General Information

NMOCD District:	District 2	Incident #	NRM2004149681
Landowner:	Federal		
Client:	Devon Energy Production Company	Site Location:	North Pure Gold 8 Fed #6
Date:	May 29, 2020	Project #:	20E-00141-017
Client Contact:	Tom Bynum	Phone #:	(580) 748-1613
Vertex PM:	Natalie Gordon	Phone #:	(505) 506-0040

Objective

The objective of this environmental remediation work plan is to identify areas of exceedance for constituents of concern found during spill assessment and site characterization activities and propose appropriate remediation techniques to address the open release at North Pure Gold 8 Fed #6 (hereafter referred to as "North Pure Gold"). This incident occurred on February 3, 2020, when a poly flowline on the edge of the wellpad developed a hole. Approximately 5 barrels (bbls) of produced water and 0.5 bbls oil were released into the pasture adjacent the wellpad. The location and boundaries of this release are identified on Figure 1 (Attachment 1). Areas of concern identified and delineated include the spill footprint as mapped on February 8, 2020.

Initial site research and characterization has been completed and a closure criteria determination worksheet is included in Attachment 2. The release at North Pure Gold is not subject to the requirements of Paragraph (4) of Subsection C of 19.15.29.12 *New Mexico Administrative Code* (NMAC; New Mexico Oil Conservation Division, 2018) and the closure criteria for the site are determined to be associated with the following constituent concentration limits.

Table 1. Closure Criteria for Soils Impacted by a Release – Depth to Groundwater 51 > 100 feet

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/L TDS[1]	Constituent	Limit
51 > 100 feet	Chloride	10,000 mg/kg
	TPH[2] (GRO + DRO + MRO)	2,500 mg/kg
	GRO + DRO	1,000 mg/kg
	BTEX[3]	50 mg/kg
	Benzene	10 mg/kg

[1]Total Dissolved Solids (TDS)

[2]Total petroleum hydrocarbons (TPH) = gasoline range organics (GRO) + diesel range organics (DRO) + motor oil range organics (MRO)

[3]Benzene, toluene, ethyl benzene and xylenes (BTEX)

Site Assessment/Characterization

The North Pure Gold release characterization was completed on February 8, 2020. A total of ten sample points were established across the release area (Attachment 1) and soil samples were collected from these locations at various depths. Each soil sample was field screened, using an electrical conductivity (EC) meter to estimate the level of chlorides in the soil, a photoionization detector to detect the presence of volatile organics and the Petroflag system to estimate levels of petroleum hydrocarbons. A selection of these soil samples was submitted to a laboratory for analysis to support the in-field findings. The field screening and laboratory results were used to determine the horizontal and vertical extents of the release.

Because this release occurred in undisturbed pasture, additional consideration was given to the reclamation requirements outlined in 19.15.29.13 NMAC, such that the topmost four feet of the pasture area should contain "uncontaminated" soil conforming to the more stringent closure criteria associated with releases in areas where depth to groundwater is less than fifty feet below ground surface (bgs) as demonstrated in Table 2.

Table 2. Closure Criteria for Soils Impacted by a Release – Depth to groundwater < 50 feet

Minimum depth below any point within the horizontal boundary of the release to groundwater less than 10,000 mg/L TDS	Constituent	Limit
< 50 feet	Chloride	600 mg/kg
	TPH (GRO + DRO + MRO)	100 mg/kg
	BTEX	50 mg/kg
	Benzene	10 mg/kg

Data from the release characterization process have been compared to the above noted closure and reclamation criteria to establish the appropriate level of remediation required. Characterization field screening and laboratory results are presented in Table 3 (Attachment 3) and exceedances are identified in the table as bold with a grey background.

Proposed Remedial Activities

Vertex proposes areas identified with contaminant concentrations approaching, or above, closure and reclamation criteria be remediated through a combination of excavation and removal of contaminated soil with the use of mechanical equipment and treatment in-situ with a hydrocarbon product such as Microblaze®. Soils contaminated by released liquids will be excavated to a depth of approximately 2 feet bgs, as guided by an onsite Vertex environmental technician, who will be conducting field screening during the excavation activities. Approximately 235 cubic yards of contaminated soil are projected to be removed during excavation and stored on a heavy-duty liner prior to disposal at an approved facility. Following removal of soils impacted by the release liquids, surrounding soil surfaces impacted by overspray during the initial release, will be treated with an application of Microblaze®. The in-situ treatment area is expected to be approximately 9,515 square feet.

