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-147
Revised April 3, 2017

Recycling Facility and/or Recycling Containment

Type of Facility: [X] Recycling Facility [X] Recycling Containment*

Type of action: [X] Permit [X] Registration
[ ] Modification [ ] Extension
[ ] Closure [ ] Other (explain) _____

*** At the time C-147 is submitted to the division for a Recycling Containment, a copy shall be provided to the surface owner.**

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: **Enduring Resources, LLC** (For multiple operators attach page with information) OGRID #: **372286**

Address: **200 Energy Court, Farmington, New Mexico 87401**

Facility or well name (include API# if associated with a well): **W Escavada Unit 300H**

OCD Permit Number: _____ (For new facilities the permit number will be assigned by the district office)

U/L or Qtr/Qtr **A** Section **17** Township **22N** Range **7W** County: **Sandoval**

Surface Owner: [ ] Federal [ ] State [ ] Private [X] Tribal Trust or Indian Allotment

2.

[X] **Recycling Facility:**

Location of recycling facility (if applicable): Latitude **36.143847** Longitude **-107.589762** NAD83

Proposed Use: [X] Drilling* [X] Completion* [X] Production* [X] Plugging *

The re-use of produced water may NOT be used until fresh water zones are cased and cemented*

[ ] Other, ***requires permit for other uses. Describe use, process, testing, volume of produced water and ensure there will be no adverse impact on groundwater or surface water.***

[X] Fluid Storage

[X] Above ground tanks [X] Recycling containment [ ] Activity permitted under 19.15.17 NMAC explain type_____

[ ] Activity permitted under 19.15.36 NMAC explain type:_____ [ ] Other explain _____

[ ] For multiple or additional recycling containments, attach design and location information of each containment

[ ] **Closure Report (required within 60 days of closure completion):** [ ] Recycling Facility Closure Completion Date:_____

3.

[X] **Recycling Containment:**

[ ] Annual Extension after initial 5 years (attach summary of monthly leak detection inspections for previous year)

Center of Recycling Containment (if applicable): Latitude **36.143847** Longitude **-107.589762** NAD83

[X] For multiple or additional recycling containments, attach design and location information of each containment

[X] Lined [ ] Liner type: Thickness **45** mil [X] LLDPE [ ] HDPE [ ] PVC [X] Other: **Secondary liner - 30 mil**

[X] String-Reinforced

Liner Seams: [X] Welded [ ] Factory [ ] Other _____ Volume: **50,000 & 60,000** bbl Dimensions: Radius _____ x Height _____ *See attachments*

[ ] Recycling Containment Closure Completion Date:_____

4.

Bonding:

☒ Covered under bonding pursuant to 19.15.8 NMAC per 19.15.34.15(A)(2) NMAC **(These containments are limited to only the wells owned or operated by the owners of the containment.)**

☐ Bonding in accordance with 19.15.34.15(A)(1). Amount of bond $_____ **(work on these facilities cannot commence until bonding amounts are approved)**

☐ Attach closure cost estimate and documentation on how the closure cost was calculated.

5.

Fencing:

☒ Four foot height, four strands of barbed wire evenly spaced between one and four feet

☐ Alternate. Please specify_____

6.

Signs:

☒ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers

☐ Signed in compliance with 19.15.16.8 NMAC

7.

Variances:

Justifications and/or demonstrations that the proposed variance will afford reasonable protection against contamination of fresh water, human health, and the environment.

Check the below box only if a variance is requested:

☐ Variance(s): Requests must be submitted to the appropriate division district for consideration of approval. If a Variance is requested, include the variance information on a separate page and attach it to the C-147 as part of the application.

If a Variance is requested, it must be approved prior to implementation.

8.

Siting Criteria for Recycling Containment

Instructions: The applicant must provide attachments that demonstrate compliance for each siting criteria below as part of the application. Potential examples of the siting attachment source material are provided below under each criteria.

General siting

Ground water is less than 50 feet below the bottom of the Recycling Containment. 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. - Written confirmation or verification from the municipality; written approval obtained from the municipality	☐ Yes ☒ No ☐ NA
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Minerals 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
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

9.
Recycling Facility and/or Containment Checklist:
Instructions: Each of the following items must be attached to the application. Indicate, by a check mark in the box, that the documents are attached.

- [X] Design Plan - based upon the appropriate requirements.
- [X] Operating and Maintenance Plan - based upon the appropriate requirements.
- [X] Closure Plan - based upon the appropriate requirements.
- [X] Site Specific Groundwater Data -
- [X] Siting Criteria Compliance Demonstrations –
- [X] **Certify that notice of the C-147 (only) has been sent to the surface owner(s)**

10.
Operator Application Certification:
I hereby certify that the information and attachments submitted with this application are true, accurate and complete to the best of my knowledge and belief.

Name (Print): Alex Campbell Title: Vice President

Signature: Date: 07/28/2021

e-mail address: acampbell@enduringresources.com Telephone: (303)929-8429

11.
OCD Representative Signature: **Approval Date:**

Title: **OCD Permit Number:**

- [ ] OCD Conditions
- [ ] Additional OCD Conditions on Attachment

C-147 Registration Package

Prepared for

ENDURING RESOURCES, LLC

Enduring Resources, LLC
200 Energy Court
Farmington, NM 87401
Phone #: (303)929-8429
www.enduringresources.com

Developed by

EIS
Energy Inspection Services

479 Wolverine Drive #9
Bayfield, Colorado 81122
Phone: (970) 881-4080

TABLE OF CONTENTS

1. INTRODUCTION

Applicant	Enduring Resources, LLC
Project Name	W Escavada Unit 300H
Project Type	Recycling Facility Permit & Recycling Containment Registration
Legal Location	Section 17 of T22N, R7W of Sandoval County, NM
Lease Number(s)	

In accordance with NMAC 19.15.34, Enduring Resources, LLC requests the registration of the proposed Recycling Containment and Recycling Facility through the approval of this C-147 registration and permit package. The facility and containments will be used to treat and recycle produced water for re-use in Enduring Resources, LLC's drilling and completion activities.

This package contains the C-147 form and associated documents for registration of the W Escavada Unit 300H.

2. SITING CRITERIA

2.1. Distance to Groundwater

A test well was drilled by Mo-Te Drilling on the proposed W Escavada Unit 300H on September 18, 2018, per the attached Drilling Log which indicates a groundwater depth greater than 50'. The proposed containment would be an Above Ground Storage Tank (AST). Therefore, the groundwater depth is greater than 50 feet below the bottom of the recycling containment (See Section 6 – iWaters Report and Ground Water Test Well).

2.2. Distance to Surface Water

There are not any continuously flowing watercourses within 300' nor any other significant watercourse and lakebed or playa lake within 200' of the recycling containment as shown on the Aerial or Topo maps provided (See Maps in Section 7).

2.3. Distance to Structures

There are no permanent residence, school, hospital, institution or church at the time of initial registration within 1000' of the recycling containment as shown on the Aerial and Topo maps provided.

2.4. Distance to Non-Public Water Supply

There are no springs or freshwater wells used for domestic or stock water purposes within 500' in existence at the time of initial registration as shown on the Aerial and Topo maps provided.

2.5. Distance to Municipal Boundaries and Defined Fresh Water Fields

The recycling facility is not within any incorporated municipal boundaries within a defined municipal fresh water well field covered by a municipal ordinance adopted pursuant to Section 3-27-3 NMSA 1978, as amended.

2.6. Distance to Subsurface Mines

The recycling containment is not located in an "unstable" area. The location is not over a mine and is not on the side of a hill. There will be no excavated surface material, and as such, no material will be located within 100 feet of a continuously flowing or significant watercourse. According to the NM EMNRD Mining and Mineral Divisions database there are no subsurface mines in Section 17 of T22N, R7W in Sandoval County, New Mexico.

2.7 Distance to 100-Year Floodplain

The W Escavada Unit 300H is not located within a 100-year floodplain as demonstrated on the FEMA Map in Section 7.

3. Design and Construction Plan

In accordance with Rule 19.15.34 the following information describes the design and construction of the recycling containment on W Escavada Unit 300H location.

The Design and Construction Plan assists Enduring Resources, LLC personnel in ensuring compliance with the minimum design and construction requirements for recycling containments as defined by the NMOCD outlined in 19.15.34.12 NMAC. The plan applies to any Enduring Resources, LLC Employee(s) and subcontractor(s) whose job requires them to assist with the design and construction of the recycling containment. The plan is designed to ensure compliance with the minimum design and construction requirements for recycling containments as defined by the NMOCD outlined in 19.15.34.12 NMAC.

Enduring Resources, LLC shall design and construct a recycling containment in accordance with the following specifications.

3.1 Foundation Construction

The containment will be construction on an existing WEU 300H pad location, which is level and vacant. The pad is clear of all topsoil and will not require topsoil removal or any ground disturbing work to construct the containment.

The recycling containment will have a properly constructed foundation consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear. The containment will ensure confinement of produced water, to prevent releases and to prevent overtopping due to wave action or rainfall. A geotextile under the liner will be used to reduce the localized stress-strain or protuberances that otherwise may compromise the liner's integrity. The containment is above ground and will not be subject to water run-on.

3.2 Liner Construction

W Escavada Unit 300H recycling containment shall incorporate, a primary (upper) liner and a secondary (lower) liner with a leak detection system. The primary (upper) liner will be a 45-mil LLDPE string reinforced liner resistant to UV light, petroleum hydrocarbons, salt and acidic/alkaline solutions. Liner compatibility meets the conductivity requirement of 1 x 10^{-9} cm/ sec.

The secondary liner will be a 30-mil LLDPE string reinforced liner that is composed of material that is resistant to ultraviolet light, petroleum hydrocarbons, salt solutions, acidic solutions and alkaline solutions. Liner compatibility meets the conductivity requirement of 1 x 10^{-9} cm/sec. Both liners will be used for initial leak detection and shall cover the bottom and sides of the containment including the minimum three (3) feet of freeboard per NMOCD 19.15.17.11.G.9. This containment is an above grade tank, and the liners will be secured to the top of the AST using steel bolts.

Liner material will be factory welded by the manufacturer qualified personnel. The liner material will overlap a minimum of 4 inches. No horizontal seam will be placed within 5 feet of the slopes toe. All welding and testing will be completed by qualified personnel.

External discharge or suction lines will not penetrate the line. The liner will be protected from excessive hydrostatic force and potential mechanical damage, and the point of discharge and suction from the containment is specifically designed to eliminate damage from suction or discharge in and out of the containment.

3.3 Leak Detection System

The containment has been designed with a leak detection system made up of a conductive geo-composite material at least 200mm thick. The AST is comprised of a 30-mil liner base, with a 200 mm geocomposite material for leak detection, and overlaid with an additional 45 mil liner. The bottom of the containment will have a 6" PVC pipe inserted between the liners. The pipe will be checked during the weekly inspection for the presence of water using a water level meter. In the event water is detected in the leak detection sump, the water will be immediately pumped out to determine if the water will return.

3.4 Signage

Enduring Resources, LLC will sign the containment with an upright sign no less than 12" by 24" with lettering not less than 2" in height in a conspicuous place near the containment. Enduring Resources, LLC will provide the operator's name, location of the containment by quarter-quarter or unit letter, Section, Township, Range and emergency telephone numbers.

3.5 Entrance Protection

Enduring Resources, LLC will surround the containment with the required fencing structure per 19.15.34.12.D.1&2. All gates leading in and out of the containment will be closed and locked when personnel are not on-site. The fencing will be kept in good repair and shall be inspected as part of the weekly inspection performed at the containment facility.

3.6 Wildlife Protection

Enduring Resources, LLC will utilize the Above Ground Storage Tank's bird netting provided with the AST by the contractor. The containment will be inspected weekly for dead migratory birds and will be reported accordingly.

4. Maintenance and Operating Plan

In accordance with Rule 19.15.34 the following information describes the operation and maintenance of recycling containments on Enduring's locations.

4.1 Inspection Timing

Enduring Resources, LLC shall inspect the recycling containment and associated leak detection systems weekly while it contains fluids. A current log of inspections will be maintained, and the log will be made available for review upon division request. If fluids are found in the sump, the fluids will be sampled and then pumped out.

