

Proposal Brought to
2/4/15 meeting -
will be revised



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ARTESIA, NEW MEXICO 88210-2118

TELEPHONE (575) 748-1471

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NM OIL CONSERVATION
ARTESIA DISTRICT

AUG 4 2015

RECEIVED

August 4, 2015

Mr. Mike Bratcher
NMOCD District II
1301 West Grand
Artesia, NM 88210

Re: State CO SWD System (at the Foster FF #2 Battery)
2RP-2479
30-015-21705
Section 1, T20S-R24E
Eddy County, New Mexico

Dear Mr. Bratcher:

Yates Petroleum Corporation is submitting the enclosed work plan for the above captioned well. The plan is being submitted in response to the C-141 report dated 9/8/2014.

If there are no objections with the scope of work described in the plan, Yates will have a contractor begin work on or after August 4, 2015.

If you have any questions call me at (575) 748-4217

Thank you.

YATES PETROLEUM CORPORATION

A handwritten signature in blue ink that appears to read 'Robert Asher'.

Robert Asher
NM Environmental Regulatory Supervisor

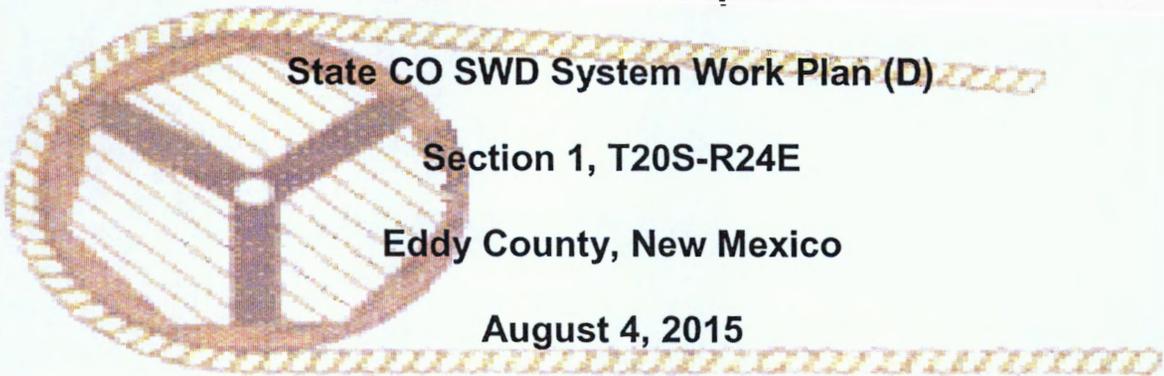
Yates Petroleum Corporation

State CO SWD System Work Plan (D)

Section 1, T20S-R24E

Eddy County, New Mexico

August 4, 2015



State CO SWD System Work Plan (C)

I. Location

The well is located approximately 25 miles south of Artesia, NM. Highway 285 (17 miles south), Rock Daisy Road (approximately 8 miles west) and 0.25 miles east off of Sawbuck Road, as represented by the attached Foster Ranch, NM, USGS Quadrangle Map.

II. Background

On August 25, 2014, Yates submitted to the NMOCD District II office a Form C-141 for a release of approximately 400 B/PW with 200 B/PW recovered. The total affected area is approximately 500 feet by 1500 feet area (off of the east side of the battery). The release was from a 12" main line at a series of three tine horns. The impacted area from the oil skim is being excavated and hauled to an NMOCD approved facility. Initial delineation samples were taken (9/4/2014) and sent to an NMOCD approved laboratory (9/12/2014, results enclosed). After the impacted soils were excavated, the NMOCD requested further delineation sampling that was conducted on May 27, 2015.

III. Surface and Ground Water

Area surface geology ranges from Cenozoic to Paleozoic. The groundwater of record is listed on the ChevronTexaco Trend and shows depth to groundwater approximately 175 feet making the site ranking for this site a zero (0). Watercourses in the area are dry except for infrequent flows in response to major precipitation events.

The ranking for this site is zero (0) based on the as following:

Depth to ground water	>100'
Wellhead Protection Area	> 1000'
Distance to surface water body	> 1000'