During the excavation portion of the remediation, an environmental technician will confirm removal of contaminated soil to below the applicable reclamation criteria as shown in Table 2. Confirmatory samples from the base and sidewalls of the excavation will be collected per the alternate sampling method outlined in Subparagraph (c) of Paragraph (1) of Subsection D 19.15.29.12 NMAC, such that each five-point composite sample will be representative of no more than 200 square feet and the excavation will be backfilled with clean soil sourced locally. Confirmatory samples will be placed into laboratory-provided containers, preserved on ice and submitted to a National Environmental Laboratory Accreditation Program (NELAP)-approved laboratory for chemical analysis. Laboratory analyses will include Method 300.0 for chlorides, Method 8021B for volatile organics, including benzene and BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO.

A GeoExplorer 7000 Series Trimble global positioning system (GPS) unit, or equivalent, will be used to map the approximate center of each of the five-point composite samples.

The portion of the release overspray area that is treated in-situ with Microblaze® will be allowed to sit for a period of not less than 40 days to allow the treatment product sufficient time to work. Following the waiting period and the requisite 48-hour notification of confirmatory sampling, confirmatory samples will be collected from the in-situ treatment area. These confirmatory samples will be collected in accordance with the sample plan detailed in Attachment 4, based on a non-parametric statistical sampling design using the MARSSIM version Sign Test through the Visual Sample Plan (VSP) program

that meets the Environmental Protection Agency's data quality assessment standards (DQAs) for composite sampling. The confirmatory samples will be placed into laboratory-provided containers, preserved on ice and submitted to a NELAP-approved laboratory for chemical analysis. Laboratory analysis will include Method 300.0 for chlorides, Method 8021B for volatile organics, including benzene and BTEX, and EPA Method 8015 for TPH, including MRO, DRO and GRO.

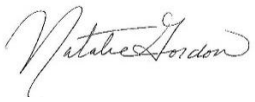
A GeoExplorer 7000 Series Trimble global positioning system (GPS) unit, or equivalent, will be used to map the approximate center of each of the five-point composite samples.

Timeline for Completion

Remediation activities, as outlined in this workplan, are projected to be completed within 90 days of NM OCD approval of this remediation work plan and the attached alternative sampling plan for the in-situ treatment portion of the release.

If there are any questions regarding this report, please contact Natalie Gordon at 505-506-0040.

