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: ☒ Recycling Facility ☒ Recycling Containment*****

Type of action: ☒ Permit ☒ 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 IV, LLC (For multiple operators attach page with information) OGRID #: 372286

Address: 200 Energy Court, Farmington, NM 87401

Facility or well name (include API# if associated with a well): Rincon Unit 2706-29O

OCD Permit Number: 3RF-55 (For new facilities the permit number will be assigned by the district office)

U/L or Qtr/Qtr O Section 29 Township 27N Range 6W County: Rio Arriba

Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.

☒ **Recycling Facility:**

Location of recycling facility (if applicable): Latitude 36.539671 Longitude -107.490588 NAD83

Proposed Use: ☒ Drilling* ☒ Completion* ☒ Production* ☒ 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.***

☒ Fluid Storage

☒ Above ground tanks ☐ 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.

☒ **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 _____ Longitude _____ NAD83

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

☒ Lined ☐ Liner type: Thickness 40 mil ☒ LLDPE ☐ HDPE ☐ PVC ☐ Other _____

☒ String-Reinforced

Liner Seams: ☒ Welded ☒ Factory ☐ Other _____ Volume: 60,000 bbl Dimensions: 203' Diameter

☐ 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___8' security fencing _____

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.

- ☒ Design Plan - based upon the appropriate requirements.
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements.
- ☒ Closure Plan - based upon the appropriate requirements.
- ☒ Site Specific Groundwater Data -
- ☒ Siting Criteria Compliance Demonstrations –
- ☒ **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): Chris Jones Title: Regulatory Specialist
Signature: Chris Jones Date: 07/12/2022
e-mail address: cjones@enduringresources.com Telephone: 505.636.9723

11.
OCD Representative Signature: Victoria Venegas **Approval Date:** 08/02/2022

Title: Environmental Specialist **OCD Permit Number:** 3RF-55

☒ OCD Conditions
☒ Additional OCD Conditions on Attachment

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

Sundry Print Report

06/22/2022

Well Name: RINCON UNIT

Well Location: T27N / R6W / SEC 21 / NENE / 36.564026 / -107.467723

County or Parish/State: RIO ARRIBA / NM

Well Number: 613H

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name: EASTERN NAVAJO

Lease Number: NMSF0079052, NMSF079366

Unit or CA Name: RINCON UNIT--STATE

Unit or CA Number: NMNM78406X

US Well Number: 3003931371

Well Status: Approved Application for Permit to Drill

Operator: ENDURING RESOURCES LLC

Notice of Intent

Sundry ID: 2677702

Type of Submission: Notice of Intent

Type of Action: Surface Disturbance

Date Sundry Submitted: 06/22/2022

Time Sundry Submitted: 10:28

Date proposed operation will begin: 07/18/2022

Procedure Description: Enduring Resources IV, LLC (Enduring) proposes the Rincon Unit 2706-290 Water Recycling Containment and associated infrastructure. The proposed project would include constructing a 600' by 650' location including a 50' construction buffer zone surrounding all four sides, one 101' ingress/egress access road, one 103' ingress/egress access road, and one 14,586' surface lay-flat pipeline corridor (an additional 3,901' are being permitted separately on NMSLO surface via NMSLO ROW). Please see attached map exhibits of the proposed infrastructure as well as the submitted NMOCD C-147L permitting this recycling facility. All proposed infrastructure would be located on lease within Enduring's Rincon Unit (NMNM078406X). Enduring proposes to utilize the Rincon Unit 2706-290 to store non-potable water sourced from the Entrada Formation in five (5), 60,000 bbl steel above ground storage tanks. The water will be used during Enduring's drilling and completion operations. Water from this location may be trucked, piped via existing underground pipeline infrastructure, or piped via surface lines within existing road and pipeline corridors. The proposed project was cadastral surveyed and an onsite was attended by the BLM, Enduring Resources and additional consulting parties in March of 2019. This project was approved; however, the location was never constructed. The original project intended to use an earthen pond to store 385,633 bbls of non-potable water. Enduring no longer wishes to utilize an in ground earthen pond and plans to utilize steel above ground storage tanks. This practice is less impactful on the landscape, more practical to net and make safe for wildlife, and, due to the temporary nature of the tanks, increases reclamation success and speeds up the timeline for reclamation following cessation of use. The original C-147 approved by NMOCD has been canceled and a new C-147 has been submitted (attached) seeking the utilization of steel above ground storage tanks instead of an earthen pond. This sundry will serve to comply with NMAC 19.15.34 requirement to notify the surface owner of the submittal of the C-147 to NMOCD. Additionally, this sundry has been submitted to seek approval, recommendations and conditions from the BLM on the altered project scope at this previously approved project location. The original approval included a 4,624’ pipeline corridor for an above ground surface layflat line. The new proposal includes a 14,586’ surface lay-flat pipeline corridor that connects the location to Enduring's Water supply well to the south as well as Enduring's Rincon Unit 613H Well Pad in which Enduring intends to drill four horizontal wells from. All 14,586' of surface lay-flat line will follow existing disturbance and the lines will only remain on the surface as long as there is a need to fill the ASTs or to deliver stored water to a drilling and completion location. Please contact Khem Suthiwan - 303.350.5721 | ksuthiwan@enduringresources.com or Chris Jones - 505.636.9723 | cjones@enduringresources.com with questions.

Well Name: RINCON UNIT

Well Location: T27N / R6W / SEC 21 / NENE / 36.564026 / -107.467723

County or Parish/State: RIO ARRIBA / NM

Well Number: 613H

Type of Well: CONVENTIONAL GAS WELL

Allottee or Tribe Name: EASTERN NAVAJO

Lease Number: NMSF0079052, NMSF079366

Unit or CA Name: RINCON UNIT--STATE

Unit or CA Number: NMNM78406X

US Well Number: 3003931371

Well Status: Approved Application for Permit to Drill

Operator: ENDURING RESOURCES LLC

Surface Disturbance

Is any additional surface disturbance proposed?: Yes

Proposed Disturbance(acres): 8.96

Interim Reclamation (acres): 2.65

Long Term Disturbance (acres): 6.31

Surface Disturbance:

NOI Attachments

Procedure Description

20220428_RINCON_WSW_TO_613_PAD_20220622101132.pdf

20220428_RINCON_WSW_STATE_LAYFLAT_ROW_20220622101131.pdf

2022_Rincon_Unit_2706_29O_C_147_Permit_Information_ALL_20220621152050.pdf

Operator

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

Operator Electronic Signature: CHRISTOPHER JONES

Signed on: JUN 22, 2022 10:28 AM

Name: ENDURING RESOURCES LLC

Title: Regulatory Specialist

Street Address: 200 ENERGY COURT

City: FARMINGTON **State:** NM

Phone: (505) 636-9723

Email address: CJONES@ENDURINGRESOURCES.COM

Field

Representative Name: khem Suthiwan

Street Address:

City: **State:** **Zip:**

Phone:

Email address: ksuthiwan@enduringresources.com

ENSOLUM

ENDURING RESOURCES IV, LLC

RINCON UNIT 2706-29O WATER RECYCLING FACILITY AND CONTAINMENT

JULY 12, 2022

Ensolum, LLC | Environmental & Hydrogeologic Consultants
776 East 2nd Avenue | Durango, Colorado 81301
www.ensolum.com

Table of Contents

ENSOLUM

1.0 INTRODUCTION

Operator	Enduring Resources IV, LLC
OGRID	372286
Facility Name	Rincon Unit 2706-29O
Facility Type	Recycling Facility and Recycling Containment
Location	Section 29, T27N, R6W, Rio Arriba County
Surface Owner	Federal – Bureau of Land Management (BLM)

In accordance with 19.15.34 of the New Mexico Administrative Code (NMAC), Enduring Resources IV, LLC (Enduring) requests the registration of recycling containments and permit for a recycling facility. The facility and containments will consist of five, 60,000 barrel (bbl) aboveground tanks to be used to treat and recycle produced water for re-use during Enduring well completion activities. This facility will not be used for the disposal of produced water.

The facility is located at 36.539671° N, 107.490588° W, within Section 29, Township 27N, Range 6W in Rio Arriba County. Enduring is the operator of the applicable oil and gas mineral rights at this location. The surface owner (Bureau of Land Management, BLM), as part of the Rincon Unit plan of development (POD), has been notified and approved of the placement of this facility/containment as designed in the POD.

This document provides the supplemental information to NMOCD Form-147 that is required for registration, including siting criteria and demonstrations, design plans, operating and maintenance plans, closure plans, and surface owner approval.

1.1 RECYCLING CONTAINMENT REGISTRATION EXPIRATION AND RENEWAL

Upon approval of this registration, the recycling containments located at the facility will be operated for up to five years from the date on which this registration is filed with the NMOCD. If needed, Enduring will request annual extensions after the five-year registration period to continue operations at the facility, which will require the submission of Form C-147 to the NMOCD at least 30 days prior to the expiration of this registration. The extension request will include a summary of all monthly inspections of the containments, including monitoring of the leak detection systems indicating that the containments integrity has not been compromised.

ENSOLUM

2.0 SITING CRITERIA

The location of the proposed Rincon Unit 2706-29O facility/containment has been evaluated based on the siting requirements presented in 19.15.34.11 NMAC. The siting requirements and justification for this location is further described below. Assessment of potential nearby receptors was conducted through desktop reviews of topographic maps, Federal Emergency Management Administration (FEMA) Geographic Information System (GIS) maps, United States Geological Survey (USGS) GIS maps, New Mexico Office of the State Engineer database, and aerial photographs, as well as site-specific observations. Topographic maps, plats, and aerial photographs depicting these siting requirements are presented in Appendices A and B.

- ***Groundwater is greater than 50 feet below the bottom of the containment:***
  A test well was drilled on April 24, 2019, per the attached GeoMat figure and boring logs (Appendix C). The deepest boring was advanced to 85 feet below ground surface (bgs) with no groundwater encountered to this depth. As such, groundwater at the facility is greater than 85 feet bgs.

- ***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:***
  The recycling facility/containment is not located within any incorporated municipal boundaries or within a defined municipal fresh water well field.

- ***Within the area overlying a subsurface mine:***
  According to New Mexico Energy, Minerals and Natural Resources Department (EMNRD) Mining and Minerals Divisions database, there are no subsurface mines in Section 29, Township 27 North, Range 6 West, Rio Arriba County. As such, the recycling facility/containment is not located within an area overlying a subsurface mine

- ***Within an unstable area:***
  Per USGS and geological mapping of the area, the recycling facility/containment is not located within an unstable area and is not on the side of a hill.

- ***Within a 100-year floodplain (FEMA map):***
  The recycling facility/containment is not located within a 100-year floodplain as shown on the FEMA database and on the aerial and topo maps provided.

- ***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):***
  The recycling facility/containment is not located within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake as shown on the aerial or top maps provided and field verified on June 3, 2022 by Enduring personnel. The nearest wash is an unnamed, dry wash located approximately 650 feet west of the facility.

ENSOLUM

- ***Within 1,000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of the initial application:***
  The recycling facility/containment is not located within 1,000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of this application, as shown on the aerial or topo maps provided and field verified on June 3, 2022 by Enduring personnel.

- ***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***:
  The recycling facility/containment is not located within 500 horizontal feet of a spring or fresh water well used for domestic or stock watering purposes in existence at the time of this application as shown on the aerial or topo maps provided. According to the NMOSE iWaters database, the nearest permitted groundwater well with depth to water information is SJ-02403, located approximately 7,100 feet west of the Site. Depth to water in this well is 300 feet bgs.

- ***Within 500 feet of a wetland :***
  The recycling facility/ containment is not located within 500 feet of a wetland as shown on the aerial or topo maps provided and field verified on June 3, 2022 by Enduring personnel.

ENSOLUM

3.0 DESIGN AND CONSTRUCTION SPECIFICATIONS

Pursuant to 19.15.34.12 NMAC, the following Design Plan presents the minimum standards and specifications for the design and construction of the proposed recycling containments at the Rincon Unit 2706-29O site. The facility and recycling containments have been designed to prevent releases and potential overtopping due to wave action (by wind) or rainfall. To supplement the information provided below, the manufacturers specifications for the design and construction of the aboveground containments are provided in Appendix D.

3.1 FOUNDATION CONSTRUCTION

The containments will be constructed on an existing well pad at the Rincon Unit 2706-29O site, which is level and vacant. The facility will be constructed with a foundation consisting of a firm, unyielding base free of rocks, debris, and sharp edges. A geotextile fabric will be placed under the secondary liner of each containment to reduce stress-strain on the liner. Because the containments are located above ground, they will not be subject to water run-on.

3.2 LINER AND LEAK DETECTION CONSTRUCTION

The containments used at the facility will be Water Well Solutions and Rentals, Inc. double-lined frac water tank systems. These tank systems are designed to incorporate a 40-mil thickness LLDPE primary (upper) string-reinforced liner and a 30-mil LLDPE secondary (lower) string-reinforced liner. The primary liner is designed to be impervious, synthetic material that will resist deterioration by ultraviolet light, petroleum hydrocarbons, salt solutions, and acidic/alkaline solutions. Liners will meet or exceed the compatibility requirements of EPA SW-846 Method 9090A. Steel bolts will secure the liners to the top of the aboveground tanks. Specifications provided by Water Well Solutions and Rentals, Inc. are attached in Appendix D.

Liner seams will be minimized and will be oriented vertically up and down the containment walls, and not horizontally across the containment. Factory welded seams will be incorporated, where possible. Field seams, welding, and testing on the geosynthetic liners will be performed by a manufacturer qualified person. For any field seams, the liners shall overlap 4 to 6 inches and be thermally sealed. Field seams should be avoided or minimized in corners and irregularly shaped areas. At a point of discharge into, or suction from, the recycling containment, the liner will be protected from excessive hydrostatic force or mechanical damage. External discharge or suction lines will not penetrate the liners.

A leak detection system will be installed between the upper and lower liners of each containment and will consist of a 200-mil geonet drainage layer. The leak detection system will cover the bottom and sides of the containments and include a minimum of 3 feet of freeboard. A 6-inch PVC pipe will be inserted in a sump at the bottom of the containment and between the liners. Each containment will be slightly sloped, with the sump placed at the location with the lowest elevation to facilitate the earliest possible leak detection. A schematic of the leak detection system is included in Appendix D.

The sump piping will be checked weekly with a water-level meter to determine if leakage is occurring through the primary liners. If water is detected in the leak detection sump, water will be removed to assess if water returns indicating a leak in the primary liner.

Controls for surface water run-on of surface is not needed due to the containments being aboveground tanks. Additionally, any topsoil requiring removal for the preparation and construction of the containments will be stockpiled for use as the final cover at the time of closure.

3.3 SIGNAGE

The facility will have a sign no less than 12" by 24" with lettering not less than 2" in height in a conspicuous place near the facility entrance. The sign will contain the operator's name, location of the facility by quarter-quarter or unit letter, Section, Township, Range, and emergency phone numbers.

3.4 FENCING

Enduring will construct an eight-foot chain link fence around the facility for entrance protection. Facility gates will be closed and locked when personnel are not on location. All fencing will be kept in good repair and inspected weekly.

3.5 NETTING

Enduring will install bird netting provided by the tank manufacturer over each containment. The netting will be inspected monthly for disrepair and/or dead migratory birds found in the containments. Enduring will report dead migratory birds and/or other wildlife to the appropriate wildlife agency and to the NMOCD within 30 days of discovery.

ENSOLUM

4.0 MAINTENANCE AND OPERATIONAL REQUIREMENTS

Pursuant to 19.15.34.13 NMAC, Enduring will follow the maintenance and operational requirements described below. At a minimum, Enduring will perform weekly inspections on the containments and leak detections systems while the containments hold fluids. Enduring will maintain records and make them available for review by the NMOCD.

- Enduring will remove any visible oil from the surface of the containments upon discovery.
- Enduring will maintain a minimum of three feet of freeboard in the containments at all
- times.
- The injection and withdrawal of fluids from the containments 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 or pipes.
- If a leak is discovered in the containments' primary liner above the liquid level in the containment, Enduring will repair the primary liner within 48 hours, or request an extension on repair within the 48-hour time limit.
- If a leak is discovered in the containments' primary liner below the liquid level in the containment, Enduring will notify the division office of the leak, remove all fluids above the leak level, and repair the primary liner within 48 hours, or request an extension on repair within the 48-hour time limit.
- The facility will be operated in such a way to prevent the collection of surface water.
- An oil absorbent boom or other device will be onsite to contain an unanticipated release.
- The facility will not be used for the storage or discharge of hazardous waste.

4.1 REPORTING AND RECORD KEEPING

During the operation of the recycling facility, Enduring will keep accurate records and report monthly to the NMOCD the total volume of water received for recycling, with the volume of fresh water received listed separately, and the total volume of water leaving the facility for disposition of use. Water volume totals will be submitted on NMOCD Form C-148. Accurate records identifying the sources and disposition of recycled water will be maintained during the operation of the facility and made available for review to the NMOCD upon request.

4.2 CESSATION OF OPERATIONS

Enduring will consider the recycling containment to have ceased operations if less than 20% of the total fluid volume is used every six (6) months following the first withdrawal of produced water for use. Enduring will report cessation of operations to the appropriate NMOCD district office. If additional time is needed for closure, Enduring will request an extension from the appropriate NMOCD district office prior to the expiration of the initial six (6) month time period.