4.2 Maintenance

1. Enduring Resources, LLC shall maintain and operate the recycling containment as follows:
   A. Removing any visible layer of oil from the surface of the containment.
   B. Maintaining at least 3' of freeboard at each containment
   C. The injection or withdrawal of fluids from the containment shall be accomplished through a header, diverter or other hardware that prevents damage to the liner by erosion, fluid jets, or impact from installation and removal of hoses and pipes
   D. If the containment's primary liner is compromised above the fluid's surface, Enduring Resources, LLC will repair the damage or initiate replacement of the primary liner within 48 hours of discovery or seek an extension from the division district office.
   E. If the primary liner is compromised below the fluid's surface, Enduring Resources, LLC will remove all fluid above the damage or leak within 48 hours of discovery, notify the divisions district office and repair the damage or replace the primary liner.
   F. The containment will be operated in such a way to prevent the collection of surface water.
   G. Enduring Resources, LLC will install, or maintain on site, an oil absorbent boom or other device to contain an unanticipated release.
   H. Enduring Resources, LLC will not store or discharge any hazardous waste at the facility or within the containment.

4.3 Cessation of Operations

Enduring Resources, LLC will report the cessation of operations or if less than 20% of the total fluid capacity is used every six months following the first withdrawal of produced water for use to the appropriate division district office. If additional time is needed for closure, Enduring Resources, LLC will request an extension from the appropriate division district office prior to the expiration of the initial six month time period.

5. Closure Plan

In accordance with Rule 19.15.34.14 the following information describes the closure requirements of recycling containments on Enduring Resources, LLC locations.

All closure activities will include proper documentation and be available for review upon request and will be submitted to the OCD within 60 days of closure. Closure report will be filed on C-147 and incorporate the following:

- Details on capping and covering, where applicable
- Inspection Reports
- Sampling Results

Once Enduring Resources, LLC has ceased operations, all fluids will be removed within 60 days and the containment shall be closed within six months.

5.1 Fluid Removal

The containment will be closed by first removing all fluids and containment contents. All synthetic liners and associated leak detection equipment will be removed and disposed of at a division-approved facility. All other equipment associated with the continued operation of the recycling containment will be removed from the location.

5.2 Soil Sampling

Enduring Resources, LLC will test the soils beneath the containment for contamination with a five-point composite sample which includes stained or wet soils, if any, and that sample shall be analyzed for the constituents listed in Table I below:

Components	Test Method	51' - 100' GW Depth Limit (mg/kg)	>100' GW Depth Limit (mg/kg)
Chloride	EPA 300.0	10,000	20,000
TPH (GRO+DRO+MRO)	EPA SW-846 Method 8015M	2,500	2,500
GRO + DRO	EPA SW-846 Method 8015M	1,000	1,000
BTEX	EPA SW-846 Method 8021B or 8260B	50	50
Benzene	EPA SW-846 Method 8021B or 8260B	10	10

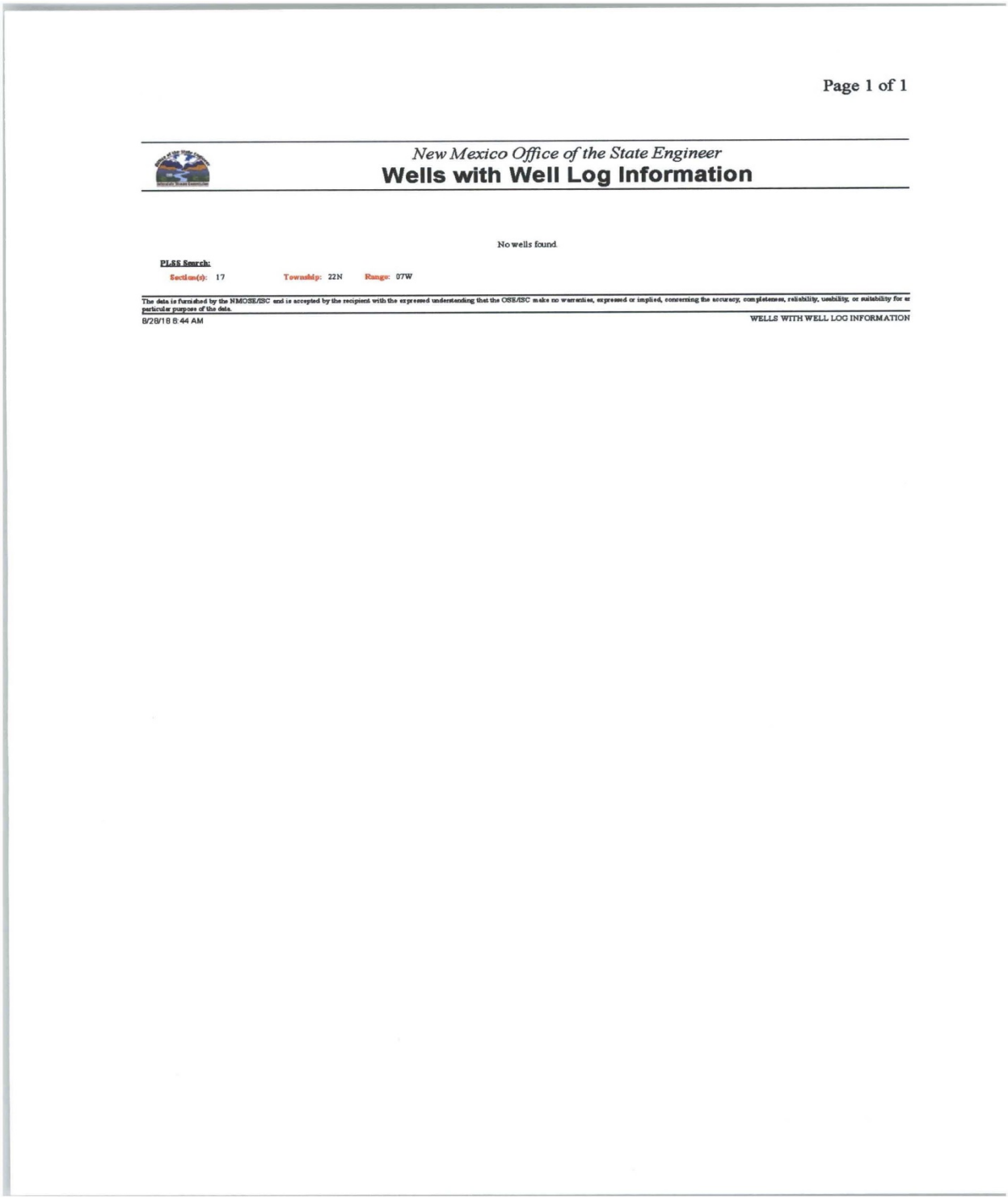
a. If any containment concentration is higher than the parameters listed in Table I, Enduring Resources, LLC will receive approval before proceeding with closures as the division may require additional delineation upon review of the results.

b. If all contaminant concentrations are less than or equal to the parameters listed in Table I then Enduring Resources, LLC will proceed to backfill with non-waste containing, uncontaminated, earthen material.

5.3 Reclamation

The containment will be an above ground AST on an existing pad that will be used for future oil and gas development. The location will not require backfill or reclamation at this time, as the pad will be used for the continued development of the Enduring lease in this area.

6. iWATERS REPORT & GROUNDWATER TEST WELL



Page 1 of 1

New Mexico Office of the State Engineer

Wells with Well Log Information

No wells found.

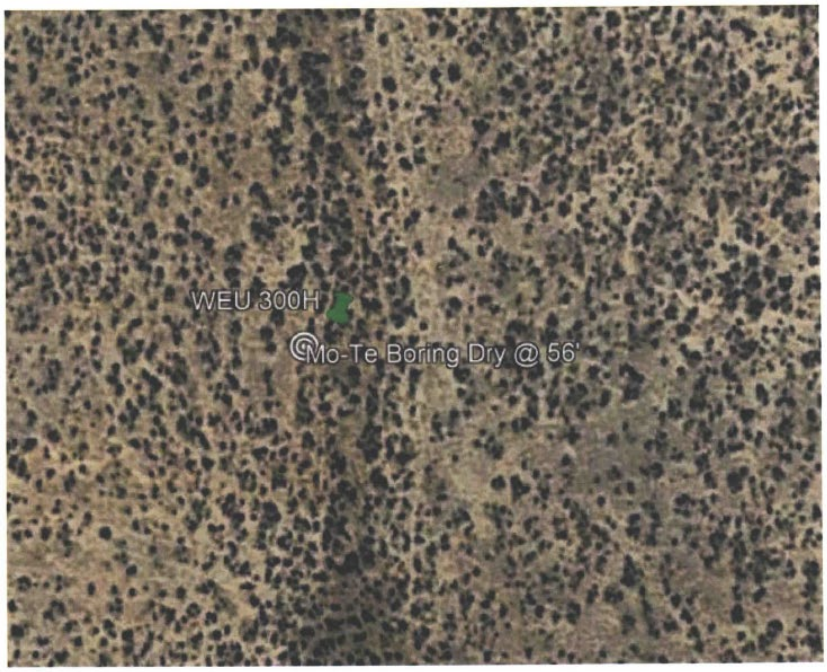
PLSS Search:

Section(s): 17 Township: 22N Range: 07W

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 a particular purpose of the data.

8/28/18 8:44 AM WELLS WITH WELL LOG INFORMATION

- On September 18, 2018, Mo-Te Drilling drilled a boring to 60' below ground surface at the WEU 300H Pad. Vanessa Field w/ NMOCD was on-site
- On September 19, 2018, James McDaniel, Enduring Resources, and Vanessa Fields, NMOCD returned to the location to check the boring for water. The boring was tagged DRY at 56' below ground surface.
- Vanessa Fields determined that the location would meet the siting criteria for groundwater at over 50' below ground surface based on these results. Email confirmation is attached for reference.



James McDaniel

From: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>
Sent: Wednesday, September 19, 2018 2:31 PM
To: James McDaniel; Smith, Cory, EMNRD; Powell, Brandon, EMNRD
Subject: RE: WEU 300H Recycling Containment Water Test Boring

Good afternoon James,

Per our conversation today, along with discussing with Santa Fe and todays site assessment on the WEU 300H, the groundwater is 50' or greater as there was no fluid observed in the open hole after setting for 24 hours.

Thank you,

Vanessa Fields
Environmental Specialist
Oil Conservation Division
Energy, Minerals, & Natural Resources
1000 Rio Brazos, Aztec, NM 87410
(505)334-6178 ext 119
Cell: (505) 419-0463
vanessa.fields@state.nm.us

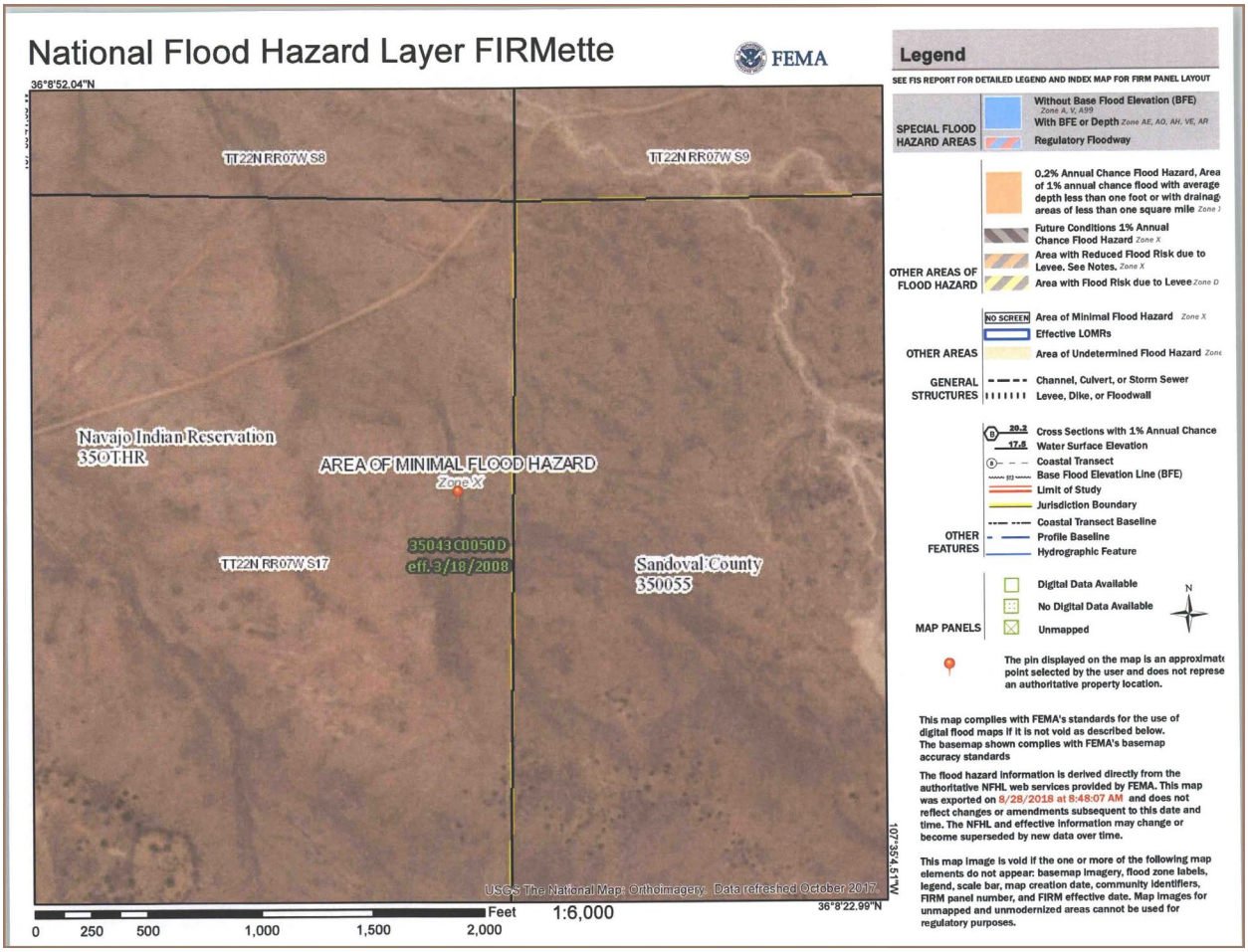
From: James McDaniel <JMcDaniel@enduringresources.com>
Sent: Wednesday, September 19, 2018 2:25 PM
To: Fields, Vanessa, EMNRD <Vanessa.Fields@state.nm.us>; Smith, Cory, EMNRD <Cory.Smith@state.nm.us>; Powell, Brandon, EMNRD <Brandon.Powell@state.nm.us>
Subject: WEU 300H Recycling Containment Water Test Boring

