



CLOSURE REPORT

VERMEJO SWD #1

DOR: 7.11.18

2RP-4882

API NO. 30-015-40644

LEGALS: U/L O, S15, R28E

EDDY COUNTY, NEW MEXICO

PREPARED FOR: SPUR ENERGY PARTNERS

PREPARED BY: HUNGRY HORSE, LLC



February 15, 2020

Spur Energy Partners
920 Memorial City Way, Suite 1000
Houston, Texas 77024

New Mexico Energy, Minerals & Natural Resources
NMOCD District II
C/O Brad Billings, Mike Bratcher, Robert Hamlet & Victoria Venegas
811 S. First Street
Artesia, NM 88210

Bureau of Land Management
C/O Jim Amos
620 E. Green Street
Carlsbad, NM 88220

Subject: Closure Request for Spur Energy Partners
Location: Vermejo SWD #1
API No. 30-015-40644

SITE DESCRIPTION

The release site is within Unit Letter O, Section 15, Township 17 South, Range 28E in Eddy County, east of Artesia, New Mexico. The impacted area is found on the lease road that leads up to the Vermejo SWD #1 and on the north and south pasture areas surrounding the lease road. The release occurred under Percussion Petroleum Operating, LLC and was then transferred under Spur Energy Partners on June 28th 2019. (Please See Site Map attached)

BACKGROUND

The release was found on July 11th of 2018 at approximately 12:00PM. A flowline leak was located on the east side of the lease road for the Vermejo SWD #1. Immediately a vacuum truck was dispatched to the area of the release to recover standing fluid from the road and pasture area. It was also noted that a 3" check valve sealed shut at the facility, which caused the flowline to pressure up and leak. All of the pumps leading to the facility were immediately shut off. The damaged line was isolated and repaired, and the check valve was inspected for future use. (Please see the C141 attached)

Approximately 60bbls of produced water was released due to the flowline leak and approximately 15bbls of produced water was recovered. An email was sent from Percussion Petroleum Operating, LLC to Mike Bratcher on the same day of the release at 6:02pm.

SCOPE OF WORK

On May 8th of 2019, White Buffalo Environmental was contacted by Percussion Petroleum to conduct a site assessment of the impacted area. Upon arrival, it was noted that a lack of vegetation in and around the north and south sides of the lease road was observed. An initial delineation of the site was performed, and contamination was discovered. At this time a full remediation of the impacted area was required.

The remediation of the site then transferred over to Hungry Horse, LLC. Hungry Horse, LLC scope of services is to remediate the magnitude and extent of the documented release in accordance with the NMOCD requirements. No Remedial Action Plan (RAP) was submitted due to the purchase of Percussion by Spur Energy. This remediation project needed to be finalized immediately.

Groundwater Data

A water well record search of the New Mexico Office of the State Engineer (NMOSE) Potable Water Well (POD) Geographic Information System (GIS) data portal identified that no ground water was found within 1000' from the release site. Further investigation showed that one registered well (POD# RA 12307) was identified northeast at 2,542' (.48 Miles) from the site with a known depth of 58 ft. below ground surface (bgs). Another registered well (POD# RA 12456) was identified southwest at 6,194' (1.17 Miles) with a known depth of 92' bgs. The use of this land is predominantly used for commercial oil and gas production and the nearest well (POD# RA 12307) is being utilized for to set the site ground water data.

Distance to the nearest surface water is 21.27 miles southwest of the site detailed herein. This surface water is the Brantley Lake. (Please see the Ground Water Data and Mapping of Groundwater attached)

SOIL CHARACTERISTICS

A soil search was conducted by using the United States Department of Agriculture Natural Resources Conservation Services (USDA) website. The type of soil found at the site in question is sandy loam/loamy sand, which was observed during delineation and remediation processes.

KARST CHARACTERISTICS

The evaluated data from the NMOCD Public FTP Site was used to determine the Karst Map designations in reference to the release site. Based on the site assessment with in the extent of the release the potential for Karst formations in this specific area are of low potential. (Please see the Karst Map attached)

CLOSURE CRITERIA FOR SOILS IMPACTED BY A RELEASE

The Closure Criteria for Soils Impacted by a Release, based on the groundwater depth of 58' bgs, which falls under the 51' to 100' bgs category. Therefore the site was delineated according to the below

closure criteria. Below you will see the Table 1 "Closure Criteria for Soils Impacted by a Release" diagram:

DGW	Constituent	Method	Limit
51'-100'	Chloride	EPA 300.0 OR SM4500 CLB	10,000 mg/kg
	TPH (GRO + DRO + MRO)	EPA SW-846 METHOD 8015M	2,500 mg/kg
	GRO + DRO	EPA SW-846 METHOD 8015M	1,000 mg/kg
	BTEX	EPA SW-846 METHOD 8021B OR 8260B	50 mg/kg
	Benzene	EPA SW-846 METHOD 8021B OR 8260B	10 mg/kg

SITE DELINEATION AND REMEDIATION

White Buffalo Environmental delineated the site as previously noted above. The site was fully delineated horizontally and vertically except for SP1. SP1 was sampled down to 18' bgs but further delineation could not be reached due to the impervious rock layer that was encountered. All other sample points were field tested for chlorides using the Titration Method. A PID Meter was used to indicate concentrations of BTEX and hydrocarbons. Soil samples were taken from six sample points in 1' intervals. All of delineation samples were taken to Cardinal Laboratories except for SP1 for confirmation. Please see the sample trending sheet attached to this report for more information. Below you will find the vertical final delineation samples that were confirmed by Cardinal Laboratories.

VERTICAL SP ID	Depth	CHL MG/KG	BTEX MG/KG	GRO MG/KG	DRO MG/KG	E-DRO MG/KG	TTL TPH MG/KG
SP1	20'						
SP2	13'	608	<0.300	<10	<10	<10	<30
SP3	6'	480	<0.300	<10	<10	<10	<30
SP4	2'	208	<0.300	<10	<10	<10	<30
SP5	4'	48	<0.300	<10	<10	<10	<30
SP6	8'	144	<0.300	<10	<10	<10	<30

With the vertical sample confirmations from Cardinal Lab's it was determined that due to the lease road activity to the Vermejo SWD #1 and release area also being on the north and south sides of the lease road that 4' bgs would be excavated. Also note the buried flowlines and buried pipeline ROW. The pasture area would have a 40mil liner installed at 4' bgs as well. All of the samples taken during the delineation process fell under the NMOCD Site Criteria but due to this site being on BLM, and partially in the pasture it was delineated to around 600 mg/kg for chlorides. No BTEX or TPH was found in any of the sampling events for this remediation project.

Horizontal samples then were conducted to find the horizontal extent for the impacted area. Each sample was sampled in the field and then taken to Cardinal Lab for confirmation. Below you will find the samples for the side walls that were jarred and delivered to Cardinal Lab:

VERTICAL SP ID	Depth	CHL MG/KG	BTEX MG/KG	GRO MG/KG	DRO MG/KG	E-DRO MG/KG	TTL TPH MG/KG
SW1	2'	64	<0.300	<10	<10	<10	<30
SW2	2'	96	<0.300	<10	<10	<10	<30
SW3	2'	160	<0.300	<10	<10	<10	<30
SW4	2'	192	<0.300	<10	<10	<10	<30
SW5	2'	128	<0.300	<10	<10	<10	<30

All of the sidewall sample points fell under the concentration levels for the site criteria both for the NMOCD and BLM requirements. Emails were sent from White Buffalo Environmental to request final sampling. We are unable to provide that information in this report.

At this this time the remediation was turned over to Hungry Horse, LLC. The delineation done by White Buffalo was used for the remediation process. A total depth of 4' bgs was excavated, closure samples were obtained on the bottom of the north excavation, labelled NC (North Closure), south excavation labelled SC (South Closure), WC (West Closure) and EC (East Closure).

VERTICAL SP ID	Depth	CHL MG/KG	BTEX MG/KG	GRO MG/KG	DRO MG/KG	E-DRO MG/KG	TTL TPH MG/KG
NC1		144	<0.300	<10	<10	<10	<30
NC1		336	<0.300	<10	<10	<10	<30
SC1		48	<0.300	<10	<10	<10	<30
SC1		64	<0.300	<10	<10	<10	<30
SC1		240	<0.300	<10	<10	<10	<30
SC1		240	<0.300	<10	<10	<10	<30
WC1		288	<0.300	<10	<10	<10	<30
WC1		320	<0.300	<10	<10	<10	<30
EC1		288	<0.300	<10	<10	<10	<30
EC1		480	<0.300	<10	<10	<10	<30
COMP1		640	<0.300	<10	<10	<10	<30
COMP2		272	<0.300	<10	<10	<10	<30
COMP3		192	<0.300	<10	<10	<10	<30
COMP4		3400	<0.300	<10	<10	<10	<30
COMP5		1040	<0.300	<10	<10	<10	<30
COMP 6		560	<0.300	<10	<10	<10	<30

Composite samples indicated that numbers were above the BLM limits for closure but under the NMOC limits. At this time the sidewall and bottom hole samples were obtained and taken to Cardinal Lab for confirmation.

VERTICAL SP ID	Depth	CHL MG/KG	BTEX MG/KG	GRO MG/KG	DRO MG/KG	E-DRO MG/KG	TTL TPH MG/KG
SW-E1		144	<0.300	<10	<10	<10	<30
SW-E2		112	<0.300	<10	<10	<10	<30
SW-E3		64	<0.300	<10	<10	<10	<30
SW-E4		80	<0.300	<10	<10	<10	<30
SW-E5		208	<0.300	<10	<10	<10	<30
SW-E6		336	<0.300	<10	<10	<10	<30
SW-W1		128	<0.300	<10	<10	<10	<30
SW-W2		80	<0.300	<10	<10	<10	<30
SW-W3		272	<0.300	<10	<10	<10	<30
SW-W4		272	<0.300	<10	<10	<10	<30
SW-W5		48	<0.300	<10	<10	<10	<30
SW-W6		160	<0.300	<10	<10	<10	<30
B1-4	4'	1120	<0.300	<10	<10	<10	<30
B2-4	4'	1140	<0.300	<10	<10	<10	<30
B3-4	4'	512	<0.300	<10	<10	<10	<30
B4-4	4'	1440	<0.300	<10	<10	<10	<30
B5-4	4'	2280	<0.300	<10	<10	<10	<30
B-COMP		1330	<0.300	<10	<10	<10	<30
SW-N1		304	<0.300	<10	<10	<10	<30
SW-N2		1280	<0.300	<10	<10	<10	<30
SW-S1		176	<0.300	<10	<10	<10	<30
SW-S2		80	<0.300	<10	<10	<10	<30

Due to buried lines and pipeline right-of-way (ROW), the road was excavated to 4'bgs, north pasture area was excavated to 4'bgs, installing a 40mil liner and the south pasture area was excavated to 4'bgs with installing a 40mil liner as well. The excavation area was then backfilled with native topsoil and was contoured to its natural state. Both the north and south pasture area was reseeded with BLM Seed Mixture #3, using 25# of seed which was broadcasted over the disturbed area.

At total of 504 cubic yards was hauled to Lea Land Disposal with backhauling 220 yards of caliche to backfill the road and a total of 468 yards of topsoil was purchased to backfill the pasture area.

Please refer to the sample maps and excavation areas on the map. Attached you will also find the photos of the site.

CLOSURE REQUEST

On behalf of Percussion Petroleum and Spur Energy Partners, Hungry Horse would like to present this closure report and request closure of the site remediation detailed herein. Attached you will find the final C141. If you have questions or concerns, please do not hesitate to contact me at any time.