Sincerely,

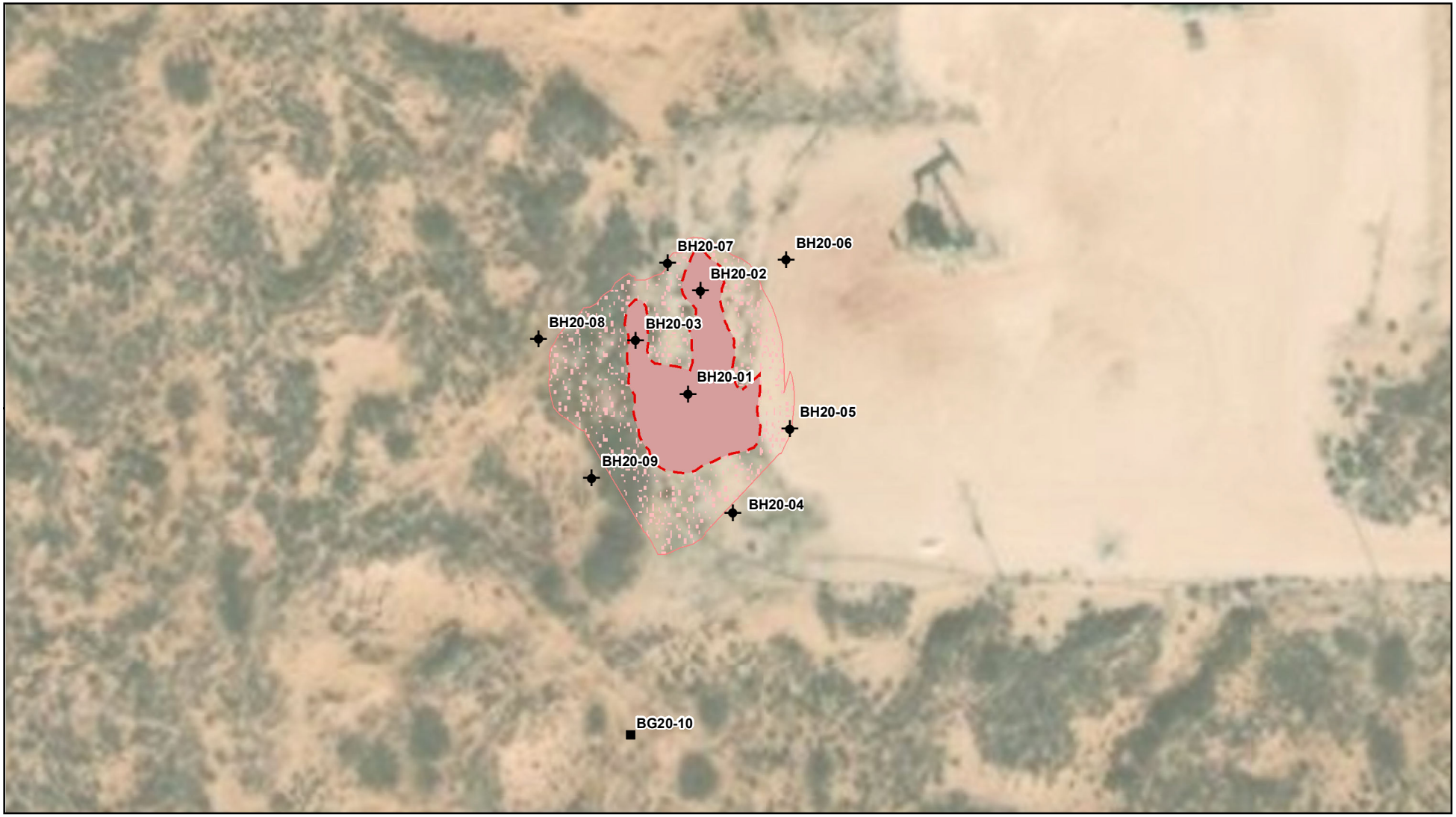


Natalie Gordon
PROJECT MANAGER

Attachments

Attachment 1: Figure 1 – Site Schematic and Characterization Sample Points
Attachment 2: Closure Criteria Determination Worksheet
Attachment 3: Table 3 – Release Characterization Sampling – Field Screen and Laboratory Data
Attachment 4: Sampling to Compute a Normal One-Sided Upper Tolerance Limit to Test that a Large Portion of Room Surfaces Does Not Contain Contamination

ATTACHMENT 1



Background Sample
Borehole
Spill (~ 3165 sq.ft.)
Spray (~ 9515 sq.ft.)

VERTEX

0 25 50 Feet

Map Center:
Lat/Long: 32.316985, -103.799552

NAD 1983 UTM Zone 13N
Date: Apr 21/20

N

Site Schematic and Characterization
Sample Locations
North Pure Gold 8 Fed 6

FIGURE:
1

devon

Geospatial data presented in this figure may be derived from external sources and Vertex does not assume any liability for inaccuracies. This figure is intended for reference use only and is not certified for legal, survey, or engineering purposes.

Note: Background image from ESRI, 2019.

VERSATILITY. EXPERTISE.

Document Path: G:\1-Projects_US PROJECTS\Devon Energy Corporation\20E-00141\017 - North Pure Gold 8 Fed 6\Figure 1 Site Schematic North Pure Gold 8 Fed 6.mxd

ATTACHMENT 2

Closure Criteria Determination Worksheet			
Site Name: North Pure Gold 8 Fed 6			
Spill Coordinates:		X: 32.316912	Y: -103.799585
Site Specific Conditions		Value	Unit
1	Depth to Groundwater	**85**	feet
2	Within 300 feet of any continuously flowing watercourse or any other significant watercourse	67,415	feet
3	Within 200 feet of any lakebed, sinkhole or playa lake (measured from the ordinary high-water mark)	7,140	feet
4	Within 300 feet from an occupied residence, school, hospital, institution or church	4,843	feet
5	i) Within 500 feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, **or**	4,806	feet
	ii) Within 1000 feet of any fresh water well or spring	4,806	feet
6	Within incorporated municipal boundaries or within a defined municipal fresh water field covered under a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978 as amended, unless the municipality specifically approves	No	(Y/N)
7	Within 300 feet of a wetland	6,556	feet
8	Within the area overlying a subsurface mine	No	(Y/N)
9	Within an unstable area (Karst Map)		Critical High Medium Low
10	Within a 100-year Floodplain	>500 year flood plan	year
NMAC 19.15.29.12 E (Table 1) Closure Criteria		51-100'	<50' 51-100' >100'

