



CLOSURE REPORT

MILLMAN SB STATE #2

API NO: 30-015-24756

2RP – 4983

RELEASE DATE: 9.11.2018

**U/L: K – SECTION 16 – TOWNSHIP 19S – RANGE 28E
EDDY COUNTY, NEW MEXICO**

PREPARED BY:



**4024 PLAINS HWY
LOVINGTON, NM 88260**

March 17, 2020

Grizzly Energy
C/O Carmen Pitt
4001 Penbrook, Suite 201
Odessa, TX 79761

New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau – District II
C/O Robert Hamlet, Environmental Specialist
811 S. First Street
Artesia, NM 88210

RE: CLOSURE REPORT REQUEST
GRIZZLY ENERGY – MILLMAN SB STATE #2
API NO. 30-025-05430

Dear Robert,

On behalf of Grizzly Energy, Hungry Horse LLC would like to address the environmental remediation that was conducted on the Millman SB State #2 and to request the closure of the release detailed herein. Please note that White Buffalo Environmental conducted the delineation and submitted the remediation plan for this site on December 3rd, 2018.

The site is located in Eddy County, New Mexico. The incident occurred due to an offset frac on a nearby well, that caused the separator to overpressure and release through the relief valve. A large area was sprayed by oil that covered approximately 304,920 Sq. Ft. of pasture and pad area. The release occurred on or before September 11th of 2018.

Ground Water Data

An extended ground water study of the area was conducted prior to delineation of the site and it was determined that according to the New Mexico Office of the State Engineer, the vadose zone depth at this release location averaged 167'bgs. Detailed below, you will find the closest wells located to the Millman State SB #2:

CP 00361 POD 1 – 1,575 ft. from the site at a depth of 265'bgs (below ground surface)
CP 00478 POD 1 – 3,530 ft. from the site at a depth of 145'bgs
CP 00502 – 3,679 ft. from the site at a depth of 91'bgs

Site Characteristics

Using the Table I, Closure Criteria for Soils Impacted by a Release, dated after 8/14/2018, the site falls under the site ranking of greater than 100'bgs. This site was delineated as to the new rule. Below you will find the site ranking for the Millman SB State #2:

Closure Criteria for Soil NMAC 19.15.29			
Depth	Constituent	Method	Limit
>100 feet	Chloride	EPA 300.0 OR SM4500 CL B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method	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

Background

The site had an accidental discharge of fluid associated with the Millman SB State #2. It was estimated that 28bbls of oil was released onto the pad and pasture area. No fluid was recovered at the time of notification due to the release being a spray release only. As mentioned above the release was discovered on or before September 11th of 2018. The NMOCD assigned 2RP-4983 to this release as specified in the email attached dated 9.26.2018.

Delineation

On October 30th, of 2018, White Buffalo Environmental was contracted by Grizzly Energy to conduct an onsite investigation and to begin delineation of the impacted area. Surface samples were obtained and site was measured for accurate impact. The site was fully delineated vertically and horizontally, as seen in the remediation plan that was submitted by WBE on February 7th of 2019, which is located on the NMOCD website. The remediation plan was approved by the NMOCD on April 26th of 2019, please see attached emails.

Remediation

As per the Remediation Workplan, only the surface of the impacted area would be remediated per NMOCD Guidelines. On June 10th of 2019, Hungry Horse, LLC began the remediation of this site detailed herein. The surface area was scraped and the impacted soil was loaded and hauled to Lea Land for disposal. The Hydrocarbon impacted mesquite was removed and also hauled to Lea Land. The location pad and pasture area was back-dragged. The pasture area was ripped and seeded with BLM #3 seed (Seed Tag Attached) to ensure vegetation was put back to its natural state. The impacted area measured a total of seven acres of sprayed surface. A total of 300 cubic yards of impacted soil and mesquite was hauled to Lea Land.

In the email correspondence with NMOCD, final closure sampling was not conducted. Due to the large number of samples that were taken during the remediation process with the significantly large area of impact, the NMOCD acknowledged the delineation sampling event as closure samples as well. A total of 47 sample points and 15 sidewalls were obtained during the delineation process. Please see the sample map attached with the following field and lab data.

Please also see the 2020 Google site map that shows the remediation has taken place along with site photos that are attached as well.

Conclusion

With the data provided for the remediation of the Millman State SB State #2, Hungry Horse, LLC on behalf of Grizzly Energy would like to request closure of the environmental release that occurred on September 11th, 2018.

If you have any questions regarding this closure request, please do not hesitate to contact me at any time.

Sincerely,



Natalie Gladden

Director of Environmental & Regulatory Services

Hungry Horse, LLC

4024 Plains Highway

Lovington, NM 88260

Cell: (575) 390-6397

Email: ngladden@hungry-horse.com

Attachments:

Initial C141

2RP-4983 OCD Email

Remediation C141

Remediation Approval Email

Ground Water Data

Ground Water Map

Karst Map

Sample Data & Sample Map

Remediation Map

Laboratory Analysis

Initial, Remediation and Final Photos
Final C141



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

State of New Mexico
Energy Minerals and Natural
Resources Department

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

Form C-141
Revised August 24, 2018
Submit to appropriate OCD District office

Incident ID	NMAP1826969177
District RP	2RP-4983
Facility ID	N/A
Application ID	pMAP1826968910

Release Notification

Responsible Party

Responsible Party Vanguard Operating, LLC	OGRID 258350
Contact Name Jason Fisher	Contact Telephone 505—918-0523
Contact email jfisher@vnrenergy.com	Incident # (assigned by OCD) NMAP1826969177
Contact mailing address 4001 Penbrooke Suite 201 Odessa, TX 79762	

Location of Release Source

Latitude 32.658802

Longitude -104.1830902

(NAD 83 in decimal degrees to 5 decimal places)

Site Name Millman SB State #2	Site Type Well Site
Date Release Discovered 9-11-2018	API# 30-015-24756

Unit Letter	Section	Township	Range	County
K	16	19S	28E	Eddy

Surface Owner: ☐ State ☐ Federal ☐ Tribal ☐ Private (Name: _____)

Nature and Volume of Release

Material(s) Released (Select all that apply and attach calculations or specific justification for the volumes provided below)

<input checked="" type="checkbox"/> Crude Oil	Volume Released (bbls) 28	Volume Recovered (bbls) 0
Produced Water	Volume Released (bbls)	Volume Recovered (bbls)
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release The well was hit by an offset frac causing the separator to overpressure and release through the relief valve. A large area was sprayed by oil on and off pad. The oil was estimated by calculating the displacement of the pipe string.

B&B Backhoe began scraping and stockpiling the soil. TRC will begin sampling to delineate the area and prepare a work plan.

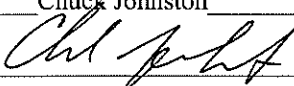

State of New Mexico
Oil Conservation Division

Incident ID	NMAP1826969177
District RP	2RP-4983
Facility ID	N/A
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Was this a major release as defined by 19.15.29.7(A) NMAC? X Yes <input type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release? Greater than 25 bbls.
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes by Chuck Johnston to Mike Bratcher by email 9-12-2018 5:04 pm.	

Initial Response

The responsible party must undertake the following actions immediately unless they could create a safety hazard that would result in injury

<input checked="" type="checkbox"/> The source of the release has been stopped.	
<input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment.	
<input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices.	
<input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
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: <u>Chuck Johnston</u>	Title: <u>EHS Operations Specialist</u>
Signature: 	Date: <u>9-24-2018</u>
email: <u>cjohnston@vnrenergy.com</u>	Telephone: <u>432-202-4771</u>
OCD Only Received by:  Date: <u>09/26/18</u>	

From: [Pruett, Maria, EMNRD](#)
To: [Bratcher, Mike, EMNRD](#); [Chuck Johnston](#)
Cc: [Mann, Ryan](#)
Subject: 2RP-4983 Millman SB State #2 C-141
Date: Wednesday, September 26, 2018 7:16:00 PM
Attachments: [2. OCD Signed Release Notification Millman SB State #2 C-141.pdf](#)
[image001.png](#)

Hello Mr. Johnston,

OCD has received your Release Notification C-141, thank you! This has been assigned 2RP-4983. Please let me know if you have any questions.

