Amount Original Result MS Result mg/kg mg/kg mg/kg 0.0500 13.3 66.4 0.0500 155 186 0.0500 80.0 129 0.150 543 612	/18 16:36 • (MS) R3322588-5 O7/O2/18 16:57 • (MSD) R3322 Spike Amount Original Result MS Result MSD Result mg/kg mg/kg mg/kg mg/kg 0.0500 13.3 66.4 65.7 0.0500 155 186 212 0.0500 80.0 129 136 0.150 543 612 640	/18 16:36 • (MS) R3322588-5 07/02/18 16:57 • (MSD) R3322588-6 07/02 Spike Amount Original Result MS Result MSD Result MSD Result MS Rec. mg/kg mg/kg mg/kg mg/kg % 0.0500 13.3 66.4 65.7 106 0.0500 155 186 212 62.6 0.0500 98.5 0.150 543 612 640 46.0 101 107	/18 16:36 • (MS) R3322588-5 07/02/18 16:57 • (MSD) R3322588-6 07/02/18 17:18 Spike Amount Original Result MS Result MSD Result MSD Rec. MSD Rec. mg/kg mg/kg mg/kg mg/kg % % 0.0500 13.3 66.4 65.7 106 105 0.0500 155 186 212 62.6 115 0.0500 80.0 129 136 98.5 111 0.150 543 612 640 46.0 64.7 101 96.6 107 107 107	MSD Result MSD Result <td>MSD Result MSD Result<td>MSD Result MSD Result<td>MSD Cashpic (L2 y) MSD Result mg/kg <</td><td>MSD County MSD Result MSD Result<td>MSD Caulifier MSD Caulifier MSD Qualifier MSD Qualifier<</td><td>Spike Amount mg/kg Original Result mg/kg MS Result mg/kg MS Result mg/kg MS Result % MS Rec. MSD Rec. Dilution % Rec. Limits % MS Qualifier % MSD Qualifier % RPD RPD Limits % RPD RPD Limits % RPD RPD Limits % RPD RPD Limits RPD RP</td></td></td></td>	MSD Result MSD Result <td>MSD Result MSD Result<td>MSD Cashpic (L2 y) MSD Result mg/kg <</td><td>MSD County MSD Result MSD Result<td>MSD Caulifier MSD Caulifier MSD Qualifier MSD Qualifier<</td><td>Spike Amount mg/kg Original Result mg/kg MS Result mg/kg MS Result mg/kg MS Result % MS Rec. MSD Rec. Dilution % Rec. Limits % MS Qualifier % MSD Qualifier % RPD RPD Limits % RPD RPD Limits % RPD RPD Limits % RPD RPD Limits RPD RP</td></td></td>	MSD Result MSD Result <td>MSD Cashpic (L2 y) MSD Result mg/kg <</td> <td>MSD County MSD Result MSD Result<td>MSD Caulifier MSD Caulifier MSD Qualifier MSD Qualifier<</td><td>Spike Amount mg/kg Original Result mg/kg MS Result mg/kg MS Result mg/kg MS Result % MS Rec. MSD Rec. Dilution % Rec. Limits % MS Qualifier % MSD Qualifier % RPD RPD Limits % RPD RPD Limits % RPD RPD Limits % RPD RPD Limits RPD RP</td></td>	MSD Cashpic (L2 y) MSD Result mg/kg <	MSD County MSD Result MSD Result <td>MSD Caulifier MSD Caulifier MSD Qualifier MSD Qualifier<</td> <td>Spike Amount mg/kg Original Result mg/kg MS Result mg/kg MS Result mg/kg MS Result % MS Rec. MSD Rec. Dilution % Rec. Limits % MS Qualifier % MSD Qualifier % RPD RPD Limits % RPD RPD Limits % RPD RPD Limits % RPD RPD Limits RPD RP</td>	MSD Caulifier MSD Caulifier MSD Qualifier MSD Qualifier<	Spike Amount mg/kg Original Result mg/kg MS Result mg/kg MS Result mg/kg MS Result % MS Rec. MSD Rec. Dilution % Rec. Limits % MS Qualifier % MSD Qualifier % RPD RPD Limits % RPD RPD Limits % RPD RPD Limits % RPD RPD Limits RPD RP

L1004629-01 Original Sample (OS) • Matrix Spike (MS) • Matrix Spike Duplicate (MSD)

OS) L1004629-01 07/02/18 16:36 • (MS) R3322588-7 07/02/18 17:39 • (MSD) R3322588-8 07/02/18 18:00												7	
	Spike Amount	Original Result	MS Result	MSD Result	MS Rec.	MSD Rec.	Dilution	Rec. Limits	MS Qualifier	MSD Qualifier	RPD	RPD Limits	GI
Analyte	mg/kg	mg/kg	mg/kg	mg/kg	%	%		%			%	%	
TPH (GC/FID) Low Fraction	5.50	6210	10700	10800	82.0	82.7	1000	10.0-147			0.351	30	⁸ Al
(S) a,a,a-Trifluorotoluene(FID)					92.4	92.4		77.0-120					0
(S) a,a,a-Trifluorotoluene(PID)					113	114		75.0-128					Sc

ACCOUNT:	
HilCorp-Farmington,	NN

DATE/TIME: 07/09/18 09:10

WG1133536

Semi-Volatile Organic Compounds (GC) by Method 8015

QUALITY CONTROL SUMMARY L1005502-01,02

ONE LAB. NATIONWIDE.

