

INFORMATION ONLY



JT Terry

DELINEATION PLAN

Abo Pump Station B-6

API NO. 30-025-05430 (CS Caylor SR Estate No. 003)

1RP-5073

Release Date: 5/22/13

Unit B, Section 6, Township 17S, Range 17E

05/24/2018

Prepared By:



White Buffalo Environmental, Inc.

407 East Broadway

Hobbs, NM 88240

Phone: (575)738-0424

Fax: (575)738-0430



May 24, 2018

**New Mexico Energy, Minerals, & Natural Resources
Oil Conservation Division, Environmental Bureau – District I
c/o Olivia Yu
1625 N. French Drive
Hobbs, NM 88240**

**Re: Delineation Plan Request
Vanguard – Abo Pump Station B-6**

Dear Olivia,

Vanguard Energy has retained White Buffalo Environmental to address environmental concerns for the site detailed herein.

The site is located in Lea County. The incident occurred as a result of a plug in a tee located on the suction line going to the pump had come loose, causing a release of produced water inside the unlined earthen containment. The tank was immediately isolated and the line was repaired. An unknown amount of produced water was released and 100bbls of produced water was recovered by use of vacuum truck.

The visually affected area of impacted is 10, 566 sq. ft. The produced water associated with this release is considered RCRA Exempt oilfield waste. No evidence of other contaminants was observed.

WBE has conducted a groundwater study of the area and determined that according to the New Mexico Office of the Engineer the vadose zone depth at this release location is estimated at a depth of 60'bgs. There is no recorded or observed water wells within 1000 horizontal feet of this site.

The NMOCD Site Ranking Table indicates that based on groundwater depth, wellhead protection and distance to a surface water body, this site is ranked at a 0. Based on the ranking of 0, acceptable remedial goal concentrations are as follows:

Chloride: 600ppm
Benzene: 10ppm
BTEX: 50ppm
TPH: 5000ppm

The vertical and horizontal contamination will be determined during the performance of the Delineation Work Plan. The contaminated soil excavated by use of hand auger or backhoe will be stockpiled at an undisturbed area and placed on a 20' mil polyurethane liner off of the main flow-path the release. The material will be disposed of during the remediation phase of the project.

During the delineation process WBE will sample inside the facility area around any tanks, lines or equipment using a hand auger and will be sampled in 1' intervals. Anything 4' from any lines or processing equipment will be sampled by use of backhoe and will be sampled at 2' intervals. Unless a porous material is encountered, full delineation will be reached according to the ranking requirements of this site. The depth of remedial excavation will be determined after the soil profile is under the 600ppm chloride requirement.

Once WBE has delineated the entire site both vertically and horizontally, all bottom hole samples and side wall samples will be transported to Cardinal Lab for confirmation using proper Chain of Custody protocols. At that time, a Remediation Work Plan will be developed and submitted to the NMOCD for approval. Once approved this site will be remediated and closed as per NMOCD Guidelines for Remediation of Leaks, Spills and Releases.

Thank you for allowing White Buffalo to assist in this matter. Please contact me with any concerns or questions you may have concerning this site.

Sincerely,



Natalie Gladden

Environmental & Regulatory Director
White Buffalo Environmental
407 E. Broadway
Hobbs, NM 88240
Cell: (575-390-6397)

Attachments:

C141, Groundwater Contour Map, Site Map, Delineation/Sample Map and Photo Page

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

Form C-141
Revised April 3, 2017

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

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

Release Notification and Corrective Action

OPERATOR

X Initial Report Final Report

Name of Company Vanguard Operating LLC	Contact John Terry
Address 4001 Penbrook Suite 201 Odessa, TX 79762	Telephone No. 575-631-6933
Facility Name Abo Pump Station B-6	Facility Type Battery

Surface Owner Federal	Mineral Owner Fee	API No.
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LOCATION OF RELEASE

Unit Letter	Section	Township	Range	Feet from the	North/South Line	Feet from the	East/West Line	County
B	6	17S	37E					Lea