ATTACHMENT 3

Client Name: Devon Energy Production Company
Site Name: North Pure Gold 8 Fed 6
NM OCD Incident Tracking Numbers: NRM2004149681
Project #: 20E-00141-017
Lab Report: 2002522

Table 3. Characterization Sampling Field Screening and Laboratory Results - Depth to Groundwater 50 ft <100 ft

Sample Description			Field Screening			Petroleum Hydrocarbons							Inorganic
						Volatile		Extractable					
Sample ID	Depth (ft)	Sample Date	Volatile Organic Compounds (PID)	Extractable Organic Compounds (Petro Flag)	Inorganics (Quantab - High/Low)	Benzene	BTEX (Total)	Gasoline Range Organics (GRO)	Diesel Range Organics (DRO)	Motor Oil Range Organics (MRO)	(GRO + DRO)	Total Petroleum Hydrocarbons (TPH)	Chloride
			(ppm)	(ppm)	(+/-)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)	(mg/kg)
BH 20-01	0	February 8, 2020	**776**	-	-	-	-	-	-	-	-	-	-
BH 20-01	1	February 8, 2020	**130**	**316**	**5,614**	-	-	-	-	-	-	-	-
BH 20-01	2	February 8, 2020	13	**228**	**3,371**	-	-	-	-	-	-	-	-
BH 20-01	3	February 8, 2020	4	80	429	-	-	-	-	-	-	-	-
BH 20-02	0	February 8, 2020	**822**	-	-	0.32	44.92	660	50,000	20,000	**50,660**	**70,660**	**14,000**
BH 20-02	1	February 8, 2020	**216**	**535**	**5,220**	-	-	-	-	-	-	-	-
BH 20-02	2	February 8, 2020	**202**	**511**	**1,987**	-	-	-	-	-	-	-	-
BH 20-02	3	February 8, 2020	21	69	114	-	-	-	-	-	-	-	-
BH 20-03	0	February 8, 2020	**700**	-	-	0.46	37.46	650	29,000	13,000	**29,650**	**42,650**	**7,300**
BH 20-03	1	February 8, 2020	**266**	**298**	**2,224**	-	-	-	-	-	-	-	-
BH 20-03	2	February 8, 2020	47	**203**	**641**	-	-	-	-	-	-	-	-
BH 20-03	3	February 8, 2020	7	72	250	-	-	-	-	-	-	-	-
BH 20-04	0	February 8, 2020	1	45	215	-	-	-	-	-	-	-	-
BH 20-04	1	February 8, 2020	0	38	166	-	-	-	-	-	-	-	-
BH 20-05	0	February 8, 2020	3	51	333	<0.025	<0.224	<5.0	<9.1	<46	<14.1	<60.1	<60
BH 20-05	1	February 8, 2020	0	47	198	-	-	-	-	-	-	-	-
BH 20-06	0	February 8, 2020	2	65	472	-	-	-	-	-	-	-	-
BH 20-06	1	February 8, 2020	0	45	176	-	-	-	-	-	-	-	-
BH 20-07	0	February 8, 2020	2	69	509	<0.025	<0.222	<4.9	<9.5	<47	<14.4	<61.4	<60
BH 20-07	1	February 8, 2020	0	39	314	-	-	-	-	-	-	-	-
BH 20-08	0	February 8, 2020	1	54	219	<0.025	<0.222	<4.9	<9.3	<47	<14.2	<61.2	<60
BH 20-08	1	February 8, 2020	0	36	99	-	-	-	-	-	-	-	-
BH 20-09	0	February 8, 2020	40	**123**	-	<0.025	<0.221	<4.9	<9.6	<48	<14.5	<62.5	<60
BH 20-09	1	February 8, 2020	31	**112**	-	-	-	-	-	-	-	-	-
BG 20-10	0	February 8, 2020	3	21	-	-	-	-	-	-	-	-	-
BG 20-10	3	February 8, 2020	3	9	-	-	-	-	-	-	-	-	-