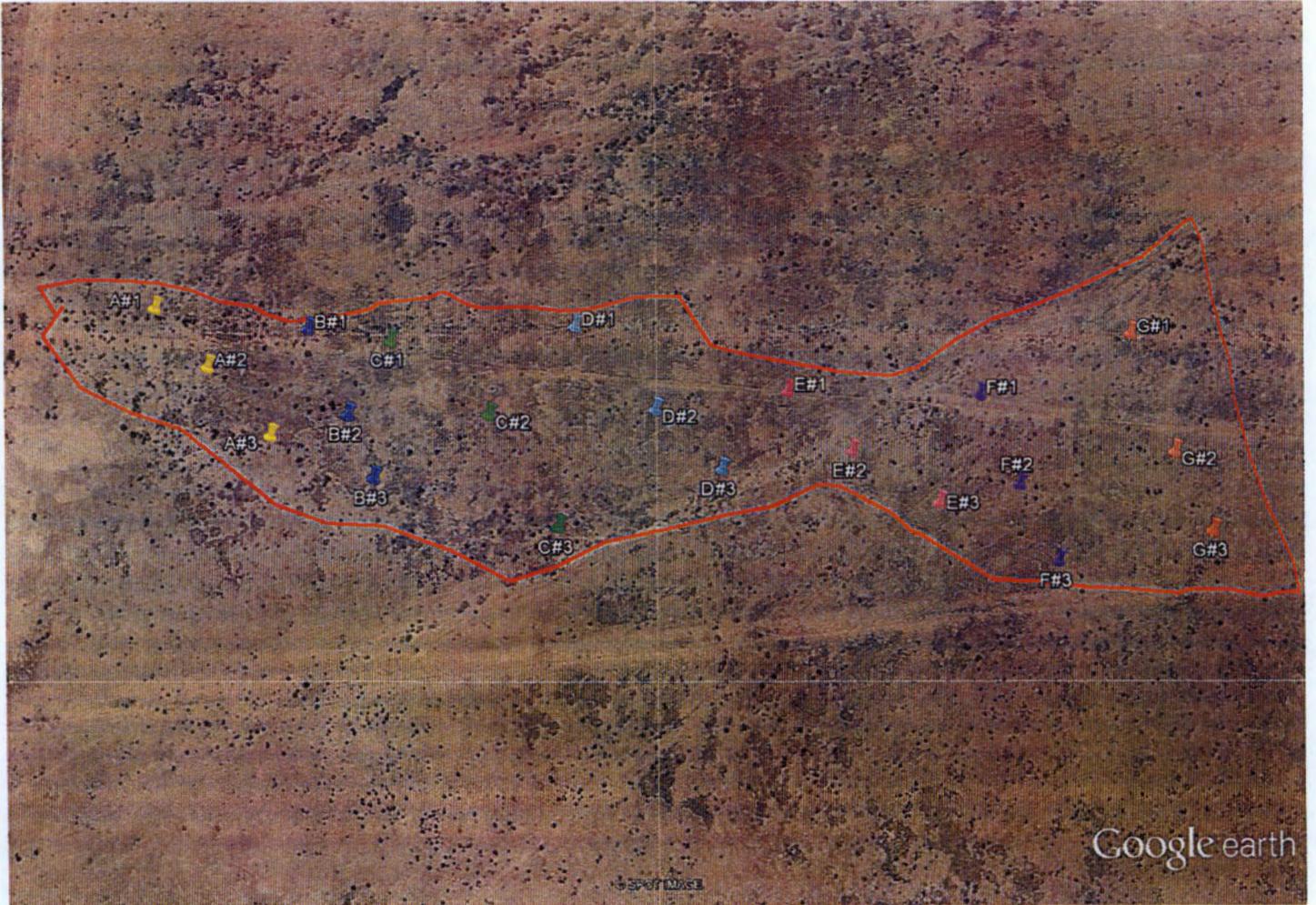
By request of the NMOCD II personnel, June 30, 2015 the Oil City Well (Section 35, T19S-R24E) was sound tested and elevations for the well and excavation were plotted by David Boyer, Safety & Environmental Solutions.

IV. Soils

The area consists of soils that are of a loamy top soil and are interspersed with clay seams providing a low permeability barrier to retard vertical percolation of contaminants into the subsurface (approximately twenty (20) feet below the surface based on attached analyticals).

