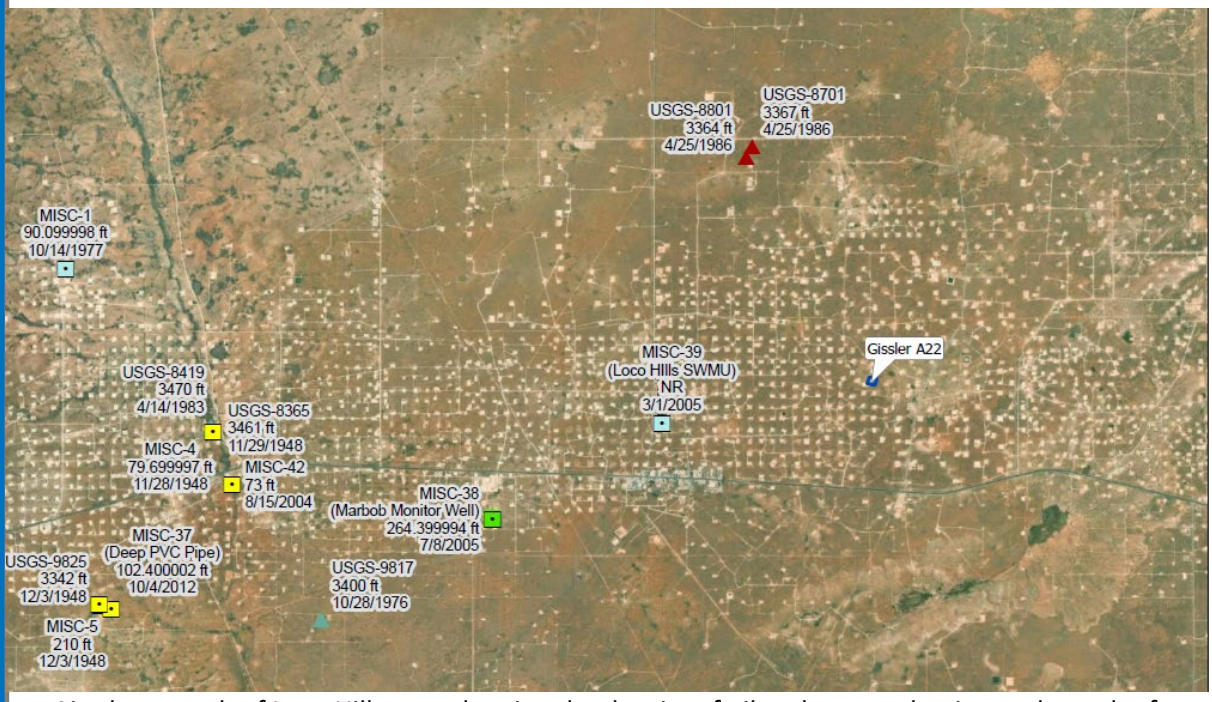
October
2025

Rule 34 Registration
Gissler A22 RF and Containment
Section 14 T17S, R30E, Eddy County

Volume 2

- ***C-147***
- ***Stamped Design Drawings & Liner Equivalency Demonstration***
- ***Avian Deterrent System***
- ***Design, O&M, and Closure Plans***



Air photograph of Loco Hills area showing the density of oil and gas production pads, each of which typically contains one or more wells. The high density of oil and gas wells is not an accident, and this relatively narrow trend exists between west of Artesia to near Lovington, New Mexico. It is called the Artesia-Vacuum arch or trend. This geologic arch creates a unique hydrology that is discussed in this document.

Prepared for:
Burnett Oil Company, Inc
Fort Worth, Texas

Prepared by:

R.T. Hicks Consultants, Ltd.
901 Rio Grande NW F-142
Albuquerque, New Mexico

Cascade Services LLC
Midland, Texas

State of New Mexico
Energy Minerals and Natural Resources
Department Oil Conservation Division
1220 South St. Francis Dr.
Santa Fe, NM 87505
https://www.emnrd.nm.gov/ocd/ocd-e-permitting/

Form C-147
Revised October 11, 2022

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: Burnett Oil Company Inc (For multiple operators attach page with information) OGRID #: 3080
Address: 801 Cherry Street Unit #9 Suite 1500 Fort Worth, TX 76102
Facility or well name (include API# if associated with a well): Gissler A22 Containment
OCD Permit Number: 2RF-229 (For new facilities the permit number will be assigned by the district office)
U/L or Qtr/Qtr F & K Section 14 Township 17S Range 30E County: Eddy
Surface Owner: ☑ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2.
☑ **Recycling Facility:**
Location of recycling facility (if applicable): Latitude 32.8315542° Longitude -103.9277382° 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 32.834142° Longitude -103.944306° NAD83
☐ For multiple or additional recycling containments, attach design and location information of each containment
☑ Lined ☐ Liner type: Thickness 60 P 40 S mil ☐ LLDPE ☑ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☑ Welded ☐ Factory ☐ Other _____ Volume: 199,984 bbl Dimensions: L_____ x W_____ x D_____
See attached drawings
☐ 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 Game Fence

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): Tyler Deans Title: Vice President - Engineering
Signature: Date: 10/02/2025
e-mail address: tdeans@burnettoil.com Telephone: 432-553-4699

11.
OCD Representative Signature: Victoria Venegas **Approval Date:** 11/12/2025
Title: Environmental Specialist **OCD Permit Number:** 2RF-229

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

STAMPED DESIGN DRAWINGS & LINER EQUIVELENCY DEMONSTRATION

R.K. FROBEL & ASSOCIATES
Consulting Engineers

Technical Memorandum: 40-mil HDPE as Alternative Secondary Liner System for In Ground Recycling Containment Facilities

NMAC 19.15.34.12 A

I have investigated the suitability of application for 40 mil HDPE geomembrane as an equivalent secondary liner to 30 mil scrim reinforced LLDPE (LLDPEr) in the application for In Ground Recycling Containment facilities. *In summary, it is my professional opinion that the specified 40 mil HDPE geomembrane will provide a secondary liner system that is equal to or better than 30 mil scrim reinforced LLDPEr and will provide the requisite protection of fresh water, public health and the environment for many years when engineering design provides requisite site/soil/slope preparation and when used in concert with requisite primary liners and drainage layers.*

It is understood that the lining system under discussion is composed of a 60 mil HDPE Primary liner, geonet drainage layer and a 40 mil HDPE Secondary liner. *In consideration of the secondary lining system application, size of impoundment and depth, design details as well as the chemical nature of typical processed water, it is my professional opinion that the 40 mil HDPE geomembrane will provide the requisite barrier against processed water loss and will function effectively as a secondary liner.*

The following are discussion points that hopefully will exhibit the equivalency of a 40 mil HDPE secondary liner to that of a 30 mil LLDPEr.

The nature and formulation of the 40 mil HDPE resin is the same as the Primary 60 mil HDPE. The major difference is that the 40 mil HDPE is lower in thickness (more flexible and less puncture resistant). However, in covered conditions, HDPE will resist aging and degradation and remain intact for many decades. In fact, a secondary liner of 40 mil HDPE will outlast an exposed 60 mil HDPE liner. According to the Geosynthetic Research Institute (GRI) study on lifetime prediction (GRI Paper No. 6), the half life of HDPE (GRI GM 13) exposed is > 36 years and the half-life of HDPE covered or buried is greater than 100 years. It is understood that in order to ensure compliance of materials, the primary 60 mil HDPE to be used must meet or exceed GRI GM 13 Standards. Likewise, the secondary liner that is not exposed to the same environmental and chemical conditions must meet or exceed GRI GM 13 for non-reinforced HDPE. Adhering to the minimum requirements of the GRI Specifications, 40 mil HDPE when used as a secondary liner will be equally as protective as the primary 60 mil HDPE liner (reference: www.geosynthetic-institute.org/grispecs) and equally as protective as a 30 mil scrim reinforced LLDPEr liner.

Durability of Geomembranes is directly affected by exposure conditions. Buried or covered geomembranes are not affected by the same degradation mechanisms (UV, Ozone, Chemical, Stress, Temperature, etc) as are fully exposed geomembranes. In this regard, the secondary liner material and thickness can be much less robust than the fully exposed primary liner which in this case is 60 mil HDPE. This is also the case for

32156 Castle Court / Suite 211-240 / Evergreen, CO 80439
Ph 720-289-0300 / geosynthetics@msn.com

landfill lining systems where the secondary geomembrane in a bottom landfill cell may be 40 mil HDPE.

Thermal Fusion Seaming Requirements. Thermal seaming and QC seam test requirements for geomembranes are product specific and usually prescribed by the sheet manufacturer. Dual wedge thermal fusion welding is commonly used on HDPE and QC testing by air channel (ASTM D 5820) is fully acceptable and recognized as an industry standard. In this regard, there should be no exception requirement for seaming and QC testing as both the Primary and Secondary geomembranes are HDPE. This is fully covered in comprehensive specifications for both the Primary and Secondary geomembranes (Reference: www.ASTM.org/Standards).

Potential for Leakage through the Primary and Secondary Liners. Leakage through geomembrane liners is directly a function of the height of liquid head above any hole or imperfection. The geonet drainage media provides immediate drainage to a low point or sump and thus no hydrostatic head or driving gradient is available to push leakage water through a hole in the secondary liner. In this regard, secondary geomembrane materials can be (and usually are) much less in thickness and also polymer type. Hydraulic Conductivity through the 40 mil HDPE liner material is extremely low due to the polymer type, structure and crystallinity and exceeds requirements of EPA SW-846 Method 9090A.

Chemical Attack. Chemical attack to polymeric geomembranes is directly a function of type of chemical, temperature and exposure time. Again, the HDPE Primary provides the chemically resistant liner and is QC tested to reduce potential defects or holes. If there is a small hole, the geonet drain takes any leakage water immediately to the sump for extraction. Thus, exposure time is very limited on a secondary liner in addition to low temperature, little volume and virtually no head pressure. In this regard, a chemically resistant geomembrane material such as 40 mil HDPE can be specified for the secondary and is a fully acceptable alternate to 30 mil scrim reinforced LLDPEr.

Mechanical Properties Characteristics. Geomembranes of different polymer and/or structure (i.e., reinforced vs non-reinforced) cannot be readily compared using such characteristics as tensile stress/strain, tear, puncture and polymer requirements. For a 40 mil HDPE liner material to function as a Secondary liner it should meet or exceed the manufacturers minimum requirements for Density, Tensile Properties, Tear, Puncture as well as other properties such as UV resistance. The sheet material must also meet or exceed GRI GM 13 minimum requirements. *In this regard, a 40 mil HDPE will be equivalent to a 30 mil LLDPEr as a secondary liner for the conditions listed below:*

- *The subgrade or compacted earth foundation will be smooth, free of debris or loose rocks, dry, unyielding and will support the lining system.*
- *The side slopes for the containment shall be equal to or less than 3H:1V.*
- *The physical properties and condition of the subgrade or liner foundation*

(i.e., density, slope, moisture) will be inspected and certified by a Professional Engineer that it meets or exceeds specification requirements.

- *Immediately prior to installation, the installation contractor shall inspect and sign off on the subgrade conditions that they meet or exceed the HDPE manufacturer and installers requirements.*
- *A protective geotextile will be placed on the finished and accepted subgrade between subgrade and the 40 mil HDPE Secondary liner.*
- *A 200 mil geonet will be placed over the 40 mil HDPE Secondary Liner.*
- *A 60 mil HDPE Primary liner will be placed over the 200 mil geonet drainage layer.*

If you have any questions on the above technical memorandum or require further information, give me a call at 720-289-0300 or email geosynthetics@msn.com

Sincerely Yours,

R K Frobel

Ronald K. Frobel, MSCE, PE

References:

NMAC 19.15.34.12 A DESIGN AND CONSTRUCTION SPECIFICATIONS FOR A RECYCLING CONTAINMENT

Geosynthetic Research Institute (GRI) Published Standards and Papers 2017
www.geosynthetic-institute.org

ASTM Geosynthetics Standards 2017
www.ASTM.org/Standards

RECYCLING CONTAINMENT DESIGN DRAWINGS

SquareRoot services
Engineering | Surveying
Materials Testing
7921 N. World Dr.
Hobbs, NM 88242
Squarerootservices.net
575-231-7347

CIVIL PLANS

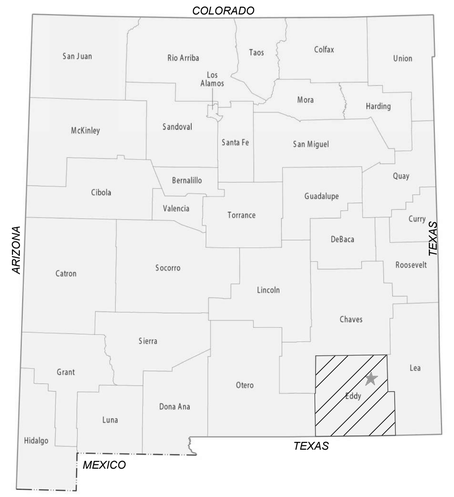
BURNETT OIL COMPANY INC

GISSLER A 22 CONTAINMENT

SW/4 SECTION 14, TOWNSHIP 17 SOUTH, RANGE 30 EAST
N.M.P.M., EDDY COUNTY, NEW MEXICO
(32.834142°, -103.944306°)

INDEX OF SHEETS		
SHEET	NAME	DESCRIPTION
1	C-100	COVER SHEET
2	SU-101	TOPOGRAPHIC SURVEY
3	C-101	GENERAL NOTES
4	CS-101	CIVIL SITE PLAN
5	CS-102	CONTAINMENT PROFILES A & B
6	CS-103	CONTAINMENT VOLUMES
7	CS-501	LEAK DETECTION DETAILS
8	CS-502	LINER DETAILS
9	CS-503	FENCE DETAILS

EDDY COUNTY
NEW MEXICO



nm811 Know what's below. Call before you dig.

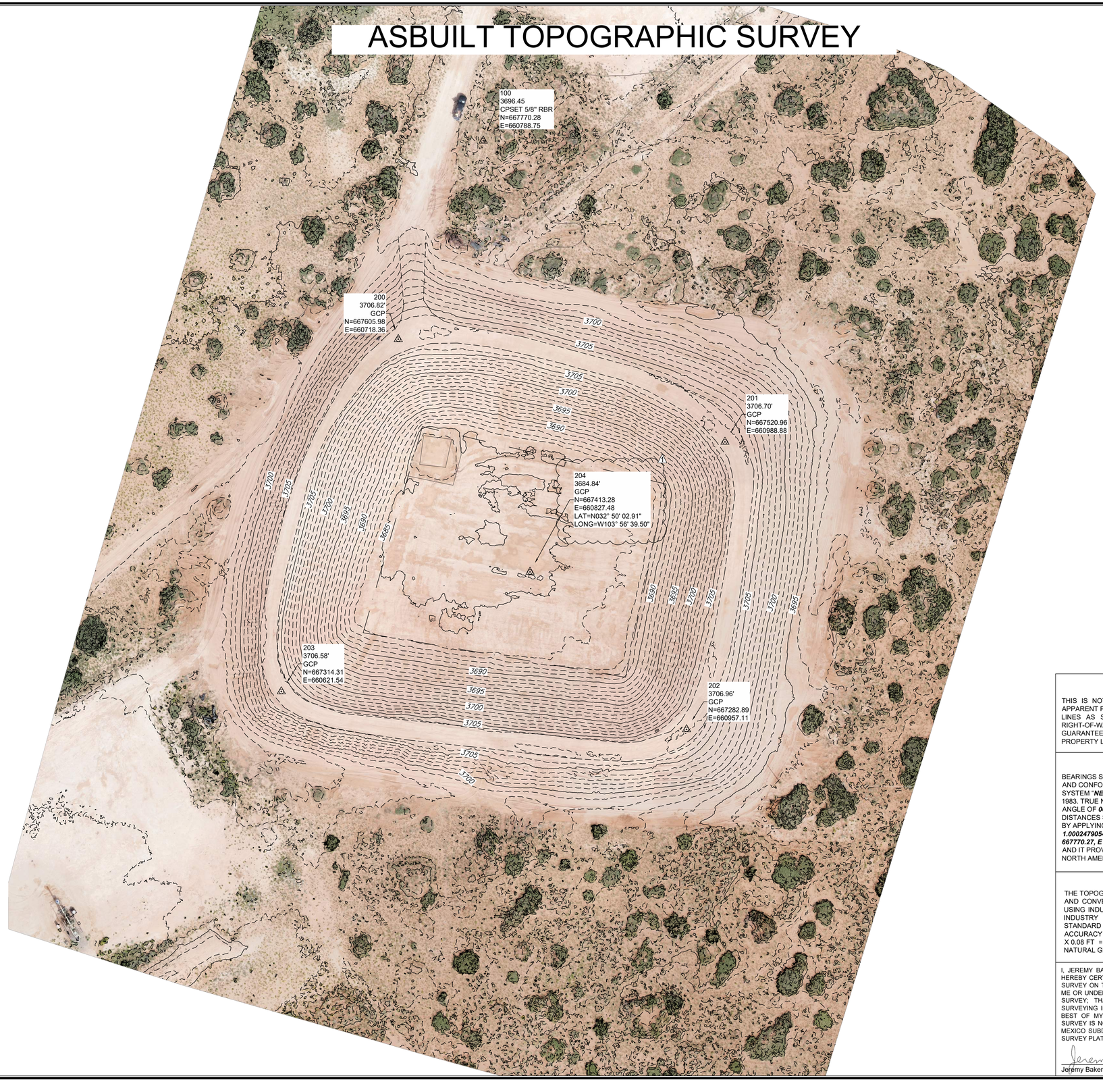
(505)-254-7310

THE LOCATIONS OF EXISTING UNDERGROUND UTILITIES ARE SHOWN IN AN APPROXIMATE WAY ONLY AND HAVE NOT BEEN INDEPENDENTLY VERIFIED BY THE OWNER OR ITS REPRESENTIVE. THE CONTRACTOR SHALL DETERMINE THE EXACT LOCATION OF ALL EXISTING UTILITIES BEFORE COMMENCING WORK, AND AGREES TO BE FULLY RESPONSIBLE FOR ANY AND ALL DAMAGES WHICH MIGHT BE OCCASIONED BY THE CONTRACTOR'S FAILURE TO EXACTLY LOCATE AND PRESERVE ANY AND ALL UNDERGROUND UTILITIES.

JEREMY BAKER NEW MEXICO 16207 LICENSED PROFESSIONAL ENGINEER

10/02/2025

ASBUILT TOPOGRAPHIC SURVEY



SURVEYOR NOTE

THIS IS NOT A BOUNDARY SURVEY OR A RIGHT-OF-WAY SURVEY. APPARENT PROPERTY CORNERS, RIGHT-OF-WAY LINES, OR PROPERTY LINES AS SHOWN ARE DERIVED FROM RECORD SURVEY PLATS, RIGHT-OF-WAY MAPS, OR DEEDS REFERENCED HEREON AND ARE NOT GUARANTEED OR TO BE RELIED ON FOR THE ESTABLISHMENT OF PROPERTY LINES.

BASIS OF BEARING

BEARINGS SHOWN HEREON ARE FROM GPS/GNSS OBSERVATIONS AND CONFORM TO THE NEW MEXICO STATE PLANE COORDINATE SYSTEM "***NEW MEXICO EAST ZONE***" NORTH AMERICAN DATUM OF 1983. TRUE NORTH CAN BE OBTAINED BY APPLYING A CONVERGENCE ANGLE OF ***00°12'39.2"*** AT ***CONTROL POINT #100 "CPSET 5/8" RBR"***. DISTANCES SHOWN HEREON ARE IN GROUND AND WERE OBTAINED BY APPLYING A COMBINED GRID TO GROUND SCALE FACTOR OF ***1.00024790541288*** AT THE PREVIOUSLY NOTED POINT LOCATED AT ***N 667770.27, E 660788.75***. THE VERTICAL DATUM IS BASED ON GEOID18 AND IT PROVIDES ORTHOMETRIC HEIGHTS CONSISTENT WITH THE NORTH AMERICAN VERTICAL DATUM OF 1988 (NAVD88)

TOPOGRAPHIC NOTE

THE TOPOGRAPHY SHOWN HEREIN IS A COMBINATION OF UAV DATA AND CONVENTIONAL/GPS DATA. THE UAV DATA WAS GENERATED USING INDUSTRY STANDARD QUALITY CHECKS AND IS **WITHIN** THE INDUSTRY RECOGNIZED GROUND SAMPLING DISTANCE (GSD) STANDARD OF BELOW 2.5 CM (1 IN / 0.08 FT). THE ABSOLUTE ACCURACY LEVEL IN STANDARD UAV DATA IS EQUAL TO 3 X GSD (3 X 0.08 FT = 0.24 FT). UAV DATA WAS USED FOR MEASUREMENTS ON NATURAL GROUND AND SUPPLEMENTAL FEATURES.

I, JEREMY BAKER, NEW MEXICO PROFESSIONAL SURVEYOR NO. 25773, DO HEREBY CERTIFY THAT THIS TOPOGRAPHIC SURVEY PLAT AND THE ACTUAL SURVEY ON THE GROUND UPON WHICH IT IS BASED WERE PERFORMED BY ME OR UNDER MY DIRECT SUPERVISION; THAT I AM RESPONSIBLE FOR THIS SURVEY; THAT THIS SURVEY MEETS THE MINIMUM STANDARDS FOR SURVEYING IN NEW MEXICO; AND THAT IT IS TRUE AND CORRECT TO THE BEST OF MY KNOWLEDGE AND BELIEF. I FURTHER CERTIFY THAT THIS SURVEY IS NOT A LAND DIVISION OR SUBDIVISION AS DEFINED IN THE NEW MEXICO SUBDIVISION ACT AND THAT THIS INSTRUMENT IS A TOPOGRAPHIC SURVEY PLAT OF AN EXISTING TRACT OR TRACTS.

Jeremy Baker, N.M. P.S 25773

10/02/2025
Date

SquareRoot services
Engineering | Surveying
Materials Testing

7921 N World Dr.
Hobbs, NM 88242-9032
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
ASBUILT TOPOGRAPHIC SURVEY
OF
PROJECT NAME:
GISSLER A 22 CONTAINMENT
FOR
CLIENT:
BURNETT OIL COMPANY INC

PROJECT NUMBER:
25285

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
X. CLARK

GRAPHIC SCALE
0 40' 80'
SCALE: 1" = 40'
(IN FEET)

LEGEND

- CONTROL POINT AS NOTED
- TOP OF EDGE
- BOTTOM OF EDGE
- MAJOR CONTOUR (5FT)
- MINOR CONTOUR (1FT)

REVISIONS

No.	DATE	DESCRIPTION
1	10/02/2025	UPDATED COORDINATES

JEREMY E. BAKER
NEW MEXICO
25773
PROFESSIONAL SURVEYOR

SHEET: 2 of 9
SU-101

GENERAL NOTES

1. NEW MEXICO ADMINISTRATIVE CODE TITLE 19, CHAPTER 15, PART 34, DESIGN CRITERIA FOR RECYCLING CONTAINMENTS SHALL APPLY TO THIS PROJECT.
2. ALL BOUNDARY, TOPOGRAPHIC AND UTILITY INFORMATION SHOWN ARE BASED ON SURVEY INFORMATION FURNISHED BY TOPOGRAPHIC.
3. THE CONTRACTOR SHALL IDENTIFY AND LOCATE UTILITY LINES, MONITORING WELLS, SURVEY MONUMENTS, AND OTHER NEARBY STRUCTURES PRIOR TO PERFORMING WORK.
4. COORDINATE INFORMATION IS BASED ON STATE PLANE COORDINATES, NEW MEXICO EAST, NAD 83.
5. THE CONTRACTOR SHALL IDENTIFY ANY DISCREPANCIES PRIOR TO PROCEEDING WITH CONSTRUCTION AND CONTACT THE ENGINEER IN WRITING.
6. THE CONTRACTOR SHALL IMPLEMENT AND MAINTAIN BEST MANAGEMENT PRACTICES (BMPS) TO MINIMIZE EROSION AND CONTROL SEDIMENT TO PROTECT SURFACE WATER QUALITY DURING STORM EVENTS.