"-" indicates not applicable/assessed

Bold and shaded indicates exceedance outside of NM OCD Reclamation Criteria

ATTACHMENT 4

Random sampling locations within grids for comparing a median with a fixed threshold (nonparametric - MARSSIM)

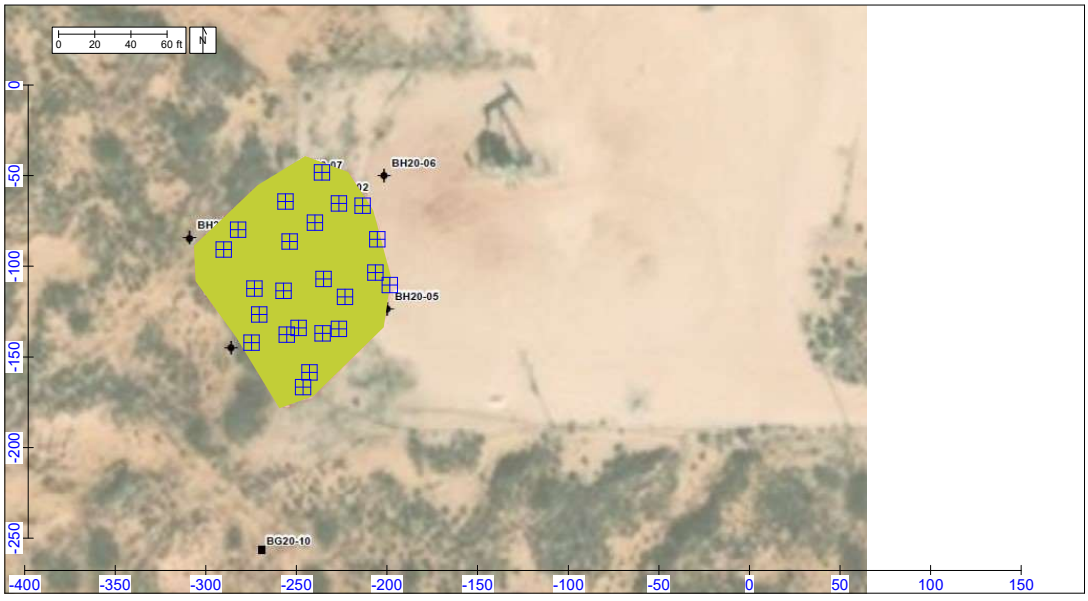
Summary

This report summarizes the sampling design used, associated statistical assumptions, as well as general guidelines for conducting post-sampling data analysis. Sampling plan components presented here include how many sampling locations to choose and where within the sampling area to collect those samples. The type of medium to sample (i.e., soil, groundwater, etc.) and how to analyze the samples (in-situ, fixed laboratory, etc.) are addressed in other sections of the sampling plan.

The following table summarizes the sampling design developed. A figure that shows sampling locations in the field and a table that lists sampling location coordinates are also provided below.

SUMMARY OF SAMPLING DESIGN	
Primary Objective of Design	Compare a site mean or median to a fixed threshold
Type of Sampling Design	Nonparametric
Sample Placement (Location) in the Field	Random sampling within grids
Working (Null) Hypothesis	The median(mean) value at the site is less than the threshold
Formula for calculating number of sampling locations	Sign Test - MARSSIM version
Calculated number of samples	19
Number of samples adjusted for EMC	19
Number of samples with MARSSIM Overage	23
Number of samples on map [a]	23
Number of selected sample areas [b]	1
Specified sampling area [c]	9873.33 ft^2

[a] This number may differ from the calculated number because of 1) grid edge effects, 2) adding judgment samples, or 3) selecting or unselecting sample areas.
[b] The number of selected sample areas is the number of colored areas on the map of the site. These sample areas contain the locations where samples are collected.
[c] The sampling area is the total surface area of the selected colored sample areas on the map of the site.