Latitude 32.869856 Longitude -103.28910483

NATURE OF RELEASE

Type of Release Produced Water	Volume of Release	Volume Recovered 115
Source of Release A cap located on a tee in the suction line of the pump came off.	Date and Hour of Occurrence 5-16-2018	Date and Hour of Discovery 5-16-2018 11:00 am
Was Immediate Notice Given? X Yes <input type="checkbox"/> No <input type="checkbox"/> Not Required	If YES, To Whom? Maxey Brown	
By Whom? John Terry	Date and Hour 5-16-2018 4:06 pm	
Was a Watercourse Reached? <input type="checkbox"/> Yes X No	If YES, Volume Impacting the Watercourse.	

RECEIVED
By Olivia Yu at 8:53 am, May 23, 2018

If a Watercourse was Impacted, Describe Fully.*

Describe Cause of Problem and Remedial Action Taken.*
A plug in a tee located on the suction line going to the pump came loose allowing produce water to spill inside of the containment. The tank was isolated and the line is being repaired.

Describe Area Affected and Cleanup Action Taken.*
The water was released into the containment and a vacuum truck removed the standing water.

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:	OIL CONSERVATION DIVISION	
Printed Name: Chuck Johnston	Approved by Environmental Specialist: <i>oy</i>	
Title EHS Specialist	Approval Date: 5/23/2018	Expiration Date:
E-mail Address: cjohnston@vnrenergy.com	Conditions of Approval: see attached directive	Attached <input checked="" type="checkbox"/>
Date: 05/22/2018 Phone: 432-202-4771		

* Attach Additional Sheets If Necessary

fOY1814332674 **1RP-5073** **nOY1814332779**
pOY1814333136

Operator/Responsible Party,

The OCD has received the form C-141 you provided on 5/22/2018 regarding an unauthorized release. The information contained on that form has been entered into our incident database and remediation case number 1RP-5073 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 6/23/2018. 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; C₆ thru C₃₆), and for chloride by Method 300. This is not an exclusive list of potential contaminants. Analyzed parameters should be modified based on the nature of the released substance(s). Soil sampling must be both within the impacted area and beyond.
- Vertical delineation of soil impacts. Adsorbed soil contamination must be characterized for the following constituents using the associated laboratory methods: benzene, toluene, ethylbenzene, and total xylenes by either Method 8260 or 8021, total petroleum hydrocarbons by Method 8015 extended range (GRO+DRO+MRO; C₆ thru C₃₆), and for chloride by Method 300. As above, this is not an exclusive list of potential contaminants and can be modified. Vertical characterization samples should be taken at depth intervals no greater than five feet apart. Lithologic description of encountered soils must also be provided. At least ten vertical feet of soils with contaminant concentrations at or below these values must be demonstrated as existing above the water table.
- Nominal detection limits for field and laboratory analyses must be provided.
- Composite sampling is not generally allowed.
- Field screening and assessment techniques are acceptable (headspace, titration, EC [include algorithm for validation purposes], EM, etc.), but the sampling and assay procedures must be clearly defined. Copies of field notes are highly desirable. A statistically significant set of split samples must be submitted for confirmatory laboratory analysis, including the laterally farthest and vertically deepest sets of soil samples. Make sure there are at least two soil samples submitted