EARTHWORK NOTES

1. THE CONTRACTOR SHALL USE WATER FOR COMPACTION AT ALL TIMES. THE CONTRACTOR SHALL ENSURE THEIR BID INCLUDES CONSTRUCTION WATER. NO EARTHWORK OPERATIONS SHALL TAKE PLACE IF CONSTRUCTION WATER IS NOT AVAILABLE ONSITE.
2. THE CONTRACTOR SHALL BUILD THE LEVEES USING COMPACTED LAYERS. UNCONTROLLED AND INCONSISTENT PUSHING AND PILING OF MATERIAL FOR LEVEE CONSTRUCTION IS NOT ACCEPTABLE. THE CONTRACTOR SHALL DEVELOP A SUCCESSFUL COMPACTION PATTERN EARLY IN THE PROCESS, VERIFIED THROUGH NUCLEAR DENSITY OR SAND CONE TESTING, AND SHALL MAINTAIN CONSISTENCY IN THE COMPACTIVE EFFORT AS LONG AS THE MATERIALS ENCOUNTERED REMAINS CONSISTENT. IF ONSITE SOILS ENCOUNTERED CHANGE, THE CONTRACTOR SHALL DEVELOP A NEW COMPACTION PATTERN.
3. FILL FOR LEVEES SHALL BE PLACED AND COMPACTED IN HORIZONTAL LIFTS WITH MAXIMUM LOOSE LIFT THICKNESS OF 10 INCHES, OR AS DIRECTED BY ENGINEER. CONSTRUCT EACH LAYER CONTINUOUSLY AND APPROXIMATELY HORIZONTAL FOR THE WIDTH AND LENGTH OF THE LEVEE. FILL SHALL BE COMPACTED TO AT LEAST 95 PERCENT OF MAXIMUM DRY DENSITY DETERMINED BY THE ASTM D698 AND AT MOISTURE CONTENT WITHIN +2% TO -2% OF OPTIMUM MOISTURE CONTENT AS DETERMINED BY A STANDARD PROCTOR SOILS TEST ON SAMPLES FROM THE SOURCE AREA.
4. FILL SHALL NOT BE PLACED AND COMPACTED WHEN THE MATERIALS ARE TOO WET TO PROPERLY COMPACT. MATERIAL WHICH IS TOO WET SHALL BE SPREAD ON THE FILL AREA AND PERMITTED TO DRY, ASSISTED BY HARROWING IF NECESSARY, UNTIL THE MOISTURE CONTENT IS REDUCED TO ALLOWABLE LIMITS. IF THE ENGINEER DETERMINED THAT ADDED MOISTURE IS REQUIRED, WATER SHALL BE APPLIED UNIFORMLY OVER THE AREA TO BE TREATED, AND GIVE COMPLETE AND ACCURATE CONTROL OF THE AMOUNT OF WATER TO BE USED. IF TOO MUCH WATER IS ADDED, THAT AREA SHALL BE PERMITTED TO DRY BEFORE COMPACTION IS CONTINUED.
5. PERFORM ONE NUCLEAR DENSITY GAGE TEST PER 2500 CY MINIMUM OR AS DIRECTED BY THE ENGINEER.
6. EARTHWORK CONTRACTOR SHALL PERFORM A VISUAL INSPECTION OF THE FINISHED COMPACTED POND BOTTOM AND SIDE SLOPES BEFORE HDPE LINER INSTALLATION, REMOVING ALL DEBRIS, SHARP OBJECTS AND GRAVEL LARGER THAN 3/4 INCH.
7. EARTHWORK CONTRACTOR SHALL ROLL SURFACE WITH A SMOOTH ROLLER TO ELIMINATE RUTS.

LINER NOTES

1. LINER CONTRACTOR SHALL INSPECT GRADED SURFACE FOR DEBRIS, ROCKS OR OTHER MATERIAL THAT MAY DAMAGE THE LINER AND COORDINATE WITH OWNER IF ADDITIONAL SUBGRADE RESURFACING IS NEEDED PRIOR TO PERFORMING WORK.
2. LINER CONTRACTOR TO PROVIDE SUBMITTAL OF LINER PANEL LAYOUT.
3. LINER CONTRACTOR TO SIGN SUBGRADE ACCEPTANCE FORM (PROVIDED BY OWNER REPRESENTATIVE) DAILY PRIOR TO INSTALLATION.
4. LINER TO BE INSTALLED PER GRI SPECIFICATIONS, GUIDES AND PRACTICES.
5. CONTRACTOR SHALL PLACE SANDBAGS ON LINER DURING INSTALLATION AS REQUIRED TO PREVENT WIND UPLIFT UNTIL POND IS FILLED TO A DEPTH OF 3 FEET.
6. CONTRACTOR SHALL USE BLACK 60 MIL HDPE SMOOTH GEOMEMBRANE AS THE PRIMARY LINER AND BLACK 40 MIL HDPE SMOOTH GEOMEMBRANE AS THE SECONDARY LINER.
7. A 3' DIAMETER MINIMUM PIECE OF 40MIL LINER SHALL BE EXTRUDED WELDED WHERE THE PIE SHAPED CORNER SECTIONS MEET FOR SEAM REINFORCEMENT.
8. INSTALL A FULL DOUBLE WIDTH SECTION OF BLACK OR WHITE 60 MIL TEXTURED HDPE GEOMEMBRANE RUB SHEET. EXTRUDE WELD TO LINER. WELDS SHALL BE 2" LONG AND SPACED EVERY 12" ALONG BOTH SIDES OF THE SHEET. DO NOT WELD END EDGES. SECTION SHALL EXTEND FROM SUMP AND INSTALLED INTO LINER ANCHOR TRENCH AS SHOWN.
9. LINER SHALL BE PROTECTED WITH A 8 OZ. NONWOVEN GEOTEXTILE IF ROCK OR OTHER ANGULAR MATERIALS WITH A DIMENSION GREATER THAN 3/4 INCH ARE PRESENT.
10. SUMPS SHALL BE BACKFILLED WITH NON-ANGULAR MAXIMUM 3/8 INCH SIZED PEA GRAVEL.
11. ALL SEAMS MUST BE WELDED WITH A 6" MINIMUM OVERLAP.
12. CONTRACTOR SHALL NON-DESTRUCTIVELY TEST ALL SEAMS THEIR FULL LENGTH USING AN AIR PRESSURE OR VACUUM TEST, THE PURPOSE OF THIS TEST IS TO CHECK THE CONTINUITY OF THE SEAM.
13. FOR AIR PRESSURE TESTING (ASTM 5820), THE FOLLOWING PROCEDURES ARE APPLICABLE TO THE SEAMS WELD WITH DOUBLE SEAM FUSION WELDER.
    a. THE EQUIPMENT USED SHALL CONSIST OF AN AIR TANK OR PUMP CAPABLE OF PRODUCING A MINIMUM 35 PSI AND A SHARP NEEDLE WITH A PRESSURE GAUGE ATTACHED TO INSERT INTO THE AIR CHAMBER.
    b. SEAL BOTH ENDS OF THE SEAM BY HEATING AND SQUEEZING THEM TOGETHER. INSERT THE NEEDLE WITH THE GAUGE INTO THE AIR CHANNEL. PRESSURIZE THE AIR CHANNEL TO A MINIMUM OF 35 PSI. NOTE TIME STARTS AND WAIT A MINIMUM OF 5 MINUTES TO CHECK. IF PRESSURE AFTER 5 MINUTES HAD DROPPED LESS THAN 2 PSI THE TEST IS SUCCESSFUL (THICKNESS OF MATERIAL MAY CAUSE VARIANCE).
    c. CUT OPPOSITE SEAM END AND LISTEN FOR PRESSURE RELEASE TO VERIFY FULL SEAM HAS BEEN TESTED.
    d. IF THE TEST FAILS, FOLLOW THESE PROCEDURES.
        I. WHILE CHANNEL IS UNDER PRESSURE WALK THE LENGTH OF THE SEAM LISTENING FOR A LEAK.
        II. WHILE CHANNEL IS UNDER PRESSURE APPLY A SOAPY SOLUTION TO THE SEAM EDGE AND LOOK FOR BUBBLES FORMED BY AIR ESCAPING.
        III. RE-TEST THE SEAM IN SMALLER INCREMENTS UNTIL THE LEAK IS FOUND.
    e. ONCE LEAK IS FOUND USING ONE OF THE PROCEDURES ABOVE, CUT OUT THE AREA AND RETEST THE PORTIONS OF THE PORTIONS OF THE SEAMS BETWEEN THE LEAK AREAS PER 6A AND 6B ABOVE. CONTINUE THIS PROCEDURE UNTIL ALL SECTIONS OF THE SEAM PASS THE PRESSURE TEST.
    f. REPAIR THE LEAK WITH A PATCH AND VACUUM TEST.
14. ALL NON-DESTRUCTIVE TESTS WILL BE NOTED IN THE NON-DESTRUCTIVE LOGS.
15. LINER GAS VENTS SHALL BE SPACED ALONG THE INSIDE SLOPE AT APPROXIMATELY 100 FEET ON CENTER OR MINIMUM 2 VENTS PER SIDE.
16. WHEN ANY PIPING EQUIPMENT, INLET, OR OUTLET IS IN DIRECT CONTACT WITH THE LINER, AN APRON CONSISTING OF 60 MIL HDPE MATERIAL SHALL BE INSTALLED BENEATH THE EQUIPMENT OR STRUCTURE TO PROTECT THE PRIMARY LINER.
17. LAY BOTH LINERS IN ANCHOR TRENCH. BACKFILL ANCHOR TRENCH IN 2 LIFTS AND COMPACT.

SUGGESTED CONSTRUCTION SEQUENCE

1. CLEAR EXISTING VEGETATION.

2. STRIP AND STOCKPILE TOPSOIL AT THE LOCATION DESIGNATED ON THESE PLANS.

3. PERFORM EARTHWORK OPERATIONS:
    3.1. CONSTRUCT STORMWATER DIVERSION CHANNEL.
    3.2. PERFORM RIPPING/EXCAVATING OPERATIONS.
    3.3. REPLACE EXCAVATED MATERIAL IN COMPACTED LAYERS ON THE LEVEE/PAD IN ACCORDANCE WITH THE DETAILS AND SPECIFICATIONS.
    3.4. FINISH SLOPES USING A SMOOTH ROLLER.
    3.5. DIG ANCHOR TRENCH.

4. INSTALL NEW GAME FENCE AND GATES.

5. INSTALL GEOMEMBRANES:
    5.1. INSTALL GEOTEXTILE AS NEEDED, SECONDARY LINER, GEONET, LEAK DETECTION SYSTEM AND PRIMARY LINER.
    5.2. INSTALL RUB SHEETS AND WATER LEVEL GAGE/LADDER.
    5.3. BACKFILL AND COMPACT ANCHOR TRENCH.

SquareRoot services
Engineering | Surveying
Materials Testing
7921 N World Dr.
Hobbs, NM 88242-9032
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
GENERAL NOTES
OF
PROJECT NAME:
GISSLER A 22 CONTAINMENT
FOR
CLIENT:
BURNETT OIL COMPANY INC

PROJECT NUMBER:
25285

PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
X. CLARK

REVISIONS

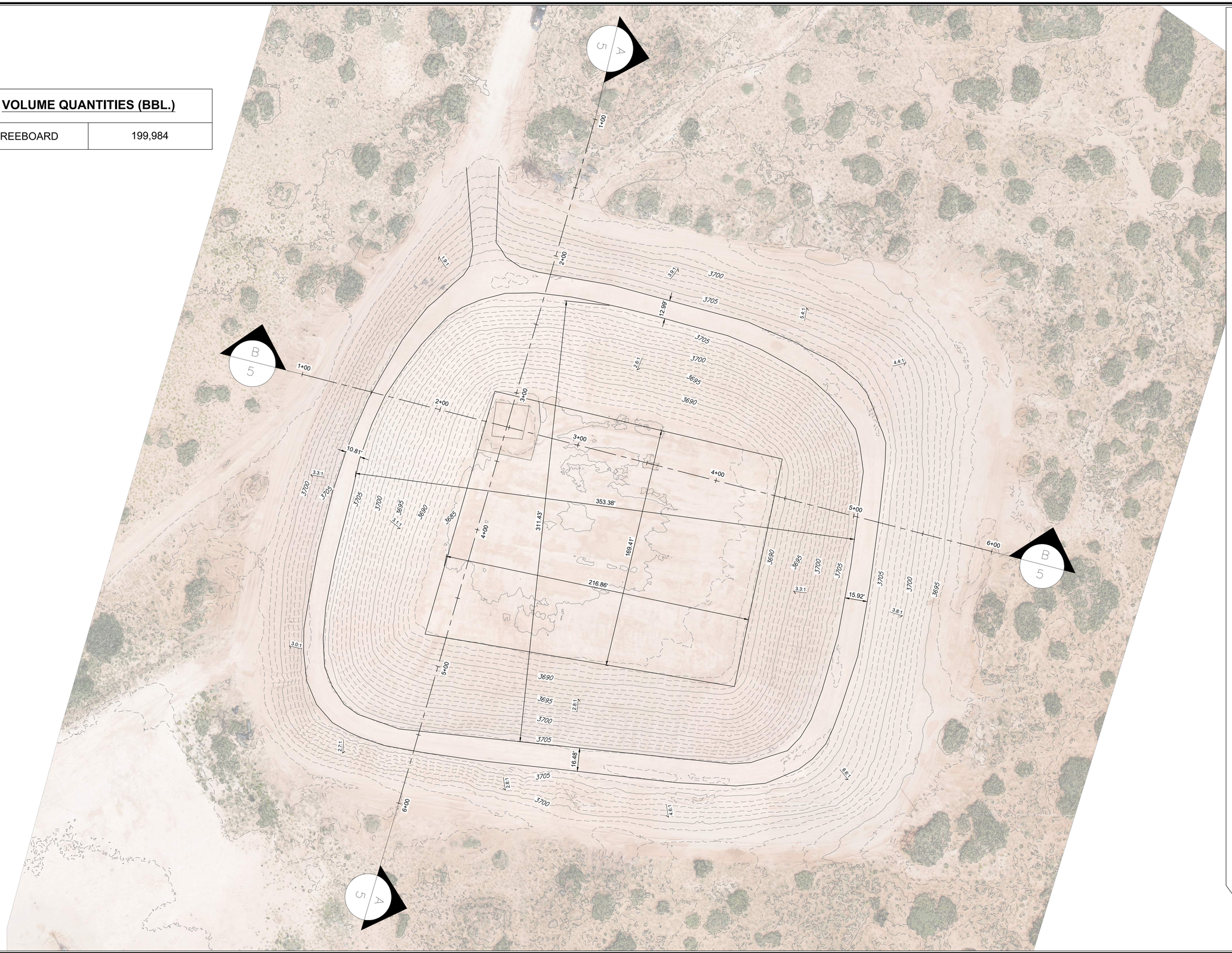
No.	DATE	DESCRIPTION

JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER

09/30/2025

SHEET: 3 of 9
C-101

VOLUME QUANTITIES (BBL.)	
FREEBOARD	199,984



SquareRoot services
Engineering | Surveying
Materials Testing

7921 N World Dr.
Hobbs, NM 88242-9032
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:

CIVIL SITE PLAN

OF

PROJECT NAME:

GISSLER A 22 CONTAINMENT

FOR

CLIENT:

BURNETT OIL COMPANY INC

PROJECT NUMBER:
25285

PROJECT ENGINEER:
JEREMY BAKER, PE

DRAWN BY:
X. CLARK

GRAPHIC SCALE

0 30' 60'

SCALE: 1" = 30'
(IN FEET)

REVISIONS

No.	DATE	DESCRIPTION

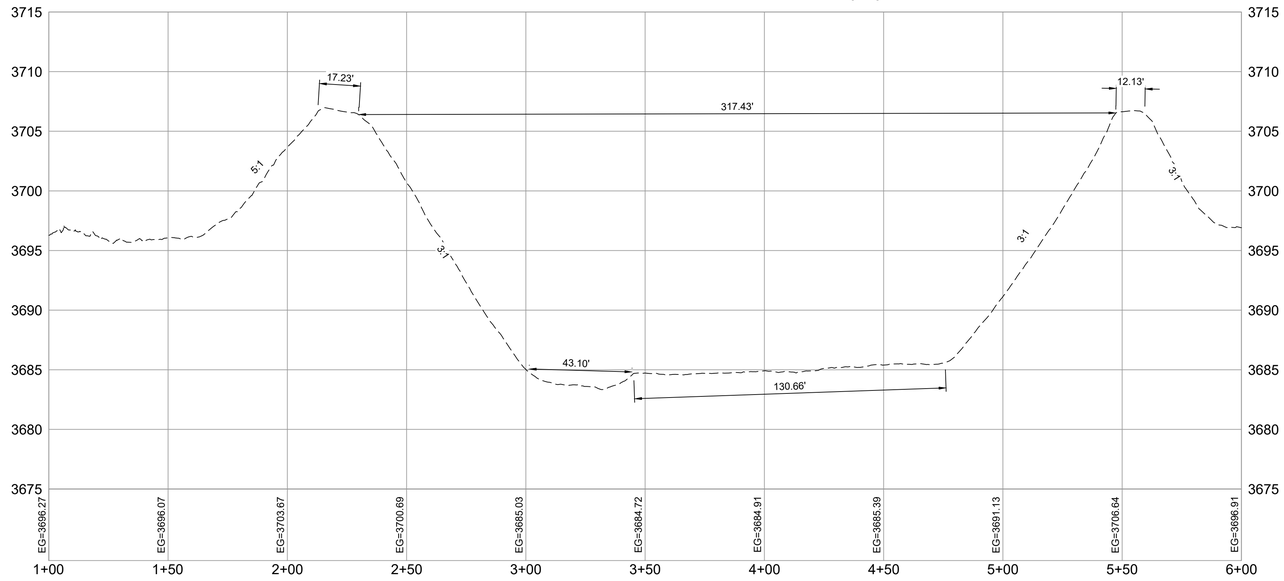
JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER

09/30/2025

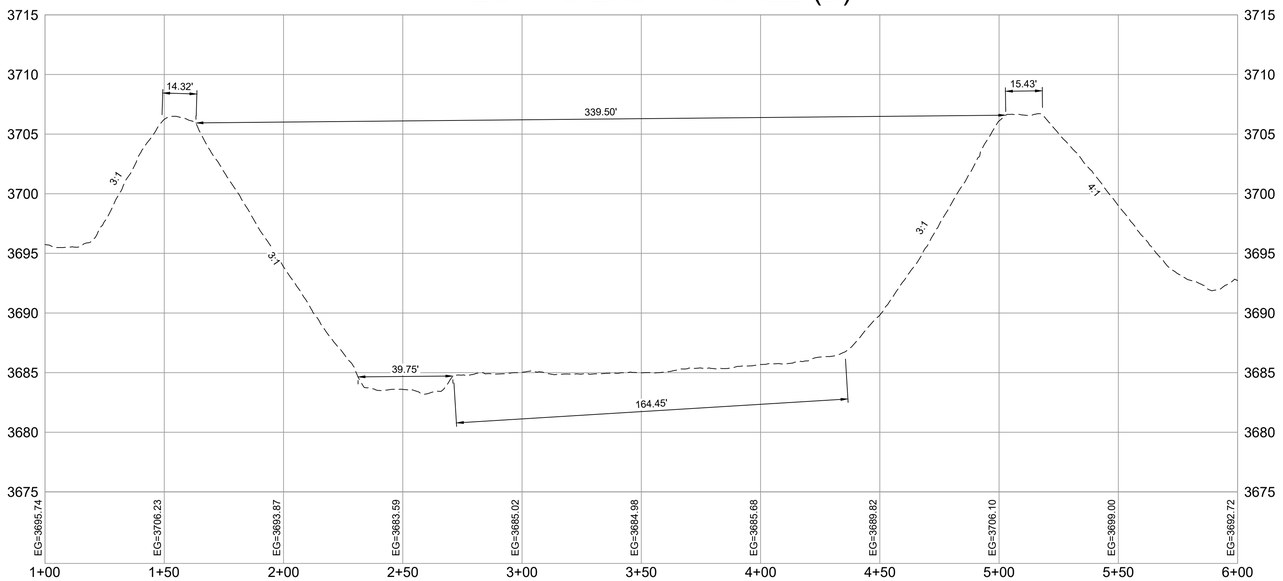
SHEET: 4 of 9

CS-101

NORTH TO SOUTH PROFILE (A)



WEST TO EAST PROFILE (B)



SquareRoot services
Engineering | Surveying
Materials Testing

7921 N World Dr.
Hobbs, NM 88242-9032
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:

CONTAINMENT PROFILES A & B

OF

PROJECT NAME:

GISSLER A 22 CONTAINMENT

FOR

CLIENT:

BURNETT OIL COMPANY INC

PROJECT NUMBER:

25285

PROJECT ENGINEER:
JEREMY BAKER, PE

DRAWN BY:
X. CLARK

GRAPHIC SCALE
HORIZONTAL
0 30' 60'
SCALE: 1" = 30'
(IN FEET)

GRAPHIC SCALE
VERTICAL
0 6' 12'
SCALE: 1" = 6'
(IN FEET)