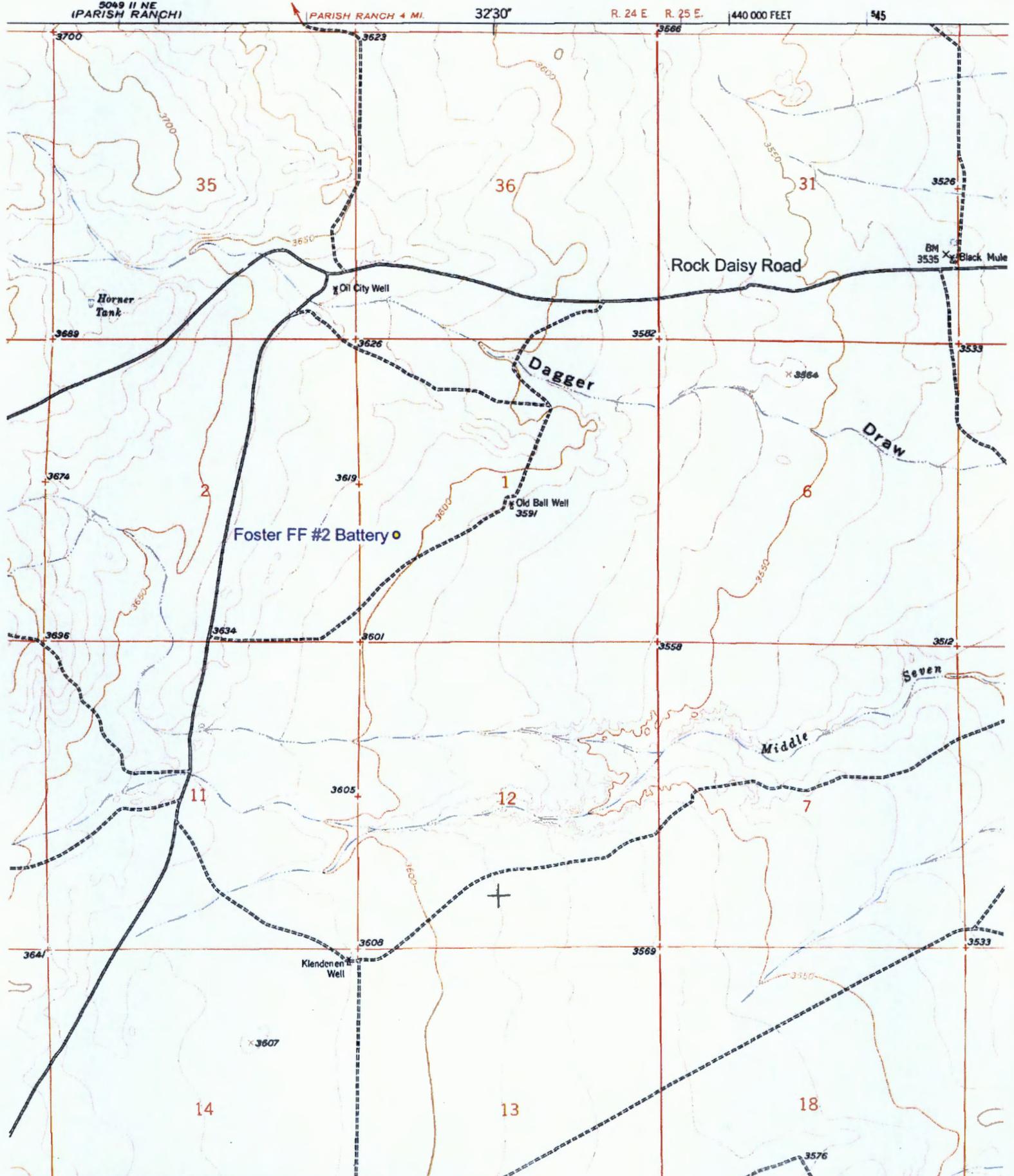
V. Scope of Work

Based on the 5/27/2015 analytical results, (see attached diagrams), Yates Petroleum Corporation will excavate one (1) foot of impacted soils within release area A#1, those soils will be taken to an approved NMOCD facility and no further actions taken based on the June 16, 2015 on-site meeting with NMOCD and YPC. A ten (10) foot perimeter will be excavated from sample points A#2, A#3, B#1, B#3, C#3, D#2, D#3, E#2, F#2 & G#2 at a depth of three (3) feet, those soils will be taken to an approved NMOCD facility (area C#2 will have the top 2 feet of soils stockpiled, the third foot of impacted soils removed/hailed and the excavation lined then the stockpiled soils used as backfill of the excavation; area G#1 will have 3 feet of soils excavated/stockpiled). Sidewall samples will then be obtained and field titrator test strips for Chlorides will be used to determine chloride levels, if test strips record chlorides below 4000ppm (indicating a decreasing trend in chlorides based on the 5/27/2015 analytical results), no further excavating will be conducted. If chlorides are above 4000ppm, further impacted perimeter soils will be removed until test strips show chlorides below 4000ppm (indicating a decreasing trend in chlorides based on the 5/27/2015 analytical results). Based on the 5/27/2015 analytical results, no further analytical testing of TPH, BTEX and chlorides will be conducted outside the excavation. Yates will then line the excavated areas (A#2, A#3, B#1, B#3, C#2, C#3, D#2, D#3, E#2, F#2, G#1 & G#2) with a 20 millimeter liner and backfill with two (2) feet of caliche and three (3) feet of clean, like topsoil's to grade and contour. No excavation or delineation actions will be taken in the following areas (B#2, C#1, D#1, E#1, E#3, F#1, F#3 & G#3). Yates will excavate, line and backfill each area separately so there will be no open excavations with livestock in the area. When work is completed a C-141, Final Report, will be submitted to the NMOCD and request closure of the site. The area will be reseeded per the surface owners preferred seed mixture.



Google earth







Safety & Environmental Solutions
703 E. Clinton, P.O. Box 1613
Hobbs, New Mexico 88241
(575) 397-0510
Fax (575) 393-4388

Memorandum

Date: July 30, 2015
To: Robert Asher, NM Environmental Regulatory Supervisor, Yates Petroleum Corporation
From: David G. Boyer, P.G.
RE: Report of Groundwater Survey, Vicinity of Yates Foster "FF" Battery, Eddy County, NM

Background

At the request of Yates Petroleum I was asked to perform groundwater elevation measurements in the vicinity of the Yates Foster "FF" battery located in NW/4, SW/4, Section 1, Township 20 South, Range 24 East. At that location a release of oilfield produced water occurred which traveled approximately 1,450 feet east of the release location. To determine if the release presents a threat to groundwater and to establish remediation criteria, the NM Oil Conservation Division requested that Yates establish the depth to groundwater in the vicinity of the location. To that end I visited the location and that of a nearby water well on July 13, 2015.

Hydrogeologic Setting

The two geologic formations that provide water in the vicinity of the site are the San Andres formation and the overlying Chalk Bluff formation. The limestone member of the San Andres formation in Eddy County is composed of limestone, dolomitic limestone, and dolomite; color ranges from gray to light tan. Solution cavities in the limestone range from fraction of an inch to several feet in diameter. The formation outcrops about ten miles west of the location and dips eastward under younger sedimentary rocks. The formation with a thickness of about 1,000 feet is the chief artesian aquifer in the Roswell basin.

The Chalk Bluff formation is present at the surface at the location. From base to top it consists of the Queen sandstone member, the Seven Rivers gypsiferous member and the Three Twins member consisting of evaporates, redbeds and dolomitic limestone. The formation outcrops east of the San Andres until it is covered by alluvium nearer the Pecos River. The thickness of the formation increases from west to east as the dip of the formation is greater than that of the surface slope. The thickness near Lakewood, west of former Lake McMillan, is about 400 to 500 feet. Groundwater of any consequence is found only the basal Queen sandstone member.

In the vicinity of the site two wells were located with drilling information indicative of completion in Queen sandstone member. The first, identified on a USGS topographic map as the Old Ball well is located approximately 2,000 feet east-northeast of the release point and was drilled in

* Hydrogeologic information obtained from:

Geology and Ground-Water Resources of Eddy County, New Mexico, Ground-Water Report 3, New Mexico Bureau of Mines and Mineral Resources, 1952

New Mexico Office of the State Engineer (SEO), Water Rights Reporting System

September 1966. The available drilling information is incomplete but lists the water bearing stratifications as sandstone/gravel/conglomerate at a depth from 279 to 282 below the surface. Depth to water upon completion is reported as 273 feet.

The second well is located approximately 2.0 miles northeast of the release point and is identified as the Black Muley Mill well. It was first drilled to 218 feet in 2005 and repaired and deepened to 330 feet in August 2007. The drilling log shows mainly sand and gravel as the water bearing strata from 259 to 326 feet with several zones of hard sandstone up to 4 feet thick. Depth to water upon completion was 250 feet. The lithology of the non-water bearing zones are identified as caliche, clay, limestone and sand and gravel. The earlier drilling log from 2005 lists the zone from 100 to 218 as "broken anhydrite with red clay stringers." Above that to the surface the material is mainly red clay and gray/white rock anhydrite with brown and gray caliche immediately below surface topsoil.