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

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

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

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

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

Jim Griswold

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

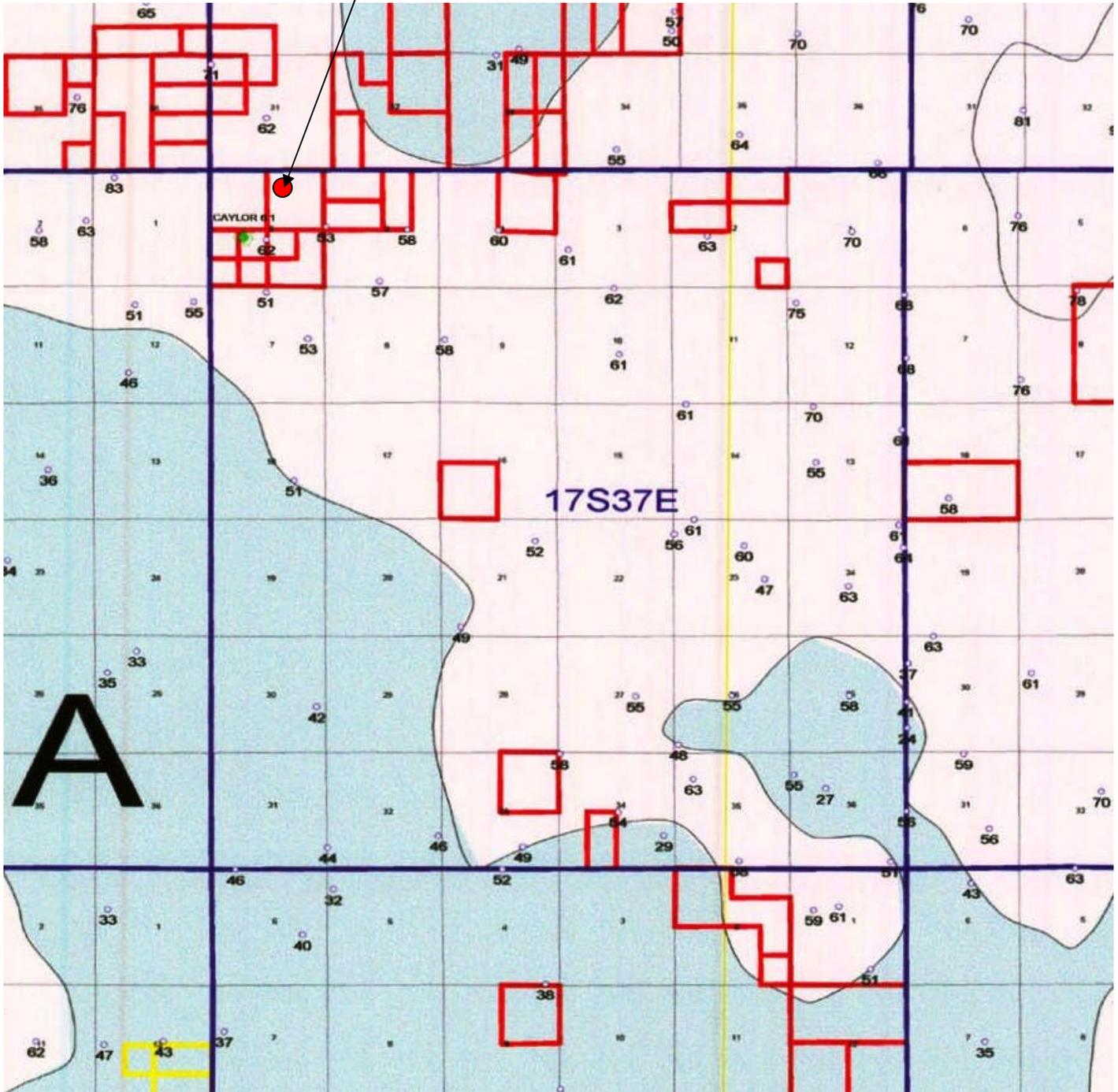
From: [Brown, Maxey G, EMNRD](#)
To: [Yu, Olivia, EMNRD](#)
Subject: Vanguard
Date: Wednesday, May 16, 2018 4:12:46 PM

4:10 pm vanguard Abo B prod wtr. Release and recovered > 100 bbls. 575-631-6933. Will submit c141.

