APPROVED
By Olivia Yu at 9:31 am, Mar 09, 2018

NMOCD approves of the proposed delineation work plan for 1RP-4935 with one condition: establish 1 additional delineation sample location south of the release point.

March
2018

State of New Mexico Energy Minerals and Natural Resources Oil Conservation District (OCD)

Delineation Work Plan

Prepared for
Venable's Construction
West Texas / New Mexico Division
1315 West County Road 114
Midland, TX 79706

Case Number: *1RP-4935*

Prepared By:

R2M ENGINEERING
CIVIL • ENVIRONMENTAL • SAFETY

Texas Registered Engineering Firm F-9992
Texas Licensed Survey Firm 10193863
Texas Licensed Asbestos Consultant Agency 100535
OSHA & MSHA Authorized Outreach Trainers

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Table of Contents

Introduction

A release occurred at the North Hobbs Satellite 31 EAST C02 facility located in Unit J, Section 29, Township 18 South, Range 38 East, in Lea County, Hobbs, New Mexico° on January 9, 2018 with the latitude of 32.7147600° and Longitude of -103.1790900. The nature of the release was caused by a 3rd party line strike that resulted in the release of 150 barrels (bbls) of Produced Water and 10 bbls of Oil. A volume of a 150 bbls was recovered shortly after the release occurred by Vacuum Truck.

The State of New Mexico Energy Minerals and Natural Resources Oil Conservation District (OCD) received the form C-141 on January 12, 2018 regarding an unauthorized release. The information been entered into OCD's incident database and remediation case number *1RP-4935* has been assigned.

Area Description

Lea County bordered on the east and south by Texas, and on the west by Eddy County; the irregular northern limit of the area follows a low scarp, Mescalero Ridge, which forms the southern edge of the Llano Estacado, or High Plains. The southern Lea County area includes the incorporated towns of Eunice and Jal and the three villages of Maljamar, Monument, and Oil Center.

The Llano Estacada is a depositional surface of low relief which slopes almost uniformly southeastward, the altitude ranges from about 4,200 feet above mean sea level at the base of Mescalero Ridge at the northwestern corner of the area to about 2,900 feet near the southeastern corner of the area. Local relief is generally no more than a few tens of feet. Southern Lea County includes a part of a large subsurface structural feature known as the Permian basin, which underlies southeastern New Mexico and a large part of western Texas.

Scope of Work

The Scope of Work consists of the installing Eighteen (18) soil borings to 16 feet (ft) below ground surface (bgs).

It is anticipated that groundwater will not be encountered until at depths near 50-60ft of the surface based on recent USGS and New Mexico State Engineer groundwater data.

Temporary monitoring well can be installed under the direction of the OCD. As to prevent groundwater contamination unnecessarily, R2M Engineering recommends against the installation of temporary wells due to the anticipated proximity to ground water.

If temporary monitoring well is to be installed the borings for installation will be advanced approximately five (5) feet within the uppermost groundwater bearing unit for collection of groundwater samples. Soil and groundwater samples will be collected. Analytical samples will be sent to Pace Analytical (Pace) of Allen, Texas or to another approved laboratory.

R2M proposes the following:

- Contact appropriate agencies for locating and marking of underground utilities. Conduct ground penetrating radar sweeps of the affected area to identify potential unknown hazards.

- Mobilize/Demobilize to and from the Site near Hobbs, New Mexico with personnel to install soil borings and monitoring wells with Drilling subcontractor.

- Take Grab Samples of impacted stockpiles near trench and release point. Relocate impacted stockpiles to a designated area lined with 4-6 mm poly-sheets, or lined container.

- A field geologist would sample, field classify, and log the soils encountered in each of the proposed soil borings using the Unified Soil Classification System (USCS).

- Field screen the soil samples collected from each of the soil borings for the presence of organic vapors using a photo-ionization detector (PID).