Area: Overspray Area						
X Coord	Y Coord	Label	Value	Type	Historical	Sample Area
-246.3039	-166.7378			Random in Grid		
-242.8271	-158.5065			Random in Grid		
-274.6756	-142.0622			Random in Grid		
-255.3778	-137.7834			Random in Grid		
-235.4711	-137.0384			Random in Grid		
-270.4697	-126.5168			Random in Grid		
-248.7206	-134.0858			Random in Grid		
-226.5421	-134.5134			Random in Grid		
-223.1683	-116.9459			Random in Grid		
-273.2204	-112.2703			Random in Grid		
-257.0541	-113.4845			Random in Grid		
-234.9824	-106.9455			Random in Grid		
-206.4155	-103.4892			Random in Grid		
-198.4979	-110.3011			Random in Grid		
-290.1979	-90.7934			Random in Grid		
-282.0956	-79.7783			Random in Grid		
-253.7524	-86.3012			Random in Grid		
-239.7637	-75.9896			Random in Grid		
-205.3481	-85.1409			Random in Grid		
-256.0761	-64.2242			Random in Grid		
-226.5319	-65.3773			Random in Grid		
-213.3907	-66.4964			Random in Grid		
-235.9577	-48.2539			Random in Grid		

Primary Sampling Objective
The primary purpose of sampling at this site is to compare a site median or mean value with a fixed threshold. The working hypothesis (or 'null' hypothesis) is that the median(mean) value at the site is less than the threshold. The alternative hypothesis is that the median(mean) value is equal to or exceeds the threshold. VSP calculates the number of samples required to reject the null hypothesis in favor of the alternative one, given a selected sampling approach and inputs to the associated equation.

Selected Sampling Approach
A nonparametric random sampling within grids approach was used to determine the number of samples and to specify sampling locations. A nonparametric formula was chosen because the conceptual model and historical information (e.g., historical data from this site or a very similar site) indicate that typical parametric assumptions may not be true.

Both parametric and non-parametric equations rely on assumptions about the population. Typically, however, non-parametric equations require fewer assumptions and allow for more uncertainty about the statistical distribution of values at the site. The trade-off is that if the parametric assumptions are valid, the required number of samples is usually less than if a non-parametric equation was used.

VSP offers many options to determine the locations at which measurements are made or samples are collected and subsequently measured. For this design, random point sampling in grids was chosen. This option offers a good balance between providing information about the spatial structure of the potential contamination while ensuring all portions of the site are represented (though, not as thoroughly as systematic grid sampling). Knowledge of the spatial structure is useful for geostatistical analysis. This option also has the benefit of placing the exact number of samples required by the design.

Nuclides
The following table summarizes the analyzed nuclides.

Nuclides Analyzed by Study		
Nuclide	**$DCGL_W$**	**$DCGL_{EMC}$**
Analyte 1	300	

Number of Total Samples: Calculation Equation and Inputs
The equation used to calculate the number of samples is based on a Sign test (see PNNL 13450 for discussion). For this site, the null hypothesis is rejected in favor of the alternative one if the median(mean) is sufficiently larger than the threshold. The number of samples to collect is calculated so that if the inputs to the equation are true, the calculated number of samples will cause the null hypothesis to be rejected.

The formula used to calculate the number of samples is:

$$n = \frac{(Z_{1-\alpha} + Z_{1-\beta})^2}{4(SignP - 0.5)^2}$$

where

$$SignP = \Phi\left(\frac{\Delta}{S_{total}}\right)$$

$\Phi(z)$ is the cumulative standard normal distribution on $(-\infty,z)$ (see PNNL-13450 for details),
n is the number of samples,
S_{total} is the estimated standard deviation of the measured values including analytical error,
Δ is the width of the gray region,
α is the acceptable probability of incorrectly concluding the site median(mean) exceeds the threshold,
β is the acceptable probability of incorrectly concluding the site median(mean) is less than the threshold,
$Z_{1-\alpha}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\alpha}$ is $1-\alpha$,
$Z_{1-\beta}$ is the value of the standard normal distribution such that the proportion of the distribution less than $Z_{1-\beta}$ is $1-\beta$.

Note: MARSSIM suggests that the number of samples should be increased by at least 20% to account for missing or unusable data and uncertainty in the calculated value of n. VSP allows a user-supplied percent overage as discussed in MARSSIM (EPA 2000, p. 5-33).