REVISIONS

No.	DATE	DESCRIPTION

JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER

09/30/2025

SHEET: 5 of 9

CS-102

CONTAINMENT VOLUME

GAUGE ELEVATION (FT)	ELEVATION (FT)	CONTAINMENT DEPTH (FT)	REMAINING STORAGE (FT)	REMAINING STORAGE VOL (FT3)	REMAINING STORAGE VOL (GAL)	REMAINING STORAGE VOL (BBL)	PERCENT OF TOTAL VOL (%)	VOL IN CONTAINMENT (FT3)	VOL IN CONTAINMENT (GAL)	VOL IN CONTAINMENT (BBL)	VOL IN CONTAINMENT (AC-FT)	PERCENT OF TOTAL VOL (%)	
23	3,706.30	0	23	0	-	-	0%	1,405,450	10,514,173	250,303	32.26	100%	
22	3,705.30	1	22	97,654	730,549	17,392	7%	1,307,796	9,783,624	232,911	30.02	93%	FREEBOARD
21	3,704.30	2	21	191,684	1,433,989	34,138	14%	1,213,766	9,080,184	216,165	27.86	86%	
20	3,703.30	3	20	282,538	2,113,667	50,318	20%	1,122,912	8,400,506	199,984	25.78	80%	MAX VOLUME
19	3,702.30	4	19	370,255	2,769,880	65,940	26%	1,035,195	7,744,293	184,362	23.76	74%	
18	3,701.30	5	18	454,850	3,402,734	81,006	32%	950,600	7,111,439	169,297	21.82	68%	
17	3,700.30	6	17	536,327	4,012,260	95,517	38%	869,124	6,501,913	154,786	19.95	62%	
16	3,699.30	7	16	614,727	4,598,775	109,479	44%	790,723	5,915,397	140,823	18.15	56%	
15	3,698.30	8	15	690,094	5,162,594	122,902	49%	715,356	5,351,579	127,401	16.42	51%	
14	3,697.30	9	14	762,453	5,703,911	135,789	54%	642,997	4,810,262	114,514	14.76	46%	STORAGE
13	3,696.30	10	13	831,786	6,222,589	148,136	59%	573,664	4,291,583	102,166	13.17	41%	VOLUME
12	3,695.30	11	12	898,105	6,718,726	159,948	64%	507,345	3,795,447	90,355	11.65	36%	
11	3,694.30	12	11	961,534	7,193,236	171,244	68%	443,916	3,320,937	79,059	10.19	32%	
10	3,693.30	13	10	1,022,096	7,646,303	182,030	73%	383,354	2,867,870	68,273	8.80	27%	
9	3,692.30	14	9	1,079,771	8,077,767	192,301	77%	325,679	2,436,406	58,002	7.48	23%	
8	3,691.30	15	8	1,134,544	8,487,522	202,056	81%	270,906	2,026,651	48,247	6.22	19%	
7	3,690.30	16	7	1,186,412	8,875,549	211,293	84%	219,038	1,638,624	39,009	5.03	16%	
6	3,689.30	17	6	1,235,301	9,241,287	220,000	88%	170,149	1,272,886	30,303	3.91	12%	
5	3,688.30	18	5	1,281,239	9,584,952	228,182	91%	124,211	929,221	22,121	2.85	9%	FLOOR
4	3,687.30	19	4	1,324,289	9,907,008	235,848	94%	81,161	607,165	14,454	1.86	6%	VOLUME
3	3,686.30	20	3	1,364,001	10,204,094	242,921	97%	41,449	310,078	7,382	0.95	3%	
2	3,685.30	21	2	1,395,412	10,439,076	248,515	99%	10,038	75,097	1,788	0.23	1%	SUMP
1	3,684.30	22	1	1,404,680	10,508,412	250,166	100%	770	5,761	137	0.02	0%	VOLUME
0	3,683.30	23	0	1,405,450	10,514,173	250,303	100%	0	0	0	0.00	0%	

SquareRoot services
Engineering | Surveying
Materials Testing
7921 N World Dr.
Hobbs, NM 88242-9032
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
CONTAINMENT VOLUMES
OF
PROJECT NAME:
GISSLER A 22 CONTAINMENT
FOR
CLIENT:
BURNETT OIL COMPANY INC

PROJECT NUMBER: 25285

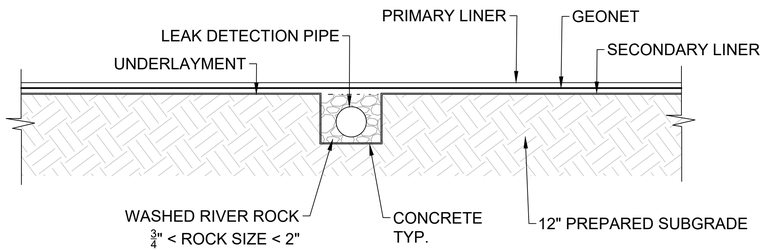
PROJECT ENGINEER: JEREMY BAKER, PE
DRAWN BY: X. CLARK

REVISIONS

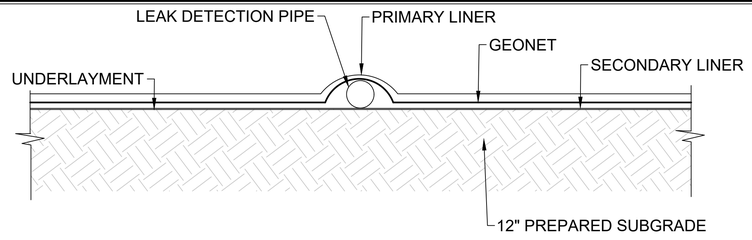
No.	DATE	DESCRIPTION

JEREMY BAKER NEW MEXICO 16207 LICENSED PROFESSIONAL ENGINEER
09/30/2025

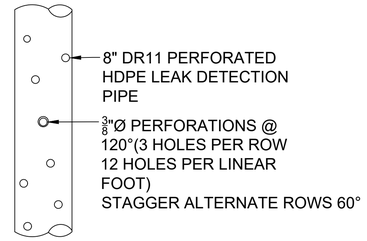
SHEET: 6 of 9
CS-103



1A SUMP DETECTION CROSS SECTION
N.T.S.



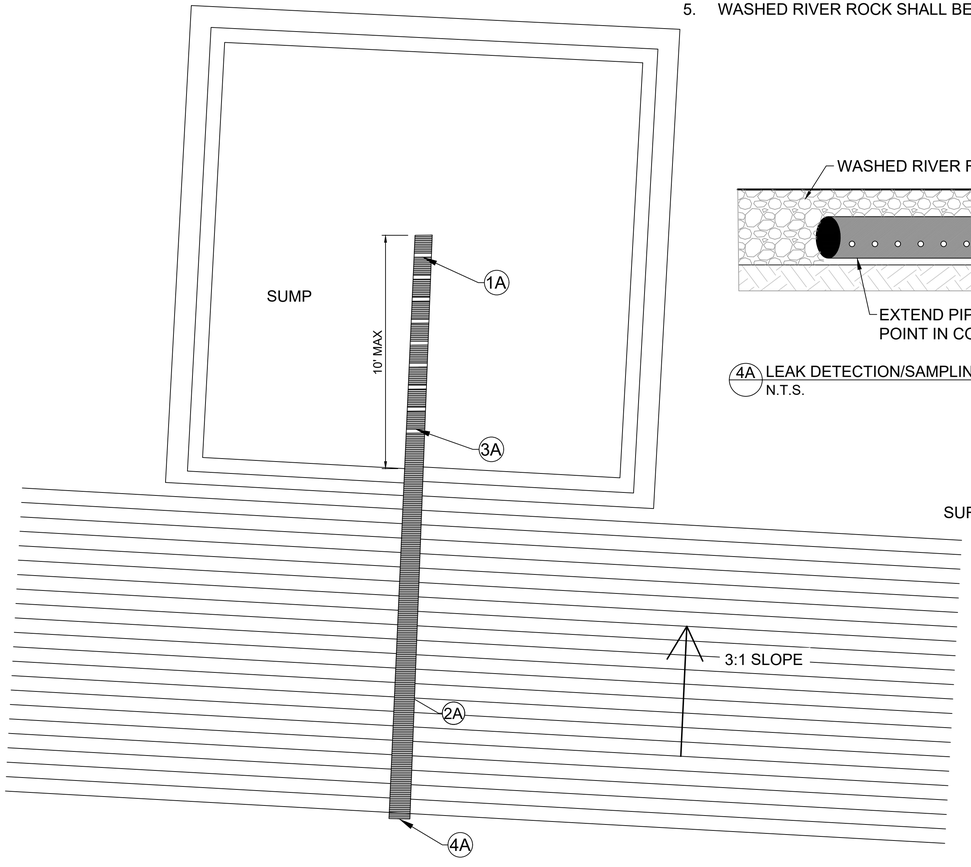
2A SIDE SLOPE LEAK DETECTION PIPE DETAIL
N.T.S.



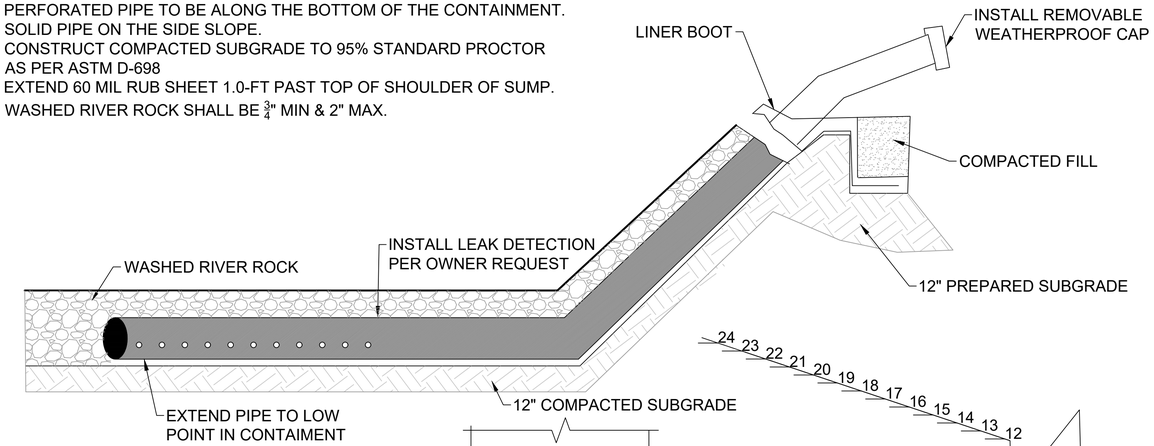
3A PERFORATED PIPE DETAIL
N.T.S.

NOTES:

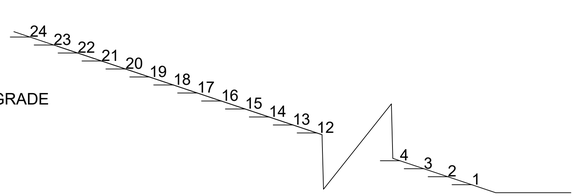
1. LEAK DETECTION SYSTEM TO BE INSTALLED BY OWNER.
2. PERFORATED PIPE TO BE ALONG THE BOTTOM OF THE CONTAINMENT. SOLID PIPE ON THE SIDE SLOPE.
3. CONSTRUCT COMPACTED SUBGRADE TO 95% STANDARD PROCTOR AS PER ASTM D-698
4. EXTEND 60 MIL RUB SHEET 1.0-FT PAST TOP OF SHOULDER OF SUMP.
5. WASHED RIVER ROCK SHALL BE ¾" MIN & 2" MAX.

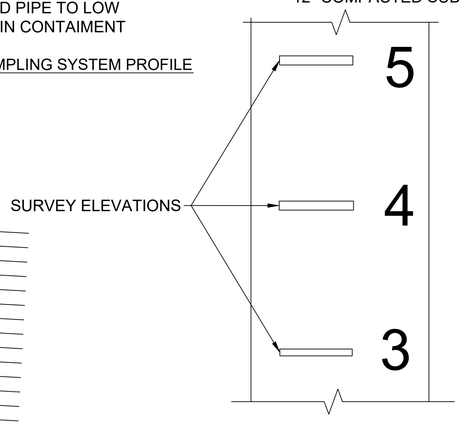


1 CONTAINMENT SUMP PLAN DETAIL
N.T.S.



4A LEAK DETECTION/SAMPLING SYSTEM PROFILE
N.T.S.





NOTE:

1. LEVEL MARKS TO BE LOCATED BY SURVEYOR
2. MARKS TO BE MADE BY AN EXTRUSION WELDER USING BLACK FILAMENT (OR WHITE FILAMENT ON BLACK LINER)
3. MARKS WILL BE DETERMINE ON THE FIELD BY THE OWNER AND CONTINUE TO THE TOP OF THE BERM.
4. REFERENCE PIT CAPACITY TABLES FOR ACCURATE ELEVATIONS.

2 WATER LEVEL MARKS
N.T.S.

PROPOSED PIT REFERENCE TABLE	
DETAIL	DESCRIPTION
PRIMARY LINER	60 MIL HDPE LINER
LEAK DETECTION	200 MIL GEONET
SECONDARY LINER	40 MIL HDPE LINER
UNDERLAYMENT	COMPACTED SUBGRADE/8 OZ GEOTEXTILE
CONTAINMENT	
BOTTOM OF POND	3,683.30
BERM (ROAD CREST)	3,706.30
LEAK DETECTION PIPING	8-IN DR11 X PERFORATED HEPE PIPE LEAK DETECTION PIPE

SquareRoot services
Engineering | Surveying
Materials Testing
7921 N World Dr.
Hobbs, NM 88242-9032
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:
LEAK DETECTION DETAILS
OF
PROJECT NAME:
GISSLER A 22 CONTAINMENT
FOR
CLIENT:
BURNETT OIL COMPANY INC

PROJECT NUMBER:
25285

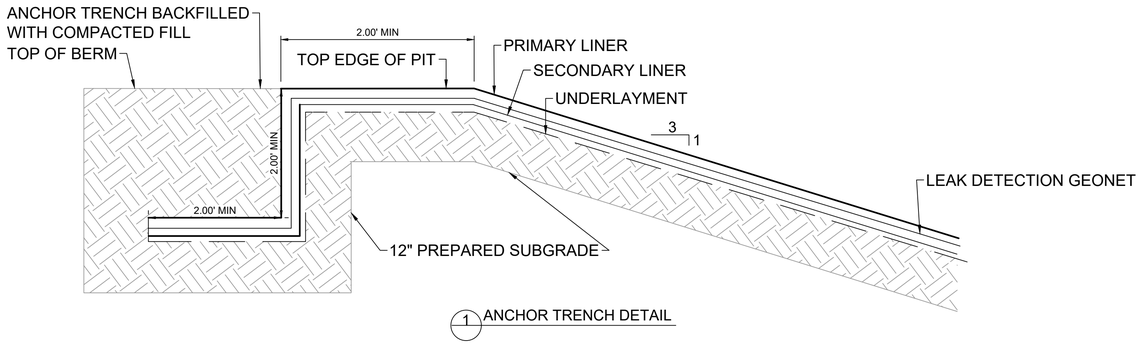
PROJECT ENGINEER:
JEREMY BAKER, PE
DRAWN BY:
X. CLARK

REVISIONS

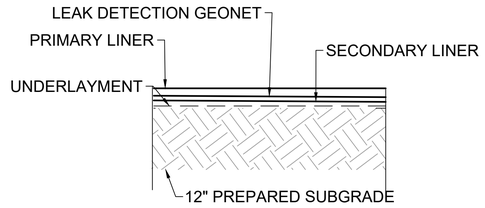
No.	DATE	DESCRIPTION

JEREMY BAKER NEW MEXICO 16207 LICENSED PROFESSIONAL ENGINEER
09/30/2025

SHEET: 7 of 9
CS-501



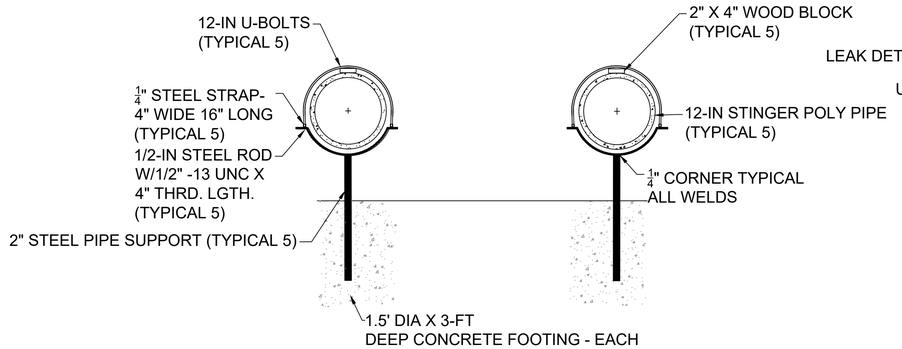
1 ANCHOR TRENCH DETAIL



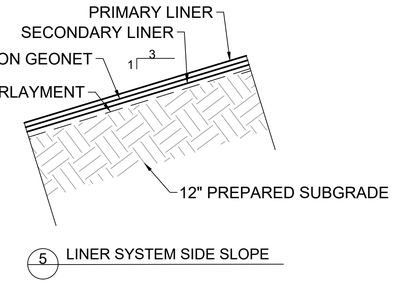
4 LINER SYSTEM FLOOR DETAIL

GENERAL NOTES:

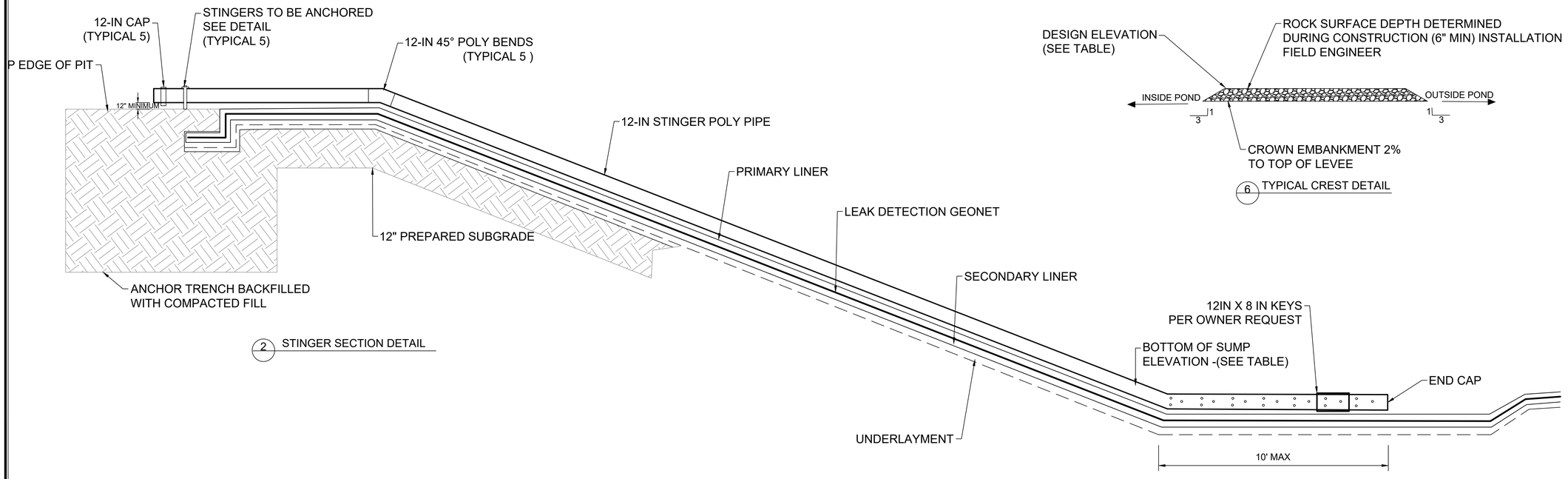
1. PREPARED SUBGRADE MEANS COMPACTED SMOOTH SUBGRADE FREE OF ROCK, ROOTS, WOOD DEBRIS, CONCRETE RUBBLE AND ANY SHARP OBJECTS THAT MAY PUNCTURE THE HDPE LINER, A MINIMUM COMPACTED DEPTH OF 12".
2. ALL INTERIOR SLOPES AND TOP OF BERMS TO BE SMOOTH DRUM ROLLED
3. ALL EMBANKMENT SLOPES SHALL HAVE A SLOPE (H:V RATIO) OF 3:1.
4. COMPACTED EARTH EMBANKMENTS TO BE CONSTRUCTED WITH 12 INCH (MAXIMUM LOOSE LIFTS, COMPACTED TO 95% STANDARD PROCTOR DENSITY)
5. PERFORM GEOTECHNICAL ANALYSIS ON EXISTING SOIL TO CONFIRM SOIL IS SUITABLE FOR USE IN THE LEVEE.
6. LINER SPECIFICATIONS PROVIDED ON SHEET CS - 501



3 STINGER SYSTEM ANCHOR DETAIL



5 LINER SYSTEM SIDE SLOPE



2 STINGER SECTION DETAIL

6 TYPICAL CREST DETAIL

SquareRoot services
Engineering | Surveying
Materials Testing
7921 N World Dr.
Hobbs, NM 88242-9032
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:

LINER DETAILS

OF

PROJECT NAME:

GISSLER A 22 CONTAINMENT

FOR

CLIENT:

BURNETT OIL COMPANY INC

PROJECT NUMBER:

