

District I
1625 N. French Dr., Hobbs, NM 88240
District II
1301 W. Grand Avenue, Artesia, NM 88210
District III
1000 Rio Brazos Road, Aztec, NM 87410
District IV
1220 S. St. Francis Dr., Santa Fe, NM 87505

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

Form C-144
July 21, 2008

For temporary pits, closed-loop systems, and below-grade tanks, submit to the appropriate NMOCD District Office.
For permanent pits and exceptions submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

6200
**Pit, Closed-Loop System, Below-Grade Tank, or
Proposed Alternative Method Permit or Closure Plan Application**

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

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

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

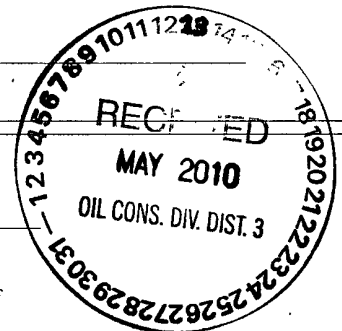
1.
Operator: EnrVest Operating, LLC OGRID #: 143199
Address: 1001 Fannin St. Ste 800 Houston, Texas 77002
Facility or well name: Jicarilla B #3M
API Number: 30-039-29638 OCD Permit Number: _____
U/L or Qtr/Qtr J Section 15 Township 26N Range 05W County: Rio Arriba
Center of Proposed Design: Latitude 36.485 Longitude -107.345306 NAD: ☐ 1927 ☒ 1983
Surface Owner: ☐ Federal ☐ State ☐ Private ☒ Tribal Trust or Indian Allotment

2.
☐ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____ bbl Dimensions: L _____ x W _____ x D _____

3.
☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
Type of Operation: ☐ P&A ☐ Drilling a new well ☐ Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)
☐ Drying Pad ☐ Above Ground Steel Tanks ☐ Haul-off Bins ☐ Other _____
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____

4.
☒ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 95 bbl Type of fluid: Produced Water
Tank Construction material: Steel w/ expanded metal cover
☐ Secondary containment with leak detection ☒ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner ☐ Visible sidewalls only ☐ Other _____
Liner type: Thickness 45 mil ☒ HDPE ☐ PVC ☐ Other _____

5.
☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.



6.

Fencing: Subsection D of 19.15.17.11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)

- ☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☒ Alternate. Please specify 42" Hog-wire fence with 2 strands barbed-wire on top

7.

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

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

8.

Signs: Subsection C of 19.15.17.11 NMAC

- ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☒ Signed in compliance with 19.15.3.103 NMAC

9.

Administrative Approvals and Exceptions:

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

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

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

10.

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

Instructions: The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance. Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.

Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> 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	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to temporary, emergency, or cavitation pits and below-grade tanks) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. (Applies to permanent pits) - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No <input type="checkbox"/> NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No

11.

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

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

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

12.

Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

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

☐ Previously Approved Operating and Maintenance Plan API Number: _____ (Applies only to closed-loop system that use above ground steel tanks or haul-off bins and propose to implement waste removal for closure)

13.

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

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

14.

Proposed Closure: 19.15.17.13 NMAC**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

Type: ☐ Drilling ☐ Workover ☐ Emergency ☐ Cavitation ☐ P&A ☐ Permanent Pit ☒ Below-grade Tank ☐ Closed-loop System

☐ Alternative

Proposed Closure Method: ☒ Waste Excavation and Removal

☐ Waste Removal (Closed-loop systems only)

☐ On-site Closure Method (Only for temporary pits and closed-loop systems)

☐ In-place Burial ☐ On-site Trench Burial

☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

15.

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

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

Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only: (19.15.17.13.D NMAC)

Instructions: Please identify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings. Use attachment if more than two facilities are required.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Will any of the proposed closed-loop system operations and associated activities occur on or in areas that *will not* be used for future service and operations?

☐ Yes (If yes, please provide the information below) ☐ No

Required for impacted areas which will not be used for future service and operations:

☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

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

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

Ground water is less than 50 feet below the bottom of the buried waste.

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

☐ Yes ☐ No

☐ NA

Ground water is between 50 and 100 feet below the bottom of the buried waste

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

☐ Yes ☐ No

☐ NA

Ground water is more than 100 feet below the bottom of the buried waste.

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

☐ Yes ☐ No

☐ NA

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

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

☐ Yes ☐ No

Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application.

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

☐ Yes ☐ No

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended.

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

☐ Yes ☐ No

Within 500 feet of a wetland.

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

☐ Yes ☐ No

Within the area overlying a subsurface mine.

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

☐ Yes ☐ No

Within an unstable area.

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

☐ Yes ☐ No

Within a 100-year floodplain.

- FEMA map

☐ Yes ☐ No

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

☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19.15.17.11 NMAC

☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC

☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC

☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)

☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

19.

Operator Application Certification:

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

Name (Print): Ronnie L. Young Title: Compliance Supervisor

Signature: Ronnie L. Young Date: 5.3.10

e-mail address: ryoung@enervest.net Telephone: 713-495-6530

20.

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

OCD Representative Signature: [Signature] Approval Date: 5/18/10

Title: Enviro Spec OCD Permit Number: _____

21.

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

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

☐ Closure Completion Date: _____

22.

Closure Method:

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

23.

Closure Report Regarding Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:

Instructions: Please identify the facility or facilities for where the liquids, drilling fluids and drill cuttings were disposed. Use attachment if more than two facilities were utilized.

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

Were the closed-loop system operations and associated activities performed on or in areas that will not be used for future service and operations?

☐ Yes (If yes, please demonstrate compliance to the items below) ☐ No

Required for impacted areas which will not be used for future service and operations:

- ☐ Site Reclamation (Photo Documentation)
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique

24.

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

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

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

25.

Operator Closure Certification:

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

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

Section I

Sitting Criteria Compliance Demonstration

Jicarilla B #3M

API No. 30-039-29638

Sitting Criteria Compliance Demonstration

Criteria as per 19.15.17.10.(A) (1)	In Compliance	Comments
Ground water less than 50' below bottom of tank	Yes	Refer to "Site Hydrology Report" in Section V
Within 300' of continuously flowing watercourse or 200 feet of other significant watercourse, lakebed, sinkhole, or playa lake (measured from ordinary high-water mark)	Yes	Refer to Observed Setting Requirements completed by field personnel in Appendix 08
Within 300 feet of a permanent residence, school, hospital, institution, or church	Yes	Refer to Observed Setting Requirements completed by field personnel in Appendix 08
Within 500 ft of a private, domestic freshwater well or spring or within 1000 ft of freshwater well or spring in existence at time of application	Yes	Refer to Observed Setting Requirements completed by field personnel in Appendix 08
Within incorporated municipal boundary of defined municipal fresh water field	Yes	Refer to Observed Setting Requirements completed by field personnel in Appendix 08
Within 500 feet of a wetland	Yes	Refer to Observed Setting Requirements completed by field personnel in Appendix 08 and USF&W Map in Appendix 5
Within the area overlying a subsurface mine.	Yes	Refer to Observed Setting Requirements completed by field personnel in Appendix 08
Within an unstable area	Yes	Refer to Observed Setting Requirements completed by field personnel in Appendix 08 and Karst Map in Appendix 09
Within a 100-year floodplain	Yes	Refer to Observed Setting Requirements completed by field personnel in Appendix 08 and FEMA Map in Appendix 06