For each nuclide in the **Nuclides Analyzed by Study** table, the values of these inputs that result in the calculated number of sampling locations are:

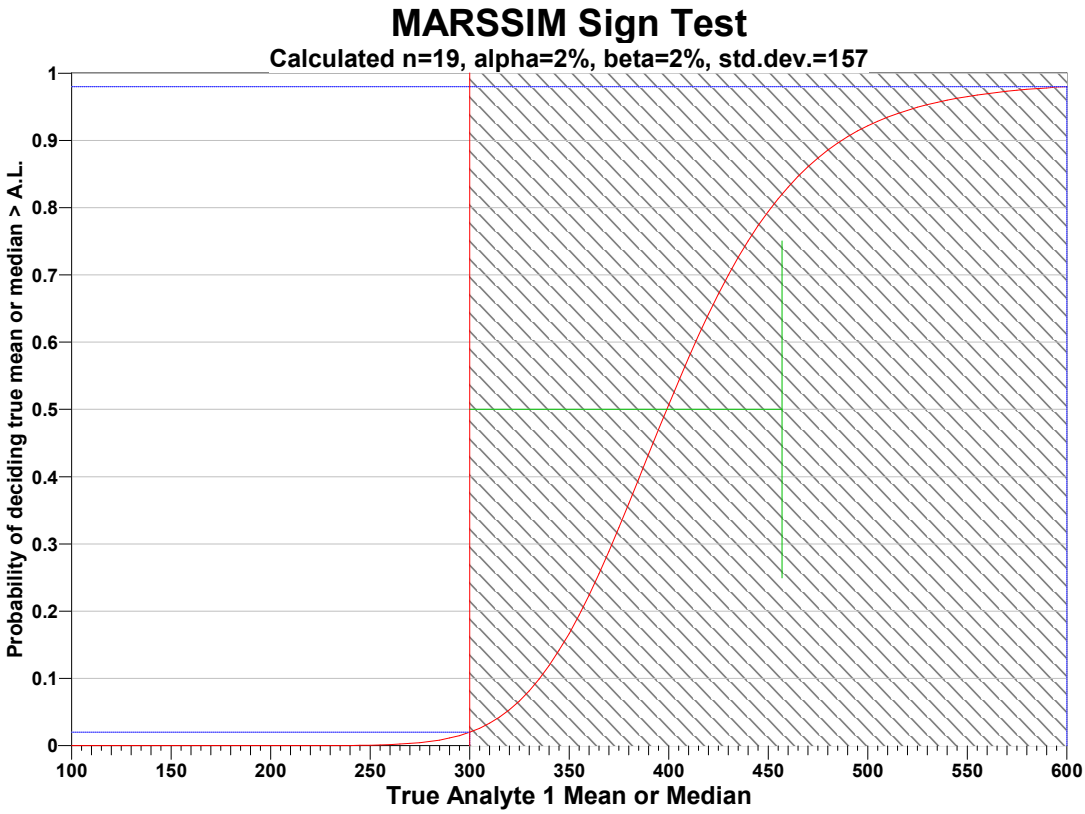
Nuclide	n^a	n^b	n^c	Parameter					
				S_{total}	Δ	α	β	$Z_{1-\alpha}$ [d]	$Z_{1-\beta}$ [e]
Analyte 1	19	19	23	157	300	0.02	0.02	2.05375	2.05375

[a] The number of samples calculated by the formula.
[b] The number of samples increased by EMC calculations.
[c] The final number of samples increased by the MARSSIM Overage of 20%.
[d] This value is automatically calculated by VSP based upon the user defined value of α.
[e] This value is automatically calculated by VSP based upon the user defined value of β.

Performance
The following figure is a performance goal diagram, described in EPA's QA/G-4 guidance (EPA, 2000). It shows the probability of concluding the sample area is dirty on the vertical axis versus a range of possible true median(mean) values for the site on the horizontal axis. This graph contains all of the inputs to the number of samples equation and pictorially represents the calculation.

The red vertical line is shown at the threshold (action limit) on the horizontal axis. The width of the gray shaded area is

equal to Δ; the lower horizontal dashed blue line is positioned at α on the vertical axis; the upper horizontal dashed blue line is positioned at 1-β on the vertical axis. The vertical green line is positioned at one standard deviation above the threshold. The shape of the red curve corresponds to the estimates of variability. The calculated number of samples results in the curve that passes through the lower bound of Δ at α and the upper bound of Δ at 1-β. If any of the inputs change, the number of samples that result in the correct curve changes.