Work Performed

Prior to the July 13 site visit, two water wells were located in the immediate vicinity of the site. They are identified as the Oil City Well and the Old Ball Well. A third well, the Black Muley Mill well is located approximately 2 miles northeast and is included because of the completeness of the driller's logs. Available information on each well is presented in the attached table:

I met Mr. Robert Asher of Yates and we arrived at the location of the Oil City well about 11:00 a.m. State Engineer information had the depth of the well at 300 feet but no other information was available from their online data base. Upon arrival we noted the well casing was at ground level with a rock over a piece of sheet metal. There was no protection from runoff in the event of a heavy rainfall. We inserted a water level probe and found water at 54.61 feet below ground surface. We measured the depth of the well and found it plugged at 56.2 feet. The bottom was relatively solid and no mud was observed on the probe. The 1.6 feet of water in the well is most certainly surface drainage from recent very heavy rainfall in the area.

We then traveled to the release point and GPS measurements were taken at that location and eastward to the farthest distance from the release point, a distance of about 1,450 feet.

Results

Though no reliable groundwater level elevations could be made in the Oil City well, the 1966 water level elevation in the Old Ball well was 3,329 feet ($3,602-273=3,329$). The elevation of the low point of the spill release is 3,598 feet. The elevation difference between the 1966 water level and the low point of the spill release is 269 feet. Given the current drought conditions it is unlikely that a water level in this well, if available, would be higher.

Conclusions

Based on the above survey, depth to groundwater at the spill location is very likely to be in excess of 269 feet below land surface. This value for depth to water is the best available for this location given current information. Both of the wells nearest the release location are out of service and nonproductive. Additionally, the composition, thickness and low permeability of the overlying rock sediments make the likelihood of groundwater impact from this one-time release of produced water extremely remote.

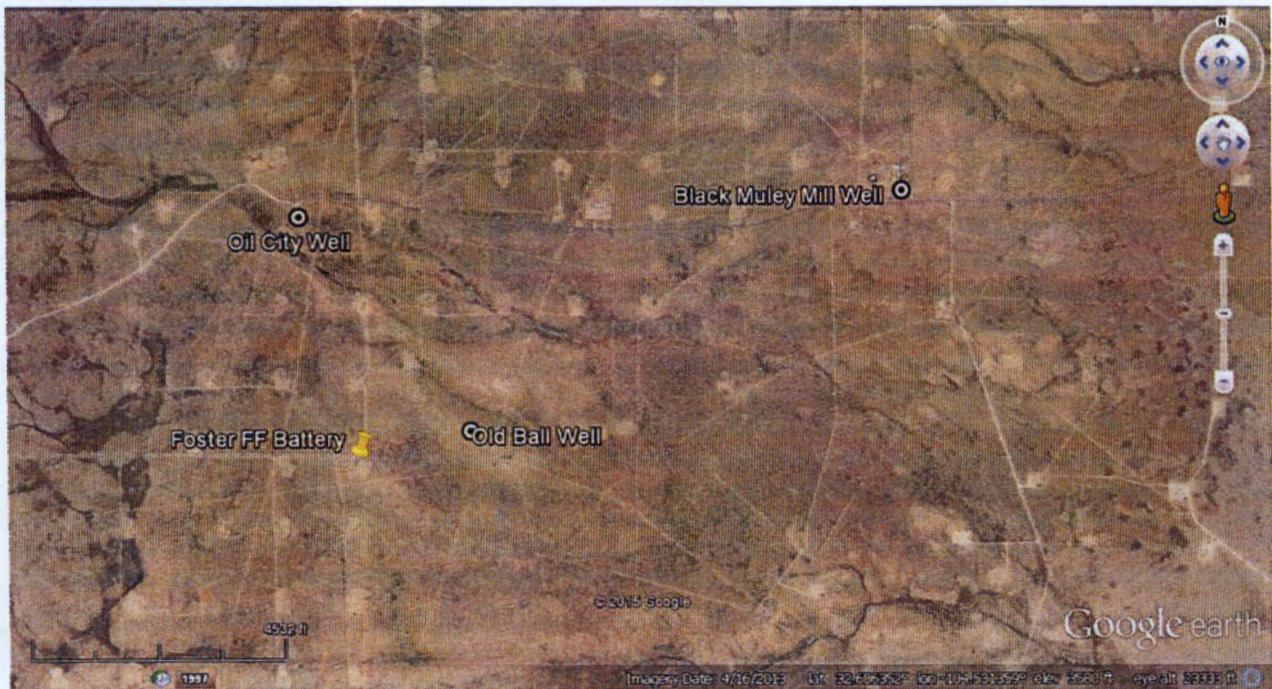
Yates Foster "FF" Battery Data Tables

Name	State Engineer No.	Latitude	Longitude	Elevation (ft.) (Google Earth)	Qtr, Qtr, Sec, Trn, Rge
Oil City Well	RA 04245	32.612828° N	-104.551294° W	3,643	SE, SE, 35, 19S, 24E
Old Ball Well	RA 05284	32.602450° N	-104.541238° W	3,602	NW, SE, 01, 20S, 24E
Black Muley Mill Well	RA 10826	32.614175° N	-104.515931° W	3,544	NE, SE, 31, 19S, 25E

