

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	NAPP2211737422
District RP	
Facility ID	
Application ID	

Release Notification

APPROVED

Responsible Party

(See pg 5 - Remediation Plan for conditions)

Responsible Party Dugan Production Corp.	OGRID 006515
Contact Name Kevin Smaka	Contact Telephone 505-325-1821 x1049
Contact email Kevin.Smaka@duganproduction.com	Incident # (assigned by OCD) nAPP2211737422
Contact mailing address PO Box 420, Farmington, NM 87499	

Location of Release Source

Latitude 36.7460747 Longitude -108.2825623
(NAD 83 in decimal degrees to 5 decimal places)

Site Name Federal I #8	Site Type Gas Well
Date Release Discovered 4/26/22	API# (if applicable) 30-045-30178

Unit Letter	Section	Township	Range	County
C	11	29N	14W	San Juan

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

Nature and Volume of Release

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

<input type="checkbox"/> Crude Oil	Volume Released (bbls)	Volume Recovered (bbls)
<input checked="" type="checkbox"/> Produced Water	Volume Released (bbls) 11	Volume Recovered (bbls) 0
	Is the concentration of dissolved chloride in the produced water >10,000 mg/l?	<input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> Condensate	Volume Released (bbls)	Volume Recovered (bbls)
<input type="checkbox"/> Natural Gas	Volume Released (Mcf)	Volume Recovered (Mcf)
<input type="checkbox"/> Other (describe)	Volume/Weight Released (provide units)	Volume/Weight Recovered (provide units)

Cause of Release

Stuffing box leak

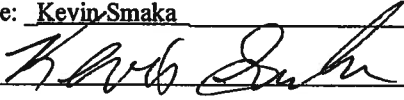
State of New Mexico
Oil Conservation Division

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Was this a major release as defined by 19.15.29.7(A) NMAC? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No	If YES, for what reason(s) does the responsible party consider this a major release?
If YES, was immediate notice given to the OCD? By whom? To whom? When and by what means (phone, email, etc)? Yes – Notice of Release submitted in NMOCD Permitting 4/27/22 (Action ID 101891)	

Initial Response

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

<input checked="" type="checkbox"/> The source of the release has been stopped. <input checked="" type="checkbox"/> The impacted area has been secured to protect human health and the environment. <input checked="" type="checkbox"/> Released materials have been contained via the use of berms or dikes, absorbent pads, or other containment devices. <input checked="" type="checkbox"/> All free liquids and recoverable materials have been removed and managed appropriately.	
If all the actions described above have <u>not</u> been undertaken, explain why: 	
Per 19.15.29.8 B. (4) NMAC the responsible party may commence remediation immediately after discovery of a release. If remediation has begun, please attach a narrative of actions to date. If remedial efforts have been successfully completed or if the release occurred within a lined containment area (see 19.15.29.11(A)(5)(a) NMAC), please attach all information needed for closure evaluation.	
I hereby certify that the information given above is true and complete to the best of my knowledge and understand that pursuant to OCD rules and regulations all operators are required to report and/or file certain release notifications and perform corrective actions for releases which may endanger public health or the environment. The acceptance of a C-141 report by the OCD does not relieve the operator of liability should their operations have failed to adequately investigate and remediate contamination that pose a threat to groundwater, surface water, human health or the environment. In addition, OCD acceptance of a C-141 report does not relieve the operator of responsibility for compliance with any other federal, state, or local laws and/or regulations.	
Printed Name: <u>Kevin Smaka</u> Signature: <u></u> email: <u>Kevin.Smaka@duganproduction.com</u>	Title: <u>Regulatory Engineer</u> Date: <u>April 27, 2022</u> Telephone: <u>505-325-1821 x1049</u>
OCD Only Received by: <u>Jocelyn Harimon</u> Date: <u>04/27/2022</u>	

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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?	<u>2.50</u> (ft bgs)
Did this release impact groundwater or surface water?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a continuously flowing watercourse or any other significant watercourse?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of an occupied permanent residence, school, hospital, institution, or church?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 500 horizontal feet of a spring or a private domestic fresh water well used by less than five households for domestic or stock watering purposes?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 1000 feet of any other fresh water well or spring?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within incorporated municipal boundaries or within a defined municipal fresh water well field?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within 300 feet of a wetland?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying a subsurface mine?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release overlying an unstable area such as karst geology?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Are the lateral extents of the release within a 100-year floodplain?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Did the release impact areas not on an exploration, development, production, or storage site?	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

Attach a comprehensive report (electronic submittals in .pdf format are preferred) demonstrating the lateral and vertical extents of soil contamination associated with the release have been determined. Refer to 19.15.29.11 NMAC for specifics.

Characterization Report Checklist: *Each of the following items must be included in the report.*

- ☒ Scaled site map showing impacted area, surface features, subsurface features, delineation points, and monitoring wells.
- ☒ Field data
- ☒ Data table of soil contaminant concentration data
- ☒ Depth to water determination
- ☒ Determination of water sources and significant watercourses within 1/2-mile of the lateral extents of the release
- ☒ Boring or excavation logs
- ☒ Photographs including date and GIS information
- ☒ Topographic/Aerial maps
- ☒ Laboratory data including chain of custody

If the site characterization report does not include completed efforts at remediation of the release, the report must include a proposed remediation plan. That plan must include the estimated volume of material to be remediated, the proposed remediation technique, proposed sampling plan and methods, anticipated timelines for beginning and completing the remediation. The closure criteria for a release are contained in Table 1 of 19.15.29.12 NMAC, however, use of the table is modified by site- and release-specific parameters.

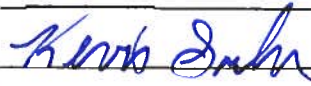
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State of New Mexico
Oil Conservation Division

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Printed Name: Kevin Smaka Title: Regulatory Engineer
Signature:  Date: October 14, 2022
email: Kevin.Smaka@duganproduction.com Telephone: 505-325-1821 x1049

OCD Only

Received by: Jocelyn Harimon Date: 10/14/2022

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State of New Mexico
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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: Kevin Smaka Title: Regulatory Engineer
Signature:  Date: October 14, 2022
email: Kevin.Smaka@duganproduction.com Telephone: 505-325-1821 x1049

OCD Only

Received by: _____ Date: _____

☐ Approved ☐ Approved with Attached Conditions of Approval ☐ Denied ☐ Deferral Approved[\(see text box below\)](#)Signature:  Date: 11/18/2022

Remediation plan accepted and approved as written.

Dugan has approximately 90 days (02/20/2023) to provide final closure report.

Federal I 8

Site Characterization and Remediation Plan

30-045-30178

C-11-29N-14W

790 FNL 1530 FWL

Spill Background

There was a produced water spill at the Federal I 8 on April 26th, 2022. The spill area was most nearly 1000 feet square. In response to the spill, the well was shut in, a vacuum truck was dispatched to collect free standing water. A fence was erected to prevent wildlife from drinking the water. No injuries, deaths or fires occurred in consequence of this spill.

Site Characterization

To ensure this site adequately remediated a site characterization has been performed. In this determination it was found that no groundwater nor surface water affected by the spill. The lateral extents of the spill are not within 300 feet of a significant water course. The spills lateral extents are not within 200 feet of a sink hole, playa lake or lakebed. The spill is not within 300 feet of a home or dwelling of any kind. The spill is not within 400 feet of any domestic water wells or 1000 feet of any springs or other water wells. The spill is not within a municipal boundary or freshwater field. The spill is not within 300 feet of a wetland. In addition, the spill is not above an underground mine, in a 100-year floodplain, on unstable geology. The spill was contained to the well pad.

To arrive at these determinations Dugan generated several maps:

Map 1 is a map showing the extents of the spill as they were documented when the spill was discovered.

Map 2 is an aerial view of the spill area that includes a 300-foot buffer and 1000-foot buffer. The nearest home is roughly 315 feet away as evidenced by the proximity of the buffer line. Further, there are no watercourses shown on the map.

Map 3 To better aid in the water course determination the same map was generated with a topographical view. By switching to the topo view of the area it was discovered the Locke Arroyo was the nearest watercourse. The Locke Arroyo, seen as a blue line on **Map 3**, is ½ mile to the Northwest of the spill. No other water courses were located within ½ mile of the spill.

Map 4 is a map generated by FEMA that identifies locations within a 100-year flood plain. The map indicates the spill is not within a 100-year flood plain.

Map 5 is a map of the underground mines in the area. There are no underground mines in the area of the spill.

Map 6 is a map generated using data from New Mexico State Engineers Office. The data this map plots is for water wells. The red circle drawn on the map is a 1000-foot buffer. No water wells were located within this 1000-foot buffer.

Map 7 is a snip from the NMED's Wetlands map. There are no wetlands within 300 feet of the spill.