- Field screen the soil samples collected from each of the soil borings for the presence of chloride using a Hach® chloride test strips Quantab® (High and Low Range)

- Submit at least two (2) soil samples from each 16ft. soil boring to laboratory for the following analyses on a standard turn-around time as follows:
    - BTEX by EPA Method 8260;
    - TPH by EPA Methods 8015 extended range C6-C36;
    - Chloride by EPA Method 300

- If required, a temporary groundwater monitoring well will be installed in One (1) of the soil borings in order to collect groundwater samples. The groundwater samples will be submitted to a certified laboratory for the following analysis on a standard turn-around time as follows:
    - VOC by EPA Method 8260 full list;
    - TDS;
    - pH;
    - Major Anion & Cation including Chloride and Sulfate;
    - Dissolved Iron;
    - Dissolved Manganese

- Properly plug and abandon the proposed soil borings and temporary monitoring well following completion of onsite sampling activities.

- Prepare a report that details the findings of the sampling and analysis activities and provides recommendations based on these findings.

Digital photographic documentation of the location and fieldwork will be performed.

QA/QC

Decontamination of Equipment
Cleaning of the sampling equipment will be the responsibility of the environmental technician. Prior to use, and between each sample, the sampling equipment will be cleaned with Liqui-Nox® detergent and rinsed with distilled water.

Laboratory Protocol
The laboratory will be responsible for proper QA/QC procedures after signing the chain-of-custody form. These procedures will be either transmitted with the laboratory reports or are on file at the laboratory.

Limitations

R2M Engineering, LLC, has prepared this Preliminary Investigation Work Plan to the best of its ability. No other warranty, expressed or implied, is made or intended. R2M Engineering, LLC, has examined and relied upon documents referenced in the report and has relied on oral statements made by certain individuals. R2M Engineering, LLC, has not conducted an independent examination of the facts contained in referenced materials and statements. We have presumed the genuineness of the documents and that the information provided in documents or statements is true and accurate. R2M Engineering, LLC, has prepared this report in a professional manner, using the degree of skill and care exercised by similar environmental consultants. R2M Engineering, LLC, also notes that the facts and conditions referenced in this report may change over time and the conclusions and recommendations set forth herein are applicable only to the facts and conditions as described at the time of this report.

This report has been prepared for the behalf of Venable's Construction. The information contained in this report including all exhibits and attachments, may not be used by any other party without the express consent of R2M Engineering, LLC and Venable's Construction.

SCHEDULE

We can proceed with scheduling this project upon receipt of signed approval by NM OCD District 1, intact. A report of our findings will be prepared, and one (1) hard copy and one (1) electronic (PDF) copy of the final report will be provided to the client. The final report will include copies of sampling data, laboratory analytical results, and recommendations based upon this information.

R2M Engineering, LLC estimates that this project will require approximately 3-5 day for completion of the field activities including mobilization and demobilization, once the project is scheduled. After the field work is performed, it will take approximately 7-14 business days to receive the final laboratory analytical reports. The Stage I Work Plan Report will be completed within 10-15 days from receipt of the final laboratory reports.

R2M Engineering, LLC on the behalf of Venable's Construction formally submit this Delineation Work Plan for case number 1RP-4935.