ENSOLUM

5.0 CLOSURE PLAN

Pursuant to 19.15.34.14 NMAC, the activities summarized below describe the closure and reclamation requirements for the Rincon Unit 2706-29O recycling facility. Within 60 days of closure completion, Enduring will submit a closure report on NMOCD Form C-147 and include required attachments to document all closure activities, sampling results, and details on backfilling, capping, or covering, where applicable.

5.1 CONTAINMENT CLOSURE

Enduring will remove all fluids from the facility within 60 days from the date that operations cease and close the containments from use within six months from the date that Enduring ceases operations. Alternatively, Enduring can request an extension for the removal of fluids from the NMOCD not to exceed an additional two months. Enduring can also request an extension for the closure of the containments, not to exceed an additional six months. The operator shall close the recycling containments by first removing all fluids, contents, synthetic liners, and leak detection piping and transferring these materials to a NMOCD-approved facility for disposal.

5.2 CLOSURE SOIL SAMPLING

Once the containments are removed from the facility, Enduring will test the soils beneath each 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 the following table:

Components	Test Method	Groundwater Depth 50 – 100 Feet Limit (mg/kg)	Groundwater Depth >100 Feet 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

If any contaminant concentration is higher than the parameter limits listed above, the NMOCD may require additional delineation upon review of the results and Enduring must receive approval before proceeding with closure. If all contaminant concentrations are less than or equal to the parameter limits listed above, then Enduring can proceed to backfill with non-waste containing, uncontaminated, earthen material.

ENSOLUM

5.3 RECLAMATION

Enduring will reclaim the containment locations to a safe and stable condition that blends with the surrounding undisturbed area. Topsoil and subsoil will be replaced to their original relative positions and contoured to achieve erosion control, long term stability, and preservation of surface water flow patterns. The disturbed area will then be reseeded in the first favorable growing season following closure. The impacted surface area will be restored to the condition that existed prior to construction.

Reclamation of all disturbed areas no longer in use shall be considered complete when all ground disturbing activities have been completed and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent of pre-disturbance levels and total percent plant cover of at least seventy percent of pre-disturbance levels excluding noxious weeds. Soil cover and revegetation as required in 19.15.34.14 NMAC will be met in addition to the reclamation requirements by BLM (surface owner), which have provided for more stringent requirements for this facility location.

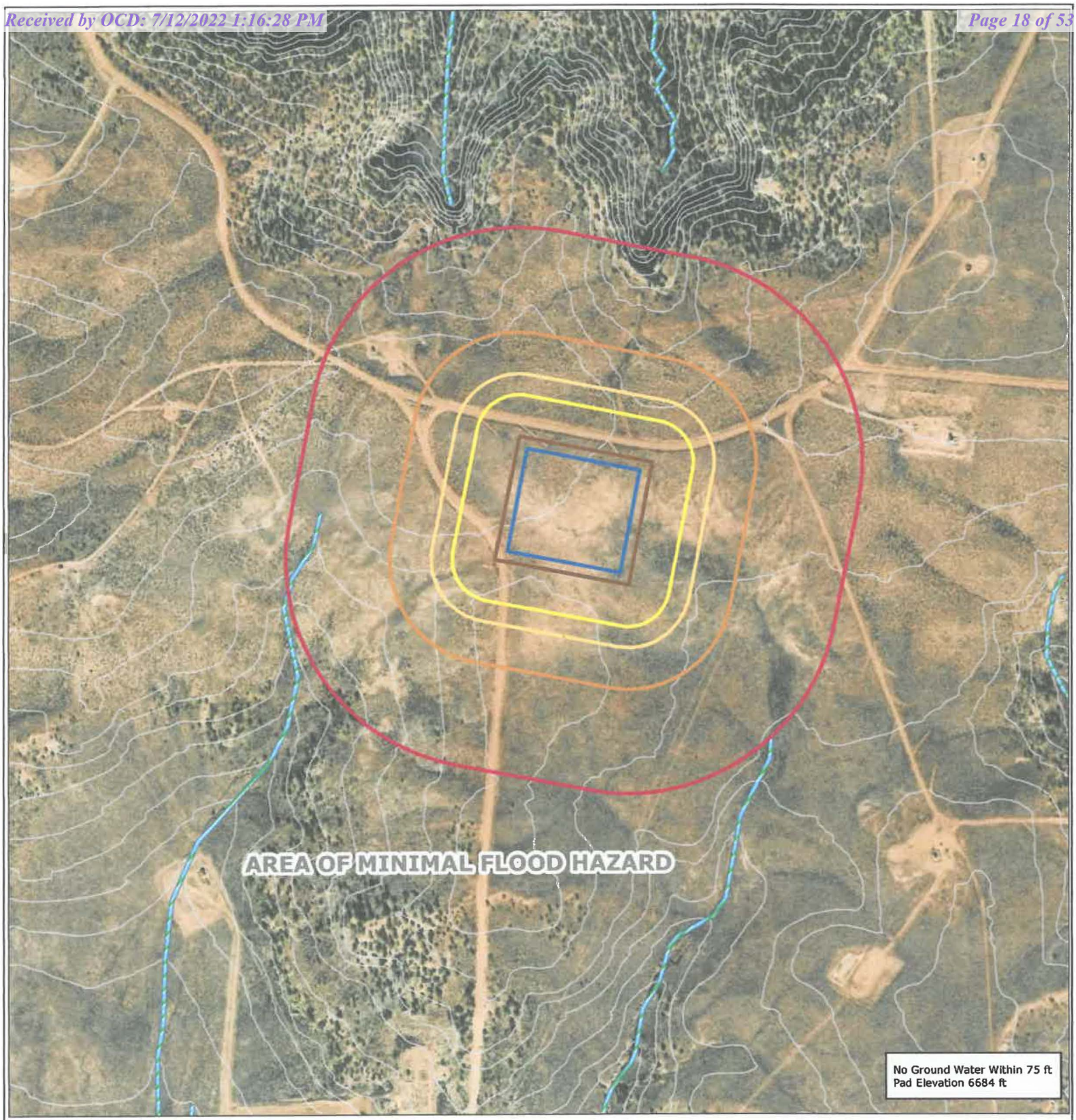
ENSOLUM

6.0 VARIANCE REQUEST

Enduring is requesting variances for requirements presented in 19.15.34 NMAC. Attached Appendix E presents additional information regarding the variance request.

APPENDIX A

SITING CRITERIA AND CONTAINMENT CONFIGURATION MAPS



RNU 2706-29O Recycling Facility/ Containment location

OSE_wells_AOI
Mines and Mills
Coal
VM Vermiculite
S Sulfur
PM Pumice
PO Potash
PL Perlite
MI Mica
GY Gypsum
NM_Wetlands
NHDWaterbody
PAD_TYPE
Contain
Disturb
200 ft
300 ft
500 ft
1000 ft
FEMA High Risk Flood Zone
USGS Water Courses

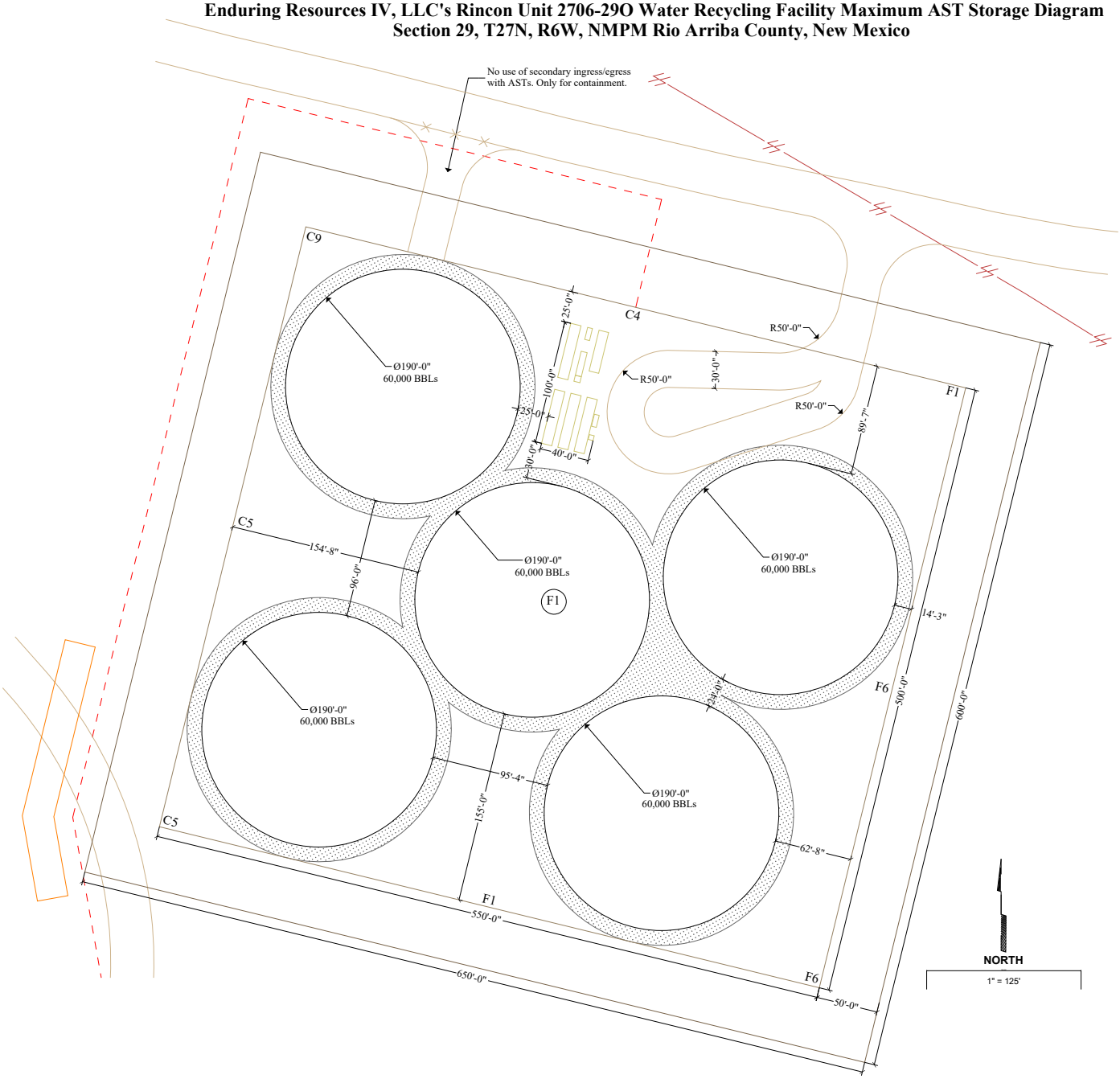
ENDURING RESOURCES, LLC

Data Source Statement:
BLM-FFO, Enduring Resources GIS, ESRI Inc., NCE Surveys, USGS

0 500 1,000 2,000 Feet

NAD 1983 2011 StatePlane New Mexico West FIPS 3003 Ft US	Author: drogers	Date: 7/2/2019

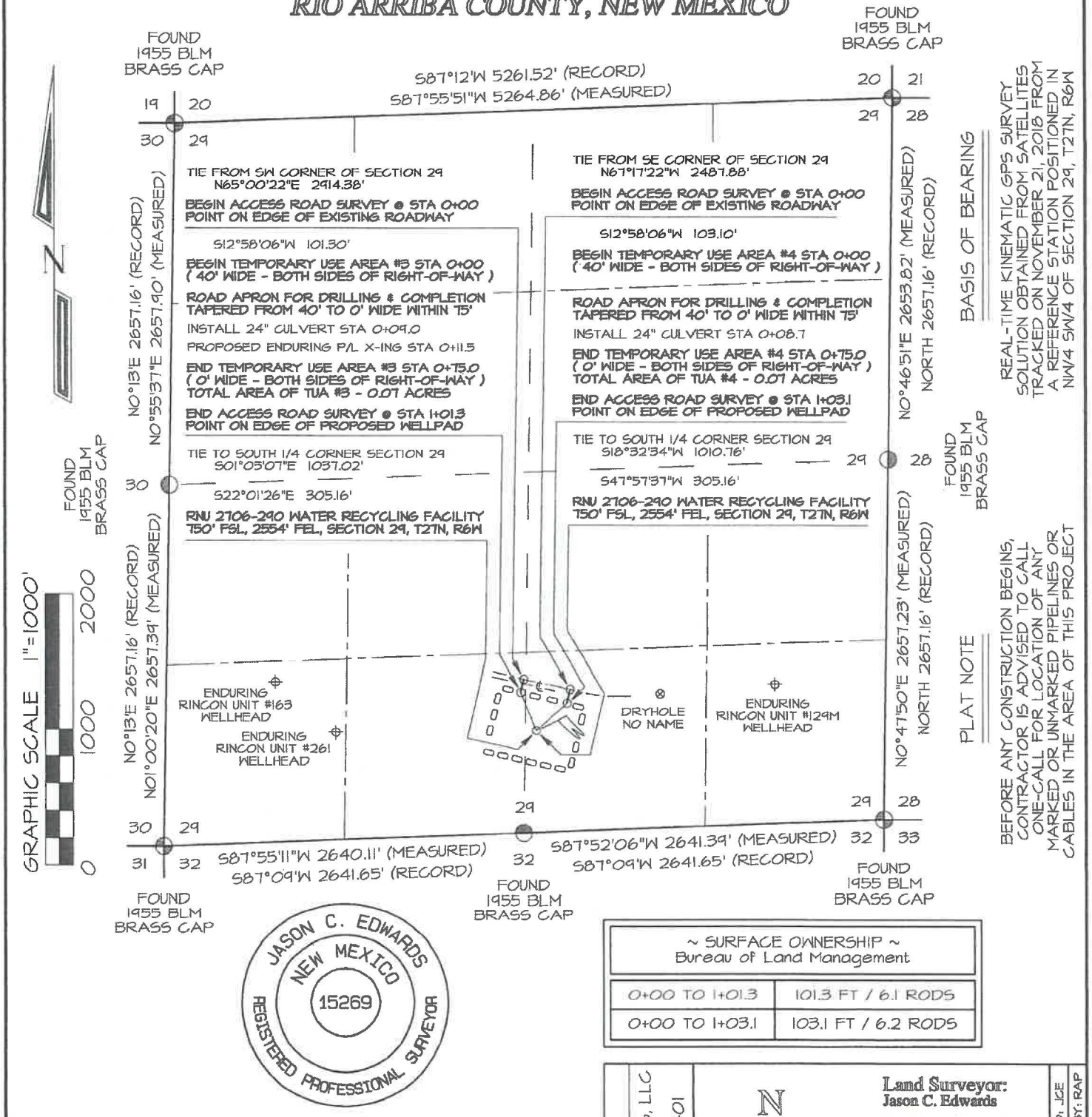
Enduring Resources IV, LLC's Rincon Unit 2706-29O Water Recycling Facility Maximum AST Storage Diagram
Section 29, T27N, R6W, NMPM Rio Arriba County, New Mexico



APPENDIX B

TOPOGRAPHIC/PLAT MAPS AND DRIVING DIRECTIONS

ENDURING RESOURCES, LLC RNU 2706-29O WATER RECYCLE FACILITY
PROPOSED ACCESS ROAD SURVEY LOCATED IN THE SE/4 SW/4 & SW/4 SE/4 OF SECTION 29, T27N, R6W, N.M.P.M. RIO ARRIBA COUNTY, NEW MEXICO



~ SURFACE OWNERSHIP ~ Bureau of Land Management	
0+00 TO 1+01.3	101.3 FT / 6.1 RODS
0+00 TO 1+03.1	103.1 FT / 6.2 RODS

JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR

I, Jason C. Edwards, a registered professional surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: April 2, 2019