25285

PROJECT ENGINEER: JEREMY BAKER, PE

DRAWN BY: X. CLARK

REVISIONS

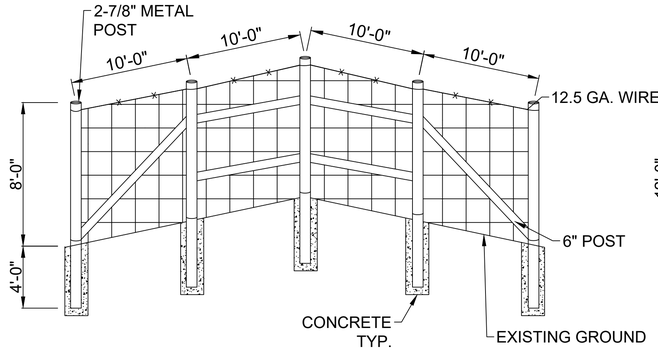
No.	DATE	DESCRIPTION

JEREMY BAKER NEW MEXICO 16207 LICENSED PROFESSIONAL ENGINEER

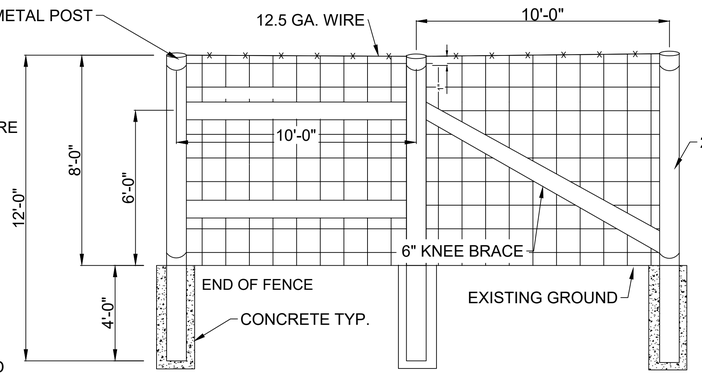
09/30/2025

SHEET: 8 of 9

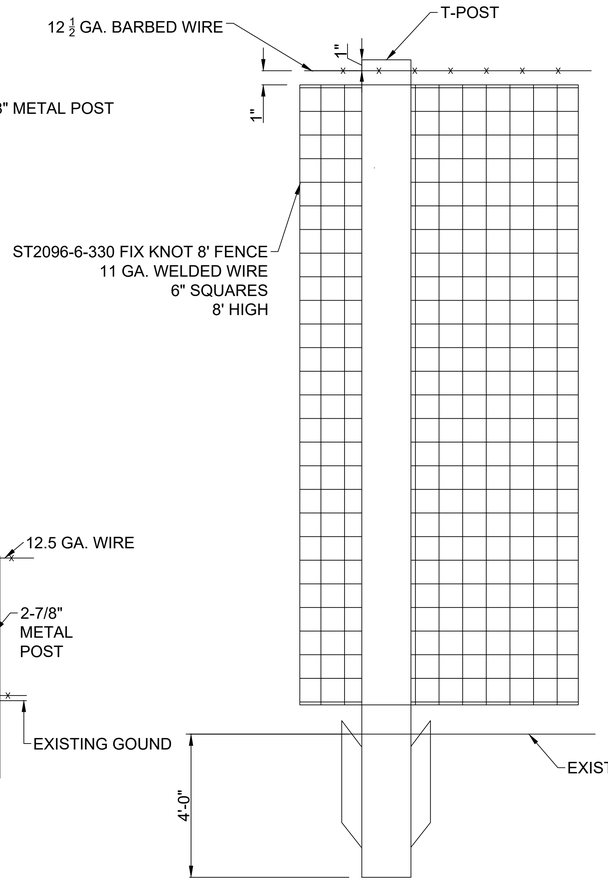
CS-502

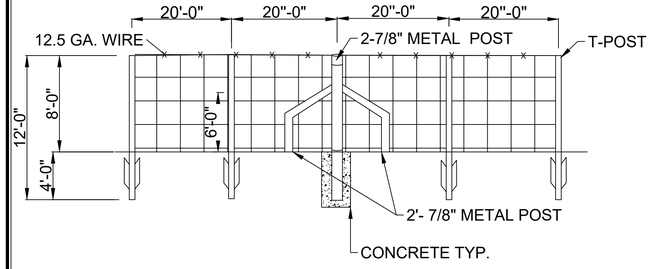


1 CORNER POST

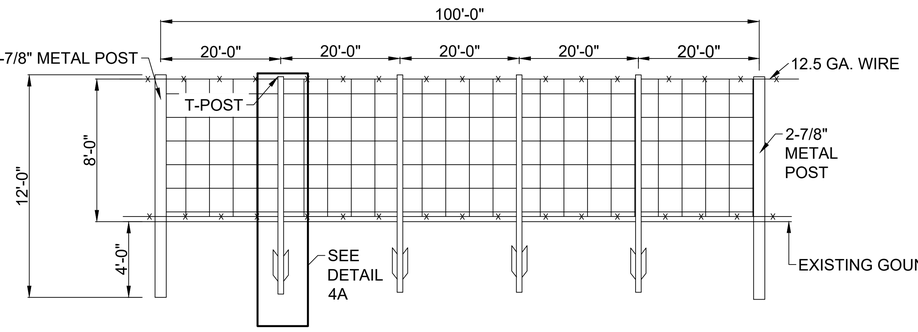


2 END POST

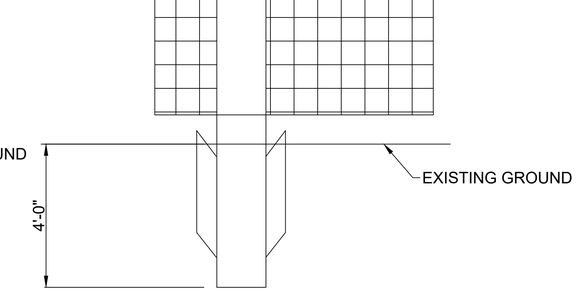




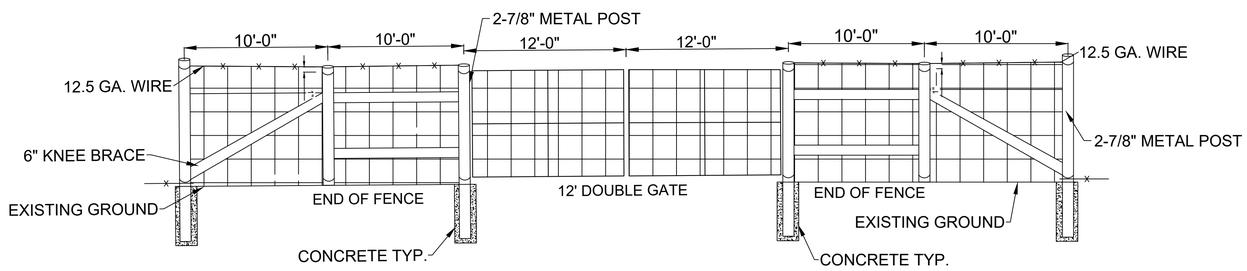
3 LINE BRACE POST



4 LINE POST



4A METAL POST



5 GATE POST

SquareRoot services
Engineering | Surveying
Materials Testing

7921 N World Dr.
Hobbs, NM 88242-9032
Squarerootservices.net
575-231-7347

ENGINEERING SHEET:

FENCE DETAILS

OF

PROJECT NAME:

GISSLER A 22 CONTAINMENT

FOR

CLIENT:

BURNETT OIL COMPANY INC

PROJECT NUMBER:
25285

PROJECT ENGINEER:
JEREMY BAKER, PE

DRAWN BY:
X. CLARK

REVISIONS

No.	DATE	DESCRIPTION

JEREMY BAKER NEW MEXICO 16207 LICENSED PROFESSIONAL ENGINEER

09/30/2025

SHEET: 9 of 9

CS-503

ALR Calculations
Company: Burnett Oil Company Inc
Facility: Gissler A 22 Containment
County: Eddy County, NM
Date: 10/2/2025
Project Number: 25285

SquareRoot services
Engineering | Surveying
Materials Testing

In accordance with EPA document "Action Leakage Rates for Leak Detection Systems" the following calculation has been prepared by Square Root Services for the purpose of determining action leakage rates (ALR) in surface impoundments. If both the LDS and the sump can accommodate the flow from the defects, the Maximum ALR is determined by the lowest of the three calculations mentioned. The ALR is the total flow from the defects in gallons/acre/day without exceeding 1 foot of head pressure on the bottom liner.

Pit Information			
Pit Details		**Facility Details**	
Pit Top		3	Slope 1:
324.54	L_1 (ft)	23.0	Depth of Pond (ft)
311.43	W_1 (ft)	3.0	Freeboard (ft)
2.32	A_1 (Acre)	20.0	Operational Heights of Liquids Above Primary Liner (ft)
Pit Bottom		**Sump Details**	
213.92	L_2 (ft)	1	Quantity of Sumps
170.51	W_2 (ft)	47.2	Length (ft)
0.84	A_2 (Acre)	35.0	Width (ft)
Liner Details		3.0	Depth (ft)
200	Underlayment Geotextile (mil, Thousand of an inch)		
60	Primary (mil, Thousand of an inch)		
40	Leak Detection (mil, Thousand of an inch)		

Flow Rate from Defects	
Free Flow Rate Through a Hole in the Geomembrane $Q = Cb*d^2*\sqrt{g*h_{prim}}$	1998 Giroud and Bonaparte (Equation 22)
0.667 Cb	Dimensionless Coefficient per 1998 Giroud and Bonaparte
0.001524 d (m)	Defect Diameter
9.81 g (m/sec^2)	acceleration due to gravity
6.10 h_{prim} (m)	Operational Heights of Liquids Above Primary Liner
Q = Maximum Flow Rate per Defect	
1.198E-05 Q (m^3/sec)	
1.035 Q (m^3/day)	
273.43 Q (Gal/Day)	

Action Leakage Rate (ALR)	
Action Leakage Rate (ALR) = (Q)(N)/Acre	
1.035 Q = m^3/day	Maximum Flow Rate per Defect
$N = (F)(A_{LCL})$	
4,046.86 Frequency of defects per m^2 of geomembrane, expressed as 1 defect per x (1 Defect per Acre)	1998 Giroud and Bonaparte (Section 2.3.7)
F = Frequency of Defects per m^2 of Geomembrane	
0.00025 F (1/ m^2)	Frequency of Defects
9,390.18 A_{LCL} (m^2)	Area of Leakage Collection Layer
2.0 N	Number of Defects
2.32 Acres	Pit Top Area
0.89 ALR (m^3/day/acre)	
235.68 ALR (gal/day/acre) (GPDA)	

Maximum Flow Rate (Q_{full}) within the Leak Detection Layer Geonet	
$Q_{full} = T(2*h-t)$	Equation 3 from EPA 530-R-92-004
$k = T / t_{LCL}$	Hydraulic Conductivity
0.002 T (m^2/sec)	Manufactures Transmitivity Test
0.00508 t_{LCL} (m)	Thickness of Leak Detection Layer
1.00 h (ft)	Maximum Height of Liner
0.30 h (m)	
1.209E-03 Q_{full} (m^3/sec)	Maximum Flow Rate within the Geonet
104.46 Q_{full} (m^3/day)	
5518.87 Q_{full} (Gal/acre/day) (SF = 5)	

Maximum Flow Rate into Sump	
$Q_{sump} = T*i*Psump$	
0.002 T (m^2/sec)	Manufactures' Transmitivity Test
0.011 i (ft/ft)	Hydraulic Gradient
164.2 Psump (ft)	Sump Perimeter
50.1 Psump (m)	
0.0011 Q_{sump} (m^3/sec)	Maximum Flow Rate into Sump
95.15 Q_{sump} (m^3/day)	
25,135.99 Q_{sump} (Gal/day)	
6,003.61 Q_{sump} (Gal/acre/day) FS = 5	
235.68 Flow From Defect(gal/day/acre)	Flow from Defect
5,518.87 Q_{full} (Gal/acre/day)	LDS Max Allowable Flow Rate
6,003.61 Q_{sump} (Gal/acre/day)	Max Allowable Flow into Sump

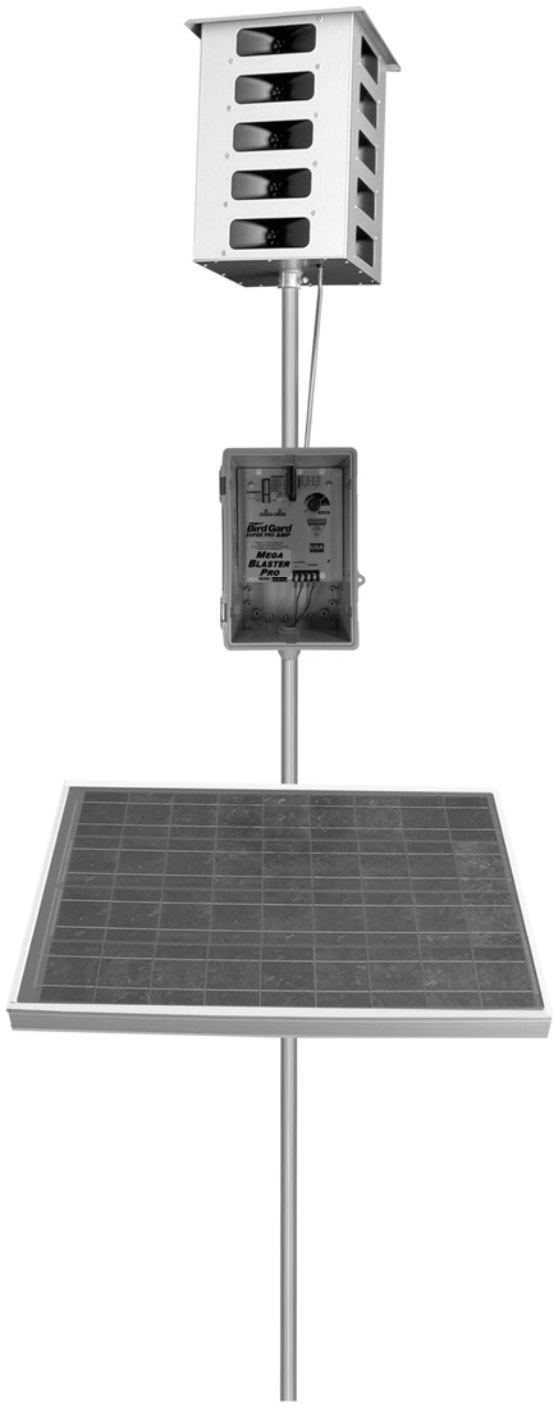
JEREMY BAKER
NEW MEXICO
16207
LICENSED PROFESSIONAL ENGINEER
10/02/2025

AVIAN DETERRENT SYSTEM

MEGA BLASTER PRO

BIRD-X

User's Manual



Overview

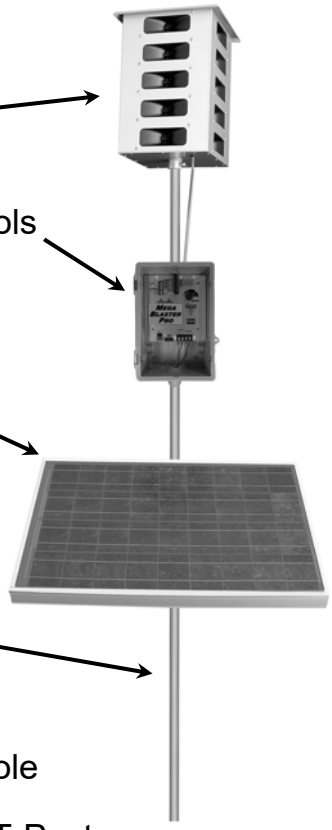
The Bird-X Mega Blaster Pro utilizes the innate power of the natural survival instincts of birds to effectively repel them. Digital recordings of distressed and alarmed birds, along with the sounds made by their natural predators are broadcast through high fidelity weather-resistant speakers over the top of areas. This action triggers a primal fear and flee response. Pest birds soon relocate to where they can feed without feeling threatened.

Your Bird-X Mega Blaster Pro system consists of:

20-Speaker Tower broadcasts the bird sounds

Control Unit produces the bird sounds and contains all operational controls

Solar Panel recharges the 12-volt deep cycle battery



Items needed but <u>not</u> included:

(1) **Mounting Pole** or **Mast** tall enough to raise the 20-Speaker Tower at least 5 feet above the top of the areas, trees or other obstructions

(1) **12-volt Deep Cycle Battery** (RV/Marine) Group 27 or larger wet cell

(1) **T-Post** or similar (Optional) may be needed to support the mounting pole

(1) **Bailing Wire or zip-tie** (Optional) to secure the Mounting Pole to the T-Post

CAUTION: THE MEGA BLASTER PRO IS CAPABLE OF PRODUCING SOUNDS UP TO 125 DECIBELS. PROPER HEARING PROTECTION MUST BE WORN ANYTIME THE UNIT IS TURNED ON.

Bird Control Management Guidelines

An active bird control management program is a key to successfully repelling pest birds. Bird feeding patterns may take several days or weeks to break. Follow all suggestions for maximum effectiveness. Read all instructions prior to installation.

For best results:

- **It is extremely important to fully protect your entire area from birds.** Any areas not fully protected will allow birds to begin feeding at the fringes of the sound coverage. They will soon become bolder and learn the sounds are nothing to fear. This will cause the effectiveness to diminish. Complete Bird-X product coverage forces birds to leave the area entirely.
- Install the Mega Blaster Pro unit at least two weeks before birds are attracted to your area. It is much easier to keep birds away before they have found a food source than it is to repel them once they have developed a feeding pattern.
- Most birds begin feeding from the perimeter of an area. Place Mega Blaster Pro units so the sound protection covers past the edges of the area.
- Birds will often use tall trees for roosting and observation. If birds are in bordering trees it is necessary to position the units so the sound protection covers the trees as well.
- Mount the 20-Speaker Tower at least five feet above trees, areas and structures for maximum coverage. The higher the better. Sound will disperse or reflect off structures or foliage. Mount control unit out of direct sun, if possible.
- When first installed, run Mega Blaster Pro units at FULL volume and on SHORT time off periods. This ensures maximum “bird stress” and creates a hostile environment.
- Watch for changes in bird activity and adjust the location of your Mega Blaster Pro unit if needed.
- **Check the battery and unit settings often to insure continuous bird control. Be certain that the system is not turned down or has a dead battery. Field hands or harvesters may turn down the volume.**
- Changing settings and switches often helps to prevent bird habituation. Periodically change the switch settings of the eight sounds (turning them ON or OFF). NEVER turn OFF the distress calls of the target birds you are trying to repel and always keep at least one predator bird sound turned ON.
- If different bird species enter the protected area and begin causing damage contact us immediately for an updated Sound Recording Card designed to repel the new invading birds.
- Remember that the Mega Blaster Pro system is a management tool, and should be used as part of your overall bird control strategy, sometimes in conjunction with other bird control techniques and devices.

Be aware that under extreme drought or other adverse conditions, birds will disregard all deterrents and risks in order to survive

DESIGN/CONSTRUCTION PLAN

Design and Construction Plan In Ground Containments

This plan addresses construction of the earthen containments.

Dike Protection and Structural Integrity

The design and operation provide for the confinement of produced water, prevention of releases and prevention of overtopping due to wave action or rainfall. Additionally, the design prevents run-on of surface water as the containment is surrounded by an above-grade levee (a berm) and/or diversion ditch (between the levee and the soil stockpile) to prevent run-on of surface water.

19.15.34.12 A Design and Construction Specifications
(1). The operator shall design and construct a recycling containment to ensure the confinement of produced water, to prevent releases and to prevent overtopping due to wave action or rainfall.
(8). The operator of a recycling containment shall design the containment to prevent run-on of surface water. The containment shall be surrounded by a berm, ditch or other diversion to prevent run-on of surface water

Stockpile Topsoil

Where topsoil is present, prior to constructing containment, the operator will strip and stockpile the topsoil for use as the final cover or fill at the time of closure.

19.15.34.12 B. Prior to constructing containment, the operator shall strip and stockpile the topsoil for use as the final cover or fill at the time of closure

Signage

The operator will place an upright sign no less than 12 inches by 24 inches with lettering not less than two inches in height in a conspicuous place on the fence surrounding the containment. The sign is posted in a manner and location such that a person can easily read the legend. The sign will provide the following information:

- the operator's name,
- the location of the site by quarter-quarter or unit letter, section, township and range, and
- emergency telephone numbers

19.15.34.12 C. Signs.
The operator shall post an upright sign no less than 12 inches by 24 inches with lettering not less than two inches in height in a conspicuous place on the fence surrounding the containment. The operator shall post the sign in a manner and location such that a person can easily read the legend. The sign shall provide the following information: the operator's name, the location of the site by quarter-quarter or unit letter, section, township and range, and emergency telephone numbers

Fencing

The operator will provide for a fence to enclose the recycling containment in a manner that deters unauthorized wildlife and human access. As specified in the design drawings, the operator will employ a chain-link or game fence. If required by the District Office, the operator will add four-strands of barbed wire to comply with the text of the Rule. Because feral pigs, javelina and deer are present in the area, a chain link or game fence is required in order to comply with Section 19.15.34.12 D.1 of the Rule because pigs will move beneath the lower strand of a 4-strand, 4-foot high barbed wire fence and deer will jump over. However, 19.15.34.12 D.2 requires "a four-foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level". Therefore, a barbed wire specification will be added to the game fence to avoid a variance if required by the OCD District Office.

19.15.34.12 D. Fencing
(1) The operator shall fence or enclose a recycling containment in a manner that deters unauthorized wildlife and human access and shall maintain the fences in good repair. The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.
(2) Recycling containments shall be fenced with a four-foot fence that has at least four strands of barbed wire evenly spaced in the interval between one foot and four feet above ground level.

As stated in the O&M plan, the operator will ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.

Netting and Protection of Wildlife

The perimeter game/chain-link fence will be effective in excluding stock and most terrestrial wildlife. If requested by the surface owner, the game fence can include a fine mesh from the base to 1 foot above the ground to exclude the small reptiles (e.g. dune sagebrush lizard).

19.15.34.12 E Netting.
The operator shall ensure that a recycling containment is screened, netted or otherwise protective of wildlife, including migratory birds. The operator shall on a monthly basis inspect for and, within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.

The recycling containment will be protective of wildlife, including migratory birds through the implementation of an Avian Protection Plan, routine inspections and the perimeter fence.

The avian protection plan includes the use of a Bird-X Mega Blaster Pro[1] as a primary hazing program for avian species. The device will be equipped with sounds suitable for the Permian Basin environment. In addition to this sonic device, staff will routinely inspect the containment for the presence of avian species and, if detected, will use a blank cartridge or shell in a handgun, starter pistol or shotgun as additional hazing. Decoys of birds of prey may be placed on the game fence and other roosts around the open water to provide additional hazing.

The O&M plan calls for the operator to inspect for and, within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.

Earthwork

The containment will have a properly constructed foundation and interior slopes consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear. Geotextile is required under the liner when needed to reduce localized stress-strain or protuberances that otherwise may compromise the liner's integrity.

19.15.34.12 A
(2) A recycling containment shall have a properly constructed foundation and interior slopes consisting of a firm, unyielding base, smooth and free of rocks, debris, sharp edges or irregularities to prevent the liner's rupture or tear. Geotextile is required under the liner when needed to reduce localized stress-strain or protuberances that otherwise may compromise the liner's integrity…

This volume provides the stamped drawings for the containment with the following design/construction specifications:

a) levee has inside grade no steeper than two horizontal feet to one vertical foot (2H: 1V).

b) levee outside grade is no steeper than three horizontal feet to one vertical foot (3H: 1V)
c) top of the levee is wide enough to install an anchor trench and provide adequate room for inspection and maintenance.
d) The containment floor design calls for a slope toward the sump in the corner(s).

19.15.34.12 A
(2) …The operator shall construct the containment in a levee with an inside grade no steeper than two horizontal feet to one vertical foot (2H:1V). The levee shall have an outside grade no steeper than three horizontal feet to one vertical foot (3H:1V). The top of the levee shall be wide enough to install an anchor trench and provide adequate room for inspection and maintenance.

Liner and Drainage Geotextile Installation

The containment has a primary (upper) liner and a secondary (lower) liner with a leak detection system appropriate to the site's conditions.

19.15.34.12 A
(3) Each recycling containment shall incorporate, at a minimum, a primary (upper) liner and a secondary (lower) liner with a leak detection system appropriate to the site's conditions.

The primary (upper) liner is a geomembrane liner composed of an impervious, synthetic material that is resistant to ultraviolet light, petroleum hydrocarbons, salts and acidic and alkaline solutions. It is 60-mil HDPE. The secondary liner is specified in the design drawings and is 40-mil HDPE or thicker and is equivalent to 30-mil LLDPEr (in accordance with a previously approved variance) Liner compatibility meets or exceeds a subsequent relevant publication to EPA SW-846 method 9090A.

19.15.34.12 A
(4) All primary (upper) liners in a recycling containment shall be geomembrane liners composed of an impervious, synthetic material that is resistant to ultraviolet light, petroleum hydrocarbons, salts and acidic and alkaline solutions. All primary liners shall be 30-mil flexible PVC, 45-mil LLDPE string reinforced or 60-mil HDPE liners. Secondary liners shall be 30-mil LLDPE string reinforced or equivalent with a hydraulic conductivity no greater than 1 x 10-9 cm/sec. Liner compatibility shall meet or exceed the EPA SW-846 method 9090A or subsequent relevant publications.