Sincerely,



Natalie Gladden

Director of Environmental and Regulatory

Hungry-Horse, LLC

4024 Plains Highway

Lovington, NM 88260

Cell: (575) 390-6397

ngladden@hungry-horse.com

Attachments

- Initial C141
- Site Map
- Ground Water Map
- Ground Water Data
- Karst Map
- Delineation Sample Data
- Delineation Sample Map
- Delineation Lab Analytical Report
- Pre-Closure Sample Data
- Pre-Closure Sample Map
- Pre-Closure Lab Analytical Report
- Final Closure Sample Data
- Final Closure Sample Map
- Final Closure Lab Analytical Report
- BLM Seed Tag
- Site Photos
- Final C141

OCD Rec'd:07/26/18

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

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

Form C-141
Revised April 3, 2017

Submit 1 Copy to appropriate District Office in
accordance with 19.15.29 NMAC.

Release Notification and Corrective Action

DAB1821234959

371755 OPERATOR

☒ Initial Report ☐ Final Report

Name of Company Percussion Petroleum Operating, LLC	Contact Eli Trevino
Address 919 Milam Street, Suite 2475 Houston, TX 77002	Telephone No. (575) 499-3993
Facility Name Vermejo SWD #1	Facility Type Production

Surface Owner Federal	Mineral Owner	API No. 30-015-40644
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LOCATION OF RELEASE

Unit Letter O	Section 15	Township 17S	Range 28E	Feet from the 900'	North/South Line South	Feet from the 2530'	East/West Line East	County Eddy
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Latitude 32.8296547 Longitude -104.1635208 NAD83

NATURE OF RELEASE

Type of Release Produced water	Volume of Release 60 bbls	Volume Recovered 15 bbls
Source of Release Water flowline at SWD	Date and Hour of Occurrence 7/11/18 at 12:00 PM	Date and Hour of Discovery 7/11/2018 at 12:00 PM
Was Immediate Notice Given? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Mike Bratcher (NMOCD)	
By Whom? Michael Martin	Date and Hour 7/11/18 at 7:00 PM <u>12:02pm *encl</u>	
Was a Watercourse Reached? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*
No watercourse impacted.

Describe Cause of Problem and Remedial Action Taken.*

A flowline leak was discovered going to the location for the subject well at 12 noon on July 11, 2018. A 3" check valve sealed shut at the battery, which caused the flowline to pressure up and leak. All the pumps leading to the battery were shut off. The damaged line was isolated and repaired, and the check valve has been inspected for future use.

Describe Area Affected and Cleanup Action Taken.*

The spill happened on the road heading to the location for the subject well. We called vac trucks to pick up the standing fluid on the ground. We recovered 15bbls out of the 60bbls of produced water that were spilled.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD 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 NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD 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.

Signature: <u>Min</u>		OIL CONSERVATION DIVISION	
Printed Name: Michael Martin		Approved by Environmental Specialist: <u>Maria Pruitt</u>	
Title: Petroleum Engineer		Approval Date: <u>7/30/18</u>	Expiration Date: <u>N/A</u>
E-mail Address: Michael@percussionpetroleum.com		Conditions of Approval: <u>See attached</u>	
Date: 7/26/2018 Phone: (713) 429-4249		Attached <u>4882</u>	

* Attach Additional Sheets If Necessary

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 07/26/18 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number IRP-4882 has been assigned. **Please refer to this case number in all future correspondence.**

It is the Division's obligation under both the Oil & Gas Act and Water Quality Act to provide for the protection of public health and the environment. Our regulations (19.15.29.11 NMAC) state the following,

The responsible person shall complete division-approved corrective action for releases that endanger public health or the environment. The responsible person shall address releases in accordance with a remediation plan submitted to and approved by the division or with an abatement plan submitted in accordance with 19.15.30 NMAC. [emphasis added]

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District 2 office in Artesia on or before 08/11/18. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

The goals of a characterization effort are: 1) determination of the lateral and vertical extents along with the magnitude of soil contamination. 2) determine if groundwater or surface waters have been impacted. 3) If groundwater or surface waters have been impacted, what are the extents and magnitude of that impact. 4) The characterization of any other adverse impacts that may have occurred (examples: impacts on vegetation, impacts on wildlife, air quality, loss of use of property, etc.). To meet these goals as quickly as possible, the following items must, at a minimum, be addressed in the release characterization workplan and subsequent reporting:

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

for laboratory analysis from each borehole or test pit (highest observed contamination and deepest depth investigated). Copies of the actual laboratory results must be provided including chain of custody documentation.

- Probable depth to shallowest protectable groundwater and lateral distance to nearest surface water. If there is an estimate of groundwater depth, the information used to arrive at that estimate must be provided. If there is a reasonable assumption that the depth to protectable water is 50 feet or less, the responsible party should anticipate the need for at least one groundwater monitoring well to be installed in the area of likely maximum contamination.

- If groundwater contamination is encountered, an additional investigation workplan may be required to determine the extents of that contamination. Groundwater and/or surface water samples, if any, must be analyzed by a competent laboratory for volatile organic hydrocarbons (typically Method 8260 full list), total dissolved solids, pH, major anions and cations including chloride and sulfate, dissolved iron, and dissolved manganese. The investigation workplan must provide the groundwater sampling method(s) and sample handling protocols. To the fullest extent possible, aqueous analyses must be undertaken using nominal method detection limits. As with the soil analyses, copies of the actual laboratory results must be provided including chain of custody documentation.

- Accurately scaled and well-drafted site maps must be provided providing the location of borings, test pits, monitoring wells, potentially impacted areas, and significant surface features including roads and site infrastructure that might limit either the release characterization or remedial efforts. Field sketches may be included in subsequent reporting, but should not be considered stand-alone documentation of the site's layout. Digital photographic documentation of the location and fieldwork is recommended, especially if unusual circumstances are encountered.


Nothing herein should be interpreted to preclude emergency response actions or to imply immediate remediation by removal cannot proceed as warranted. Nonetheless, characterization of impacts and confirmation of the effectiveness of remedial efforts must still be provided to the OCD before any release incident will be closed.

Jim Griswold
OCD Environmental Bureau Chief
1220 South St. Francis Drive
Santa Fe, New Mexico 87505
505-476-3465
jim.griswold@state.nm.us


Vermejo SWD #1
DOR: 7.11.18
Site Map

Legend

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Release Point



Vermejo SWD #1



SPUR ENERGY PARTNERS

Vermejo SWD #1
DOR: 7.11.18
Groundwater Map

Legend

-  RA 12307 POD 1 2542' FR SITE 58'DGW
-  RA12456 POD1 6194' FR SITE 92'DGW
-  Release Point
-  Vermejo SWD #1





New Mexico Office of the State Engineer

Wells with Well Log Information

No wells found.

UTMNAD83 Radius Search (in meters):

Easting (X): 578291.35

Northing (Y): 3632712.59

Radius: 1000

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

2/16/20 12:43 PM

WELLS WITH WELL LOG INFORMATION



New Mexico Office of the State Engineer

Wells with Well Log Information

(A CLW##### in the
POD suffix indicates the
POD has been replaced
& no longer serves a
water right

(R=POD has
been replaced,
O=orphaned,
C=the file is
closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD																			q q q			Log File			Depth		License
POD Number	Code	Subbasin	County	Source	6416	4	Sec	Tw	Rng	X	Y	Distance	Start Date	Finish Date	Date	Well	Water	Driller	Number								
RA 12307 POD1		RA	ED	Shallow	4	2	2	14	17S	28E	580495	3633981		2542	09/28/2015	09/30/2015	10/07/2015	140	58	CLINTON KEY	1058						

Record Count: 1

UTMNAD83 Radius Search (in meters):

Easting (X): 578291.35

Northing (Y): 3632712.59

Radius: 5000

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

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WELLS WITH WELL LOG INFORMATION



New Mexico Office of the State Engineer

Wells with Well Log Information

(A CLW##### in the
POD suffix indicates the
POD has been replaced
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(R=POD has
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closed)

(quarters are 1=NW 2=NE 3=SW 4=SE)
(quarters are smallest to largest)

(NAD83 UTM in meters)

(in feet)

POD Number	Code	POD Subbasin	County	Source	q 64	q 16	q 4	Sec 4	Tws 14	Rng 17S	28E	X 580495	Y 3633981	<input type="checkbox"/>	Distance 2542	Start Date 09/28/2015	Finish Date 09/30/2015	Log File Date 10/07/2015	Depth Well 140	Depth Water 58	Driller CLINTON KEY	License Number 1058
RA 12307 POD1		RA	ED	Shallow	4	2	2	14	17S	28E		580495	3633981	<input type="checkbox"/>	2542	09/28/2015	09/30/2015	10/07/2015	140	58	CLINTON KEY	1058
RA 12456 POD1		RA	ED	Shallow	1	4	4	24	17S	27E		572348	3630969	<input type="checkbox"/>	6194	09/07/2016	09/09/2016	09/15/2016	220	92	DON KUEHN III	1058
RA 11857 POD1		RA	ED	Shallow	1	1	2	05	18S	26E		577784	3625988	<input type="checkbox"/>	6743	09/25/2012	10/01/2012	10/15/2012	235	95	MARTIN, DELFORD	1064
RA 12299 POD1		RA	ED	Shallow	4	3	3	25	16S	28E		580832	3639215	<input type="checkbox"/>	6981	09/21/2015	09/23/2015	10/07/2015	115	70	CLINTON KEY	1058
RA 12612 POD1		RA	ED		2	4	3	23	17S	27E		570161	3631140	<input type="checkbox"/>	8280	05/05/2018	05/07/2018	06/01/2018	300		TAYLOR, CLINTON E.	1348
RA 04554		RA	ED	Artesian				1	23	17S	27E	569859	3631947*	<input type="checkbox"/>	8467	01/26/1962	02/20/1962	12/12/1962	220	40		318
RA 12455 POD1		RA	ED	Shallow	2	1	2	36	16S	27E		571998	3638766	<input type="checkbox"/>	8731	09/12/2016	09/13/2016	09/29/2016	200	55	KUEHN III, DONALD	1058
RA 07774		RA	ED	Shallow	3	2	1	11	17S	27E		569933	3635251*	<input type="checkbox"/>	8735	12/14/1989	12/20/1989	12/29/1989	100	50	RWS	
RA 09342		RA	ED	Shallow	4	4	3	19	16S	29E		582737	3640640*	<input type="checkbox"/>	9088	05/02/1998	05/03/1998	05/08/1998	220	110	DELFORD MARTIN	1064
RA 11807 POD1		RA	ED	Shallow	1	2	3	22	17S	29E		587360	3631585	<input type="checkbox"/>	9138	11/23/2012	11/26/2012	03/26/2013	131	76	TAYLOR, CLINTON E.	1348

Record Count: 10

UTMNAD83 Radius Search (in meters):

Easting (X): 578291.35

Northing (Y): 3632712.59

Radius: 10000

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

2/16/20 12:46 PM

WELLS WITH WELL LOG INFORMATION



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
 (quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
RA 12307	POD1	4	2	2	14	17S	28E	580495	3633981

Driller License: 1058	Driller Company: KEY'S DRILLING & PUMP SERVICE
Driller Name: CLINTON KEY	
Drill Start Date: 09/28/2015	Drill Finish Date: 09/30/2015
Log File Date: 10/07/2015	PCW Rcv Date:
Pump Type:	Pipe Discharge Size:
Casing Size: 4.50	Depth Well: 140 feet
	Plug Date:
	Source: Shallow
	Estimated Yield: 30 GPM
	Depth Water: 58 feet

Water Bearing Stratifications:	Top	Bottom	Description
	80	100	Shale/Mudstone/Siltstone
	110	120	Sandstone/Gravel/Conglomerate
	120	140	Other/Unknown

Casing Perforations:	Top	Bottom
	120	140



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)
 (quarters are smallest to largest) (NAD83 UTM in meters)

Well Tag	POD Number	Q64	Q16	Q4	Sec	Tws	Rng	X	Y
RA 12456	POD1	1	4	4	24	17S	27E	572348	3630969

Driller License: 1058	Driller Company: KEY'S DRILLING & PUMP SERVICE
Driller Name: DON KUEHN III	
Drill Start Date: 09/07/2016	Drill Finish Date: 09/09/2016
Log File Date: 09/15/2016	PCW Rcv Date:
Pump Type:	Estimated Yield: 10 GPM
Casing Size: 4.50	Depth Well: 220 feet
	Depth Water: 92 feet