Map 8 is a snip of the City of Farmington's Municipal Boundary. The snip shows the spill is outside of the city boundary.

Map 9 is a map of the proposed sampling locations.

Depth to Groundwater Determination

To determine depth to ground water Dugan used data from the iWaters database of the New Mexico State Engineers office. The report generated by the database list many wells with a depth to water of less than 50 feet. When inspecting the location of those water wells to the spill it was noted the wells were directly adjacent to the river. The spill is not located anywhere near those wells or the river so that data is not applicable to this location.

One well listed in the data does have a water depth of 250 feet below grade surface. This well is located on the same mesa as the spill location.

Dugan also investigated well files for hydrogeologic reports of wells in the area. Dugan is using the hydrogeologic report for the Horace Smith1R and Stella Needs a Com 1E since these are also located up on the mesa away from the river.

Both hydrogeologic reports state water is found near the surface in the arroyos and washes. The spill is not located near any arroyos or washes.

Based on the iWaters database report and hydrogeologic reports Dugan has determined the depth to groundwater for this spill is 250 feet below grade surface.

Closure Standards

Based on our findings Dugan has determined closure standards are found in table 1 of NMAC 19.15.29 table 1 > 100 feet to groundwater, listed here:

>100 feet	Chloride***	EPA 300.0 or SM4500 Cl B	20,000 mg/kg
	TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500 mg/kg
	GRO+DRO	EPA SW-846 Method 8015M	1,000 mg/kg
	BTEX	EPA SW-846 Method 8021B or 8260B	50 mg/kg
	Benzene	EPA SW-846 Method 8021B or 8260B	10 mg/kg

Field Data

As noted above the spill was found on April 26th. The spill was mapped, and test holes were dug with a shovel to determine the depth the water soaked to. It was found the average depth of wet soil was found was 1 foot. Dugan erected a fence to prevent additional access to the spill site. No further excavation or boring took place and in consequence no boring/excavation logs are available. The total affected volume of soil is most nearly 1000 cubic feet.

Dugan collected soil samples on August 30th, 2022. A tabulation of those results is here:

Table 1: Soil Sample Results

Sample ID	Chlorides	TPH	BTEX
Fed I8-1	82.1	0	0
Fed I8-2	18400	0	0
Fed I8-3	4600	81	0
Fed I8-4	58	0	0
Fed I8-5	2630	0	0

Results indicated that 3 sample areas did not the standards for closure. Work will continue to ensure the site is remediated and that the spill is delineated laterally and horizontally.

No boring or excavation took place and as a result those logs are not available.

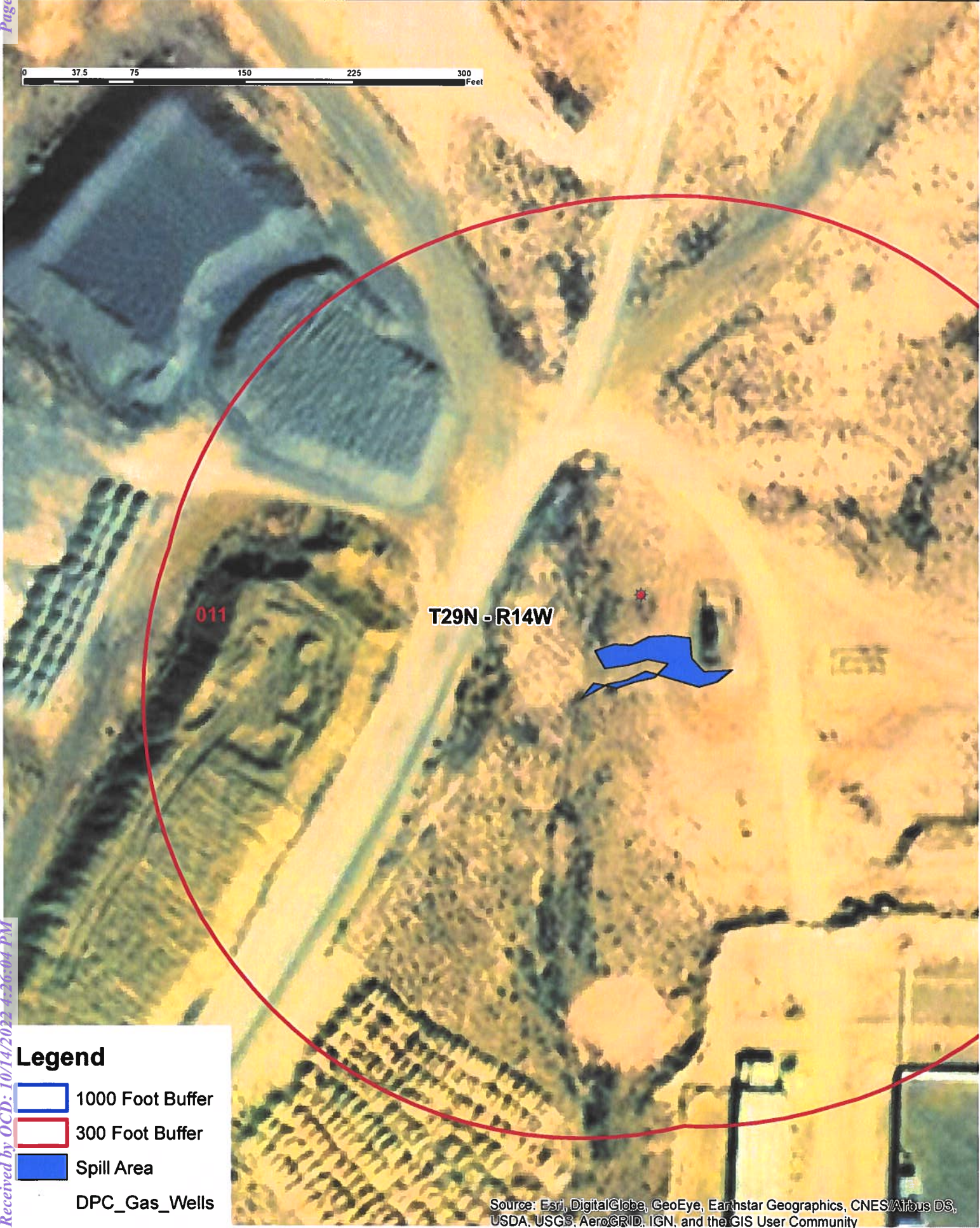
Remediation Plan

Dugan is proposing the following steps to remediate this spill:

1. Apply a mixture of gypsum and fresh water to aid in the decontamination process of the soil. In total we propose using 200 lbs of gypsum pearls that will be raked in. After the application of gypsum, we propose watering the contaminated soil with 240 bbls of fresh water. We propose applying water in 80 bbl increments. To aid in treating the soil we propose ripping the soil of the pad so that all compacted, hardened soils will allow water to sink below the root growing zone of local flora. Dugan will not cause any surface disturbance off the well pad.
2. Once the treatment with gypsum and fresh water has been completed Dugan will collect soil samples at a depth of 2 to 4 feet below grade surface. The soils samples will be analyzed in a local lab. The lab will test for Chlorides, BTEX and TPH. The soil samples will be analyzed in a local laboratory.
 - BTEX (Benzene, Toluene, Ethylbenzene, Xylene)
 - TPH (Total Petroleum Hydrocarbons)
3. The process will be repeated until all values meet state and federal requirements for spill remediation.
4. For delineation Dugan will collect soil samples at a depth of 4 feet below grade surface at 8 points on the spill's perimeter. In so doing this should verify the contamination has not spread laterally or vertically.