The recycling containment design has a leak detection system between the upper and lower geomembrane liners of 200-mil geonet to facilitate drainage. The leak detection system consists of a properly designed drainage and collection and removal system placed above the lower geomembrane liner in depressions and sloped to facilitate the earliest possible leak detection. The containment floor design calls for a slope toward the sump in the corner(s) of the containment, as shown in the design drawings. This slope combined with the highly transmissive geonet drainage layer provide for rapid leak detection.

19.15.34.12 A
(7) The operator of a recycling containment shall place a leak detection system between the upper and lower geomembrane liners that shall consist of 200-mil geonet or two feet of compacted soil with a saturated hydraulic conductivity of 1 x 10-5 cm/sec or greater to facilitate drainage. The leak detection system shall consist of a properly designed drainage and collection and removal system placed above the lower geomembrane liner in depressions and sloped to facilitate the earliest possible leak detection.

The liners and drainage material will be installed consistent with the Manufacturer's specifications. In addition to any specifications of the Manufacturer, protocols for liner installation include measures to:

i. minimizing liner seams and orient them up and down, not across, a slope of the levee.
ii. use factory-welded seams where possible.
iii. use field seams in geosynthetic material that are thermally seamed and prior to field seaming, overlap liners four to six inches.
iv. minimize the number of field seams and comers and irregularly shaped areas.
v. provide for no horizontal seams within five feet of the

19.15.34.12 A
(5) The operator of a recycling containment shall minimize liner seams and orient them up and down, not across, a slope of the levee. Factory welded seams shall be used where possible. The operator shall ensure field seams in geosynthetic material are thermally seamed. Prior to field seaming, the operator shall overlap liners four to six inches…

slope's toe.

vi. use qualified personnel to perform field welding and testing.

vii. avoid excessive stress-strain on the liner

viii. The edges of all liners are anchored in the bottom of a compacted earth-filled trench that is at least 18 inches deep

19.15.34.12 A
(5) …The operator shall minimize the number of field seams and corners and irregularly shaped areas. There shall be no horizontal seams within five feet of the slope's toe. Qualified personnel shall perform field welding and testing.

At points of discharge into the lined earthen containment the pipe configuration effectively protects the liner from excessive hydrostatic force or mechanical damage during filling.

19.15.34.12 A
(3) The edges of all liners shall be anchored in the bottom of a compacted earth-filled trench. The anchor trench shall be at least 18 inches deep.

The design shows that at any point of discharge into or suction from the recycling containment, the liner is protected from excessive hydrostatic force or mechanical damage. External discharge or suction lines do not penetrate the liner.

19.15.34.12 A
(6) At a point of discharge into or suction from the recycling containment, the operator shall insure that the liner is protected from excessive hydrostatic force or mechanical damage. External discharge or suction lines shall not penetrate the liner.

Pumping from the containment to hydraulic fracturing operations is the responsibility of stimulation contractors. Typically, lines are permanently placed in the containment with floats attached to prevent damage to the liner system. The containment may be equipped with permanent HDPE stinger (supported by a sacrificial liner or geotextile) for withdrawal of fluid if the owner deems necessary during operations.

Leak Detection and Fluid Removal System Installation

The leak detection system, contains the following design elements

a. The 200-mil HyperNet Geonet drainage material between the primary and secondary liner that is sufficiently permeable to allow the transport of fluids to the observation ports (Appendix A).
b. The containment floor is sloped towards the monitoring riser pipe to facilitate the earliest possible leak detection of the containment bottom. A pump may be placed in the observation port to provide for fluid removal.
c. Piping will withstand chemical attack from any seepage, structural loading from stresses and disturbances from overlying water, cover materials, equipment operation or expansion or contraction (see Appendix A).

OPERATIONS AND MAINTENANCE PLAN

CLOSURE PLAN

Operation and Maintenance Plan
In Ground Containments

Overview

The operator will operate and maintain the lined earthen containment to contain liquids and solids (blow sand and minimal precipitates from the produced water) and maintain the integrity of the liner system in a manner that prevents contamination of fresh water and protects public health and the environment as described below. The purpose of the lined earthen containment is to facilitate recycling, reuse and reclamation of produced water derived from oil and gas wells. During periods when water for E&P operations is not needed, produced water will discharge to injection wells or to a pipeline for transfer to another recycling facility. The containment will not be used for the disposal of produced water or other oilfield waste.

19.15.34.10 D
Recycling containments may not be used for the disposal of produced water or other oilfield wastes.

The operation of the containment is summarized below.

A. Produced water generated from nearby oil and gas wells is delivered to a treatment system located as indicated in the C-147.
B. Unless specified in the transmittal letter, after treatment, the produced water discharges into the containment.
C. When required, produced water is removed from the containment for E&P operations. At this time, produced water will be used for drilling beneath the freshwater zones (beneath surface casing), for well stimulation (e.g. hydraulic fracturing) and other E&P uses as approved by OCD.
D. Whenever the maximum fluid capacity of the containment is reached, treatment and discharge to the containment ceases (see Freeboard and Overtopping Plan, below).
E. The operator will keep accurate records and shall report monthly to the division the total volume of water received for recycling, with the amount of fresh water received listed separately, and the total volume of water leaving the facility for disposition by use on form C-148 (see attached example).
F. The operator will maintain accurate records that identify the sources and disposition of all recycled water that shall be made available for review by the division upon request.

19.15.34.9 E
The operator of a recycling facility shall keep accurate records and shall report monthly to the division the total volume of water received for recycling, with the amount of fresh water received listed separately, and the total volume of water leaving the facility for disposition by use on form C-148.

19.15.34.9 F
The operator of a recycling facility shall maintain accurate records that identify the sources and disposition of all recycled water that shall be made available for review by the division upon request.

G. The containment shall be deemed to have ceased operations if less than 20% of the total fluid capacity is used every six months following the first withdrawal of produced water for use. The operator will report cessation of operations to the appropriate division district office. The appropriate division district office may grant an extension to this determination of cessation of operations not to exceed six months.

19.15.34.13 C
A recycling containment shall be deemed to have ceased operations if less than 20% of the total fluid capacity is used every six months following the first withdrawal of produced water for use. The operator must report cessation of operations to the appropriate division district office. The appropriate division district office may grant an extension to this determination of cessation of operations not to exceed six months.

The operation of the lined earthen containment will follow the mandates listed below:

1. The operator will not discharge into or store any hazardous waste (as defined by 40 CFR 261 and NMAC 19.15.2.7.H.3) in the containments.
2. If the containment's primary liner is compromised above the fluid's surface, the operator will repair the damage or initiate replacement of the primary liner within 48 hours of discovery or seek an extension of time from the division district office.
3. If the primary liner is compromised below the fluid's surface, the operator will remove all fluid above the damage or leak within 48 hours of discovery, notify the division district office and repair the damage or replace the primary liner.
4. If any penetration of the containment liner is confirmed by sampling of fluid in the leak detection system (see Monitoring, Inspection, and Reporting Plan; below), the operator will:
    a. Begin and maintain fluid removal from the leak detection/pump-back system,
    b. Notify the district office within 48 hours (phone or email) of the discovery,
    c. Identify the location of the leak, and
    d. Repair the damage or, if necessary, replace the containment liner.
5. The operator will install, or maintain on site, an oil absorbent boom or other device to contain an unanticipated release and the operator will remove any visible layer of oil from the surface of the recycling containment.
6. The operator will report releases of fluid in a manner consistent with NMAC 19.15.29
7. The containment will be operated to prevent the collection of surface water run-on.

19.15.34.13 B
(4) If the containment's primary liner is compromised above the fluid's surface, the operator shall repair the damage or initiate replacement of the primary liner within 48 hours of discovery or seek an extension of time from the division district office.
(5) If the primary liner is compromised below the fluid's surface, the operator shall remove all fluid above the damage or leak within 48 hours of discovery, notify the division district office and repair the damage or replace the primary liner.

19.15.34.13 B
(7) The operator shall install, or maintain on site, an oil absorbent boom or other device to contain an unanticipated release.
(1) The operator shall remove any visible layer of oil from the surface of the recycling containment.
19.15.34.8 A

(6) All releases from the recycling and re-use of produced water shall be handled in accordance with 19.15.29 NMAC.

8. The operator will maintain the containment free of miscellaneous solid waste or debris.
9. The operator will maintain at least three feet of freeboard for the containment and will use a free-standing staff gauge to allow easy determination of the required 3-foot of freeboard.
10. As described in the design/construction plan, the injection or withdrawal of fluids from the containment is accomplished through hardware that prevents damage to the liner by erosion, fluid jets or impact from installation and removal of hoses or pipes.
11. The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.
12. The operator will maintain the fences in good repair.

19.15.34.13
(6) The containment shall be operated to prevent the collection of surface water run-on.

19.15.34.13 B
(2) The operator shall maintain at least three feet of freeboard at each containment.

19.15.34.13 B
(3) 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 or pipes.

19.15.34.12 D
(1) The operator shall fence or enclose a recycling containment in a manner that deters unauthorized wildlife and human access and shall maintain the fences in good repair. The operator shall ensure that all gates associated with the fence are closed and locked when responsible personnel are not onsite.

19.15.34.13 A
The operator shall inspect the recycling containment and associated leak detection systems weekly while it contains fluids. The operator shall maintain a current log of such inspections and make the log available for review by the division upon request.

Monitoring, Inspection, and Reporting Plan

The operator will inspect the recycling containment and associated leak detection systems weekly while it contains fluids. The operator shall maintain a current log of such inspections and make the log available for review by the division upon request.

Weekly inspections consist of:

- reading and recording the fluid height of staff gauges,
- recording any evidence that the pond surface shows visible oil,
- visually inspecting the containment's exposed liners
- checking the leak detection system for any evidence of a loss of integrity of the primary liner.
- inspect diversion ditches and berms around the containment to check for erosion and collection of surface water run-on.
- inspect the leak detection system for evidence of damage or malfunction and monitor for leakage.

As stated above, if a liner's integrity is compromised, or if any penetration of the liner occurs, then the operator will take appropriate action within 48 hours, based on if above or below water surface, as noted above.

Monthly, the operator will:

A. Inspect the containment for dead migratory birds and other wildlife. Within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.
B. Report to the division the total volume of water received for recycling, with the amount of fresh water received listed separately, and the total volume of water leaving the facility for disposition by use on form C-148.
C. Record sources and disposition of all recycled water.

19.15.34.12 E
The operator shall on a monthly basis inspect for and, within 30 days of discovery, report the discovery of dead migratory birds or other wildlife to the appropriate wildlife agency and to the division district office in order to facilitate assessment and implementation of measures to prevent incidents from reoccurring.

19.15.34.9 E
The operator of a recycling facility shall keep accurate records and shall report monthly to the division the total volume of water received for recycling, with the amount of fresh water received listed separately, and the total volume of water leaving the facility for disposition by use on form C-148.

19.15.34.9 F
The operator of a recycling facility shall maintain accurate records that identify the sources and disposition of all recycled water that shall be made available for review by the division upon request.

The operator will maintain a log of all inspections and make the log available for the appropriate Division district office's review upon request. An example of the log is attached to this section of the permit application.

Freeboard and Overtopping Prevention Plan

The method of operation of the containment allows for maintaining freeboard with very few potential problems. When the capacity of the containment is reached (3-feet of freeboard), the discharge of produced water ceases and the produced water generated by nearby oil and gas wells is managed by an injection well(s).

If rising water levels suggest that 3-feet of freeboard will not be maintained, the operator will implement one or more of the following options:

I. Cease discharging produced water to the containment.

II.Accelerate re-use of the produced water for purposes approved by the Division.

III. Transfer produced water from the containment to injection wells.

The reading of the staff gauge typically occurs daily when treatment operations are ongoing and weekly when discharge to the containment is not occurring.

Protocol for Leak Detection Monitoring, Fluid Removal and Reporting

As shown in Appendix A, the leak detection system includes a monitoring system. Any fluid released from the primary liner will flow to the collection sump, where fluid level monitoring is possible at the monitoring riser pipe associated with the leak detection system.

Staff may employ a portable electronic water level meter to determine if fluid exists in the monitoring riser pipe. Obtaining accurate readings of water levels in a sloped pipe beneath a containment can be a challenge. An electrician's wire snake may be required to push the probe to the bottom of the port and the probe may be fixed in a 2-inch pipe "dry housing" to avoid false readings due to water condensation on the pipe. There are many techniques to determine the existence of water in the sumps – including low flow pumps and a simple small bailer affixed to an electrician's snake. The operator will use the method that works best for this containment.

If seepage from the containment into the leak detection system is suspected by a positive fluid level measurement, the operator will:

1. Re-measure fluid levels in the monitoring riser pipe on a daily basis for one week to determine the rate of seepage.
2. Collect a water sample from the monitoring riser pipe to confirm the seepage is produced water from the containment via electrical conductivity and chloride measurements.
3. Notify NMOCD of a confirmed positive detection in the system within 48 hours of sampling (initial notification).
4. Install a pump into the monitoring riser pipe sump to continually (manually on a daily basis or via automatic timers) remove fluids from the leak detection system into the containment until the liner is repaired or replaced.
5. Dispatch a liner professional to inspect the portion of the containment suspected of leakage during a "low water" monitoring event.
6. Provide NMOCD a second report describing the inspection and/or repair within 20 days of the initial notification.

Type text h

If the point of release is obvious from a low water inspection, the liner professional will repair the loss of integrity. If the point of release cannot be determined by the inspection, the liner professional will develop a more robust plan to identify the point(s) of release. The inspection plan and schedule will be submitted to OCD with the second report. The operator will implement the plan upon OCD approval.

Closure Plan
In Ground Containments

Overview

After operations cease, the operator will remove all fluids within 60 days and close the containment within six months from the date the operator ceases operations from the containment for use.

19.15.34.14 A
Once the operator has ceased operations, the operator shall remove all fluids within 60 days and close the containment within six months from the date the operator ceases operations from the containment for use.

The operator shall substantially restore the impacted surface area to

a. the condition that existed prior to the construction of the recycling containment or
b. to a condition imposed by federal, state trust land or tribal agencies on lands managed by those agencies as these provisions govern the obligations of any operator subject to those provisions,

19.15.34.14 E
The operator shall substantially restore the impacted surface area to the condition that existed prior to the construction of the recycling containment.

19.15.34.14 G
The re-vegetation and reclamation obligations imposed by federal, state trust land or tribal agencies on lands managed by those agencies shall supersede these provisions and govern the obligations of any operator subject to those provisions, provided that the other requirements provide equal or better protection of fresh water, human health and the environment.

The surface owner will impose a closure design that conforms to their needs for the site. The operator understands that a variance will be submitted to OCD to allow for any alternative closure protocol.

Excavation and Removal Closure Plan – Protocols and Procedures

The containment is expected to hold a small volume of solids, the majority of which will be windblown sand and dust with some mineral precipitates from the water

1. The operator will remove all liquids from the containment and either:
    a. Dispose of the liquids in a division-approved facility, or
    b. Recycle, reuse or reclaim the water for reuse in drilling and stimulation.
2. The operator will close the recycling containment by first removing all fluids, contents and synthetic liners and transferring these materials to a division approved facility.
3. After the removal of the containment contents and liners, soils beneath the containment will be tested by collection of a five-point (minimum) composite sample which includes stained or wet soils, if any, and that sample shall be analyzed for the constituents listed in Table I of 19.15.34.14.
4. After review of the laboratory results:
    a. If any contaminant concentration is higher than the parameters listed in Table I, additional delineation may be required, and the operator must receive approval before proceeding with closure.

19.15.34.14 B
The operator shall close a recycling containment by first removing all fluids, contents and synthetic liners and transferring these materials to a division approved facility.

19.15.34.14 C
The operator shall 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.

19.15.34.14 C
(1) If any contaminant concentration is higher than the parameters listed in Table I, the division may require additional delineation upon review of the results and the operator must receive approval before proceeding with closure.

b. If all contaminant concentrations are less than or equal to the parameters listed in Table I, then the operator will proceed to
    i. backfill with non-waste containing, uncontaminated, earthen material - Or
    ii. undertake an alternative closure process pursuant to a variance request after approval by OCD.

19.15.34.14 C
(2) If all contaminant concentrations are less than or equal to the parameters listed in Table I, then the operator can proceed to backfill with non-waste containing, uncontaminated, earthen material.

Reclamation and Re-vegetation

a. The operator will reclaim the containment's location to a safe and stable condition that blends with the surrounding undisturbed area.
b. Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns.
c. The disturbed area shall then be reseeded in the first favorable growing season following closure of a recycling containment.

19.15.34.14 E
Once the operator has closed the recycling containment, the operator shall reclaim the containment's location to a safe and stable condition that blends with the surrounding undisturbed area. Topsoils and subsoils shall be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. The disturbed area shall then be reseeded in the first favorable growing season following closure of a recycling containment.

Closure Documentation

Within 60 days of closure completion, the operator shall submit a closure report on form C-147, including required attachments, to document all closure activities including sampling results and the details on any backfilling, capping or covering, where applicable. The closure report shall certify that all information in the report and attachments is correct and that the operator has complied with all applicable closure requirements and conditions specified in division rules or directives.

19.15.34.14 D
Within 60 days of closure completion, the operator shall submit a closure report on form C-147, including required attachments, to document all closure activities including sampling results and the details on any backfilling, capping or covering, where applicable. The closure report shall certify that all information in the report and attachments is correct and that the operator has complied with all applicable closure requirements and conditions specified in division rules or directives.

The operator shall notify the division when reclamation and re-vegetation are complete. Specifically the notice will document that all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

19.15.34.14 H
The operator shall notify the division when reclamation and re-vegetation are complete.

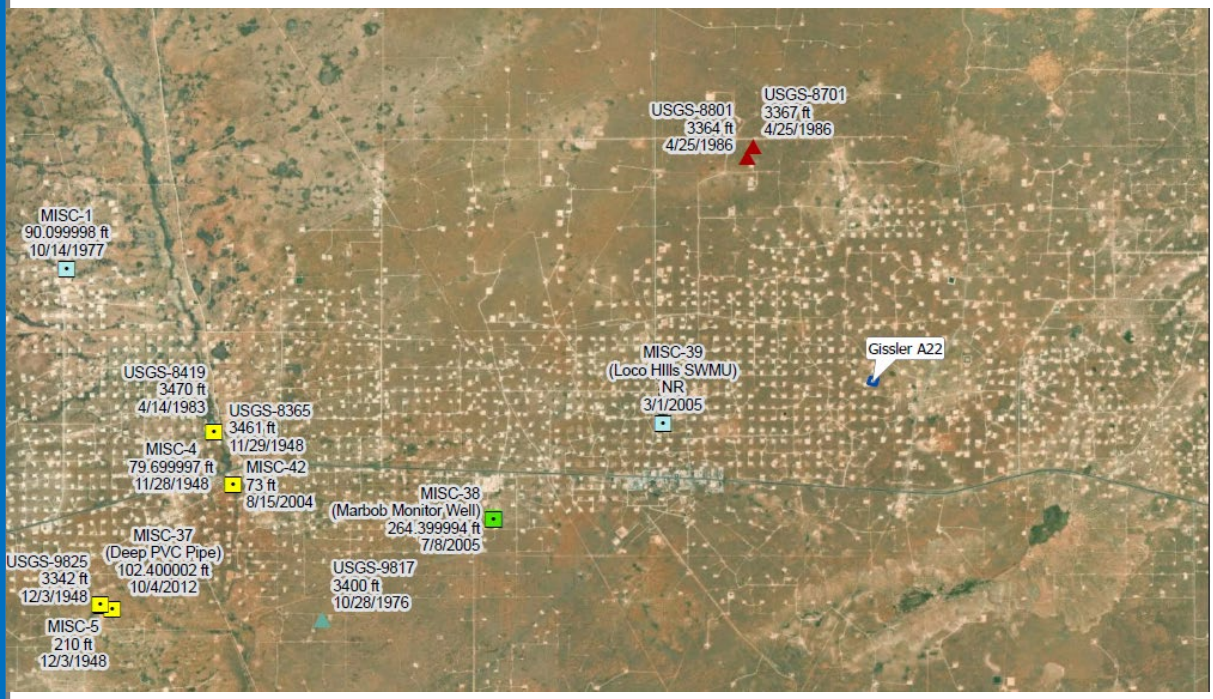
19.15.34.14 F
Reclamation of all disturbed areas no longer in use shall be considered complete when all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

October 2025

Rule 34 Registration
Gissler A22 RF and Containment
Section 14 T17S, R30E, Eddy County

Volume 1

- ***Transmittal Letter***
- ***Siting Criteria Demonstration, Plates & Appendices,***



Air photograph of Loco Hills area showing the density of oil and gas production pads, each of which typically contains one or more wells. The high density of oil and gas wells is not an accident and this relatively narrow trend exists between west of Artesia to near Lovington, New Mexico. It is called the Artesia-Vacuum arch or trend. This geologic arch creates a unique hydrology that is discussed in this document.

Prepared for:
Burnett Oil Company, Inc
Fort Worth, Texas

Prepared by:

R.T. Hicks Consultants, Ltd.
901 Rio Grande NW F-142
Albuquerque, New Mexico

Cascade Services LLC
Midland, Texas

R. T. HICKS CONSULTANTS, LTD.

901 Rio Grande Blvd NW ▲ Suite F-142 ▲ Albuquerque, NM 87104 ▲ 505.266.5004 ▲ Since 1996

September 2025

Ms. Leigh Barr
EMNRD - Oil Conservation Division
1220 S. St. Francis Drive
Santa Fe, NM 87505
Via E-Mail

Ms. Victoria Venegas
NMOCD - District 2
811 S. First St.
Artesia, NM 88210
Via E-Mail

RE: Burnett Oil Company, Gissler 22A Recycling Facility and Containments
In-ground Containment Registration
Section 14 T17S R30E, Eddy County

Dear Ms. Barr and Ms. Venegas:

On behalf of Burnett Oil Company, R.T. Hicks Consultants and Cascade Services is pleased to submit a C-147 registration for the above-referenced project. Burnett anticipates that construction will commence shortly.

Volume 1 of the C-147 package contains:

- Transmittal Letter
- Siting Criteria Demonstration with Plates and Appendices

Volume 2 contains:

- The C-147 Form to register the in-ground containment
- Stamped Design Drawings with Liner Equivalency Demonstration and Avian Deterrence
- Recently Approved Plans for Design/Construction, O&M, Closure

This submission refers to the following elements that some OCD reviewers have considered variances for in-ground containments:

1. An equivalency demonstration written by experts for the proposed 40-mil HDPE secondary liner has been previously approved by OCD. We maintain that the language of the Rule is clear, and a variance is not required.
2. OCD has approved the proposed Avian Protection Plan (Bird-X Mega Blaster Pro) for other containments. Thus, the plan meets the requirement of the rule that the "otherwise protective of wildlife, including migratory birds" and a variance is not required.
3. Using the proposed deer fence in lieu of a 4-strand barbed wire fence is not a variance. Because feral pigs, javelina and deer are present in the area, a tall game fence is required to comply with Section 19.15.34.12 D.1 of the Rule. The specification for fencing provided in 19.15.34.12 D.2 contradicts D.1 because pigs will move beneath the lower strand of a 4-foot high barbed wire fence and deer will jump over. Thus, compliance with D.2 results in a violation of D.1. We maintain that compliance with D.1 is the critical component of the Rule and operators need not be required to submit a variance request to follow Best Management Practices and

comply with the Rule. Nevertheless, we will attach 4 strands of barbed wire to the game fence if required by OCD.