Method Blank (MB)

(MB) R3323648-1 07/06	5/18 13:59				
	MB Result	MB Qualifier	MB MDL	MB RDL	2
Analyte	mg/kg		mg/kg	mg/kg	T
C10-C28 Diesel Range	U		1.61	4.00	
C28-C40 Oil Range	U		0.274	4.00	3
(S) o-Terphenyl	88.6			18.0-148	
(-) - · · · / · · · ·) ·					

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

(LCS) R3323648-2 07/	06/18 14:13 • (LCSI	D) R3323648	3 07/06/18 14:2	26								⁵ Sr
	Spike Amount	LCS Result	LCSD Result	LCS Rec.	LCSD Rec.	Rec. Limits	LCS Qualifier	LCSD Qualifier	RPD	RPD Limits		
Analyte	mg/kg	mg/kg	mg/kg	%	%	%			%	%		
C10-C28 Diesel Range	50.0	47.2	50.0	94.3	100	50.0-150			5.92	20	ANT ((1)) (2) (MONORMON) IN COMPANY ON COMPANY ON THE CONTRACT OF THE COMPANY OF THE COMPANY OF THE COMPANY OF T	
(S) o-Terphenyl				94.0	102	18.0-148						



ACCOUNT:		
HilCorp-Farmington,	NM	

DATE/TIME: 07/09/18 09:10

GLOSSARY OF TERMS

-

Ср

Tc

Ss

Cn

Sr

Qc

AI

Sc

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.

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.
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

Qualmer	Description
E	The analyte concentration exceeds the upper limit of the calibration range of the instrument established by the initial calibration (ICAL).
J6	The sample matrix interfered with the ability to make any accurate determination; spike value is low.

ACCREDITATIONS & LOCATIONS

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 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	Nobraska	NE OS 15.05
Aldudiid	40000	Neurada	TN 02 2002 24
Alaska	17-026	Nevada	2075
Arizona	A20612	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
lowa	364	Pennsylvania	68-02979
Kansas	E-10277	Rhode Island	LAO00356
Kentucky 16	90010	South Carolina	84004
Kentucky ²	16	South Dakota	n/a
Louisiana	AI30792	Tennessee 14	2006
Louisiana 1	LA180010	Texas	T 104704245-17-14
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.



PAGE: 11 of 12

Hilforn			Billing Info	rmation:		1			A	nalysis / Contai	ner / Preserv	ative		Chain of Custor	ty Pageof	
Road 3100 Aztec, NM 87401						Pres Chk	0							_ *]	ESC	
			1.15			er i	He							L+A+B S	·C-I-E-N-C-E-S	
Report to: Email To: Email To: Kurt Hoekstra khoeks				ekstra@hilcorp.com		5	N '9							12065 Lobaron A Mount Juliet, TN Phone: 615,755		
Project Description:				City/State Collected:			ek.							Phone: 800-767-5 Fax: 615-758-585		
Phone: Fax:	Client Project	#		Lab Project #			Deo							L# /00	018	
Collected by (print):	Site/Facility ID	Site/Facility ID # S.J. 27-5 USUT 110N Rush? (Lab MUST Be Notified) Same Day Five Day			.0.# Quote #		8015-	120						Acctnum: HI	LCORANM	
Collected by (signature):	Rush? (L. Same Da							80						Template: Prelogin:		
Immediately Packed on Ice N Y X	Next Day Two Day Three Da		y (Rad Only) ay (Rad Only) NDA (L)	Date Re	AROWD	No.	Hd	TEX						TSR: PB:		
Sample ID	Comp/Grab	Matrix *	Depth	Date	Time	Catrs	F	8						Shipped Via: Remarks	Sample # (lab only)	
S. VADOS	Comp	5	0-6	6-27-19	8 1:50	1	X	X							61	
N. VADOS	Comp	5	0-6"	6-27-19	8 1:55	1	×	X							n	
		<u></u>				1										
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						-										
* Matrix: SS - Soil AIR - Air F - Filter GW - Groundwater B - Bioassay WW - WasteWater DW - Drinking Water OT - Other	Remarks: pH Temp COC Segned/Accurate: NP OCC Signed/Accurate: Bottles arrive intact; NP										Checklist ot: NP Y N NP N					
	Samples return UPSFe	returned via: FedExCourier Tracking # 73					5 8947 4790 Correct bottles Sufficient volue							ct bottles used: cient volume sent If Applics	able X	
Relinquistred by (sympture)		Date:	8-18	ime: 7:00	ature)			1	Trip Blank Received: Yes No ⁷ HCL / MeoH			Preservation Correct/Checked: Y _N				
Revinquished by (Signature) Date:		Date:	1	ime:	Received by: (Signature)					Temp: °C Bottles Received:				If preservation required by Login: Date/Time		
Relinquished by : (Signature)		Date:	1	ime:	Received for lab by	E (Siers	ture)			Date: 0	S Time:	45	Hold:		Condition: NCF / DY	