Dugan anticipates the spill will be remediated by 11/15/2022

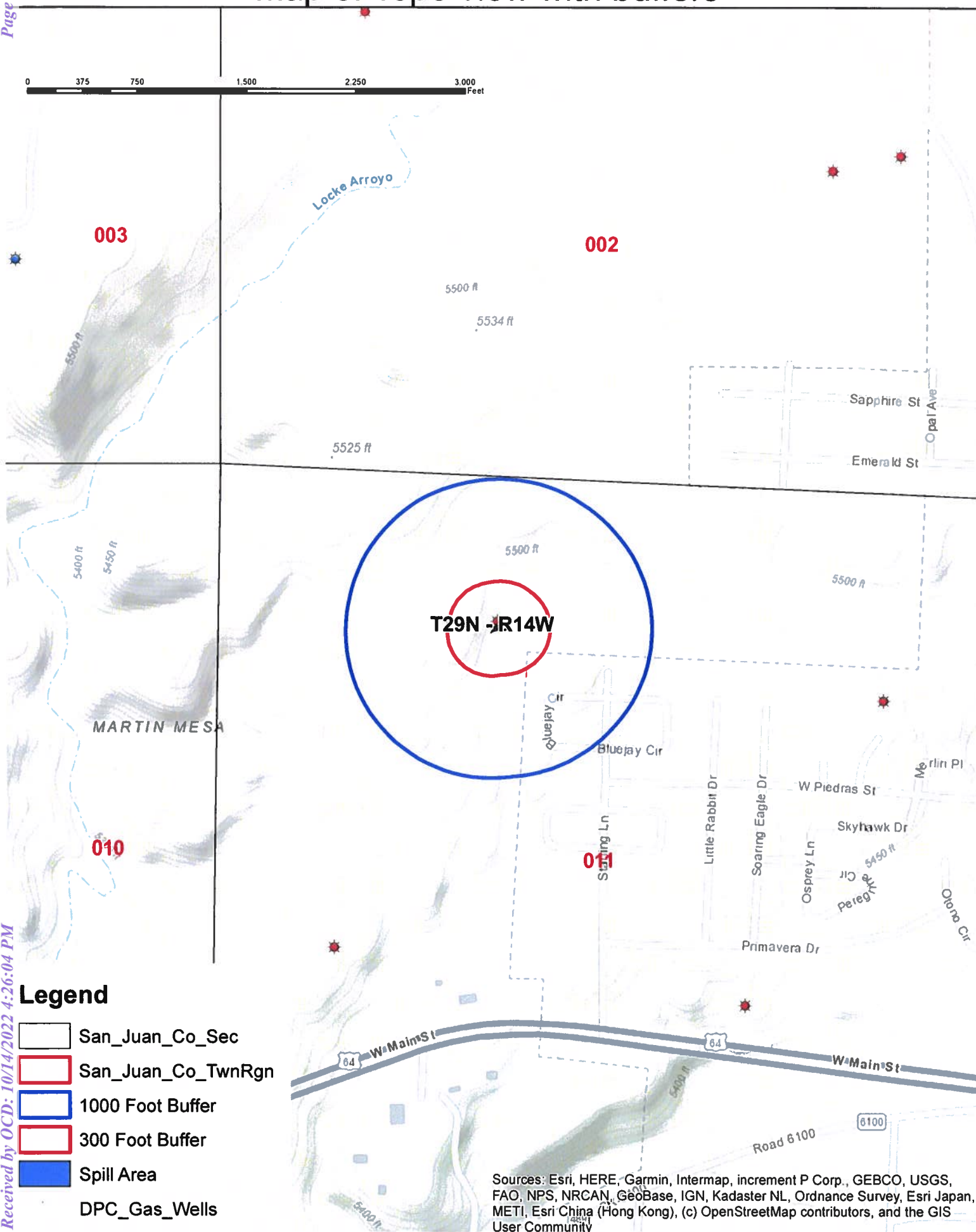
Map 1: Spill Site Map



Map 2: Aerial view with buffers



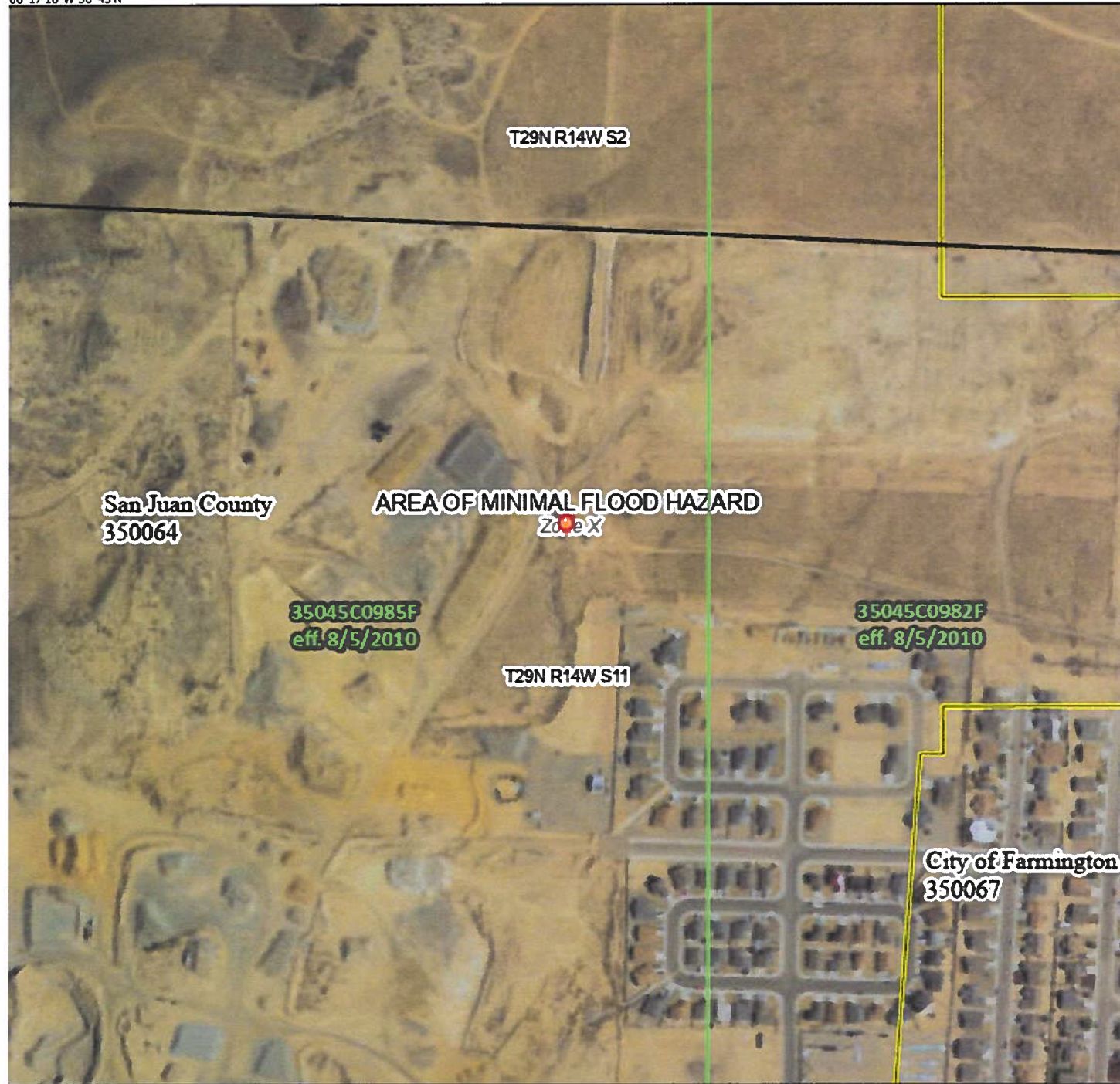
Map 3: Topo view with buffers



National Flood Hazard Layer FIRMette



08°17'16"W 36°45'N



Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

SPECIAL FLOOD HAZARD AREAS		Without Base Flood Elevation (BFE) Zone A, V, A99
		With BFE or Depth Zone AE, AO, AH, VE, AR
		Regulatory Floodway
OTHER AREAS OF FLOOD HAZARD		0.2% Annual Chance Flood Hazard, Area of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile Zone X
		Future Conditions 1% Annual Chance Flood Hazard Zone X
		Area with Reduced Flood Risk due to Levee. See Notes. Zone X
		Area with Flood Risk due to Levee Zone X
OTHER AREAS		NO SCREEN Area of Minimal Flood Hazard Zone X
		Effective LOMRs
		Area of Undetermined Flood Hazard Zone X
GENERAL STRUCTURES		Channel, Culvert, or Storm Sewer
		Levee, Dike, or Floodwall
OTHER FEATURES		20.2 Cross Sections with 1% Annual Chance
		17.5 Water Surface Elevation
		Coastal Transect
		Base Flood Elevation Line (BFE)
		Limit of Study
		Jurisdiction Boundary
MAP PANELS		Digital Data Available
		No Digital Data Available
		Unmapped