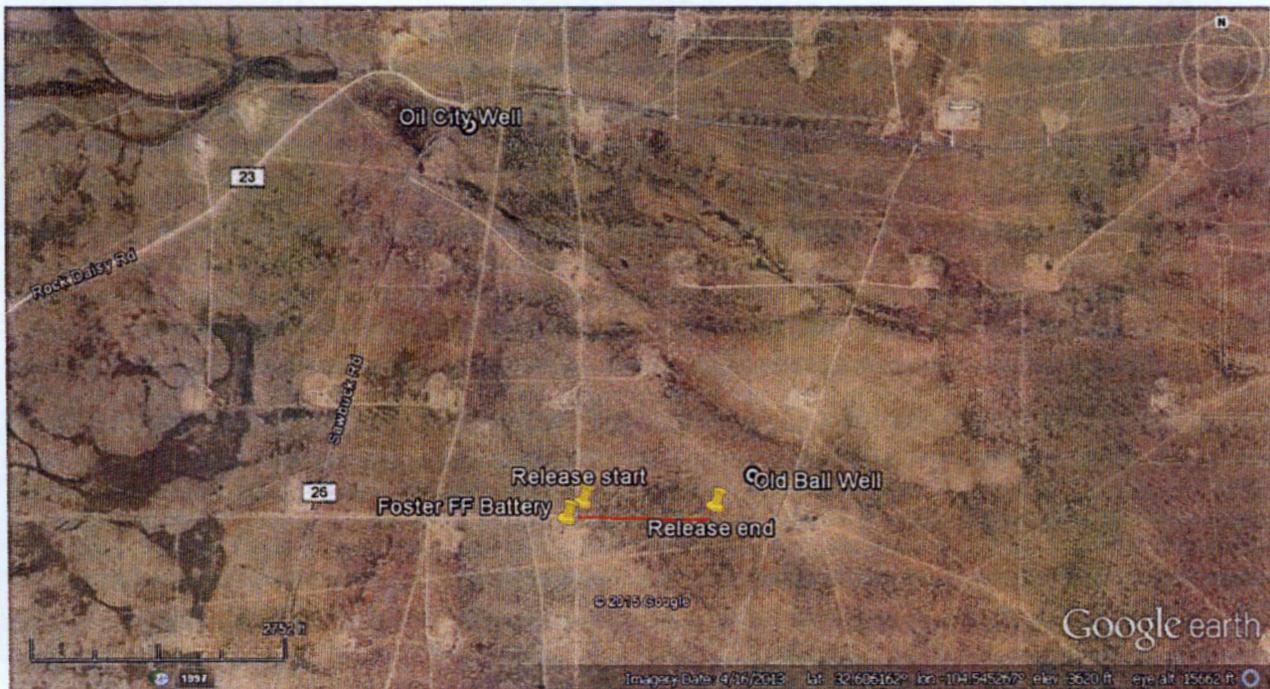
Name	Distance from spill	Depth to Water (ft.)	Reported Depth (ft.)	Water Column (ft.)	Measurement Date	Comment
Oil City Well	4,400 ft. north of release point	--	300	--	08/1960	Application date only, no drilling information provided to SEO
		54.61	56.2	1.6	07/13/2015	8-in. diam. Well. Plugged at 56 ft., perched rain water, casing is at ground level.
Old Ball Well	1,975 ft. ENE of release point, 690 ft. NE of end point	273	282	9	09/1966	Information received from Mr. Robert Asher, Yates representative, is that due to issues within the well casing, the well is not currently pumping water and no measurements are possible
Black Muley Mill Well	2.0 miles NE of release point	250	330	80	08/2007	Included only for drilling record and groundwater information

Spill Location Info	Latitude	Longitude	Elevation (ft.) (Google Earth)	Qtr, Qtr, Sec, Trn, Rge
Release Point	32.601190° N	-104.547518° W	3,613	NW, SW, 01, 20S, 24E
End Point	32.601072° N	-104.542801° W	3,598	NE, SW, 01, 20S, 24E

Water Well Locations, Vicinity of Foster FF Battery, Eddy County, New Mexico



Water Wells in Proximity to Foster FF Battery Release Location



Analytical Report-H501382 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
A#1 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (2' BSL)	4400
A#1 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (3' BSL)	2880
A#1 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (4' BSL)	2560
A#1 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (5' BSL)	304
A#1 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (6' BSL)	64
A#1 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (7' BSL)	544
A#1 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (9' BSL)	64
A#1 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (11' BSL)	144
A#1 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (13' BSL)	112
A#1 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (15' BSL)	32
A#1 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (17' BSL)	416
A#1 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (19' BSL)	784
Analytical Report-H501372 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
A#2 - 1.0	Release Area	5/27/2015	Grab/Trackhoe	1' (3' BSL)	7100
A#2 - 2.0	Release Area	5/27/2015	Grab/Trackhoe	2 (4' BSL)	4700
A#2 - 3.0	Release Area	5/27/2015	Grab/Trackhoe	3' (5' BSL)	6080
A#2 - 4.0	Release Area	5/27/2015	Grab/Trackhoe	4' (6' BSL)	4160
A#2 - 5.0	Release Area	5/27/2015	Grab/Trackhoe	5' (7' BSL)	2640
A#2 - 6.0	Release Area	5/27/2015	Grab/Trackhoe	6' (8' BSL)	1880
A#2 - 8.0	Release Area	5/27/2015	Grab/Trackhoe	8' (10' BSL)	1840
A#2 - 10.0	Release Area	5/27/2015	Grab/Trackhoe	10' (12' BSL)	624
A#2 - 12.0	Release Area	5/27/2015	Grab/Trackhoe	12' (14' BSL)	288
A#2 - 14.0	Release Area	5/27/2015	Grab/Trackhoe	14' (16' BSL)	320
A#2 - 16.0	Release Area	5/27/2015	Grab/Trackhoe	16' (18' BSL)	160
A#2 - 18.0	Release Area	5/27/2015	Grab/Trackhoe	18' (20' BSL)	48
Analytical Report-H501373 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
A#3 - 1.0	Release Area	5/27/2015	Grab/Trackhoe	1' (3' BSL)	6400
A#3 - 2.0	Release Area	5/27/2015	Grab/Trackhoe	2 (4' BSL)	7280
A#3 - 3.0	Release Area	5/27/2015	Grab/Trackhoe	3' (5' BSL)	5120
A#3 - 4.0	Release Area	5/27/2015	Grab/Trackhoe	4' (6' BSL)	5040
A#3 - 5.0	Release Area	5/27/2015	Grab/Trackhoe	5' (7' BSL)	5440
A#3 - 6.0	Release Area	5/27/2015	Grab/Trackhoe	6' (8' BSL)	3440
A#3 - 8.0	Release Area	5/27/2015	Grab/Trackhoe	8' (10' BSL)	1920
A#3 - 10.0	Release Area	5/27/2015	Grab/Trackhoe	10' (12' BSL)	1090
A#3 - 12.0	Release Area	5/27/2015	Grab/Trackhoe	12' (14' BSL)	786
A#3 - 14.0	Release Area	5/27/2015	Grab/Trackhoe	14' (16' BSL)	1020
A#3 - 16.0	Release Area	5/27/2015	Grab/Trackhoe	16' (18' BSL)	304
A#3 - 18.0	Release Area	5/27/2015	Grab/Trackhoe	18' (20' BSL)	80