Best Regards,

Maria Pruett

Environmental Specialist
N.M. Oil Conservation Division
District 2
811 S. 1st Street
Artesia, NM 88210
Desk: 575 748-1283 X 101
Cell: 575 840-5963
Fax: 575748-9720

From: Chuck Johnston <cjohnston@vnrenergy.com>
Sent: Tuesday, September 25, 2018 9:17 AM
To: Bratcher, Mike, EMNRD <mike.bratcher@state.nm.us>
Subject: Millman SB State #2 C-141

Mike, please find attached the C-141 form for the Millman SB State #2. We are scheduling TRC to sample and delineate.

Chuck Johnston
EHS / Operations Specialist
432-202-4771 Cell
432-248-8154 Office
4001 Penbrooke Ste. 201
Odessa, TX 79762



District I
1625 N. French Dr., Hobbs, NM 88240
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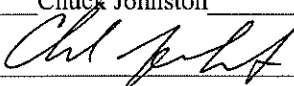

State of New Mexico
Oil Conservation Division

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Printed Name: <u>Chuck Johnston</u>	Title: <u>EHS Operations Specialist</u>
Signature: 	Date: <u>9-24-2018</u>
email: <u>cjohnston@vnrenergy.com</u>	Telephone: <u>432-202-4771</u>
<u>OCD Only</u> Received by:  Date: <u>09/26/18</u>	

State of New Mexico
Oil Conservation Division

Incident ID	
District RP	
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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?	377' (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: Environmental and Regulatory Director

Signature:  Date: 2/7/19

email: Natalie.Gladden@whitebuffalo.com Telephone: 575-390-6397

OCD Only

Received by: Robert Hamlet Date: 4/26/2019

Incident ID	NMAP1826969177
District RP	
Facility ID	
Application ID	

Remediation Plan

Remediation Plan Checklist: *Each of the following items must be included in the plan.*

- ☒ Detailed description of proposed remediation technique
- ☐ Scaled sitemap with GPS coordinates showing delineation points
- ☒ Estimated volume of material to be remediated
- ☒ Closure criteria is to Table 1 specifications subject to 19.15.29.12(C)(4) NMAC
- ☒ Proposed schedule for remediation (note if remediation plan timeline is more than 90 days OCD approval is required)

Deferral Requests Only: *Each of the following items must be confirmed as part of any request for deferral of remediation.*

- ☐ Contamination must be in areas immediately under or around production equipment where remediation could cause a major facility deconstruction.
- ☐ Extents of contamination must be fully delineated.
- ☐ Contamination does not cause an imminent risk to human health, the environment, or groundwater.

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: Environmental and Regulatory Director

Signature: Natalie Gladden Date: 2/7/19

email: natalie.gladden@whitebuffalo.com Telephone: 575-390-6397

OCD Only

Received by: Robert Hamlet Date: 4/26/2019

☒ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved

Signature: [Signature] Date: 4/26/2019

Incident ID	NMAP1826969177
District RP	2RP-4983
Facility ID	
Application ID	pMAP1826968910

Closure

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

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

- ☒ A scaled site and sampling diagram as described in 19.15.29.11 NMAC
- ☒ Photographs of the remediated site prior to backfill or photos of the liner integrity if applicable (Note: appropriate OCD District office must be notified 2 days prior to liner inspection)
- ☒ Laboratory analyses of final sampling (Note: appropriate ODC District office must be notified 2 days prior to final sampling)
- ☒ Description of remediation activities

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

Printed Name: Carmen E Pitt Title: Senior EHS Specialist

Signature: Carmen E Pitt Date: 3/17/2020

email: cpitt@grizzlyenergyllc.com Telephone: 432-248-8145

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: _____ Date: _____

Printed Name: _____ Title: _____

Hamlet, Robert, EMNRD

From: Hamlet, Robert, EMNRD
Sent: Friday, April 26, 2019 9:51 AM
To: 'Natalie Gladden'
Cc: Bratcher, Mike, EMNRD; Venegas, Victoria, EMNRD
Subject: Remediation Plan Approval - Vanguard - Millman SB State #2 - (2RP-4983) 9-11-2019
Attachments: Remediation Plan Approval - Vanguard - Work Plan Millman SB State 2 - (2RP-4983) 4-26-2019.pdf

Natalie,

After looking at the soil samples, it looks like the fluid that was released was mostly water. Frac fluid is usually composed of 100 mesh sand, clean water, and a varying amount of acid. If 28 BBLs of oil was released there would have been high amounts of organics on the surface.

When you send in this type of closure in the future, please ask for a variance on representative sample size area (Example: 1000 ft) set forth in 19.15.29.14 NMAC. Also, give 48 hrs notice on sampling date, so OCD has an opportunity to witness if personnel are available.

Since a large number of samples have already been conducted, we will accept the sampling regime for closure after the surface staining has been remediated and we receive the closure report.

We have received your Workplan/Remediation Proposal for **2RP-4983 Millman SB State #2**, thank you. This Workplan/Remediation proposal is approved.

Please let me know if you have any further questions.

Regards,

Robert J Hamlet
State of New Mexico
Energy, Minerals, and Natural Resources
Oil Conservation Division
811 S. First St., Artesia NM 88210
(575) 840-5963
Robert.Hamlet@state.nm.us

OCD approval does not relieve the operator of liability should their operations fail to adequately investigate and remediate contamination that may pose a threat to groundwater, surface water, human health or the environment. In addition, OCD approval does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

From: Natalie Gladden <Natalie.Gladden@whitebuffalo.com>
Sent: Thursday, April 25, 2019 10:35 AM
To: Hamlet, Robert, EMNRD <Robert.Hamlet@state.nm.us>
Subject: [EXT] FW: Corrected Work Plan for Vanguard Millman SB State #2
Importance: High

Natalie Gladden

Regulatory & Environmental Director



[White Buffalo Environmental, Inc.](#)

407 East Broadway

Hobbs, NM 88240

O: (575) 738-0424

F: (575) 738-0430

C: (575) 390-6397

From: Natalie Gladden

Sent: Thursday, February 21, 2019 11:44 AM

To: 'mike.bratcher@state.nm.us' <mike.bratcher@state.nm.us>

Subject: FW: Corrected Work Plan for Vanguard Millman SB State #2

Importance: High

Have you had a chance to finalize this workplan. Vanguard would like to move forward immediately.

Thank you

Natalie Gladden

Regulatory & Environmental Director



[White Buffalo Environmental, Inc.](#)

407 East Broadway

Hobbs, NM 88240

O: (575) 738-0424

F: (575) 738-0430

C: (575) 390-6397

From: Natalie Gladden

Sent: Thursday, February 7, 2019 11:34 AM

To: 'mike.bratcher@state.nm.us' <mike.bratcher@state.nm.us>

Subject: Corrected Work Plan for Vanguard Millman SB State #2

Mike,

I have inserted the appropriate pages on the C141. The only thing we did not have at this time was the GPS photos. But these will be done going forward.

Thank you for your assistance.

Natalie Gladden

Regulatory & Environmental Director



[White Buffalo Environmental, Inc.](#)

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C: (575) 390-6397



New Mexico Office of the State Engineer

Wells with Well Log Information

No wells found.

UTMNAD83 Radius Search (in meters):

Easting (X): 576609

Northing (Y): 3613757.47

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.

3/17/20 8:39 AM

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 Number	Code	POD		Source	q q q				X	Y	Distance	Start Date	Finish Date	Log File Date	Depth Well	Depth Water	Driller	License Number			
		Subbasin	County		64	16	4	Sec											Tws	Rng	
CP.00361 POD1		CP	ED	Shallow	3	1	3	09	19S	28E	576094	3615246*	<input type="checkbox"/>	1575	04/19/1971	05/13/1966	05/25/1971	365	265	LOWE DRILLING CO.	
CP.00478 POD1		CP	ED	Shallow	1	1	4	05	19S	28E	575300	3617036*	<input type="checkbox"/>	3530	12/12/1969	12/23/1969	01/02/1970	312	145	CLYDE TIDWELL	406
CP.00502		CP	ED	Shallow	1	1	18	19S	28E		573001	3614478*	<input type="checkbox"/>	3679	03/23/1972	03/25/1972	04/05/1972	100	91	BARRON, EMMETT	30

Record Count: 3

UTMNAD83 Radius Search (in meters):

Easting (X): 576609

Northing (Y): 3613757.47

Radius: 5000

*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.