Burnett will transmit the registration package to OCD via the OCD.Online portal. In compliance with 19.15.34.10 of the Rule, Burnett provided this package to the Bureau of Land Management, the surface owner's representative. If you have any questions or concerns regarding this permit or the attached C-147, please contact me. As always, we appreciate your work ethic and diligence.

Sincerely,
R.T. Hicks Consultants

Randall T. Hicks PG
Principal

Copy: Burnett Oil Company

SITING CRITERIA DEMONSTRATION

Distance to Groundwater

Plates 1 & 2 and the discussion below demonstrates that groundwater (fresh water as defined by NMOCD Rules) at the location is more than 100 feet beneath the proposed Gissler A22 recycling containment.

Plate 1 is a topographic map that shows:

1. The project area of the Gissler A22 containment project area is identified by the blue diagonally lined polygon.
2. Water wells from the OSE database as a blue triangle inside a colored circle. OSE wells are often mislocated in the WATERS database as older wells are plotted in the center of the quarter, quarter, quarter, of the Section Township and Range. Additionally, the OSE database can include locations of proposed wells or borings (i.e., permit applications) that were never drilled. Depth to water data for the OSE wells do not necessarily represent static water levels and these can be misleading. Depth to water and the date of measurement are presented in the Plate 1.

No water supply wells exist within the mapped area of Plate 1. We queried the USGS database and the Hicks Consultants database in addition to the OSE. Our team has examined much of the Loco Hills area over more than two decades, and water wells are exceedingly rare. Five borings are present within the mapped area of Plate 1 and data from these borings are discussed in the next section.

Plate 2a is a topographic and geologic map that shows:

A. The Gissler A22 containment area identified by the blue striped rectangle with a label listing the surface elevation of 3695.
B. Three water wells measured by the USGS, the date of the measurement and the calculated elevation of the groundwater elevation surface.
C. Four MISC water wells measured by professionals and documented in published reports or by staff of Hicks Consultants.
D. Groundwater elevation contours (blue lines) show an area around Loco Hills that includes the Gissler A22 project area with no groundwater elevation data. As discussed in the next section, we conclude that the groundwater elevation of all underlying aquifers (Alluvium, Chinle Formation, Rustler Formation) is beneath the base of these geologic units in this area.
E. Quaternary Older Alluvium (Qoa), on the west side of the Plate, are alluvial sediments associated with erosion of the Ogallala Formation overlain by a thin veneer of sand, surround the project area.

Plate 2b is a 100,000 scale aerial photograph that shows the distribution of water supply wells (MISC and USGS database) as well as the obvious locations of oil and gas well pads. The next section discusses this Plate.

Hydrogeology and Groundwater Data
All the five drillers logs (See *Appendix USGS Data and Well Logs*) share the following characteristics:

- Total depth drilled and logged is 100-102 feet below surface
- Drillers did not observe any water saturation
- Stiff red clay (Chinle Formation) is present between 70-90 feet except RA-3442 (west), which is sand plus clay within this horizon
- Sediments typical of the Older Alluvium overlie the clay horizon

Plate 2b is a recent air photos that shows USGS and MISC wells at a 100,000 scale. Oil and gas wells are obvious in this image by the distribution of production pads. East to the Vacuum Oil Field (northwest of Hobbs and north of Arkansas Junction) and west to the Atoka field (south of Artesia), a similar trend of closely spaced oil and gas wells defines the axis of the Artesia-Vacuum Arch[1] (also called the Artesia Vacuum Trend). It is no accident that oil and gas deposits exist within the axis of the Trend/Arch. This structural feature also affects groundwater in the opposite way. While oil and gas fluids exist in abundance in the structurally high area of the Arch, the aquifers exist only north and south of the arch because the permeable strata that host groundwater lie above the potentiometric surface of groundwater in these aquifers. Hence, the alluvium is dry and is the Santa Rosa Sandstone of the Chinle Formation and the underlying Rustler.

From these data we conclude:

A. The data from the borings convincingly demonstrate that groundwater is more than 100 feet below ground surface at the Gissler A22 project area
B. The potentiometric surface contours in Plate 2a (drawn by Hicks Consultants) are reliable.
C. The project area meets the groundwater setback requirement of Rule 3.

Distance to Municipal Boundaries and Fresh Water Fields

Plate 3 demonstrates that the Gissler A22 containment is not within incorporated municipal boundaries or within defined municipal fresh water well fields covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

- The closest municipality is Loco Hills, NM approximately 1.25 miles southwest
- There are no public water supply wells within the area of Plate 3.

Distance to Subsurface Mines

Plate 4 and our knowledge of the Gissler A22 containment area demonstrate that the nearest mines are caliche pits. This location is not within an area overlying a subsurface mine.

- The closest mapped caliche pit is 1/4 mile north.
- There are no subsurface mines in Plate 4

[1] See page 52 of https://www.google.com/url?sa=t&source=web&rct=j&opi=89978449&url=https://geoinfo.nmt.edu/publications/maps/geologic/ofgm/downloads/160/OFGM-160_DaytonReport.pdf&ved=2ahUKEwiVsr2d1MaNAxUfFzQIHRv2DJwQFnoECBoQAQ&usg=AOvVaw3_m2rrhwmilb9PRUqFG7FA

Distance to High or Critical Karst Areas

Plate 5 shows the Gissler A22 site is within a mapped as Not Karst with respect to the 2025 BLM Karst map.

- The nearest high karst area is located approximately 5 miles west of the proposed containment.

Distance to 100-Year Floodplain

Plate 6 demonstrates that the Gissler A22 containment is within Zone D as designated by the Federal Emergency Management Agency with respect to the Flood Insurance Rate 100-Year Floodplain.

- FEMA describes the location as an area with possible but undetermined flood hazards. No flood hazard analysis has been conducted.
- The closest FEMA-mapped flood zones is about 1 1/4 miles south of the project area.

Distance to Surface Water

Plate 7 shows that the containment is not within 300 feet of a surface water body or a significant watercourse.

- Plate 7 shows a Lake/Pond about 2.3 miles south-southeast of the project area:
- The closest mapped watercourse is an unnamed draw about 2 miles east.

Distance to Permanent Residence or Structures

Plate 8 demonstrates that the location is not within 1000 feet of an occupied permanent residence, school, hospital, institution, church, or other structure in existence at the time of initial application.

- The nearest structures are lease roads, production pads, and pipelines.
- All the surface within Plate 8 is managed by the BLM for the US Government.

Distance to Non-Public Water Supply

Plates 1 and 7 demonstrates that the Gissler A22containment site is not within 500 horizontal feet of a spring or fresh water well used for domestic or stock watering purposes.

- Plate 1 shows the locations of the nearest water wells, active or plugged.
- There are no domestic water wells located within 1,000 feet of the project.
- No springs were identified within the mapping area (see Plate 8).

Distance to Wetlands

Plate 9 demonstrates the Gissler A22 location is not within 500 feet of any mapped wetlands identified in the USA Wetlands database. The nearest mapped wetland in this database is

- A “marsh/bog” wetland is the existing fresh water frac pond
- Other recently constructed fresh water frac ponds are also mapped as wetlands.
- As explained below, the mapped wetlands are not wetlands.

Errant mapping is typical of the USA Wetlands database in New Mexico. The US Fish and Wildlife Service who conducts the wetlands inventory, employs areal imagery: ground surveys are not routine. In the FAQ section of the inventory is this:

Why is there a difference between mapped wetlands and ground conditions?

It is likely the base imagery date is different than the date of the imagery used for photointerpretation, and interim changes in the landscape since the wetland was mapped may result in mismatch when comparing newer imagery with ground conditions. The wetlands mapper defaults to ESRI base imagery. More information can be found on ESRI's imagery metadata webpage.

Imagery can also be viewed in the ESRI map viewer to determine image dates for specific areas of interest.

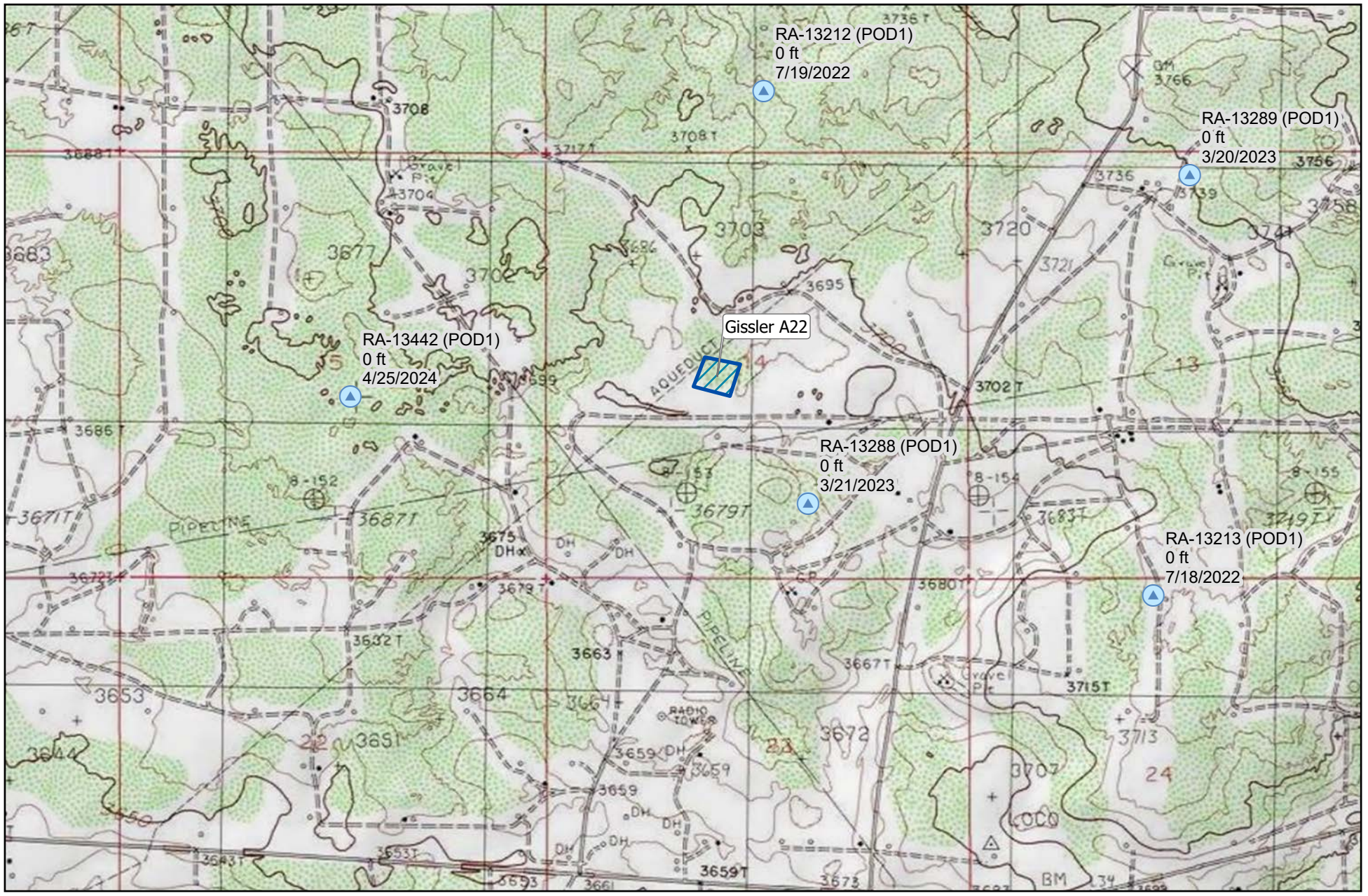
In addition, not all wetlands are wet throughout the year. Some wetlands may appear dry during certain times of the year while still supporting hydric soils and wetland plants characteristic of wetland areas.

Many wetlands in New Mexico mapped by the USFW Service database do not meet the NM OCD definition of a wetland. The Hicks Consultants team has more than 100 years of combined field experience in Eddy, Lea, and Chaves Counties and have rarely seen a mapped wetland with vegetation adapted for saturated soil conditions.

> "Wetlands" means those areas that are inundated or saturated by surface or ground water at a frequency and duration sufficient to support, and under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions in New Mexico. This definition does not include constructed wetlands used for wastewater treatment purposes.

SITING CRITERIA DEMONSTRATION PLATES

P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx



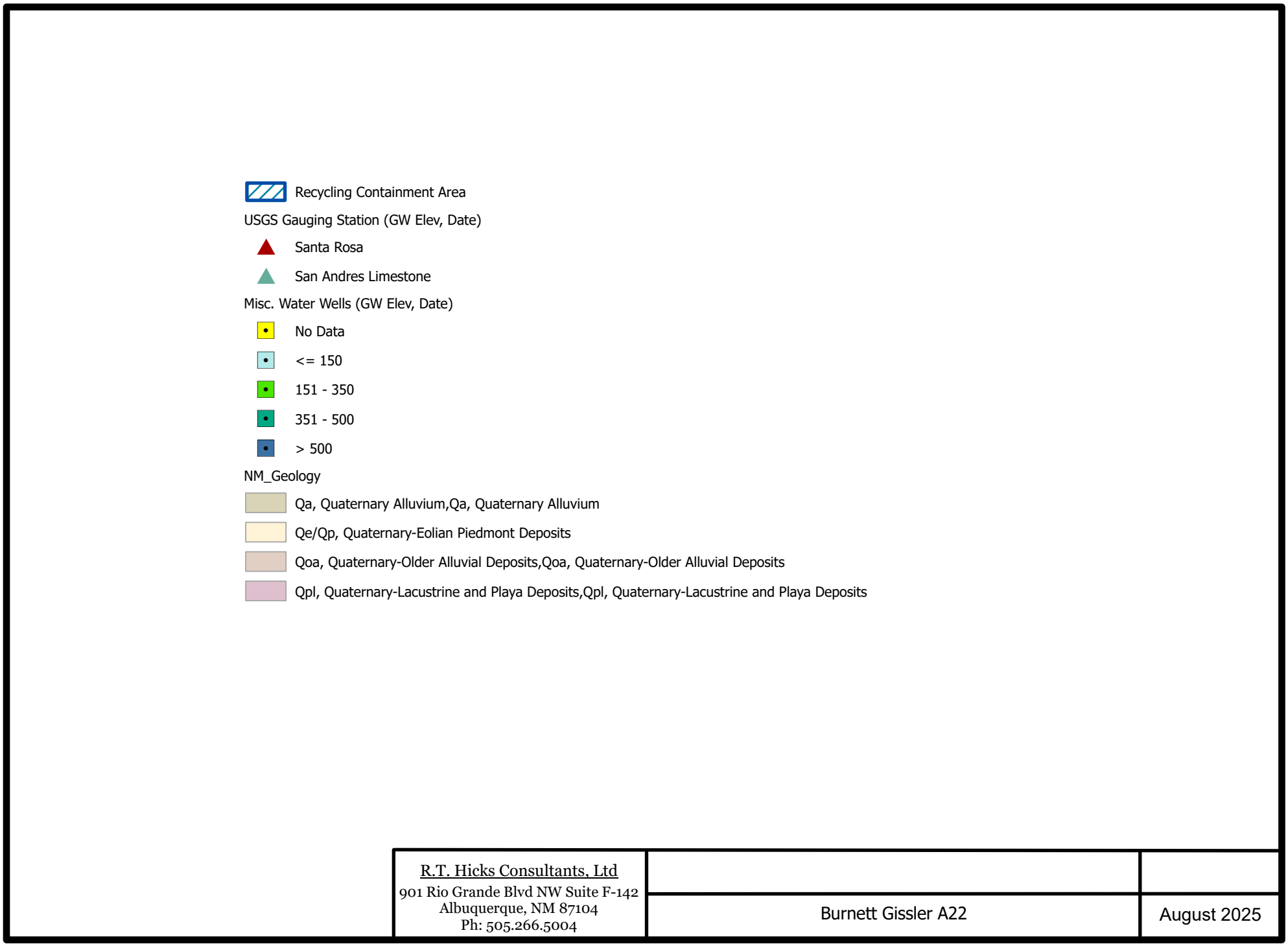
N
W E
S

0 1,000 2,000 US Feet

Scale: 1:24,000

R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Nearby Wells and Borings with Depth to Water	Plate 1
	Burnett Gissler A22	August 2025

P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx

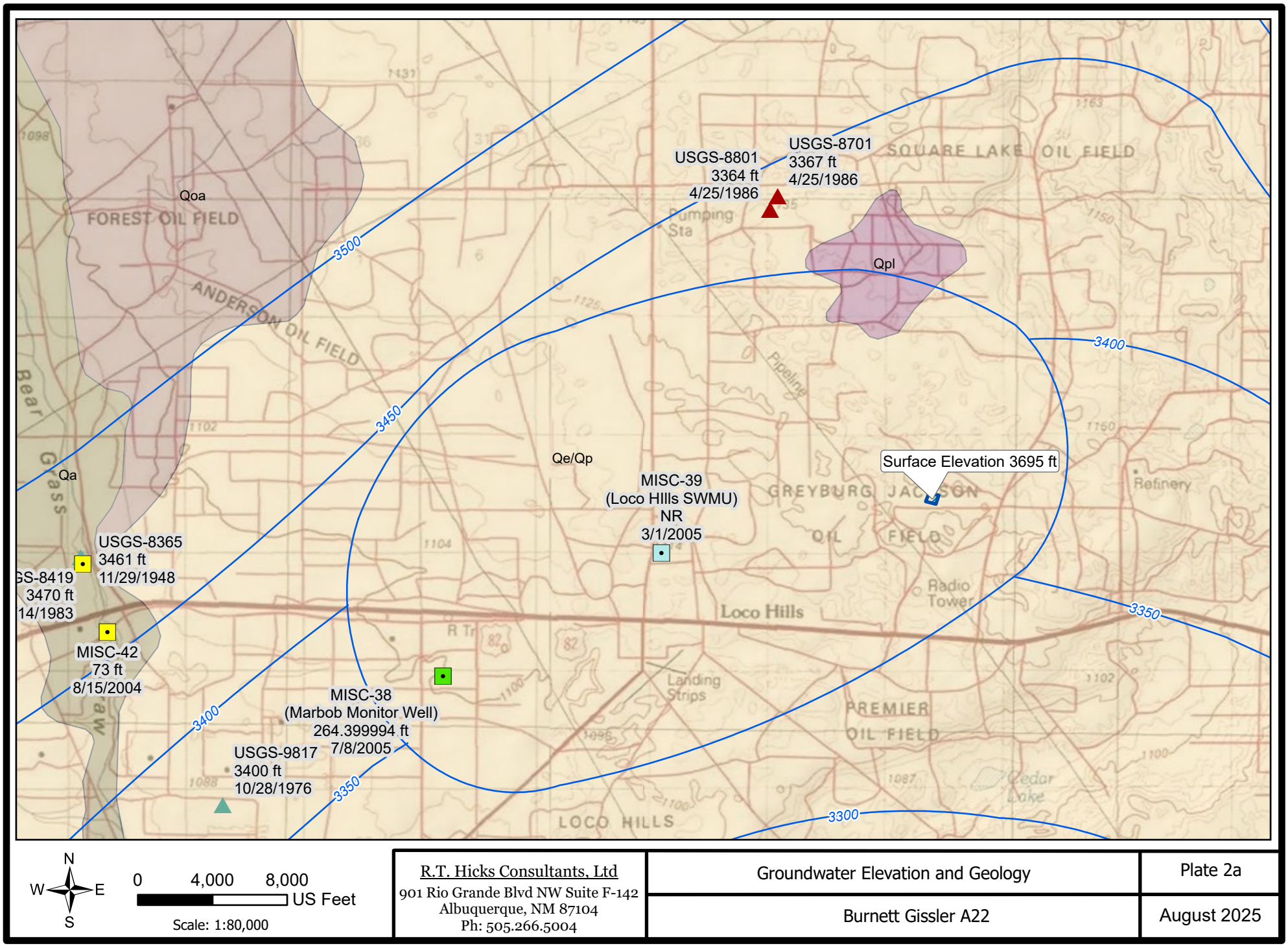


R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

Burnett Gissler A22

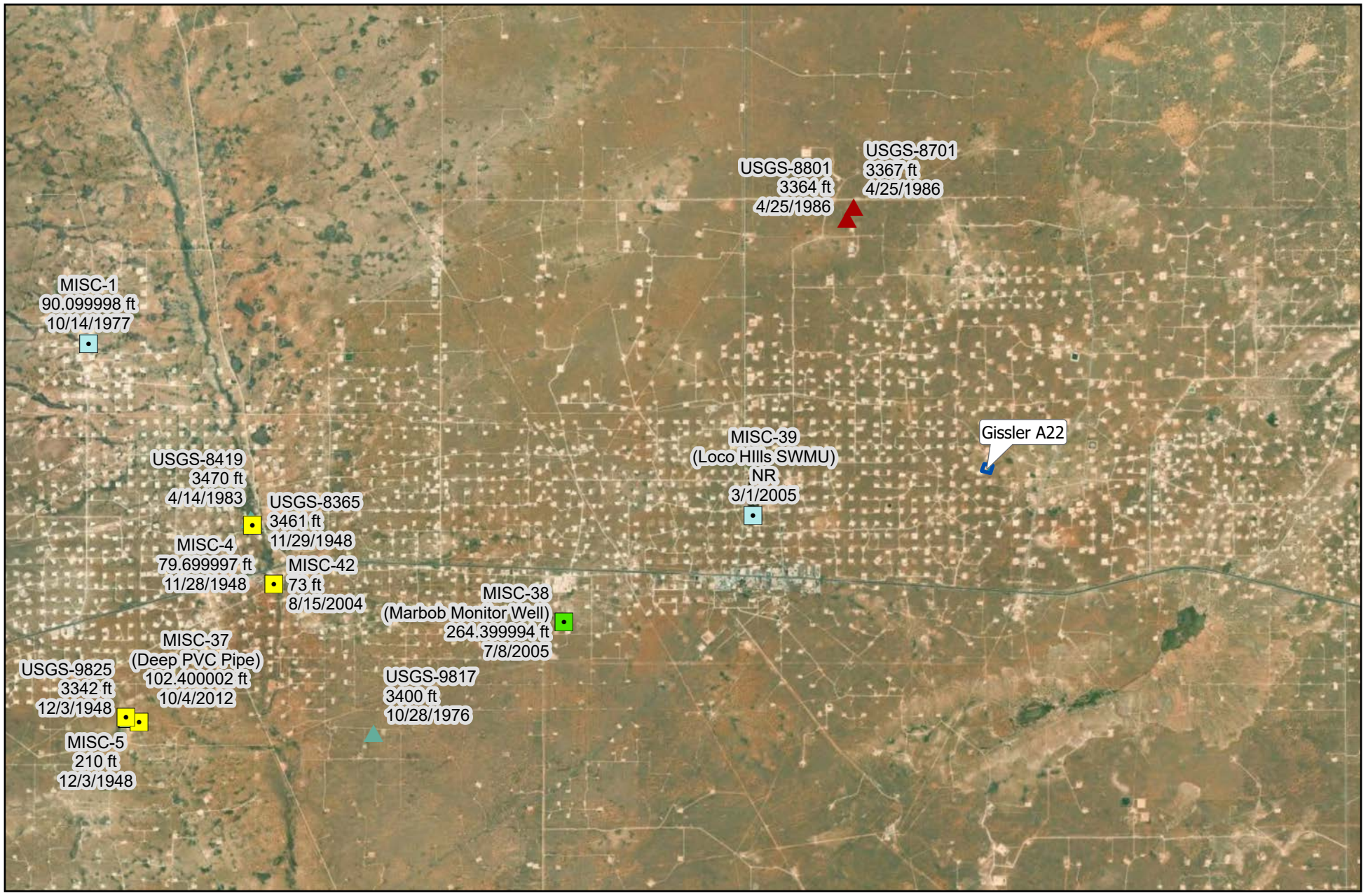
August 2025

P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Groundwater Elevation and Geology	Plate 2a
	Burnett Gissler A22	August 2025