Site Ranking is Zero (0). DTGW >100' (Approximately 132' - 175', per Chevron/Texaco Trend Map) All results are ppm. BSL-Below Surface Level.
 Chlorides sampled for documentation. Released 400 B/P/W. Recovered: 200 B/P/W. Release Date: 8/25/2014.



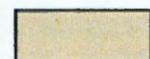
Excavated Soils



Stockpiled Soils

Analytical Report-H501369 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
B#1 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (2' BSL)	8000
B#1 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (3' BSL)	5700
B#1 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (4' BSL)	2360
B#1 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (5' BSL)	1400
B#1 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (6' BSL)	752
B#1 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (7' BSL)	304
B#1 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (9' BSL)	160
B#1 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (11' BSL)	768
B#1 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (13' BSL)	400
B#1 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (15' BSL)	416
B#1 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (17' BSL)	128
B#1 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (19' BSL)	224
Analytical Report-H501369 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
B#2 - 1.0	Release Area	5/27/2015	Grab/Trackhoe	1' (3' BSL)	640
B#2 - 2.0	Release Area	5/27/2015	Grab/Trackhoe	2 (4' BSL)	1490
B#2 - 3.0	Release Area	5/27/2015	Grab/Trackhoe	3' (5' BSL)	1310
B#2 - 4.0	Release Area	5/27/2015	Grab/Trackhoe	4' (6' BSL)	960
B#2 - 5.0	Release Area	5/27/2015	Grab/Trackhoe	5' (7' BSL)	1460
B#2 - 6.0	Release Area	5/27/2015	Grab/Trackhoe	6' (8' BSL)	1300
B#2 - 8.0	Release Area	5/27/2015	Grab/Trackhoe	8' (10' BSL)	960
B#2 - 10.0	Release Area	5/27/2015	Grab/Trackhoe	10' (12' BSL)	704
B#2 - 12.0	Release Area	5/27/2015	Grab/Trackhoe	12' (14' BSL)	544
B#2 - 14.0	Release Area	5/27/2015	Grab/Trackhoe	14' (16' BSL)	96
B#2 - 16.0	Release Area	5/27/2015	Grab/Trackhoe	16' (18' BSL)	176
B#2 - 18.0	Release Area	5/27/2015	Grab/Trackhoe	18' (20' BSL)	256
Analytical Report-H501369 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
B#3 - 1.0	Release Area	5/27/2015	Grab/Trackhoe	1' (3' BSL)	7100
B#3 - 2.0	Release Area	5/27/2015	Grab/Trackhoe	2 (4' BSL)	8800
B#3 - 3.0	Release Area	5/27/2015	Grab/Trackhoe	3' (5' BSL)	6400
B#3 - 4.0	Release Area	5/27/2015	Grab/Trackhoe	4' (6' BSL)	5700
B#3 - 5.0	Release Area	5/27/2015	Grab/Trackhoe	5' (7' BSL)	4300
B#3 - 6.0	Release Area	5/27/2015	Grab/Trackhoe	6' (8' BSL)	4000
B#3 - 8.0	Release Area	5/27/2015	Grab/Trackhoe	8' (10' BSL)	2320
B#3 - 10.0	Release Area	5/27/2015	Grab/Trackhoe	10' (12' BSL)	656
B#3 - 12.0	Release Area	5/27/2015	Grab/Trackhoe	12' (14' BSL)	736
B#3 - 14.0	Release Area	5/27/2015	Grab/Trackhoe	14' (16' BSL)	736
B#3 - 16.0	Release Area	5/27/2015	Grab/Trackhoe	16' (18' BSL)	576
B#3 - 18.0	Release Area	5/27/2015	Grab/Trackhoe	18' (20' BSL)	208

Site Ranking is Zero (0). DTGW >100' (Approximately 132' - 175', per ChevronTexaco Trend Map) All results are ppm. BSL-Below Surface Level.
 Chlorides sampled for documentation. Released 400 B/P/W; Recovered: 200 B/P/W. Release Date: 8/25/2014.