3/17/20 8:39 AM

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
CP 00361	POD1	3	1	3	09	19S	28E	576094	3615246*

Driller License: **Driller Company:**

Driller Name: LOWE DRILLING CO.

Drill Start Date: 04/19/1971

Drill Finish Date: 05/13/1966

Plug Date:

Log File Date: 05/25/1971

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 8.63

Depth Well: 365 feet

Depth Water: 265 feet

Water Bearing Stratifications:

Top Bottom Description

265 365 Sandstone/Gravel/Conglomerate

Casing Perforations:

Top Bottom

288 348

*UTM location was derived from PLSS - see Help

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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
CP 00478	POD1	1	1	4	05	19S	28E	575300	3617036*

Driller License: 406 **Driller Company:** TIDWELL, CLYDE J.

Driller Name: CLYDE TIDWELL

Drill Start Date: 12/12/1969

Drill Finish Date: 12/23/1969

Plug Date:

Log File Date: 01/02/1970

PCW Rcv Date: 11/01/1971

Source: Shallow

Pump Type: SUBMER

Pipe Discharge Size:

Estimated Yield: 7 GPM

Casing Size: 7.00

Depth Well: 312 feet

Depth Water: 145 feet

Water Bearing Stratifications:

Top Bottom Description

150 160 Sandstone/Gravel/Conglomerate

200 262 Sandstone/Gravel/Conglomerate

Casing Perforations:

Top Bottom

140 262

*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.



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
	CP 00502	1	1	18	19S	28E	573001	3614478*	

Driller License: 30 **Driller Company:** BARRON, EMMETT

Driller Name: BARRON, EMMETT

Drill Start Date: 03/23/1972

Drill Finish Date: 03/25/1972

Plug Date:

Log File Date: 04/05/1972

PCW Rcv Date:

Source: Shallow

Pump Type:

Pipe Discharge Size:

Estimated Yield:

Casing Size: 5.25

Depth Well: 100 feet

Depth Water: 91 feet

Water Bearing Stratifications:	Top	Bottom	Description
	95	100	Sandstone/Gravel/Conglomerate

*UTM location was derived from PLSS - see Help

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GRIZZLY ENERGY

MILLMAN SB STATE #2
GROUND WATER MAP

CP 00478 POD 1 - 3530' FROM SITE - 145'DGW



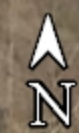
CP 00361 POD1 - 1575' FROM SITE - 265'DGW