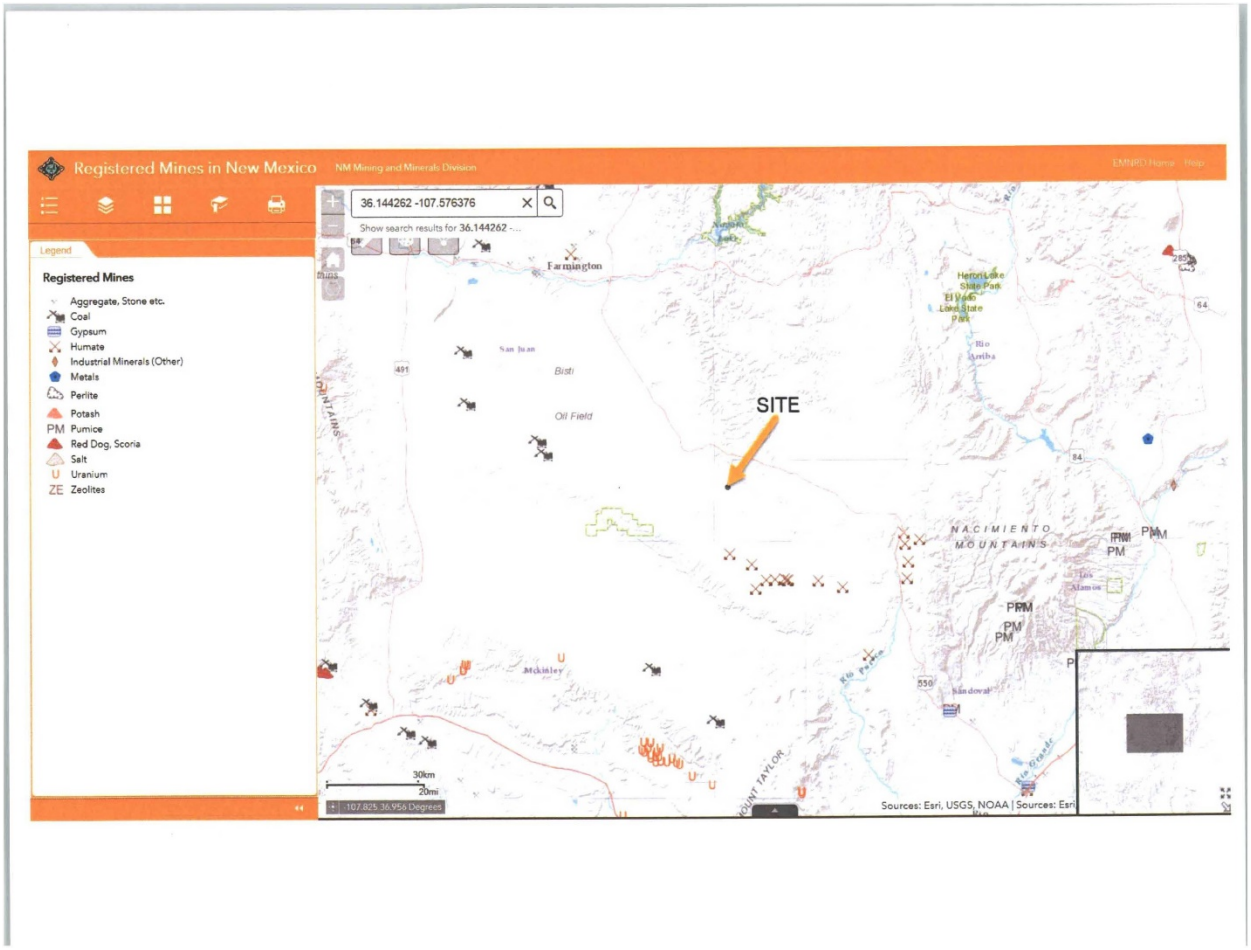
Vanessa,
Based on our conversation today, the groundwater at the WEU 300H Pad is considered to be 50' or greater below the surface, allowing this site to meet the criteria for a Recycling Containment as far as depth to groundwater is concerned. Thank you for your time in regards to this project.

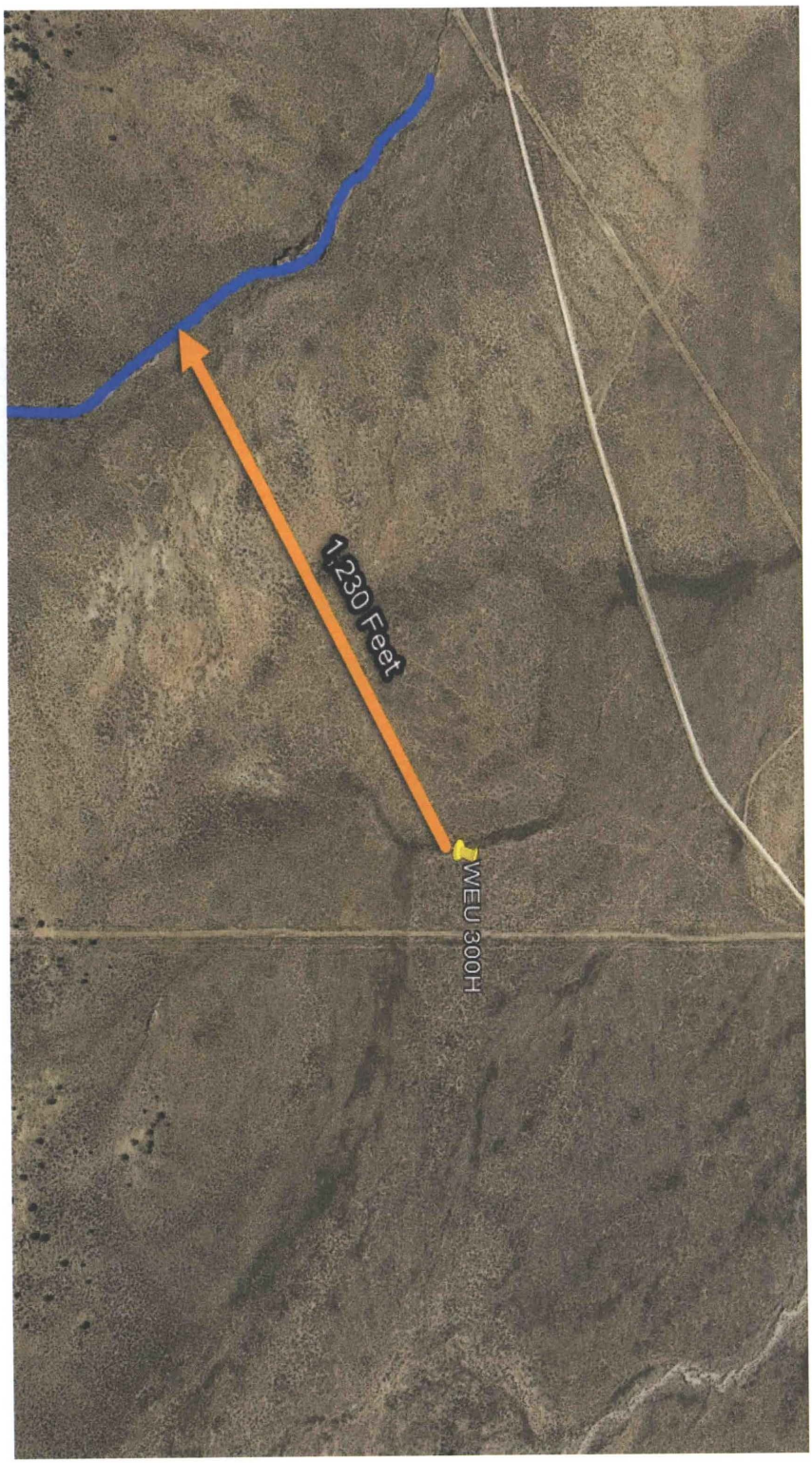
James McDaniel
HSE Supervisor
Enduring Resources
CSP #30009
CHMM #15676
Office: 505-636-9731
Cell: 505-444-3004
jmcdaniel@enduringresources.com