 Excavated Soils
 Stockpiled Soils

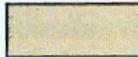
Analytical Report-H501366 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
C#1 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (2' BSL)	608
C#1 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (3' BSL)	160
C#1 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (4' BSL)	64
C#1 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (5' BSL)	320
C#1 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (6' BSL)	752
C#1 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (7' BSL)	544
C#1 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (9' BSL)	3160
C#1 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (11' BSL)	2120
C#1 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (13' BSL)	464
C#1 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (15' BSL)	208
C#1 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (17' BSL)	304
C#1 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (19' BSL)	384
Analytical Report-H501366 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
C#2 - 1.0	Release Area	5/27/2015	Grab/Trackhoe	1' (3' BSL)	1340
C#2 - 2.0	Release Area	5/27/2015	Grab/Trackhoe	2 (4' BSL)	2360
C#2 - 3.0	Release Area	5/27/2015	Grab/Trackhoe	3' (5' BSL)	5040
C#2 - 4.0	Release Area	5/27/2015	Grab/Trackhoe	4' (6' BSL)	4640
C#2 - 5.0	Release Area	5/27/2015	Grab/Trackhoe	5' (7' BSL)	4240
C#2 - 6.0	Release Area	5/27/2015	Grab/Trackhoe	6' (8' BSL)	3360
C#2 - 8.0	Release Area	5/27/2015	Grab/Trackhoe	8' (10' BSL)	1500
C#2 - 10.0	Release Area	5/27/2015	Grab/Trackhoe	10' (12' BSL)	2040
C#2 - 12.0	Release Area	5/27/2015	Grab/Trackhoe	12' (14' BSL)	1600
C#2 - 14.0	Release Area	5/27/2015	Grab/Trackhoe	14' (16' BSL)	688
C#2 - 16.0	Release Area	5/27/2015	Grab/Trackhoe	16' (18' BSL)	480
C#2 - 18.0	Release Area	5/27/2015	Grab/Trackhoe	18' (20' BSL)	128
Analytical Report-H501367 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
C#3 - 1.0	Release Area	5/27/2015	Grab/Trackhoe	1' (3' BSL)	2520
C#3 - 2.0	Release Area	5/27/2015	Grab/Trackhoe	2 (4' BSL)	2920
C#3 - 3.0	Release Area	5/27/2015	Grab/Trackhoe	3' (5' BSL)	4720
C#3 - 4.0	Release Area	5/27/2015	Grab/Trackhoe	4' (6' BSL)	7120
C#3 - 5.0	Release Area	5/27/2015	Grab/Trackhoe	5' (7' BSL)	7440
C#3 - 6.0	Release Area	5/27/2015	Grab/Trackhoe	6' (8' BSL)	5520
C#3 - 8.0	Release Area	5/27/2015	Grab/Trackhoe	8' (10' BSL)	2200
C#3 - 10.0	Release Area	5/27/2015	Grab/Trackhoe	10' (12' BSL)	2720
C#3 - 12.0	Release Area	5/27/2015	Grab/Trackhoe	12' (14' BSL)	1710
C#3 - 14.0	Release Area	5/27/2015	Grab/Trackhoe	14' (16' BSL)	1120
C#3 - 16.0	Release Area	5/27/2015	Grab/Trackhoe	16' (18' BSL)	1360
C#3 - 18.0	Release Area	5/27/2015	Grab/Trackhoe	18' (20' BSL)	1730

Site Ranking is Zero (0), DTGW >100' (Approximately 132' - 175', per ChevronTexaco Trend Map) All results are ppm. BSL-Below Surface Level.
 Chlorides sampled for documentation. Released 400 B/PW; Recovered: 200 B/PW. Release Date: 8/25/2014.

 Excavated Soils
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Analytical Report- H501368 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
D#1 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (2' BSL)	16
D#1 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (3' BSL)	<16.0
D#1 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (4' BSL)	80
D#1 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (5' BSL)	16
D#1 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (6' BSL)	48
D#1 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (7' BSL)	96
D#1 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (9' BSL)	96
D#1 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (11' BSL)	480
D#1 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (13' BSL)	224
D#1 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (15' BSL)	400
D#1 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (17' BSL)	288
D#1 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (19' BSL)	160
Analytical Report- H501364 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
D#2 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (3' BSL)	3960
D#2 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (4' BSL)	5200
D#2 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (5' BSL)	5280
D#2 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (6' BSL)	4000
D#2 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (7' BSL)	3440
D#2 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (8' BSL)	3900
D#2 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (10' BSL)	3040
D#2 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (12' BSL)	688
D#2 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (14' BSL)	352
D#2 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (16' BSL)	336
D#2 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (18' BSL)	384
D#2 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (20' BSL)	336
Analytical Report- H501365 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
D#3 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (3' BSL)	4800
D#3 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (4' BSL)	6960
D#3 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (5' BSL)	6480
D#3 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (6' BSL)	6880
D#3 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (7' BSL)	6560
D#3 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (8' BSL)	4880
D#3 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (10' BSL)	3440
D#3 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (12' BSL)	3520
D#3 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (14' BSL)	1840
D#3 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (16' BSL)	1460
D#3 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (18' BSL)	1090
D#3 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (20' BSL)	1680

Site Ranking is Zero (0). DTGW >100' (Approximately 132 - 175', per Chevron/Texaco Trend Map) All results are ppm. BSL-Below Surface Level.
 Chlorides sampled for documentation. Released 400 B/P/W; Recovered: 200 B/P/W; Release Date: 8/25/2014.