CP 00502 - 3679' FROM SITE - 91'DGW



MILLMAN STATE SB #2

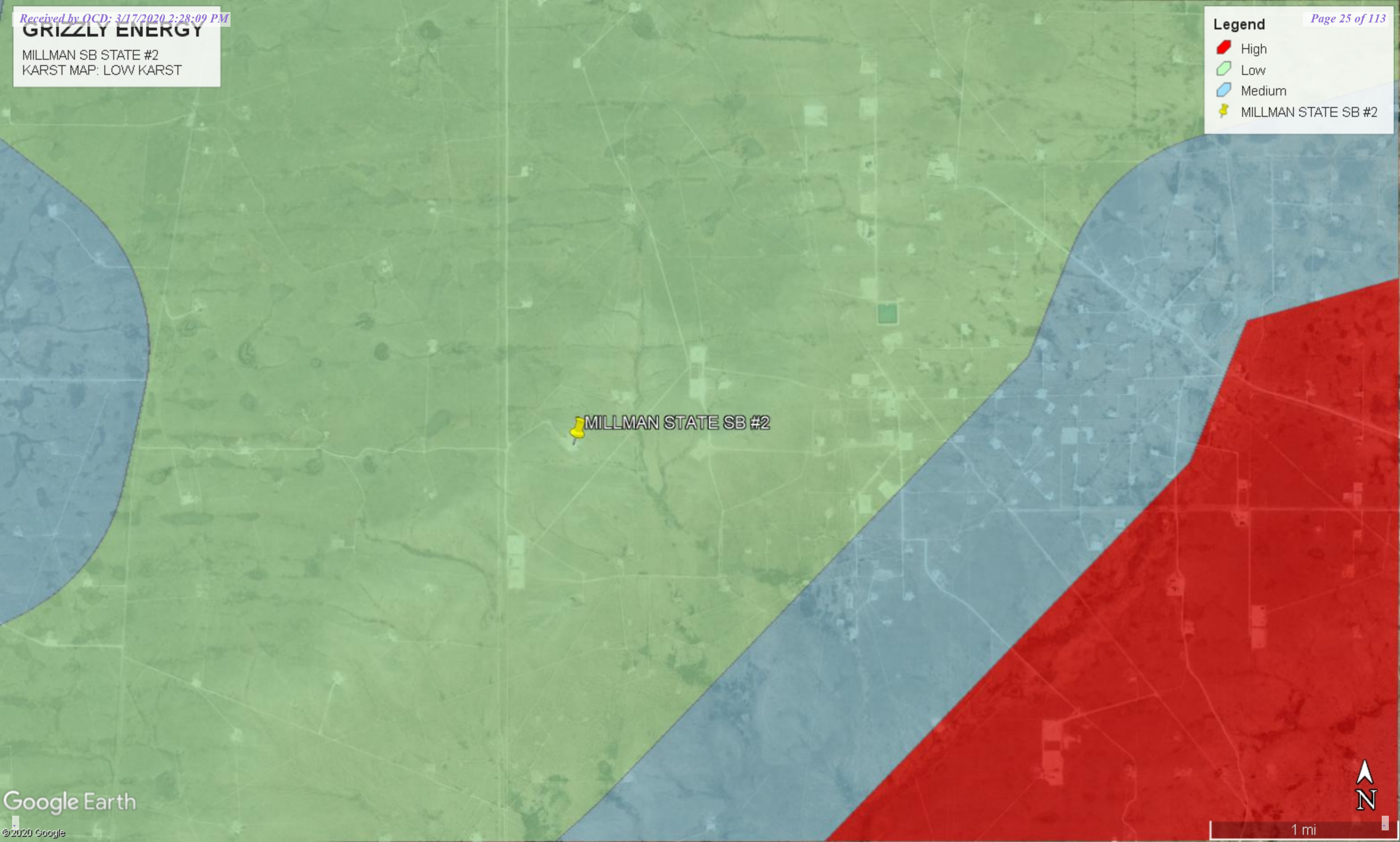


GRIZZLY ENERGY

MILLMAN SB STATE #2
KARST MAP: LOW KARST

Legend

- High
- Low
- Medium
- MILLMAN STATE SB #2



VANGUARD - MILLMAN SB STATE #2

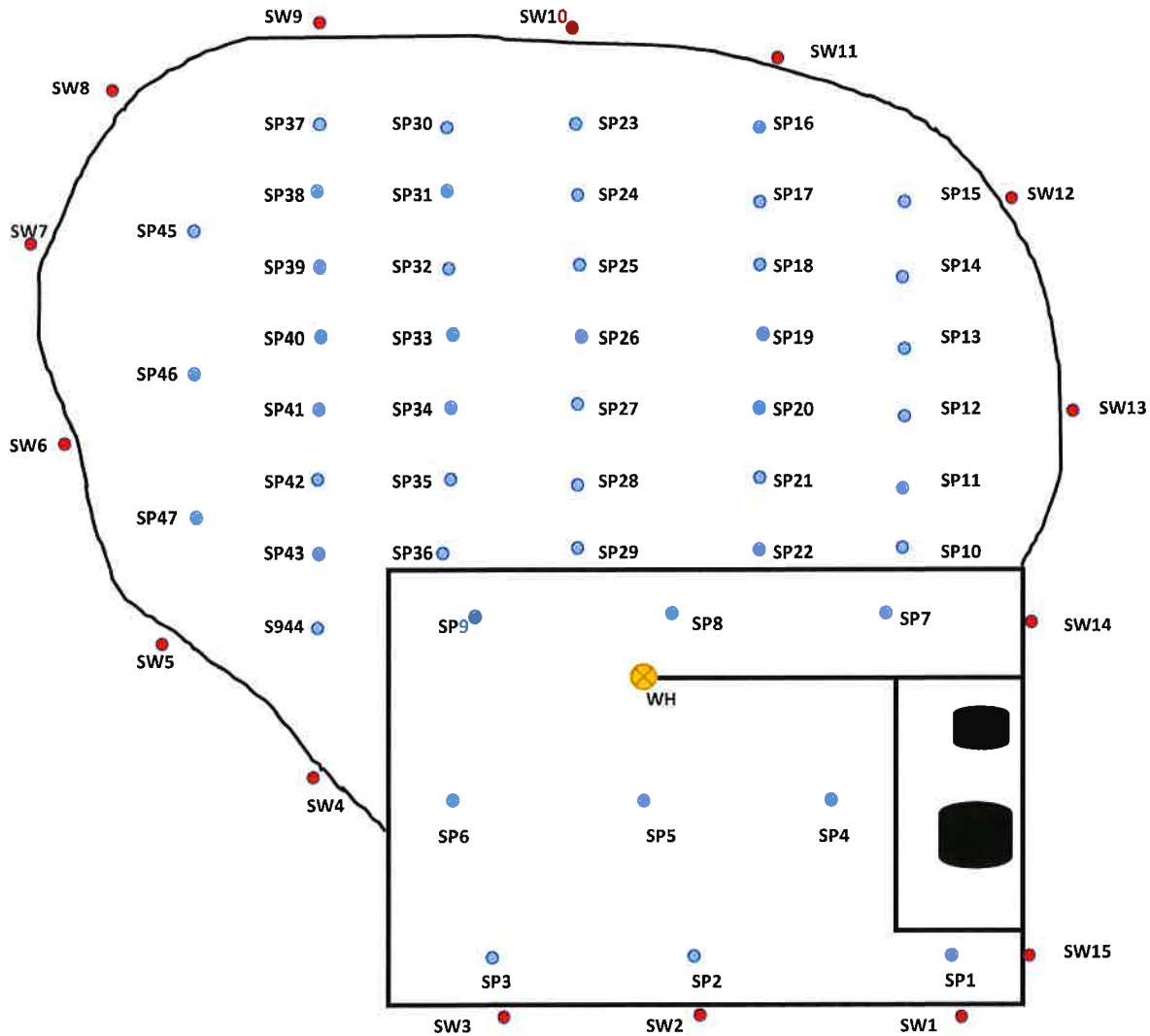
Sample ID	Ft	Field Chl	Titration	PID	Lab-Chl	Lab-BTEX	Lab-GRO	Lab-DRO	Lab-MRO	TPH	Soil	Notes
SP1	SUR	<30										
	2'	252	94		384	<0.300	<10	<10	<10	<10	CAL	
SP2	SUR	<30										
	2'		64		320	<0.300	<10	<10	<10	<10	CAL	
SP3	SUR	<30										
	2'	<30	70		32	<0.300	<10	<10	<10	<10	CAL	
SP4	SUR	<30										
	2'		84		768	<0.300	<10	<10	<10	<10	CAL	
SP5	SUR	<30										
	2'		84		352	<0.300	<10	<10	<10	<10	CAL	
SP6	SUR	<30										
	2'	<30	62		48	<0.300	<10	<10	<10	<10	CAL	
SP7	SUR	<30										
	2'		138		1140	<0.300	<10	<10	<10	<10	CAL	
SP8	SUR	<30										
	2'		58		128	<0.300	<10	<10	<10	<10	CAL	
SP9	SUR	<30										
	2'	<30	46		16	<0.300	<10	<10	<10	<10	CAL	
SP10	SUR	<30										
	2'	<30	44		48	<0.300	<10	<10	<10	<10	CAL	
SP11	SUR	<30										
	2'	<30	46		32	<0.300	<10	11.4	<10	11.4	CAL	
SP12	SUR	<30										
	2'	<30	50		48	<0.300	<10	<10	<10	<10	CAL	
SP13	SUR	<30										
	2'	<30	42		32	<0.300	<10	<10	<10	<10	CAL	
SP14	SUR	<30										
	2'	<30	46		32	<0.300	<10	12.9	<10	12.9	CAL	
SP15	SUR	<30										
	2'	<30	48		32	<0.300	<10	<10	<10	<10	CAL	
SP16	SUR	<30										
	2'	<30	42		<16	<0.300	<10	<10	<10	<10	CAL	

SP17	SUR	<30										
	2'	<30	58		32	<0.300	<10	<10	<10	<10	CAL	
SP18	SUR	<30										
	2'	<30	50		32	<0.300	<10	<10	<10	<10	CAL	
SP19	SUR	<30										
	2'	<30	48		32	<0.300	<10	<10	<10	<10	CAL	
SP20	SUR	<30										
	2'	<30	64		48	<0.300	<10	16.4	<10	16.4	CAL	
SP21	SUR											
	2'	<30	58		48	<0.300	<10	51.3	<10	51.3		
SP22	SUR											
	2'		42		32	<0.300	<10	<10	<10	<10	CAL	
SP23	SUR	<30										
	2'	<30	64		32	<0.300	<10	<10	<10	<10	CAL	
SP24	SUR	<30										
	2'	<30	38		32	<0.300	<10	<10	<10	<10	CAL	
SP25	SUR	<30										
	2'	<30	50		32	<0.300	<10	<10	<10	<10	CAL	
SP26	SUR	<30										
	2'	<30	54		32	<0.300	<10	<10	<10	<10	CAL	
SP27	SUR	<30										
	2'	<30	60		16	<0.300	<10	<10	<10	<10	CAL	
SP28	SUR	<30										
	2'	<30	58		32	<0.300	<10	<10	<10	<10	CAL	
SP29	SUR	<30										
	2'	<30	42		64	<0.300	<10	<10	<10	<10	CAL	
SP30	SUR	<30										
	2'	<30	58		32	<0.300	<10	<10	<10	<10	CAL	
SP31	SUR	<30										
	2'	<30	64		32	<0.300	<10	<10	<10	<10	CAL	
SP32	SUR	<30										
	2'	<30	62		32	<0.300	<10	<10	<10	<10	CAL	
SP33	SUR	<30										
	2'	<30	58		16	<0.300	<10	<10	<10	<10	CAL	

SP34	SUR	<30										
	2'	<30	56		32	<0.300	<10	<10	<10	<10	CAL	
SP35	SUR	<30										
	2'	<30	44		<16	<0.300	<10	<10	<10	<10	CAL	
SP36	SUR	<30										
	2'	<30	52		<16	<0.300	<10	<10	<10	<10	CAL	
SP37	SUR	<30										
	2'	<30	48		32	<0.300	<10	<10	<10	<10	CAL	
SP38	SUR	<30										
	2'	<30	48		<16	<0.300	<10	<10	<10	<10	CAL	
SP39	SUR	<30										
	2'	<30	48		16	<0.300	<10	<10	<10	<10	CAL	
SP40	SUR	<30										
	2'	<30	50		64	<0.300	<10	<10	<10	<10	CAL	
SP41	SUR	<30										
	2'	<30	52		32	<0.300	<10	<10	<10	<10	CAL	
SP42	SUR	<30										
	2'	<30	38		32	<0.300	<10	<10	<10	<10	CAL	
SP43	SUR	<30										
	2'	<30	48		32	<0.300	<10	<10	<10	<10	CAL	
SP44	SUR	<30										
	2'	<30	40		32	<0.300	<10	<10	<10	<10	CAL	
SP45	SUR	<30										
	2'	<30	46		16	<0.300	<10	<10	<10	<10	CAL	
SP46	SUR	<30										
	2'	<30	36		32	<0.300	<10	<10	<10	<10	CAL	
SP47	SUR	<30										
	2'	<30	42		144	<0.300	<10	<10	<10	<10	CAL	
SW1	SUR	<30										
	2'	<30	44		16	<0.300	<10	<10	<10	<10	CAL	
SW2	SUR	<30										
	2'	<30	54		48	<0.300	<10	288	138	426	CAL	
SW3	SUR	<30										
	2'	<30	54		32	<0.300	<10	<10	<10	<10	CAL	