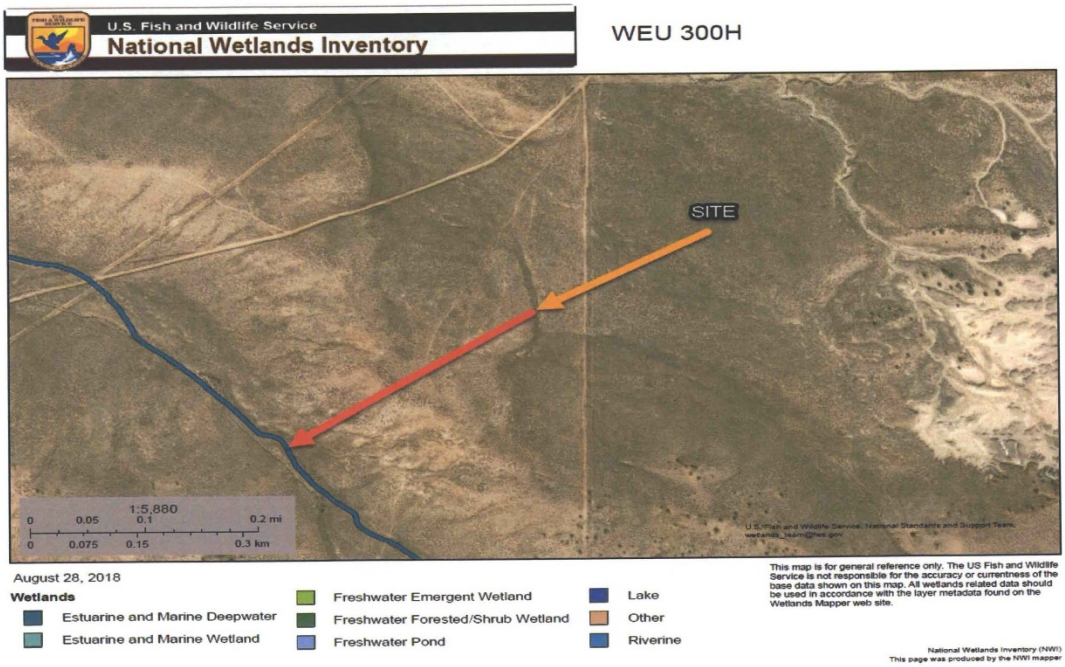
1

7. MAPS

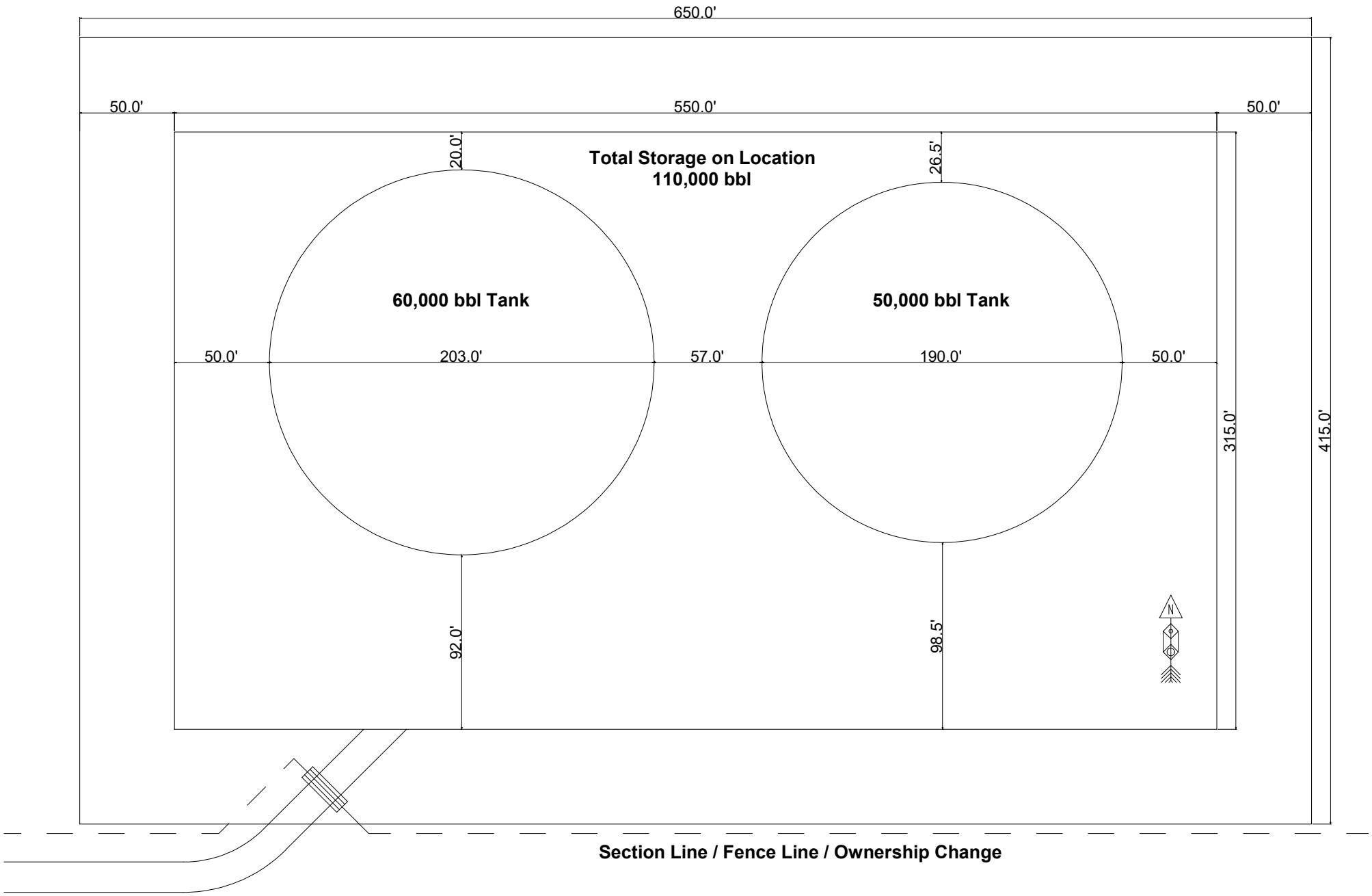

National Flood Hazard Layer FIRMette
FEMA
36°8'52.04"N
TT22N RR07W S8
TT22N RR07W S9
Navajo Indian Reservation
350THR
AREA OF MINIMAL FLOOD HAZARD
Zone X
35043C0050D
eff. 3/18/2008
TT22N RR07W S17
Sandoval County
350055
USGS The National Map: Orthoimagery. Data refreshed October 2017.
107°35'4.51"W
36°8'22.99"N
0 250 500 1,000 1,500 2,000 Feet
1:6,000
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 drainag areas of less than one square mile Zone
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 D
OTHER AREAS
NO SCREEN Area of Minimal Flood Hazard Zone X
Effective LOMRs
Area of Undetermined Flood Hazard Zone
GENERAL STRUCTURES
Channel, Culvert, or Storm Sewer
Levee, Dike, or Floodwall
OTHER FEATURES
20.2
17.5
Cross Sections with 1% Annual Chance
Water Surface Elevation
Coastal Transect
Base Flood Elevation Line (BFE)
Limit of Study
Jurisdiction Boundary
Coastal Transect Baseline
Profile Baseline
Hydrographic Feature
MAP PANELS
Digital Data Available
No Digital Data Available
Unmapped
N
The pin displayed on the map is an approximate point selected by the user and does not represe 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 8/26/2018 at 8:48:07 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.

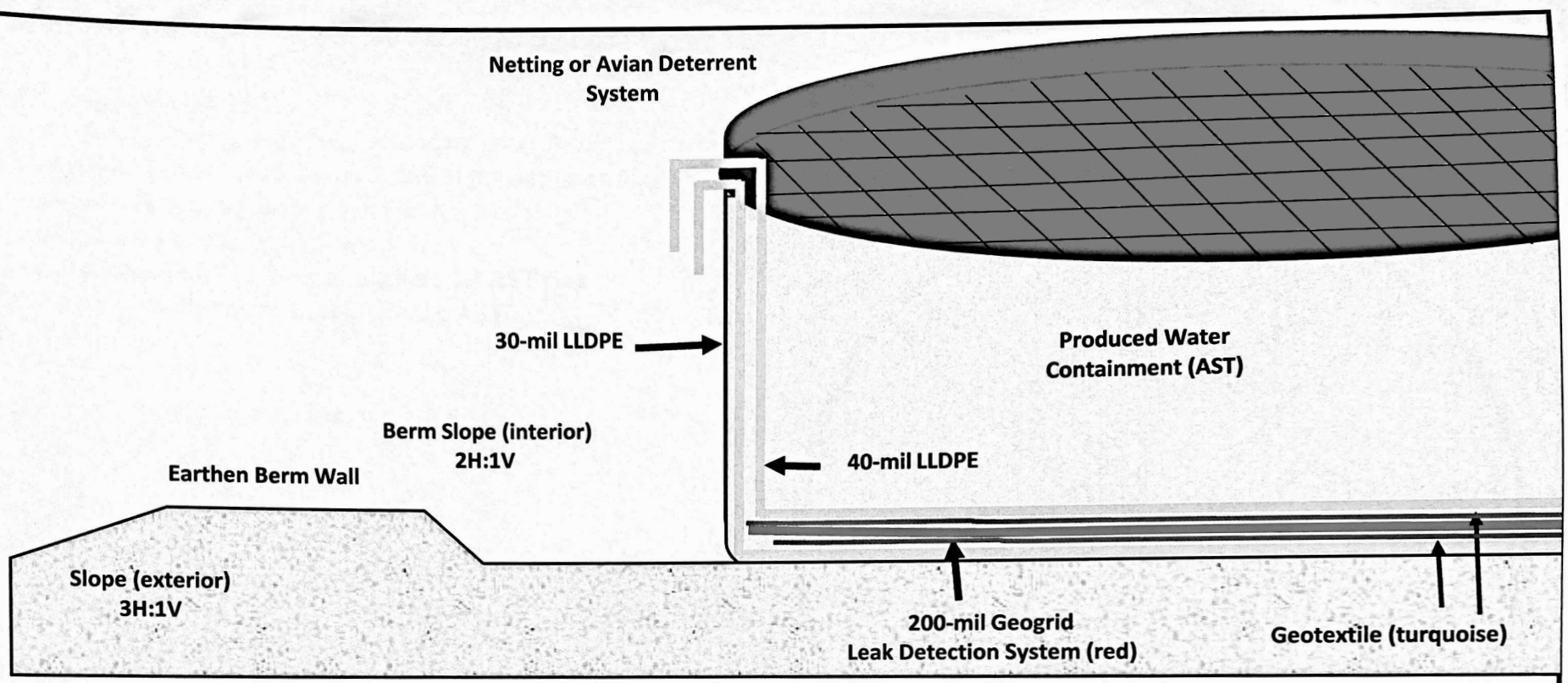

Registered Mines in New Mexico
NM Mining and Minerals Division
36.144262 -107.576376
Show search results for 36.144262 -...
Legend
Registered Mines
Aggregate, Stone etc.
Coal
Gypsum
Humate
Industrial Minerals (Other)
Metals
Perlite
Potash
PM Pumice
Red Dog, Scoria
Salt
U Uranium
ZE Zeolites
Farmington
San Juan
Bisti
Oil Field
SITE
NACIMIENTO MOUNTAINS
Mckinley
Sandoval
Los Alamos
Rio Arriba
Heron Lake State Park
El Vado Lake State Park
30km
20mi
107.825, 36.956 Degrees
Sources: Esri, USGS, NOAA | Sources: Esri


1,230 Feet
WEU 300H


U.S. Fish and Wildlife Service
National Wetlands Inventory
WEU 300H
SITE
1:5,880
0 0.05 0.1 0.2 mi
0 0.075 0.15 0.3 km
August 28, 2018
Wetlands
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Other
Riverine
This map is for general reference only. The US Fish and Wildlife Service is not responsible for the accuracy or currentness of the base data shown on this map. All wetlands related data should be used in accordance with the layer metadata found on the Wetlands Mapper web site.
National Wetlands Inventory (NWI)
This page was produced by the NWI mapper

ATTACHMENT A - CONTAINMENT CONSTRUCTION PLANS


650.0'
50.0'
550.0'
50.0'
20.0'
26.5'
Total Storage on Location
110,000 bbl
60,000 bbl Tank
50,000 bbl Tank
50.0'
203.0'
57.0'
190.0'
50.0'
315.0'
415.0'
92.0'
98.5'
N
Section Line / Fence Line / Ownership Change



Description of Leak Detection System

- 40-mil LLDPE comprise primary liner and 30-mil LLDPE comprise the secondary liner
- 200-mil geogrid drainage layer lies between the primary and secondary liner per Plate 2
- Geotextile between the geogrid and each liner
- > 3-inch deep sump excavated on down slope side of AST per Sump Design Drawing
- A small hose runs from the collection sump to top of AST via tube (see Section D)
- Every week, a portable self-priming peristaltic pump connects to the leak detection system.
- The self-priming pump discharge hose runs back into the AST, on top of the primary liner
- If fluid is detected, it is tested for conductance to determine the origin of the water (i.e. produced water or condensation)