P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx



N
W E
S

0 5,000 10,000 US Feet

Scale: 1:100,000

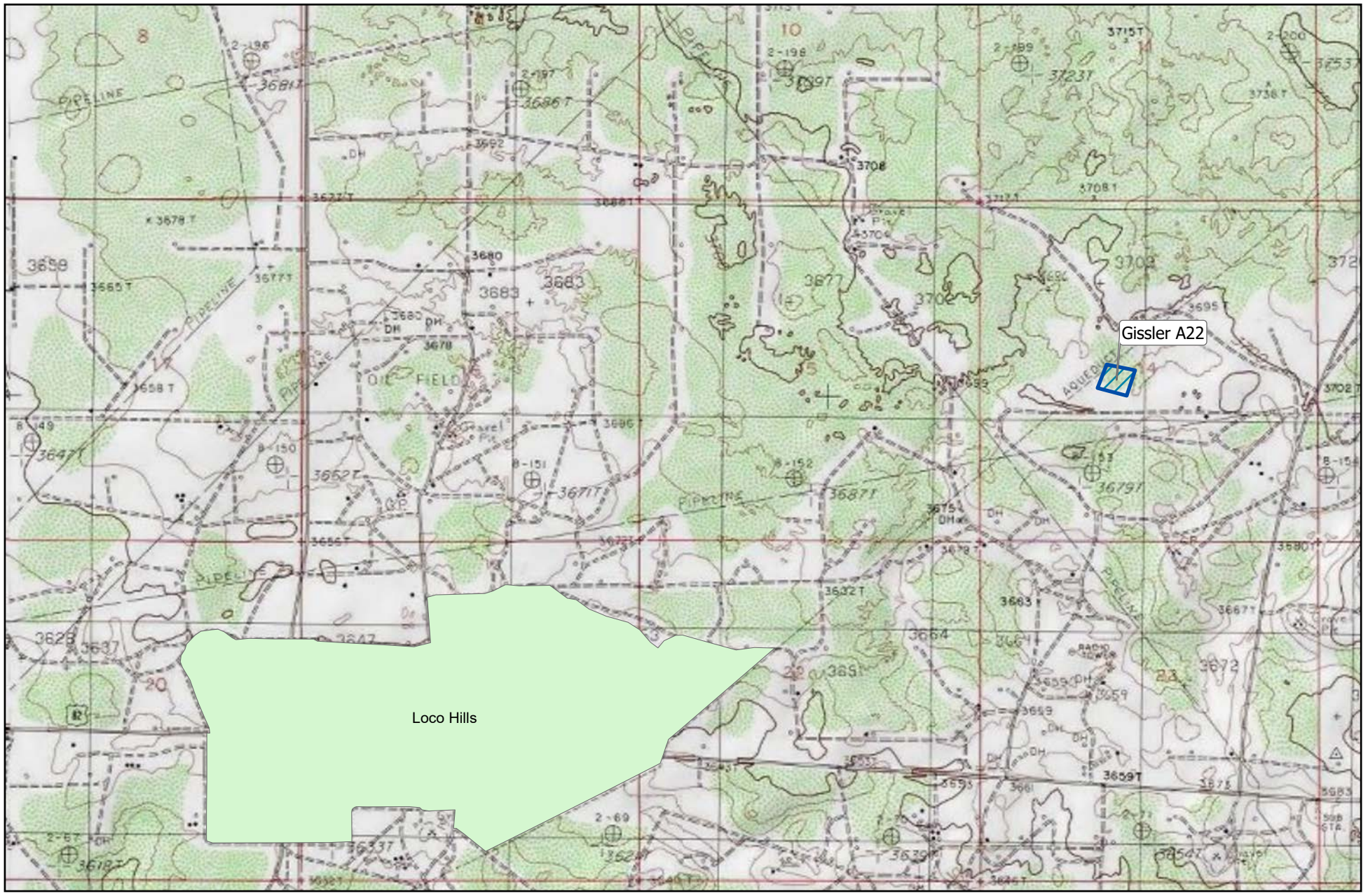
R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

Burnett Gissler A22

Plate 2

August 2025

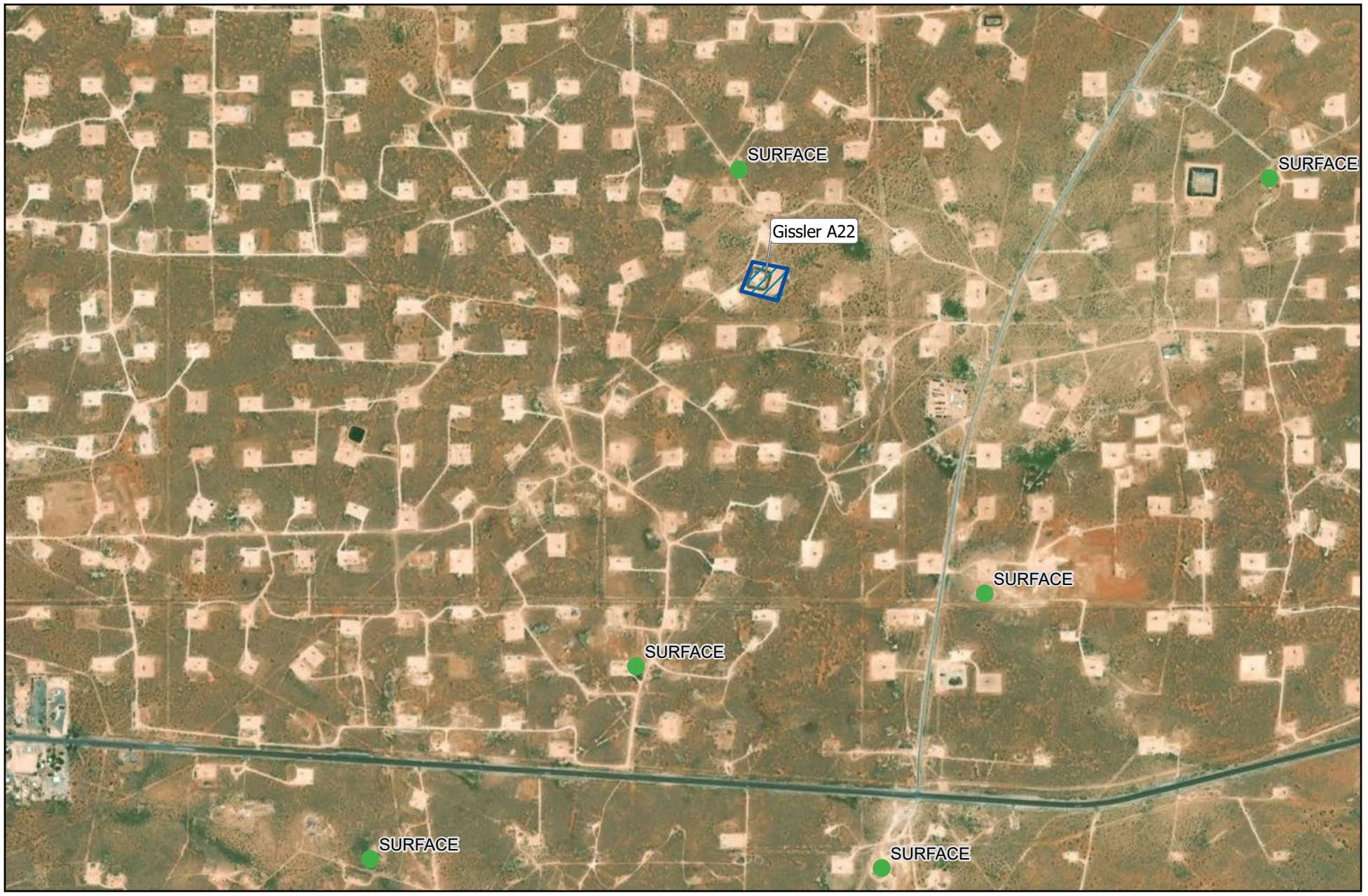
P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx



R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

Nearest Municipalities & Public Water Supplies	Plate 3
Burnett Gissler A22	August 2025

P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx



N
W E
S

0 1,000 2,000 US Feet

Scale: 1:24,000

R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

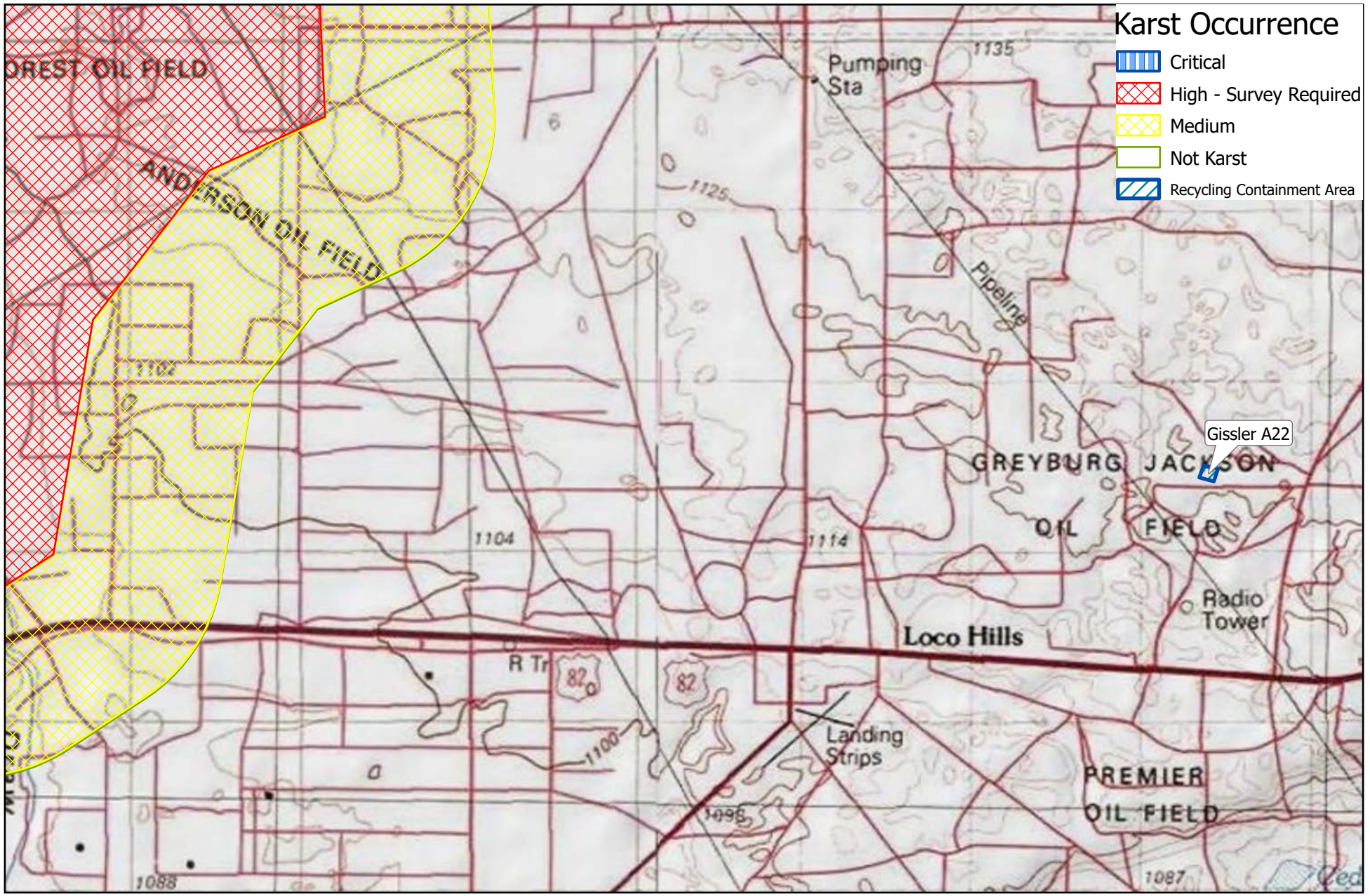
Nearby Mines - Caliche Pits

Plate 4

Burnett Gissler A22

August 2025

P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx



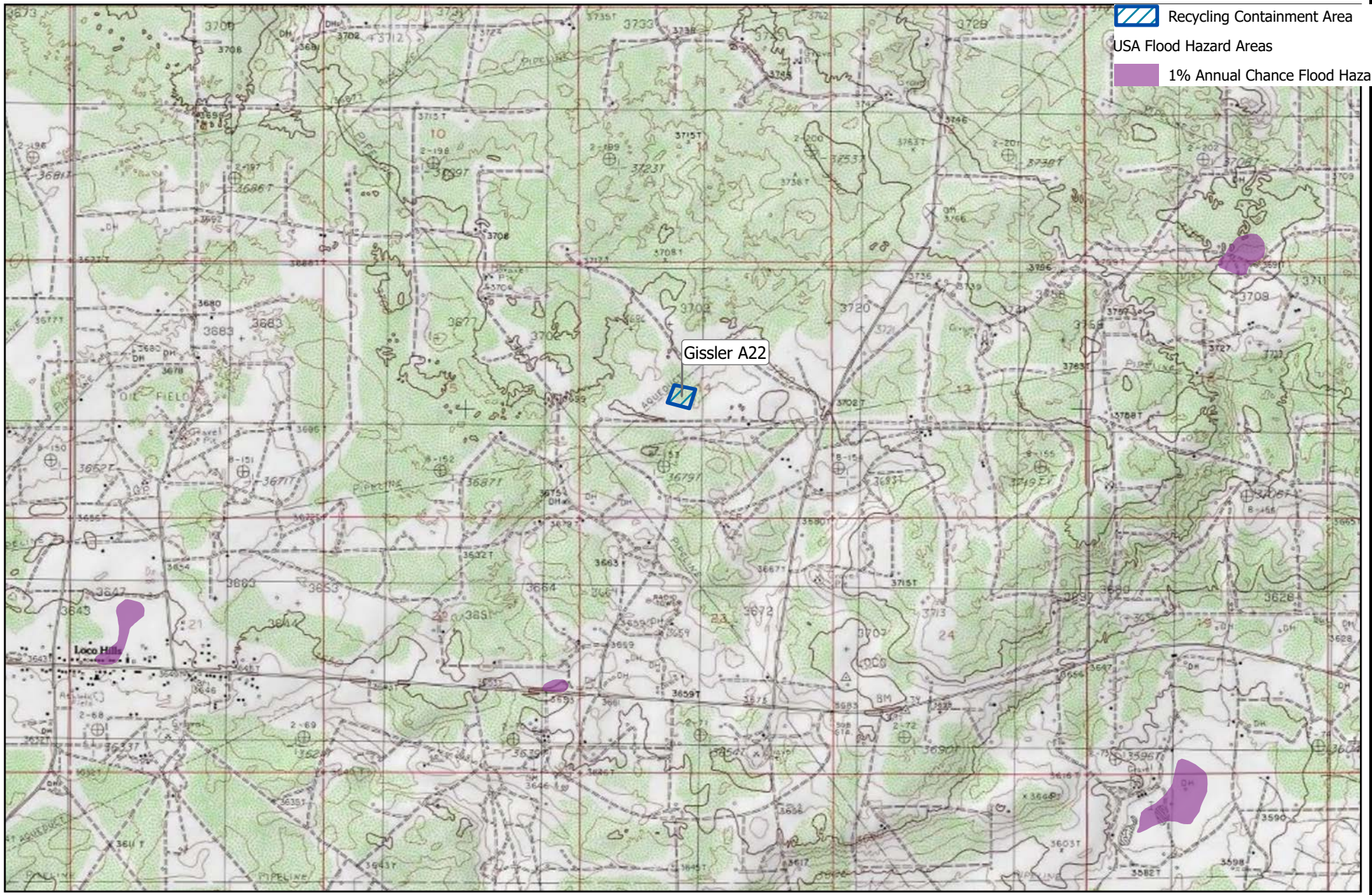
N
W E
S

0 3,000 6,000 US Feet

Scale: 1:60,000

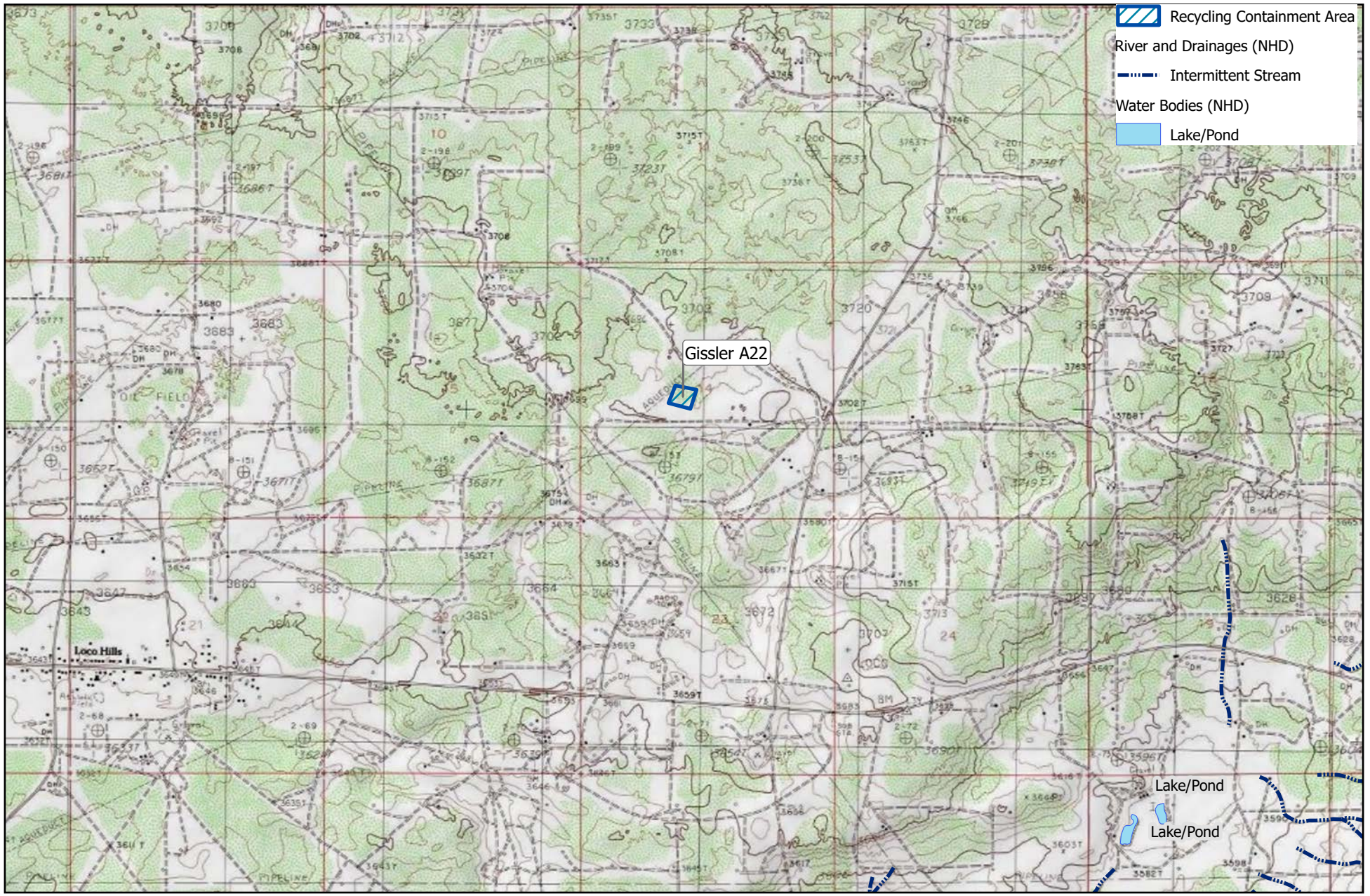
R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	BLM Mapped Karst Potential	Plate 5
	Burnett Gissler A22	August 2025

P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	FEMA Mapped Flood Zones	Plate 6
	Burnett Gissler A22	August 2025