SW4	SUR	<30										
	2'	<30	48		32	<0.300	<10	<10	<10	<10	CAL	
SW5	SUR	<30										
	2'	<30	40		<16	<0.300	<10	<10	<10	<10	CAL	
SW6	SUR	<30										
	2'	<30	42		<16	<0.300	<10	<10	<10	<10	CAL	
SW7	SUR	<30										
	2'	<30	46		32	<0.300	<10	<10	<10	<10	CAL	
SW8	SUR	<30										
	2'	<30	48		<16	<0.300	<10	<10	<10	<10	CAL	
SW9	SUR	<30										
	2'	<30	50		32	<0.300	<10	<10	<10	<10	CAL	
SW10	SUR	<30										
	2'	<30	56		32	<0.300	<10	<10	<10	<10	CAL	
SW11	SUR	<30										
	2'	<30	42		16	<0.300	<10	<10	<10	<10	CAL	
SW12	SUR	<30										
	2'	<30	48		<16	<0.300	<10	<10	<10	<10	CAL	
SW13	SUR	<30										
	2'	<30	42		<16	<0.300	<10	<10	<10	<10	CAL	
SW14	SUR	<30										
	2'	<30	46		32	<0.300	<10	<10	<10	<10	CAL	
SW15	SUR	<30										
	2'	<30	42		16	<0.300	<10	<10	<10	<10	CAL	

Vanguard Natural Resources
Millman SB State #2
Release date 9-11-18
2RP-4983




- Sample Points
- Side Wall Sample Points

GRIZZLY ENERGY

MILLMAN SB STATE #2
REMEDATION VIEW

Legend

-  MILLMAN STATE SB #2

MILLMAN STATE SB #2



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

November 12, 2018

NATALIE GLADDEN

WHITE BUFFALO

8908 YALE AVE #210

TULSA, OK 74137

RE: MILLMAN SB ST #2

Enclosed are the results of analyses for samples received by the laboratory on 11/06/18 15:25.

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 "Coley D. Keene". The signature is written in a cursive style with a large, stylized 'C' and 'K'.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 10/31/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 1 - 2' (H803191-01)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.2 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	384	16.0	11/09/2018	ND	432	108	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	11/08/2018	ND	175	87.6	200	13.0	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	182	90.8	200	13.7	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 94.0 % 41-142

Surrogate: 1-Chlorooctadecane 81.4 % 37.6-147

Cardinal Laboratories

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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
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 10/31/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 2 - 2' (H803191-02)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.9 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 86.9 % 41-142

Surrogate: 1-Chlorooctadecane 86.6 % 37.6-147

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*=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
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 10/31/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 3 - 2' (H803191-03)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.5 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 83.1 % 41-142

Surrogate: 1-Chlorooctadecane 86.0 % 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
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 10/31/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 4 - 2' (H803191-04)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 94.1 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	768	16.0	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 85.6 % 41-142

Surrogate: 1-Chlorooctadecane 85.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 10/31/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 5 - 2' (H803191-05)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 94.7 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	352	16.0	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 87.8 % 41-142

Surrogate: 1-Chlorooctadecane 88.2 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 10/31/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 6 - 2' (H803191-06)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 93.7 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 91.1 % 41-142

Surrogate: 1-Chlorooctadecane 92.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 7 - 2' (H803191-07)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 93.4 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 90.8 % 41-142

Surrogate: 1-Chlorooctadecane 90.8 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 8 - 2' (H803191-08)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 93.5 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 91.0 % 41-142

Surrogate: 1-Chlorooctadecane 91.1 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 9 - 2' (H803191-09)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 95.5 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 93.1 % 41-142

Surrogate: 1-Chlorooctadecane 92.1 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 10 - 2' (H803191-10)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 94.9 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 92.6 % 41-142

Surrogate: 1-Chlorooctadecane 92.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 11 - 2' (H803191-11)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	11.4	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 95.2 % 41-142

Surrogate: 1-Chlorooctadecane 96.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 12 - 2' (H803191-12)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 95.9 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 95.4 % 41-142

Surrogate: 1-Chlorooctadecane 97.2 % 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
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 13 - 2' (H803191-13)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 95.5 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 91.9 % 41-142

Surrogate: 1-Chlorooctadecane 90.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 14 - 2' (H803191-14)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 94.4 % 69.8-142

Chloride, SM4500CI-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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	12.9	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 94.6 % 41-142

Surrogate: 1-Chlorooctadecane 94.6 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 15 - 2' (H803191-15)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 94.6 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 94.4 % 41-142

Surrogate: 1-Chlorooctadecane 94.8 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 16 - 2' (H803191-16)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 95.6 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 94.3 % 41-142

Surrogate: 1-Chlorooctadecane 95.9 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 17 - 2' (H803191-17)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 94.1 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 89.6 % 41-142

Surrogate: 1-Chlorooctadecane 89.0 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 18 - 2' (H803191-18)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 96.7 % 69.8-142

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	11/09/2018	ND	432	108	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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 93.2 % 41-142

Surrogate: 1-Chlorooctadecane 93.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 19 - 2' (H803191-19)

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	11/09/2018	ND	2.02	101	2.00	0.173	
Toluene*	<0.050	0.050	11/09/2018	ND	1.93	96.4	2.00	0.0320	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.85	92.6	2.00	0.256	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.81	96.8	6.00	0.301	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 93.2 % 69.8-142

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	11/09/2018	ND	400	100	400	0.00	QM-07

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	11/08/2018	ND	176	88.0	200	9.72	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	192	96.1	200	11.5	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 92.0 % 41-142

Surrogate: 1-Chlorooctadecane 92.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 20 - 2' (H803191-20)

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	11/08/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/08/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/08/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/08/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 103 % 69.8-142

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	11/09/2018	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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	16.4	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 89.3 % 41-142

Surrogate: 1-Chlorooctadecane 86.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/01/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 21 - 2' (H803191-21)

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	11/08/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/08/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/08/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/08/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 101 % 69.8-142

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	11/09/2018	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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	51.3	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 95.3 % 41-142

Surrogate: 1-Chlorooctadecane 95.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 23 - 2' (H803191-22)

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	11/08/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/08/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/08/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/08/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 105 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 96.1 % 41-142

Surrogate: 1-Chlorooctadecane 85.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 24 - 2' (H803191-23)

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	11/08/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/08/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/08/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/08/2018	ND	5.51	91.8	6.00	0.251	
Total BTEX	<0.300	0.300	11/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 99.3 % 41-142

Surrogate: 1-Chlorooctadecane 85.2 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 25 - 2' (H803191-24)

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	11/08/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/08/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/08/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/08/2018	ND	5.51	91.8	6.00	0.251	
Total BTEX	<0.300	0.300	11/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 90.6 % 41-142

Surrogate: 1-Chlorooctadecane 76.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 26 - 2' (H803191-25)

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	11/08/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/08/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/08/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/08/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 107 % 41-142

Surrogate: 1-Chlorooctadecane 92.1 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 27 - 2' (H803191-26)

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	11/08/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/08/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/08/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/08/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/08/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 28 - 2' (H803191-27)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 103 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 106 % 41-142

Surrogate: 1-Chlorooctadecane 95.0 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 29 - 2' (H803191-28)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 105 % 41-142

Surrogate: 1-Chlorooctadecane 93.8 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 30 - 2' (H803191-29)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 113 % 41-142

Surrogate: 1-Chlorooctadecane 99.5 % 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
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 31 - 2' (H803191-30)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 93.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 32 - 2' (H803191-31)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 93.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/02/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 33 - 2' (H803191-32)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 96.8 % 41-142

Surrogate: 1-Chlorooctadecane 86.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 34 - 2' (H803191-33)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 103 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 95.5 % 41-142

Surrogate: 1-Chlorooctadecane 88.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 35 - 2' (H803191-34)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 101 % 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
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 36 - 2' (H803191-35)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTEx	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 104 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 95.9 % 41-142

Surrogate: 1-Chlorooctadecane 90.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
NATALIE GLADDEN
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received: 11/06/2018
Reported: 11/12/2018
Project Name: MILLMAN SB ST #2
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/05/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 37 - 2' (H803191-36)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 69.8-142