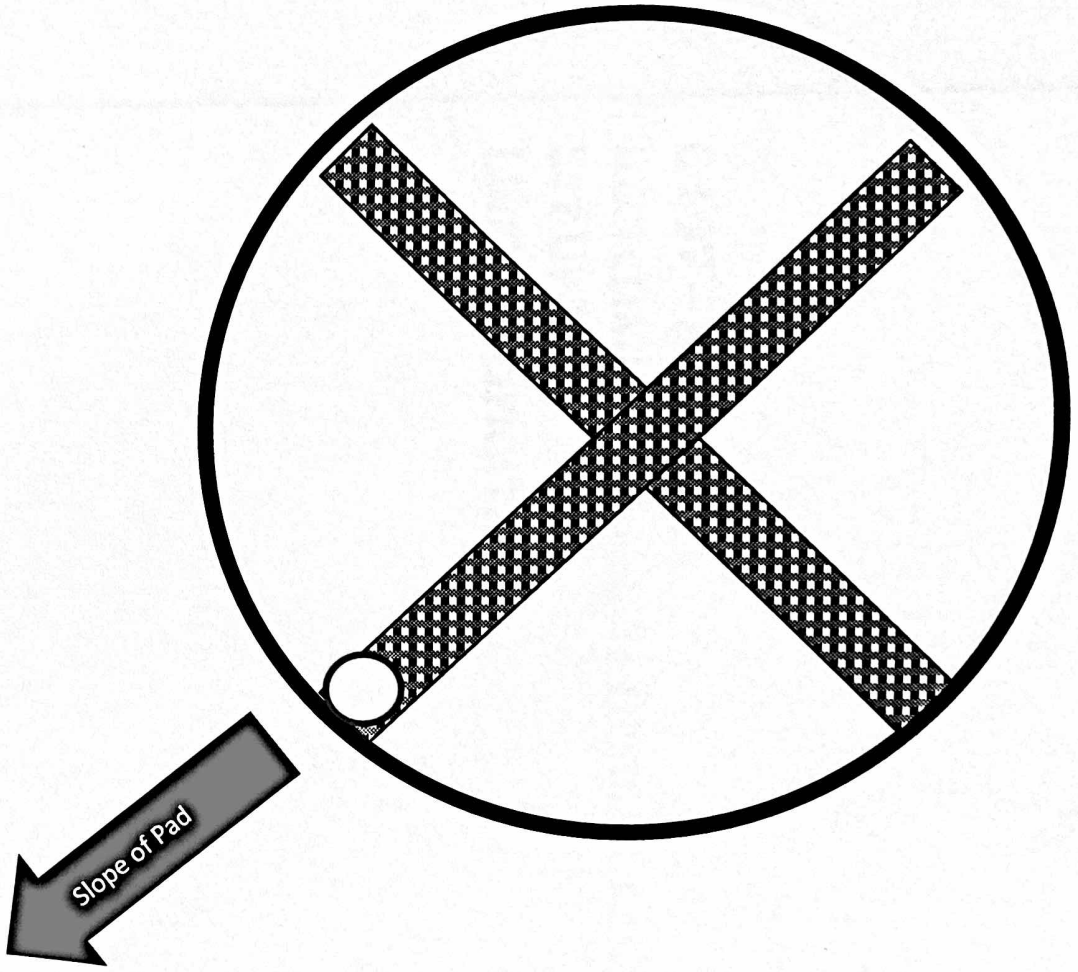
Use laser level to determine slope of pad and low point of AST

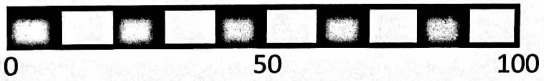
200 mil geogrid placed
- above 8-oz geotextile and 30-mil secondary liner
- inside of AST after set up, before install of primary liner
- below 40-mil primary liner

8-oz geotextile is placed
- over the 30-mil LLDPE liner inside the steel AST ring
- under the 40-mil primary liner inside the AST

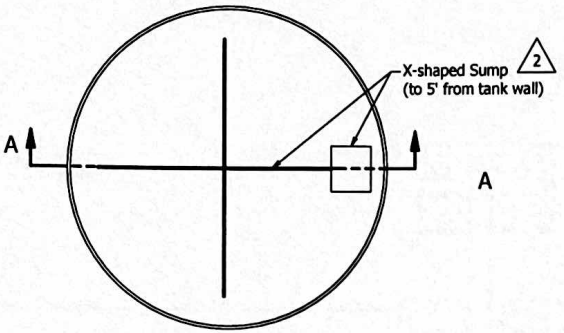
Sump at lowest point of the AST set up

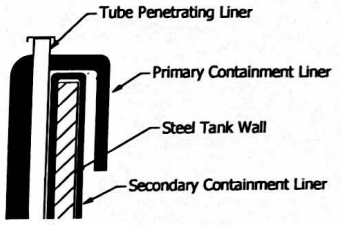
Sump Location



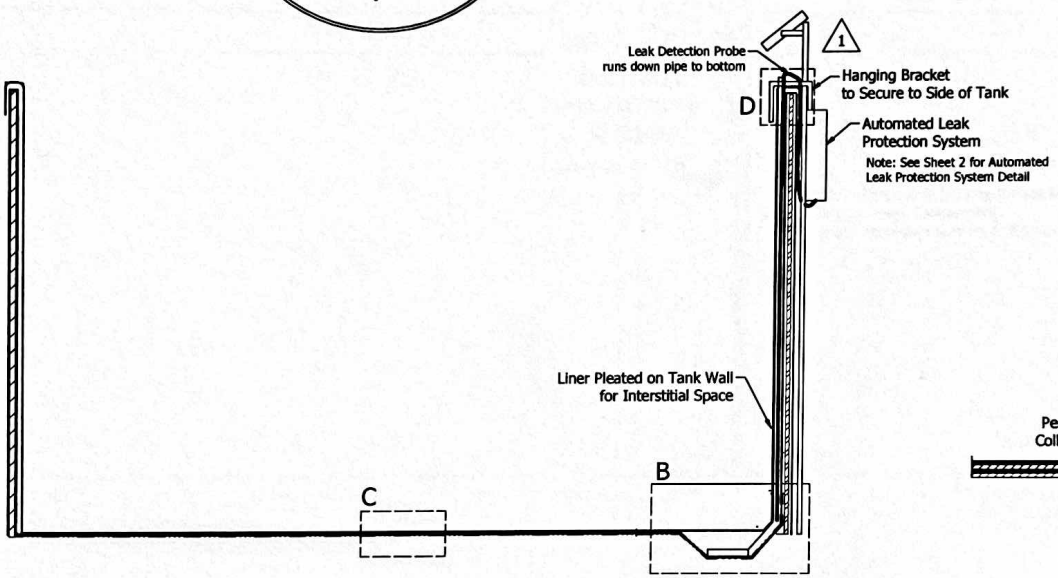


WWS DOUBLE-LINED
FRAC WATER TANK SYSTEM

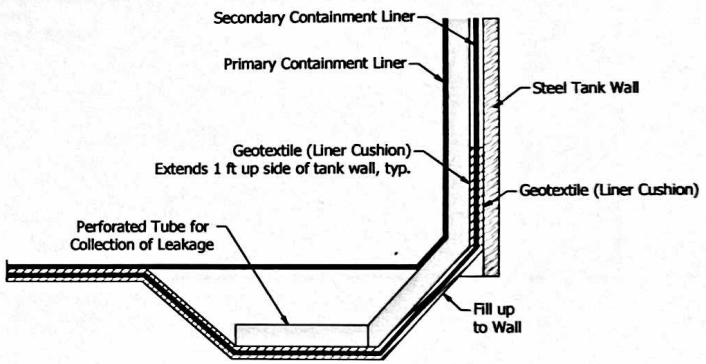




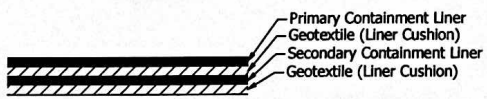
SECTION D
TUBE DETAIL
(Automated Leak Detection System Removed for Clarity)



VIEW A-A
TANK DETAIL



SECTION B
SUMP DETAIL



SECTION C
LINER DETAIL

LUCID
DRAFTING & DESIGN LLC
sarah@lucidddrafting.com 307.752.7388

REVISION HISTORY			
REV	DESCRIPTION	DATE	BY
0	INITIAL DWG	10/29/2015	SES
1	ADDED LEAK DETECTION SYSTEM	11/6/2015	SES
2	REVISED SUMP	11/6/2015	SES
3	ADDED GEOTEXTILE UNDER AND BETWEEN LINERS	11/24/15	SES

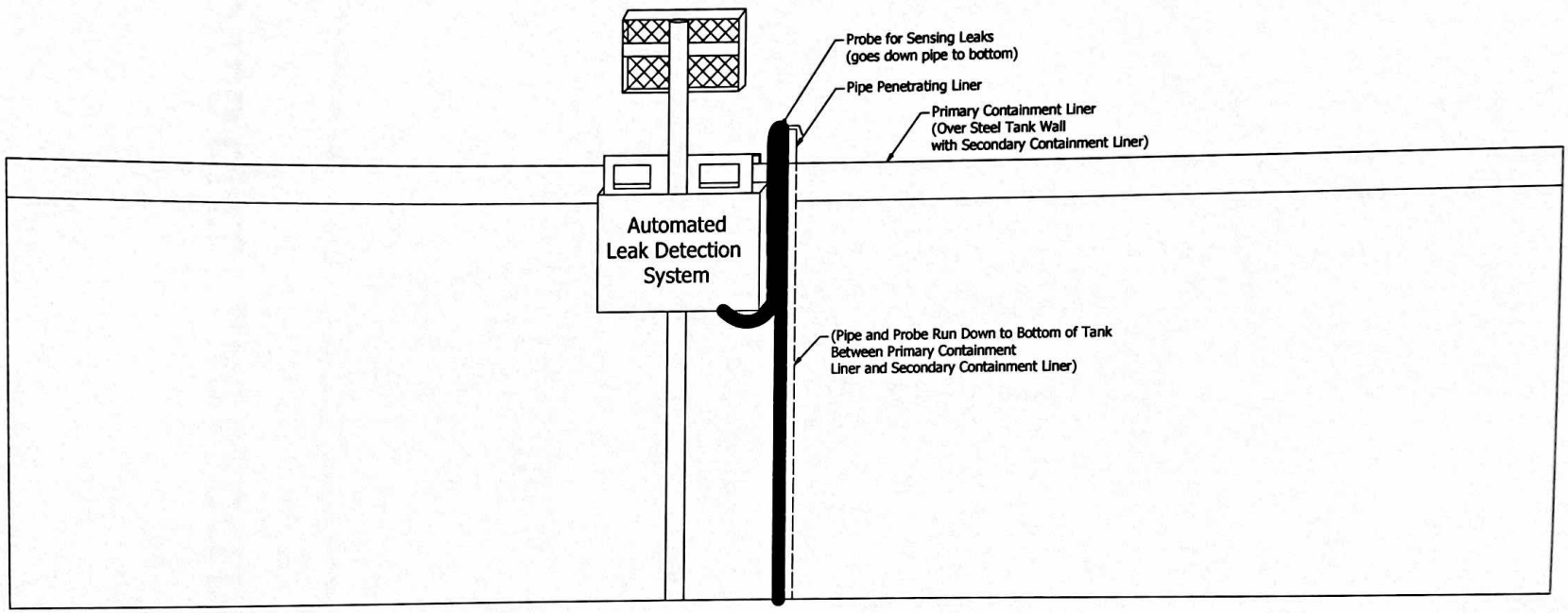
TITLE	Double-Lined Frac Tank System
CUSTOMER	
PROJECT/JOB	WWS Double-Lined Tank System
APPROVAL	
DRAFTER	SES
DATE	10/28/2015

WELL WATER SOLUTIONS AND RENTALS, INC.

SIZE	DWG NO	REV
C	LDD15-WWS-02	3

SHEET 1 OF 2

1 AUTOMATED LEAK DETECTION SYSTEM



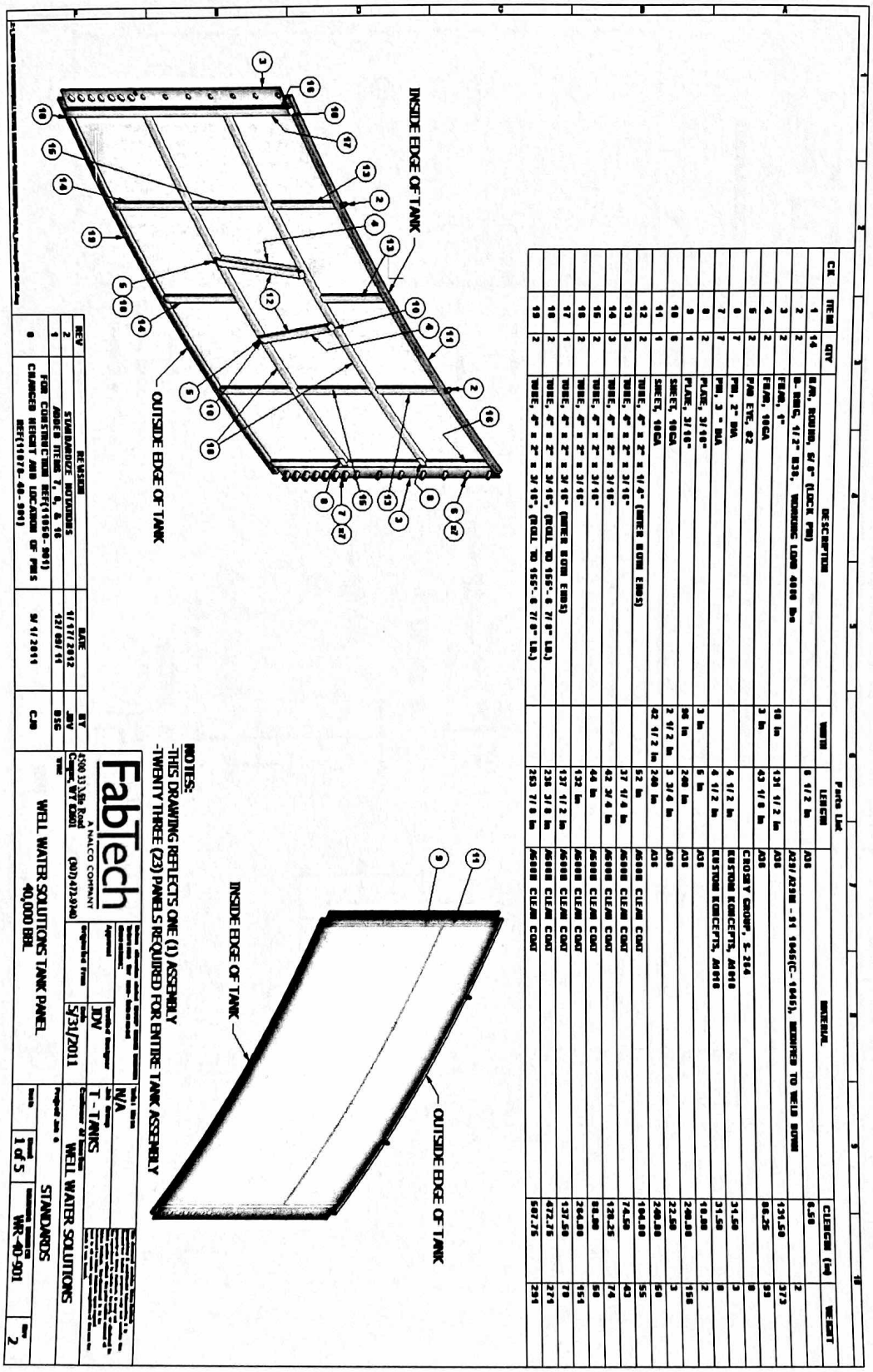
TITLE	Double-Lined Frac Tank System
CUSTOMER	
PROJECT/JOB	WWS Double-Lined Tank System
APPROVAL	
DRAFTER	SES
DATE	10/28/2015