Water Bearing Stratifications:	Top	Bottom	Description
	90	110	Sandstone/Gravel/Conglomerate
	160	180	Shale/Mudstone/Siltstone
	180	200	Sandstone/Gravel/Conglomerate
	200	210	Sandstone/Gravel/Conglomerate
	210	220	Sandstone/Gravel/Conglomerate

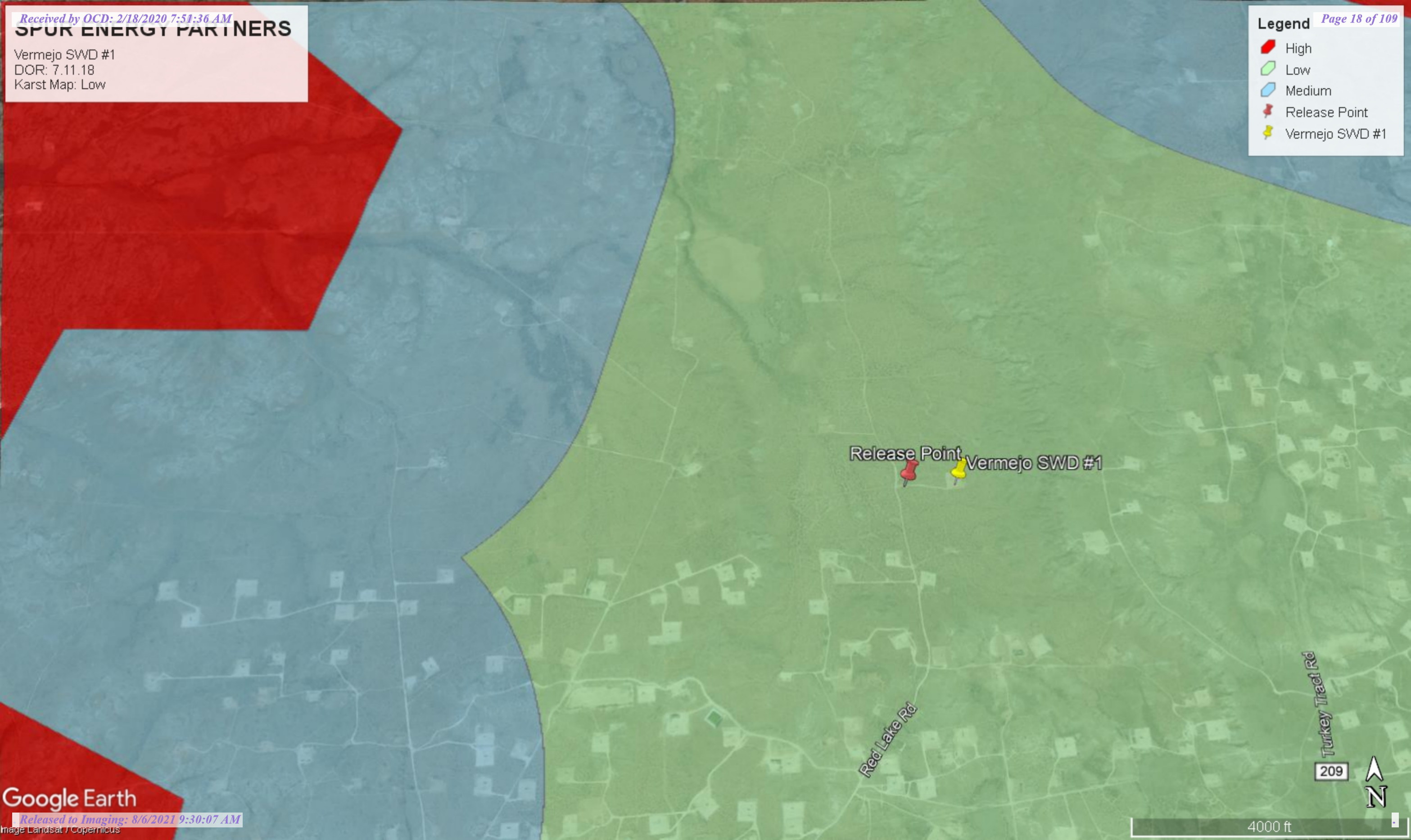
Casing Perforations:	Top	Bottom
	200	220

SPUR ENERGY PARTNERS

Vermejo SWD #1
DOR: 7.11.18
Karst Map: Low

Legend

- High
- Low
- Medium
- Release Point
- Vermejo SWD #1

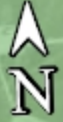


Release Point Vermejo SWD #1

Red Lake Rd

Turkey Tract Rd

209



4000 ft

Company Name: Percussion

Location Name: Vermijo SWD #1

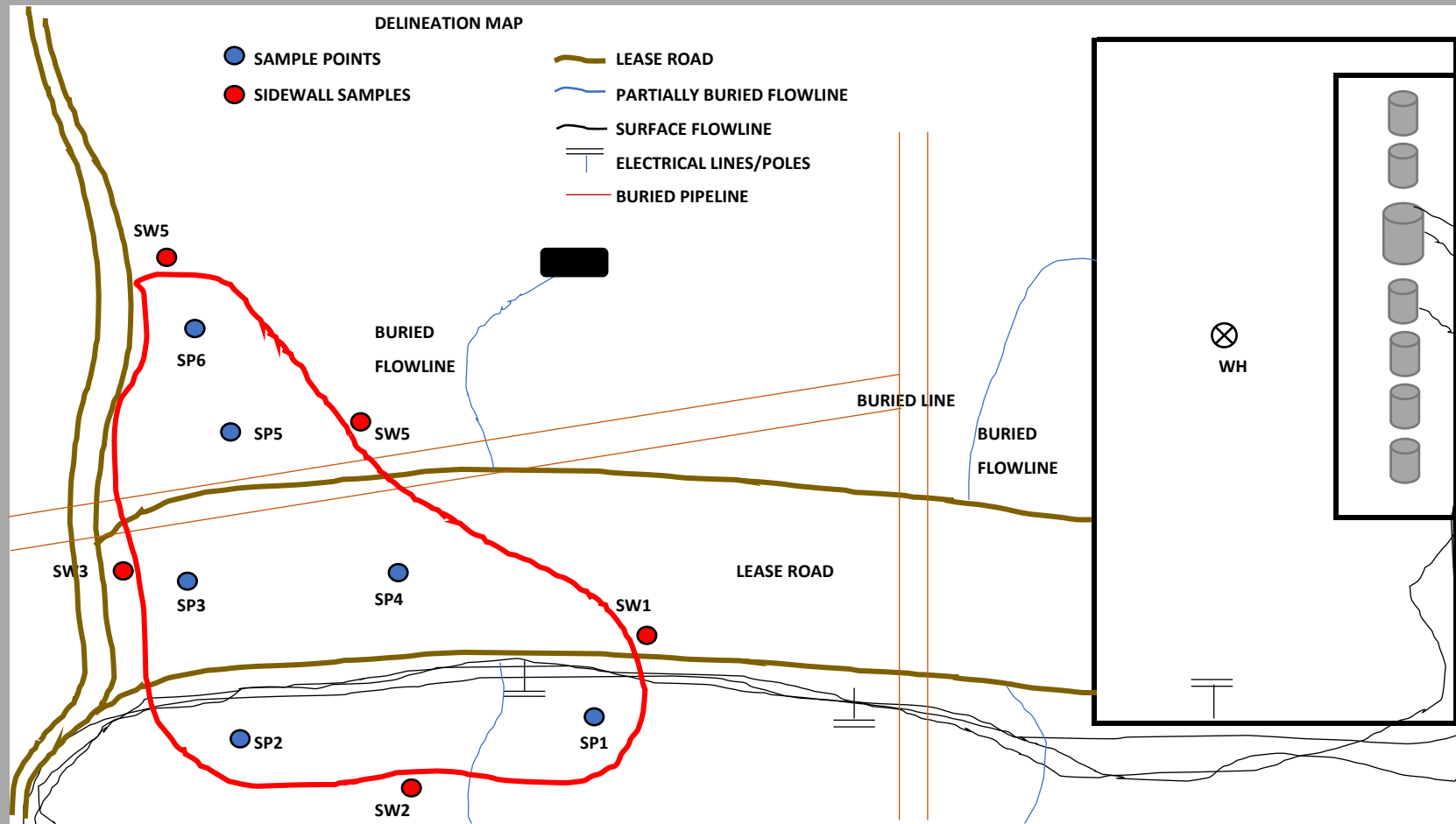
Release Date:

7/11/2018

SP ID	Depth	Tit	PID	L-Chl	L-BTEX	L-GRO	L-DRO	L-MRO	Ttl TPH	Soil	Notes
SP1	SUR	360	NA								
	1'	560	NA								
	2'	560	NA								
	3'	2960	NA								
	4'	8000	NA								
	5'	11200	NA								
	6'	16400	NA								
	7'	4000	NA								
	8'	2240	NA								
	9'	2560	NA								
	10'	3000	NA								
	11'	2800	NA								
	12'	2640	NA								
	13'	1200	NA								
	14'	1200	NA								
	15'	2160	NA								
	16'	1760	NA								
	18'	960	NA								
	20'	960	NA								CANT GO DEEPER DUE TO RAOD
SP2	SUR	240	NA								
	1'	400	NA								
	2'	760	NA								
	3'	400	NA								
	4'	960	NA								
	5'	1280	NA								
	6'	4000	NA								
	7'	3440	NA								
	8'	2240	NA								
	9'	960	NA								
	10'	880	NA								

	11'	800	NA								
	12'	560	NA								
	13'	560	NA	608	<0.300	<10.0	<10.0	<10.0	<30		
SP3	SUR	160	NA								
	1'	160	NA								
	2'	240	NA								
	3'	650	NA								
	4'	800	NA								
	5'	560	NA								
	6'	400	NA	480	<0.300	<10.0	<10.0	<10.0	<30		
SP4	SUR	320	NA								
	1'	320	NA								
	2'	320	NA	208	<0.300	<10.0	<10.0	<10.0	<30		
SP5	SUR	400	NA								
	1'	400	NA								
	2'	400	NA								
	3'	240	NA								
	4'	240	NA	48	<0.300	<10.0	<10.0	<10.0	<30		
SP6	SUR	240	NA								
	1'	560	NA								
	2'	720	NA								
	3'	960	NA								
	4'	1200	NA								
	5'	1680	NA								
	6'	720	NA								
	7'	400	NA								
	8'	320	NA	144	<0.300	<10.0	<10.0	<10.0	<30		
SW1	SUR	240	NA								
	1'	240	NA								
	2'	320	NA	64	<0.300	<10.0	<10.0	<10.0	<30		

SW2	SUR	240	NA								
	1'	320	NA								
	2'	320	NA	96	<0.300	<10.0	<10.0	<10.0	<30		
SW3	SUR	480	NA								
	1'	400	NA								
	2'	320	NA	160	<0.300	<10.0	<10.0	<10.0	<30		
SW4	SUR	800	NA								
	1'	240	NA								
	2'	400	NA	192	<0.300	<10.0	<10.0	<10.0	<30		
SW5	SUR	320	NA								
	1'	160	NA								
	2'	160	NA	128	<0.300	<10.0	<10.0	<10.0	<30		



SPUR ENERGY PARTNERS
 VERMEJO SWD #1
 DOR: 7.11.18
 API NO. 30-015-40644





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

May 15, 2019

JERRY MATTHEWS

WHITE BUFFALO

8908 YALE AVE #210

TULSA, OK 74137

RE: VERMESO

Enclosed are the results of analyses for samples received by the laboratory on 05/14/19 15:00.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