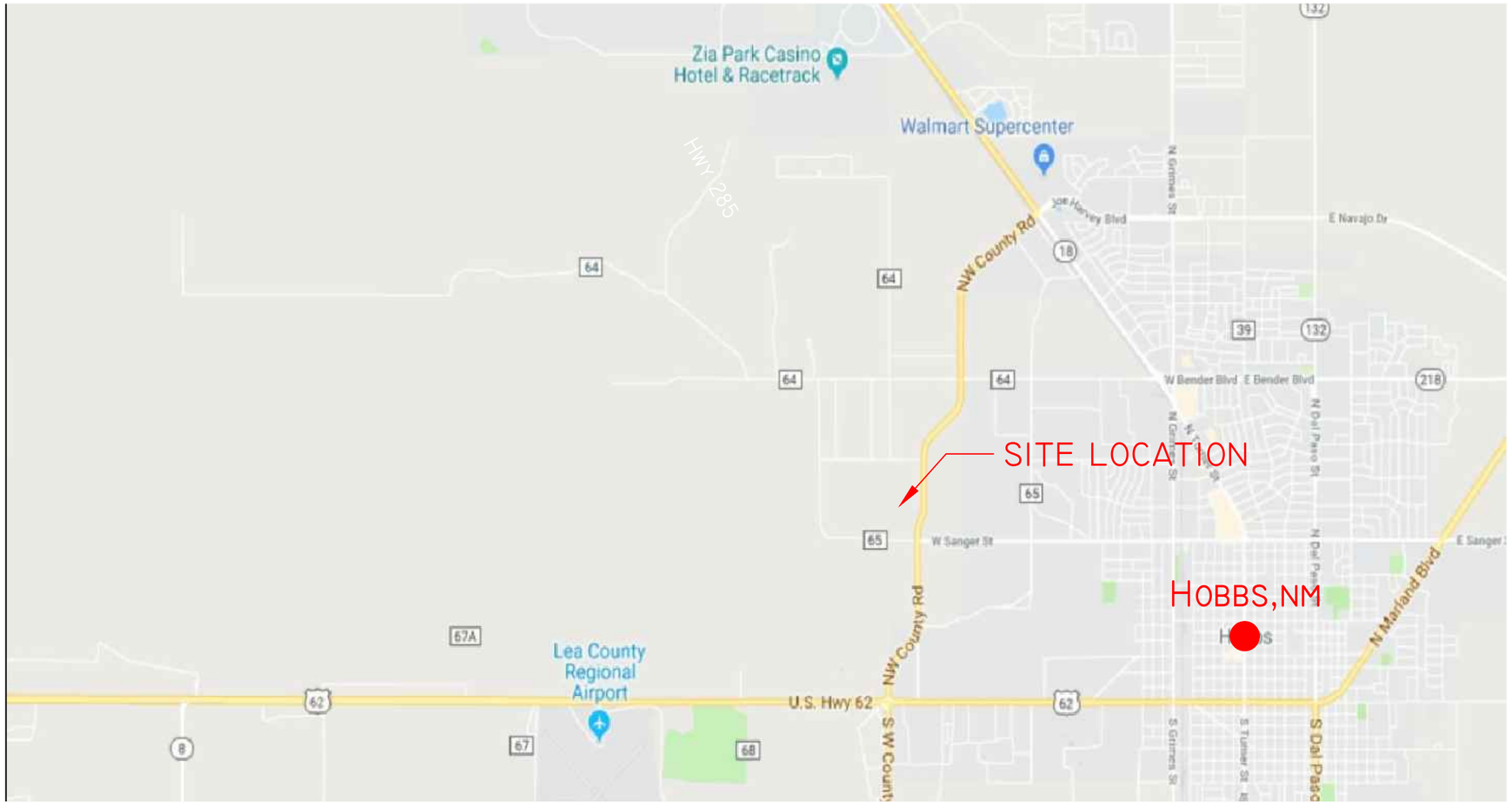
Respectfully Submitted,

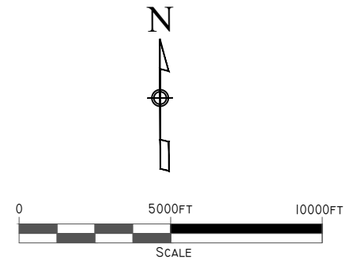
John E. Rantz, P.E.
Vice President Engineering
R2M Engineering

And

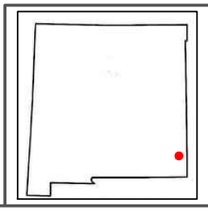
William Holt,
Environmental Project Coordinator
Venable's Construction