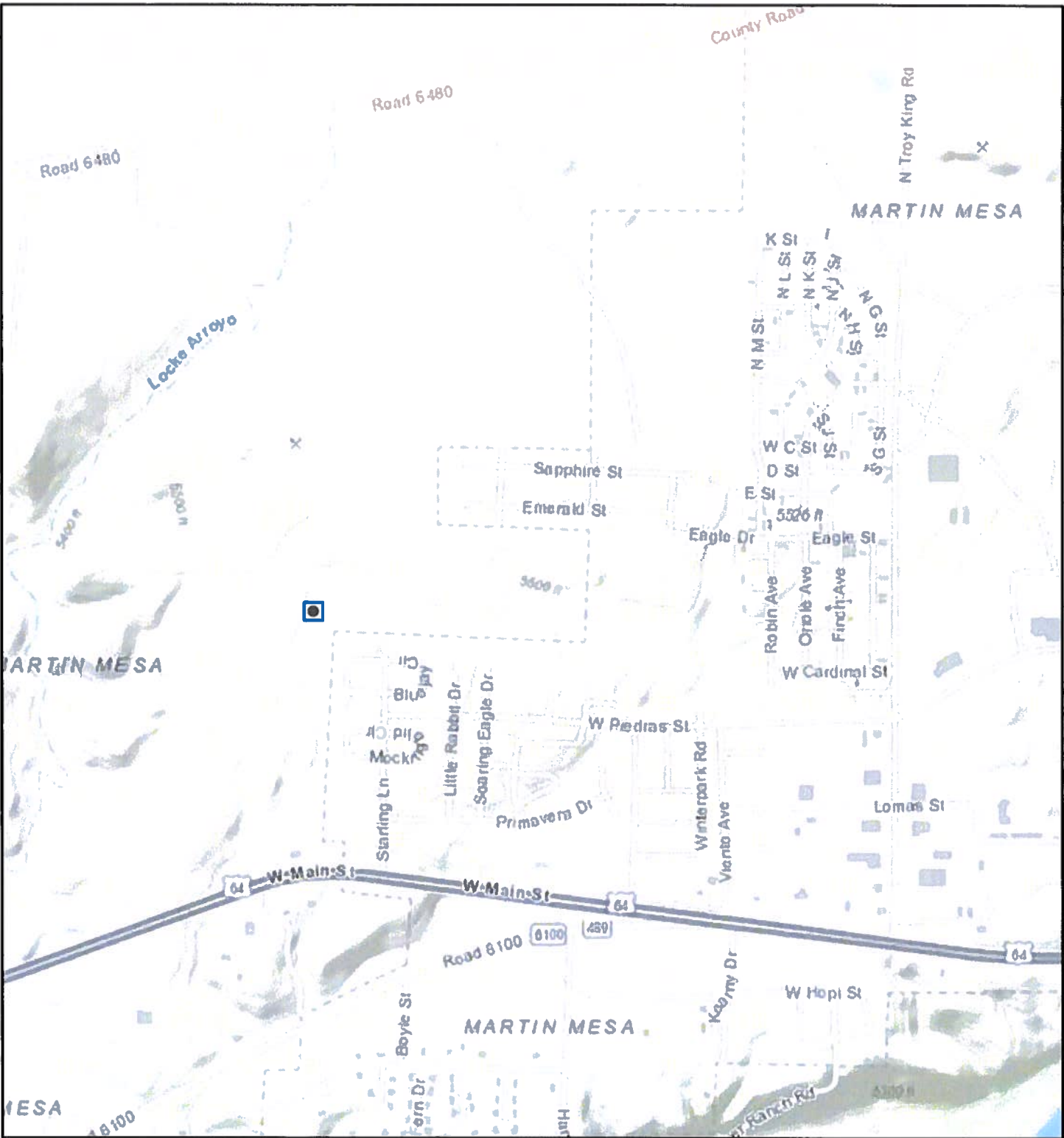
The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on 8/2/2022 at 10:56 AM and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

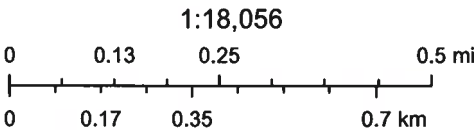
Active Mines in New Mexico



8/2/2022, 9:23:32 AM

Registered Mines

x Aggregate, Stone etc.



City of Farmington, San Juan County, NM, Bureau of Land Management, Esri, HERE, Garmin, GeoTechnologies, Inc., USGS, METI/NASA, EPA, USDA

EMNRD MMD GIS Coordinator

OSE POD Locations Map

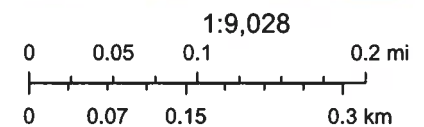


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OSE District Boundary
 Site Boundaries

New Mexico State Trust Lands

Both Estates



Esri, HERE, GeoTechnologies, Inc., Esri, HERE, Garmin, GeoTechnologies, Inc., U.S. Department of Energy Office of Legacy Management, Maxar

