

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

Form C-144
Revised October 11, 2022

Pit, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application

Type of action: ☐ Below grade tank registration
☐ Permit of a pit or proposed alternative method
BGT1 ☒ Closure of a pit, below-grade tank, or proposed alternative method
☐ Modification to an existing permit/or registration
☐ Closure plan only submitted for an existing permitted or non-permitted pit, below-grade tank, or proposed alternative method

Instructions: Please submit one application (Form C-144) per individual pit, below-grade tank or alternative request

Please be advised that approval of this request does not relieve the operator of liability should operations result in pollution of surface water, ground water or the environment. Nor does approval relieve the operator of its responsibility to comply with any other applicable governmental authority's rules, regulations or ordinances.

1.
Operator: Dugan Production Company OGRID #: 00615
Address: PO Box 420, Farmington, NM 87499-0420
Facility or well name: Tsah Tah SWD # 036
API Number: 30-045-33942 OCD Permit Number: BGT # 1
U/L or Qtr/Qtr F Section 36 Township 25N Range 10W County: San Juan
Center of Proposed Design: Latitude 36.3598938 Longitude -107.7524857 NAD83
Surface Owner: ☐ Federal ☒ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☐ **Pit:** Subsection F, G or J of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____ bbl Dimensions: L _____ x W _____ x D _____

3.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 90 bbl Type of fluid: Produced Water
Tank Construction material: Steel
☐ Secondary containment with leak detection ☒ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness 60 mil ☒ HDPE ☐ PVC ☐ Other _____

4.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

5.
Fencing: Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)
☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
☒ Alternate. Please specify 4' Hog Wire w/ 1" Tubing as a top rail and welded to the t-posts

6.

Netting: Subsection E of 19.15.17.11 NMAC (*Applies to permanent pits and permanent open top tanks*)

- ☒ Screen ☐ Netting ☐ Other _____
- ☐ Monthly inspections (If netting or screening is not physically feasible)

7.

Signs: Subsection C of 19.15.17.11 NMAC

- ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☒ Signed in compliance with 19.15.16.8 NMAC

8.

Variances and Exceptions:

Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17 NMAC for guidance.

Please check a box if one or more of the following is requested, if not leave blank:

- ☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval.
- ☐ Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.

9.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC***Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Siting criteria does not apply to drying pads or above-grade tanks.*****General siting****Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.**

- ☒ NM Office of the State Engineer - iWATERS database search; ☒ USGS; ☒ Data obtained from nearby wells

☐ Yes ☒ No
☐ NA

Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit .

NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells

☐ Yes ☐ No
☐ NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. **(Does not apply to below grade tanks)**

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☐ No

Within the area overlying a subsurface mine. **(Does not apply to below grade tanks)**

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☐ No

Within an unstable area. **(Does not apply to below grade tanks)**

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☐ No

Within a 100-year floodplain. **(Does not apply to below grade tanks)**

- FEMA map

☐ Yes ☐ No

Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☒ No

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☒ No

Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a occupied permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300feet of any other fresh water well or spring, in existence at the time of the initial application.

NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 100 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Temporary Pit Non-low chloride drilling fluid

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

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, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Permanent Pit or Multi-Well Fluid Management Pit

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

- Visual inspection (certification) of the proposed site; Aerial photo; Satellite image

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

- NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 500 feet of a wetland.

- US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

10.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

11.

Multi-Well Fluid Management Pit Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ A List of wells with approved application for permit to drill associated with the pit.
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC
- ☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Previously Approved Design (attach copy of design) API Number: _____ or Permit Number: _____

12.

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
☐ Climatological Factors Assessment
☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Quality Control/Quality Assurance Construction and Installation Plan
☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
☐ Nuisance or Hazardous Odors, including H₂S, Prevention Plan
☐ Emergency Response Plan
☐ Oil Field Waste Stream Characterization
☐ Monitoring and Inspection Plan
☐ Erosion Control Plan
☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

13.

Proposed Closure: 19.15.17.13 NMAC

Instructions: Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

- Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☐ Below-grade Tank ☐ Multi-well Fluid Management Pit
☐ Alternative
- Proposed Closure Method: ☐ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☐ On-site Closure Method (Only for temporary pits and closed-loop systems)
☐ In-place Burial ☐ On-site Trench Burial
☐ Alternative Closure Method

14.

Waste Excavation and Removal Closure Plan Checklist: (19.15.17.13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.13 NMAC
☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.

Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 25 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is between 25-50 feet below the bottom of the buried waste - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Ground water is more than 100 feet below the bottom of the buried waste. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input type="checkbox"/> No <input type="checkbox"/> NA
Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within 300 feet of a wetland. US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance	

adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- Written confirmation or verification from the municipality; Written approval obtained from the municipality

☐ Yes ☐ No

Within the area overlying a subsurface mine.

- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division

☐ Yes ☐ No

Within an unstable area.

- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

16.

On-Site Closure Plan Checklist: (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection E of 19.15.17.13 NMAC
- ☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K of 19.15.17.11 NMAC
- ☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.

Operator Application Certification:

I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

18.

OCD Approval: ☐ Permit Application (including closure plan) ☐ Closure Plan (only) ☐ OCD Conditions (see attachment)

OCD Representative Signature: Joel Stone Approval Date: 03/07/2025

Title: Environmental Scientist & Specialist-A OCD Permit Number: BGT1

19.

Closure Report (required within 60 days of closure completion): 19.15.17.13 NMAC

Instructions: Operators are required to obtain an approved closure plan prior to implementing any closure activities and submitting the closure report. The closure report is required to be submitted to the division within 60 days of the completion of the closure activities. Please do not complete this section of the form until an approved closure plan has been obtained and the closure activities have been completed.

☒ Closure Completion Date: 12/17/2024

20.

Closure Method:

- ☒ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method ☐ Waste Removal (Closed-loop systems only)
- ☐ If different from approved plan, please explain.

21.

Closure Report Attachment Checklist: *Instructions: Each of the following items must be attached to the closure report. Please indicate, by a check mark in the box, that the documents are attached.*

- ☒ Proof of Closure Notice (surface owner and division)
- ☐ Proof of Deed Notice (required for on-site closure for private land only)
- ☒ Plot Plan (for on-site closures and temporary pits)
- ☒ Confirmation Sampling Analytical Results (if applicable)
- ☒ Waste Material Sampling Analytical Results (required for on-site closure)
- ☒ Disposal Facility Name and Permit Number
- ☒ Soil Backfilling and Cover Installation
- ☒ Re-vegetation Application Rates and Seeding Technique
- ☒ Site Reclamation (Photo Documentation)

On-site Closure Location: Latitude _____ Longitude _____ NAD: ☐ 1927 ☐ 1983

22.

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): Kevin Smaka, PE Title: Regulatory Engineer

Signature: Kevin Smaka Date: March 3, 2025

e-mail address: Kevin.Smaka@duganproduction.com Telephone: 505-325-1821 x 1049

Dugan Production Corp.

Tsah Tah SWD # 036

BGT Closure Report

API# 30-045-33942

F-36-25N-10W

1800 FNL 1360 FWL

Surface Owner: State

Dugan Production Corp. has closed the BGT located at the Tsah Tah SWD # 036 well location. The plan / procedure followed was included in the Below Grade Tank Permit Application, approved by the NM OCD on March 20, 2012, and updated to meet the June 28, 2023, NMAC 19.15.17 compliance standards.

A copy of the lab results is included with this report. A copy of the report is included in **Appendix B**. A tabulation of the results is found here:

Squaw Valley #001	BTEX (mg/kg)	TPH (mg/kg)	Chlorides (mg/kg)
Composite Sample	0	96	410

Dugan commenced closure activities on 12/17/2024 by the following procedure:

- Dugan notified the BLM and the New Mexico Oil Conservation Division (NM OCD) via email of the closure within 72 hours of the BGT closure. **Appendix A**
- Depth to groundwater is approximately 250 feet from surface. Groundwater depth was determined from the Hydrogeologic Report submitted in the 2008 below grade tank application. Information for current well water depth was accessed via the New Mexico Office of the State Engineer (NMOSE) iWaters database and the USGS well data. **Appendix C.**
- During a BGT inspection, the existing below-grade tank did not demonstrate integrity. Dugan promptly drained the below-grade tank, removed it from service and complied with the closure requirements of 19.15.17.13 NMAC. Dugan personnel opted to replace the compromised below grade tank with a new like-in-kind vessel. Dugan then collected soil samples beneath the BGT base to ensure the area did not contain any hazardous waste. The

laboratory results conclude that the area met the closure criteria for soil beneath below-grade tanks in Table 1 of 19.15.17.13 NMAC.