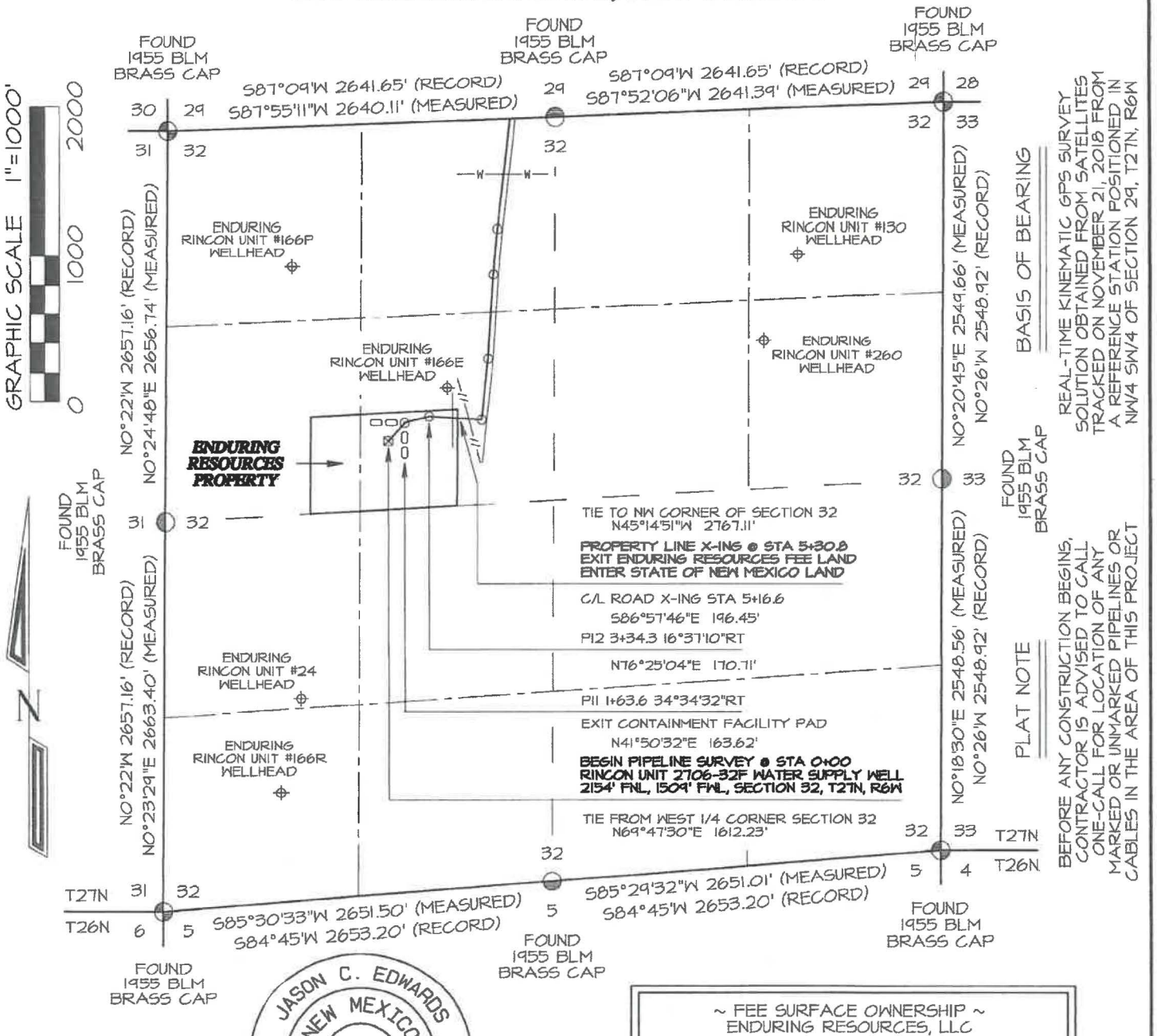
Jason C. Edwards
New Mexico LS #15269

Prepared for:
ENDURING RESOURCES, LLC
200 ENERGY COURT
FARMINGTON, NM 87401

Land Surveyor:
Jason C. Edwards
Mailing Address:
Post Office Box 6612
Farmington, NM 87499
Business Address:
111 East Pinon Street
Farmington, NM 87402
(505) 486-1695 (Office)
ncesurveys@comcast.net
NCE SURVEYS, INC.

CHECKED: JCE
DRAWN BY: RAP
SHEET 3 OF 13
FILENAME: 27624AP1

ENDURING RESOURCES, LLC RNU 2706-29O WATER RECYCLE FACILITY
PROPOSED PIPELINE SURVEY LOCATED IN THE SE/4 NW/4 OF SECTION 32, T27N, R6W, N.M.P.M. RIO ARRIBA COUNTY, NEW MEXICO



~ FEE SURFACE OWNERSHIP ~ ENDURING RESOURCES, LLC	
0+00 TO 5+30.8	530.8 FT / 32.2 RODS

JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR

I, Jason C. Edwards, a registered professional surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: April 2, 2019

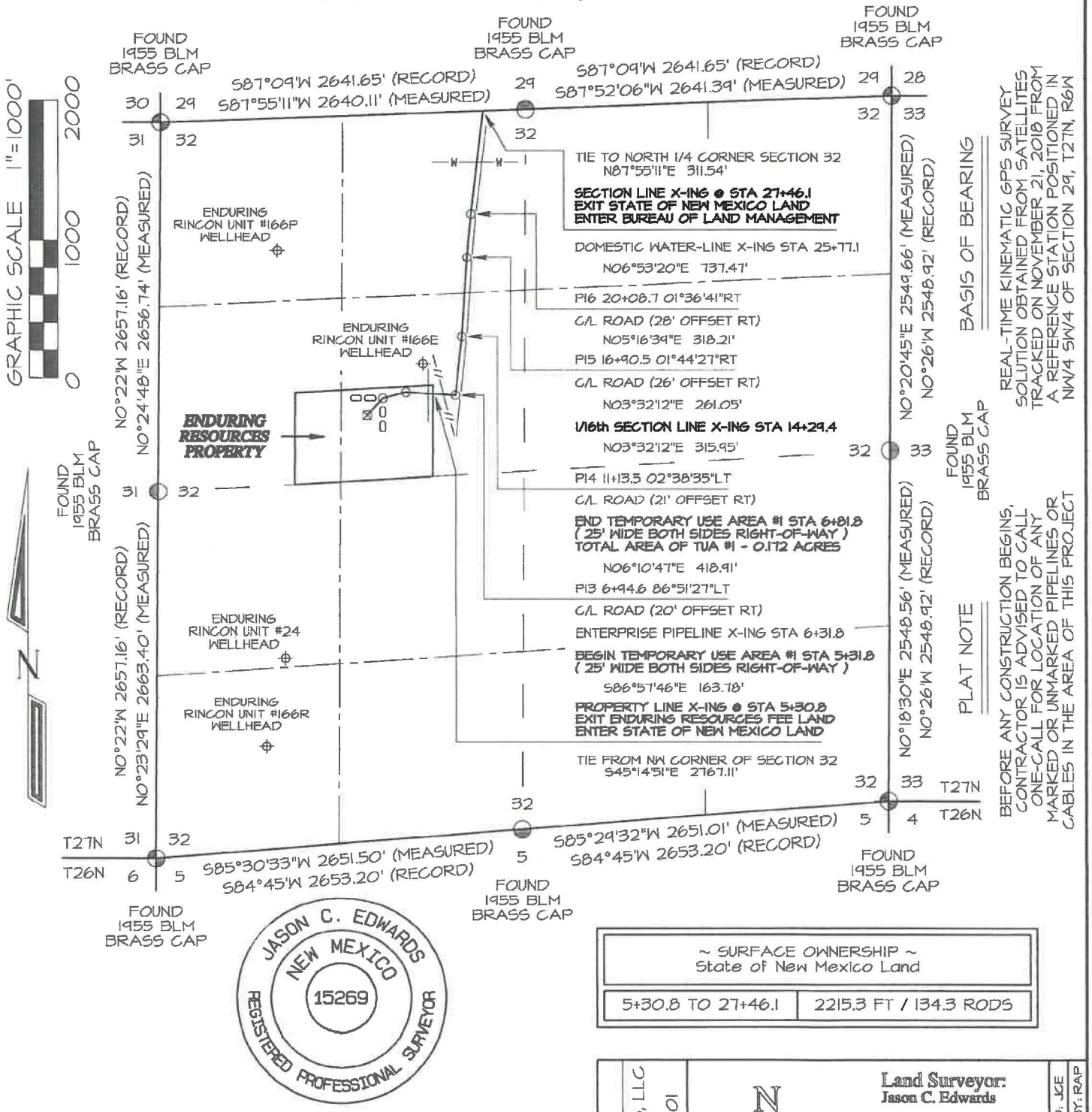
Jason C. Edwards
New Mexico LS #15269

Prepared for:
ENDURING RESOURCES, LLC
200 ENERGY COURT
FARMINGTON, NM 87401

Land Surveyor:
Jason C. Edwards
Mailing Address:
Post Office Box 6612
Farmington, NM 87499
Business Address:
111 East Pinon Street
Farmington, NM 87402
(505) 486-1695 (Office)
ncesurveys@comcast.net
NCE SURVEYS, INC.

CHECKED: JCE
DRAWN BY: RAP
SHEET 4 OF 13
FILENAME: 216326P1

ENDURING RESOURCES, LLC RNU 2706-29O WATER RECYCLE FACILITY
PROPOSED PIPELINE SURVEY LOCATED IN THE E/2 NW/4 OF SECTION 32, T27N, R6W, N.M.P.M. RIO ARRIBA COUNTY, NEW MEXICO



~ SURFACE OWNERSHIP ~ State of New Mexico Land	
5+30.8 TO 27+46.1	2215.3 FT / 134.3 RODS

JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR

I, Jason C. Edwards, a registered professional surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: April 2, 2019

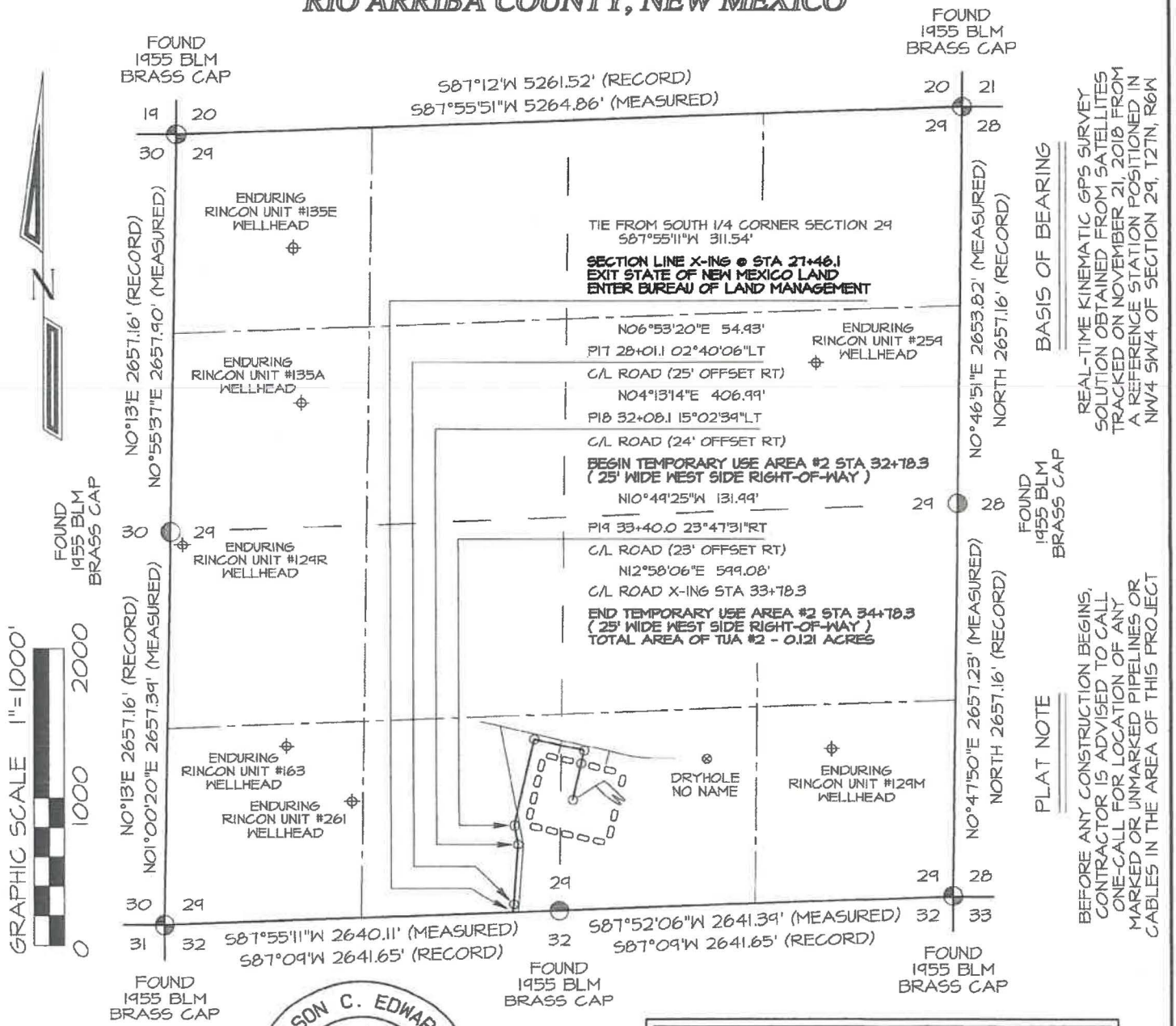
Jason C. Edwards
New Mexico LS #15269

Prepared for:
ENDURING RESOURCES, LLC
200 ENERGY COURT
FARMINGTON, NM 87401

Land Surveyor:
Jason C. Edwards
Mailing Address:
Post Office Box 6612
Farmington, NM 87499
Business Address:
111 East Pinon Street
Farmington, NM 87402
(505) 486-1695 (Office)
ncesurveys@comcast.net
NCE SURVEYS, INC.

SHEET 5 OF 13 | CHECKED: JCE | DRAWN BY: RAP | FILENAME: 2763269P2

ENDURING RESOURCES, LLC RNU 2706–29O WATER RECYCLE FACILITY
PROPOSED PIPELINE SURVEY LOCATED IN THE
SE/4 SW/4 & SW/4 SE/4 OF SECTION 29, T27N, R6W, N.M.P.M.
RIO ARRIBA COUNTY, NEW MEXICO



BASIS OF BEARING

REAL-TIME KINEMATIC GPS SURVEY SOLUTION OBTAINED FROM SATELLITES TRACKED ON NOVEMBER 21, 2018 FROM A REFERENCE STATION POSITIONED IN NW/4 SW/4 OF SECTION 29, T27N, R6W

PLAT NOTE

BEFORE ANY CONSTRUCTION BEGINS, CONTRACTOR IS ADVISED TO CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED PIPELINES OR CABLES IN THE AREA OF THIS PROJECT

~ SURFACE OWNERSHIP ~ Bureau of Land Management	
27+46.1 TO 46+23.5	1877.4 FT / 113.8 RODS

JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR

I, Jason C. Edwards, a registered professional surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: April 2, 2019

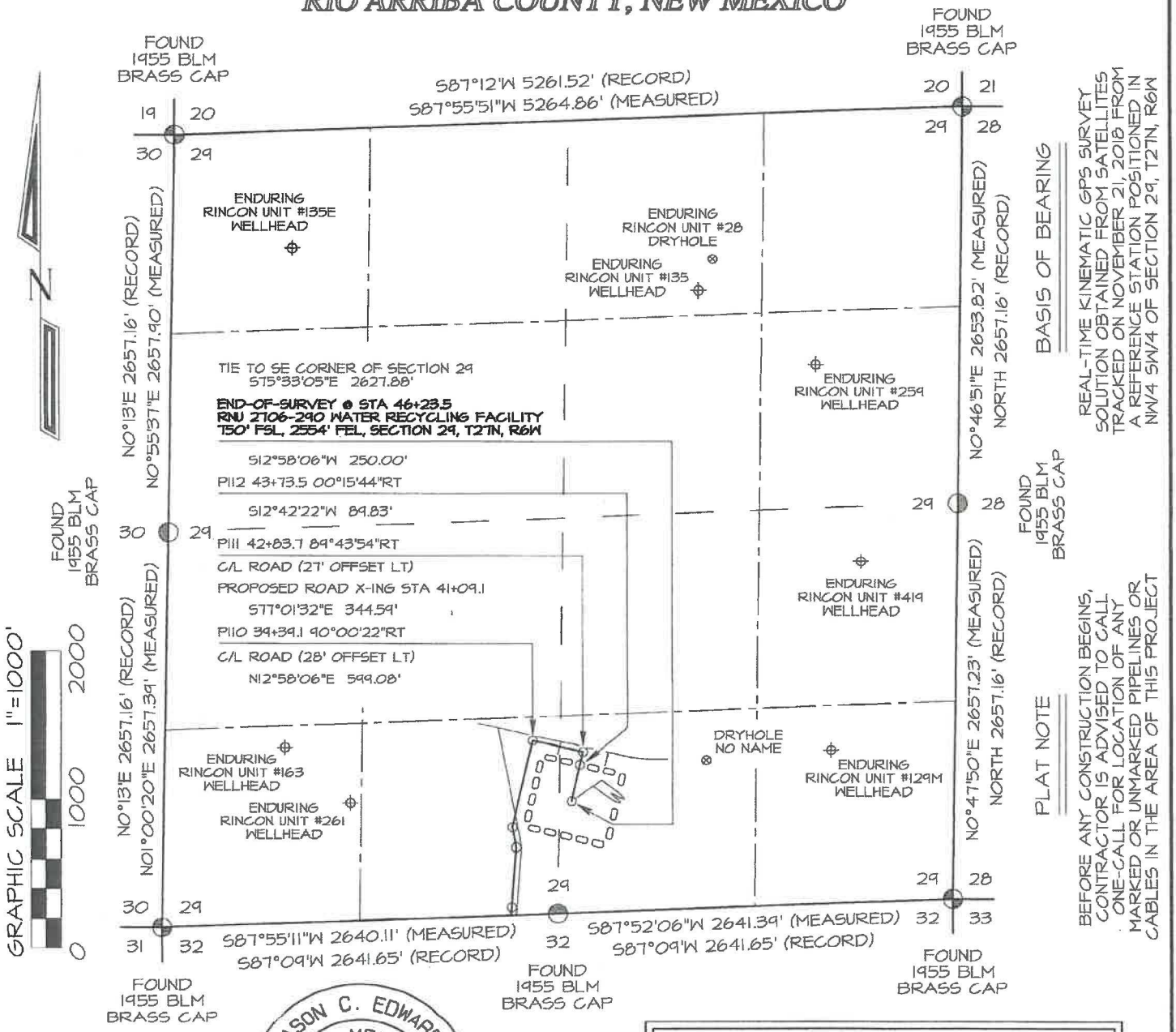
Jason C. Edwards
New Mexico LS #15269

Prepared for:
ENDURING RESOURCES, LLC
200 ENERGY COURT
FARMINGTON, NM 87401

N C E SURVEYS, INC.
Land Surveyor: Jason C. Edwards
Mailing Address: Post Office Box 6612 Farmington, NM 87499
Business Address: 111 East Pinon Street Farmington, NM 87402
(505) 486-1695 (Office)
ncesurveys@comcast.net

CHECKED: JCE
DRAWN BY: RAP
SHEET 6 OF 13
FILENAME: 216249P3

ENDURING RESOURCES, LLC RNU 2706-29O WATER RECYCLE FACILITY
PROPOSED PIPELINE SURVEY LOCATED IN THE
SE/4 SW/4 & SW/4 SE/4 OF SECTION 29, T27N, R6W, N.M.P.M.
RIO ARRIBA COUNTY, NEW MEXICO



~ SURFACE OWNERSHIP ~ Bureau of Land Management	
27+46.1 TO 46+23.5	1877.4 FT / 113.8 RODS

JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR

I, Jason C. Edwards, a registered professional surveyor under the laws of the State of New Mexico, hereby certify that this plat was prepared from field notes of an actual survey meeting the minimum requirements of the standards for easement surveys and is true and correct to the best of my knowledge and belief.