Web Generated Map

Map is generated by web users

Map 7: Wetlands Map

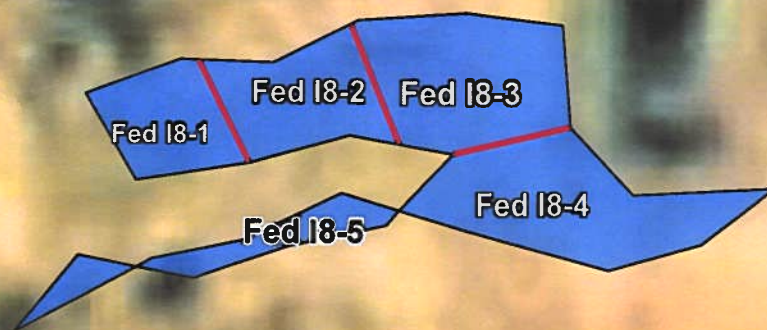


Map 8: Municipal Boundaries

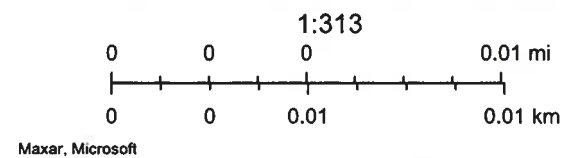


Field Maps Spill and Leak Data Collection

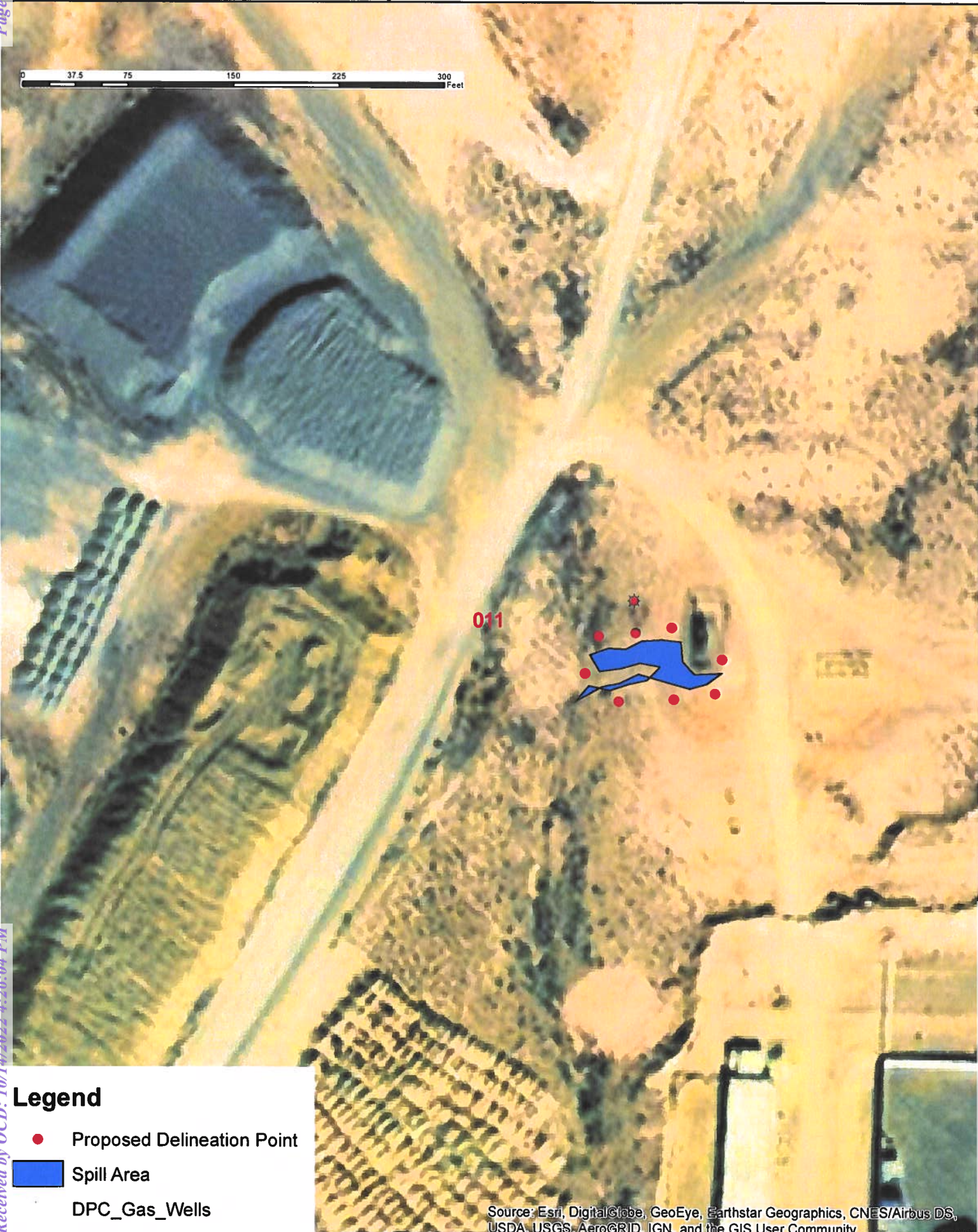
Map 9: Proposed Sampling Zones



10/14/2022



Map 10: Proposed Delineation Points





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		Q Q Q							X	Y	Depth Well	Depth Water	Water Column
	Sub-Code	basin	County	64	16	4	Sec	Tws	Rng					
SJ 00080	SJM3	SJ	2	2	4	14	29N	14W	207796	4069451*		60		
SJ 00081	SJM3	SJ	1	2	4	14	29N	14W	207596	4069451*		60		
SJ 00082	SJM3	SJ	3	4	2	14	29N	14W	207603	4069649*		60		
SJ 00083	SJM3	SJ	4	4	2	14	29N	14W	207803	4069649*		60		
SJ 00084	SJM3	SJ	3	3	2	14	29N	14W	207185	4069653*		60		
SJ 00085	SJM3	SJ	4	3	2	14	29N	14W	207385	4069653*		60		
SJ 00086	SJM3	SJ	2	3	2	14	29N	14W	207385	4069853*		60		
SJ 00087	SJM3	SJ	1	3	2	14	29N	14W	207185	4069853*		60		
SJ 03416	SJM3	SJ		2	2	13	29N	14W	209348	4070088*		60	10	50
SJ 03538	SJM3	SJ	2	2	1	13	29N	14W	208641	4070225*		20	4	16
SJ 03776 POD1	SJM3	SJ	3	1	1	13	29N	14W	208062	4070000		12	6	6
SJ 03784 POD1	SJM3	SJ	4	3	4	12	29N	14W	208210	4070365		32	20	12
SJ 03909 POD1	SJM3	SJ	4	1	1	13	29N	14W	207962	4070186		28	16	12
SJ 04192 POD1	SJM3	SJ		4	4	11	29N	14W	207754	4070631		650	250	400
SJ 04275 POD1	SJAR	SJ		4	2	15	29N	14W	206018	4069942		30	18	12
SJ 04352 POD2	SJ	SJ		2	3	12	29N	14W	208624	4070995		52	43	9
SJ 04352 POD3	SJ	SJ		2	3	12	29N	14W	208625	4070988		52	45	7
SJ 04352 POD4	SJ	SJ		2	3	12	29N	14W	208627	4070993		40	39	1

Average Depth to Water: **45 feet**

Minimum Depth: **4 feet**

Maximum Depth: **250 feet**

Record Count: 18

PLSS Search:

Section(s): 1-3, 10-15

Township: 29N

Range: 14W

*UTM location was derived from PLSS - see Help

The data is furnished by the NMOSE/ISC and is accepted by the recipient with the expressed understanding that the OSE/ISC make no warranties, expressed or implied, concerning the accuracy, completeness, reliability, usability, or suitability for any particular purpose of the data.

10/13/22 3:26 PM

Page 1 of 1

WATER COLUMN/ AVERAGE
DEPTH TO WATER

Stella Needs a Com SWD #1E (Compressor) Hydrogeologic Report

The Stella Needs a Com SWD #1E (Compressor) below grade tank is located on Federal land on flats below "Pinon Mesa" on the northwest margin of the San Juan Basin, in San Juan County, New Mexico. The area is characterized as a flat grassy area on the Kirtland Shale that is bordered by "Pinon Mesa" (2-miles north) and "Badlands" topography to the north and east.

A records search of the NM Office of the State Engineer –iWATERS database was conducted on a three square mile area centered on the Stella Needs a Com SWD #1E (Compressor) location (Exhibit 2). Three water wells were located to the east, the closest of which is 9,000 feet away. Total depth drilled on these water wells ranged from 21 to 50 feet and the top of groundwater ranged from 12 to 45 feet below the surface. The wells are all located in either the La Plata River Valley or close to in deeply incised arroyos. The results of the search are shown on Exhibit 1.

The main source of stock water in the region is encountered in valley-fill deposits in existing arroyos at shallow depths of approximately 15 – 50 feet below the surface. Also, there are stock ponds located along the confluences and upper reaches of some of the main arroyos. The proposed below grade tank is not located in an arroyo; the closest arroyo is over 1500 feet to the north.

The Kirtland Shale extends from the surface down to a depth of approximately 850 feet. The interval is comprised of an upper shale member and a lower shale member. The middle sandstone member is either poorly developed or absent from the section. There is siltstone from 275 to 470 that may contain ground water but the quality is expected to be poor and the amount small.

Based on electric open hole logs, the iWATERS database and literature reviewed, depth to ground water ranges from 15 – 20 feet below the surface in major arroyos in the area. Moving away from the washes, depth to ground water drops rapidly to greater than 200 feet below the surface. At the location of the subject below grade tank, lesser amounts of poor quality ground water might be found at a depth of approximately 275 to 470 feet from thin, discontinuous siltstone layers in the Kirtland Shale. Larger quantities of poor quality ground water could be expected from the Fruitland sand at 850-900 feet or the Fruitland Coal and Pictured Cliffs interval from 1100 to 1300 feet below the surface.

Excessive drilling depth, unpredictable variations in reservoir quality and water quality have discouraged the drilling of water wells in the in the subject area.

- Stone, W.J., Lyford, F.P., Frenzel, P.F., Mizell, N.H., and Padgett, E.T., 1983,
Hydrogeology and water resources of San Juan Basin, New Mexico: New Mexico
Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p.
- Brown, D.R., and Stone, W.J., 1979, Hydrogeology of Aztec quadrangle, San Juan
County, New Mexico: New Mexico Bureau of Mines and Mineral Resources
Hydrogeologic Sheet 1.
- Levings, G.W., Craig, S.D., Dam, W.L. Kernodle, J.M., and Thorn, C.R., 1990,
Hydrogeology of the San Jose, Nacimiento, and Animas Formations in the San Juan
Structural Basin, New Mexico, Colorado, Arizona and Utah: U.S. Geological
Survey, Atlas HA-720-A, Sheet 1 and 2.
- Thorn, C.R., Levings, G.W., Craig, S.D., Dam, W.L., and Kernodle, J.M., 1990,
Hydrogeology of the Ojo Alamo Sandstone in the San Juan Structural Basin, New
Mexico, Colorado, Arizona and Utah: U.S.G.S, Atlas HA-720-B, Sheet 1 and 2.

Horace Smith #1R (Production Tank) Hydrogeologic Report

The Horace Smith #1R (Production Tank) is located on Federal land on flats below "Pinon Mesa" on the northwest margin of the San Juan Basin, in San Juan County, New Mexico. The area is characterized as a flat grassy area on the Kirtland Shale that is bordered by "Pinon Mesa" (1-mile north) and Kirtland Shale "Badlands" topography to the east.

A records search of the NM Office of the State Engineer –iWATERS database was conducted on a three square mile area centered on the Horace Smith #1R (Production Tank) location (Exhibit 2). No water wells were located in the database search. The results of the data search are shown on Exhibit 1. One water well was located 6,100 feet to the west using map and field inspections. No other information was available on this well and it is currently in-active. The main source of stock water in the region is encountered in valley-fill deposits in existing arroyos at shallow depths of approximately 15 – 50 feet below the surface and stock ponds constructed on surface shale layers at the confluence and upper reaches of the arroyos. The below grade tank is not located in an arroyo. The closest arroyo is 150 feet east and there is a stock tank 600 feet east of the below grade tank. Both the arroyo and stock tank are down in a draw, 50-60 feet below the elevation of the below grade tank (Exhibit 2) (See Visual Inspection Cert.).

The Kirtland Shale extends from the surface down to a depth of approximately 865 feet. The interval is comprised of an upper shale member, middle sandstone member (Farmington Ss.) and a lower shale member. The upper member is all mudstone / shale with a trace of siltstone down to 325 feet. The middle member extends from 325-415 feet and contains five, thin (50-10 feet thick), poorly developed silty sands. These silty sands might contain minimal amounts of poor quality groundwater. The lower member is all mudstone / shale with a few silt stringers down to 865 feet.

The underlying Fruitland Formation from 865-1235 feet has sand at 865-910 and 920-935 feet with good reservoir quality. These sands and contain groundwater as well as natural gas. Dugan Production has analyzed water from this zone in the area, the quality is poor. Analysis will be provided upon request.