Section II

Design & Construction Plan

EnerVest Operating, LLC (EV)

**BELOW-GRADE TANK
DESIGN AND CONSTRUCTION SPECIFICATIONS**

Rule 19.15.17.11

- C. Enervest Operating is the official operator of record for all wells which have below-grade tanks to be addressed in this specification. All below-grade tanks are located on these leases and will be in full compliance with 19.15.16.8 regarding signage.
- D. EV will ensure a fence shall be constructed and maintained in good repair with gates that are closed and locked when responsible personnel are not on site. EV shall insure that all gates are closed and locked when responsible personnel are not on-site.

If the below-grade tank is located within 1,000 feet of a permanent residence, school, hospital, institution or church, the fence shall be a chain link security fence at least 6 feet in height with at least two strands of barbed wire on top.

If the below-grade tank is not within 1,000 feet of the above mentioned structures, the fence shall constructed to exclude livestock with at least four strands of barbed wire evenly spaced between one foot from the ground and four foot above the ground.

EV is requesting administrative approval to use a 42" Hog wire fence with 2 strands barbed-wire on top in lieu of the required four strand barbed wire fence. This will be supported with iron posting at the corners and 10 – 12 feet apart. EV believes this will offer better protection for wildlife in these tank areas. Please refer to Exhibit 2.1 of this Section.

- E. EV shall ensure an open top tank is screened with expanded 3/16" metal screen or a fully closed top, both of which are welded on the top of the tank. Such screening will be painted to blend with the below-grade tank. EV believes this is sufficient strength to protect migratory birds or other wildlife.
- I. EV will ensure all below-grade tanks will be constructed of 3/16" steel, resistant to the tank's contents and to damage from sunlight. Based on water production and road condition for access during the winter months there are a choice of three different sizes which could be used:

CAPACITY	DIAMETER	HEIGHT
125 bbl	15'	4'
120 bbl	12'	6'
100 bbl	12'	5'

This tank will contain liquids and should prevent contamination of fresh water to protect the public health and environment.

The below-grade system will include a excavated area for the tanks which will be dependent upon the size of the tank used:

18' x 18' x 4' High Square excavated area

18' Diameter x 4' High Circular excavated area

18' Diameter x 5' High Circular excavated area

The particular area and well conditions will determine which design best for that particular well. EV will ensure that there will be room to walk around the tank inside the containment area which will better enable our field personnel to inspect for damage to liners or incidental leaks. Please refer to tank diagram under Exhibit 2.2 of this section for details.

All excavated areas will be reinforced with metal walls to prevent collapse. There will be sufficient open area on all sides of the tank to witness any incidental release that may occur. Please refer to tank diagram under Appendix 8.

EV will ensure the base of any excavated area containing a below-grade tank will be level and free of rocks, debris, sharp edges or irregularities to prevent punctures, cracks or indentations of the liner or tank bottom.

EV will ensure that any geomembrane liner used shall consist of 30-mil flexible PVC or 60-mil HDPE liner or equivalent liner material. The liner shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salt and acidic and alkaline solutions and shall be resistant to ultraviolet light. The liner shall have a hydraulic conductivity no greater than 1×10^{-9} cm/sec. The liner shall be compatible with EPA SW-846 method 9090A. EV will install the liner in such a manner as to divert any possible leak for visual inspection. EV will demonstrate to the OCD that the liner complies with the specifications within Subparagraph (a) of Paragraph (4) of Section I of 19.156.17.11 NMAC and obtain approval from the division prior to the installation of the new design.

EV is requesting administrative approval to use an equivalent liner. The "Dura-Skirm J45 BB" is a 45-mil reinforced liner which we feels offers the same or better protection as the required 60-mil liner as indicated above. Please refer to Exhibit 2.3 of this Section for the specification sheets for this liner.

EV will ensure the fluid levels of tanks will be monitored by automatic high level alarms at 24" from the top and shut-off devise at 10 1/2 inches from the top of the tank. The tanks will be also equipped with a manual shut-off valve in the event it is needed. Please see design specification sheet of this system in this section.

The majority of our below-grade tanks are within the berm around our tank battery and as so are protected from run-on water. Those outside this berm will be protected with an earthen berm which will extend at least 6" above surface ground level to divert run-on around the tank. The side walls of the excavated area will extend at least 6" above the ground level to divert run-on water around the tank. Any possible leak will be diverted, on the liner, in such a way can be visually inspected. Please refer to Exhibit 2.4 of this Section for details of this automatic shut-off system.

EV tank design will be a single walled tank constructed to ensure that the side walls are open for visual inspection for leaks; the bottom will be elevated six inches above the ground surface and will contain a geomembrane liner, as described above, directly on the ground level of the containment area.

Once a below-grade tank which was installed prior to June 16, 2008 does not demonstrate integrity, EV shall promptly repair or remove that below-grade tank and close the tank or install a below-grade tank that is in full compliance with Paragraph 1 thru 4 of Section I of 19.15.17.11 NMAC. EV shall comply with the operational requirements of 19.15.17.12 NMAC. Please refer to tank diagram under Appendix 8 for details