WELL WATER SOLUTIONS AND RENTALS, INC.

SIZE	DWG NO	REV
C	LDD15-WWS-02	3

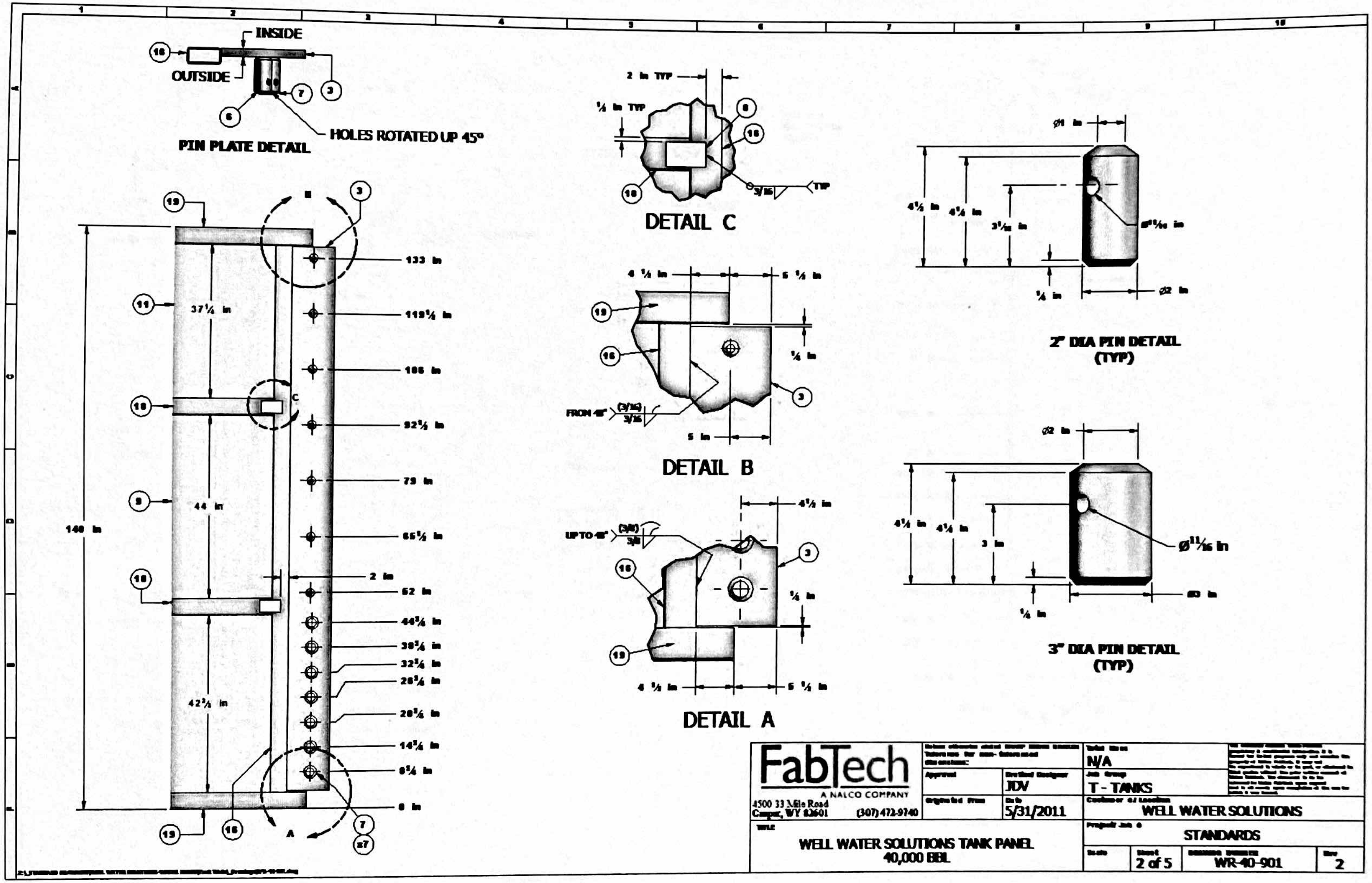
SHEET 2 OF 2

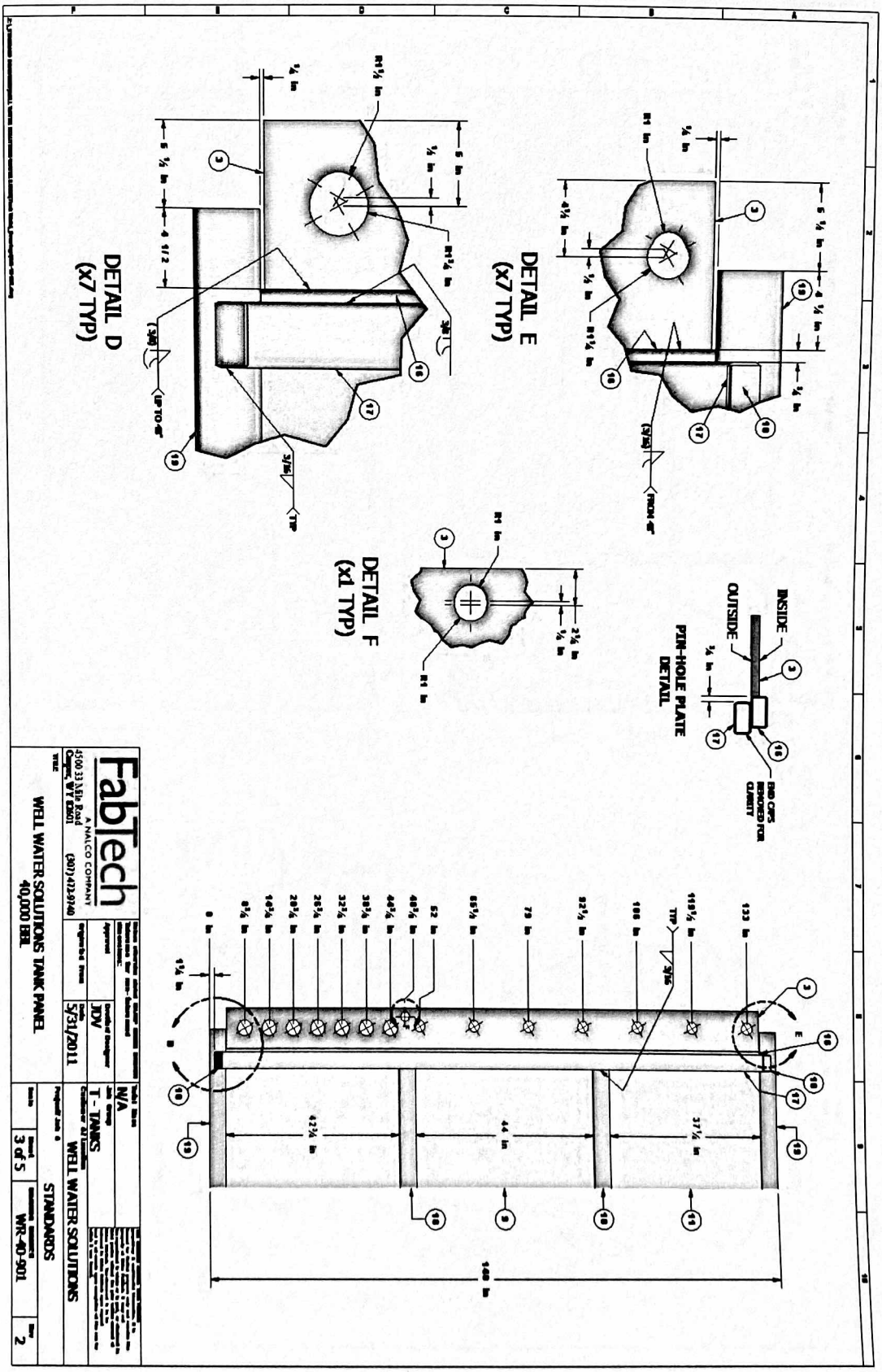
Section 1.08 WWS AST Engineering Specs

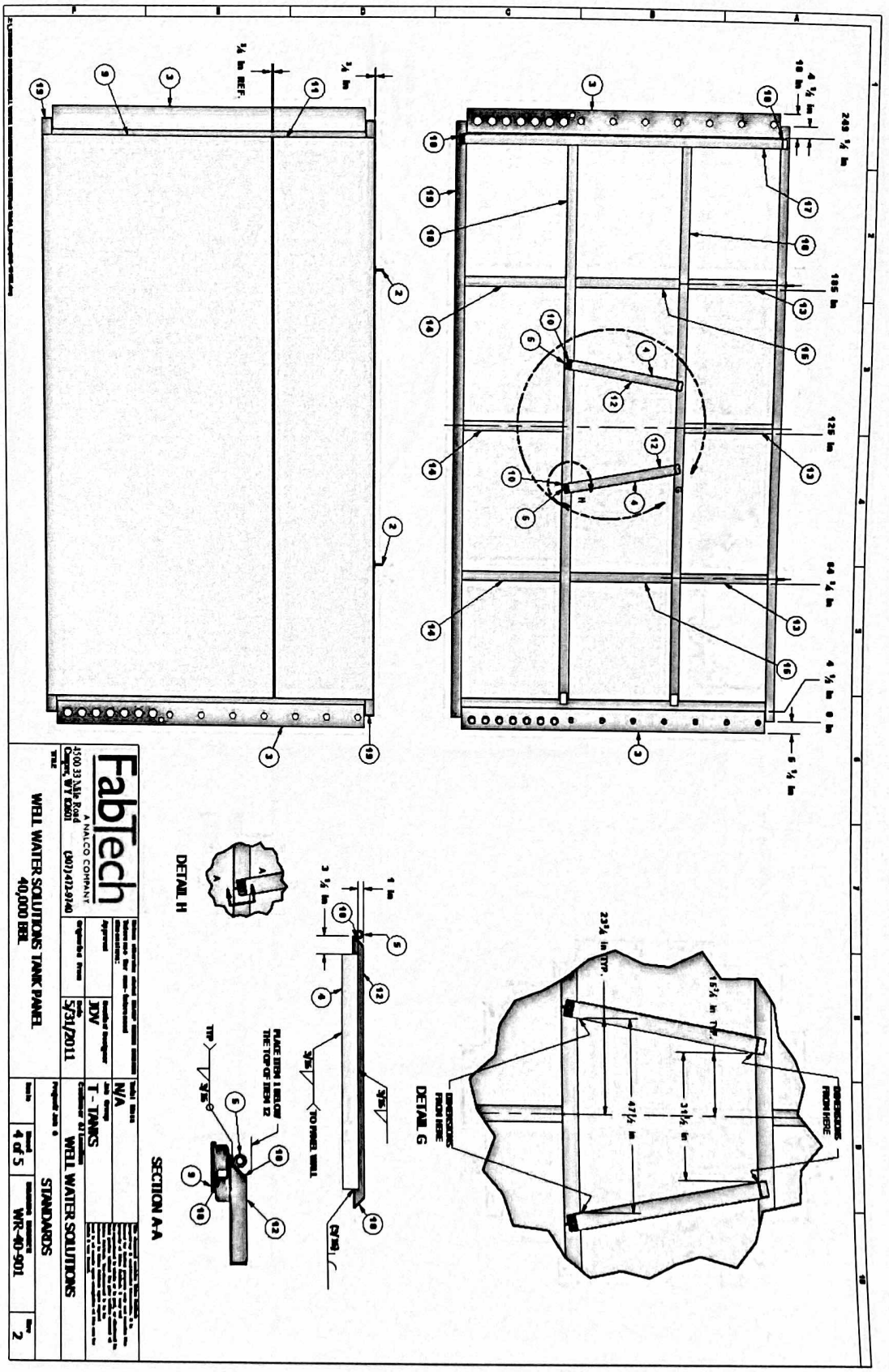


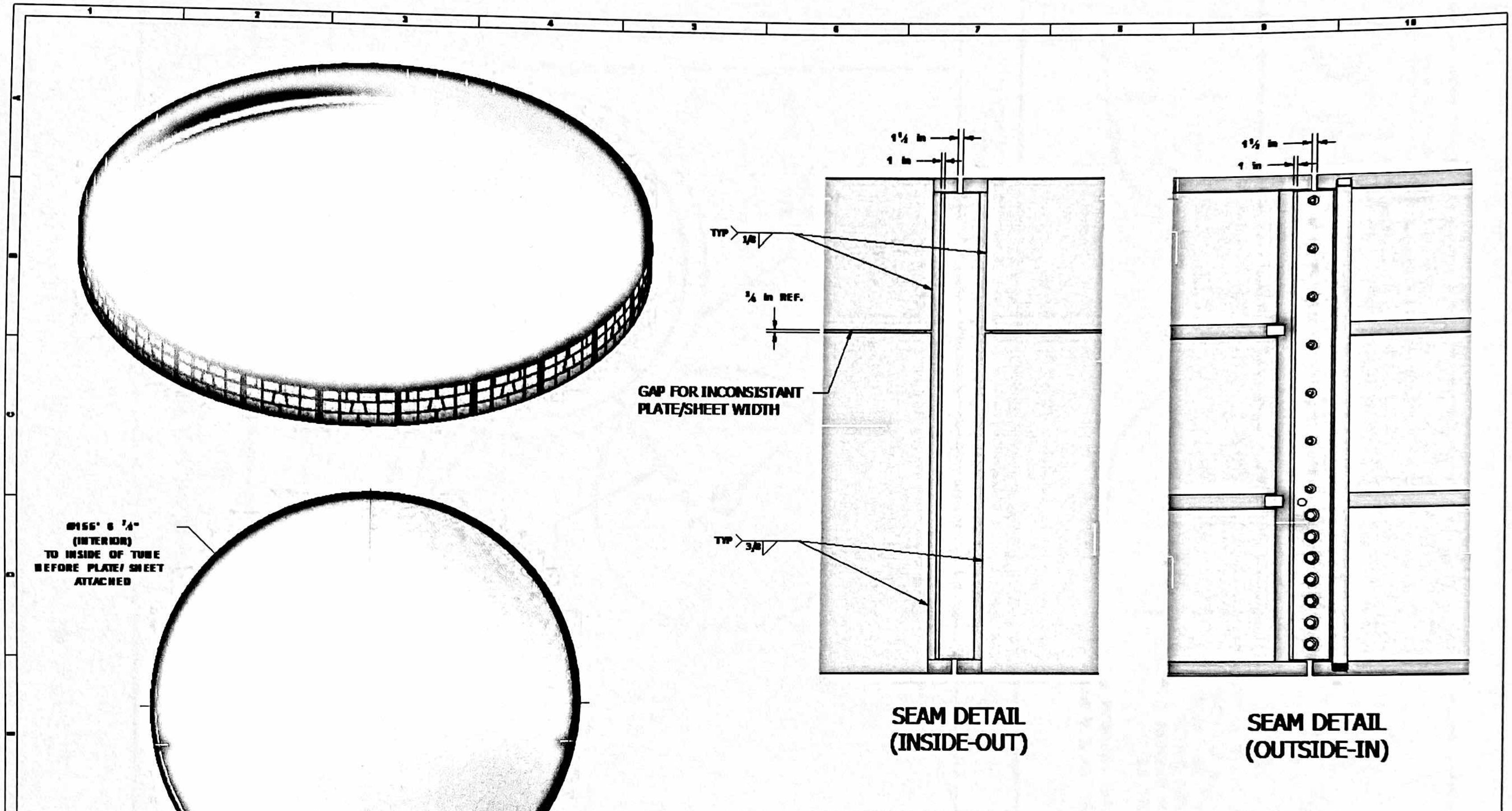
CK	ITEM	QTY	DESCRIPTION	Parts List WEIGHT	MATERIAL	CUBICIN (in)	WEIGHT
	1	14	BLAD, RIGGING, 5/8" (LOCK PIN)	6 1/2 lb	A36	6.50	
	2	2	D- RING, 1/2" B30, WORKING LOAD 4000 lbs		A29/A29M - 91 1045(C- 1045), MODIFIED TO WELD BOWN		2
	3	2	FBAR, 8"	18 lbs	A36	131.50	373
	4	2	FBAR, 10GA	131 1/2 lbs	A36	06.25	93
	5	2	PAD EYE, 62	3 lbs	CROSBY GROUP, S-214		0
	6	7	PIN, 2" DIA	43 1/8 lbs	A36	31.50	3
	7	7	PIN, 3 - DIA	4 1/2 lbs	KEYSTONE KONCEPTS, AH910	31.50	0
	8	2	PLATE, 3/16"	3 lbs	A36	10.80	2
	9	1	PLATE, 3/16"	96 lbs	A36	240.00	166
	10	6	SHEET, 10GA	2 1/2 lbs	A36	22.50	3
	11	1	SHEET, 10GA	42 1/2 lbs	A36	240.00	50
	12	2	TUBE, 4" x 2" x 1/4" (INNER BOTH ENDS)	52 lbs	A500B CLEAR COAT	104.00	55
	13	3	TUBE, 4" x 2" x 3/16"	37 1/4 lbs	A500B CLEAR COAT	74.50	43
	14	3	TUBE, 4" x 2" x 3/16"	42 3/4 lbs	A500B CLEAR COAT	128.25	74
	15	2	TUBE, 4" x 2" x 3/16"	44 lbs	A500B CLEAR COAT	88.00	50
	16	2	TUBE, 4" x 2" x 3/16"	132 lbs	A500B CLEAR COAT	264.00	154
	17	1	TUBE, 4" x 2" x 3/16" (INNER BOTH ENDS)	137 1/2 lbs	A500B CLEAR COAT	137.50	78
	18	2	TUBE, 4" x 2" x 3/16", (ROLL TO 165°- 0 7/8" LG.)	236 3/8 lbs	A500B CLEAR COAT	472.75	271
	19	2	TUBE, 4" x 2" x 3/16", (ROLL TO 165°- 0 7/8" LG.)	253 7/8 lbs	A500B CLEAR COAT	507.75	291