- Dugan removed the contents of the steel pit, pit liner, and sampled the soils below the BGT. The soil samples were collected using a five-point composite sample to include any obvious stained, wet soils, or evidence of contamination. Soil samples were collected at a depth of 10' below grade surface. Soil samples were taken to Eurofins Albuquerque in Albuquerque, NM and analyzed for chlorides, benzene, toluene, ethyl benzene, xylene, and total petroleum hydrocarbons. **Appendix B**
- The laboratory analytical results for the composite soil samples did not detect any benzene, ethyl benzene, toluene, and xylene. Total TPH GRO/DRO/MRO detected at a concentration of 96 mg/kg, respectively, which is less than the NM EMNRD OCD closure criteria of 2,500 mg/kg. Chloride, also detected at a concentration of 410 mg/kg, respectfully, which is less than the NM EMNRD OCD closure criteria of 20,000 mg/kg.
- The existing below grade tank vault will be utilized for the new tank placement. The foundation has been reclaimed to ensure the construction is in accordance with Subsection I of 19.15.17.11 NMAC; constructed foundation consisting of a level base free of rocks, debris, sharp edges, or irregularities to prevent punctures, cracks or indentations of the liner or tank bottom. No further reclamation of the area will occur until the below grade tank is no longer required for process operations. Once the below grade tank can be removed the site will be reclaimed in accordance with the 19.15.17.13 NMAC standards.
- This report has been completed to comply with the 60 days of closure completion closure report required by the 19.15.17 NMAC Rule.

Below is a list of disposal facilities.

Solid waste will be hauled to Envirotech:

Envirotech: Permit #NM01-0011 and IEI: Permit # NM01-0010B

Liquid waste would have been hauled to Dugan's SOB SWD facility:

Dugan's Sanchez O'Brien SWD #1 (Permit # SWD-694)

Please see **Appendix D** for Site Photos.

Appendix A: Notification

BGT Closure Notification

From: Kevin Smaka
Sent: Monday, December 16, 2024 8:17 AM
To: 'eco@slo.state.nm.us' <eco@slo.state.nm.us>; 'Barr, Leigh, EMNRD' <leighp.barr@emnrd.nm.gov>
Cc: Tyra Feil <Tyra.Feil@duganproduction.com>; Eileen Medrano <Eileen.Medrano@duganproduction.com>; Neil Haws <Neil.Haws@duganproduction.com>; Cameron Collier <Cameron.Collier@duganproduction.com>; 'james@jakdsolutions.com' <james@jakdsolutions.com>
Subject: RE: Notice of Sampling Tsah Tah SWD 36

Dugan will be changing our sample time at this site from 10:00 AM to 1:00 PM.

Kevin Smaka P.E.
Regulatory Engineer
Dugan Production Corp
505-486-6207

From: Kevin Smaka
Sent: Thursday, December 12, 2024 1:18 PM
To: 'eco@slo.state.nm.us' <eco@slo.state.nm.us>; 'Barr, Leigh, EMNRD' <leighp.barr@emnrd.nm.gov>
Cc: Tyra Feil <Tyra.Feil@duganproduction.com>; Eileen Medrano <Eileen.Medrano@duganproduction.com>; Neil Haws <Neil.Haws@duganproduction.com>; Cameron Collier <Cameron.Collier@duganproduction.com>; 'james@jakdsolutions.com' <james@jakdsolutions.com>
Subject: Notice of Sampling Tsah Tah SWD 36

Dugan will collect soil samples this coming Tuesday, 12/17/2024 at 10:00 AM, as part of a BGT closure.

Here is the sites information:

30-045-33942 TSAH TAH SWD #036 [327227]

General Well Information	
Operator:	(8515) DUGAN PRODUCTION CORP
Status:	Active
Well Type:	Salt Water Disposal
Work Type:	New
Surface Location:	F-36-25N-10W 1800 FNL 1360 FWL
Lat/Long:	36.3598938,-107.8524857 NAD83
GL Elevation:	6745
KB Elevation:	
DF Elevation:	

Please contact me should you have questions.

Kevin Smaka P.E.
Regulatory Engineer
Dugan Production Corp
505-486-6207

Appendix B: Lab Results



Environment Testing

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ANALYTICAL REPORT

PREPARED FOR

Attn: James McDaniel
JAKD Solutions
3811 Crestridge Dr
Farmington, New Mexico 87401

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JOB DESCRIPTION

TSAH TAH SWD 36

JOB NUMBER

885-17175-1


Eurofins Albuquerque
4901 Hawkins NE
Albuquerque NM 87109

See page two for job notes and contact information.