Maps





AERIAL MAP



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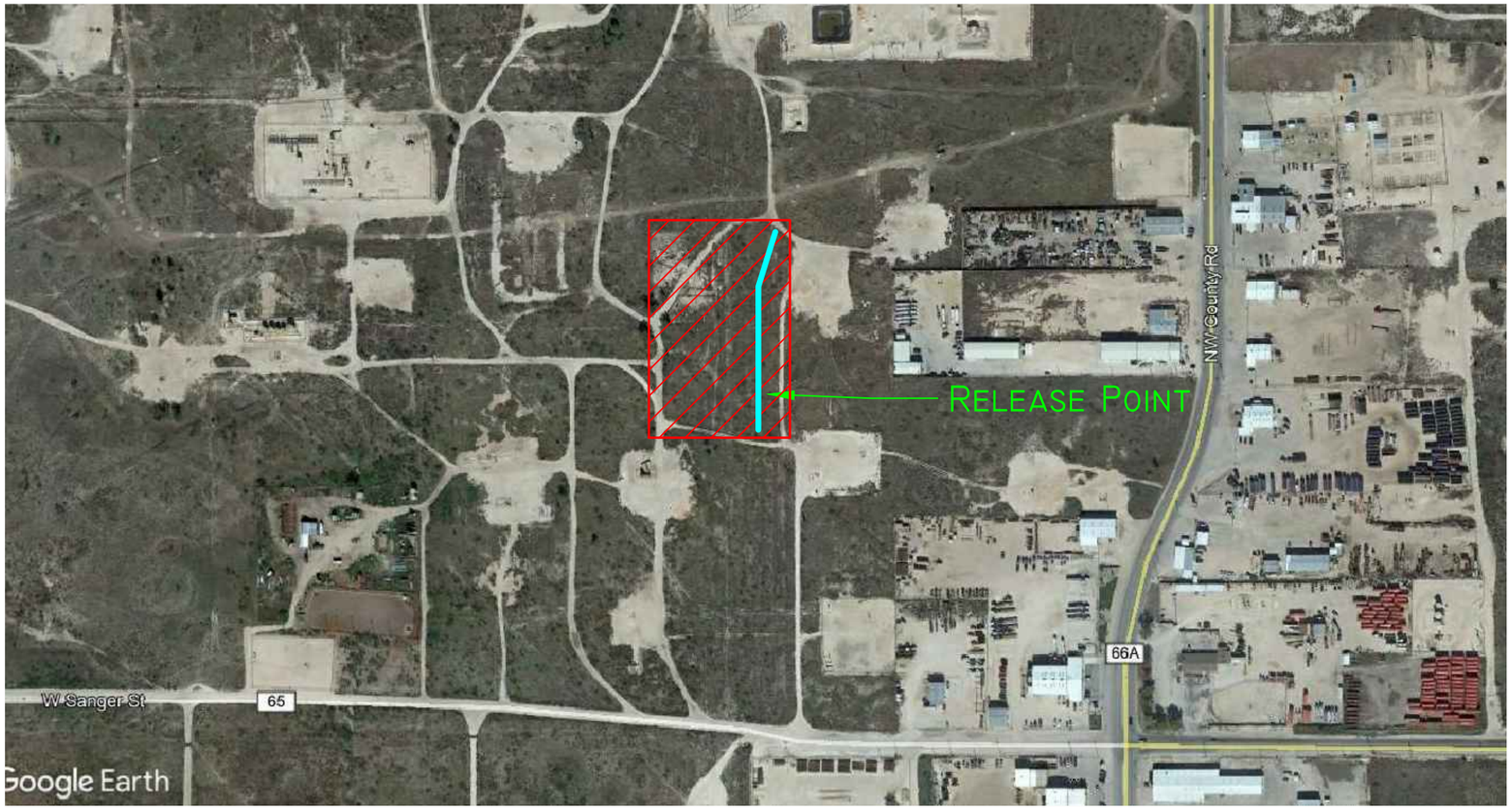
COMPANY: VENABLE'S CONSTRUCTION

PROJECT: 18- WORK PLAN

TITLE: AERIAL MAP

LOCATION: HOBBS, NM

DATE: 3-2018



N

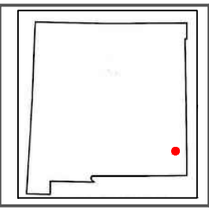
0 500FT 1000FT

SCALE

IMPACTED AREA
~300 FT X 300 FT

TRENCH

AREA MAP



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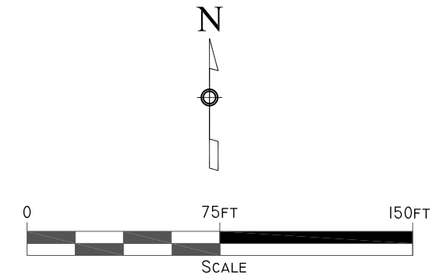
COMPANY: VENABLE'S CONSTRUCTION