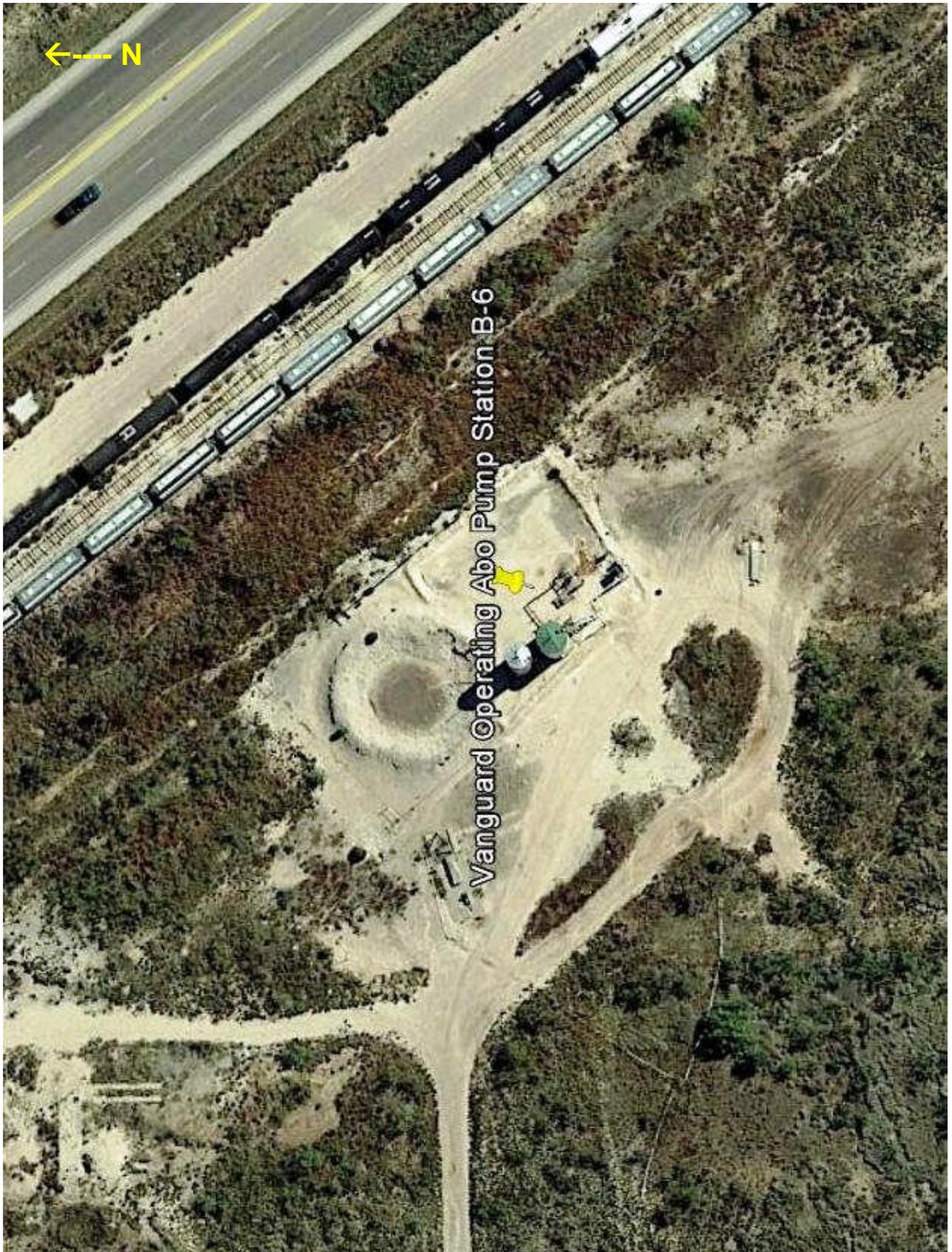
Sent from Samsung Mobile

T17S R37E Section 6 UL-B Lea County

Vanguard Abo Pump Station B-6 Location
Water at 60' bgs



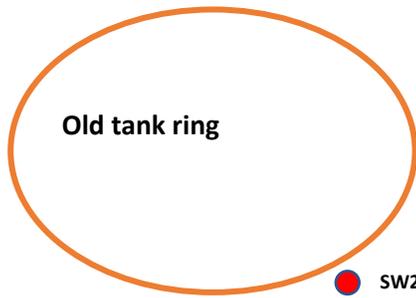
Vanguard Operating Abo Pump Station B-6 Water Contour Map