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Appendix B: Lab Results

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The test results in this report relate only to the samples as received by the laboratory and will meet all requirements of the methodology, with any exceptions noted. This report shall not be reproduced except in full, without the express written approval of the laboratory. All questions should be directed to the Eurofins Environment Testing South Central, LLC Project Manager.		3
Authorization		4
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Generated 12/27/2024 2:49:04 PM		6
Authorized for release by Michelle Garcia, Project Manager michelle.garcia@et.eurofinsus.com (505)345-3975		7
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Appendix B: Lab Results

Client: JAKD Solutions
Project/Site: TSAH TAH SWD 36

Laboratory Job ID: 885-17175-1

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Appendix B: Lab Results

Definitions/Glossary

Client: JAKD Solutions

Job ID: 885-17175-1

Project/Site: TSAH TAH SWD 36

Glossary

Abbreviation	These commonly used abbreviations may or may not be present in this report.
☼	Listed under the "D" column to designate that the result is reported on a dry weight basis
%R	Percent Recovery
CFL	Contains Free Liquid
CFU	Colony Forming Unit
CNF	Contains No Free Liquid
DER	Duplicate Error Ratio (normalized absolute difference)
Dil Fac	Dilution Factor
DL	Detection Limit (DoD/DOE)
DL, RA, RE, IN	Indicates a Dilution, Re-analysis, Re-extraction, or additional Initial metals/anion analysis of the sample
DLC	Decision Level Concentration (Radiochemistry)
EDL	Estimated Detection Limit (Dioxin)
LOD	Limit of Detection (DoD/DOE)
LOQ	Limit of Quantitation (DoD/DOE)
MCL	EPA recommended "Maximum Contaminant Level"
MDA	Minimum Detectable Activity (Radiochemistry)
MDC	Minimum Detectable Concentration (Radiochemistry)
MDL	Method Detection Limit
ML	Minimum Level (Dioxin)
MPN	Most Probable Number
MQL	Method Quantitation Limit
NC	Not Calculated
ND	Not Detected at the reporting limit (or MDL or EDL if shown)
NEG	Negative / Absent
POS	Positive / Present
PQL	Practical Quantitation Limit
PRES	Presumptive
QC	Quality Control
RER	Relative Error Ratio (Radiochemistry)
RL	Reporting Limit or Requested Limit (Radiochemistry)
RPD	Relative Percent Difference, a measure of the relative difference between two points
TEF	Toxicity Equivalent Factor (Dioxin)
TEQ	Toxicity Equivalent Quotient (Dioxin)
TNTC	Too Numerous To Count

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Appendix B: Lab Results

Client: JAKD Solutions Project: TSAH TAH SWD 36		Job ID: 885-17175-1	1
Job ID: 885-17175-1		Eurofins Albuquerque	2
Job Narrative 885-17175-1			3
Analytical test results meet all requirements of the associated regulatory program listed on the Accreditation/Certification Summary Page unless otherwise noted under the individual analysis. Data qualifiers and/or narrative comments are included to explain any exceptions, if applicable.			4
<ul style="list-style-type: none">Matrix QC may not be reported if insufficient sample is provided or site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD may be performed, unless otherwise specified in the method.Surrogate and/or isotope dilution analyte recoveries (if applicable) which are outside of the QC window are confirmed unless attributed to a dilution or otherwise noted in the narrative.			5
Regulated compliance samples (e.g. SDWA, NPDES) must comply with the associated agency requirements/permits.			6
Receipt The sample was received on 12/18/2024 6:35 AM. Unless otherwise noted below, the sample arrived in good condition, and, where required, properly preserved and on ice. The temperature of the cooler at receipt time was 0.8°C.			7
Gasoline Range Organics No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.			8
GC VOA No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.			9
Diesel Range Organics No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.			10
HPLC/IC No additional analytical or quality issues were noted, other than those described above or in the Definitions/ Glossary page.			11

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Appendix B: Lab Results

Client Sample Results

Client: JAKD Solutions

Job ID: 885-17175-1

Project/Site: TSAH TAH SWD 36

Client Sample ID: BGT Bottom

Lab Sample ID: 885-17175-1

Date Collected: 12/17/24 13:30

Matrix: Solid

Date Received: 12/18/24 06:35

Method: SW846 8015M/D - Gasoline Range Organics (GRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		4.7	mg/Kg	-	12/18/24 15:46	12/21/24 16:14	1
Surrogate								
4-Bromofluorobenzene (Surr)	117		35 - 166			12/18/24 15:46	12/21/24 16:14	1

Method: SW846 8021B - Volatile Organic Compounds (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.024	mg/Kg	-	12/18/24 15:46	12/21/24 16:14	1
Ethylbenzene	ND		0.047	mg/Kg	-	12/18/24 15:46	12/21/24 16:14	1
Toluene	ND		0.047	mg/Kg	-	12/18/24 15:46	12/21/24 16:14	1
Xylenes, Total	ND		0.095	mg/Kg	-	12/18/24 15:46	12/21/24 16:14	1
Surrogate								
4-Bromofluorobenzene (Surr)	102		48 - 145			12/18/24 15:46	12/21/24 16:14	1