WHITE BUFFALO
 JERRY MATTHEWS
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 05/14/2019
 Reported: 05/15/2019
 Project Name: VERMESO
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 05/09/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 2-13 (H901750-01)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/15/2019	ND	1.57	78.5	2.00	0.230	
Toluene*	<0.050	0.050	05/15/2019	ND	1.81	90.4	2.00	0.387	
Ethylbenzene*	<0.050	0.050	05/15/2019	ND	1.82	91.2	2.00	0.480	
Total Xylenes*	<0.150	0.150	05/15/2019	ND	5.76	96.0	6.00	0.276	
Total BTX	<0.300	0.300	05/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	608	16.0	05/15/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2019	ND	206	103	200	0.00242	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	206	103	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 91.2 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 JERRY MATTHEWS
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 05/14/2019
 Reported: 05/15/2019
 Project Name: VERMESO
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 05/09/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 3-6 (H901750-02)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/15/2019	ND	1.57	78.5	2.00	0.230	
Toluene*	<0.050	0.050	05/15/2019	ND	1.81	90.4	2.00	0.387	
Ethylbenzene*	<0.050	0.050	05/15/2019	ND	1.82	91.2	2.00	0.480	
Total Xylenes*	<0.150	0.150	05/15/2019	ND	5.76	96.0	6.00	0.276	
Total BTX	<0.300	0.300	05/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	05/15/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2019	ND	206	103	200	0.00242	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	206	103	200	4.87	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 87.6 % 41-142

Surrogate: 1-Chlorooctadecane 91.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 JERRY MATTHEWS
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 05/14/2019
 Reported: 05/15/2019
 Project Name: VERMESO
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 05/09/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 4-2 (H901750-03)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/15/2019	ND	1.57	78.5	2.00	0.230		
Toluene*	<0.050	0.050	05/15/2019	ND	1.81	90.4	2.00	0.387		
Ethylbenzene*	<0.050	0.050	05/15/2019	ND	1.82	91.2	2.00	0.480		
Total Xylenes*	<0.150	0.150	05/15/2019	ND	5.76	96.0	6.00	0.276		
Total BTEx	<0.300	0.300	05/15/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	05/15/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2019	ND	214	107	200	0.131	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	227	113	200	1.75	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 90.4 % 41-142

Surrogate: 1-Chlorooctadecane 94.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 JERRY MATTHEWS
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 05/14/2019
 Reported: 05/15/2019
 Project Name: VERMESO
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 05/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 5-4 (H901750-04)

BTEx 8021B		mg/kg		Analyzed By: MS						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	05/15/2019	ND	1.57	78.5	2.00	0.230		
Toluene*	<0.050	0.050	05/15/2019	ND	1.81	90.4	2.00	0.387		
Ethylbenzene*	<0.050	0.050	05/15/2019	ND	1.82	91.2	2.00	0.480		
Total Xylenes*	<0.150	0.150	05/15/2019	ND	5.76	96.0	6.00	0.276		
Total BTEx	<0.300	0.300	05/15/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	05/15/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2019	ND	214	107	200	0.131	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	227	113	200	1.75	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 91.0 % 41-142

Surrogate: 1-Chlorooctadecane 91.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 JERRY MATTHEWS
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 05/14/2019
 Reported: 05/15/2019
 Project Name: VERMESO
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 05/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 6-8 (H901750-05)

BTX 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/15/2019	ND	1.57	78.5	2.00	0.230	
Toluene*	<0.050	0.050	05/15/2019	ND	1.81	90.4	2.00	0.387	
Ethylbenzene*	<0.050	0.050	05/15/2019	ND	1.82	91.2	2.00	0.480	
Total Xylenes*	<0.150	0.150	05/15/2019	ND	5.76	96.0	6.00	0.276	
Total BTX	<0.300	0.300	05/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	05/15/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2019	ND	214	107	200	0.131	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	227	113	200	1.75	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 89.2 % 41-142

Surrogate: 1-Chlorooctadecane 89.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 JERRY MATTHEWS
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 05/14/2019
 Reported: 05/15/2019
 Project Name: VERMESO
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 05/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW 1-2 (H901750-06)

BTEx 8021B		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/15/2019	ND	1.57	78.5	2.00	0.230	
Toluene*	<0.050	0.050	05/15/2019	ND	1.81	90.4	2.00	0.387	
Ethylbenzene*	<0.050	0.050	05/15/2019	ND	1.82	91.2	2.00	0.480	
Total Xylenes*	<0.150	0.150	05/15/2019	ND	5.76	96.0	6.00	0.276	
Total BTEX	<0.300	0.300	05/15/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	05/15/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2019	ND	214	107	200	0.131	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	227	113	200	1.75	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 93.5 % 41-142

Surrogate: 1-Chlorooctadecane 95.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 JERRY MATTHEWS
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 05/14/2019
 Reported: 05/15/2019
 Project Name: VERMESO
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 05/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW 2-2 (H901750-07)

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/14/2019	ND	1.69	84.6	2.00	0.329	
Toluene*	<0.050	0.050	05/14/2019	ND	1.82	91.0	2.00	0.0328	
Ethylbenzene*	<0.050	0.050	05/14/2019	ND	1.76	88.1	2.00	0.892	
Total Xylenes*	<0.150	0.150	05/14/2019	ND	5.33	88.9	6.00	0.390	
Total BTX	<0.300	0.300	05/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.2 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	96.0	16.0	05/15/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2019	ND	214	107	200	0.131	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	227	113	200	1.75	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 83.2 % 41-142

Surrogate: 1-Chlorooctadecane 84.6 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

WHITE BUFFALO
 JERRY MATTHEWS
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 05/14/2019
 Reported: 05/15/2019
 Project Name: VERMESO
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 05/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW 3-2 (H901750-08)

BTX 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/14/2019	ND	1.69	84.6	2.00	0.329	
Toluene*	<0.050	0.050	05/14/2019	ND	1.82	91.0	2.00	0.0328	
Ethylbenzene*	<0.050	0.050	05/14/2019	ND	1.76	88.1	2.00	0.892	
Total Xylenes*	<0.150	0.150	05/14/2019	ND	5.33	88.9	6.00	0.390	
Total BTX	<0.300	0.300	05/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.8 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	05/15/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2019	ND	214	107	200	0.131	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	227	113	200	1.75	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 88.6 % 41-142

Surrogate: 1-Chlorooctadecane 91.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 JERRY MATTHEWS
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 05/14/2019
 Reported: 05/15/2019
 Project Name: VERMESO
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 05/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW 4-2 (H901750-09)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/14/2019	ND	1.69	84.6	2.00	0.329	
Toluene*	<0.050	0.050	05/14/2019	ND	1.82	91.0	2.00	0.0328	
Ethylbenzene*	<0.050	0.050	05/14/2019	ND	1.76	88.1	2.00	0.892	
Total Xylenes*	<0.150	0.150	05/14/2019	ND	5.33	88.9	6.00	0.390	
Total BTEX	<0.300	0.300	05/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 98.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	192	16.0	05/15/2019	ND	400	100	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2019	ND	214	107	200	0.131	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	227	113	200	1.75	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 87.6 % 41-142

Surrogate: 1-Chlorooctadecane 89.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

WHITE BUFFALO
 JERRY MATTHEWS
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 05/14/2019
 Reported: 05/15/2019
 Project Name: VERMESO
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 05/11/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW 5-2 (H901750-10)

BTEx 8021B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.050	0.050	05/14/2019	ND	1.69	84.6	2.00	0.329	
Toluene*	<0.050	0.050	05/14/2019	ND	1.82	91.0	2.00	0.0328	
Ethylbenzene*	<0.050	0.050	05/14/2019	ND	1.76	88.1	2.00	0.892	
Total Xylenes*	<0.150	0.150	05/14/2019	ND	5.33	88.9	6.00	0.390	
Total BTEX	<0.300	0.300	05/14/2019	ND					

Surrogate: 4-Bromofluorobenzene (PID) 99.6 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	05/15/2019	ND	400	100	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	05/15/2019	ND	214	107	200	0.131	
DRO >C10-C28*	<10.0	10.0	05/15/2019	ND	227	113	200	1.75	
EXT DRO >C28-C36	<10.0	10.0	05/15/2019	ND					

Surrogate: 1-Chlorooctane 91.2 % 41-142

Surrogate: 1-Chlorooctadecane 92.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "C. D. Keene".

Celey D. Keene, Lab Director/Quality Manager



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: <u>Perfusion Petroleum</u>		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager: <u>Denny Matthews</u>		Company: <u>White Buffalo Env.</u>					
Address:		Attn:					
City:	State:	Zip:	Address: <u>401 E. Broadway</u>				
Phone #:	Fax #:	City: <u>Hobbs</u>		State: <u>NM</u> Zip: <u>88240</u>			
Project #:	Project Owner:		Phone #: <u>575-738-0424</u>				
Project Name: <u>PERMUSO</u>	Sample Location: <u>Kathryn Montner</u>		Fax #: <u>575-738-0430</u>				
FOR LAB USE ONLY	Lab I.D. <u>H901750</u>		Sample I.D.				
		(G)RAB OR (C)OMP.	# CONTAINERS				
		GROUNDWATER					
		WASTEWATER					
		SOIL					
		OIL					
		SLUDGE					
		OTHER:					
		ACID/BASE:					
		ICE / COOL					
		OTHER:					
		DATE	TIME				
		1	5/9/19	2:08	X	X	
		2	5/9/19	2:17	X	X	
		3	5/9/19	3:31	X	X	
		4	5/11/19	11:30	X	X	
		5	5/11/19	1:15	X	X	
		6	5/11/19	10:07	X	X	
		7	5/11/19	10:21	X	X	
		8	5/11/19	11:15	X	X	
		9	5/11/19	11:54	X	X	
		10	5/11/19	12:28	X	X	
		Chlorides BTEX TPH					

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Relinquished By: <u>Kathryn Montner</u>	Date: <u>5-14-19</u>	Received By: <u>Jamara Black</u>
Relinquished By: <u>Kathryn Montner</u>	Date: <u>5-15-20</u>	Received By: <u>Jamara Black</u>
Delivered By: (Circle One) Sampler - UPS - Bus - Other: <u>-3.9° #57</u>	Sample Condition Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>	CHECKED BY: (Initials) <u>TD</u>

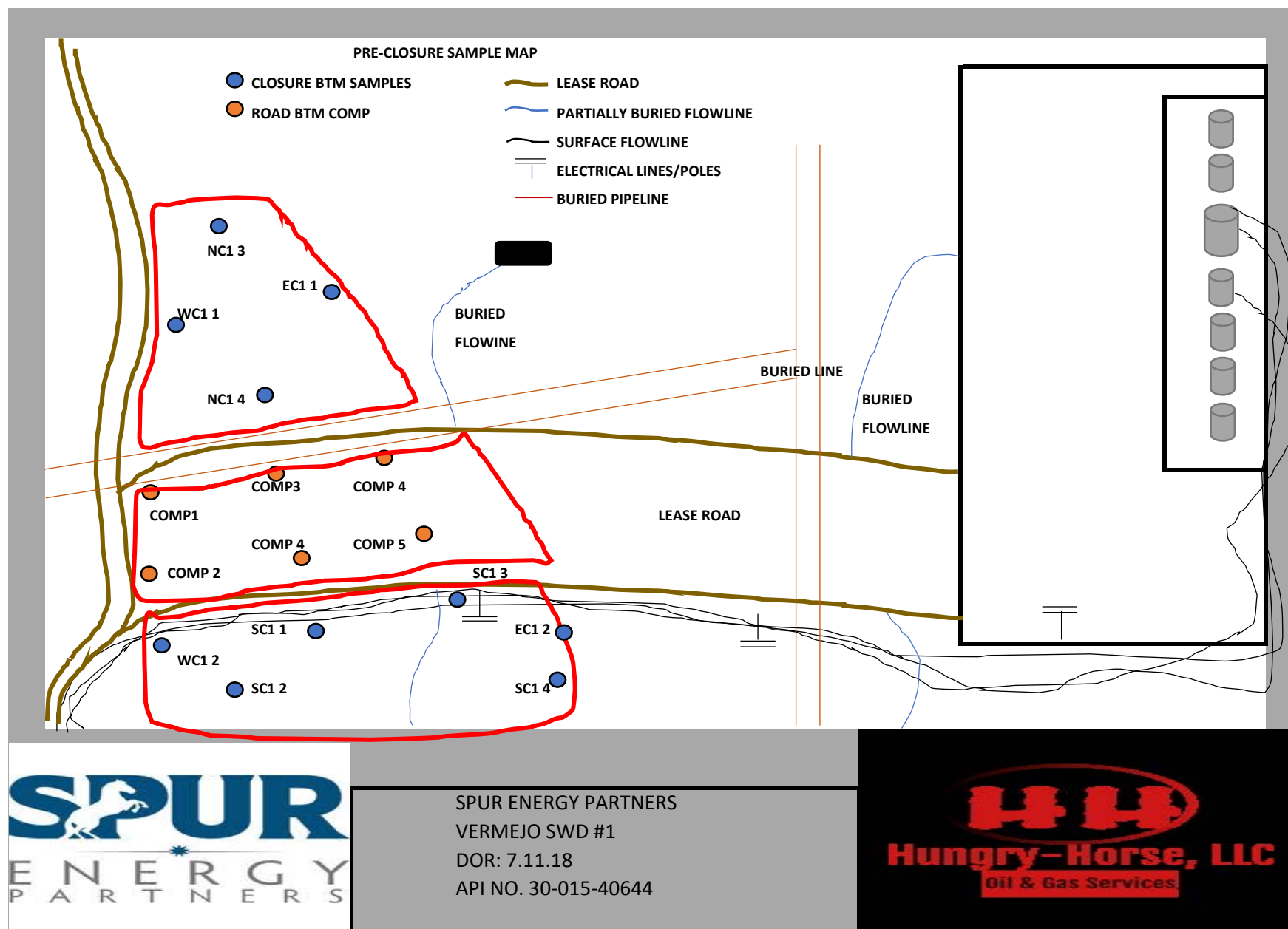
REMARKS:
 Email: natalie.gladson@whitebuffalo.com
monique.dietz@whitebuffalo.com
Kathryn.Montner@whitebuffalo.com