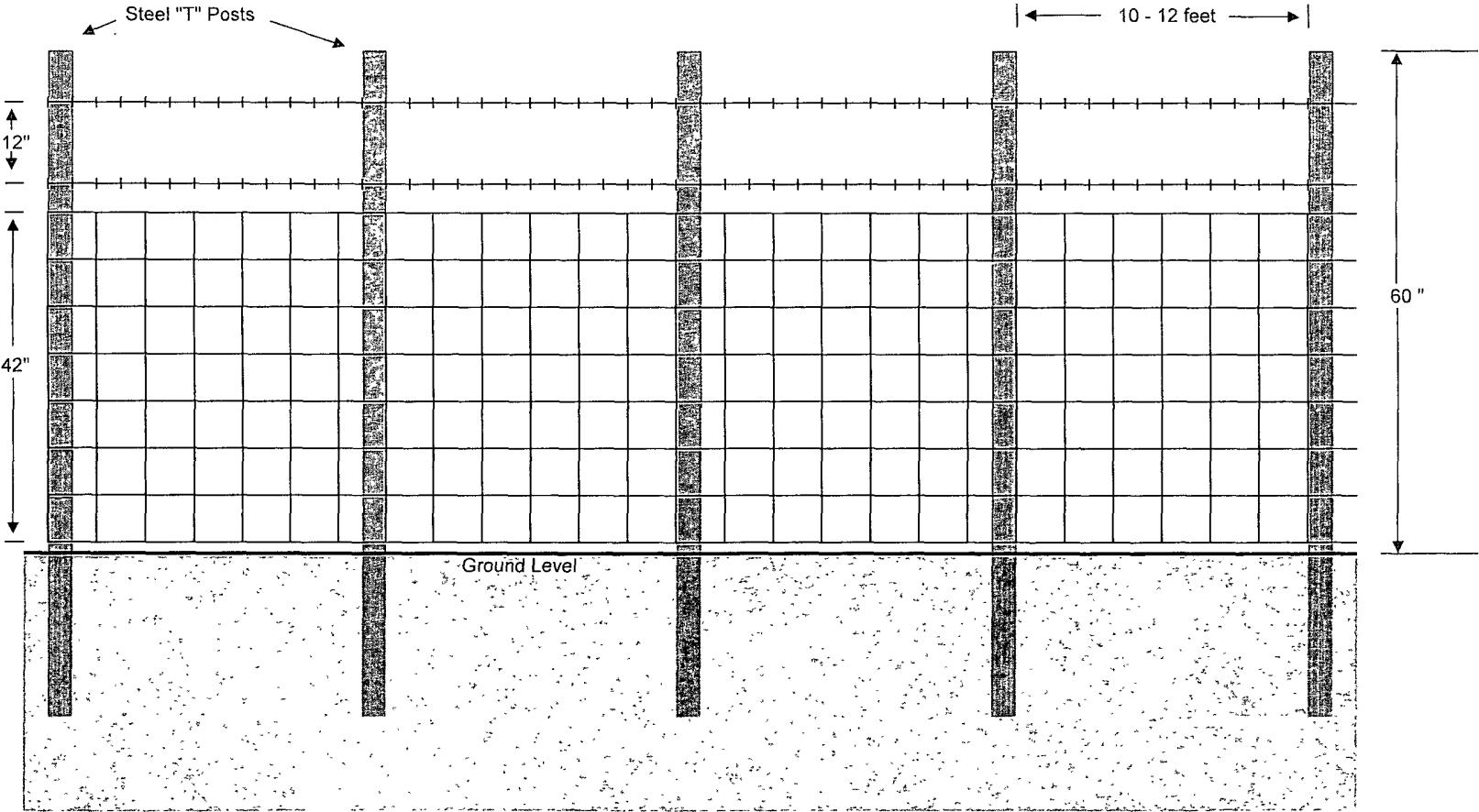
Any single walled below-grade tank installed before June 16, 2008 where any portion of the tank sidewall is below the ground surface and not totally visible shall be closed, retrofited or replaced before June 15, 2013. EV will fully comply with Paragraph 1 thru 4 of Section I of 19.15.17.11 NMAC for all retrofitting or replacement of below-grade tanks.