Based on electric open hole logs, the iWATERS database and literature reviewed, depth to ground water ranges from 15–20 feet below the surface in major arroyos in the area. Moving away from the washes, depth to ground water drops rapidly to greater than 200 feet below the surface. At the location of the below grade tank, lesser amounts of poor quality ground water might be found at a depth of 325-415 feet from thin, discontinuous sand stringers in the middle sandstone member of the Kirtland Shale. Larger quantities of poor quality ground water could be expected from Fruitland sand at 865-910 and 920-935 feet and the Fruitland Coal and Pictured Cliffs Sandstone interval at 1200-1300 feet below the surface.

Excessive drilling depth, unpredictable variations in reservoir quality and water quality have discouraged the drilling of water wells in the in the subject area.

This Hydrogeologic Report was prepared by Mr. Kurt Fagrelus, Geologist for Dugan Production. Mr. Fagrelus has been employed as a geologist for Dugan for the past 31-years, received a MS in Geology from NMIMT in Socorro, NM and a BS in Geology from FLC in Durango, CO.

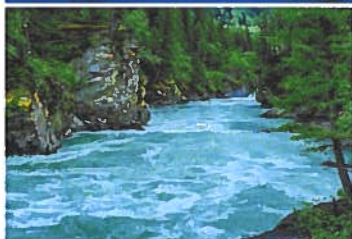
Stone, W.J., Lyford, F.P., Frenzel, P.F., Mizell, N.H., and Padgett, E.T., 1983, Hydrogeology and water resources of San Juan Basin, New Mexico: New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p.

Brown, D.R., and Stone, W.J., 1979, Hydrogeology of Aztec quadrangle, San Juan County, New Mexico: New Mexico Bureau of Mines and Mineral Resources Hydrogeologic Sheet 1.

Levings, G.W., Craig, S.D., Dam, W.L. Kernodle, J.M., and Thorn, C.R., 1990, Hydrogeology of the San Jose, Nacimiento, and Animas Formations in the San Juan Structural Basin, New Mexico, Colorado, Arizona and Utah: U.S. Geological Survey, Atlas HA-720-A, Sheet 1 and 2.

Thorn, C.R., Levings, G.W., Craig, S.D., Dam, W.L., and Kernodle, J.M., 1990, Hydrogeology of the Ojo Alamo Sandstone in the San Juan Structural Basin, New Mexico, Colorado, Arizona and Utah: U.S.G.S, Atlas HA-720-B, Sheet 1 and 2.

Report to:
Kevin Smaka



5796 U.S. Hwy 64
Farmington, NM 87401

Phone: (505) 632-1881
Envirotech-inc.com



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Practical Solutions for a Better Tomorrow

Analytical Report

Dugan Production Corp.

Project Name: Federal I-8

Work Order: E208135

Job Number: 06094-0177

Received: 8/24/2022

Revision: 1

Report Reviewed By:

Walter Hinchman
Laboratory Director
8/30/22

Envirotech Inc. certifies the test results meet all requirements of TNI unless noted otherwise.
Statement of Data Authenticity: Envirotech Inc. attests the data reported has not been altered in any way.
Partial or incomplete reproduction of this report is prohibited, unless approved by Envirotech Inc.
Envirotech Inc. holds the Utah TNI certification NM00979 for data reported.
Envirotech Inc. holds the Texas TNI certification T104704557 for data reported.
Envirotech Inc. holds the NM SDWA certification for data reported. (Lab #NM00979)

Date Reported: 8/30/22

Kevin Smaka
PO Box 420
Farmington, NM 87499



Project Name: Federal I-8
Workorder: E208135
Date Received: 8/24/2022 3:00:00PM

Kevin Smaka,

Thank you for choosing Envirotech, Inc. as your analytical testing laboratory for the sample(s) received on, 8/24/2022 3:00:00PM, under the Project Name: Federal I-8.

The analytical test results summarized in this report with the Project Name: Federal I-8 apply to the individual samples collected, identified and submitted bearing the project name on the enclosed chain-of-custody. Subcontracted sample analyses not conducted by Envirotech, Inc., are attached in full as issued by the subcontract laboratory.

Please review the Chain-of-Custody (COC) and Sample Receipt Checklist (SRC) for any issues regarding sample receipt temperature, containers, preservation etc. To best understand your test results, review the entire report summarizing your sample data and the associated quality control batch data.

All reported data in this analytical report were analyzed according to the referenced method(s) and are in compliance with the latest NELAC/TNI standards, unless otherwise noted. Samples or analytical quality control parameters not meeting specific QC criteria are qualified with a data flag. Data flag definitions are located in the Notes and Definitions section of this analytical report.

If you have any questions concerning this report, please feel free to contact Envirotech, Inc.

Respectfully,

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Sample Summary

Dugan Production Corp. PO Box 420 Farmington NM, 87499	Project Name: Federal I-8 Project Number: 06094-0177 Project Manager: Kevin Smaka	Reported: 08/30/22 11:38
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Client Sample ID	Lab Sample ID	Matrix	Sampled	Received	Container
Federal I-8 - 1	E208135-01A	Soil	08/24/22	08/24/22	Glass Jar, 4 oz.
Federal I-8 - 2	E208135-02A	Soil	08/24/22	08/24/22	Glass Jar, 4 oz.
Federal I-8 - 3	E208135-03A	Soil	08/24/22	08/24/22	Glass Jar, 4 oz.
Federal I-8 - 4	E208135-04A	Soil	08/24/22	08/24/22	Glass Jar, 4 oz.
Federal I-8 - 5	E208135-05A	Soil	08/24/22	08/24/22	Glass Jar, 4 oz.

Sample Data

Dugan Production Corp.
PO Box 420
Farmington NM, 87499

Project Name: Federal I-8
Project Number: 06094-0177
Project Manager: Kevin Smaka

Reported:
8/30/2022 11:38:34AM

Federal I-8 - 1

E208135-01

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2235046	
Benzene	ND	0.0250	1	08/25/22	08/25/22	
Ethylbenzene	ND	0.0250	1	08/25/22	08/25/22	
Toluene	ND	0.0250	1	08/25/22	08/25/22	
o-Xylene	ND	0.0250	1	08/25/22	08/25/22	
p,m-Xylene	ND	0.0500	1	08/25/22	08/25/22	
Total Xylenes	ND	0.0250	1	08/25/22	08/25/22	
Surrogate: Bromofluorobenzene	94.6 %	70-130		08/25/22	08/25/22	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		08/25/22	08/25/22	
Surrogate: Toluene-d8	95.7 %	70-130		08/25/22	08/25/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2235046	
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/25/22	08/25/22	
Surrogate: Bromofluorobenzene	94.6 %	70-130		08/25/22	08/25/22	
Surrogate: 1,2-Dichloroethane-d4	102 %	70-130		08/25/22	08/25/22	
Surrogate: Toluene-d8	95.7 %	70-130		08/25/22	08/25/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KL		Batch: 2235050	
Diesel Range Organics (C10-C28)	ND	25.0	1	08/25/22	08/25/22	
Oil Range Organics (C28-C36)	ND	50.0	1	08/25/22	08/25/22	
Surrogate: n-Nonane	81.3 %	50-200		08/25/22	08/25/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: KL		Batch: 2235045	
Chloride	82.1	20.0	1	08/25/22	08/25/22	



Sample Data

Dugan Production Corp.
PO Box 420
Farmington NM, 87499

Project Name: Federal I-8
Project Number: 06094-0177
Project Manager: Kevin Smaka

Reported:
8/30/2022 11:38:34AM

Federal I-8 - 2

E208135-02

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2235046
Benzene	ND	0.0250	1	08/25/22	08/25/22	
Ethylbenzene	ND	0.0250	1	08/25/22	08/25/22	
Toluene	ND	0.0250	1	08/25/22	08/25/22	
o-Xylene	ND	0.0250	1	08/25/22	08/25/22	
p,m-Xylene	ND	0.0500	1	08/25/22	08/25/22	
Total Xylenes	ND	0.0250	1	08/25/22	08/25/22	
Surrogate: Bromofluorobenzene	90.9 %	70-130		08/25/22	08/25/22	
Surrogate: 1,2-Dichloroethane-d4	108 %	70-130		08/25/22	08/25/22	
Surrogate: Toluene-d8	97.8 %	70-130		08/25/22	08/25/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2235046
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/25/22	08/25/22	
Surrogate: Bromofluorobenzene	90.9 %	70-130		08/25/22	08/25/22	
Surrogate: 1,2-Dichloroethane-d4	108 %	70-130		08/25/22	08/25/22	
Surrogate: Toluene-d8	97.8 %	70-130		08/25/22	08/25/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KL		Batch: 2235050
Diesel Range Organics (C10-C28)	ND	25.0	1	08/25/22	08/25/22	
Oil Range Organics (C28-C36)	ND	50.0	1	08/25/22	08/25/22	
Surrogate: n-Nonane	84.3 %	50-200		08/25/22	08/25/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2235045
Chloride	18400	1000	50	08/25/22	08/25/22	