JASON C. EDWARDS Date: April 2, 2019

Jason C. Edwards
New Mexico LS #15269

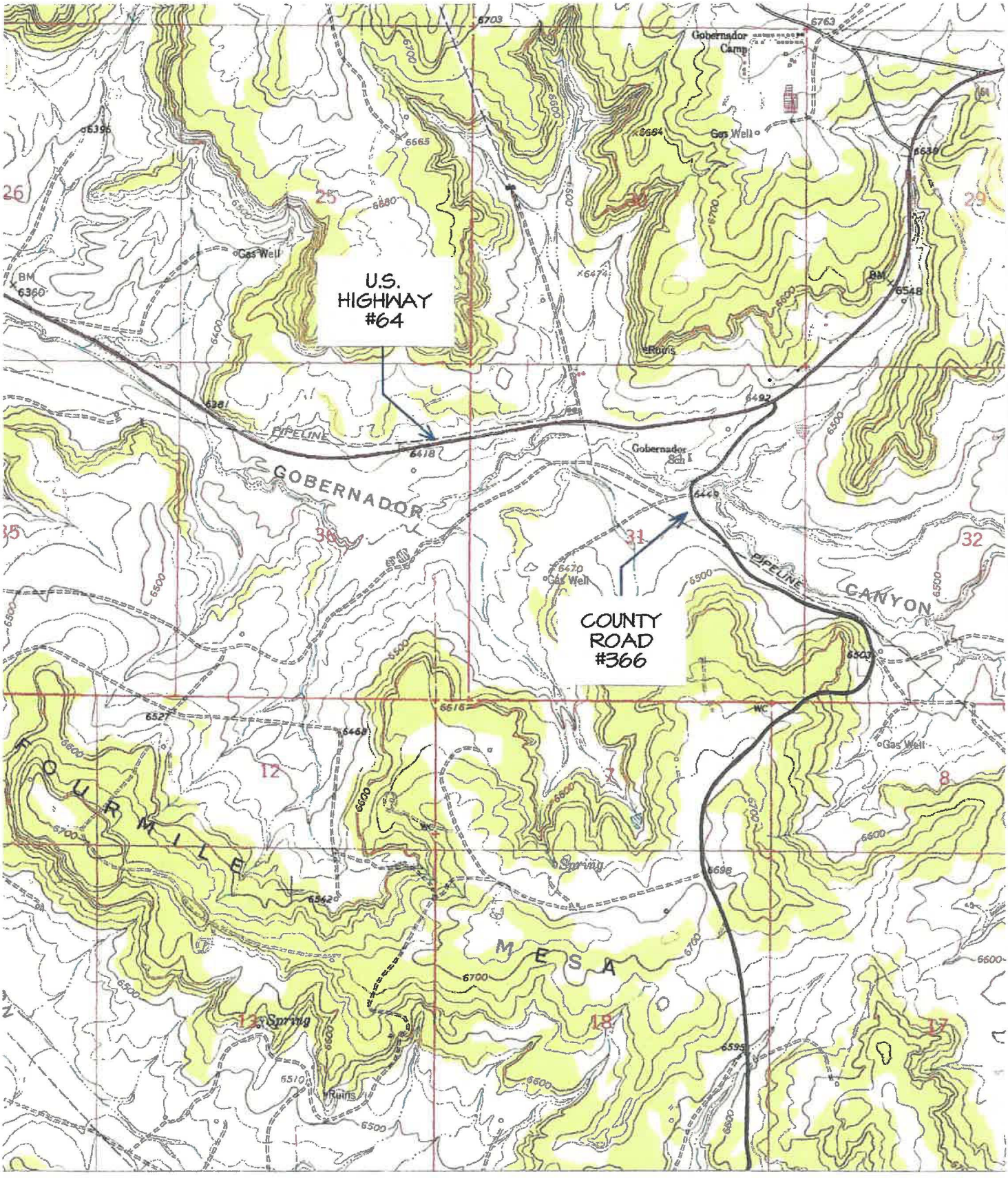
Prepared for:
ENDURING RESOURCES, LLC
200 ENERGY COURT
FARMINGTON, NM 87401

Land Surveyor: Jason C. Edwards
Mailing Address: Post Office Box 6612 Farmington, NM 87499
Business Address: 111 East Pinon Street Farmington, NM 87402
(505) 486-1695 (Office)
ncesurveys@comcast.net
NCE SURVEYS, INC.

CHECKED: JCE
DRAWN BY: RAP
SHEET 7 OF 13
FILENAME: 216296P4

ENDURING RESOURCES, LLC RNU 2706-29O WATER RECYCLE FACILITY

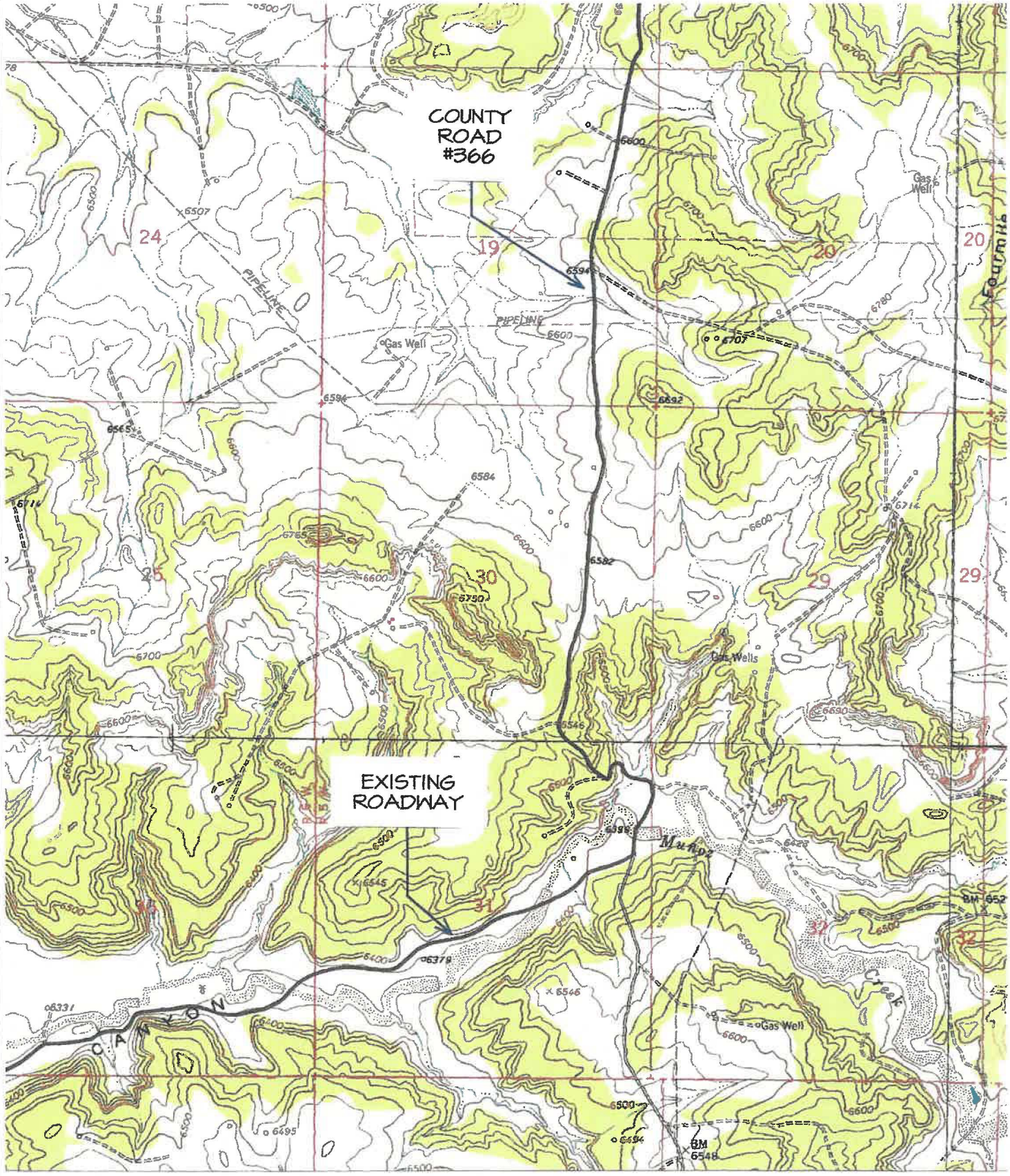
LOCATED IN SE/4 SW/4 & SW/4 SE/4 SECTION 29, T27N, R6W
N.M.P.M., RIO ARRIBA COUNTY, NEW MEXICO



TOPO NAME : FOURMILE CANYON ⊕ PRODUCING WELL ⊗ PLUGGED & ABANDONED WELL

ENDURING RESOURCES, LLC RNU 2706-29O WATER RECYCLE FACILITY

LOCATED IN SE/4 SW/4 & SW/4 SE/4 SECTION 29, T27N, R6W
N.M.P.M., RIO ARRIBA COUNTY, NEW MEXICO

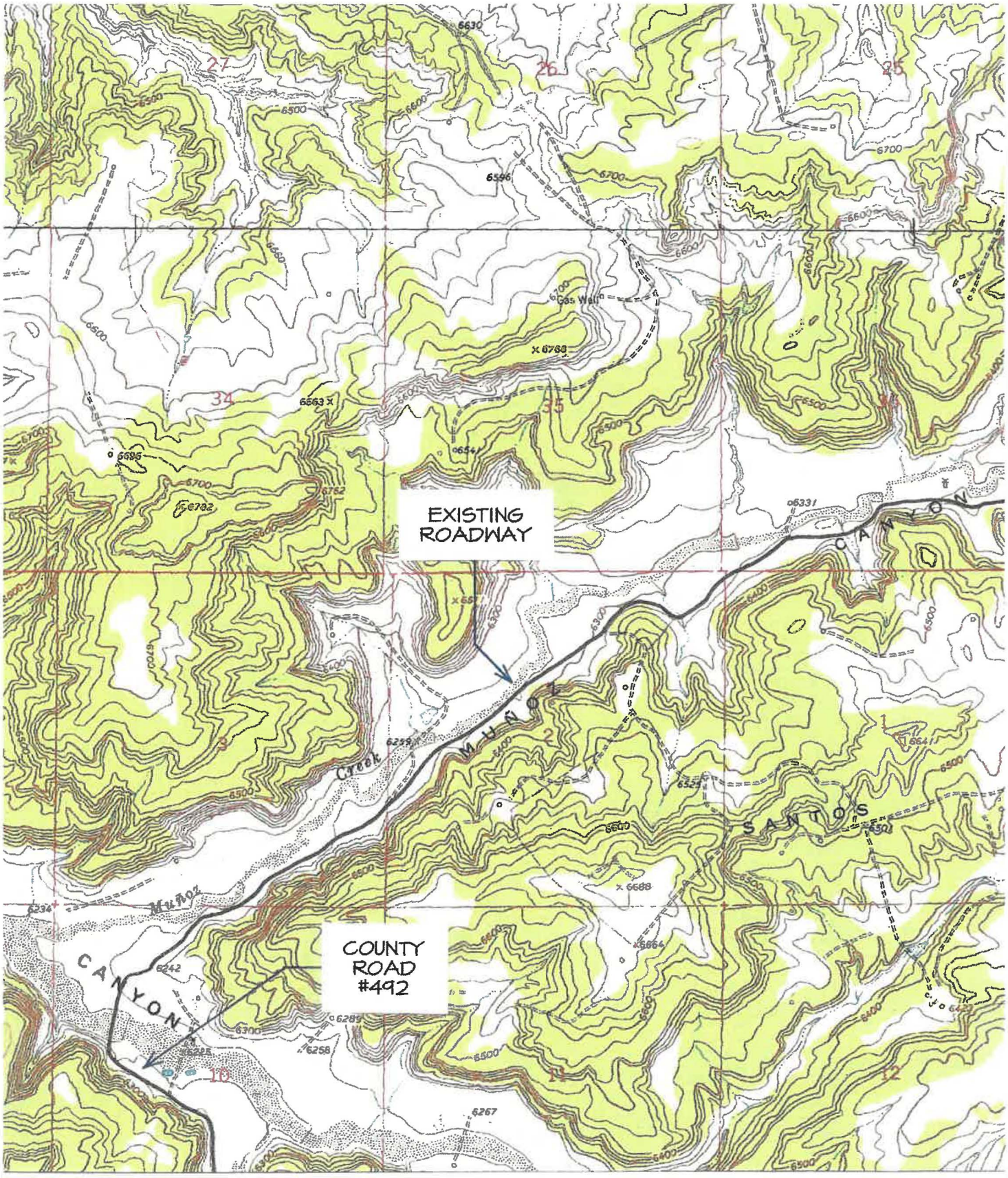


TOPO NAMES : SANTOS PEAK & FOURMILE CANYON

⊕ PRODUCING WELL ⊗ PLUGGED & ABANDONED WELL

ENDURING RESOURCES, LLC RNU 2706-29O WATER RECYCLE FACILITY

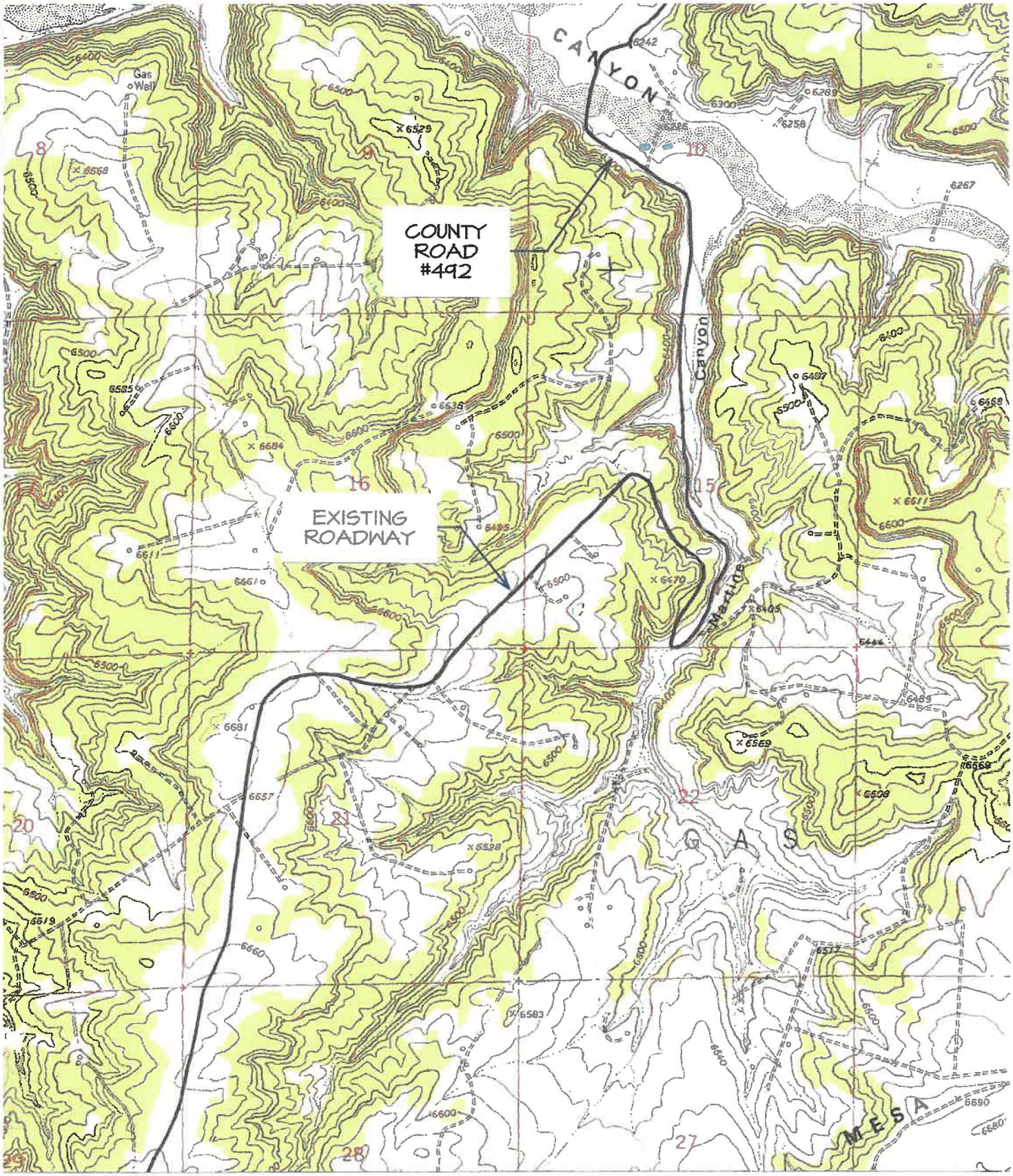
LOCATED IN SE/4 SW/4 & SW/4 SE/4 SECTION 29, T27N, R6W
N.M.P.M., RIO ARRIBA COUNTY, NEW MEXICO