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	11/09/2018	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	11/08/2018	ND	180	90.2	200	0.470	
DRO >C10-C28*	<10.0	10.0	11/08/2018	ND	206	103	200	5.82	
EXT DRO >C28-C36	<10.0	10.0	11/08/2018	ND					

Surrogate: 1-Chlorooctane 104 % 41-142

Surrogate: 1-Chlorooctadecane 91.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 38 - 2' (H803191-37)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 103 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/09/2018	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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	<10.0	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 90.4 % 41-142

Surrogate: 1-Chlorooctadecane 86.6 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 39 - 2' (H803191-38)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 103 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/09/2018	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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	<10.0	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 85.8 % 41-142

Surrogate: 1-Chlorooctadecane 82.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
NATALIE GLADDEN
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received: 11/06/2018
Reported: 11/12/2018
Project Name: MILLMAN SB ST #2
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/05/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 40 - 2' (H803191-39)

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	11/09/2018	ND	1.91	95.4	2.00	0.126	
Toluene*	<0.050	0.050	11/09/2018	ND	1.87	93.3	2.00	0.583	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.82	91.2	2.00	0.584	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.51	91.8	6.00	0.251	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIL) 104 % 69.8-142

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	11/09/2018	ND	416	104	400	3.92	

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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	<10.0	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 92.5 % 41-142

Surrogate: 1-Chlorooctadecane 87.0 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 41 - 2' (H803191-40)

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	11/09/2018	ND	1.63	81.5	2.00	2.61	
Toluene*	<0.050	0.050	11/09/2018	ND	1.76	88.1	2.00	1.24	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.84	92.2	2.00	0.505	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.56	92.7	6.00	0.118	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.8-142

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	11/09/2018	ND	416	104	400	3.92	

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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	<10.0	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 89.1 % 41-142

Surrogate: 1-Chlorooctadecane 85.2 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 42 - 2' (H803191-41)

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	11/09/2018	ND	1.63	81.5	2.00	2.61	
Toluene*	<0.050	0.050	11/09/2018	ND	1.76	88.1	2.00	1.24	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.84	92.2	2.00	0.505	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.56	92.7	6.00	0.118	
Total BTEX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.8-142

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	11/09/2018	ND	416	104	400	3.92	

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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	<10.0	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 83.5 % 41-142

Surrogate: 1-Chlorooctadecane 78.7 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 43 - 2' (H803191-42)

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	11/09/2018	ND	1.63	81.5	2.00	2.61	
Toluene*	<0.050	0.050	11/09/2018	ND	1.76	88.1	2.00	1.24	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.84	92.2	2.00	0.505	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.56	92.7	6.00	0.118	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.8-142

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	11/09/2018	ND	416	104	400	3.92	

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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	<10.0	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 84.2 % 41-142

Surrogate: 1-Chlorooctadecane 82.1 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 44 - 2' (H803191-43)

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	11/09/2018	ND	1.63	81.5	2.00	2.61	
Toluene*	<0.050	0.050	11/09/2018	ND	1.76	88.1	2.00	1.24	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.84	92.2	2.00	0.505	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.56	92.7	6.00	0.118	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 96.3 % 69.8-142

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	11/09/2018	ND	416	104	400	3.92	

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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	<10.0	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 83.1 % 41-142

Surrogate: 1-Chlorooctadecane 80.5 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 45 - 2' (H803191-44)

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	11/09/2018	ND	1.63	81.5	2.00	2.61	
Toluene*	<0.050	0.050	11/09/2018	ND	1.76	88.1	2.00	1.24	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.84	92.2	2.00	0.505	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.56	92.7	6.00	0.118	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 101 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	16.0	16.0	11/09/2018	ND	416	104	400	3.92	

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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	<10.0	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 83.9 % 41-142

Surrogate: 1-Chlorooctadecane 81.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
NATALIE GLADDEN
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received: 11/06/2018
Reported: 11/12/2018
Project Name: MILLMAN SB ST #2
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/05/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Tamara Oldaker

Sample ID: SP 46 - 2' (H803191-45)

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	11/09/2018	ND	1.63	81.5	2.00	2.61	
Toluene*	<0.050	0.050	11/09/2018	ND	1.76	88.1	2.00	1.24	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.84	92.2	2.00	0.505	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.56	92.7	6.00	0.118	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.8-142

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	11/09/2018	ND	416	104	400	3.92	

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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	<10.0	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 84.8 % 41-142

Surrogate: 1-Chlorooctadecane 82.4 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/06/2018
 Reported: 11/12/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/05/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Tamara Oldaker

Sample ID: SP 47 - 2' (H803191-46)

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	11/09/2018	ND	1.63	81.5	2.00	2.61	
Toluene*	<0.050	0.050	11/09/2018	ND	1.76	88.1	2.00	1.24	
Ethylbenzene*	<0.050	0.050	11/09/2018	ND	1.84	92.2	2.00	0.505	
Total Xylenes*	<0.150	0.150	11/09/2018	ND	5.56	92.7	6.00	0.118	
Total BTX	<0.300	0.300	11/09/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.8-142

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	11/09/2018	ND	416	104	400	3.92	

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	11/09/2018	ND	172	86.1	200	7.44	
DRO >C10-C28*	<10.0	10.0	11/09/2018	ND	197	98.3	200	8.45	
EXT DRO >C28-C36	<10.0	10.0	11/09/2018	ND					

Surrogate: 1-Chlorooctane 80.3 % 41-142

Surrogate: 1-Chlorooctadecane 76.0 % 37.6-147

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Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
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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Celey D. Keene, Lab Director/Quality Manager



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

Company Name: White Buffalo		P.O. #:				
Project Manager: John		Company: White Buffalo				
Address:		Attn: Steve McFarlin				
City:	State: WY	Address: 6908 Yale Ave #210				
Phone #:	Fax #:	City: Julia				
Project #:		State: OK				
Project Name: Muskrat SB ST. 2		Zip: 74137				
Project Location:		Phone #: 918-660-0999				
Sample Name: Howards Creek		Fax #:				
FOR LAB USE ONLY		PRESERV				
Lab I.D. #803191		SAMPLING				
Sample I.D.	(G)RAB OR (C)OMP.	DATE	TIME	CHLORIDES	BTEX	TPH
	# CONTAINERS					
	GROUNDWATER					
	WASTEWATER					
	SOIL					
	OIL					
	SLUDGE					
	OTHER					
	ACID/BASE:					
	ICE / COOL					
OTHER						
SP1-2'	✓	10/24/18	9:42	✓	✓	✓
SP2-2'	✓	10/24/18	8:35	✓	✓	✓
SP3-2'	✓	10/31/18	8:48	✓	✓	✓
SP4-2'	✓	10/31/18	10:55	✓	✓	✓
SP5-2'	✓	10/31/18	10:52	✓	✓	✓
SP6-2'	✓	10/31/18	2:04	✓	✓	✓
SP7-2'	✓	11/1/18	9:20	✓	✓	✓
SP8-2'	✓	11/1/18	9:17	✓	✓	✓
SP9-2'	✓	11/1/18	9:29	✓	✓	✓
SP10-2'	✓	11/1/18	9:40	✓	✓	✓

PLEASE NOTE: Lab fees, Client's liability, and Client's analysis remain for any claim arising whether based in contract or tort, shall be limited to the amount paid by the client for the analysis. All claims, including those for negligence and any other cause whatsoever shall be deemed waived unless made in writing and received by Cardinal within 30 days after completion of the applicable service. In no event shall Cardinal be liable for incidental or consequential damages, including without limitation, business interruptions, loss of use, or loss of profits incurred by client, its subsidiaries, affiliates or successors arising out of or related to the performance of services hereunder by Cardinal, regardless of whether such claim is based upon any of the above stated reasons or otherwise.