Sample Data

Dugan Production Corp.
PO Box 420
Farmington NM, 87499

Project Name: Federal I-8
Project Number: 06094-0177
Project Manager: Kevin Smaka

Reported:
8/30/2022 11:38:34AM

Federal I-8 - 3

E208135-03

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg	Analyst: IY		Batch: 2235046	
Benzene	ND	0.0250	1	08/25/22	08/25/22	
Ethylbenzene	ND	0.0250	1	08/25/22	08/25/22	
Toluene	ND	0.0250	1	08/25/22	08/25/22	
o-Xylene	ND	0.0250	1	08/25/22	08/25/22	
p,m-Xylene	ND	0.0500	1	08/25/22	08/25/22	
Total Xylenes	ND	0.0250	1	08/25/22	08/25/22	
Surrogate: Bromofluorobenzene	102 %	70-130		08/25/22	08/25/22	
Surrogate: 1,2-Dichloroethane-d4	98.2 %	70-130		08/25/22	08/25/22	
Surrogate: Toluene-d8	97.1 %	70-130		08/25/22	08/25/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg	Analyst: IY		Batch: 2235046	
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/25/22	08/25/22	
Surrogate: Bromofluorobenzene	102 %	70-130		08/25/22	08/25/22	
Surrogate: 1,2-Dichloroethane-d4	98.2 %	70-130		08/25/22	08/25/22	
Surrogate: Toluene-d8	97.1 %	70-130		08/25/22	08/25/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg	Analyst: KL		Batch: 2235050	
Diesel Range Organics (C10-C28)	80.8	25.0	1	08/25/22	08/25/22	
Oil Range Organics (C28-C36)	ND	50.0	1	08/25/22	08/25/22	
Surrogate: n-Nonane	91.4 %	50-200		08/25/22	08/25/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg	Analyst: RAS		Batch: 2235045	
Chloride	4600	100	5	08/25/22	08/25/22	



Sample Data

Dugan Production Corp. PO Box 420 Farmington NM, 87499	Project Name: Federal I-8 Project Number: 06094-0177 Project Manager: Kevin Smaka	Reported: 8/30/2022 11:38:34AM
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Federal I-8 - 4

E208135-04

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2235046
Benzene	ND	0.0250	1	08/25/22	08/25/22	
Ethylbenzene	ND	0.0250	1	08/25/22	08/25/22	
Toluene	ND	0.0250	1	08/25/22	08/25/22	
o-Xylene	ND	0.0250	1	08/25/22	08/25/22	
p,m-Xylene	ND	0.0500	1	08/25/22	08/25/22	
Total Xylenes	ND	0.0250	1	08/25/22	08/25/22	
Surrogate: Bromofluorobenzene	96.3 %	70-130		08/25/22	08/25/22	
Surrogate: 1,2-Dichloroethane-d4	104 %	70-130		08/25/22	08/25/22	
Surrogate: Toluene-d8	98.3 %	70-130		08/25/22	08/25/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2235046
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/25/22	08/25/22	
Surrogate: Bromofluorobenzene	96.3 %	70-130		08/25/22	08/25/22	
Surrogate: 1,2-Dichloroethane-d4	104 %	70-130		08/25/22	08/25/22	
Surrogate: Toluene-d8	98.3 %	70-130		08/25/22	08/25/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KL		Batch: 2235050
Diesel Range Organics (C10-C28)	ND	25.0	1	08/25/22	08/25/22	
Oil Range Organics (C28-C36)	ND	50.0	1	08/25/22	08/25/22	
Surrogate: n-Nonane	95.2 %	50-200		08/25/22	08/25/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2235045
Chloride	57.9	20.0	1	08/25/22	08/25/22	



Sample Data

Dugan Production Corp.
PO Box 420
Farmington NM, 87499

Project Name: Federal I-8
Project Number: 06094-0177
Project Manager: Kevin Smaka

Reported:
8/30/2022 11:38:34AM

Federal I-8 - 5

E208135-05

Analyte	Result	Reporting Limit	Dilution	Prepared	Analyzed	Notes
Volatile Organic Compounds by EPA 8260B						
	mg/kg	mg/kg		Analyst: IY		Batch: 2235046
Benzene	ND	0.0250	1	08/25/22	08/25/22	
Ethylbenzene	ND	0.0250	1	08/25/22	08/25/22	
Toluene	ND	0.0250	1	08/25/22	08/25/22	
o-Xylene	ND	0.0250	1	08/25/22	08/25/22	
p,m-Xylene	ND	0.0500	1	08/25/22	08/25/22	
Total Xylenes	ND	0.0250	1	08/25/22	08/25/22	
Surrogate: Bromofluorobenzene	94.0 %	70-130		08/25/22	08/25/22	
Surrogate: 1,2-Dichloroethane-d4	98.3 %	70-130		08/25/22	08/25/22	
Surrogate: Toluene-d8	98.8 %	70-130		08/25/22	08/25/22	
Nonhalogenated Organics by EPA 8015D - GRO						
	mg/kg	mg/kg		Analyst: IY		Batch: 2235046
Gasoline Range Organics (C6-C10)	ND	20.0	1	08/25/22	08/25/22	
Surrogate: Bromofluorobenzene	94.0 %	70-130		08/25/22	08/25/22	
Surrogate: 1,2-Dichloroethane-d4	98.3 %	70-130		08/25/22	08/25/22	
Surrogate: Toluene-d8	98.8 %	70-130		08/25/22	08/25/22	
Nonhalogenated Organics by EPA 8015D - DRO/ORO						
	mg/kg	mg/kg		Analyst: KL		Batch: 2235050
Diesel Range Organics (C10-C28)	ND	25.0	1	08/25/22	08/25/22	
Oil Range Organics (C28-C36)	ND	50.0	1	08/25/22	08/25/22	
Surrogate: n-Nonane	89.6 %	50-200		08/25/22	08/25/22	
Anions by EPA 300.0/9056A						
	mg/kg	mg/kg		Analyst: RAS		Batch: 2235045
Chloride	2630	40.0	2	08/25/22	08/25/22	



QC Summary Data

Dugan Production Corp. PO Box 420 Farmington NM, 87499	Project Name: Federal I-8 Project Number: 06094-0177 Project Manager: Kevin Smaka	Reported: 8/30/2022 11:38:34AM
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Volatile Organic Compounds by EPA 8260B

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2235046-BLK1)

Prepared: 08/25/22 Analyzed: 08/25/22

Benzene	ND	0.0250							
Ethylbenzene	ND	0.0250							
Toluene	ND	0.0250							
o-Xylene	ND	0.0250							
p,m-Xylene	ND	0.0500							
Total Xylenes	ND	0.0250							
Surrogate: Bromofluorobenzene	0.496		0.500		99.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.490		0.500		98.0	70-130			
Surrogate: Toluene-d8	0.515		0.500		103	70-130			

LCS (2235046-BS1)

Prepared: 08/25/22 Analyzed: 08/25/22

Benzene	2.68	0.0250	2.50		107	70-130			
Ethylbenzene	2.65	0.0250	2.50		106	70-130			
Toluene	2.59	0.0250	2.50		104	70-130			
o-Xylene	2.49	0.0250	2.50		99.6	70-130			
p,m-Xylene	4.94	0.0500	5.00		98.8	70-130			
Total Xylenes	7.43	0.0250	7.50		99.1	70-130			
Surrogate: Bromofluorobenzene	0.518		0.500		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.489		0.500		97.8	70-130			
Surrogate: Toluene-d8	0.519		0.500		104	70-130			

LCS Dup (2235046-BSD1)

Prepared: 08/25/22 Analyzed: 08/25/22

Benzene	2.45	0.0250	2.50		97.8	70-130	8.96	23	
Ethylbenzene	2.43	0.0250	2.50		97.2	70-130	8.57	27	
Toluene	2.37	0.0250	2.50		94.7	70-130	9.09	24	
o-Xylene	2.31	0.0250	2.50		92.3	70-130	7.55	27	
p,m-Xylene	4.54	0.0500	5.00		90.8	70-130	8.48	27	
Total Xylenes	6.85	0.0250	7.50		91.3	70-130	8.17	27	
Surrogate: Bromofluorobenzene	0.520		0.500		104	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.500		0.500		100	70-130			
Surrogate: Toluene-d8	0.517		0.500		103	70-130			



QC Summary Data

Dugan Production Corp. PO Box 420 Farmington NM, 87499	Project Name: Federal I-8 Project Number: 06094-0177 Project Manager: Kevin Smaka	Reported: 8/30/2022 11:38:34AM
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Nonhalogenated Organics by EPA 8015D - GRO