TOPO NAME : SANTOS PEAK ⊕ PRODUCING WELL ⊗ PLUGGED & ABANDONED WELL

ENDURING RESOURCES, LLC RNU 2706-29O WATER RECYCLE FACILITY

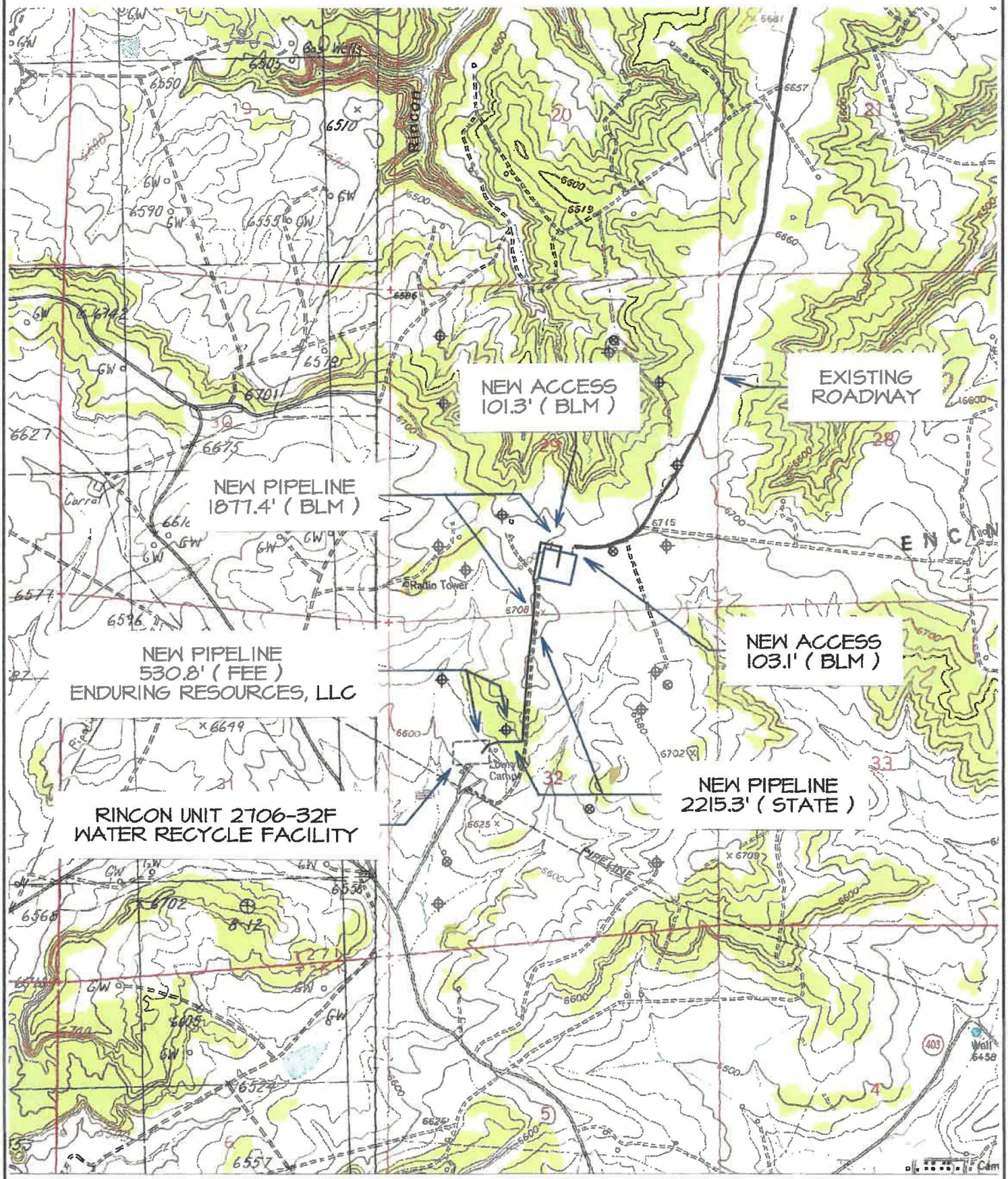
LOCATED IN SE/4 SW/4 & SW/4 SE/4 SECTION 29, T27N, R6W
N.M.P.M., RIO ARRIBA COUNTY, NEW MEXICO



TOPO NAME : SANTOS PEAK ⊕ PRODUCING WELL ⊗ PLUGGED & ABANDONED WELL

ENDURING RESOURCES, LLC RNU 2706-29O WATER RECYCLE FACILITY

LOCATED IN SE/4 SW/4 & SW/4 SE/4 SECTION 29, T27N, R6W
N.M.P.M., RIO ARRIBA COUNTY, NEW MEXICO



TOPO NAME : SANTOS PEAK ⊕ PRODUCING WELL ⊗ PLUGGED & ABANDONED WELL

Directions from the Intersection of US Hwy 550 & US Hwy 64

in Bloomfield, NM to Enduring Resources, LLC RNU 2706-29O Water Recycle Facility

Located in SE/4 SW/4 & SW/4 SE/4 Section 29, T27N, R6W

N.M.P.M., Rio Arriba County, New Mexico

Latitude: 36.539671°N Longitude: 107.490588°W Datum: NAD1983

From the intersection of US Hwy 550 & US Hwy 64 in Bloomfield, NM, travel Easterly on US Hwy 64 for 36.8 miles to General American Road just beyond Gobernador School at Mile Marker 101;

Go Right (Southerly) on General American Road for 1.2 miles to fork in roadway;

Go Right (South-westerly) continuing on General American Road for 3.4 miles to 4-way intersection;

Go Straight (Southerly) continuing on General American Road for 1.1 miles to fork in roadway;

Go Right (South-westerly) along Munoz Wash for 4.3 miles to 4-way intersection;

Go Straight (South-westerly) continuing across Carrizo Wash for 0.3 miles to fork in roadway;

Go Left (South-easterly) which is straight onto County Road #492 for 0.4 miles to fork in roadway;

Go Right (Southerly) continuing on County Road #492 for 1.4 miles to fork in roadway;

Go Right (Northerly) exiting County Road #492 continuing uphill on existing roadway for 0.6 miles to fork in roadway;

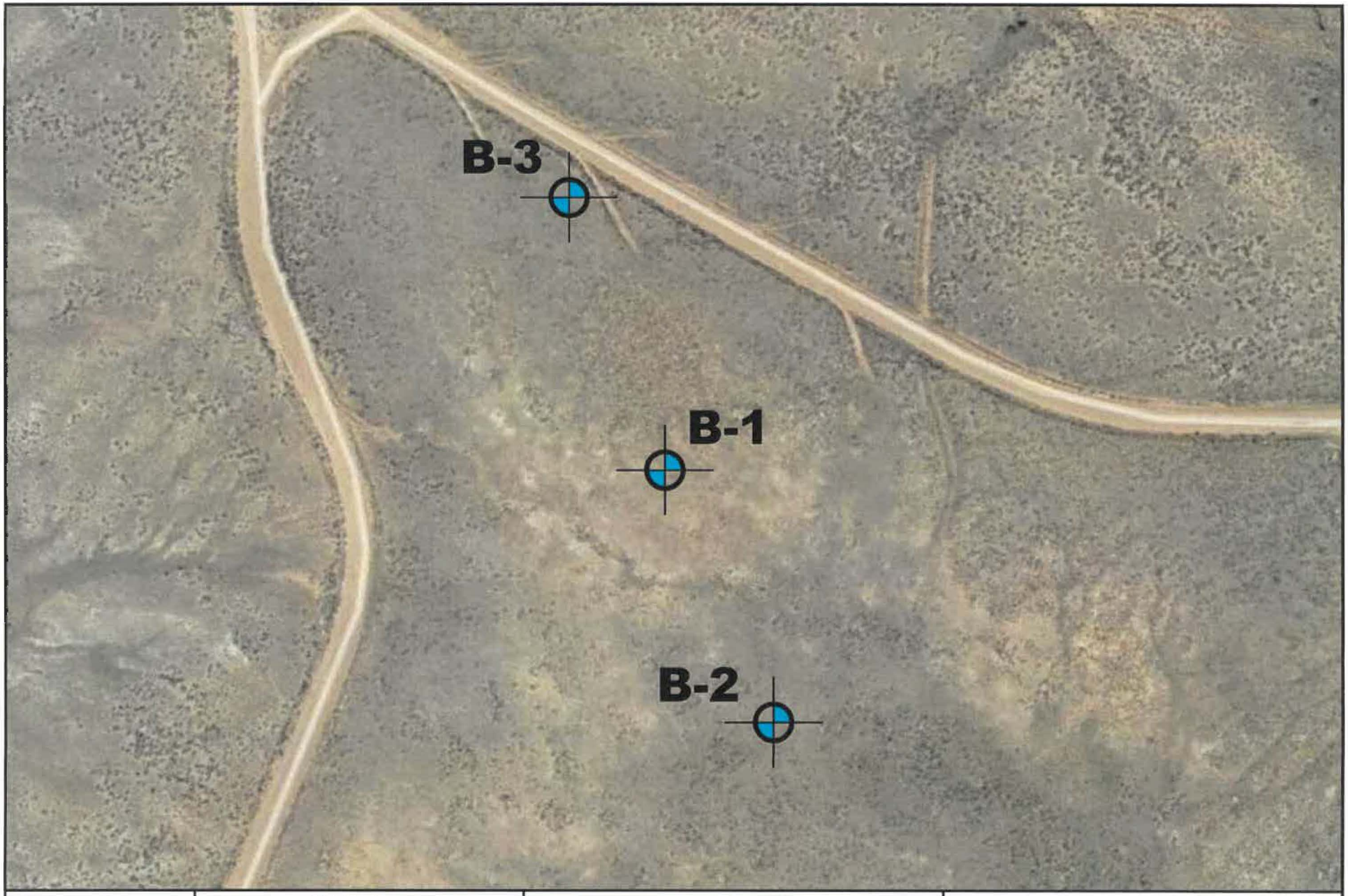
Go Left (South-westerly) for 0.8 miles to fork in roadway;

Go Right (Westerly) which is straight for 0.4 miles to fork in roadway;

Go Left (Southerly) which is straight for 2.1 miles to begin proposed access on left-hand side of roadway which continues for 103.1' to staked RNU 2706-29O Water Recycle Facility.

APPENDIX C

GEOMAT FIGURE AND BORING LOGS



	SITE PLAN	PROJECT	
Approximate Not to Scale	Boring Locations (approximate) GEOMAT Project No. 192-3247 Date of Exploration: April 24 & 29, 2019	Rincon Fracking Water Pond III Enduring Resources Rio Arriba County, New Mexico	GEOMAT INC.

GEOMAT INC.
915 Malta Avenue
Farmington, NM 87401
Tel (505) 327-7928
Fax (505) 326-5721

Borehole B-1

Page 1 of 2

Project Name:	Rincon Pond III	Date Drilled:	4/24/2019
Project Number:	192-3247	Latitude:	Not Determined
Client:	Enduring	Longitude:	Not Determined
Site Location:	San Juan County, New Mexico	Elevation:	Not Determined
Rig Type:	CME-55	Boring Location:	See Site Plan
Drilling Method:	7.25" O.D. Hollow Stem Auger	Groundwater Depth:	None Encountered
Sampling Method:	Bulk, Ring and Split spoon samples	Logged By:	SY
Hammer Weight:	140 lbs	Remarks:	None
Hammer Fall:	30 inches		

Laboratory Results: Dry Density (pcf)	% Passing #200 Sieve	Plasticity Index	Moisture Content (%)	Blows per 6"	Sample Type & Length (in)	Symbol	Material Type	Soil Symbol	Depth (ft)	Soil Description
					A		SC		1–4	Clayey SAND, tan/brown, fine- to medium-grained, dry to damp
									5	layer with higher clay content
				11-14-17	SS				6–7	grades to shale bedrock
									8–9	SHALE, gray, damp, slightly to moderately fissile/friable, slightly weathered
					A				10–15	
106.8			13.1	27-39-50/5"	R		RK		16–23	
									24–29	intermittent siltstone in cuttings
									30	grades into sandstone
				50/3"	SS				31–35	SANDSTONE, tan/gray, fine- to medium-grained, slightly damp, moderately cemented, slightly to moderately weathered
									36–40	intermittent shale in cuttings
					A		RK		41–44	
									45–50	harder drilling

A = Auger Cuttings R = Ring-Lined Barrel Sampler SS = Split Spoon GRAB = Manual Grab Sample D = Disturbed Bulk Sample PP = Pocket Penetrometer

GEOMAT 192-3247.GPJ GEOMAT.GDT 5/1/19

GEOMAT INC.
915 Malta Avenue
Farmington, NM 87401
Tel (505) 327-7928
Fax (505) 326-5721

Borehole B-1

Page 2 of 2

Project Name: Rincon Pond III
Project Number: 192-3247
Client: Enduring
Site Location: San Juan County, New Mexico
Rig Type: CME-55
Drilling Method: 7.25" O.D. Hollow Stem Auger
Sampling Method: Bulk, Ring and Split spoon samples
Hammer Weight: 140 lbs
Hammer Fall: 30 inches

Date Drilled: 4/24/2019
Latitude: Not Determined
Longitude: Not Determined
Elevation: Not Determined
Boring Location: See Site Plan
Groundwater Depth: None Encountered
Logged By: SY
Remarks: None

Laboratory Results: Dry Density (pcf)	% Passing #200 Sieve	Plasticity Index	Moisture Content (%)	Blows per 6"	Sample Type & Length (in)	Symbol	Material Type	Soil Symbol	Depth (ft)	Soil Description
					A				51	tan/orange
									52	
									53	
									54	
									55	
									56	intermittent shale in cuttings
									57	
									58	
									59	
									60	
					A		RK		61	
									62	
									63	
									64	
									65	
									66	
									67	
									68	
									69	
									70	
					A				71	SHALE, gray, slightly damp
									72	
									73	
									74	
									75	
									76	
									77	
							RK		78	
									79	
									80	
									81	
					A				82	
									83	
									84	
									85	
									86	Total Depth 85 feet
									87	
									88	
									89	
									90	
									91	
									92	
									93	
									94	
									95	
									96	
									97	
									98	
									99	
									100	

A = Auger Cuttings R = Ring-Lined Barrel Sampler SS = Split Spoon GRAB = Manual Grab Sample D = Disturbed Bulk Sample PP = Pocket Penetrometer

GEOMAT 192-3247.GPJ GEOMAT.GDT 5/1/19

GEOMAT INC.
915 Malta Avenue
Farmington, NM 87401
Tel (505) 327-7928
Fax (505) 326-5721

Borehole B-2

Page 1 of 1

Project Name: Rincon Pond III
Project Number: 192-3247
Client: Enduring
Site Location: San Juan County, New Mexico
Rig Type: CME-55
Drilling Method: 7.25" O.D. Hollow Stem Auger
Sampling Method: Ring and Split spoon samples
Hammer Weight: 140 lbs
Hammer Fall: 30 inches

Date Drilled: 4/29/2019
Latitude: Not Determined
Longitude: Not Determined
Elevation: Not Determined
Boring Location: See Site Plan
Groundwater Depth: None Encountered
Logged By: SY
Remarks: None

Laboratory Results				Blows per 6"	Sample Type & Length (in)	Symbol	Material Type	Soil Symbol	Depth (ft)	Soil Description
Dry Density (pcf)	% Passing #200 Sieve	Plasticity Index	Moisture Content (%)							
111.7	40	15	7.8	18-28-50/6"	R		SC		1-6	Clayey SAND, tan/brown, fine- to medium-grained, dense, dry to damp, caliche layer with higher clay content
				14-17-22	SS					
				50/5"	R		RK		7-25	SHALE, gray, slightly damp, slightly to moderately fissile/friable, slightly weathered interlayered with gray/tan siltstone
				50/3"	SS					
				50/5"	R					
				50/4"	SS		RK		26-35	SANDSTONE, tan/gray, fine-grained, dry to slightly damp, moderately cemented
				50/2"	SS					
				50/3"	SS				36-50	Total Depth 35 feet

A = Auger Cuttings R = Ring-Lined Barrel Sampler SS = Split Spoon GRAB = Manual Grab Sample D = Disturbed Bulk Sample PP = Pocket Penetrometer