Method: SW846 8015M/D - Diesel Range Organics (DRO) (GC)

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Diesel Range Organics [C10-C28]	ND		9.9	mg/Kg	-	12/19/24 10:31	12/23/24 22:53	1
Motor Oil Range Organics [C28-C40]	96		50	mg/Kg	-	12/19/24 10:31	12/23/24 22:53	1
Surrogate								
Di-n-octyl phthalate (Surr)	99		62 - 134			12/19/24 10:31	12/23/24 22:53	1

Method: EPA 300.0 - Anions, Ion Chromatography

Analyte	Result	Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	410		60	mg/Kg	-	12/19/24 11:10	12/19/24 19:51	20

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Appendix B: Lab Results

QC Sample Results

Client: JAKD Solutions

Job ID: 885-17175-1

Project/Site: TSAH TAH SWD 36

Method: 8015M/D - Gasoline Range Organics (GRO) (GC)

Lab Sample ID: MB 885-18059/1-A

Matrix: Solid

Analysis Batch: 18273

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 18059

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Gasoline Range Organics (GRO)-C6-C10	ND		5.0	mg/Kg		12/18/24 15:46	12/21/24 11:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	96		35 - 166	12/18/24 15:46	12/21/24 11:07	1

Lab Sample ID: LCS 885-18059/2-A

Matrix: Solid

Analysis Batch: 18273

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 18059

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Gasoline Range Organics (GRO)-C6-C10	25.0	22.5		mg/Kg		90	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	184		35 - 166

Method: 8021B - Volatile Organic Compounds (GC)

Lab Sample ID: MB 885-18059/1-A

Matrix: Solid

Analysis Batch: 18272

Client Sample ID: Method Blank

Prep Type: Total/NA

Prep Batch: 18059

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Benzene	ND		0.025	mg/Kg		12/18/24 15:46	12/21/24 11:07	1
Ethylbenzene	ND		0.050	mg/Kg		12/18/24 15:46	12/21/24 11:07	1
Toluene	ND		0.050	mg/Kg		12/18/24 15:46	12/21/24 11:07	1
Xylenes, Total	ND		0.10	mg/Kg		12/18/24 15:46	12/21/24 11:07	1

Surrogate	MB %Recovery	MB Qualifier	Limits	Prepared	Analyzed	Dil Fac
4-Bromofluorobenzene (Surr)	98		48 - 145	12/18/24 15:46	12/21/24 11:07	1

Lab Sample ID: LCS 885-18059/3-A

Matrix: Solid

Analysis Batch: 18272

Client Sample ID: Lab Control Sample

Prep Type: Total/NA

Prep Batch: 18059

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Benzene	1.00	1.10		mg/Kg		110	70 - 130
Ethylbenzene	1.00	1.11		mg/Kg		111	70 - 130
Toluene	1.00	1.13		mg/Kg		113	70 - 130
Xylenes, Total	3.00	3.26		mg/Kg		109	70 - 130

Surrogate	LCS %Recovery	LCS Qualifier	Limits
4-Bromofluorobenzene (Surr)	101		48 - 145

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Appendix B: Lab Results

QC Sample Results

Client: JAKD Solutions

Job ID: 885-17175-1

Project/Site: TSAH TAH SWD 36

Method: 300.0 - Anions, Ion Chromatography

Lab Sample ID: MB 885-18108/1-A

Client Sample ID: Method Blank

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 18074

Prep Batch: 18108

Analyte	MB Result	MB Qualifier	RL	Unit	D	Prepared	Analyzed	Dil Fac
Chloride	ND		3.0	mg/Kg		12/19/24 11:10	12/19/24 12:02	1

Lab Sample ID: LCS 885-18108/2-A

Client Sample ID: Lab Control Sample

Matrix: Solid

Prep Type: Total/NA

Analysis Batch: 18074

Prep Batch: 18108

Analyte	Spike Added	LCS Result	LCS Qualifier	Unit	D	%Rec	%Rec Limits
Chloride	30.0	29.6		mg/Kg		99	90 - 110

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Appendix B: Lab Results

QC Association Summary

Client: JAKD Solutions

Job ID: 885-17175-1

Project/Site: TSAH TAH SWD 36

GC VOA

Prep Batch: 18059

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17175-1	BGT Bottom	Total/NA	Solid	5030C	
MB 885-18059/1-A	Method Blank	Total/NA	Solid	5030C	
LCS 885-18059/2-A	Lab Control Sample	Total/NA	Solid	5030C	
LCS 885-18059/3-A	Lab Control Sample	Total/NA	Solid	5030C	