ENERVEST OPERATING, LLC

Proposed Alternative Fencing

Below-Grade Tank Construction

42" Hogwire Fence with 2 strands barbed-wire on top

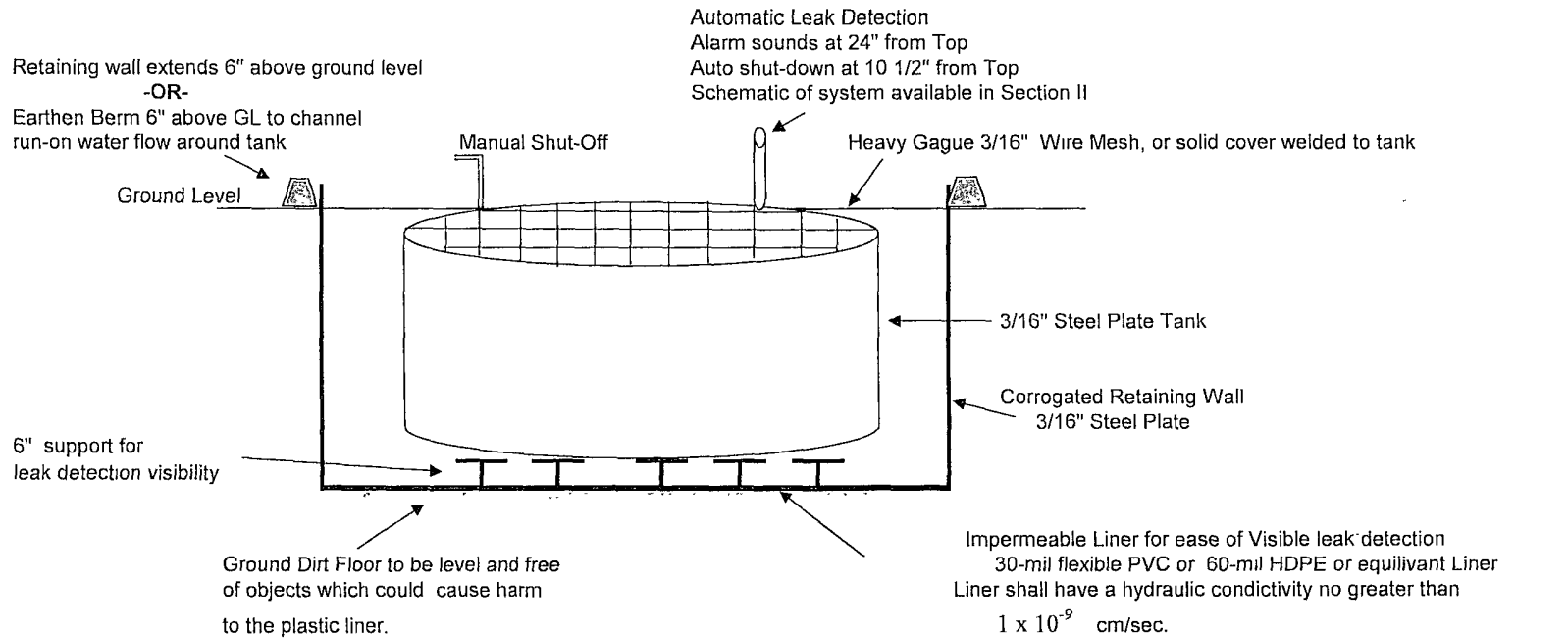




EnerVest Operating, LLC
Western Division

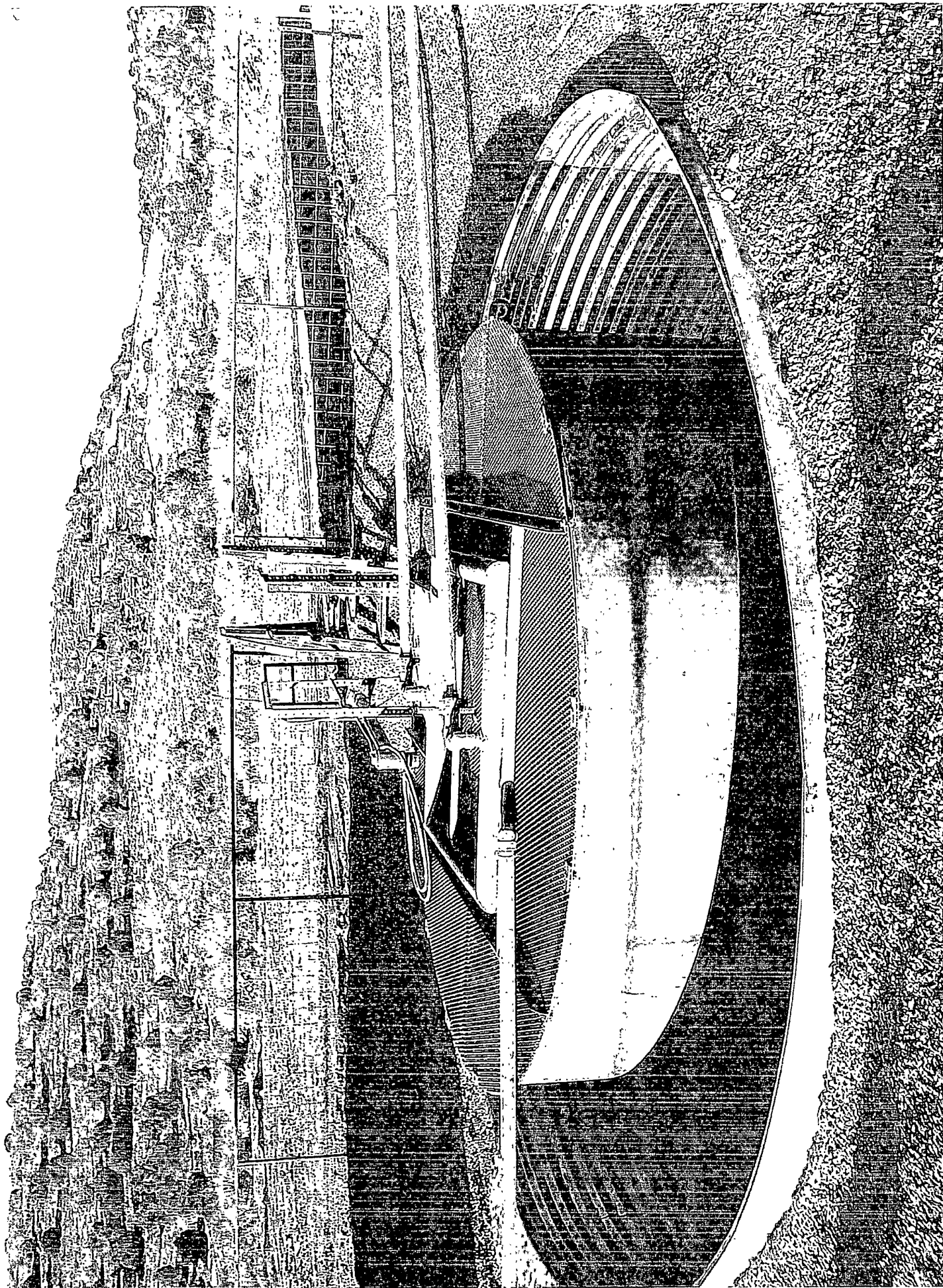
Below-Grade Tank System

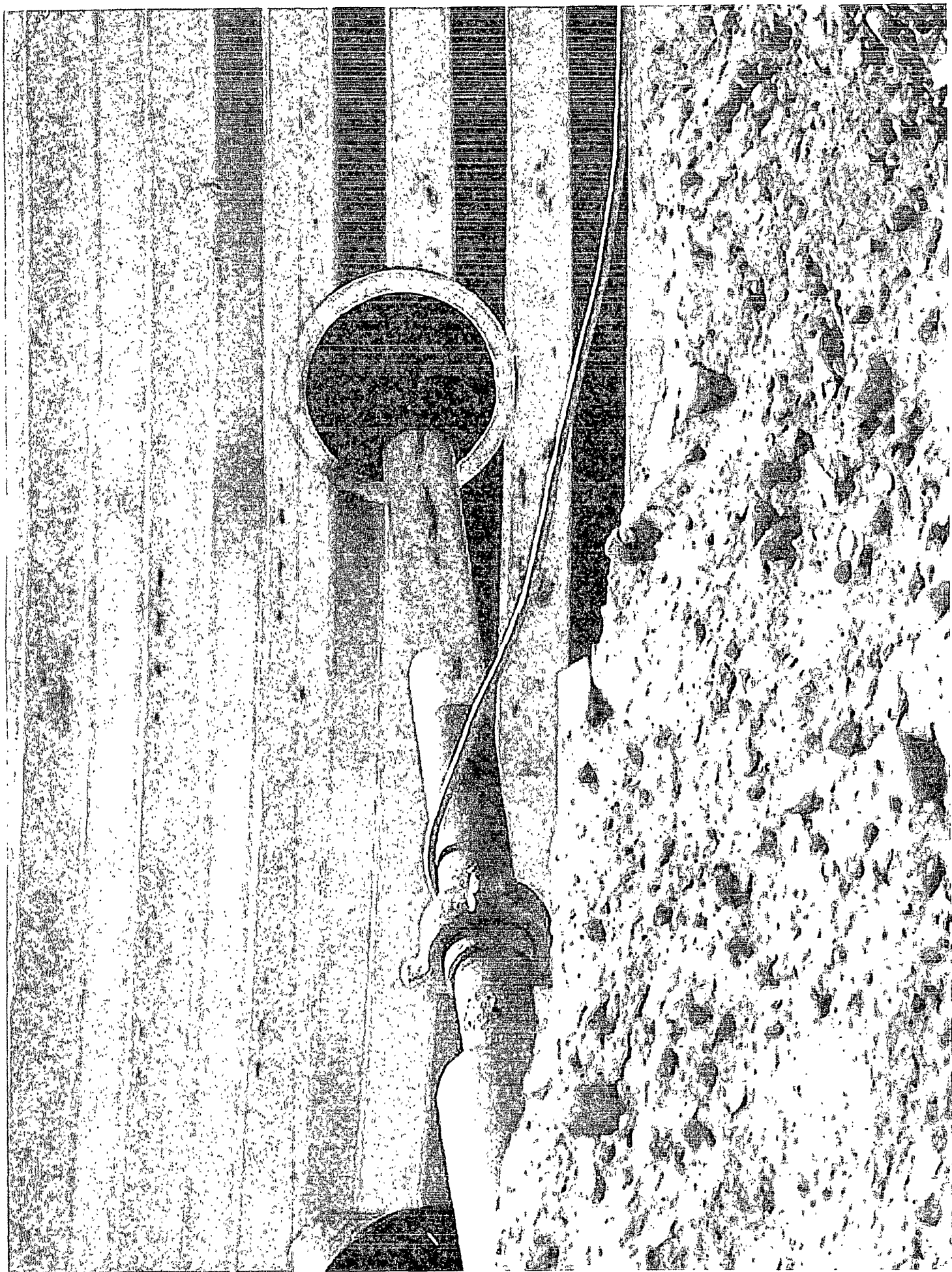
Gravity Fed - Produced Water

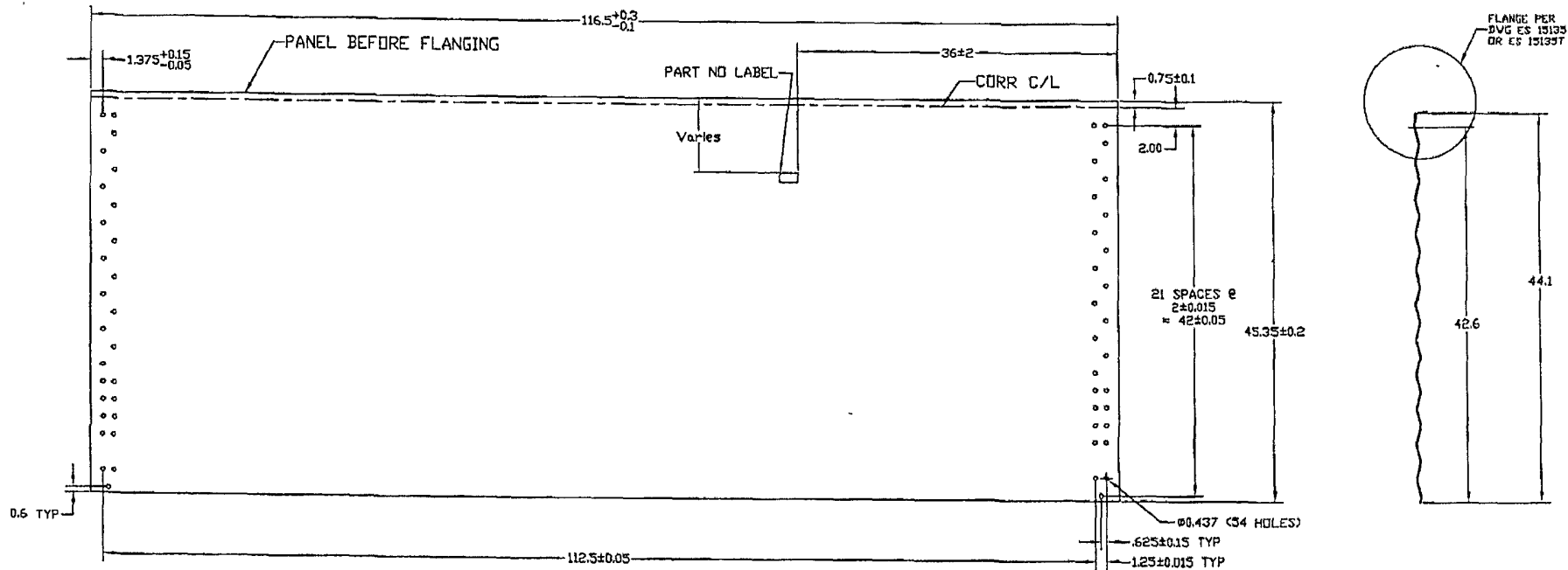


Below-Grade System Components		
Tank Size		Excavation Areas
Capacity	Dia x Height	
125 Bbl	15' x 4'	18' x 18' x 4' Square