PROJECT: 18- WORK PLAN

TITLE: AREA MAP

LOCATION: HOBBS, NM

DATE: 3-2018



Legend

- GW Flow
- Proposed Soil Borings
- Trench
- Direction of Overspray

Affected Areas

Impacted area
~300 ft x 300 ft

Notes:

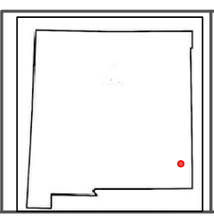
Soil Analysis

- o BTEX by EPA Method 8260;
- o TPH by EPA Methods 8015 extended range C6-C36;
- o Chloride by EPA Method 300

Groundwater Analysis

- o VOC by EPA Method 8260 full list;
- o TDS;
- o pH;
- o Major Anion & Cation including Chloride and Sulfate;
- o Dissolved Iron;
- o Dissolved Manganese

Site Plan



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Company: Venable's Construction

Project: 18- Work Plan

Title: Facility Site Map

Location: Hobbs, NM

Date: 3-2018

Appendix A

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

State of New Mexico
Energy Minerals and Natural Resources

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

Form C-141
Revised April 3, 2017

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

Release Notification and Corrective Action

OPERATOR

☒ Initial Report ☐ Final Report

Name of Company OCCIDENTAL PERMIAN LTD	Contact WADE DITTRICH
Address PO BOX 4294; HOUSTON, TX 77210	Telephone No. 575-390-2828
Facility Name NORTH HOBBS SATELLITE 31 EAST CO2	Facility Type BATTERY

Surface Owner OXY	Mineral Owner STATE	API No.

LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
J	29	18S	38E					LEA

Latitude 32.71476 Longitude -103.17909 NAD83

NATURE OF RELEASE

Type of Release OIL & PRODUCED WATER	Volume of Release 10 bbls oil 150 bbls PRODUCED WATER	Volume Recovered 150 bbls
Source of Release 3rd party line strike from an outside company	Date and Hour of Occurrence 1/9/2018	Date and Hour of Discovery
Was Immediate Notice Given? ☒ Yes ☐ No ☐ Not Required	If YES, To Whom? OLIVIA YU-NMOCD; AMBER GROVES-SLO	
By Whom? WADE DITTRICH	Date and Hour 1-10-2017 @ 3:41 PM	
Was a Watercourse Reached? ☐ Yes ☒ No	If YES, Volume Impacting the Watercourse.	

If a Watercourse was Impacted, Describe Fully.*

RECEIVED
By Olivia Yu at 10:15 am, Feb 01, 2018

Describe Cause of Problem and Remedial Action Taken.*

Leak was caused by a 3rd party line strike from an outside company. Venables Construction will be responsible for the delineation workplan. This C141 is for Initial notification only.

Describe Area Affected and Cleanup Action Taken.*

The affected area is 200 ft x 200 ft x 6ft deep (measurements are subject to change with GPS tracking). Remediation will be completed by Venables Construction in accordance with a remediation plan approved by the NMOCD and the SLO.

I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to NMOCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the NMOCD marked as "Final Report" does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to ground water, surface water, human health or the environment. In addition, NMOCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.

Signature: Wade Dittrich	OIL CONSERVATION DIVISION
Printed Name: WADE DITTRICH	Approved by Environmental Specialist: BJ
Title: ENVIROMENTAL SPECIALIST	Approval Date: 2/1/2018 Expiration Date:
E-mail Address: wade_dittrich@oxy.com	Conditions of Approval: see attached directive Attached ☑
Date: 1-31-18 Phone: 575-390-2828	

* Attach Additional Sheets If Necessary

1RP-4935

Operator/Responsible Party,

The OCD has received the form C-141 you provided on _1/12/2018_ regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number _1RP-4935__ has been assigned. **Please refer to this case number in all future correspondence.**

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

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

Release characterization is the first phase of corrective action unless the release is ongoing or is of limited volume and all impacts can be immediately addressed. Proper and cost-effective remediation typically cannot occur without adequate characterization of the impacts of any release. Furthermore, the Division has the ability to impose reasonable conditions upon the efforts it oversees. **As such, the Division is requiring a workplan for the characterization of impacts associated with this release be submitted to the OCD District _1_ office in __Hobbs____ on or before _2/17/2018_. If and when the release characterization workplan is approved, there will be an associated deadline for submittal of the resultant investigation report. Modest extensions of time to these deadlines may be granted, but only with acceptable justification.**

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

- Horizontal delineation of soil impacts in each of the four cardinal compass directions. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.

- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C_6 thru C_{36}), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.

- Nominal detection limits for field and laboratory analyses must be provided.

- Composite sampling is not generally allowed.

- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

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

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

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

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

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

Appendix B

New Mexico Office of the State Engineer
Water Column/Average Depth to Water

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

(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	POD Code	Sub-basin	County	Q 64	Q 16	Q 4	Sec	Twn	Rng	X	Y	Depth Well	Depth Water	Water Column
L 01086		L	LE	2	2	2	29	18S	38E	672136	3622259*	61	33	28
L 04547		L	LE	3	3	1	29	18S	38E	670734	3621635*	110	70	40
L 06444		L	LE				29	18S	38E	671453	3621534*	141	45	96
L 06570		L	LE	3	3	3	29	18S	38E	670749	3620830*	112	54	58
L 06717		L	LE		4	2	29	18S	38E	672044	3621757*	130	55	75
L 06745		L	LE	1	3	1	29	18S	38E	670734	3621835*	120	49	71
L 07005		L	LE	1	3	3	29	18S	38E	670749	3621030*	150	50	100
L 07017		L	LE		3	3	29	18S	38E	670850	3620931*	150	60	90
L 07068		L	LE	3	3	3	29	18S	38E	670749	3620830*	183	50	133
L 07163		L	LE		2	1	29	18S	38E	671231	3622146*	110	67	43
L 07427		L	LE		4	2	29	18S	38E	672044	3621757*	130	60	70
L 07432 POD1		L	LE		4	2	29	18S	38E	672044	3621757*	125	55	70
L 07434		L	LE	4	4	2	29	18S	38E	672143	3621656*	125	55	70
L 07528		L	LE	4	1	4	29	18S	38E	671747	3621246*	380		
L 07530		L	LE	4	2	1	29	18S	38E	671330	3622045*	370		
L 07531		L	LE	1	3	1	29	18S	38E	670734	3621835*	370		
L 07570		L	LE		3	3	29	18S	38E	670850	3620931*	122	48	74
L 07628		L	LE	1	2	2	29	18S	38E	671936	3622259*	135	70	65
L 07673		L	LE	2	2	2	29	18S	38E	672136	3622259*	125	50	75
L 07754		L	LE	4	2	2	29	18S	38E	672136	3622059*	207	50	157
L 07825		L	LE	1	2	2	29	18S	38E	671936	3622259*	105	45	60
L 07826		L	LE	3	2	2	29	18S	38E	671936	3622059*	110	45	65
L 07839		L	LE		4	2	29	18S	38E	672044	3621757*	120	60	60
L 08131		L	LE			3	29	18S	38E	671051	3621132*	110	60	50
L 08135		L	LE		4	2	29	18S	38E	672044	3621757*	130	62	68
L 08191		L	LE	2	2	2	29	18S	38E	672136	3622259*	120	120	0