GEOMAT 192-3247.GPJ GEOMAT.GDT 5/1/19

GEOMAT INC.
915 Malta Avenue
Farmington, NM 87401
Tel (505) 327-7928
Fax (505) 326-5721

Borehole B-3

Page 1 of 1

Project Name:	Rincon Pond III	Date Drilled:	4/29/2019
Project Number:	192-3247	Latitude:	Not Determined
Client:	Enduring	Longitude:	Not Determined
Site Location:	San Juan County, New Mexico	Elevation:	Not Determined
Rig Type:	CME-55	Boring Location:	See Site Plan
Drilling Method:	7.25" O.D. Hollow Stem Auger	Groundwater Depth:	None Encountered
Sampling Method:	Ring and Split spoon samples	Logged By:	SY
Hammer Weight:	140 lbs	Remarks:	None
Hammer Fall:	30 inches		

Laboratory Results: Dry Density (pcf)	% Passing #200 Sieve	Plasticity Index	Moisture Content (%)	Blows per 6"	Sample Type & Length (in)	Symbol	Material Type	Soil Symbol	Depth (ft)	Soil Description
				16-22-25	SS		SC		1–10	Clayey SAND, tan/brown, fine- to medium-grained, dense, dry to damp, caliche
				8-32-45	R					layer with higher clay content
				12-18-39	SS		RK		11–35	SHALE, gray, slightly damp, slightly to moderately fissile/friable, slightly weathered
				50/5"	R					interlayered with gray/tan siltstone
				22-28-46	SS					
				50/6"	R					
				50/6"	SS					higher sand content
				50/3"	SS				36–50	Total Depth 35 feet

A = Auger Cuttings R = Ring-Lined Barrel Sampler SS = Split Spoon GRAB = Manual Grab Sample D = Disturbed Bulk Sample PP = Pocket Penetrometer

GEOMAT 192-3247.GPJ GEOMAT.GDT 5/1/19

UNIFIED SOIL CLASSIFICATION SYSTEM					CONSISTENCY OR RELATIVE DENSITY CRITERIA
Major Divisions			Group Symbols	Typical Names	
Coarse-Grained Soils More than 50% retained on No. 200 sieve	**Gravels** 50% or more of coarse fraction retained on No. 4 sieve	Clean Gravels	GW	Well-graded gravels and gravel-sand mixtures, little or no fines	Standard Penetration Test Density of Granular Soils
			GP	Poorly graded gravels and gravel-sand mixtures, little or no fines	Penetration Resistance, N (blows/ft.) / Relative Density
		Gravels with Fines	GM	Silty gravels, gravel-sand-silt mixtures	0-4 Very Loose
			GC	Clayey gravels, gravel-sand-clay mixtures	5-10 Loose
	Sands More than 50% of coarse fraction passes No. 4 sieve	Clean Sands	SW	Well-graded sands and gravelly sands, little or no fines	11-30 Medium Dense
			SP	Poorly graded sands and gravelly sands, little or no fines	31-50 Dense
		Sands with Fines	SM	Silty sands, sand-silt mixtures	>50 Very Dense
			SC	Clayey sands, sand-clay mixtures	Standard Penetration Test Density of Fine-Grained Soils
Fine-Grained Soils 50% or more passes No. 200 sieve	**Silts and Clays** Liquid Limit 50 or less		ML	Inorganic silts, very fine sands, rock flour, silty or clayey fine sands	Penetration Resistance, N (blows/ft.) / Consistency / Unconfined Compressive Strength (Tons/ft2)
			CL	Inorganic clays of low to medium plasticity, gravelly clays, sandy clays, silty clays, lean clays	<2 Very Soft <0.25
			OL	Organic silts and organic silty clays of low plasticity	2-4 Soft 0.25-0.50
	Silts and Clays Liquid Limit greater than 50		MH	Inorganic silts, micaceous or diatomaceous free sands or silts, elastic silts	4-8 Firm 0.50-1.00
			CH	Inorganic clays of high plasticity, fat clays	8-15 Stiff 1.00-2.00
			OH	Organic clays of medium to high plasticity	15-30 Very Stiff 2.00-4.00
Highly Organic Soils			PT	Peat, mucic & other highly organic soils	>30 Hard >4.0

U.S. Standard Sieve Sizes

>12"	12"	3"	3/4"	#4	#10	#40	#200	
Boulders	Cobbles	Gravel			Sand			Silt or Clay
		coarse	fine	coarse	medium		fine	

MOISTURE CONDITIONS	
Dry	Absence of moist, dusty, dry to the touch
Slightly Damp	Below optimum moisture content for compaction
Moist	Near optimum moisture content, will moisten the hand
Very Moist	Above optimum moisture content
Wet	Visible free water, below water table

MATERIAL QUANTITY	
trace	0-5%
few	5-10%
little	10-25%
some	25-45%
mostly	50-100%

OTHER SYMBOLS
R Ring Sample
S SPT Sample
B Bulk Sample
▼ Ground Water

BASIC LOG FORMAT:

Group name, Group symbol, (grain size), color, moisture, consistency or relative density. Additional comments: odor, presence of roots, mica, gypsum, coarse particles, etc.

EXAMPLE:

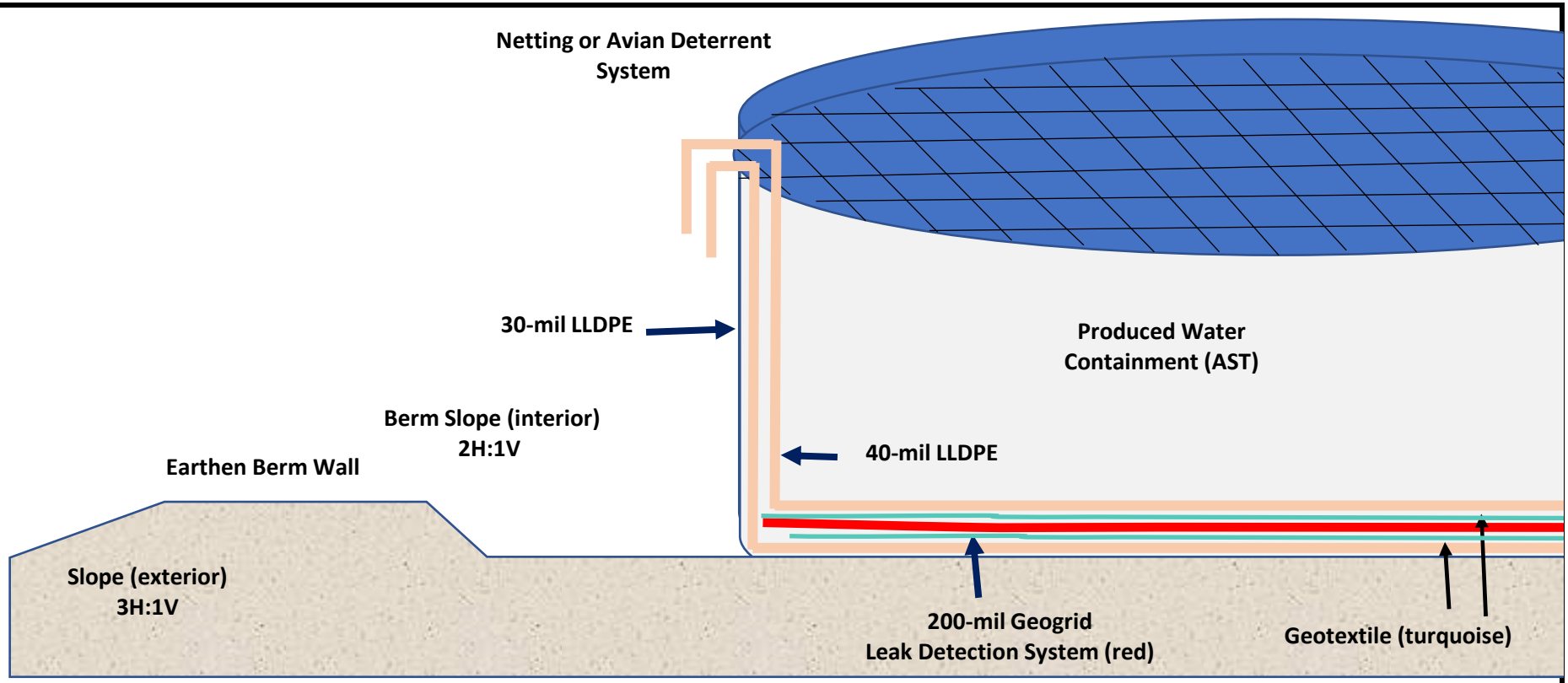
SILTY SAND w/trace silt (SM-SP), Brown, loose to med. Dense, fine to medium grained, damp

UNIFIED SOIL CLASSIFICATION SYSTEM

GEOMAT

APPENDIX D

WELL WATER SOLUTIONS ABOVEGROUND CONTAINMENT SPECIFICATIONS



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)

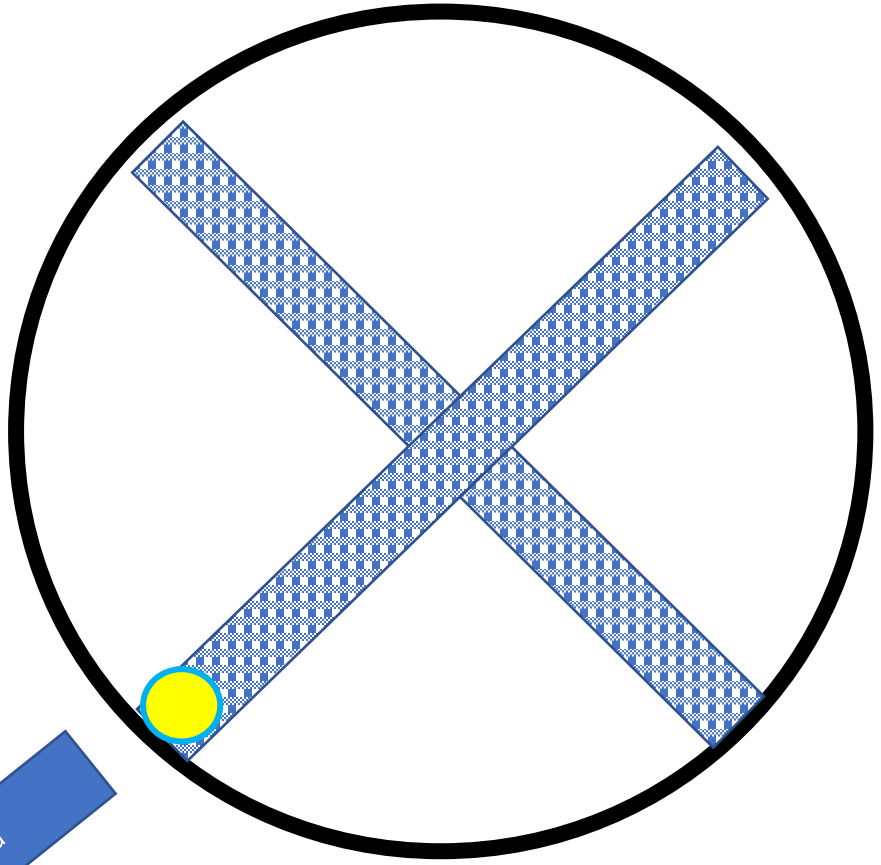
R.T. Hicks Consultants Albuquerque, NM	**Design Sketch**	**Plate 1**
	Well Water Solutions	**May-21**

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

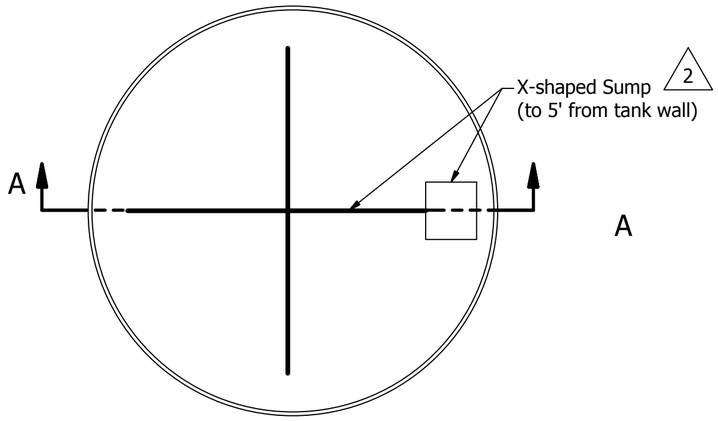


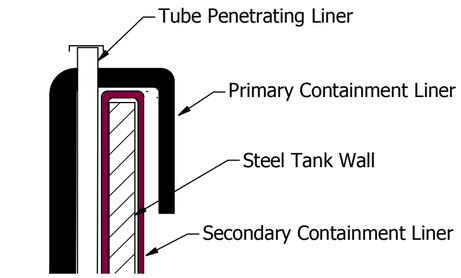
Sump Location

0 50 100

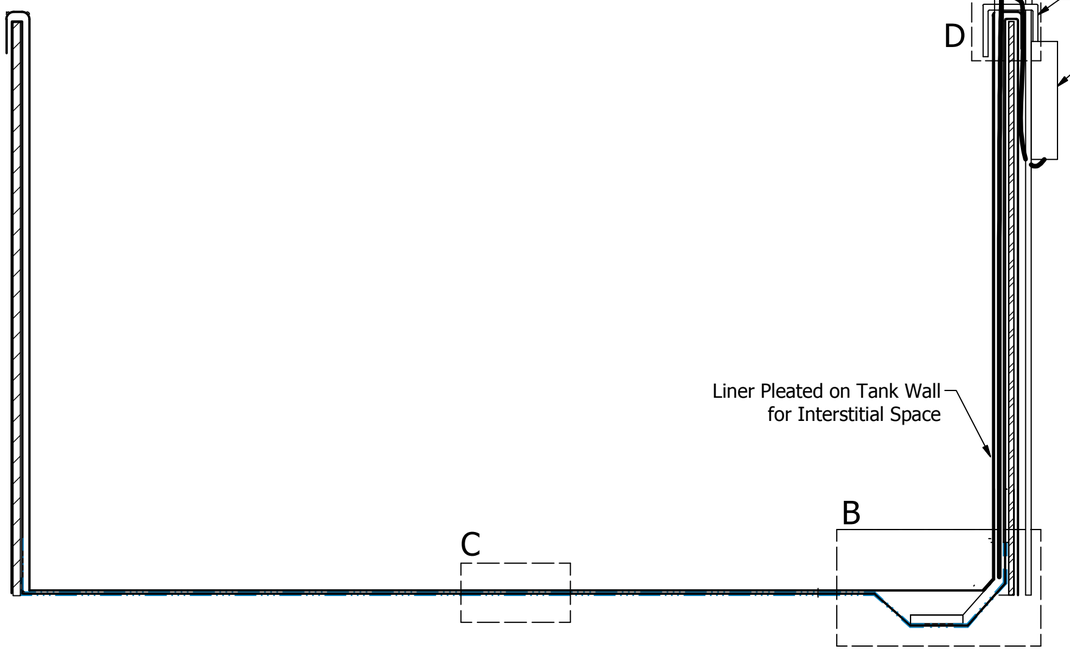
R.T. Hicks Consultants Albuquerque, NM	**Layout of Geogrid Drainage Mat**	**Plate 1**
	WWS - North Olympus AST	**June 2021**

WWS DOUBLE-LINED FRAC WATER TANK SYSTEM

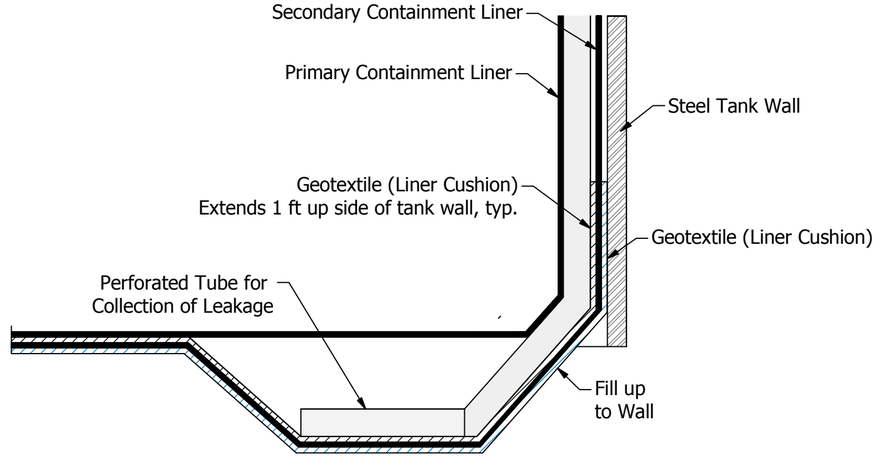




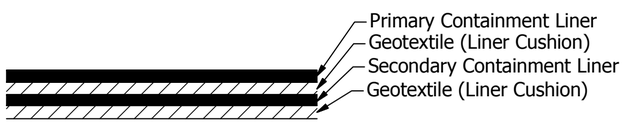
SECTION D
TUBE DETAIL
(Automated Leak Detection System Removed for Clarity)



VIEW A-A
TANK DETAIL



SECTION B
SUMP DETAIL



SECTION C
LINER DETAIL

LUCID
DRAFTING & DESIGN LLC
sarah@luciddrafting.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