120 Bbl	12' x 6'	18' x 4' Circular
100 Bbl	12' x 5'	18' x 5' Circular

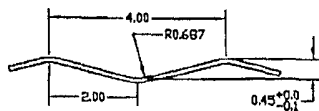
Tank size dependent upon water production & road conditions
Excavation Area size dependent upon tank size







44' WALL PANEL BEFORE FLANGING



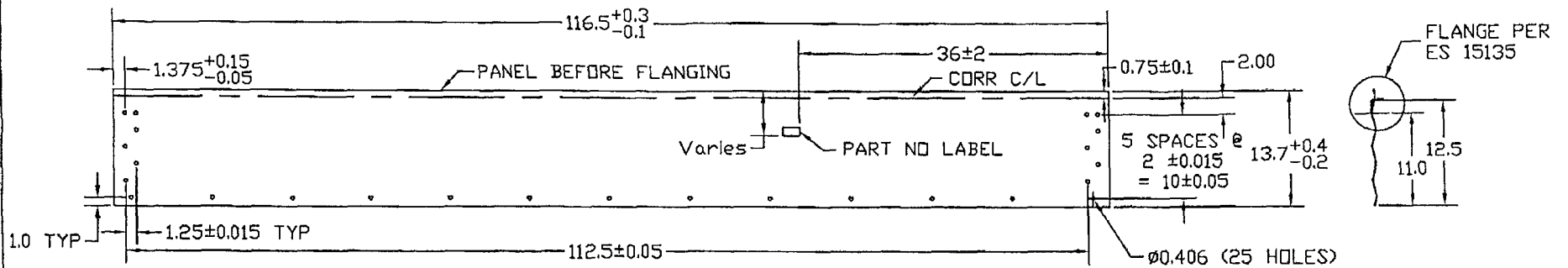
CORRUGATING DETAIL

- MANUFACTURING NOTES:
1. CORRUGATION SEE DETAIL
 2. HOLE OFF CENTER OF CORR. ± .05
 3. HOLE BURR MAX. .01
 4. CUT OFF BURR MAX. .01
 5. CORNER HOLE TO HOLE DIAGONAL ± .15