Analysis Batch: 18272

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17175-1	BGT Bottom	Total/NA	Solid	8021B	18059
MB 885-18059/1-A	Method Blank	Total/NA	Solid	8021B	18059
LCS 885-18059/3-A	Lab Control Sample	Total/NA	Solid	8021B	18059

Analysis Batch: 18273

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17175-1	BGT Bottom	Total/NA	Solid	8015M/D	18059
MB 885-18059/1-A	Method Blank	Total/NA	Solid	8015M/D	18059
LCS 885-18059/2-A	Lab Control Sample	Total/NA	Solid	8015M/D	18059

GC Semi VOA

Prep Batch: 18100

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17175-1	BGT Bottom	Total/NA	Solid	SHAKE	

Analysis Batch: 18344

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17175-1	BGT Bottom	Total/NA	Solid	8015M/D	18100

HPLC/IC

Analysis Batch: 18074

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17175-1	BGT Bottom	Total/NA	Solid	300.0	18108
MB 885-18108/1-A	Method Blank	Total/NA	Solid	300.0	18108
LCS 885-18108/2-A	Lab Control Sample	Total/NA	Solid	300.0	18108

Prep Batch: 18108

Lab Sample ID	Client Sample ID	Prep Type	Matrix	Method	Prep Batch
885-17175-1	BGT Bottom	Total/NA	Solid	300_Prep	
MB 885-18108/1-A	Method Blank	Total/NA	Solid	300_Prep	
LCS 885-18108/2-A	Lab Control Sample	Total/NA	Solid	300_Prep	

Eurofins Albuquerque

Appendix B: Lab Results

Lab Chronicle

Client: JAKD Solutions

Project/Site: TSAH TAH SWD 36

Job ID: 885-17175-1

Client Sample ID: BGT Bottom

Lab Sample ID: 885-17175-1

Date Collected: 12/17/24 13:30

Matrix: Solid

Date Received: 12/18/24 06:35

Prep Type	Batch Type	Batch Method	Run	Dilution Factor	Batch Number	Analyst	Lab	Prepared or Analyzed
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8015M/D		1	18273	JP	EET ALB	12/21/24 16:14
Total/NA	Prep	5030C			18059	JP	EET ALB	12/18/24 15:46
Total/NA	Analysis	8021B		1	18272	JP	EET ALB	12/21/24 16:14
Total/NA	Prep	SHAKE			18100	MI	EET ALB	12/19/24 10:31
Total/NA	Analysis	8015M/D		1	18344	DH	EET ALB	12/23/24 22:53
Total/NA	Prep	300_Prep			18108	JT	EET ALB	12/19/24 11:10
Total/NA	Analysis	300.0		20	18074	JT	EET ALB	12/19/24 19:51

Laboratory References:

EET ALB = Eurofins Albuquerque, 4901 Hawkins NE, Albuquerque, NM 87109, TEL (505)345-3975

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Appendix B: Lab Results

[illegible]

if necessary, samples submitted to Hall Environmental may be subcontracted to other accredited laboratories. This serves as notice of this possibility. Any sub-contracted data will be clearly notated on the analytical report.

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Appendix B: Lab Results

Login Sample Receipt Checklist

Client: JAKD Solutions

Job Number: 885-17175-1

Login Number: 17175

List Source: Eurofins Albuquerque

List Number: 1

Creator: Casarrubias, Tracy

Question	Answer	Comment
The cooler's custody seal, if present, is intact.	True	
Sample custody seals, if present, are intact.	True	
The cooler or samples do not appear to have been compromised or tampered with.	True	
Samples were received on ice.	True	
Cooler Temperature is acceptable.	True	
Cooler Temperature is recorded.	True	
COC is present.	True	
COC is filled out in ink and legible.	True	
COC is filled out with all pertinent information.	True	
Is the Field Sampler's name present on COC?	True	
There are no discrepancies between the containers received and the COC.	True	
Samples are received within Holding Time (excluding tests with immediate HTs)	True	
Sample containers have legible labels.	True	
Containers are not broken or leaking.	True	
Sample collection date/times are provided.	True	
Appropriate sample containers are used.	True	
Sample bottles are completely filled.	True	
Sample Preservation Verified.	N/A	
There is sufficient vol. for all requested analyses, incl. any requested MS/MSDs	True	
Containers requiring zero headspace have no headspace or bubble is <6mm (1/4").	True	
TCEQ Mtd 1005 soil sample was frozen/delivered for prep within 48H of sampling.	True	

Eurofins Albuquerque

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12/27/2024

Appendix C: Water Data

Figure 1: The Tsah Tah SED # 036 Hydrogeologic Report

Hydro geological report for Tsah Tah SWD #36

Regional Hydro geological context:

The Tsah Tah SWD #36 is located on New Mexico State land in a rolling sage brush expanse west of Highway 550 in San Juan Country New Mexico. The area surrounding the well is drained by numerous small arroyos that eventually drain to the Gallegos Wash.