SPUR ENERGY PARTNERS

PRELIM CLOSURE SAMPLES

VERMEJO SWD #1

VERTICAL SP ID	Depth	CHL MG/KG	BTEX MG/KG	GRO MG/KG	DRO MG/KG	E-DRO MG/KG	Ttl TPH MG/KG
NC1	3	144	<0.300	<10	<10	<10	<30
NC1	4	336	<0.300	<10	<10	<10	<30
SC1	1	48	<0.300	<10	<10	<10	<30
SC1	2	64	<0.300	<10	<10	<10	<30
SC1	3	240	<0.300	<10	<10	<10	<30
SC1	4	240	<0.300	<10	<10	<10	<30
WC1	1	288	<0.300	<10	<10	<10	<30
WC1	2	320	<0.300	<10	<10	<10	<30
EC1	1	288	<0.300	<10	<10	<10	<30
EC1	2	480	<0.300	<10	<10	<10	<30
COMP1		640	<0.300	<10	<10	<10	<30
COMP2		272	<0.300	<10	<10	<10	<30
COMP3		192	<0.300	<10	<10	<10	<30
COMP4		3400	<0.300	<10	<10	<10	<30
COMP5		1040	<0.300	<10	<10	<10	<30
COMP 6		560	<0.300	<10	<10	<10	<30





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 05, 2019

JERRY MATHEWS

Hungry Horse Environmental

P.O. Box 1058

Hobbs, NM 88240

RE: VERMISO FED #1

Enclosed are the results of analyses for samples received by the laboratory on 07/03/19 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Mike Snyder".

Mike Snyder For Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received:	07/03/2019	Sampling Date:	07/02/2019
Reported:	07/05/2019	Sampling Type:	Soil
Project Name:	VERMISO FED #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PERCUSSION		

Sample ID: NC1- 1 (H902298-01)

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/04/2019	ND	1.73	86.6	2.00	0.528		
Toluene*	<0.025	0.025	07/04/2019	ND	2.01	101	2.00	0.917		
Ethylbenzene*	<0.025	0.025	07/04/2019	ND	2.11	105	2.00	0.720		
Total Xylenes*	<0.075	0.075	07/04/2019	ND	6.94	116	6.00	0.230		
Total BTEX	<0.150	0.150	07/04/2019	ND						

Surrogate: Dibromofluoromethane 96.9 % 90.4-111

Surrogate: Toluene-d8 99.8 % 85.3-114

Surrogate: 4-Bromofluorobenzene 86.4 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	80.0	16.0	07/05/2019	ND	416	104	400	3.77		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	214	107	200	1.58	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	220	110	200	2.79	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 91.5 % 41-142

Surrogate: 1-Chlorooctadecane 109 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/05/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: NC1- 2 (H902298-02)

BTEX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/05/2019	ND	1.73	86.6	2.00	0.528		
Toluene*	<0.025	0.025	07/05/2019	ND	2.01	101	2.00	0.917		
Ethylbenzene*	<0.025	0.025	07/05/2019	ND	2.11	105	2.00	0.720		
Total Xylenes*	<0.075	0.075	07/05/2019	ND	6.94	116	6.00	0.230		
Total BTEX	<0.150	0.150	07/05/2019	ND						

Surrogate: Dibromofluoromethane 97.6 % 90.4-111

Surrogate: Toluene-d8 100 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.1 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	32.0	16.0	07/05/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 89.9 % 41-142

Surrogate: 1-Chlorooctadecane 96.7 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/05/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: NC1- 3 (H902298-03)

BTX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/05/2019	ND	1.73	86.6	2.00	0.528		
Toluene*	<0.025	0.025	07/05/2019	ND	2.01	101	2.00	0.917		
Ethylbenzene*	<0.025	0.025	07/05/2019	ND	2.11	105	2.00	0.720		
Total Xylenes*	<0.075	0.075	07/05/2019	ND	6.94	116	6.00	0.230		
Total BTX	<0.150	0.150	07/05/2019	ND						

Surrogate: Dibromofluoromethane 100 % 90.4-111

Surrogate: Toluene-d8 100 % 85.3-114

Surrogate: 4-Bromofluorobenzene 89.7 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	144	16.0	07/05/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 93.4 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/05/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: NC1- 4 (H902298-04)

BTEX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/05/2019	ND	1.73	86.6	2.00	0.528		
Toluene*	<0.025	0.025	07/05/2019	ND	2.01	101	2.00	0.917		
Ethylbenzene*	<0.025	0.025	07/05/2019	ND	2.11	105	2.00	0.720		
Total Xylenes*	<0.075	0.075	07/05/2019	ND	6.94	116	6.00	0.230		
Total BTEX	<0.150	0.150	07/05/2019	ND						

Surrogate: Dibromofluoromethane 96.9 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 89.7 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	07/05/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 98.5 % 41-142

Surrogate: 1-Chlorooctadecane 112 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/05/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SC1- 1 (H902298-05)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/05/2019	ND	1.73	86.6	2.00	0.528	
Toluene*	<0.025	0.025	07/05/2019	ND	2.01	101	2.00	0.917	
Ethylbenzene*	<0.025	0.025	07/05/2019	ND	2.11	105	2.00	0.720	
Total Xylenes*	<0.075	0.075	07/05/2019	ND	6.94	116	6.00	0.230	
Total BTX	<0.150	0.150	07/05/2019	ND					

Surrogate: Dibromofluoromethane 98.9 % 90.4-111

Surrogate: Toluene-d8 98.8 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.7 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/05/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 91.8 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/05/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SC1- 2 (H902298-06)

BTX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/05/2019	ND	1.73	86.6	2.00	0.528		
Toluene*	<0.025	0.025	07/05/2019	ND	2.01	101	2.00	0.917		
Ethylbenzene*	<0.025	0.025	07/05/2019	ND	2.11	105	2.00	0.720		
Total Xylenes*	<0.075	0.075	07/05/2019	ND	6.94	116	6.00	0.230		
Total BTX	<0.150	0.150	07/05/2019	ND						

Surrogate: Dibromofluoromethane 97.8 % 90.4-111

Surrogate: Toluene-d8 100 % 85.3-114

Surrogate: 4-Bromofluorobenzene 91.2 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/05/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 94.4 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/05/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SC1- 3 (H902298-07)

BTEX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/05/2019	ND	1.73	86.6	2.00	0.528		
Toluene*	<0.025	0.025	07/05/2019	ND	2.01	101	2.00	0.917		
Ethylbenzene*	<0.025	0.025	07/05/2019	ND	2.11	105	2.00	0.720		
Total Xylenes*	<0.075	0.075	07/05/2019	ND	6.94	116	6.00	0.230		
Total BTEX	<0.150	0.150	07/05/2019	ND						

Surrogate: Dibromofluoromethane 96.0 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.6 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	07/05/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 92.3 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received:	07/03/2019	Sampling Date:	07/02/2019
Reported:	07/05/2019	Sampling Type:	Soil
Project Name:	VERMISO FED #1	Sampling Condition:	Cool & Intact
Project Number:	NONE GIVEN	Sample Received By:	Tamara Oldaker
Project Location:	PERCUSSION		

Sample ID: SC1- 4 (H902298-08)

BTEX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/05/2019	ND	1.73	86.6	2.00	0.528		
Toluene*	<0.025	0.025	07/05/2019	ND	2.01	101	2.00	0.917		
Ethylbenzene*	<0.025	0.025	07/05/2019	ND	2.11	105	2.00	0.720		
Total Xylenes*	<0.075	0.075	07/05/2019	ND	6.94	116	6.00	0.230		
Total BTEX	<0.150	0.150	07/05/2019	ND						

Surrogate: Dibromofluoromethane 96.9 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 92.4 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	240	16.0	07/05/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 94.2 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/05/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WC1- 1 (H902298-09)

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/05/2019	ND	1.73	86.6	2.00	0.528		
Toluene*	<0.025	0.025	07/05/2019	ND	2.01	101	2.00	0.917		
Ethylbenzene*	<0.025	0.025	07/05/2019	ND	2.11	105	2.00	0.720		
Total Xylenes*	<0.075	0.075	07/05/2019	ND	6.94	116	6.00	0.230		
Total BTEX	<0.150	0.150	07/05/2019	ND						

Surrogate: Dibromofluoromethane 97.1 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 91.6 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	07/05/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 89.1 % 41-142

Surrogate: 1-Chlorooctadecane 96.1 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/05/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: WC1- 2 (H902298-10)

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/05/2019	ND	1.73	86.6	2.00	0.528		
Toluene*	<0.025	0.025	07/05/2019	ND	2.01	101	2.00	0.917		
Ethylbenzene*	<0.025	0.025	07/05/2019	ND	2.11	105	2.00	0.720		
Total Xylenes*	<0.075	0.075	07/05/2019	ND	6.94	116	6.00	0.230		
Total BTEX	<0.150	0.150	07/05/2019	ND						

Surrogate: Dibromofluoromethane 99.0 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 89.4 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	320	16.0	07/05/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 93.0 % 41-142

Surrogate: 1-Chlorooctadecane 108 % 37.6-147

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Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

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A handwritten signature in black ink, appearing to read "Mike Snyder", is written over a horizontal line.