P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx



N
W E
S

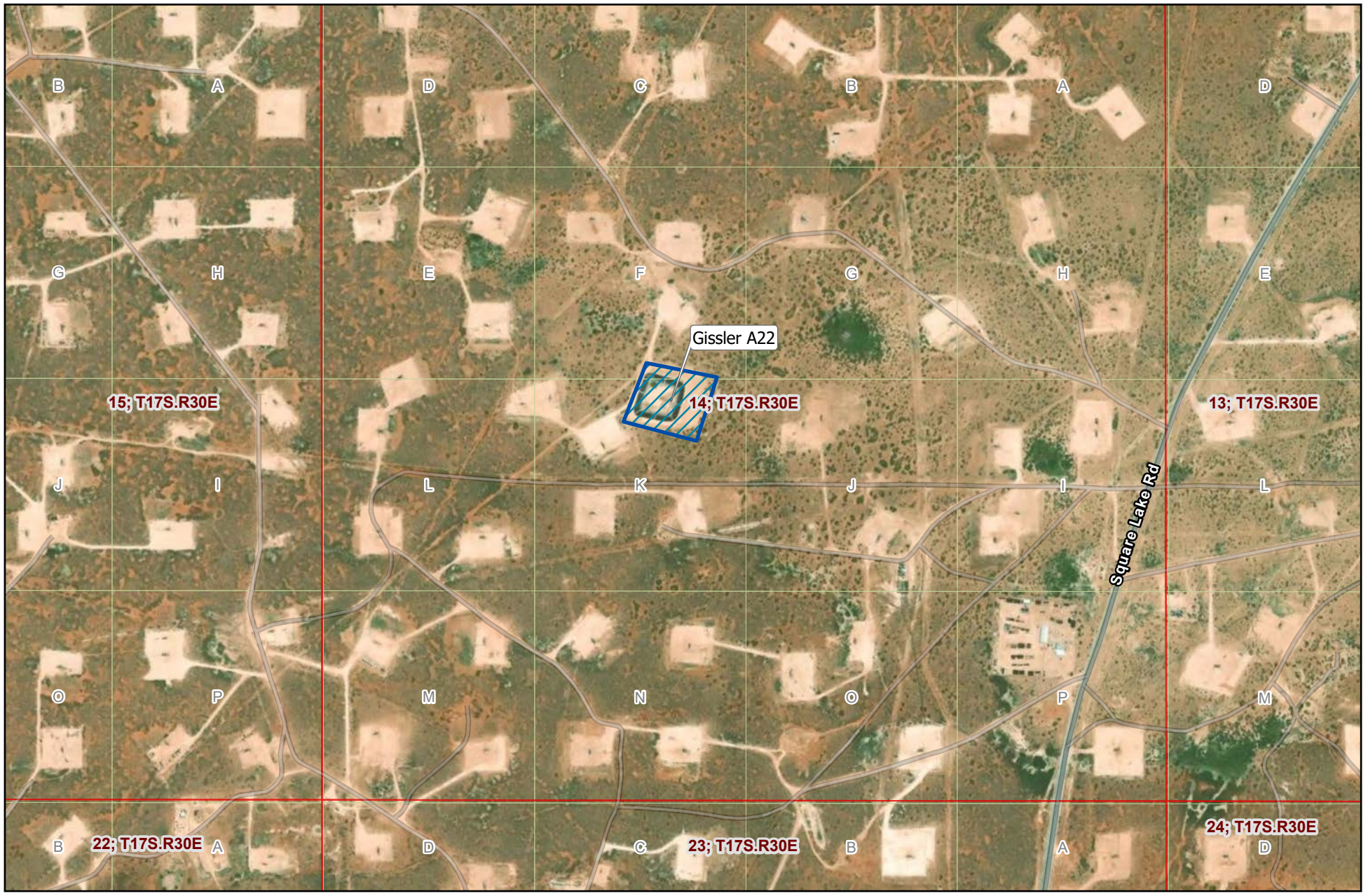
0 2,000 4,000 US Feet

Scale: 1:40,000

R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

Mapped Surface Water	Plate 7
Burnett Gissler A22	August 2025

P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx



N
W E
S

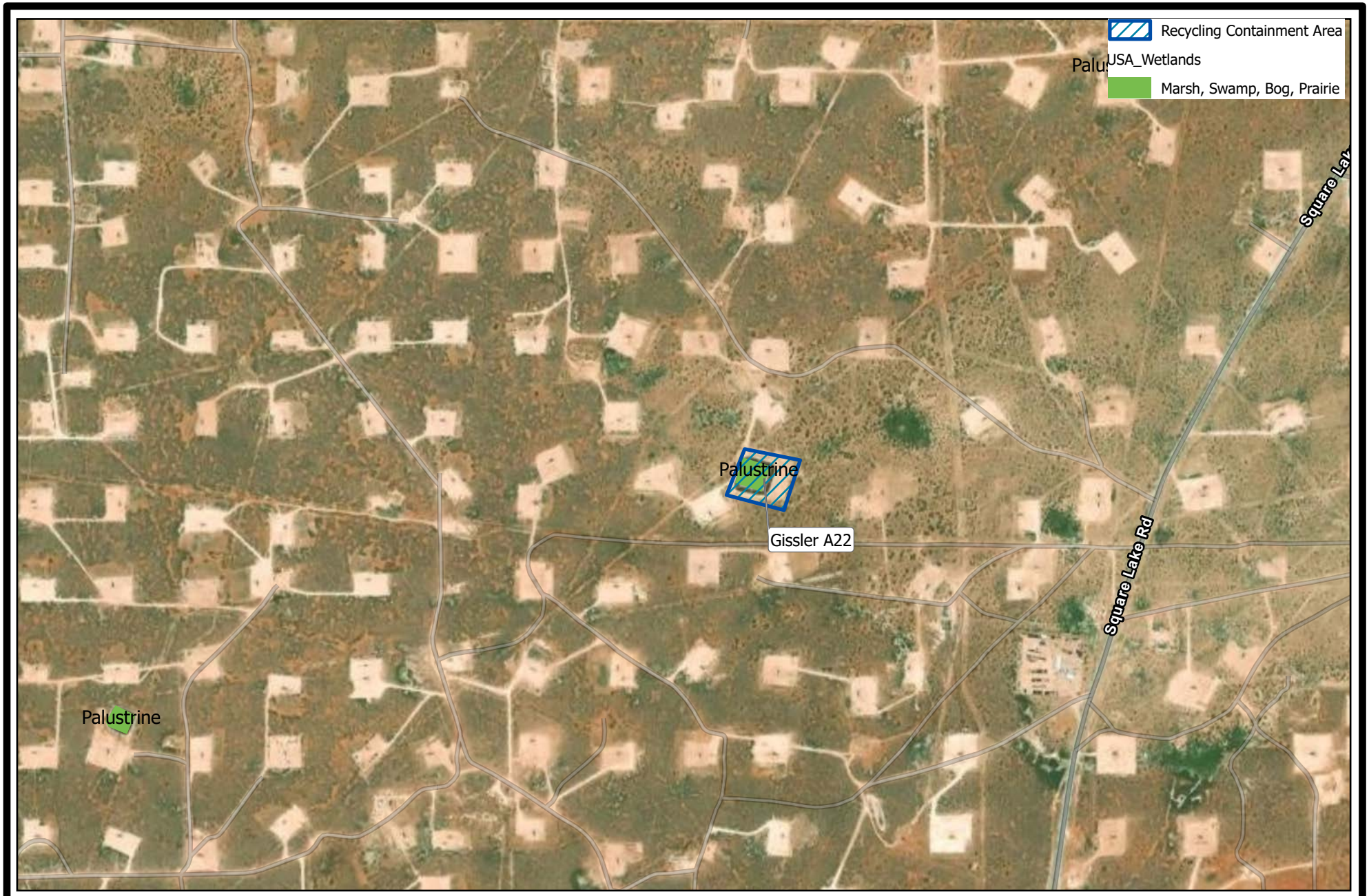
0 500 1,000 US Feet

Scale: 1:12,000

R.T. Hicks Consultants, Ltd
901 Rio Grande Blvd NW Suite F-142
Albuquerque, NM 87104
Ph: 505.266.5004

Nearest Structures	Plate 8
Burnett Gissler A22	August 2025

P:\Cascade_Burnett-GisslerA22\Burnett-Gissler A22_Containment.aprx



R.T. Hicks Consultants, Ltd 901 Rio Grande Blvd NW Suite F-142 Albuquerque, NM 87104 Ph: 505.266.5004	Mapped Wetlands	Plate 9
	Burnett Gissler A22	August 2025

APPENDIX WELL LOGS & USGS DATA

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.): POD1 (TW-1)	WELL TAG ID NO.: N/A	OSE FILE NO(S).: RA-13288
WELL OWNER NAME(S): Burnett Oil Co.		PHONE (OPTIONAL): 817-332-5108
WELL OWNER MAILING ADDRESS: 87 Square Lake Rd.		CITY: Loco Hills STATE: NM ZIP: 88255

WELL LOCATION (FROM GPS)	DEGREES	MINUTES	SECONDS	
LATITUDE	32	49	47.14	N
LONGITUDE	103	56	25.67	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE
NE SW SE Sec. 14 T17S R30E, NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
03/21/2023	03/21/2023	Temporary Well Material -101	±101	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)
STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A
DATE STATIC MEASURED: 03/27/2023

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger
CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	101	6.25"	Soil Borning	--	--	--	--

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			N/A		

OSE DII APR 7 2023 AM 11:37

FOR OSE INTERNAL USE
WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. RA-13288	POD NO. 1	TRN NO. 743817	
LOCATION 17S. 30E. 14 234		WELL TAG ID NO. NA	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	4	4	Sand, fine-grained, poorly graded, unconsolidated, Reddish Brown	Y ✓ N	
4	19	15	Sand, fine-grained, poorly graded, with sub angular gravel 0.25" Reddish Brown	Y ✓ N	
19	80	61	Sand, fine-grained, poorly graded, with sub angular gravel 0.25" Reddish Brown	Y ✓ N	
80	101	21	Clay, Stiff, with medium/fine grained sand, Brownish Red	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Removed temporary well material from soil boring, backfilled with drill cutting from total depth to 10 feet below ground surface, then placed hydrated bentonite from 10 feet to ground surface. See attached plugging record.

OSE DII APR 7 2023 AM11:38

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge, Cameron Pruitt

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 04/07/2023

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. RA-13288	POD NO. 1	TRN NO. 743817	
LOCATION 17S. 30E. 14 2 3 4		WELL TAG ID NO. NA	PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD 1 (TW-1)	N/A	RA-13442

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Spur Energy Partners LLC	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
919 Miliam St Ste 2475	Houston	TX	77002

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	50	0.28	N
	LONGITUDE	103	57	32.68	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHJIP, RANGE) WHERE AVAILABLE

NW NW SE Sec. 15 T17S R30R, NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
04/25/2024	04/25/2024	Temporary Well Material	±102	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DATE STATIC MEASURED: 05/07/2024

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	102	±6.25	Soil Boring	--	--	--	--

OSE DII MAY 13 2024 PM2:04

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			N/A		

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. RA-13442	POD NO. 1	TRN NO. 758800
LOCATION 17S.30E.15 114	WELL TAG ID NO. NA	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	9	9	Sand, medium/fine grained, with off-white caliche, dry	Y ✓ N	
9	59	50	Sand, medium/fine grained, poorly grade, Light brown	Y ✓ N	
59	79	20	Sand, medium/fine grained, poorly grade, Reddish Brown	Y ✓ N	
79	102	23	Sand, medium/fine grained, poorly grade, with clay Reddish Brown	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Temporary well material removed and soil boring backfilled using drill cuttings from total depth to ten feet below ground surface(bgs), then hydrated bentonite chips ten feet bgs to surface.

OSE DIT MAY 13 2024 PM2:04

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge, Cameron Pruitt

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 05/10/2024

Jack Atkins (May 13, 2024 12:55 MDT)

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. RA-13442	POD NO. 1	TRN NO. 758800	
LOCATION 17S.30E.15 114		WELL TAG ID NO. NA	PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DIT AUG 8 2022 AM 10:17

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD 1		RA-13212

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Burnett Oil Co,. Inc	

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
87 Square Lake Rd., Loco Hills, NM	Loco Hills	NM	88255

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	50	37.93	N
	LONGITUDE	103	56	32.19	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

NW SW SE Sec. 11 T17S R30E, NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
7/19/2022	7/19/2022	n/a	101	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DATE STATIC MEASURED: 7/19/2022, 8/2/2022

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	101	±6.5	Boring-HSA	--	--	--	--

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. RA-13212	POD NO. 1	TRN NO. 729271	
LOCATION 175.30E.11.1.3.4		WELL TAG ID NO. —	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	7	7	Sand, Fine-grained, poorly graded, Reddish Brown	Y ✓ N	
7	30	23	Sand, Very-Fine-grained, poorly graded, Tan Brown	Y ✓ N	
30	55	25	Sand, Fine-grained, poorly graded, Reddish Brown	Y ✓ N	
55	69	14	Sand, Fine-grained, poorly graded, Brown	Y ✓ N	
69	89	20	Sand, Fine-grained, poorly graded, with gravel (0.25") Brown	Y ✓ N	
89	101	12	Clay, Highly Plastic, with fine grained sand, Brown, damp	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Temporary well material removed and soil boring backfilled using drill cuttings from total depth to ten feet below ground surface(bgs), then hydrated bentonite chips ten feet bgs to surface.

OSE DII AUG 8 2022 AM10:17

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge, Cameron Pruitt

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 8/4/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. RA-13212	POD NO. 1	TRN NO. 729271	
LOCATION 17S.30E.11.1.3.4		WELL TAG ID NO. —	PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.)	WELL TAG ID NO.	OSE FILE NO(S).
POD1 (TW-1)	N/A	RA-13289

WELL OWNER NAME(S)	PHONE (OPTIONAL)
Burnett Oil Co.	817-332-5108

WELL OWNER MAILING ADDRESS	CITY	STATE	ZIP
87 Square Lake Rd.	Loco Hills	NM	88255

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	50	27.56	N
	LONGITUDE	103	55	29.74	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE

NW NW NE Sec. 13 T17S R30E, NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
03/20/23	03/20/23	Temporary Well Material -101	±101	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED)

STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A

DATE STATIC MEASURED: 03/27/2023

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger

CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	101	6.25"	Soil Borning	--	--	--	--

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT
			N/A		

OSE DIT APR 7 2023 AM 11:38

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. RA-13289	POD NO. 1	TRN NO. 743835	
LOCATION 17S.30E.13 112		WELL TAG ID NO. NA	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	14	14	Sand, Fine grained, poorly graded, Brownish Red	Y ✓ N	
14	19	5	Caliche, and fine-grained sand, poorly graded, tam, off white	Y ✓ N	
19	70	51	Sand, Fine grained, poorly graded, with some gravel 0.5"	Y ✓ N	
70	80	10	Clay,friable, with fine sand, Brownish Red	Y ✓ N	
80	101	21	Clay, Stiff, Brownish Red	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST — TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Removed temporary well material from soil boring, backfilled with drill cutting from total depth to 10 feet below ground surface, then placed hydrated bentonite from 10 feet to ground surface. See attached plugging record.

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge, Cameron Pruitt

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

OSE DII APR 7 2023 AM11:38

Jack Atkins — Jackie D. Atkins — 4/7/2023

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. RA-13289	POD NO. 1	TRN NO. 743835	
LOCATION 17S.30E.13.112		WELL TAG ID NO. NA	PAGE 2 OF 2

WELL RECORD & LOG

OFFICE OF THE STATE ENGINEER

www.ose.state.nm.us

OSE DIT AUG 8 2022 PM 1 01 15

1. GENERAL AND WELL LOCATION

OSE POD NO. (WELL NO.): POD 1	WELL TAG ID NO.: n/a	OSE FILE NO(S).: RA-13213
WELL OWNER NAME(S): Burnett Oil Co,. Inc		PHONE (OPTIONAL):
WELL OWNER MAILING ADDRESS: 87 Square Lake Rd., Loco Hills, NM		CITY: Loco Hills STATE: NM ZIP: 88255

WELL LOCATION (FROM GPS)		DEGREES	MINUTES	SECONDS	
	LATITUDE	32	49	35.80	N
	LONGITUDE	103	55	35.05	W

* ACCURACY REQUIRED: ONE TENTH OF A SECOND
* DATUM REQUIRED: WGS 84

DESCRIPTION RELATING WELL LOCATION TO STREET ADDRESS AND COMMON LANDMARKS – PLSS (SECTION, TOWNSHIP, RANGE) WHERE AVAILABLE: NE NE NW Sec, 24 T17S R20E NMPM

2. DRILLING & CASING INFORMATION

LICENSE NO.	NAME OF LICENSED DRILLER	NAME OF WELL DRILLING COMPANY
1249	Jackie D. Atkins	Atkins Engineering Associates, Inc.

DRILLING STARTED	DRILLING ENDED	DEPTH OF COMPLETED WELL (FT)	BORE HOLE DEPTH (FT)	DEPTH WATER FIRST ENCOUNTERED (FT)
7/18/2022	7/18/2022	n/a	101	N/A

COMPLETED WELL IS: ☐ ARTESIAN ☑ DRY HOLE ☐ SHALLOW (UNCONFINED) | STATIC WATER LEVEL IN COMPLETED WELL (FT): N/A | DATE STATIC MEASURED: 7/18/2022, 8/2/2022

DRILLING FLUID: ☐ AIR ☐ MUD ADDITIVES – SPECIFY:

DRILLING METHOD: ☐ ROTARY ☐ HAMMER ☐ CABLE TOOL ☑ OTHER – SPECIFY: Hollow Stem Auger | CHECK HERE IF PITLESS ADAPTER IS INSTALLED ☐

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM (inches)	CASING MATERIAL AND/OR GRADE (include each casing string, and note sections of screen)	CASING CONNECTION TYPE (add coupling diameter)	CASING INSIDE DIAM. (inches)	CASING WALL THICKNESS (inches)	SLOT SIZE (inches)
0	101	±6.5	Boring-HSA	--	--	--	--

3. ANNULAR MATERIAL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	BORE HOLE DIAM. (inches)	LIST ANNULAR SEAL MATERIAL AND GRAVEL PACK SIZE-RANGE BY INTERVAL	AMOUNT (cubic feet)	METHOD OF PLACEMENT

FOR OSE INTERNAL USE

WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. RA-13213	POD NO. 1	TRN NO. 729274	
LOCATION 17S.30E.24.2.2.1		WELL TAG ID NO. —	PAGE 1 OF 2

4. HYDROGEOLOGIC LOG OF WELL

DEPTH (feet bgl) FROM	DEPTH (feet bgl) TO	THICKNESS (feet)	COLOR AND TYPE OF MATERIAL ENCOUNTERED - INCLUDE WATER-BEARING CAVITIES OR FRACTURE ZONES **(attach supplemental sheets to fully describe all units)**	WATER BEARING? (YES / NO)	ESTIMATED YIELD FOR WATER-BEARING ZONES (gpm)
0	9	9	Sand, medium/fine-grained, poorly graded, Reddish Brown	Y ✓ N	
9	59	50	Sand, fine-grained, poorly graded, Tan	Y ✓ N	
59	70	11	Sand, fine-grained, poorly graded, Reddish Brown	Y ✓ N	
70	80	10	Sand, Fine-grained, poorly graded, with gravel (0.25") Brown	Y ✓ N	
80	101	21	Sandy Clay, Stiff, low plasticity, Brown	Y ✓ N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	
				Y N	

METHOD USED TO ESTIMATE YIELD OF WATER-BEARING STRATA:

☐ PUMP ☐ AIR LIFT ☐ BAILER ☐ OTHER – SPECIFY:

TOTAL ESTIMATED WELL YIELD (gpm): 0.00

5. TEST; RIG SUPERVISION

WELL TEST: TEST RESULTS - ATTACH A COPY OF DATA COLLECTED DURING WELL TESTING, INCLUDING DISCHARGE METHOD, START TIME, END TIME, AND A TABLE SHOWING DISCHARGE AND DRAWDOWN OVER THE TESTING PERIOD.

MISCELLANEOUS INFORMATION: Temporary well material removed and soil boring backfilled using drill cuttings from total depth to ten feet below ground surface(bgs), then hydrated bentonite chips ten feet bgs to surface.

OSE DIT AUG 8 2022 AM10:16

PRINT NAME(S) OF DRILL RIG SUPERVISOR(S) THAT PROVIDED ONSITE SUPERVISION OF WELL CONSTRUCTION OTHER THAN LICENSEE:

Shane Eldridge, Cameron Pruitt

6. SIGNATURE

THE UNDERSIGNED HEREBY CERTIFIES THAT, TO THE BEST OF HIS OR HER KNOWLEDGE AND BELIEF, THE FOREGOING IS A TRUE AND CORRECT RECORD OF THE ABOVE DESCRIBED HOLE AND THAT HE OR SHE WILL FILE THIS WELL RECORD WITH THE STATE ENGINEER AND THE PERMIT HOLDER WITHIN 30 DAYS AFTER COMPLETION OF WELL DRILLING:

Jack Atkins — Jackie D. Atkins — 8/4/2022

SIGNATURE OF DRILLER / PRINT SIGNEE NAME — DATE

FOR OSE INTERNAL USE — WR-20 WELL RECORD & LOG (Version 01/28/2022)

FILE NO. RA-13213	POD NO. 1	TRN NO. 729274	
LOCATION 17S.30E.24.2.2.1		WELL TAG ID NO. —	PAGE 2 OF 2

Venegas, Victoria, EMNRD

From: Venegas, Victoria, EMNRD
Sent: Thursday, November 13, 2025 10:35 AM
To: gjennings@CascadeServicesLLC.com; Tyler Deans; Bobbi Jo Crain
Subject: 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738]
Attachments: C-147 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] 11.13.2025.pdf

2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738]

Good morning, Mr. Deans.
The NMOCD has reviewed the recycling containment permit application and related documents, submitted by [3080] BURNETT OIL CO INC on 10/15/2025, Application ID **515319**, for 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] in K-14-17S-30E, Eddy County, New Mexico. The form C-147 and related documents 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.
- [3080] BURNETT OIL CO INC shall construct, operate, maintain, close, and reclaim 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] in compliance with 19.15.34 NMAC.
- 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] is approved for five years of operation from the date of permit application of 10/15/2025. 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] permit expires on 10/15/2030. If [3080] BURNETT OIL CO INC wishes to extend operations past five years, an annual permit extension request must be submitted using form C-147 through OCD Permitting by 09/15/2030.
- 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] consists of one (1) earthen containment with a total capacity of 199,984.00 bbl.
- Water reused and recycled from 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] is limited to wells owned and operated by [3080] BURNETT OIL CO INC.
- [3080] BURNETT OIL CO INC shall notify OCD when construction of 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] commences.
- [3080] BURNETT OIL CO INC shall notify OCD when recycling operations commence and cease at 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738].
- A minimum of 3-feet freeboard must be maintained at 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738], 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 Permitting. An extension to extend the cessation of operation, not to exceed six months, may be submitted using a C-147 form through OCD Permitting.
- [3080] BURNETT OIL CO INC shall submit monthly reports of recycling and reuse of produced water drilling fluids, and liquid oil field waste on OCD form C-148 through OCD Permitting even if there is zero activity.
- [3080] BURNETT OIL CO INC shall inspect the recycling containment and associated leak detection systems weekly while it contains fluids. The operator shall maintain a current log of such inspections and make the log available for review by the division upon request.
- [3080] BURNETT OIL CO INC shall comply with 19.15.29 NMAC Releases in the event of any release of produced water or other oil field wastes at 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738].

Please reference number 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] in all future communications. Thank you.

Victoria Venegas • Senior Environmental Scientist
EMNRD - Oil Conservation Division
506 W. Texas Ave. Artesia, NM 88210
575.909.0269 | **Victoria.Venegas@emnrd.nm.gov**

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

General Information
Phone: (505) 629-6116

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

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

CONDITIONS

Operator: BURNETT OIL CO INC 801 Cherry Street Unit #9 Fort Worth, TX 76102	OGRID: 3080
	Action Number: 515319
	Action Type: [C-147] Water Recycle Long (C-147L)

CONDITIONS

Created By	Condition	Condition Date
vvenegas	• [3080] BURNETT OIL CO INC shall construct, operate, maintain, close, and reclaim 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] in compliance with 19.15.34 NMAC. • 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] is approved for five years of operation from the date of permit application of 10/15/2025. 2RF-229 - GISSLER A22 CONTAINMENT [FVV2531648738] permit expires on 10/15/2030. If [3080] BURNETT OIL CO INC wishes to extend operations past five years, an annual permit extension request must be submitted using form C-147 through OCD Permitting by 09/15/2030. • [3080] BURNETT OIL CO INC shall comply with 19.15.29 NMAC Releases in the event of any release of produced water or other oil field wastes at 2RF-229 - GISSLER A22	11/13/2025