Relinquished By:	Date: 11-6-18	Received By:
Time: 15:25	Received By:	
Date:	Received By:	
Time:	Received By:	

Delivered By: (Circle One) **UPS** **-1.76** **#97**

Sample Condition: ☒ Cool ☐ Intact ☐ Yes ☐ No

Checked By: **TD**

REMARKS: **Email: natalie.alexander@whitebuffalo.com**

Planique. Cueto@whitebuffalo.com



CARDINAL
Laboratories

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

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

Company Name: ANNUAL		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager:		Company: White Buffalo					
Address:		Attn: Steve McFarlin					
City:		Address: 8908 Yale Ave #210					
Phone #:		City: Julia					
Project #:		State: OK Zip: 74137					
Project Name: WILLMAN SB ST. 2		Phone #: 918-660-0999					
Project Location:		Fax #:					
Sampler Name: HOOPER CUTO		PRESERV:		SAMPLING			
FOR LAB USE ONLY		DATE		TIME			
Lab I.D.		Sample I.D.					
H803191		SP11-21		11/1/18		10:50	
11		SP12-21		11/1/18		9:59	
12		SP13-21		11/1/18		11:17	
13		SP14-21		11/1/18		11:59	
14		SP15-21		11/1/18		1:30	
15		SP16-21		11/1/18		1:43	
16		SP17-21		11/1/18		11:56	
17		SP18-21		11/1/18		2:00	
18		SP19-21		11/1/18		2:14	
19		SP20-21		11/1/18		2:14	
20							

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Relinquished By:		Date: 11-6-18		Received By:	
Time: 15:25		Date: 11-6-18		Received By:	
Relinquished By:		Time:		Received By:	

Delivered By: (Circle One) **UPS** **1.72 #97**

Sample Condition: ☒ Cool ☒ Intact ☐ Pres ☐ No

Checked By: **TP**

REMARKS: **CHLORIDES**
BTEX
TPH

Phone Result: ☐ Yes ☐ No Add'l Phone #:

Fax Result: ☐ Yes ☐ No Add'l Fax #:

Email: **Natalie.Gladson@whitebuffalo.com**
Monique.Cuto@whitebuffalo.com



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

November 14, 2018

NATALIE GLADDEN

WHITE BUFFALO

8908 YALE AVE #210

TULSA, OK 74137

RE: MILLMAN SB ST #2

Enclosed are the results of analyses for samples received by the laboratory on 11/08/18 14:40.

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 "Coley D. Keene". The signature is written in a cursive style with a large, stylized 'C' at the beginning.

Celey D. Keene

Lab Director/Quality Manager



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

Analytical Results For:

WHITE BUFFALO
NATALIE GLADDEN
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received: 11/08/2018
Reported: 11/14/2018
Project Name: MILLMAN SB ST #2
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/06/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SW 1 - 2' (H803240-01)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTEX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 101 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC						
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	11/14/2018	ND	432	108	400	3.64		

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 91.1 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/06/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 2 - 2' (H803240-02)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 100 % 69.8-142

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	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	288	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	138	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 96.1 % 41-142

Surrogate: 1-Chlorooctadecane 99.5 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/06/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 3 - 2' (H803240-03)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTEX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 100 % 69.8-142

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	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 103 % 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
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/06/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 4 - 2' (H803240-04)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTEX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 99.8 % 69.8-142

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	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 98.5 % 41-142

Surrogate: 1-Chlorooctadecane 90.7 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/06/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 5 - 2' (H803240-05)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTEX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 102 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 96.3 % 41-142

Surrogate: 1-Chlorooctadecane 89.3 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
NATALIE GLADDEN
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received: 11/08/2018
Reported: 11/14/2018
Project Name: MILLMAN SB ST #2
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/06/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SW 6 - 2' (H803240-06)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTEX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 101 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 95.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/06/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 7 - 2' (H803240-07)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTEX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PID) 102 % 69.8-142

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	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 102 % 41-142

Surrogate: 1-Chlorooctadecane 94.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/06/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 8 - 2' (H803240-08)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTEX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 101 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC				
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 98.2 % 41-142

Surrogate: 1-Chlorooctadecane 90.4 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/06/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 9 - 2' (H803240-09)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTEX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 99.8 % 69.8-142

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	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 106 % 41-142

Surrogate: 1-Chlorooctadecane 97.6 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
NATALIE GLADDEN
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received: 11/08/2018
Reported: 11/14/2018
Project Name: MILLMAN SB ST #2
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/07/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SW 10 - 2' (H803240-10)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTEX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 99.2 % 69.8-142

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	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 103 % 41-142

Surrogate: 1-Chlorooctadecane 95.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/07/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 11 - 2' (H803240-11)

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	11/13/2018	ND	2.24	112	2.00	5.73		
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98		
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81		
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22		
Total BTEX	<0.300	0.300	11/13/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 100 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	16.0	16.0	11/14/2018	ND	432	108	400	3.64		

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	11/10/2018	ND	190	95.1	200	0.608		
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466		
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND						

Surrogate: 1-Chlorooctane 97.8 % 41-142

Surrogate: 1-Chlorooctadecane 91.1 % 37.6-147

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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/07/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 12 - 2' (H803240-12)

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	11/13/2018	ND	2.24	112	2.00	5.73	
Toluene*	<0.050	0.050	11/13/2018	ND	2.28	114	2.00	5.98	
Ethylbenzene*	<0.050	0.050	11/13/2018	ND	2.23	112	2.00	5.81	
Total Xylenes*	<0.150	0.150	11/13/2018	ND	6.57	110	6.00	6.22	
Total BTEX	<0.300	0.300	11/13/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 101 % 69.8-142

Chloride, SM4500Cl-B			mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier	
Chloride	<16.0	16.0	11/14/2018	ND	432	108	400	3.64		

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 92.7 % 41-142

Surrogate: 1-Chlorooctadecane 79.9 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
NATALIE GLADDEN
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received: 11/08/2018
Reported: 11/14/2018
Project Name: MILLMAN SB ST #2
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/07/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SW 13 - 2' (H803240-13)

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	11/14/2018	ND	2.48	124	2.00	1.94	
Toluene*	<0.050	0.050	11/14/2018	ND	2.41	120	2.00	1.28	
Ethylbenzene*	<0.050	0.050	11/14/2018	ND	2.35	118	2.00	2.21	
Total Xylenes*	<0.150	0.150	11/14/2018	ND	7.33	122	6.00	1.96	
Total BTEX	<0.300	0.300	11/14/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 104 % 69.8-142

Chloride, SM4500Cl-B		mg/kg		Analyzed By: AC					
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier
Chloride	<16.0	16.0	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 98.8 % 41-142

Surrogate: 1-Chlorooctadecane 83.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/07/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 14 - 2' (H803240-14)

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	11/14/2018	ND	2.48	124	2.00	1.94	
Toluene*	<0.050	0.050	11/14/2018	ND	2.41	120	2.00	1.28	
Ethylbenzene*	<0.050	0.050	11/14/2018	ND	2.35	118	2.00	2.21	
Total Xylenes*	<0.150	0.150	11/14/2018	ND	7.33	122	6.00	1.96	
Total BTEX	<0.300	0.300	11/14/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIC) 104 % 69.8-142

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	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 99.5 % 41-142

Surrogate: 1-Chlorooctadecane 85.0 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager



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Analytical Results For:

WHITE BUFFALO
NATALIE GLADDEN
8908 YALE AVE #210
TULSA OK, 74137
Fax To:

Received: 11/08/2018
Reported: 11/14/2018
Project Name: MILLMAN SB ST #2
Project Number: NONE GIVEN
Project Location: NOT GIVEN

Sampling Date: 11/07/2018
Sampling Type: Soil
Sampling Condition: Cool & Intact
Sample Received By: Jodi Henson

Sample ID: SW 15 - 2' (H803240-15)

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	11/14/2018	ND	2.48	124	2.00	1.94		
Toluene*	<0.050	0.050	11/14/2018	ND	2.41	120	2.00	1.28		
Ethylbenzene*	<0.050	0.050	11/14/2018	ND	2.35	118	2.00	2.21		
Total Xylenes*	<0.150	0.150	11/14/2018	ND	7.33	122	6.00	1.96		
Total BTEX	<0.300	0.300	11/14/2018	ND						

Surrogate: 4-Bromofluorobenzene (PIE) 105 % 69.8-142

Chloride, SM4500Cl-B			mg/kg							Analyzed By: AC	
Analyte	Result	Reporting Limit	Analyzed	Method Blank	BS	% Recovery	True Value QC	RPD	Qualifier		
Chloride	16.0	16.0	11/14/2018	ND	432	108	400	3.64			

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	11/10/2018	ND	190	95.1	200	0.608		
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466		
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND						