Mike Snyder For Celey D. Keene, Lab Director/Quality Manager



101

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

[illegible]



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 08, 2019

JERRY MATHEWS

Hungry Horse Environmental

P.O. Box 1058

Hobbs, NM 88240

RE: VERMISO FED #1

Enclosed are the results of analyses for samples received by the laboratory on 07/03/19 15:30.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/08/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: EC1- 1 (H902299-01)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/05/2019	ND	1.47	73.3	2.00	1.45		
Toluene*	<0.050	0.050	07/05/2019	ND	1.76	87.8	2.00	1.27		
Ethylbenzene*	<0.050	0.050	07/05/2019	ND	1.72	85.8	2.00	5.40		
Total Xylenes*	<0.150	0.150	07/05/2019	ND	5.23	87.1	6.00	4.39		
Total BTEX	<0.300	0.300	07/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 105 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	288	16.0	07/05/2019	ND	416	104	400	3.77	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 93.5 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/08/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: EC1- 2 (H902299-02)

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/05/2019	ND	1.47	73.3	2.00	1.45		
Toluene*	<0.050	0.050	07/05/2019	ND	1.76	87.8	2.00	1.27		
Ethylbenzene*	<0.050	0.050	07/05/2019	ND	1.72	85.8	2.00	5.40		
Total Xylenes*	<0.150	0.150	07/05/2019	ND	5.23	87.1	6.00	4.39		
Total BTEX	<0.300	0.300	07/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	480	16.0	07/05/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 90.5 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/08/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: COMP 1 (H902299-03)

BTEX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/05/2019	ND	1.47	73.3	2.00	1.45		
Toluene*	<0.050	0.050	07/05/2019	ND	1.76	87.8	2.00	1.27		
Ethylbenzene*	<0.050	0.050	07/05/2019	ND	1.72	85.8	2.00	5.40		
Total Xylenes*	<0.150	0.150	07/05/2019	ND	5.23	87.1	6.00	4.39		
Total BTEX	<0.300	0.300	07/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 104 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	640	16.0	07/05/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 88.7 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/08/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: COMP 2 (H902299-04)

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/05/2019	ND	1.47	73.3	2.00	1.45		
Toluene*	<0.050	0.050	07/05/2019	ND	1.76	87.8	2.00	1.27		
Ethylbenzene*	<0.050	0.050	07/05/2019	ND	1.72	85.8	2.00	5.40		
Total Xylenes*	<0.150	0.150	07/05/2019	ND	5.23	87.1	6.00	4.39		
Total BTX	<0.300	0.300	07/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	272	16.0	07/05/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 86.8 % 41-142

Surrogate: 1-Chlorooctadecane 95.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/08/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: COMP 3 (H902299-05)

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/05/2019	ND	1.47	73.3	2.00	1.45		
Toluene*	<0.050	0.050	07/05/2019	ND	1.76	87.8	2.00	1.27		
Ethylbenzene*	<0.050	0.050	07/05/2019	ND	1.72	85.8	2.00	5.40		
Total Xylenes*	<0.150	0.150	07/05/2019	ND	5.23	87.1	6.00	4.39		
Total BTEx	<0.300	0.300	07/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 124 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	192	16.0	07/05/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 92.4 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/08/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: COMP 4 (H902299-06)

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/05/2019	ND	1.47	73.3	2.00	1.45		
Toluene*	<0.050	0.050	07/05/2019	ND	1.76	87.8	2.00	1.27		
Ethylbenzene*	<0.050	0.050	07/05/2019	ND	1.72	85.8	2.00	5.40		
Total Xylenes*	<0.150	0.150	07/05/2019	ND	5.23	87.1	6.00	4.39		
Total BTX	<0.300	0.300	07/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 106 % 73.3-129

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	3400	16.0	07/05/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 94.8 % 41-142

Surrogate: 1-Chlorooctadecane 106 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/08/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: COMP 5 (H902299-07)

BTX 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/05/2019	ND	1.47	73.3	2.00	1.45		
Toluene*	<0.050	0.050	07/05/2019	ND	1.76	87.8	2.00	1.27		
Ethylbenzene*	<0.050	0.050	07/05/2019	ND	1.72	85.8	2.00	5.40		
Total Xylenes*	<0.150	0.150	07/05/2019	ND	5.23	87.1	6.00	4.39		
Total BTX	<0.300	0.300	07/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 108 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	1040	16.0	07/05/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 92.1 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 JERRY MATHEWS
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/03/2019
 Reported: 07/08/2019
 Project Name: VERMISO FED #1
 Project Number: NONE GIVEN
 Project Location: PERCUSSION

Sampling Date: 07/02/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: COMP (H902299-08)

BTEx 8021B		mg/kg		Analyzed By: BF						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.050	0.050	07/05/2019	ND	1.47	73.3	2.00	1.45		
Toluene*	<0.050	0.050	07/05/2019	ND	1.76	87.8	2.00	1.27		
Ethylbenzene*	<0.050	0.050	07/05/2019	ND	1.72	85.8	2.00	5.40		
Total Xylenes*	<0.150	0.150	07/05/2019	ND	5.23	87.1	6.00	4.39		
Total BTEx	<0.300	0.300	07/05/2019	ND						

Surrogate: 4-Bromofluorobenzene (PID) 113 % 73.3-129

Chloride, SM4500CI-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	560	16.0	07/05/2019	ND	416	104	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/04/2019	ND	206	103	200	0.860	
DRO >C10-C28*	<10.0	10.0	07/04/2019	ND	203	101	200	2.53	
EXT DRO >C28-C36	<10.0	10.0	07/04/2019	ND					

Surrogate: 1-Chlorooctane 93.3 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

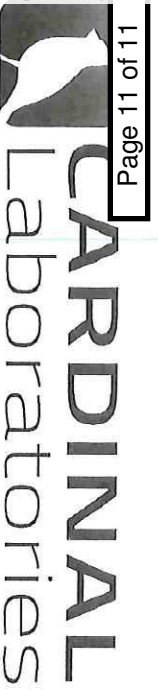
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A handwritten signature in black ink, appearing to read "C. D. Keene".

Celey D. Keene, Lab Director/Quality Manager



2048

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

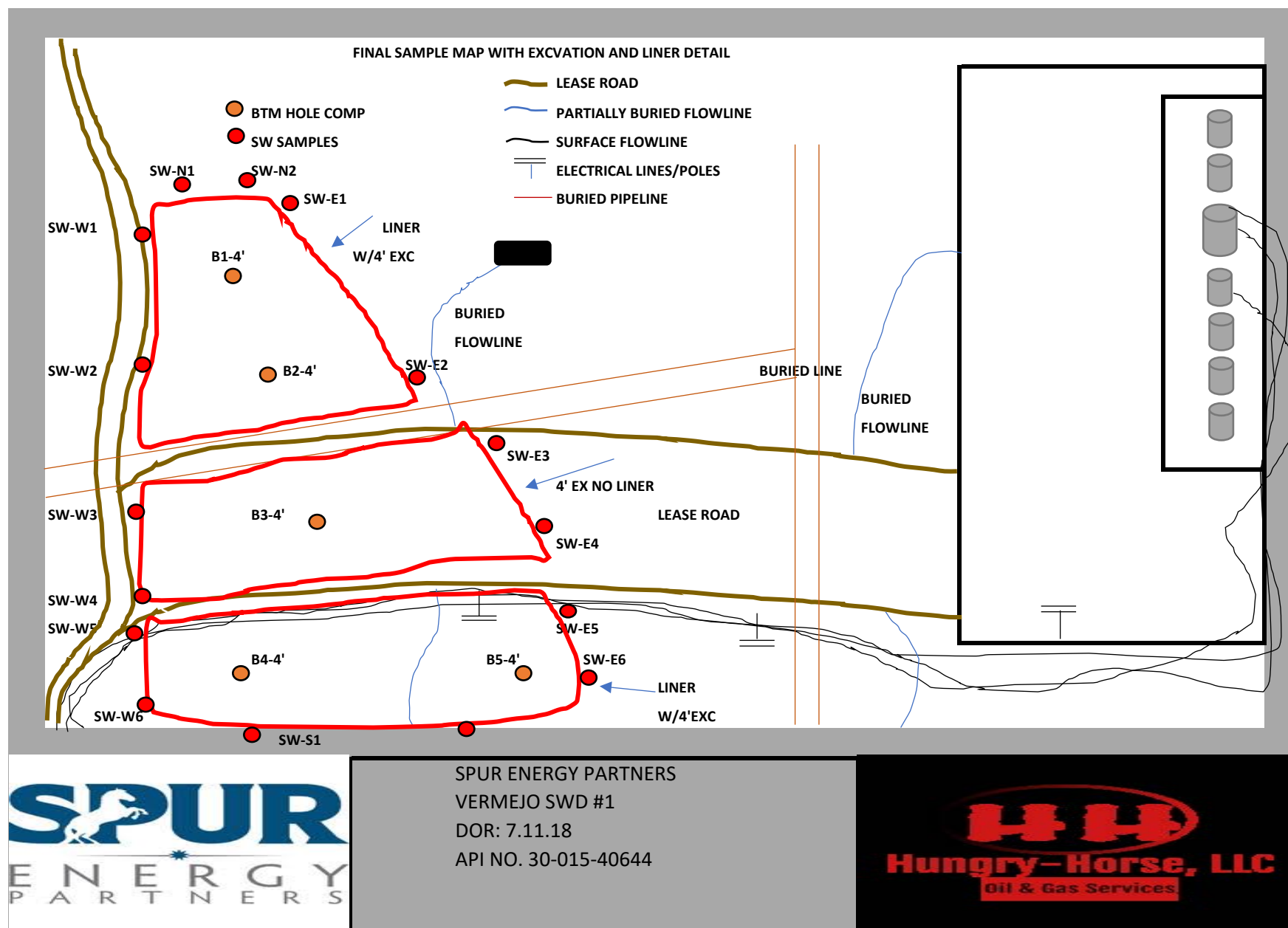
101 East Marland, Hobbs, NM 88240
(575) 393-2326 FAX (575) 393-2476

Company Name: <u>PERMITS</u>		BILL TO		ANALYSIS REQUEST	
Project Manager: <u>SENG HOBBS</u>		P.O. #:			
Address:		Company: <u>HUNGRY HORSE</u>			
City:		Attn:			
Phone #:		Address: <u>15704 EUNICE HWY</u>			
Project #:		City: <u>HOBBS</u>			
Project Name:		State: <u>NM</u> Zip: <u>88240</u>			
Project Location: <u>VERMILION Rd 1</u>		Phone #: <u>575-393-5840</u>			
Sampler Name: <u>MALE EVIDENCE</u>		Fax #: <u>575-391-1585</u>			
FOR LAB USE ONLY		PRESERV.		SAMPLING	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	
<u>H902249</u>				GROUNDWATER	
				WASTEWATER	
				SOIL	
				OIL	
				SLUDGE	
				OTHER:	
				ACID/BASE:	
				ICE / COOL	
				OTHER:	
				DATE	TIME
				<u>7-2-19</u>	<u>3:20</u>
					<u>3:25</u>
					<u>9:00</u>
					<u>9:03</u>
					<u>9:06</u>
					<u>9:09</u>
					<u>9:12</u>
					<u>9:17</u>
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Relinquished By: <u>Montana Hungry Horse</u>	Date: <u>7-3-19</u>	Received By: <u>Jessica Chalkley</u>			
Relinquished By: <u>Montana Hungry Horse</u>	Date: <u>7-3-20</u>	Received By: <u>Jessica Chalkley</u>			
Delivered By: (Circle One)	Time:	Sample Condition	CHECKED BY: (Initials)		
Sampler - UPS - Bus - Other:		Cool <input checked="" type="checkbox"/> Intact <input checked="" type="checkbox"/>			
		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
		Yes <input checked="" type="checkbox"/> No <input type="checkbox"/>			
REMARKS:		Phone Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Phone #: Fax Result: <input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> Add'l Fax #: REMARKS: <u>Montana Hungry Horse dem</u> <u>Montana Hungry Horse dem</u> <u>Push 11</u>			

Spur Energy Partners
Vermejo SWD #1

Closure Sample Data

VERTICAL SP ID	Depth	CHL MG/KG	BTEX MG/KG	GRO MG/KG	DRO MG/KG	E-DRO MG/KG	Ttl TPH MG/KG
SW-E1		144	<0.300	<10	<10	<10	<30
SW-E2		112	<0.300	<10	<10	<10	<30
SW-E3		64	<0.300	<10	<10	<10	<30
SW-E4		80	<0.300	<10	<10	<10	<30
SW-E5		208	<0.300	<10	<10	<10	<30
SW-E6		336	<0.300	<10	<10	<10	<30
SW-W1		128	<0.300	<10	<10	<10	<30
SW-W2		80	<0.300	<10	<10	<10	<30
SW-W3		272	<0.300	<10	<10	<10	<30
SW-W4		272	<0.300	<10	<10	<10	<30
SW-W5		48	<0.300	<10	<10	<10	<30
SW-W6		160	<0.300	<10	<10	<10	<30
B1-4		1120	<0.300	<10	<10	<10	<30
B2-4		1140	<0.300	<10	<10	<10	<30
B3-4		512	<0.300	<10	<10	<10	<30
B4-4		1440	<0.300	<10	<10	<10	<30
B5-4		2280	<0.300	<10	<10	<10	<30
B-COMP		1330	<0.300	<10	<10	<10	<30
SW-N1		304	<0.300	<10	<10	<10	<30
SW-N2		1280	<0.300	<10	<10	<10	<30
SW-S1		176	<0.300	<10	<10	<10	<30
SW-S2		80	<0.300	<10	<10	<10	<30





PHONE (575) 393-2326 ° 101 E. MARLAND ° HOBBS, NM 88240

July 16, 2019

NATALIE GLADDEN

Hungry Horse Environmental

P.O. Box 1058

Hobbs, NM 88240

RE: VERMISO FED #1

Enclosed are the results of analyses for samples received by the laboratory on 07/09/19 9:10.