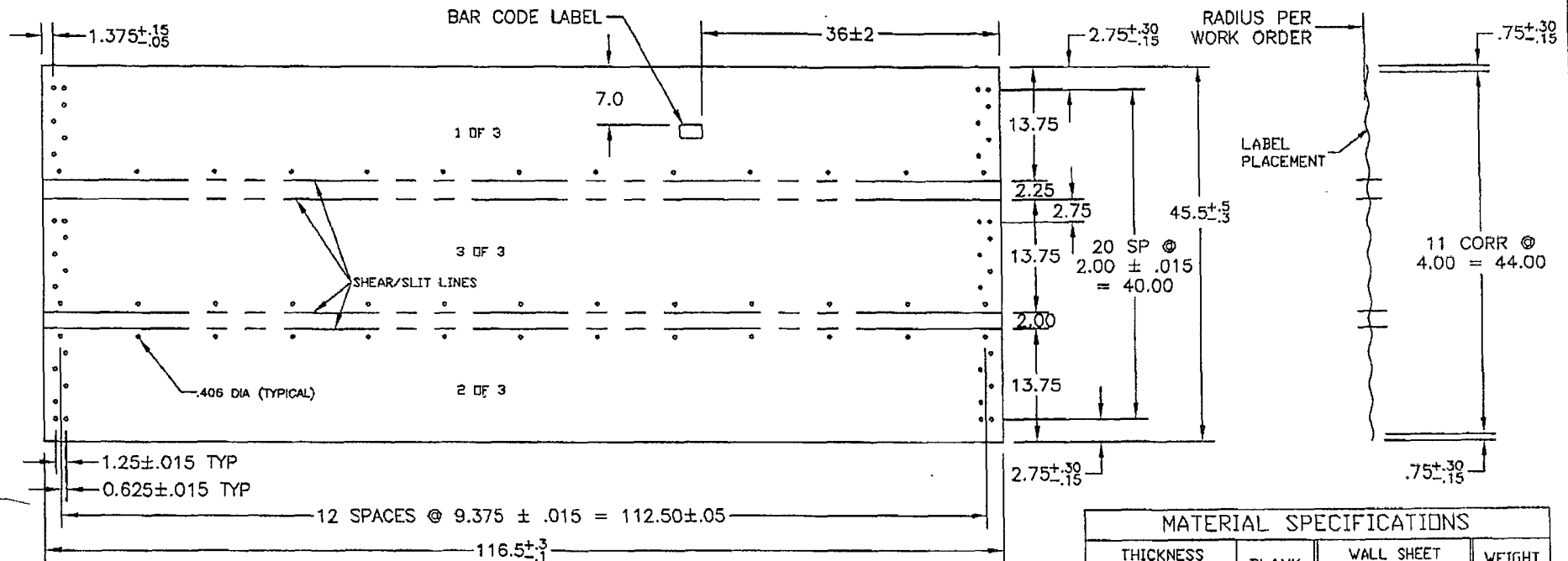
MATERIAL SPECIFICATIONS				
THICKNESS		BLANK WIDTH	WALL SHEET PART NO	WEIGHT (lb)
NOMINAL	MINIMUM			
0.066	0.061	46.3	CW4415F	98.5
0.096	0.086	46.3	CW4413F	143.4

COORDINATING DETAIL										MATERIAL		BLANK SIZE		SURFACE AREA		WEIGHT (LBS)	
										SEE CHART - ASTM A653 SS GR 50 G115 OIL		46.5 x 116.5				see chart	
							DIMENSIONS SHOWN ARE IMPERIAL UNITS SHOWN IN BRACKETS		DESND. RM	WESTEEL	THIS DRAWING IS THE EXCLUSIVE PROPERTY OF WESTEEL AND ALL RIGHTS ARE RESERVED		SCALE nts	DWN. (Y.M.D.) 02.02.19	LOCATION WINNIPEG		
							TOLERANCES UNLESS OTHERWISE NOTED		DVN. RF		NO PART OF THIS DRAWING MAY BE USED OR REPRODUCED IN ANY MANNER WHATSOEVER WITHOUT WRITTEN PERMISSION FROM WESTEEL, a Division of JENISYS ENGINEERED PRODUCTS		E.C.R. A6647	E.P. NO. 02-255	TYPE ACAD14		
							DIMENSIONS:		CHKD. BA	DRAWING TITLE		SIZE	DRAWING NO.		REV. NO.		
							IMPERIAL (in.) METRIC (mm)		CONTAINMENT RING 44" WALL PANEL								
1	01.28.04	LOWERED CLAMP LOCATION 4"		A6786	RF	BA	.X ± .1 .X ± .2 .XX ± .03 .X ± .10 .XXX ± .010 .XX ± .150		APPD. BA	CUSTOMER	PRINTING DATE	B	ES 15510		1		
NO	DATE	REVISION		E.C.R.	BY	CH.	ANGULAR ± 1°										