REV	DESCRIPTION	DATE	BY	CK
2	STANDARDIZE NOTATIONS	11/17/2012	JDV	
1	ADDED ITEMS 7, 9, & 10	12/ 08/ 11	JDV	BSS
0	FOR CONSTRUCTION REF(11050- 901) CHANGED HEIGHT AND LOCATION OF PINS REF(11076- 40- 901)	9/ 1/ 2011		CJB


INSIDE
OUTSIDE
HOLES ROTATED UP 45°
PIN PLATE DETAIL
140 in
37¼ in
44 in
42⅞ in
133 in
119½ in
106 in
92½ in
79 in
65½ in
2 in
52 in
44¾ in
38¾ in
32¾ in
26¾ in
20¾ in
14¾ in
8¾ in
0 in
x7
2 in TYP
¼ in TYP
TYP
DETAIL C
4 ½ in
5 ½ in
¼ in
5 in
DETAIL B
4½ in
¼ in
4 ½ in
5 ½ in
DETAIL A
2" DIA PIN DETAIL
(TYP)
3" DIA PIN DETAIL
(TYP)
Ø11⁄16 in
FabTech
A NALCO COMPANY
4500 33 Mile Road
Casper, WY 82601
(307) 472-9740
N/A
JDV
T - TANKS
5/31/2011
WELL WATER SOLUTIONS
STANDARDS
WELL WATER SOLUTIONS TANK PANEL
40,000 BBL
2 of 5
WR-40-901
2


DETAIL D
(x7 TYP)
DETAIL E
(x7 TYP)
DETAIL F
(x1 TYP)
PIN-HOLE PLATE
DETAIL
INSIDE
OUTSIDE
RIB CAPS
REMOVED FOR
CLARITY
FabTech
A NALCO COMPANY
WELL WATER SOLUTIONS TANK PANEL
40,000 BBL
WELL WATER SOLUTIONS
STANDARDS
WR-40-901
3 of 5
2
N/A
T - TANKS
JDV
5/31/2011


DETAIL H
SECTION A-A
DETAIL G
FabTech
A NALCO COMPANY
WELL WATER SOLUTIONS TANK PANEL
40,000 BBL
WELL WATER SOLUTIONS
STANDARDS
WR-40-901
4 of 5
2



FabTech
A NALCO COMPANY
4500 33 Mile Road
Casper, WY 82601 (307) 472-9740

Drafter/Designer: JDV	Job Group: T - TANKS	Total Mass: N/A
Date: 5/31/2011	Customer or location: WELL WATER SOLUTIONS	
	Project/Job #: STANDARDS	

TITLE: WELL WATER SOLUTIONS TANK PANEL
40,000 BBL

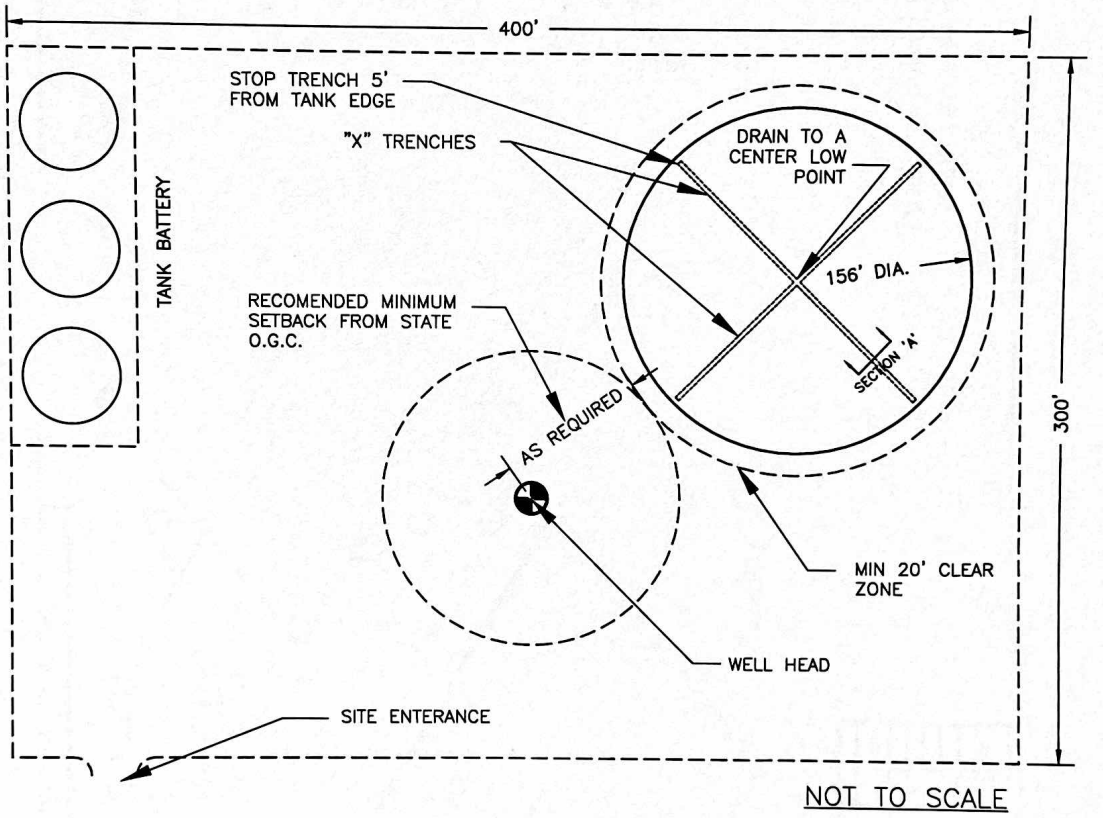
Sheet: 5 of 5 | Drawing Number: WR-40-901 | Rev: 2