Cardinal Laboratories is accredited through Texas NELAP under certificate number T104704398-18-11. Accreditation applies to drinking water, non-potable water and solid and chemical materials. All accredited analytes are denoted by an asterisk (*). For a complete list of accredited analytes and matrices visit the TCEQ website at www.tceq.texas.gov/field/qa/lab_accred_certif.html.

Cardinal Laboratories is accredited through the State of Colorado Department of Public Health and Environment for:

Method EPA 552.2	Haloacetic Acids (HAA-5)
Method EPA 524.2	Total Trihalomethanes (TTHM)
Method EPA 524.4	Regulated VOCs (V1, V2, V3)

Accreditation applies to public drinking water matrices.

This report meets NELAP requirements and is made up of a cover page, analytical results, and a copy of the original chain-of-custody. If you have any questions concerning this report, please feel free to contact me.

Sincerely,

A handwritten signature in black ink that reads "Celey D. Keene". The signature is written in a cursive, flowing style.

Celey D. Keene

Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received:	07/09/2019	Sampling Date:	07/03/2019
Reported:	07/16/2019	Sampling Type:	Soil
Project Name:	VERMISO FED #1	Sampling Condition:	Cool & Intact
Project Number:	SWD	Sample Received By:	Tamara Oldaker
Project Location:	PERCUSSION		

Sample ID: SW - E1 (H902325-01)

BTEX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97		
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47		
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80		
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61		
Total BTEX	<0.150	0.150	07/15/2019	ND						

Surrogate: Dibromofluoromethane 93.1 % 90.4-111

Surrogate: Toluene-d8 99.5 % 85.3-114

Surrogate: 4-Bromofluorobenzene 99.2 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	144	16.0	07/16/2019	ND	432	108	400	0.00		

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/15/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/15/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/15/2019	ND					

Surrogate: 1-Chlorooctane 87.9 % 41-142

Surrogate: 1-Chlorooctadecane 107 % 37.6-147

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*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - E2 (H902325-02)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 93.7 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 103 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	112	16.0	07/16/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/15/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/15/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/15/2019	ND					

Surrogate: 1-Chlorooctane 81.2 % 41-142

Surrogate: 1-Chlorooctadecane 95.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - E3 (H902325-03)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 92.9 % 90.4-111
 Surrogate: Toluene-d8 99.4 % 85.3-114
 Surrogate: 4-Bromofluorobenzene 101 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	64.0	16.0	07/16/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 82.2 % 41-142
 Surrogate: 1-Chlorooctadecane 99.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - E4 (H902325-04)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 93.5 % 90.4-111

Surrogate: Toluene-d8 100 % 85.3-114

Surrogate: 4-Bromofluorobenzene 99.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/16/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 79.9 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - E5 (H902325-05)

BTX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97		
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47		
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80		
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61		
Total BTX	<0.150	0.150	07/15/2019	ND						

Surrogate: Dibromofluoromethane 94.6 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 99.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	208	16.0	07/16/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 84.0 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - E6 (H902325-06)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 92.8 % 90.4-111

Surrogate: Toluene-d8 100 % 85.3-114

Surrogate: 4-Bromofluorobenzene 99.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	336	16.0	07/16/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 82.2 % 41-142

Surrogate: 1-Chlorooctadecane 99.3 % 37.6-147

Cardinal Laboratories

*=Accredited Analyte

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - W1 (H902325-07)

BTX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97		
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47		
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80		
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61		
Total BTX	<0.150	0.150	07/15/2019	ND						

Surrogate: Dibromofluoromethane 94.0 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 96.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	128	16.0	07/16/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 80.0 % 41-142

Surrogate: 1-Chlorooctadecane 96.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - W2 (H902325-08)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 94.0 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 96.4 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/16/2019	ND	432	108	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 81.9 % 41-142

Surrogate: 1-Chlorooctadecane 98.8 % 37.6-147

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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - W3 (H902325-09)

BTX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97		
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47		
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80		
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61		
Total BTX	<0.150	0.150	07/15/2019	ND						

Surrogate: Dibromofluoromethane 93.4 % 90.4-111

Surrogate: Toluene-d8 99.4 % 85.3-114

Surrogate: 4-Bromofluorobenzene 95.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 84.8 % 41-142

Surrogate: 1-Chlorooctadecane 101 % 37.6-147

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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - W4 (H902325-10)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 93.9 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 96.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	272	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 79.9 % 41-142

Surrogate: 1-Chlorooctadecane 95.8 % 37.6-147

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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - W5 (H902325-11)

BTX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97		
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47		
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80		
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61		
Total BTX	<0.150	0.150	07/15/2019	ND						

Surrogate: Dibromofluoromethane 94.0 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 95.2 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	48.0	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 86.4 % 41-142

Surrogate: 1-Chlorooctadecane 105 % 37.6-147

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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - W6 (H902325-12)

BTX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97		
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47		
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80		
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61		
Total BTX	<0.150	0.150	07/15/2019	ND						

Surrogate: Dibromofluoromethane 95.3 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 97.3 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	160	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 82.9 % 41-142

Surrogate: 1-Chlorooctadecane 99.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: B1 - 4 (H902325-13)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 95.6 % 90.4-111

Surrogate: Toluene-d8 100 % 85.3-114

Surrogate: 4-Bromofluorobenzene 96.1 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1120	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 82.1 % 41-142

Surrogate: 1-Chlorooctadecane 98.3 % 37.6-147

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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: B2 - 4 (H902325-14)

BTEx 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTEX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 94.6 % 90.4-111

Surrogate: Toluene-d8 99.4 % 85.3-114

Surrogate: 4-Bromofluorobenzene 91.5 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1140	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 81.1 % 41-142

Surrogate: 1-Chlorooctadecane 97.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: B3 - 4 (H902325-15)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 95.3 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 96.5 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	512	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 80.8 % 41-142

Surrogate: 1-Chlorooctadecane 95.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



PHONE (575) 393-2326 • 101 E. MARLAND • HOBBS, NM 88240

Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: B4 - 4 (H902325-16)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 94.8 % 90.4-111

Surrogate: Toluene-d8 99.1 % 85.3-114

Surrogate: 4-Bromofluorobenzene 94.5 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1440	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 81.5 % 41-142

Surrogate: 1-Chlorooctadecane 103 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: B5 - 4 (H902325-17)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 95.5 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 94.9 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	2280	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 81.8 % 41-142

Surrogate: 1-Chlorooctadecane 102 % 37.6-147

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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: B- COMP (H902325-18)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/15/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/15/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/15/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/15/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/15/2019	ND					

Surrogate: Dibromofluoromethane 95.4 % 90.4-111

Surrogate: Toluene-d8 99.9 % 85.3-114

Surrogate: 4-Bromofluorobenzene 93.2 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1330	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 81.2 % 41-142

Surrogate: 1-Chlorooctadecane 97.6 % 37.6-147

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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - N1 (H902325-19)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/16/2019	ND	2.04	102	2.00	3.97	
Toluene*	<0.025	0.025	07/16/2019	ND	2.14	107	2.00	2.47	
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.21	111	2.00	2.80	
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	2.61	
Total BTX	<0.150	0.150	07/16/2019	ND					

Surrogate: Dibromofluoromethane 94.3 % 90.4-111

Surrogate: Toluene-d8 101 % 85.3-114

Surrogate: 4-Bromofluorobenzene 93.1 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	304	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 85.0 % 41-142

Surrogate: 1-Chlorooctadecane 104 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - N2 (H902325-20)

BTX 8260B			mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/16/2019	ND	2.04	102	2.00	3.97		
Toluene*	<0.025	0.025	07/16/2019	ND	2.14	107	2.00	2.47		
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.21	111	2.00	2.80		
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	2.61		
Total BTX	<0.150	0.150	07/16/2019	ND						

Surrogate: Dibromofluoromethane 96.5 % 90.4-111

Surrogate: Toluene-d8 100 % 85.3-114

Surrogate: 4-Bromofluorobenzene 94.0 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	1280	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	206	103	200	14.0	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	210	105	200	22.4	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 80.7 % 41-142

Surrogate: 1-Chlorooctadecane 98.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - S1 (H902325-21)

BTX 8260B		mg/kg		Analyzed By: ms						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53		
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18		
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08		
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10		
Total BTX	<0.150	0.150	07/16/2019	ND						

Surrogate: Dibromofluoromethane 98.6 % 90.4-111

Surrogate: Toluene-d8 98.1 % 85.3-114

Surrogate: 4-Bromofluorobenzene 89.1 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	176	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	190	95.1	200	0.351	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.6	200	4.27	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 76.6 % 41-142

Surrogate: 1-Chlorooctadecane 83.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

Hungry Horse Environmental
 NATALIE GLADDEN
 P.O. Box 1058
 Hobbs NM, 88240
 Fax To: (505) 391-4585

Received: 07/09/2019
 Reported: 07/16/2019
 Project Name: VERMISO FED #1
 Project Number: SWD
 Project Location: PERCUSSION

Sampling Date: 07/03/2019
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SW - S2 (H902325-22)

BTX 8260B		mg/kg		Analyzed By: ms					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Benzene*	<0.025	0.025	07/16/2019	ND	2.02	101	2.00	3.53	
Toluene*	<0.025	0.025	07/16/2019	ND	2.10	105	2.00	2.18	
Ethylbenzene*	<0.025	0.025	07/16/2019	ND	2.17	108	2.00	2.08	
Total Xylenes*	<0.075	0.075	07/16/2019	ND	7.06	118	6.00	1.10	
Total BTX	<0.150	0.150	07/16/2019	ND					

Surrogate: Dibromofluoromethane 98.4 % 90.4-111

Surrogate: Toluene-d8 98.9 % 85.3-114

Surrogate: 4-Bromofluorobenzene 90.4 % 80.1-121

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	80.0	16.0	07/16/2019	ND	416	104	400	0.00	

TPH 8015M		mg/kg		Analyzed By: MS					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
GRO C6-C10*	<10.0	10.0	07/16/2019	ND	190	95.1	200	0.351	
DRO >C10-C28*	<10.0	10.0	07/16/2019	ND	189	94.6	200	4.27	
EXT DRO >C28-C36	<10.0	10.0	07/16/2019	ND					

Surrogate: 1-Chlorooctane 71.7 % 41-142

Surrogate: 1-Chlorooctadecane 77.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

QR-02	The RPD result exceeded the QC control limits; however, both percent recoveries were acceptable. Sample results for the QC batch were accepted based on percent recoveries and completeness of QC data.
A-01	DRO failed QC limits high in CCV. All associated samples were reported as ND. No further action necessary.
ND	Analyte NOT DETECTED at or above the reporting limit
RPD	Relative Percent Difference
**	Samples not received at proper temperature of 6°C or below.
***	Insufficient time to reach temperature.
-	Chloride by SM4500Cl-B does not require samples be received at or below 6°C Samples reported on an as received basis (wet) unless otherwise noted on report

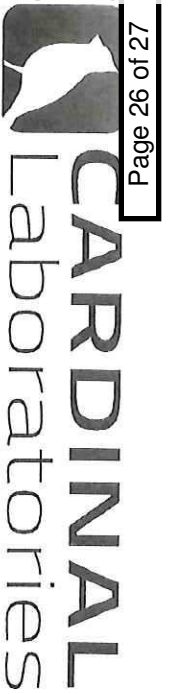
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A handwritten signature in black ink, appearing to read "Celey D. Keene", is written over a horizontal line.