Analyst: IY

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2235046-BLK1)

Prepared: 08/25/22 Analyzed: 08/25/22

Gasoline Range Organics (C6-C10)	ND	20.0							
Surrogate: Bromofluorobenzene	0.496		0.500		99.1	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.490		0.500		98.0	70-130			
Surrogate: Toluene-d8	0.515		0.500		103	70-130			

LCS (2235046-BS2)

Prepared: 08/25/22 Analyzed: 08/25/22

Gasoline Range Organics (C6-C10)	54.7	20.0	50.0		109	70-130			
Surrogate: Bromofluorobenzene	0.514		0.500		103	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.502		0.500		100	70-130			
Surrogate: Toluene-d8	0.511		0.500		102	70-130			

LCS Dup (2235046-BS2)

Prepared: 08/25/22 Analyzed: 08/25/22

Gasoline Range Organics (C6-C10)	55.2	20.0	50.0		110	70-130	0.850	20	
Surrogate: Bromofluorobenzene	0.510		0.500		102	70-130			
Surrogate: 1,2-Dichloroethane-d4	0.500		0.500		100	70-130			
Surrogate: Toluene-d8	0.509		0.500		102	70-130			



QC Summary Data

Dugan Production Corp. PO Box 420 Farmington NM, 87499	Project Name: Federal I-8 Project Number: 06094-0177 Project Manager: Kevin Smaka	Reported: 8/30/2022 11:38:34AM
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Nonhalogenated Organics by EPA 8015D - DRO/ORO

Analyst: KL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2235050-BLK1)

Prepared: 08/25/22 Analyzed: 08/25/22

Diesel Range Organics (C10-C28)	ND	25.0							
Oil Range Organics (C28-C36)	ND	50.0							
Surrogate: <i>n</i> -Nonane	45.1		50.0		90.2	50-200			

LCS (2235050-BS1)

Prepared: 08/25/22 Analyzed: 08/25/22

Diesel Range Organics (C10-C28)	224	25.0	250		89.6	38-132			
Surrogate: <i>n</i> -Nonane	41.1		50.0		82.2	50-200			

Matrix Spike (2235050-MS1)

Source: E208135-04

Prepared: 08/25/22 Analyzed: 08/25/22

Diesel Range Organics (C10-C28)	232	25.0	250	ND	92.7	38-132			
Surrogate: <i>n</i> -Nonane	44.2		50.0		88.4	50-200			

Matrix Spike Dup (2235050-MSD1)

Source: E208135-04

Prepared: 08/25/22 Analyzed: 08/25/22

Diesel Range Organics (C10-C28)	231	25.0	250	ND	92.5	38-132	0.248	20	
Surrogate: <i>n</i> -Nonane	39.2		50.0		78.4	50-200			



QC Summary Data

Dugan Production Corp.	Project Name:	Federal I-8	Reported:
PO Box 420	Project Number:	06094-0177	
Farmington NM, 87499	Project Manager:	Kevin Smaka	8/30/2022 11:38:34AM

Anions by EPA 300.0/9056A

Analyst: KL

Analyte	Result mg/kg	Reporting Limit mg/kg	Spike Level mg/kg	Source Result mg/kg	Rec %	Rec Limits %	RPD %	RPD Limit %	Notes
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Blank (2235045-BLK1)

Prepared: 08/25/22 Analyzed: 08/25/22

Chloride ND 20.0

LCS (2235045-BS1)

Prepared: 08/25/22 Analyzed: 08/25/22

Chloride 266 20.0 250 106 90-110

Matrix Spike (2235045-MS1)

Source: E208135-01

Prepared: 08/25/22 Analyzed: 08/25/22

Chloride 423 20.0 250 82.1 136 80-120 M2

Matrix Spike Dup (2235045-MSD1)

Source: E208135-01

Prepared: 08/25/22 Analyzed: 08/25/22

Chloride 383 20.0 250 82.1 120 80-120 9.89 20

QC Summary Report Comment:

Calculations are based off of the raw (non-rounded) data. However, for reporting purposes all QC data is rounded to three significant figures. Therefore, hand calculated values may differ slightly.



Definitions and Notes

Dugan Production Corp.	Project Name:	Federal I-8	
PO Box 420	Project Number:	06094-0177	Reported:
Farmington NM, 87499	Project Manager:	Kevin Smaka	08/30/22 11:38

M2 Matrix spike recovery was outside quality control limits. The associated LCS spike recovery was acceptable.

ND Analyte NOT DETECTED at or above the reporting limit

NR Not Reported

RPD Relative Percent Difference

DNI Did Not Ignite

Note (1): Methods marked with ** are non-accredited methods.

Note (2): Soil data is reported on an "as received" weight basis, unless reported otherwise.



Project Information

Chain of Custody

Page 1 of 1

[illegible]

Envirotech Analytical Laboratory

Printed: 8/25/2022 9:01:47AM

Sample Receipt Checklist (SRC)

Instructions: Please take note of any NO checkmarks.

If we receive no response concerning these items within 24 hours of the date of this notice, all the samples will be analyzed as requested.

Client:	Dugan Production Corp.	Date Received:	08/24/22 15:00	Work Order ID:	F208135
Phone:	505-486-6207	Date Logged In:	08/25/22 08:56	Logged In By:	Caitlin Christian
Email:	kevin.smaka@duganproduction.com	Due Date:	08/31/22 17:00 (5 day TAT)		

Chain of Custody (COC)

1. Does the sample ID match the COC? Yes
2. Does the number of samples per sampling site location match the COC? Yes
3. Were samples dropped off by client or carrier? Yes
4. Was the COC complete, i.e., signatures, dates/times, requested analyses? Yes
5. Were all samples received within holding time? Yes

Carrier: Mario Ulibarri

Note: Analysis, such as pH which should be conducted in the field,
i.e. 15 minute hold time, are not included in this discussion.

Comments/ResolutionSample Turn Around Time (TAT)

6. Did the COC indicate standard TAT, or Expedited TAT? Yes

Sample Cooler

7. Was a sample cooler received? Yes
8. If yes, was cooler received in good condition? Yes
9. Was the sample(s) received intact, i.e., not broken? Yes
10. Were custody/security seals present? No
11. If yes, were custody/security seals intact? NA
12. Was the sample received on ice? If yes, the recorded temp is 4°C, i.e., 6°±2°C Yes
Note: Thermal preservation is not required, if samples are received w/i 15 minutes of sampling
13. If no visible ice, record the temperature. Actual sample temperature: 4°C

Sample Container

14. Are aqueous VOC samples present? No
15. Are VOC samples collected in VOA Vials? NA
16. Is the head space less than 6-8 mm (pea sized or less)? NA
17. Was a trip blank (TB) included for VOC analyses? NA
18. Are non-VOC samples collected in the correct containers? Yes
19. Is the appropriate volume/weight or number of sample containers collected? Yes

Field Label

20. Were field sample labels filled out with the minimum information:
Sample ID? Yes
Date/Time Collected? Yes
Collectors name? Yes

Sample Preservation

21. Does the COC or field labels indicate the samples were preserved? No
22. Are sample(s) correctly preserved? NA
24. Is lab filtration required and/or requested for dissolved metals? No

Multiphase Sample Matrix

26. Does the sample have more than one phase, i.e., multiphase? No
27. If yes, does the COC specify which phase(s) is to be analyzed? NA

Subcontract Laboratory

28. Are samples required to get sent to a subcontract laboratory? No
29. Was a subcontract laboratory specified by the client and if so who? NA Subcontract Lab: na

Client Instruction

Signature of client authorizing changes to the COC or sample disposition.

Date



envirotech Inc.



District I

1625 N. French Dr., Hobbs, NM 88240
Phone:(575) 393-6161 Fax:(575) 393-0720

District II

811 S. First St., Artesia, NM 88210
Phone:(575) 748-1283 Fax:(575) 748-9720

District III

1000 Rio Brazos Rd., Aztec, NM 87410
Phone:(505) 334-6178 Fax:(505) 334-6170

District IV

1220 S. St Francis Dr., Santa Fe, NM 87505
Phone:(505) 476-3470 Fax:(505) 476-3462

State of New Mexico
Energy, Minerals and Natural Resources
Oil Conservation Division
1220 S. St Francis Dr.
Santa Fe, NM 87505

CONDITIONS

Action 151041

CONDITIONS

Operator: DUGAN PRODUCTION CORP PO Box 420 Farmington, NM 87499	OGRID: 6515
	Action Number: 151041
	Action Type: [C-141] Release Corrective Action (C-141)

CONDITIONS

Created By	Condition	Condition Date
nvelez	Dugan has approximately 90 days (02/20/2023) to provide final closure report.	11/18/2022