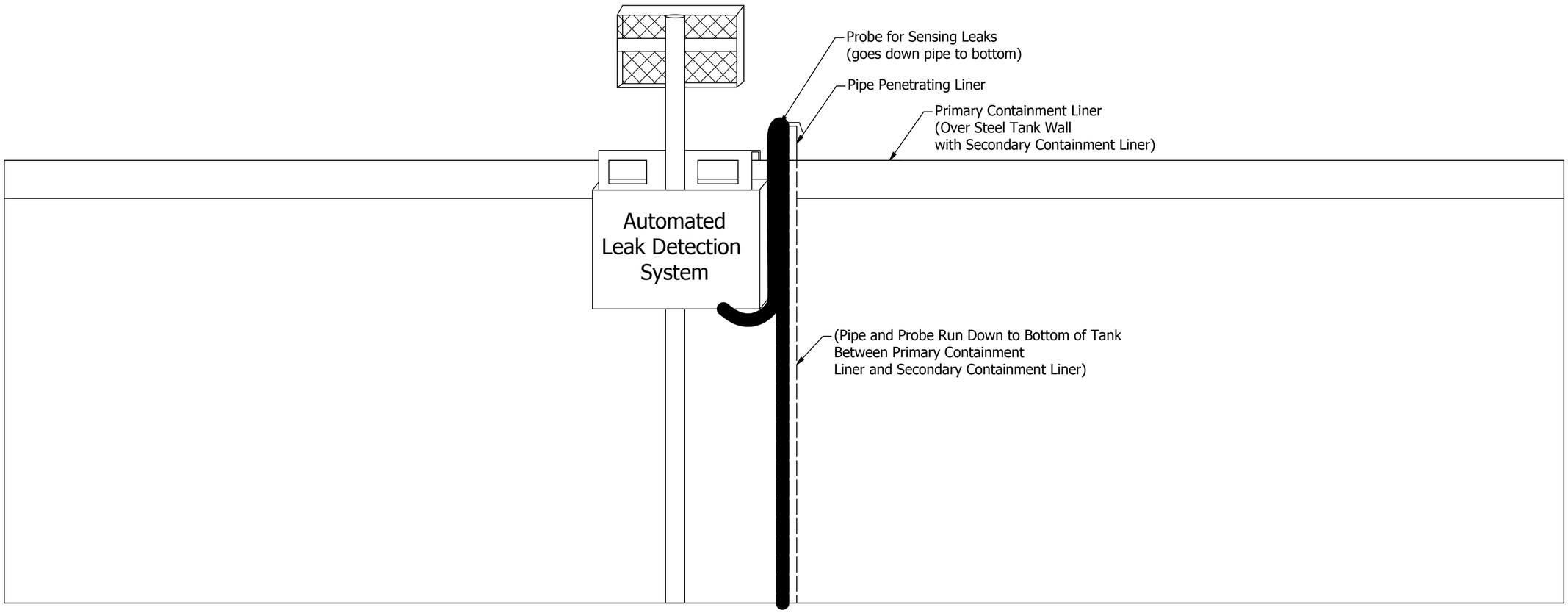
TITLE	Double-Lined Frac Tank System
CUSTOMER	
PROJECT/JOB	WWS Double-Lined Tank System
APPROVAL	
DRAFTER	SES
DATE	10/28/2015

WELL WATER SOLUTIONS AND RENTALS, INC.

SIZE	DWG NO	REV
C	LDD15-WWS-02	3

SHEET 1 OF 2

1 AUTOMATED LEAK DETECTION SYSTEM

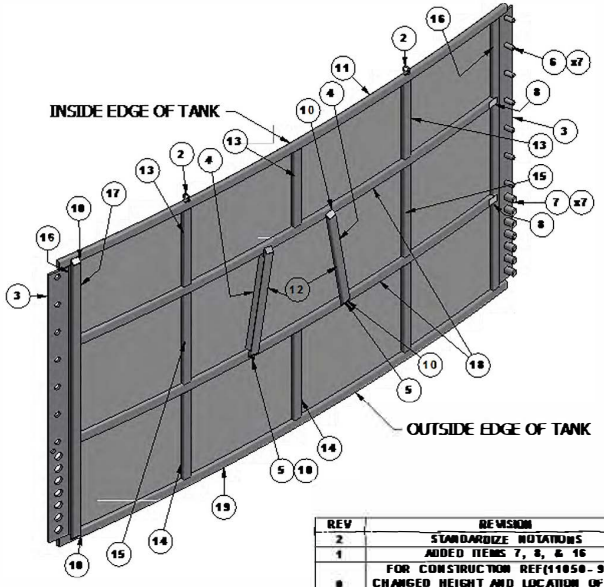


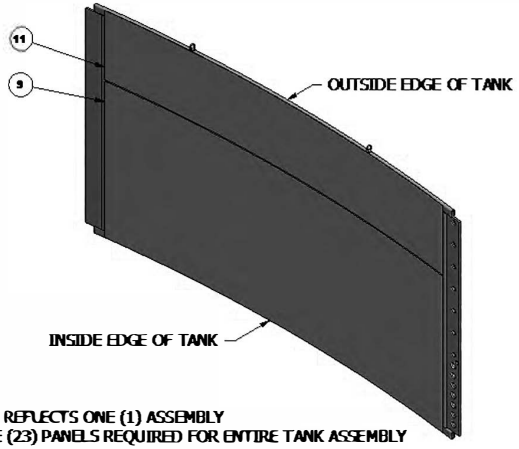
TITLE	Double-Lined Frac Tank System
CUSTOMER	
PROJECT/JOB	WWS Double-Lined Tank System
APPROVAL	
DRAFTER	SES
DATE	10/28/2015
SIZE	C
DWG NO	LDD15-WWS-02
REV	3
SHEET	2 OF 2

WELL WATER SOLUTIONS AND RENTALS, INC.

Parts List

CK	ITEM	QTY	DESCRIPTION	WIDTH	LENGTH	MATERIAL	CLENGTH (in)	WEIGHT
	1	14	BAR, ROUND, 5/8" (LOCK PIN)		6 1/2 in	A36	6.50	
	2	2	D-RING, 1/2" B38, WORKING LOAD 4000 lbs			A29/A29M - 91 1045(C-1045), MODIFIED TO WELD DOWN		2
	3	2	FBAR, 1"	10 in	131 1/2 in	A36	131.50	373
	4	2	FBAR, 10GA	3 in	43 1/8 in	A36	86.25	99
	5	2	PAD EYE, #2			CROSBY GROUP, S-264		0
	6	7	PIN, 2" DIA		4 1/2 in	KUSTOM KONCEPTS, A1018	31.50	3
	7	7	PIN, 3 " DIA		4 1/2 in	KUSTOM KONCEPTS, A1010	31.50	8
	8	2	PLATE, 3/16"	3 in	5 in	A36	10.00	2
	9	1	PLATE, 3/16"	96 in	240 in	A36	240.00	156
	10	6	SHEET, 10GA	2 1/2 in	3 3/4 in	A36	22.50	3
	11	1	SHEET, 10GA	42 1/2 in	240 in	A36	240.00	50
	12	2	TUBE, 4" x 2" x 1/4" (MITER BOTH ENDS)		52 in	A500B CLEAN COAT	104.00	55
	13	3	TUBE, 4" x 2" x 3/16"		37 1/4 in	A500B CLEAN COAT	74.50	43
	14	3	TUBE, 4" x 2" x 3/16"		42 3/4 in	A500B CLEAN COAT	128.25	74
	15	2	TUBE, 4" x 2" x 3/16"		44 in	A500B CLEAN COAT	88.00	50
	16	2	TUBE, 4" x 2" x 3/16"		132 in	A500B CLEAN COAT	264.00	151
	17	1	TUBE, 4" x 2" x 3/16" (MITER BOTH ENDS)		137 1/2 in	A500B CLEAN COAT	137.50	78
	18	2	TUBE, 4" x 2" x 3/16", (ROLL TO 155'-6 7/8" I.D.)		236 3/8 in	A500B CLEAN COAT	472.75	271
	19	2	TUBE, 4" x 2" x 3/16", (ROLL TO 155'-6 7/8" I.D.)		253 7/8 in	A500B CLEAN COAT	507.75	291





NOTES:
-THIS DRAWING REFLECTS ONE (1) ASSEMBLY
-TWENTY THREE (23) PANELS REQUIRED FOR ENTIRE TANK ASSEMBLY

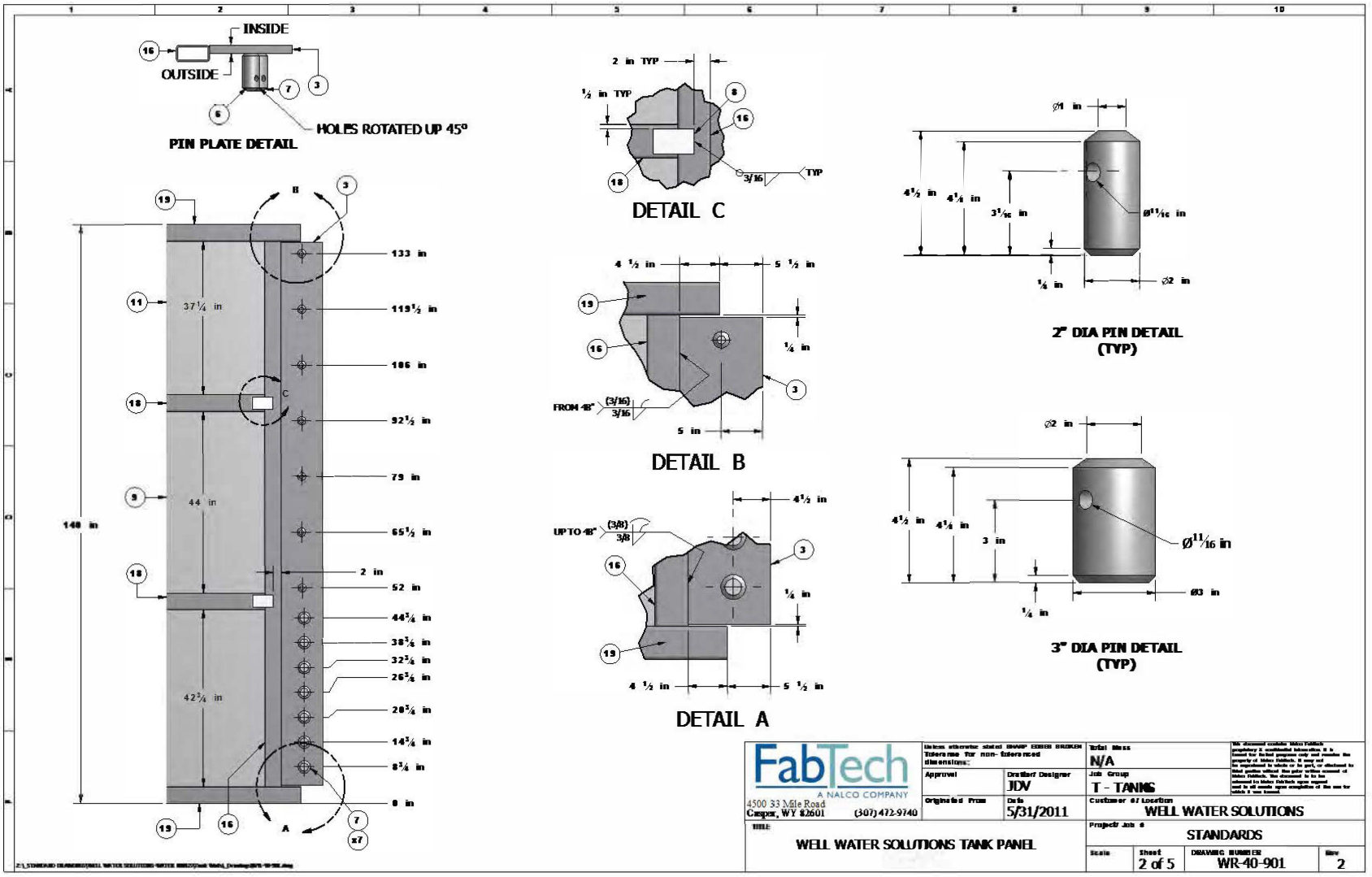
REV	REVISION	DATE	BY
2	STANDARDIZE NOTATIONS	1/17/2012	JDV
1	ADDED ITEMS 7, 8, & 16	12/09/11	DSG
0	FOR CONSTRUCTION REF(11050-901) CHANGED HEIGHT AND LOCATION OF PINS REF(11078-40-901)	9/1/2011	CJD

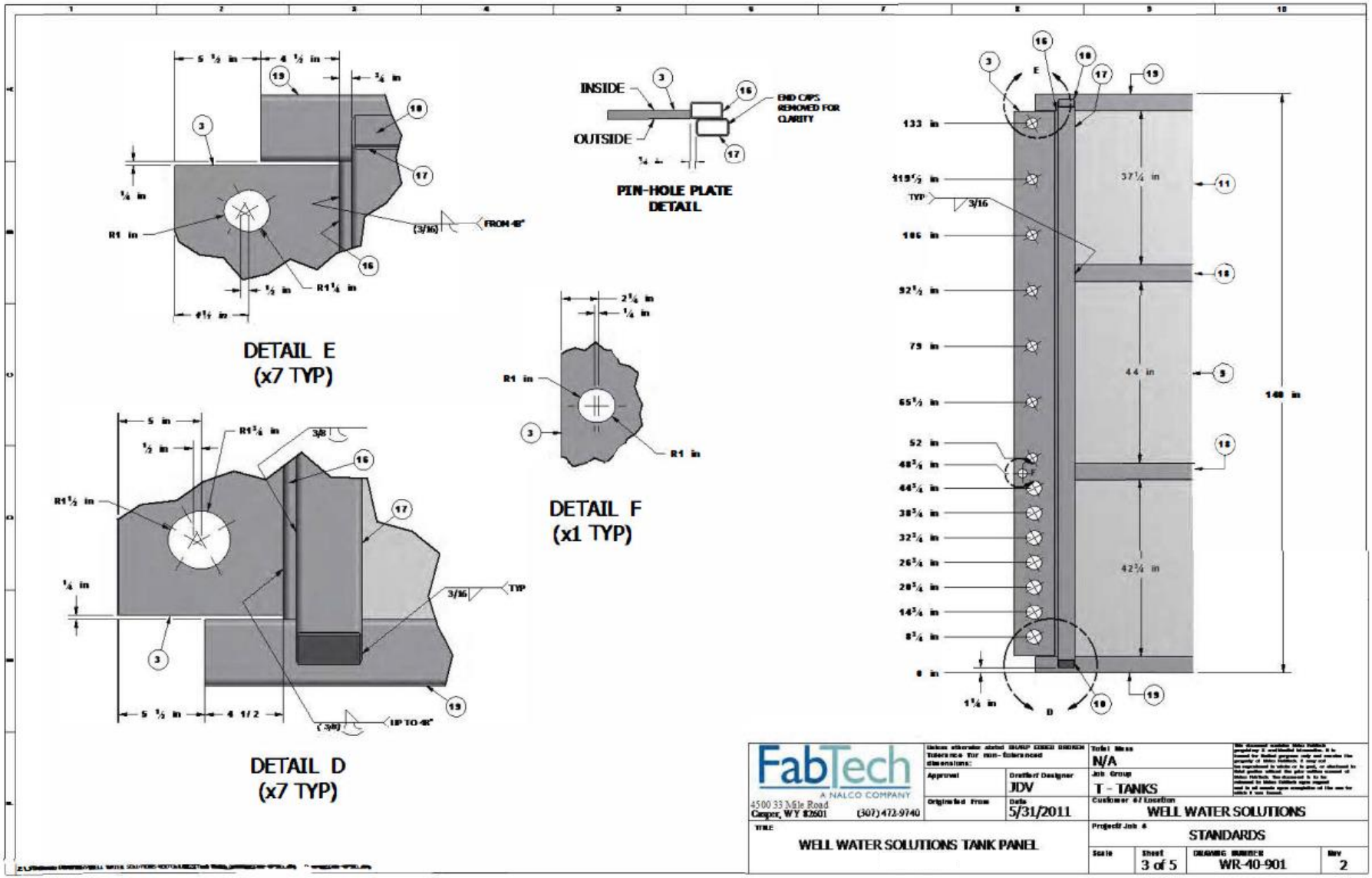
FabTech
A NALCO COMPANY
4500 33 Mile Road
Casper, WY 82601
(307)472-9740