 Excavated Soils
 Stockpiled Soils

Analytical Report-H501369 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
E#1 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (2' BSL)	<16.0
E#1 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (3' BSL)	16
E#1 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (4' BSL)	16
E#1 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (5' BSL)	16
E#1 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (6' BSL)	16
E#1 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (7' BSL)	16
E#1 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (9' BSL)	16
E#1 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (11' BSL)	16
E#1 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (13' BSL)	<16.0
E#1 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (15' BSL)	16
E#1 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (17' BSL)	16
E#1 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (19' BSL)	32
Analytical Report-H501370 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
E#2 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (3' BSL)	5700
E#2 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (4' BSL)	8500
E#2 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (5' BSL)	7800
E#2 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (6' BSL)	7200
E#2 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (7' BSL)	8100
E#2 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (8' BSL)	7700
E#2 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (10' BSL)	4500
E#2 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (12' BSL)	3440
E#2 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (14' BSL)	3520
E#2 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (16' BSL)	5120
E#2 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (18' BSL)	1120
E#2 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (20' BSL)	800
Analytical Report-H501371 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
E#3 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (3' BSL)	<16.0
E#3 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (4' BSL)	16
E#3 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (5' BSL)	16
E#3 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (6' BSL)	16
E#3 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (7' BSL)	16
E#3 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (8' BSL)	16
E#3 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (10' BSL)	16
E#3 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (12' BSL)	16
E#3 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (14' BSL)	<16.0
E#3 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (16' BSL)	16
E#3 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (18' BSL)	16
E#3 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (20' BSL)	32

Site Ranking is Zero (0). DTGW >100' (Approximately 132' - 175', per Chevron/Texaco Trend Map) All results are ppm. BSL-Below Surface Level.
 Chlorides sampled for documentation. Released 400 B/P/W. Recovered: 200 B/P/W. Release Date: 8/25/2014.

 Excavated Soils
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Analytical Report-H501374 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
F#1 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (2' BSL)	<16.0
F#1 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (3' BSL)	<16.0
F#1 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (4' BSL)	<16.0
F#1 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (5' BSL)	<16.0
F#1 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (6' BSL)	<16.0
F#1 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (7' BSL)	<16.0
F#1 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (9' BSL)	16
F#1 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (11' BSL)	32
F#1 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (13' BSL)	16
F#1 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (15' BSL)	48
F#1 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (17' BSL)	16
F#1 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (19' BSL)	16
Analytical Report-H501376 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
F#2 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (3' BSL)	3240
F#2 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (4' BSL)	3200
F#2 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (5' BSL)	4960
F#2 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (6' BSL)	5200
F#2 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (7' BSL)	6800
F#2 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (8' BSL)	4480
F#2 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (10' BSL)	2800
F#2 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (12' BSL)	2920
F#2 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (14' BSL)	2360
F#2 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (16' BSL)	1260
F#2 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (18' BSL)	784
F#2 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (20' BSL)	848
Analytical Report-H501377 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
F#3 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (3' BSL)	48
F#3 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (4' BSL)	32
F#3 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (5' BSL)	48
F#3 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (6' BSL)	48
F#3 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (7' BSL)	64
F#3 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (8' BSL)	32
F#3 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (10' BSL)	80
F#3 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (12' BSL)	48
F#3 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (14' BSL)	160
F#3 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (16' BSL)	144
F#3 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (18' BSL)	176
F#3 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (20' BSL)	192

Chlorides sampled for documentation. Released 400 B/P/W; Recovered: 200 B/P/W. Release Date: 8/25/2014.

Site Ranking is Zero (0). DTGW >100' (Approximately 132' - 175', per Chevron/Texaco Trend Map) All results are ppm. BSL-Below Surface Level.



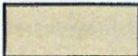
Excavated Soils



Stockpiled Soils

Analytical Report-H501374 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
G#1 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (2' BSL)	16
G#1 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (3' BSL)	160
G#1 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (4' BSL)	464
G#1 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (5' BSL)	640
G#1 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (6' BSL)	10300
G#1 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (7' BSL)	11800
G#1 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (9' BSL)	8300
G#1 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (11' BSL)	6500
G#1 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (13' BSL)	6000
G#1 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (15' BSL)	5200
G#1 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (17' BSL)	2040
G#1 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (19' BSL)	2680
Analytical Report-H501376 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
G#2 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (3' BSL)	3240
G#2 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (4' BSL)	3200
G#2 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (5' BSL)	4960
G#2 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (6' BSL)	5200
G#2 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (7' BSL)	6800
G#2 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (8' BSL)	4480
G#2 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (10' BSL)	2800
G#2 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (12' BSL)	2920
G#2 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (14' BSL)	2360
G#2 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (16' BSL)	1260
G#2 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (18' BSL)	784
G#2 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (20' BSL)	848
Analytical Report-H501377 (Cardinal)	Sample Area	Sample Date	Sample Type	Depth	Chlorides
G#3 - 1.0	Release Area	5/28/2015	Grab/Trackhoe	1' (3' BSL)	48
G#3 - 2.0	Release Area	5/28/2015	Grab/Trackhoe	2 (4' BSL)	32
G#3 - 3.0	Release Area	5/28/2015	Grab/Trackhoe	3' (5' BSL)	48
G#3 - 4.0	Release Area	5/28/2015	Grab/Trackhoe	4' (6' BSL)	48
G#3 - 5.0	Release Area	5/28/2015	Grab/Trackhoe	5' (7' BSL)	64
G#3 - 6.0	Release Area	5/28/2015	Grab/Trackhoe	6' (8' BSL)	32
G#3 - 8.0	Release Area	5/28/2015	Grab/Trackhoe	8' (10' BSL)	80
G#3 - 10.0	Release Area	5/28/2015	Grab/Trackhoe	10' (12' BSL)	48
G#3 - 12.0	Release Area	5/28/2015	Grab/Trackhoe	12' (14' BSL)	160
G#3 - 14.0	Release Area	5/28/2015	Grab/Trackhoe	14' (16' BSL)	144
G#3 - 16.0	Release Area	5/28/2015	Grab/Trackhoe	16' (18' BSL)	176
G#3 - 18.0	Release Area	5/28/2015	Grab/Trackhoe	18' (20' BSL)	192

Site Ranking is Zero (0). DTGW >100' (Approximately 132' - 175', per Chevron/Texaco Trend Map) All results are ppm. BSL-Below Surface Level.
 Chlorides sampled for documentation. Released 400 B/P/W; Recovered: 200 B/P/W. Release Date: 8/25/2014.

 Excavated Soils
 Stockpiled Soils