1	0128.04	LOWERED CLAMP LOCATION 4'	A6786	RF	BA		
NO	DATE	REVISION	E.C.R.	BY	CH		

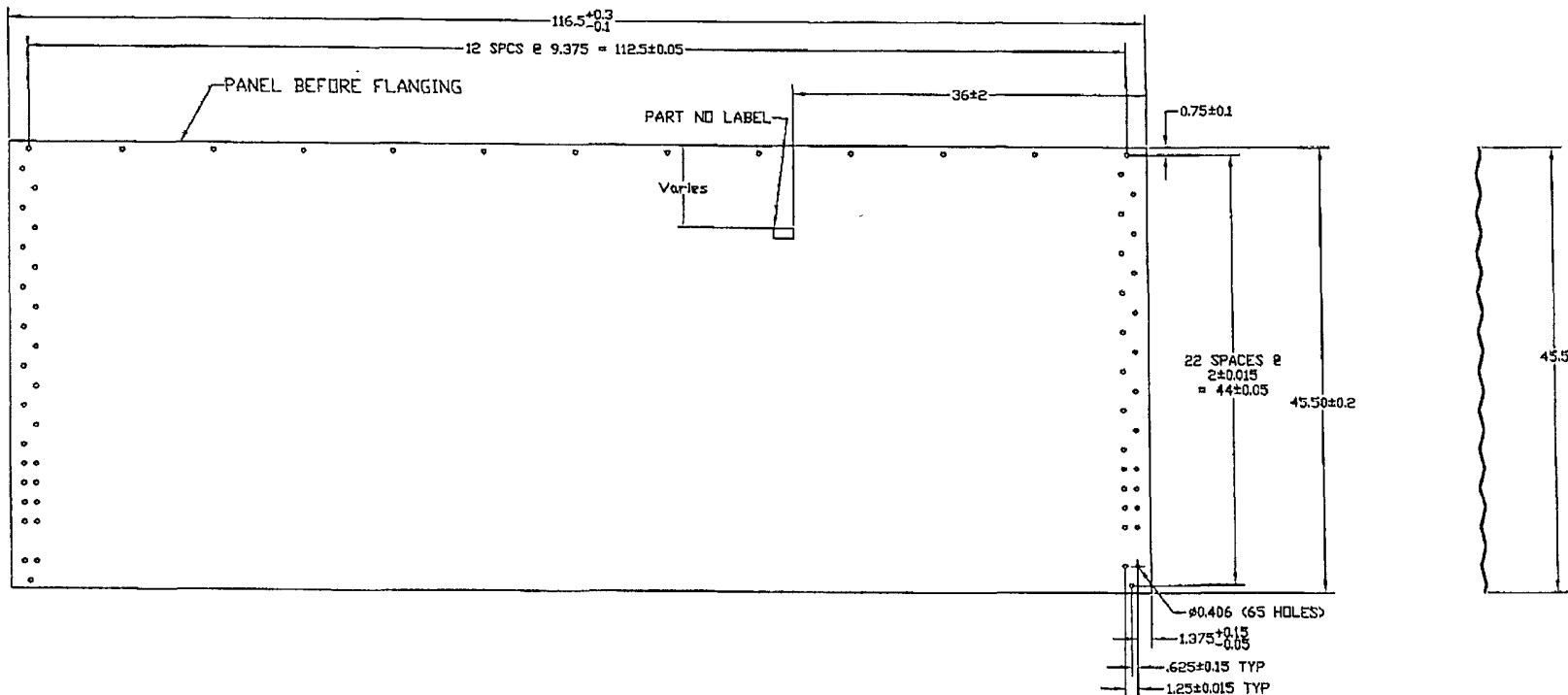


13 1/2" WALL PANEL LAYOUT BEFORE FLANGING

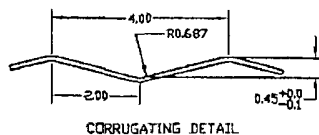


MANUFACTURING VIEW ONLY - TRIPLE PANEL AFTER CORR & PUNCH, BEFORE SLITTING & FLANGING

MATERIAL				SEE CHART - ASTM A653 SS GR50 G115 OIL				BLANK SIZE		WEIGHT (LBS)	
								46.5x116.5 (3 pcs)		31.5	
DIMENSIONS SHOWN ARE IMP				DESND.				SCALE		DWN. (Y.M.D.)	
MM. UNITS SHOWN IN BRACKETS				BA				N.T.S.		2004.11.30	
TOLERANCES (UNLESS OTHERWISE NOTED)				DWN.				E.C.R.		E.P. NO.	
				RF				A6834		02-255	
DIMENSIONS:				CHKD.				DRAWING TITLE		SIZE	
IMPERIAL (in.) METRIC (mm)				BA				13.5" FULL PANEL - 57" ONLY		DRAWING NO.	
.X ? .1 X ? 2								CONTAINMENT RING		REV. NO.	
.XX ? .03 X ? 1.0										A	
.XXX ? .010 XXX ? .50										ES 15516	
ANGULAR: ± 1°				APPD.				CUSTOMER		PRINTING DATE (Y.M.D.)	
				BA				-		-	



44" WALL PANEL AFTER CORRUGATING AND PUNCHING

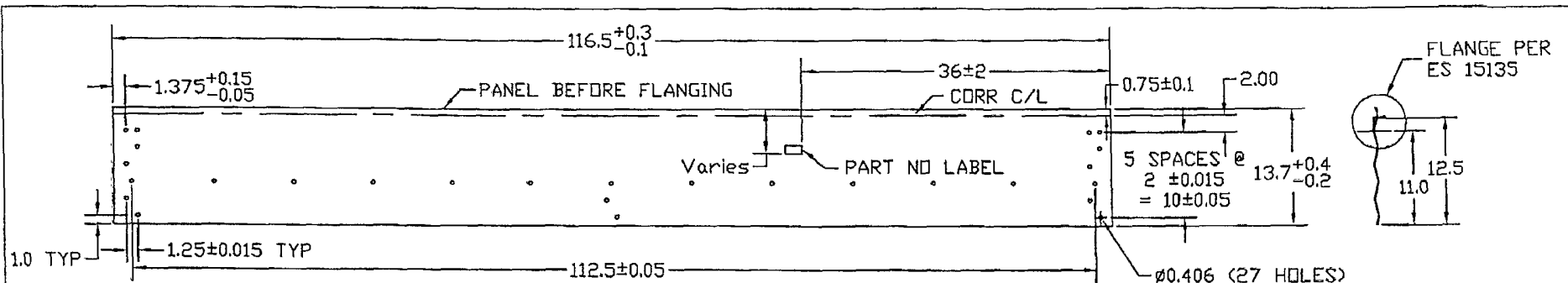


CORRUGATING DETAIL

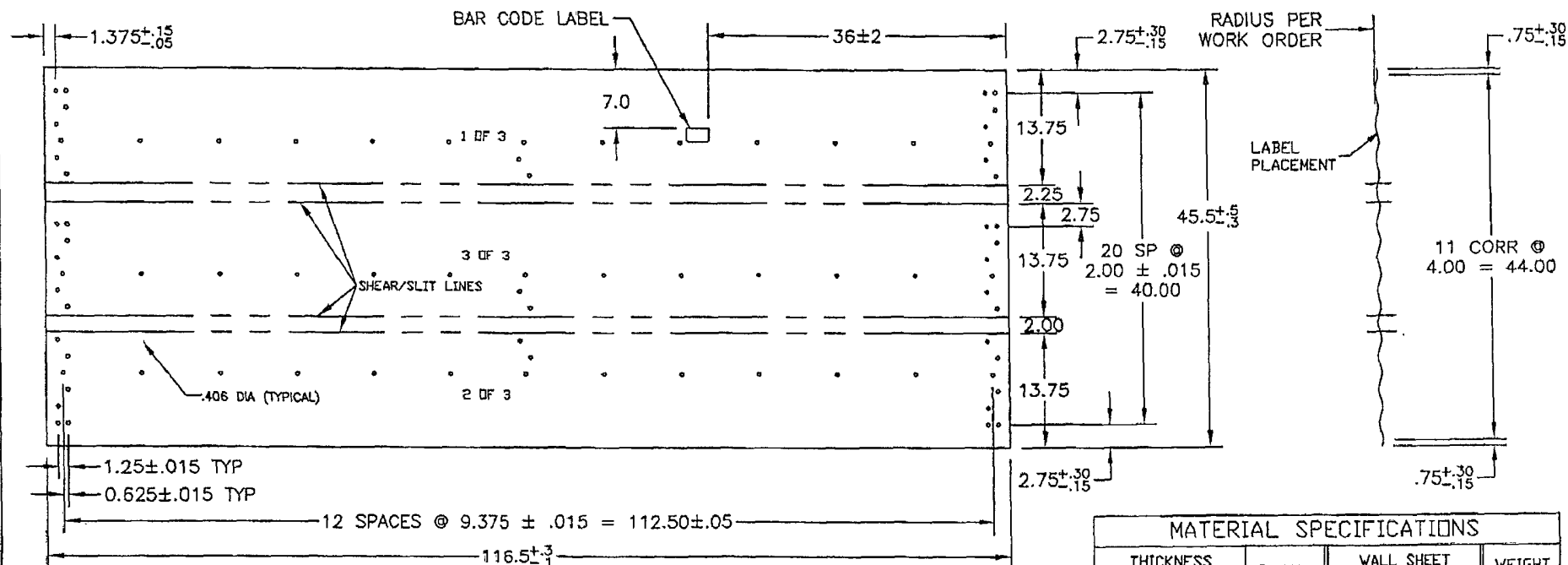
- MANUFACTURING NOTES:
1. CORRUGATION SEE DETAIL
 2. HOLE OFF CENTER OF CORR. $\pm .05$
 3. HOLE BURR MAX. $.01$
 4. CUT OFF BURR MAX. $.01$
 5. CORNER HOLE TO HOLE DIAGONAL $\pm .15$