Surrogate: 1-Chlorooctane 93.8 % 41-142

Surrogate: 1-Chlorooctadecane 78.5 % 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
 NATALIE GLADDEN
 8908 YALE AVE #210
 TULSA OK, 74137
 Fax To:

Received: 11/08/2018
 Reported: 11/14/2018
 Project Name: MILLMAN SB ST #2
 Project Number: NONE GIVEN
 Project Location: NOT GIVEN

Sampling Date: 11/07/2018
 Sampling Type: Soil
 Sampling Condition: Cool & Intact
 Sample Received By: Jodi Henson

Sample ID: SW 22 - 2' (H803240-16)

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	11/14/2018	ND	2.48	124	2.00	1.94	
Toluene*	<0.050	0.050	11/14/2018	ND	2.41	120	2.00	1.28	
Ethylbenzene*	<0.050	0.050	11/14/2018	ND	2.35	118	2.00	2.21	
Total Xylenes*	<0.150	0.150	11/14/2018	ND	7.33	122	6.00	1.96	
Total BTEX	<0.300	0.300	11/14/2018	ND					

Surrogate: 4-Bromofluorobenzene (PIE) 106 % 69.8-142

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	11/14/2018	ND	432	108	400	3.64	

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	11/10/2018	ND	190	95.1	200	0.608	
DRO >C10-C28*	<10.0	10.0	11/10/2018	ND	195	97.3	200	0.466	
EXT DRO >C28-C36	<10.0	10.0	11/10/2018	ND					

Surrogate: 1-Chlorooctane 100 % 41-142

Surrogate: 1-Chlorooctadecane 84.2 % 37.6-147

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Celey D. Keene, Lab Director/Quality Manager

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Notes and Definitions

QM-07	The spike recovery was outside acceptance limits for the MS and/or MSD. The batch was accepted based on acceptable LCS recovery.
BS1	Blank spike recovery above laboratory acceptance criteria. Results for analyte potentially biased high.
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".

Celey D. Keene, Lab Director/Quality Manager



+ Cardinal named archbishop of Bourges. Place for written change in 1571 207-237A

ANALYSIS REQUEST

Chlorides
BTEX
TPH



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

101 East Marland, Hobbs, NM 88240

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

Company Name: <u>Antitox</u>		P.O. #:		BILL TO		ANALYSIS REQUEST	
Project Manager:		Company: <u>White Buffalo</u>					
Address:		Attn: <u>Steve McFarlin</u>					
City:		Address: <u>6908 Yule Ave #210</u>					
State:		City: <u>Julia</u>					
Zip:		State: <u>OK</u>					
Phone #:		Fax #:					
Project #:		Project Owner:					
Project Name: <u>Wilmer SB 31.2</u>		State: <u>OK</u>		Zip: <u>74137</u>			
Project Location:		Phone #:		Fax #:			
Sampler Name: <u>Horvath, Ann</u>		PRESERV:		SAMPLING			
FOR LAB USE ONLY							
Lab I.D.		Sample I.D.					
H803191		21		5021-21		11/1/18 2:20	
22		23		5023-21		11/2/18 9:02	
24		25		5024-21		11/2/18 9:32	
26		27		5025-21		11/2/18 10:05	
28		29		5026-21		11/2/18 10:28	
30		31		5027-21		11/2/18 10:42	
32		33		5028-21		11/2/18 10:55	
34		35		5029-21		11/2/18 11:04	
36		37		5030-21		11/2/18 11:46	
38		39		5031-21		11/2/18 11:54	
40		41		5032-21		11/2/18 11:54	
42		43		5033-21		11/2/18 11:54	
44		45		5034-21		11/2/18 11:54	
46		47		5035-21		11/2/18 11:54	
48		49		5036-21		11/2/18 11:54	
50		51		5037-21		11/2/18 11:54	
52		53		5038-21		11/2/18 11:54	
54		55		5039-21		11/2/18 11:54	
56		57		5040-21		11/2/18 11:54	
58		59		5041-21		11/2/18 11:54	
60		61		5042-21		11/2/18 11:54	
62		63		5043-21		11/2/18 11:54	
64		65		5044-21		11/2/18 11:54	
66		67		5045-21		11/2/18 11:54	
68		69		5046-21		11/2/18 11:54	
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72		73		5048-21		11/2/18 11:54	
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92		93		5058-21		11/2/18 11:54	
94		95		5059-21		11/2/18 11:54	
96		97		5060-21		11/2/18 11:54	
98		99		5061-21		11/2/18 11:54	
100		101		5062-21		11/2/18 11:54	
102		103		5063-21		11/2/18 11:54	
104		105		5064-21		11/2/18 11:54	
106		107		5065-21		11/2/18 11:54	
108		109		5066-21		11/2/18 11:54	
110		111		5067-21		11/2/18 11:54	
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186		187		5105-21		11/2/18 11:54	
188		189		5106-21		11/2/18 11:54	
190		191		5107-21		11/2/18 11:54	
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194		195		5109-21		11/2/18 11:54	
196		197		5110-21		11/2/18 11:54	
198		199		5111-21		11/2/18 11:54	
200		201		5112-21		11/2/18 11:54	
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260		261		5142-21		11/2/18 11:54	
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314		315		5169-21		11/2/18 11:54	
316		317		5170-21		11/2/18 11:54	
318		319		5171-21		11/2/18 11:54	
320		321		5172-21		11/2/18 11:54	
322		323		5173-21		11/2/18 11:54	
324		325		5174-21		11/2/18 11:54	
326		327		5175-21		11/2/18 11:54	
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332		333		5178-21		11/2/18 11:54	
334		335		5179-21		11/2/18 11:54	
336		337		5180-21		11/2/18 11:54	
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342		343		5183-21		11/2/18 11:54	
344		345		5184-21		11/2/18 11:54	
346		347		5185-21		11/2/18 11:54	
348		349		5186-21		11/2/18 11:54	
350		351		5187-21		11/2/18 11:54	



CARDINAL Laboratories

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

CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

BILL TO

ANALYSIS REQUEST

Company Name: <u>White Buffalo</u>		P.O. #:	
Project Manager: <u>White Buffalo</u>		Company: <u>White Buffalo</u>	
Address:		Attn: <u>Steve McFarlin</u>	
City:	State:	Zip:	Address: <u>6908 Yule Ave #210</u>
Phone #:	Fax #:	Project Owner:	City: <u>Julia</u>
Project #:	Project Name: <u>Meridian St. St. 2</u>	State: <u>OK</u>	Zip: <u>74137</u>
Project Location:	Sample Name: <u>Meridian Cueto</u>	Phone #: <u>918-660-0999</u>	Fax #:
FOR LAB USE ONLY	Lab I.D. <u>H803191</u>	Sample I.D. <u>SP 32-2'</u>	(G)RAB OR (C)OMP.
		# CONTAINERS	
		GROUNDWATER	
		WASTEWATER	
		SOIL	
		OIL	
		SLUDGE	
		OTHER:	
		ACID/BASE:	
		ICE / COOL	
		OTHER:	
		DATE	TIME
		11/2/18	11:43
		11/2/18	12:27
		11/5/18	9:40
		11/5/18	9:55
		11/5/18	10:03
		11/5/18	10:10
		11/5/18	10:23
		11/5/18	10:30
		11/5/18	10:45
		11/5/18	10:57
		SP 33-2'	
		SP 34-2'	
		SP 35-2'	
		SP 36-2'	
		SP 37-2'	
		SP 38-2'	
		SP 39-2'	
		SP 40-2'	
		SP 41-2'	

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Relinquished By: [Signature] Date: 11-6-18 Time: 15:25 Received By: [Signature] Date: 11-6-18 Time: 15:25

Reinforced By: [Signature] Date: 11-6-18 Time: 15:25 Received By: [Signature] Date: 11-6-18 Time: 15:25

Delivered By: (Circle One) UPS -1.7°C #47 Sample Condition: Intact Yes No Yes No CHECKED BY: [Signature] (Initials)

Remarks: Email: natalie.groeten@whitebuffalo.com
Mougue. Cueto@whitebuffalo.com



CHAIN-OF-CUSTODY AND ANALYSIS REQUEST

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

Page 53 of 53



BEFORE PHOTOS









DURING PHOTOS









FINAL PHOTOS