Celey D. Keene, Lab Director/Quality Manager



2018

LUSHN!

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240
 (575) 393-2326 FAX (575) 393-2476

Company Name: <u>PERMUTATION</u>		BILL TO		ANALYSIS REQUEST	
Project Manager: <u>Sally Matthews</u>		P.O. #:			
Address:		Company: <u>Hungry Horse</u>			
City:		Attn:			
State:		Address: <u>3709 Eunice Hwy</u>			
Zip:		City: <u>Hobbs</u>			
Phone #:		State: <u>NM</u> Zip: <u>88240</u>			
Fax #:		Phone #: <u>575-393-3386</u>			
Project #:		Fax #: <u>575-391-4588</u>			
Project Name:					
Project Location: <u>Permuto Fed 1 SWD</u>					
Sampler Name: <u>Matt Rivera</u>					
FOR LAB USE ONLY		PRESERV.		SAMPLING	
Lab I.D.	Sample I.D.	(G)RAB OR (C)OMP.	# CONTAINERS	MATRIX	
				GROUNDWATER	
				WASTEWATER	
				SOIL	
				OIL	
				SLUDGE	
				OTHER :	
				ACID/BASE:	
				ICE / COOL	
				OTHER :	
				DATE	TIME
H962325	SW-105			7-19	9:05
	SW-106				9:08
	SW-107				9:10
	SW-108				9:11
	SW-109				9:12
	SW-110				9:13
	SW-111				9:14
	SW-112				9:15
	SW-113				9:16
	SW-114				9:17
	SW-115				9:18
	SW-116				9:19
	SW-117				9:20
	SW-118				9:21
	SW-119				9:22
	SW-120				9:23
	SW-121				9:24
	SW-122				9:25
	SW-123				9:26
	SW-124				9:27
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	SW-329</				



350

2.5.1

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

(575) 393-2326 FAX (575) 393-2476

[illegible]

Bamert Seed Company Inc.

1897 CR 1018 Muleshoe, TX 79347

(800) 262-9892

Permit # TX00905

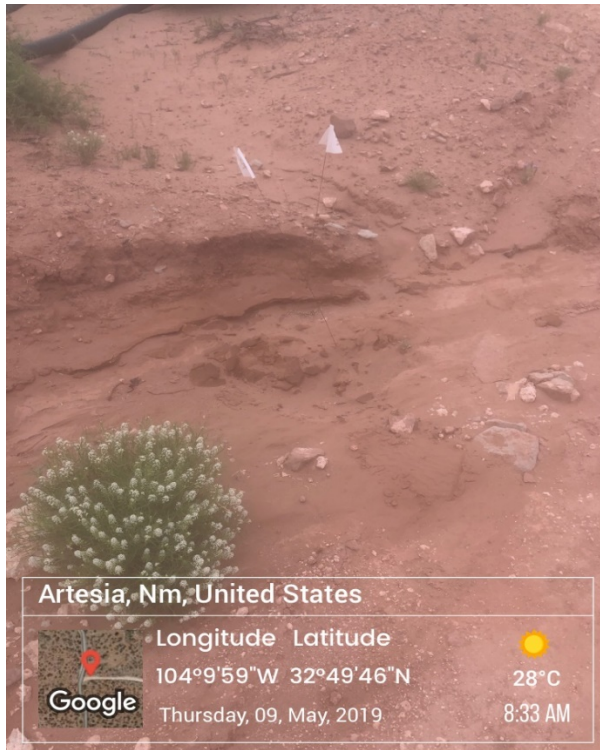
BLM Seed Mixture 3 Bagged 25#

Sales # SO-67652

Description	Pure Seed	Germ	Dormant	Hard Seed	Origin
Bristlegrass Plains, (Setaria vulpiseta)	11.98%	8.00%	79.00%	0.00%	TX
Gramma, Sideoats "Haskell" (Bouteloua curtipendula)	53.20%	98.00%	0.00%	0.00%	TX
Green Sprangletop, "Van Horn" (Leptochloa dubia)	21.06%	5.00%	94.00%	0.00%	TX
Purity: 86.24%	Inert Matter: 13.48%	Other Crop Seed: 0.17%			Weed Seed: 0.08%
Noxious Weeds: None	Test Date: 06/2019				Net Wt: 25 lbs

Vanmillo sub #1

**SPUR ENERGY PARTNERS
VERMEJO SWD #1
BEGINNING PHOTOS**

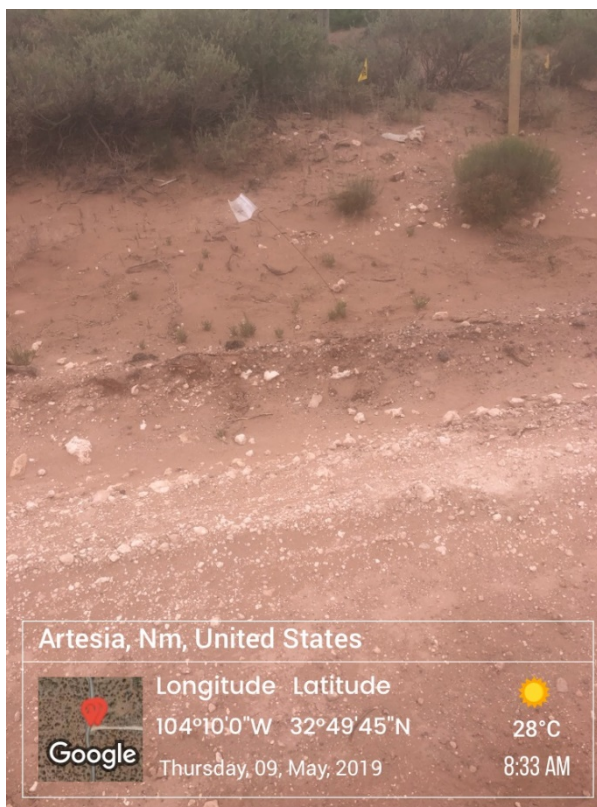
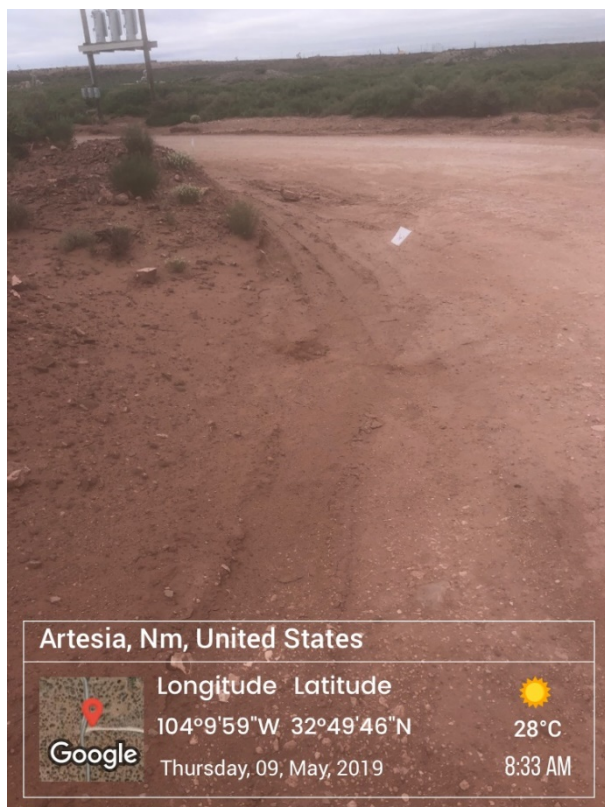


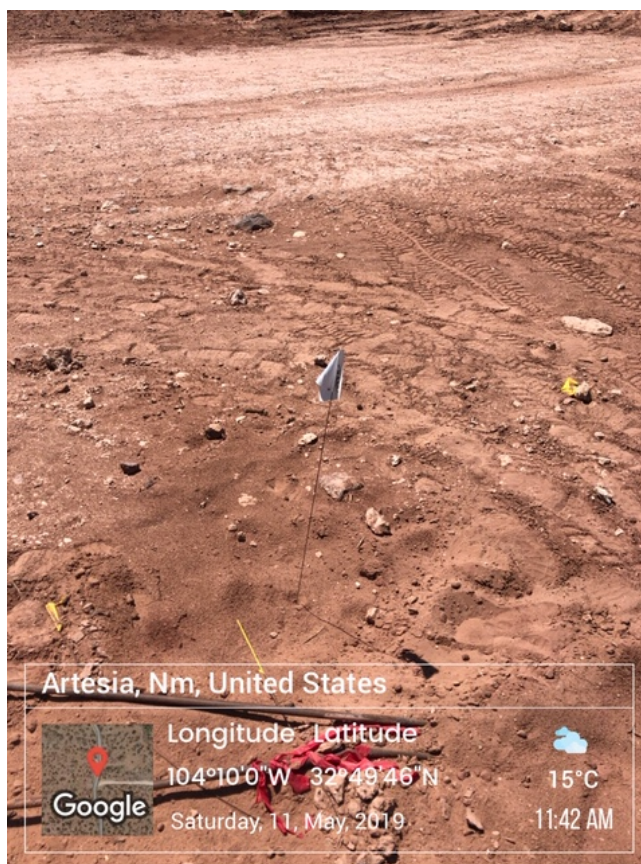
Artesia, Nm, United States



Longitude Latitude
104°9'59"W 32°49'46"N
Thursday, 09, May, 2019

28°C
8:33 AM





Percussion
Vermijo Fed 1
During Photos



Percussion
Vermijo Fed 1
During Photos



Percussion
Vermijo Fed 1
During Photos



Percussion
Vermijo Fed 1
During Photos



Percussion
Vermijo Fed 1
During Photos



**Percussion
Vermijo Fed 1
During Photos**



SPUR
VERMIJO SWD #1
DURING PHOTOS



SPUR
VERMIJO SWD #1
DURING PHOTOS



SPUR
VERMIJO SWD #1
DURING PHOTOS



SPUR
VERMIJO SWD #1
DURING PHOTOS



SPUR
VERMIJO SWD #1
DURING PHOTOS



State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

This information must be provided to the appropriate district office no later than 90 days after the release discovery date.

What is the shallowest depth to groundwater beneath the area affected by the release?	<u>58'</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within ½-mile of the lateral extents of the release
- ☐ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
Facility ID	
Application ID	

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.

Printed Name: Natalie Gladden Title: Director of Environmental and Regulatory

Signature:  Date: 2/16/2020

email: ngladden@hungry-horse.com Telephone: 575-390-6397

OCD Only

Received by: _____ Date: _____

State of New Mexico
Oil Conservation Division

Incident ID	AB1821234959
District RP	2RP-4882
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 OCD 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: Natalie Gladden Title: Director of Environmental & Regulatory

Signature:  Date: 2/16/2020

email: ngladden@hungry-horse.com Telephone: 575-390-6397

OCD Only

Received by: _____ Date: _____

Closure approval by the OCD does not relieve the responsible party of liability should their operations have failed to adequately investigate and remediate contamination that poses a threat to groundwater, surface water, human health, or the environment nor does not relieve the responsible party of compliance with any other federal, state, or local laws and/or regulations.

Closure Approved by: Bradford Billings Date: 08/06/2021

Printed Name: Bradford Billings Title: Envi.Spec.A

District I
1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720
District II
811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720
District III
1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170
District IV
1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

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

CONDITIONS

Action 3972

CONDITIONS

Operator: Spur Energy Partners LLC 9655 Katy Freeway Houston, TX 77024	OGRID: 328947
	Action Number: 3972
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
bbillings	MUST have a scaled map in future reports.	8/6/2021