Section 1.09 Proper AST Setback and Location Sample

DATE: 06/30/14
DWG BY: MDW
SHEET NO: 1 OF 1

MLVT LOCATION STANDARD MAP

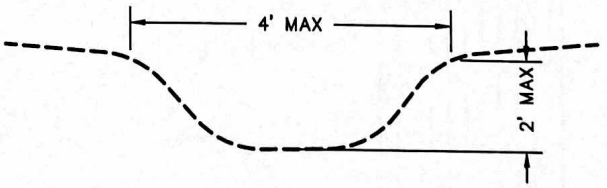
FOR: WELL WATER SOLUTIONS
& RENTALS
ATTN: SEAN LOVELACE
PO BOX 2105
CASPER, WYOMING 82602



TRENCH NOTES:

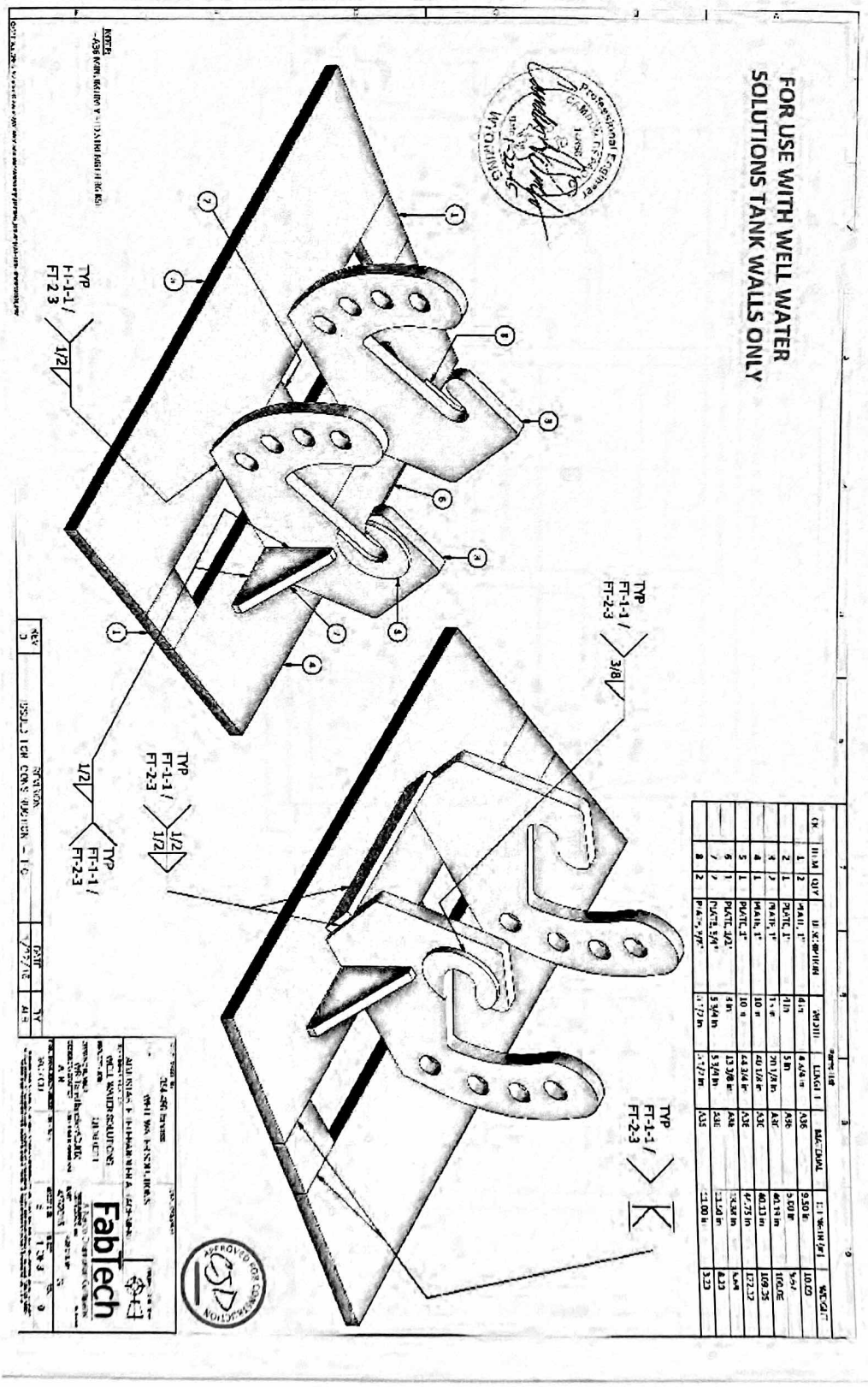
1. TRENCHES SHALL HAVE A MAXIMUM DEPTH OF 2' AND MAXIMUM WIDTH OF 4'.
2. TRENCHES SHALL BE CONSTRUCTED A MINIMUM DISTANCE OF 5' FROM TANK WALLS.
3. TRENCHES SHALL BE GRADED TO A COMMON CENTER SUCTION POINT.
4. TRENCH EDGES SHALL BE SMOOTH AND ROUNDED.

SECTION 'A'



WLC
ENGINEERING • SURVEYING • PLANNING
200 PRONGHORN, CASPER, WY. 82601

Section 1.10 JGL Approved Telehandler Attachment with Load Chart



WELL WATER SOLUTIONS AND RENTALS, INC.

TANK SIZE CHART

TANK SIZE BBLS	PANEL COUNT	INSIDE DIAMETER (FEET)	VOLUME BBLS	BBLS/INCH	SECONDARY CONTAINMENT (ADD 2 PANELS)	SECONDARY CONTAINMENT DIAMETER	TOTAL FEET OF CONTAINMENT
6,000	9	60' 2"	6,090	43.5	11	75'	234'
10,000	12	81' 2"	10,753	76.8	14	95'	298'
13,000	13	87' 10-5/8"	12,609	90.1	15	101'	318'
17,000	15	101.4285	16,800	120	17	115'	361'
20,000	16	101' 5-1/8"	19,115	136.53	18	122'	384'
22,000	17	114' 11-7/16"	21,564	154.03	19	135'	426'
27,000	19	128' 6-1/4"	26,954	192.53	21	142'	446"
30,000	20	135' 3-3/8"	29,867	213.35	22	149'	468'
33,000	21	142' 0-9/16"	32,928	235.2	23	156'	489'
36,000	22	148' 9-11/16"	36,139	258.14	24	163'	510'
40,000	23	155' 6-7/8"	39,499	282.14	25	170'	532'
43,000	24	162' 4-1/16"	43,008	307.2	26	176'	553'
47,000	25	169' 1-3/16"	46,667	333.34	27	183'	574'
50,000	26	175' 10-5/16"	50,475	360.54	28	190'	595'
55,000	27	182' 7-9/16"	54,433	388.8	29	196'	617'
60,000	28	189' 4-11/16"	58,539	418.14	30	203'	638'
62,500	29	196' 1/16"	62,500	446.43	31	210'	658'
67,000	30	202' 10 6/16"	66,885	477.75	32	216'	678'
72,000	31	209' 7-7/16"	71,705	512.18	33	223'	701'
77,000	32	216' 4-9/16"	76,405	545.75	34	230'	722'
81,000	33	223' 1-11/16"	81,254	580.39	35	237'	744'

U.S. Department of the Interior
BUREAU OF LAND MANAGEMENT

Sundry Print Report

07/29/2021

Well Name: W ESCAVADA UNIT	**Well Location:** T22N / R7W / SEC 17 / NENE / 36.143847 / -107.589762	**County or Parish/State:** SANDOVAL / NM
Well Number: 300H	**Type of Well:** OIL WELL	**Allottee or Tribe Name:** EASTERN NAVAJO
Lease Number: N0G13111802, N0G13111806	**Unit or CA Name:** NMNM135218A	**Unit or CA Number:** NMNM135218A
US Well Number: 3004321303	**Well Status:** Approved Application for Permit to Drill	**Operator:** ENDURING RESOURCES LLC

Notice of Intent

Type of Submission: Notice of Intent

Type of Action Other

Date Sundry Submitted: 07/29/2021

Time Sundry Submitted: 04:45

Date proposed operation will begin: 08/31/2021

Procedure Description: Enduring Resources plans to construct a Recycling Facility and Recycling Containment on the W Escavada Unit #300H well pad for purposes of treating and recycling produced water for re-use in Enduring's drilling and completion activities. This location is on Indian Tribal Trust lands which is administered by the BLM/FFO. Attached is a copy of the full NMOCD C-147 application/registration packet for reference. A copy of this Sundry packet will also be sent via email to the FIMO office. *This sundry and email to the FIMO office will serve to comply with NMAC 19.15.34 requirement to notify the surface owner of the submittal of the C-147 to NMOCD.

Surface Disturbance

Is any additional surface disturbance proposed?: No

Well Name: W ESCAVADA UNIT

Well Location: T22N / R7W / SEC 17 / NENE / 36.143847 / -107.589762

County or Parish/State: SANDOVAL / NM

Well Number: 300H

Type of Well: OIL WELL

Allottee or Tribe Name: EASTERN NAVAJO

Lease Number: N0G13111802, N0G13111806

Unit or CA Name: NMNM135218A

Unit or CA Number: NMNM135218A

US Well Number: 3004321303

Well Status: Approved Application for Permit to Drill

Operator: ENDURING RESOURCES LLC

Operator Certification

I certify that the foregoing is true and correct. Title 18 U.S.C. Section 1001 and Title 43 U.S.C. Section 1212, make it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction. Electronic submission of Sundry Notices through this system satisfies regulations requiring a submission of Form 3160-5 or a Sundry Notice.

Operator Electronic Signature: HEATHER RILEY

Signed on: JUL 29, 2021 04:42 PM

Name: ENDURING RESOURCES LLC

Title: Sr. Project Manager

Street Address: 470 WOLVERINE DRIVE #9

City: BAYFIELD **State:** CO

Phone: (970) 749-8747

Email address: HEATHERRILEY@EIS-LLC.COM

Field Representative

Representative Name: Alex Campbell

Street Address: 1050 17th Street, Suite 2500

City: Denver **State:** CO **Zip:** 80265

Phone: (303)350-5107

Email address: acampbell@enduringresources.com

From: Heather Riley
To: "maureen.joe@bia.gov"
Cc: Mindy Paulek; Gabrielle Riley
Subject: WEU #300H; API 30-043-21303 - Recycling Facility and Containment
Date: Thursday, July 29, 2021 4:59:00 PM
Attachments: 20210729_EG_WEU300H_NOI_RecyclingFacAndCont_FINAL_HR.pdf
1_C147_AppPacket_EnduringResources_WEU#300H_20210728_GR_v3_FINAL.pdf

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Good afternoon Maureen. Enduring Resources is filing a C-147 Application with the NMOCD and a Sundry with the BLM for the above mentioned wellpad. As part of the NMOCD requirements, a notice must be sent to the surface owner when a C-147 is submitted. Please accept this email with the attachments as official surface owner notification.

Please don't hesitate to reach out if you have any questions.

Heather Riley
Sr. Project Manager
Energy Inspection Services, LLC
(970) 749-8747

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 37259

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 37259
	Action Type: [C-147] Water Recycle Long (C-147L)

CONDITIONS

Created By	Condition	Condition Date
vvenegas	NMOCD has reviewed and approved the recycling containment permit application and related documents, submitted by [372286] ENDURING RESOURCES, LLC on July 29, 2021 for 3RF-50 - W ESCAVADA UNIT 300H – Facility ID fVV2123855557 in Unit Letter A - Section 17 - Township 22N - Range 07W, Sandoval County, New Mexico. The application is approved with conditions.	8/27/2021