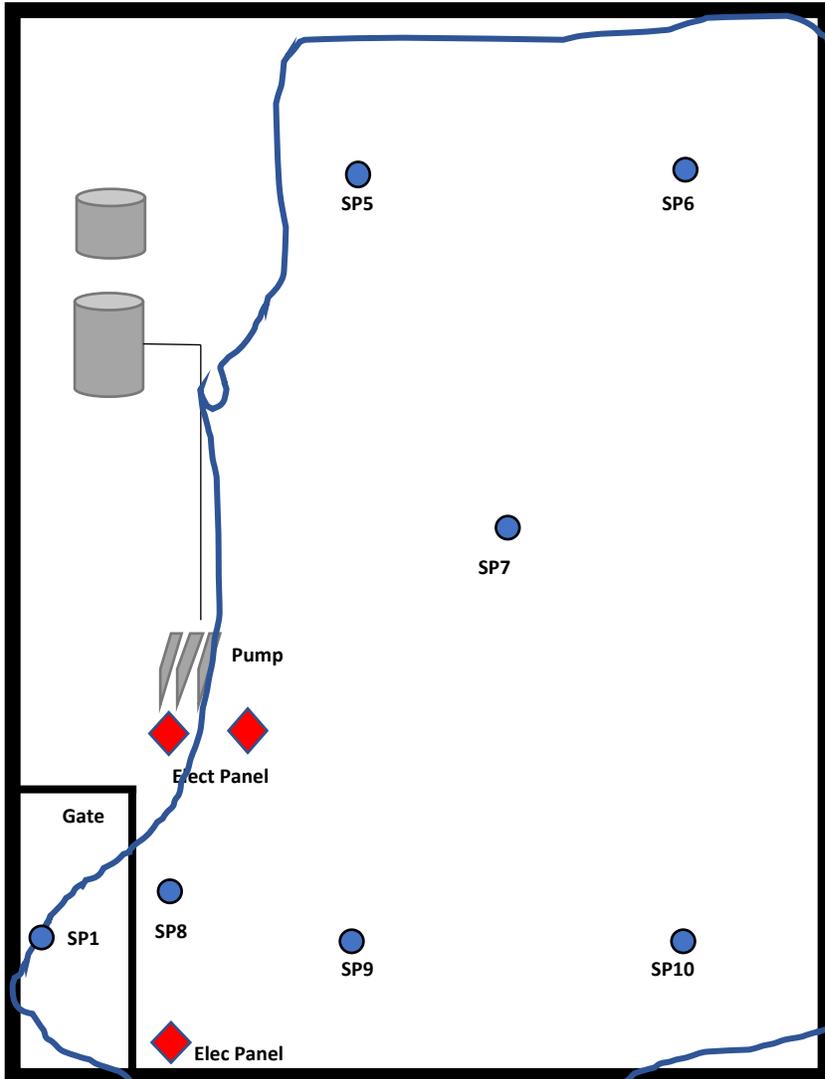
Vanguard Operating Abo Pump Station B-6 Aerial Photo

Delineation Map





SP ID	Lat/Long
SP1	32 52'11.09"N 103 17'20.87"W
SP2	32 52'10.85"N 103 17'20.51"W
SP3	32 52'11.01"N 103 17'20.21"W
SP4	32 52'10.74"N 103 17'20.19"W
SP5	32 52'11.57" N 103 17' 21.05"W
SP6	32 52'11.78"N 103 17'20.72"W
SP7	32 52'11.52"N 103 17'20.65"W
SP8	32 52'11.18" N 103 17'20.76"W
SP9	32 52'11.21"N 103 17'20.52"W
SP10	32 52'11.37"N 103 17'20.22"W
SP11	32 52'11.63"N 103 17'20.18"W
SP12	32 52'11.90"N 103 17'20.46"W



Vanguard Operating LLC
 Abo Pump Station B-6
 Release Date: 05/22/18
 RP No. 1RP-5073

Sidewall points are estimated with no GPS, not determined until delineation is complete