A records search of the NM Office of the State Engineer – iWATERS database indicated that there are two wells with depth to ground water data available in the entire township. The closest water well reported was in Section 22, T25N, R10W which is approximately 2.0 miles northwest of the Tsah Tah SWD #36 location. This well was drilled to a depth of 250 feet with the top of the water column at 250'.

Geologic maps of the area indicate that the surface formation at the proposed well site is the San Jose formation. The San Jose Formation of Eocene age occurs in New Mexico and Colorado and its outcrop forms the land surface over much of the eastern half of the central basin. It overlies the Nacimiento Formation in the area generally south of the Colorado – New Mexico State line and overlies the Animas Formation in the area generally north of the State line.

The San Jose Formation was deposited in various fluvial-type environments. In general, the unit consists of an interbedded sequence of sandstone, siltstone and variegated shale. Thickness of the San Jose Formation generally increases from west to east (200 feet in the west and south to almost 2,700 feet in the center of the structural basin).

Ground water is associated with alluvial and fluvial sandstone aquifers. Thus, the occurrence of ground water is mainly controlled by the distribution of sandstone in the formation. The distribution of such sandstone is the result of original depositional extent plus any post-depositional modification, namely erosion and structural deformation. Transmissivity data for San Jose Formation are minimal. Values of 40 and 120 feet squared or measured discharge from 46 water wells completed in San Jose Formation ranges from 0.15 to 61 gallons per minute and the median is 5 gallons per minute. Most of the wells provide water for livestock and domestic use.

The San Jose Formation is a very suitable unit for recharge from precipitation because soils that form on the unit are sandy and highly permeable and therefore readily absorb precipitation. However, low annual precipitation, relatively high transpiration and evaporation rates, and deep dissection of the San Jose Formation by the San Juan River and its tributaries all tend to reduce the effective recharge of the unit.

Stone et al, 1983, Hydrogeology and Water Resources of the San Juan Basin, New Mexico Socorro, New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70p

Site specific information:

Surface hydrology:	The site is located at the top of the Da-Na-Zin watershed and is drained by a number of small intermittent drainages
1st water-bearing formation:	San Jose, tertiary
Formation thickness:	200 - 700 feet
Underlying formation:	Nacimiento, Tertiary
Depth to groundwater:	The closest well has a depth to groundwater of 250'.

Appendix C: Water Data

Figure 2: USGS Water Data

USGS 362108107541201 25N.10W.33.34233

San Juan County, New Mexico

Latitude 36°21'08.06", Longitude 107°54'15.16" NAD83

Land-surface elevation 6,845 feet above NAVD88

The depth of the well is 5,398 feet below land surface.