***UTM location was derived from PLSS - see Help**

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

(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	POD Sub-basin Code	County	Q 64	Q 16	Q 4	Sec	Tws	Rng	X	Y	Depth Well	Depth Water	Water Column
L 08228	L	LE	4	2	2	29	18S	38E	672136	3622059*	115	68	47
L 08229	L	LE	1	4	2	29	18S	38E	671943	3621856*	115	68	47
L 08362	L	LE		1	3	29	18S	38E	670842	3621334*	187	48	139
L 08370	L	LE	4	2	2	29	18S	38E	672136	3622059*	120	60	60
L 08429	L	LE	2	1	4	29	18S	38E	671747	3621446*	120	62	58
L 08448	L	LE	1	4	2	29	18S	38E	671943	3621856*	130	38	92
L 08737	L	LE		4	2	29	18S	38E	672044	3621757*	132	60	72
L 08860	L	LE			2	29	18S	38E	671842	3621951*	130	39	91
L 08867	L	LE		2	2	29	18S	38E	672037	3622160*	120	52	68
L 09586	L	LE		4	2	29	18S	38E	672044	3621757*	120	78	42
L 09682	L	LE	3	2	2	29	18S	38E	671936	3622059*	120	45	75
L 09705	L	LE	4	3	3	29	18S	38E	670949	3620830*	135	65	70
L 09777	L	LE			1	29	18S	38E	671036	3621937*	150	84	66
L 09792	L	LE		1	1	29	18S	38E	670828	3622139*	150	42	108
L 10860	L	LE		1	1	29	18S	38E	670828	3622139*	160	39	121
L 11171	L	LE	1	4	3	29	18S	38E	671152	3621037*	206		
L 11176	L	LE	4	1	4	29	18S	38E	671747	3621246*	220	65	155
L 11365	L	LE	4	4	1	29	18S	38E	671337	3621642*	120	55	65
L 11886 POD1	L	LE	4	3	3	29	18S	38E	670949	3620830*	172		
L 12052 POD1	L	LE	2	4	2	29	18S	38E	672150	3621825	218		
L 12068 POD1	L	LE	2	4	2	29	18S	38E	672190	3621798	160		
L 12161 POD1	L	LE	1	2	2	29	18S	38E	671848	3622272	195		
L 12304 POD1	L	LE	2	4	2	29	18S	38E	672140	3621821	155		
L 12874 POD1	L	LE	2	3	3	29	18S	38E	671031	3621066	175		
L 13750 POD2	L	LE	3	3	2	29	18S	38E	671526	3621651	300		
L 13997 POD1	L	LE	2	4	3	29	18S	38E	671343	3621125	109	62	47
L 14213 POD1	L	LE	3	3	2	29	18S	38E	671610	3621586	215	63	152

***UTM location was derived from PLSS - see Help**

Average Depth to Water: **57 feet**

Minimum Depth: **33 feet**

Maximum Depth: **120 feet**

Record Count: 53

PLSS Search:

Section(s): 29 **Township:** 18S **Range:** 38E

Appendix C

Procedure for Field Determination of Chloride in Soil

Equipment:

4-oz. sampling jars, spoon, stainless steel mixing bowl, 250 mL plastic wide mouth plastic bottle, 25 mL graduated cylinder, scale, disposable weighing dishes, funnel, filter paper (Whatman® #4 Qualitative 125 mm diameter circles or equivalent), 40 mL vials, Hach Quantab® strips (low and high range), distilled water. Prior to use, all equipment should be clean and dry.

Sampling and preparation procedure:

Collect a soil sample from the surface or from a splitspoon/core barrel and place in a mixing bowl and homogenize. Remove rocks and gravel larger than small pebbles. Weigh 25 grams of soil and place in the wide-mouth bottle. For a 1:4 weight to volume dilution, add 100 mL of distilled water to the bottle. Shake vigorously for several minutes (no longer than 5 minutes). Let the sample settle for a minute or two to allow heavy particles to drop out. Fold and place filter in the funnel and decant sample into the filter. Collect the filtrate in a clean 40 mL vial. Only about ½ inch of clear filtrate in the vial is needed for the procedure.

Chloride Determination:

Place a high or low range Quantab® strip in the vial (replace cap on Quantabs bottle to prevent moisture from degrading the tabs). Wait until the yellow strip at the top of the tab turns blue-black. Read the value on the tabs and use the chart on the back of the appropriate bottle to get the chloride value for each strip. Each Quantab® lot is calibrated independently, so use the chart on the bottle where you removed the strip; the chloride concentration chart may differ from a previous bottle. Multiply the chart value by four (4) to get the concentration of chloride in soil in ppm (mg/Kg). Record the value in field book.

For laboratory analysis, place sample from mixing bowl in a 4-oz jar and transport to the laboratory with a chain-of-custody form.

Figure 1. Equipment setup for field determination of chlorides in soils.

Figure 2. Soil preparation and weighing of soil sample for chloride determination.

Figure 3. Hach® Quantab® test strips used for field determination of chloride in soils.

Figure 4. Hach® Quantab® chloride test strip at completion of chloride field test.