Statistical Assumptions

The assumptions associated with the formulas for computing the number of samples are:

1. the computed sign test statistic is normally distributed,
2. the variance estimate, S^2, is reasonable and representative of the population being sampled,
3. the population values are not spatially or temporally correlated, and
4. the sampling locations will be selected randomly.

The first three assumptions will be assessed in a post data collection analysis. The last assumption is valid because the sample locations were selected using a random process.

Sensitivity Analysis

The sensitivity of the calculation of number of samples was explored by varying the standard deviation, delta, beta (%), probability of mistakenly concluding that μ < action level and alpha (%), probability of mistakenly concluding that μ > action level. The following table shows the results of this analysis.

Number of Samples							
		α=5		α=10		α=15	
		s=314	s=157	s=314	s=157	s=314	s=157
Δ=150	β=5	98	30	77	24	65	21
	β=10	77	24	59	20	48	16
	β=15	65	21	48	16	39	12
Δ=300	β=5	30	16	24	12	21	11
	β=10	24	12	20	10	16	9

	β=15	21	11	16	9	12	6
Δ=450	**β=5**	20	14	15	11	12	10
	β=10	15	11	12	9	10	8
	β=15	12	10	10	8	8	6

s = Standard Deviation
Δ = Delta
β = Beta (%), Probability of mistakenly concluding that μ < action level
α = Alpha (%), Probability of mistakenly concluding that μ > action level

Note: Values in table are not adjusted for EMC.

North Pure Gold 8 Fed 6

Determination of Standard Deviation from Mean Chloride Levels

429	133.6429	17860.4133	
114	-181.357	32890.4133	
641	345.6429	119468.985	
250	-45.3571	2057.27041	
215	-80.3571	6457.27041	
166	-129.357	16733.2704	
333	37.64286	1416.98469	
198	-97.3571	9478.41327	
472	176.6429	31202.699	
176	-119.357	14246.1276	
509	213.6429	45643.2704	
314	18.64286	347.556122	
219	-76.3571	5830.41327	
99	-196.357	38556.1276	
4135		342189.214	
295.36		24442.0867	156.34 one standard deviation
Mean			

Determination of Standard Deviation from Mean TPH Levels

84	-0.3125	0.097656	
90	5.6875	32.34766	
79	-5.3125	28.22266	
46	-38.3125	1467.848	
38	-46.3125	2144.848	
54	-30.3125	918.8477	
47	-37.3125	1392.223	
67	-17.3125	299.7227	
45	-39.3125	1545.473	
71	-13.3125	177.2227	
39	-45.3125	2053.223	
55	-29.3125	859.2227	
163	78.6875	6191.723	
143	58.6875	3444.223	
195	110.6875	12251.72	
133	48.6875	2370.473	
1349		35177.44	
84.3125		2198.59	46.88912 one standard deviation
Mean			

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	NRM2004149681
District RP	
Facility ID	
Application ID	

Site Assessment/Characterization

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

What is the shallowest depth to groundwater beneath the area affected by the release?	<50 (ft bgs)
Did this release impact groundwater or surface water?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	☐ Yes ☒ 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)?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	☐ Yes ☒ 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?	☐ Yes ☒ No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	☐ Yes ☒ No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	☐ Yes ☒ No
Are the lateral extents of the release within 300 feet of a wetland?	☐ Yes ☒ No
Are the lateral extents of the release overlying a subsurface mine?	☐ Yes ☒ No
Are the lateral extents of the release overlying an unstable area such as karst geology?	☐ Yes ☒ No
Are the lateral extents of the release within a 100-year floodplain?	☐ Yes ☒ No
Did the release impact areas **not** on an exploration, development, production, or storage site?	☐ Yes ☒ 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

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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.

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: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 5/31/2020

email: tom.bynum@dvn.com Telephone: 575-748-0176

OCD Only

Received by: Cristina Eads Date: 06/26/2020

State of New Mexico
Oil Conservation Division

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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: Tom Bynum Title: EHS Consultant

Signature: Tom Bynum Date: 5/31/2020

email: tom.bynum@dvn.com Telephone: 575-748-0176

OCD Only

Received by: Cristina Eads Date: 06/25/2020

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

Signature: Date: 09/02/2020