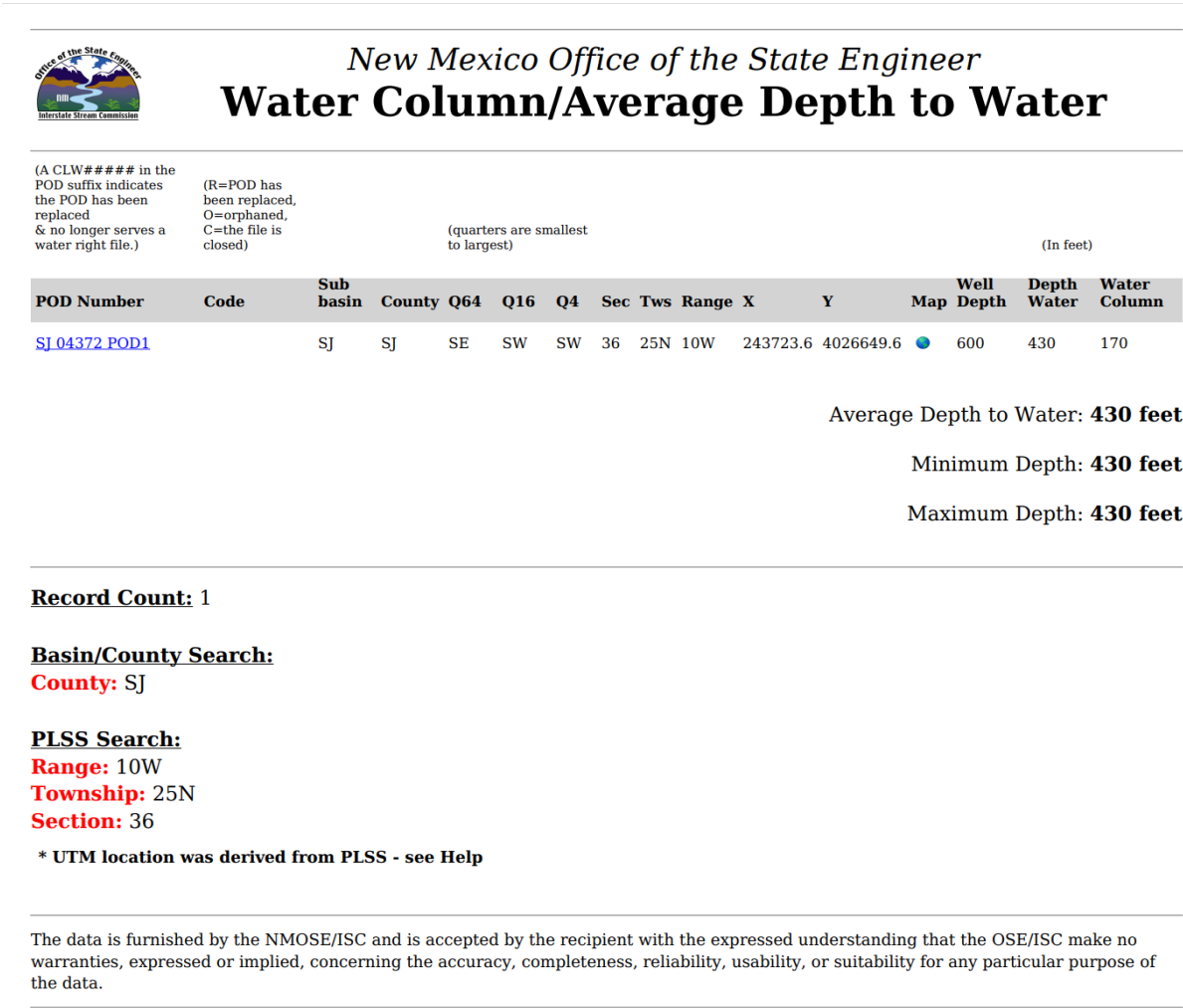
The depth of the hole is 5,450 feet below land surface.

This well is completed in the Colorado Plateaus aquifers (N300COPLTS) national aquifer.

Date	Time	Water-level date-time accuracy	Parameter code	Water level, feet below land surface
1986-05-15		D	62610	
1986-05-15		D	62611	
1986-05-15		D	72019	846.00
2019-05-28	20:47 UTC	m	62610	
2019-05-28	20:47 UTC	m	62611	
2019-05-28	20:47 UTC	m	72019	916.85

Appendix C: Water Data

Figure 3: NMOSE iWaters Data



Appendix D: Site Photo

Photo 1: Soil Beneath Liner - East Corner of Tank Berm Area



Photo 2: Soil Beneath Liner – Middle Section of Tank Berm Area



Appendix D: Site Photo

Photo 3: Soil Beneath Liner – South East Corner of Berm Area



Photo 4: Soil Beneath Liner – North West Corner of Berm Area



Appendix D: Site Photo

Photo 5: Below Grade Tank Berm Area After Liner Removal



Appendix D: Site Photo

Photo 6: New Tank Photo



Photo 6: On-Site Form

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Sante Fe Main Office
Phone: (505) 476-3441

General Information
Phone: (505) 629-6116

Online Phone Directory
<https://www.emnrd.nm.gov/ocd/contact-us>

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

CONDITIONS

Action 438286

CONDITIONS

Operator: DUGAN PRODUCTION CORP PO Box 420 Farmington, NM 87499	OGRID: 6515
	Action Number: 438286
	Action Type: [C-144] Below Grade Tank Plan (C-144B)

CONDITIONS

Created By	Condition	Condition Date
joel.stone	Upon the cessation of all production operations in the area associated with well API 30-045-33942 (Tsah Tah SWD #036), the operator shall complete the requirements of 19.15.17.13 NMAC for the area associated with this below-grade tank and notify the OCD when restoration, reclamation, and re-vegetation are complete.	3/7/2025