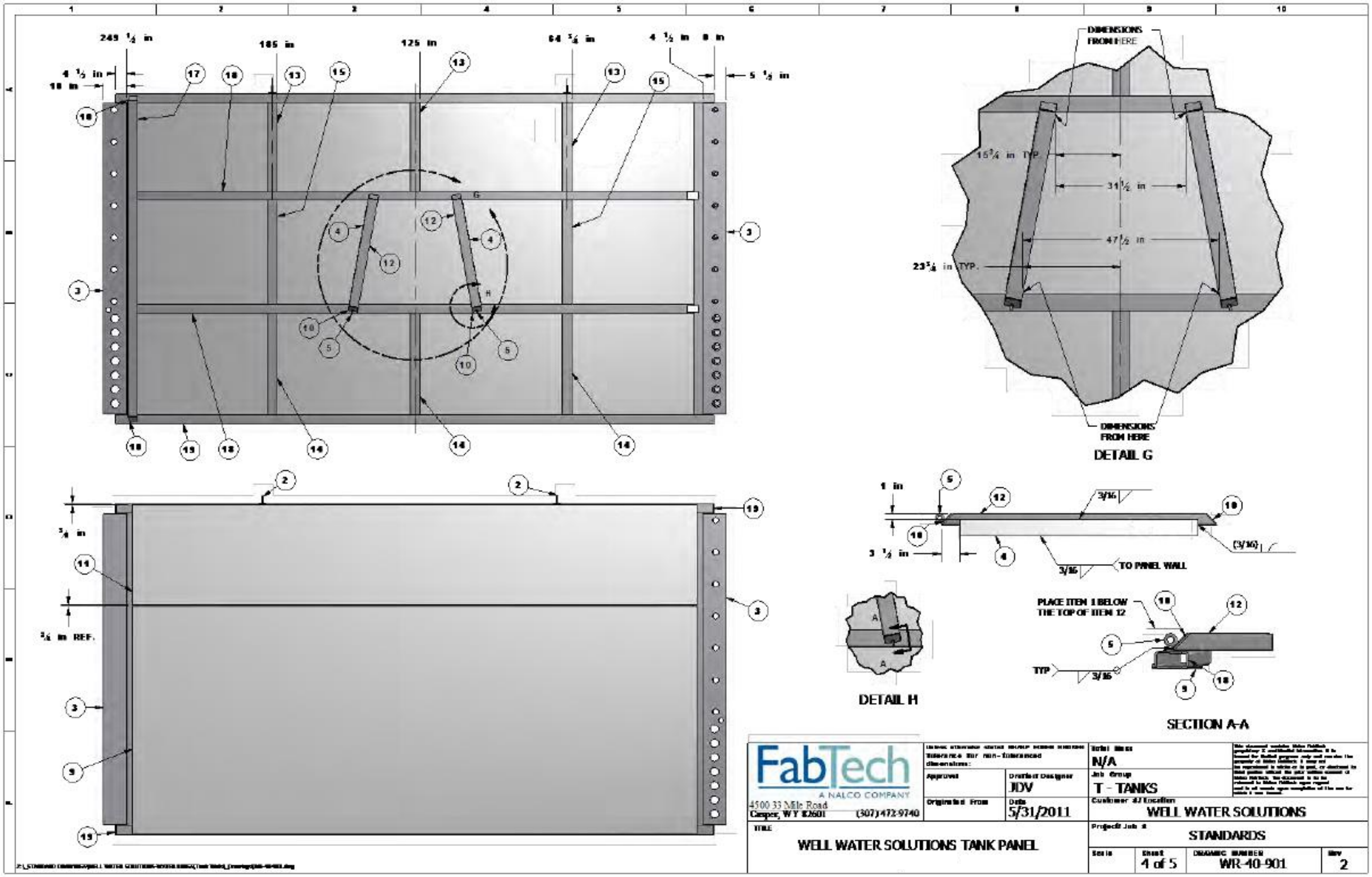
Unless otherwise stated SHARP EDGES REMOVE
Tolerance for non-toleranced dimensions:
Approval
Drafted Designer JDV
Originated From
Date 5/31/2011
Total Mass N/A
Job Group T - TANKS
Customer or End Item WELL WATER SOLUTIONS
Project Job # STANDARDS

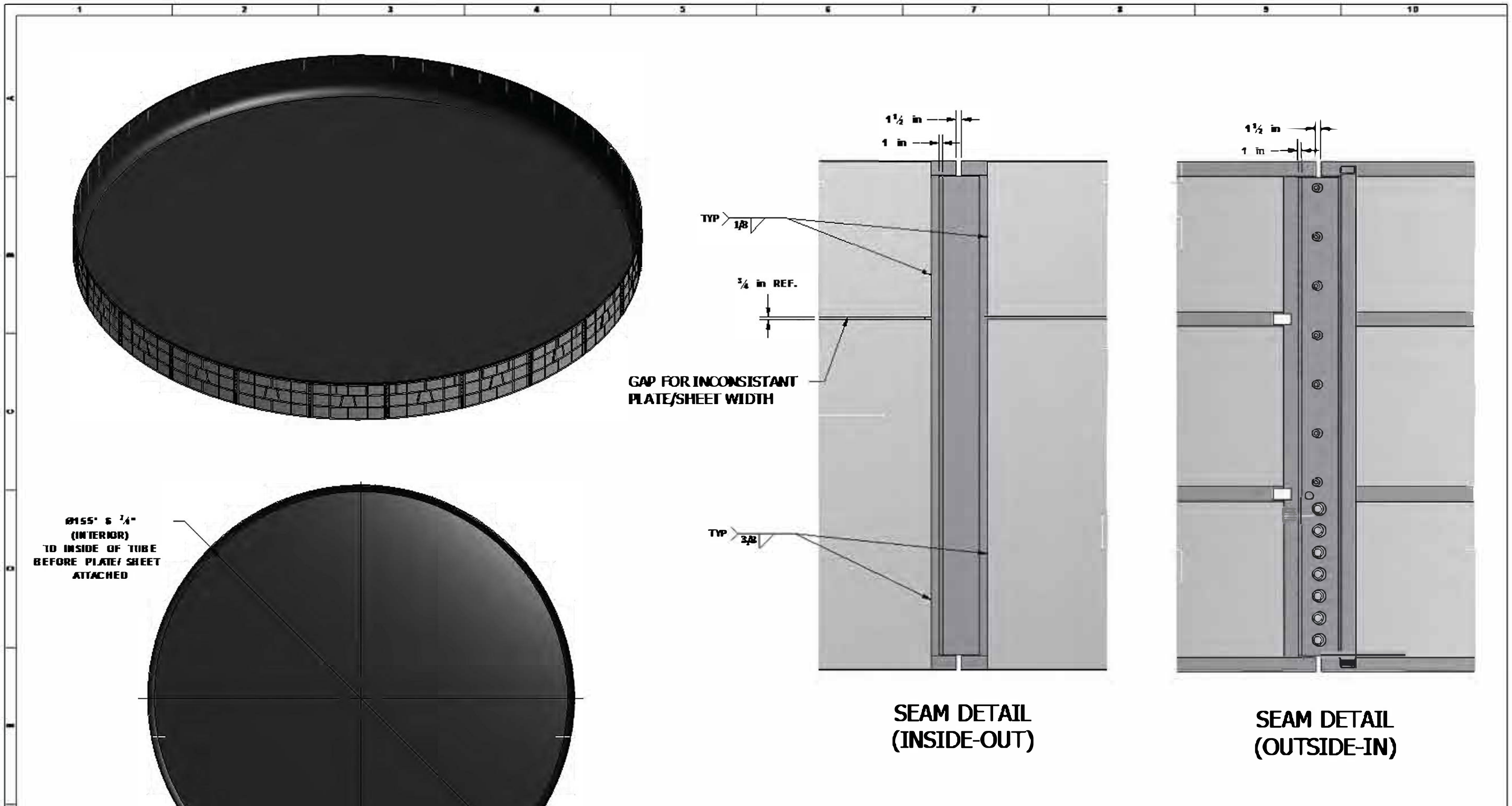
TITLE: WELL WATER SOLUTIONS TANK PANEL

Scale
Sheet 1 of 5
DRAWING NUMBER WR-40-901
Rev 2


INSIDE
OUTSIDE
HOLES ROTATED UP 45°
PIN PLATE DETAIL
2 in TYP
½ in TYP
3/16 TYP
DETAIL C
4 ½ in
5 ½ in
¼ in
FROM 45°
(3/16)
3/16
5 in
DETAIL B
UP TO 45°
(3/8)
3/8
4½ in
¼ in
4 ½ in
5 ½ in
DETAIL A
Ø1 in
4½ in
4¼ in
3 5/16 in
Ø11/16 in
¼ in
Ø2 in
2" DIA PIN DETAIL
(TYP)
Ø2 in
4½ in
4¼ in
3 in
Ø11/16 in
¼ in
Ø3 in
3" DIA PIN DETAIL
(TYP)
140 in
37¼ in
44 in
42¾ in
133 in
119½ in
106 in
92½ in
79 in
65½ in
2 in
52 in
44¾ in
38⅛ in
32¾ in
26¾ in
20¾ in
14¾ in
8¾ in
0 in
FabTech
A NALCO COMPANY
4500 33 Mile Road
Casper, WY 82601
(307) 472-9740
Unless otherwise stated SHARP EDGES BROKEN
Tolerance for non-toleranced dimensions:
Approval
Drafted Designer
JDV
Originated From
Date
5/31/2011
Total Mass
N/A
Job Group
T - TANKS
Customer or Location
WELL WATER SOLUTIONS
Project Job #
STANDARDS
TITLE:
WELL WATER SOLUTIONS TANK PANEL
Scale
Sheet
2 of 5
DRAWING NUMBER
WR-40-901
Rev
2


DETAIL E
(x7 TYP)
INSIDE
OUTSIDE
END CAPS REMOVED FOR CLARITY
PIN-HOLE PLATE DETAIL
DETAIL F
(x1 TYP)
DETAIL D
(x7 TYP)
133 in
119½ in
106 in
92½ in
79 in
65½ in
52 in
37¼ in
44 in
42¾ in
148 in
FabTech
A NALCO COMPANY
4500 33 Mile Road
Casper, WY 82601
(307) 472-9740
Drafted/Designed: JDV
Date: 5/31/2011
Total Mass: N/A
Job Group: T - TANKS
Customer & Location: WELL WATER SOLUTIONS
Project/Job #: STANDARDS
TITLE: WELL WATER SOLUTIONS TANK PANEL
Sheet: 3 of 5
DRAWING NUMBER: WR-40-901
Rev: 2


249 ½ in
185 in
125 in
64 ¾ in
4 ½ in
8 in
5 ½ in
4 ½ in
10 in
DIMENSIONS FROM HERE
15¾ in TYP.
31½ in
47½ in
23¾ in TYP.
DIMENSIONS FROM HERE
DETAIL G
1 in
3/16
TO PANEL WALL
(3/16)
3 ½ in
¾ in
¾ in REF.
PLACE ITEM 1 BELOW THE TOP OF ITEM 12
TYP
DETAIL H
SECTION A-A
FabTech
A NALCO COMPANY
4500 33 Mile Road
Casper, WY 82601
(307) 472-9740
Drafted Designer
JDV
Date
5/31/2011
N/A
Job Group
T - TANKS
Customer & Location
WELL WATER SOLUTIONS
Project Job #
STANDARDS
TITLE
WELL WATER SOLUTIONS TANK PANEL
Sheet
4 of 5
WR-40-901
Rev
2



FabTech A NALCO COMPANY 4500 33 Mile Road Casper, WY 82601 (307) 472-9740	Unless otherwise stated SHARP EDGES BROKEN Tolerance for non-toleranced dimensions:		Total Mass N/A	
	Approval	Drafter/ Designer JDV	Job Group T - TANKS	
	Originated From	Date 5/31/2011	Customer &/ Location WELL WATER SOLUTIONS	
TITLE WELL WATER SOLUTIONS TANK PANEL			Project Job # STANDARDS	
			Scale	Sheet 5 of 5 · DRAWING NUMBER WR 40-901 · Rev 2

APPENDIX E

ENDURING VARIANCE REQUEST

ENDURING RESOURCES IV LLC

200 Energy Court Farmington, NM 87401
Field Office: 505.636.9720 | Main Office: 303.573.1222

Enduring Resources, LLC
Rincon 2706-29O
Recycling Facility/Containment
Variance Request for 19.15.34 NMAC

New Mexico Oil Conservation Division
Attn: Victoria Venegas

Enduring Resources is requesting variances to the below listed items as outlined in 19.15.34.16 NMAC. This Recycling Containment/Facility will consist of self-contained free-standing structures instead of a lined earthen pit. The variances requested below will provide equal or better protection of fresh water, public health, and the environment.

Variance Requests:

Inside/Outside Levee Slopes: Enduring Resources requests a variance to NMAC 19.15.34.12 (A)(2) which applies to a lined earthen pit. The containment is an AST and not an in-ground pond and therefore will not have inside/outside levee slopes. The AST is a self-contained free-standing structure that will provide equal or better protection than the requirements listed in 19.15.34.12 NMAC.

Liner Anchoring: Enduring Resources requests a variance to NMAC 19.15.34.12 (A)(3) which applies to a lined earthen pit. This statute is not applicable to a circular steel AST with liners clamped to the top of the steel shell. We believe this will provide equal or better protection than the requirements listed in 19.15.34.12. NMAC.

Primary Liner: Enduring Resources requests a variance to NMAC 19.15.34.12 (A)(4) which applies to the thickness of the primary liner. Enduring Resources proposes the use of a 40-mil LLDPE primary liner provided by Water Well Solutions and Rentals, Inc. The proposed variance will provide equal or better protection of fresh water, public health and the environment, as the proposed liner meets all other the requirements of NMAC 19.15.34.12 (A)(4) and meets or exceeds the EPA SW-846 method 9090A or subsequent relevant publication.

Thank you,

Chris Jones

Chris Jones
Regulatory Specialist (Surface)
Enduring Resources, IV LLC.
505.636.9723 – Office
505.497.1115 – Cell

Venegas, Victoria, EMNRD

From: Venegas, Victoria, EMNRD
Sent: Tuesday, August 2, 2022 10:14 AM
To: Chris Jones; Kayla White
Cc: Stuart Hyde; Khem Suthiwan
Subject: 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052]. Conditions of Approval
Attachments: C-147. 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052].pdf

3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052]. Conditions of Approval

Good morning,
NMOCD has reviewed the recycling containment permit application and related documents, submitted by [372286] ENDURING RESOURCES, LLC on July 12, 2022, for 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052] in Unit Letter O, Section 29, Township 27N, Range 06W, Rio Arriba County, New Mexico. [372286] ENDURING RESOURCES, LLC requested variances from 19.15.34 NMAC for 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052] related to 19.15.34. NMAC

The following variances, specific to the AST containment, have been approved:

- The variance to 19.15.34.12.A.(2) NMAC for the no side-slope requirement for the AST containment with vertical walls is approved.
- The variance to 19.15.34.12.A.(3) NMAC for the liners to be anchored to the top of the AST steel walls and no anchor trenches is approved.
- The variance to 19.15.34.12.A.(4) NMAC for the installation on the AST containment of a 40-mil string-reinforced LLDPE primary liner and a 30-mil LLDPE secondary string reinforced is approved.

The form C-147 and related documents for the 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052] is approved with the following conditions of approval:

- The purpose of this permit is for oil and gas activities regulated under the NMAC 19.15.34.3 STATUTORY AUTHORITY: 19.15.34 NMAC is adopted pursuant to the Oil and Gas Act, Paragraph (15) of Section 70-2-12(B) NMSA 1978, which authorizes the division to regulate the disposition of water produced or used in connection with the drilling for or producing of oil and gas or both and Paragraph (21) of Section 70-2-12(B) NMSA 1978 which authorizes the regulation of the disposition of nondomestic wastes from the exploration, development, production or storage of crude oil or natural gas.
- [372286] ENDURING RESOURCES, LLC shall construct, operate, maintain, close, and reclaim the 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052], consisting of one (5) AST of 60,000.00 bbl of capacity, in compliance with 19.15.34 NMAC.
- Water reuse and recycling from 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052] is limited to wells owned or operated by [372286] ENDURING RESOURCES, LLC.
- 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052] is approved for five years of operation from the date of permit application. 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052] permit expires on July 12, 2027. If [372286] ENDURING RESOURCES, LLC wishes to extend operations past five years, an annual permit extension request must be submitted using an OCD form C-147 through OCD Online by June 12, 2027.
- [372286] ENDURING RESOURCES, LLC shall notify NMOCD when construction of the 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052] commences.
- [372286] ENDURING RESOURCES, LLC shall notify NMOCD when recycling operations commence and cease at the 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052].

- A minimum of 3-feet freeboard must be maintained in the AST recycling containment, at all times during operations.
- If less than 20% of the total fluid capacity is utilized every six months, beginning from the first withdrawal, operation of the facility is considered ceased and notification of cessation of operations should be sent electronically to OCD Online. An extension to extend the cessation of operation, not to exceed six months, may be submitted using a C-147 form through OCD Online.
- [372286] ENDURING RESOURCES, LLC shall submit monthly reports of recycling and reuse of produced water, drilling fluids, and liquid oil field waste on NMOCD form C-148 through OCD Online even if there is zero activity.
- [372286] ENDURING RESOURCES, LLC shall comply with 19.15.29 NMAC Releases in the event of any release of produced water or other oil field wastes at 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052].

Please reference number 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052] in all future communications.
Regards,

Victoria Venegas ● Environmental Specialist
Environmental Bureau
EMNRD - Oil Conservation Division
(575) 909-0269 | Victoria.Venegas@state.nm.us
http://www.emnrd.state.nm.us/OCD/

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 124683

CONDITIONS

Operator: ENDURING RESOURCES, LLC 6300 S Syracuse Way, Suite 525 Centennial, CO 80111	OGRID: 372286
	Action Number: 124683
	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 12, 2022, for 3RF-55 - RINCON UNIT 2706-29O FACILITY ID [fCS1921338052] in Unit Letter O, Section 29, Township 27N, Range 06W, Rio Arriba County, New Mexico	8/2/2022