MATERIAL SPECIFICATIONS				
THICKNESS		BLANK WIDTH	WALL SHEET PART NO	WEIGHT (lb)
NOMINAL	MINIMUM			
0.066	0.061	46.5	CW445715F	97.7
0.139	0.130	46.2	CW445710F	208.5

MATERIAL					SEE CHART - ASTM A653 SS GR 50 G115 D1L		BLANK SIZE		SURFACE AREA		WEIGHT (LBS)	
DIMENSIONS SHOWN ARE IMPERIAL UNITS SHOWN IN BRACKETS					46.5 x 116.5		SCALE		DWN. (Y.M.D.)		LOCATION	
TOLERANCES (UNLESS OTHERWISE NOTED)					THIS DRAWING IS THE EXCLUSIVE PROPERTY OF VESTEEL AND ALL RIGHTS ARE RESERVED. NO PART OF THIS DRAWING MAY BE USED OR REPRODUCED IN ANY MANNER WHATSOEVER WITHOUT WRITTEN PERMISSION FROM VESTEEL, a Division of JENISYS ENGINEERED PRODUCTS		E.C.R.		E.P. NO.		TYPE	
DIMENSIONS:					DRAWING TITLE		SIZE		DRAWING NO.		REV. NO.	
IMPERIAL (in.) METRIC (mm)					44" FULL PANEL - 57" ONLY CONTAINMENT RING		B		ES 15518		0	
NO					DATE		PRINTING DATE		BY		REV. NO.	
REVISION					E.C.R. BY		CH					
APPD.					BA							
ANGULAR: $\pm 1^\circ$												

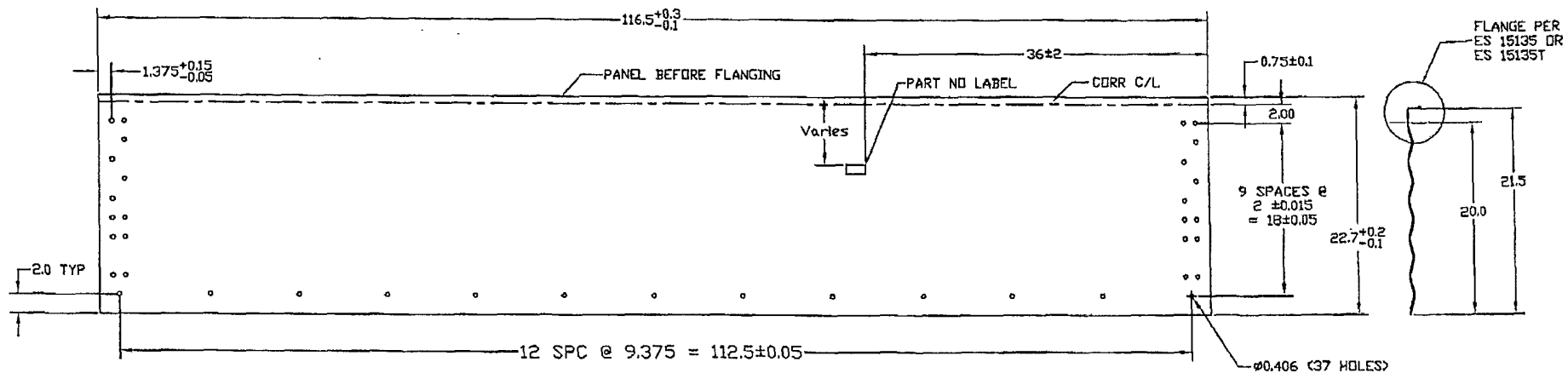


13 1/2" WALL PANEL LAYOUT BEFORE FLANGING

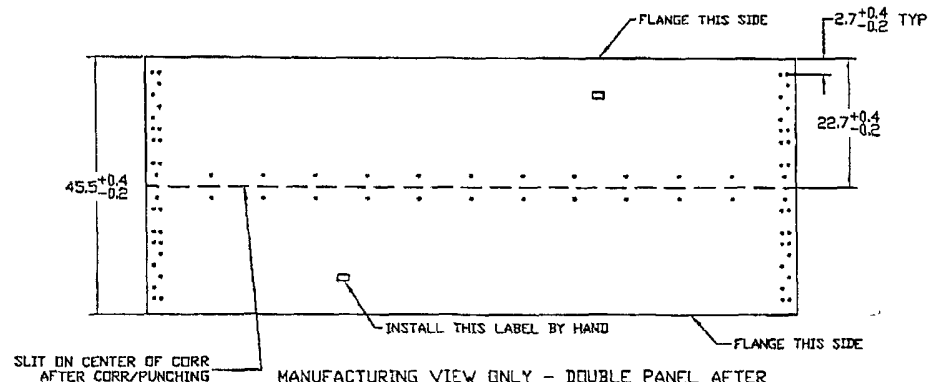


MATERIAL SPECIFICATIONS				
THICKNESS		BLANK WIDTH	WALL SHEET PART NO	WEIGHT (lbs)
NOMINAL	MINIMUM			
0.066	0.061	14.75	019419	31.5

NO.				DATE	REVISION	E.C.R. BY	CH.	MATERIAL		BLANK SIZE	WEIGHT (LBS.)
								SEE CHART - ASTM A653 SS GR50 G115 OIL		46.5x116.5 (3 pcs)	31.5
								DESIGN: BA		SCALE: N.T.S.	
								DWN: RF		E.C.R. A6834	
								CHKD: BA		E.P. NO. 02-255	
								APPD: BA		DVG TYPE A-2000	
								CUSTOMER		REV. NO.	
								PRINTING DATE (Y.M.D.)		A 019419	
										O	



21 1/2' WALL PANEL LAYOUT BEFORE FLANGING

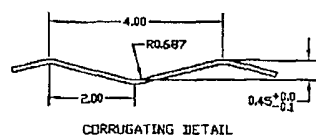


MANUFACTURING NOTES:

1. CORRUGATION... SEE DETAIL
2. HOLE OFF CENTER OF CORR... ± .05
3. HOLE BURR MAX... .01
4. CUT OFF BURR MAX... .01
5. CORNER HOLE TO HOLE DIAGONAL ± .15

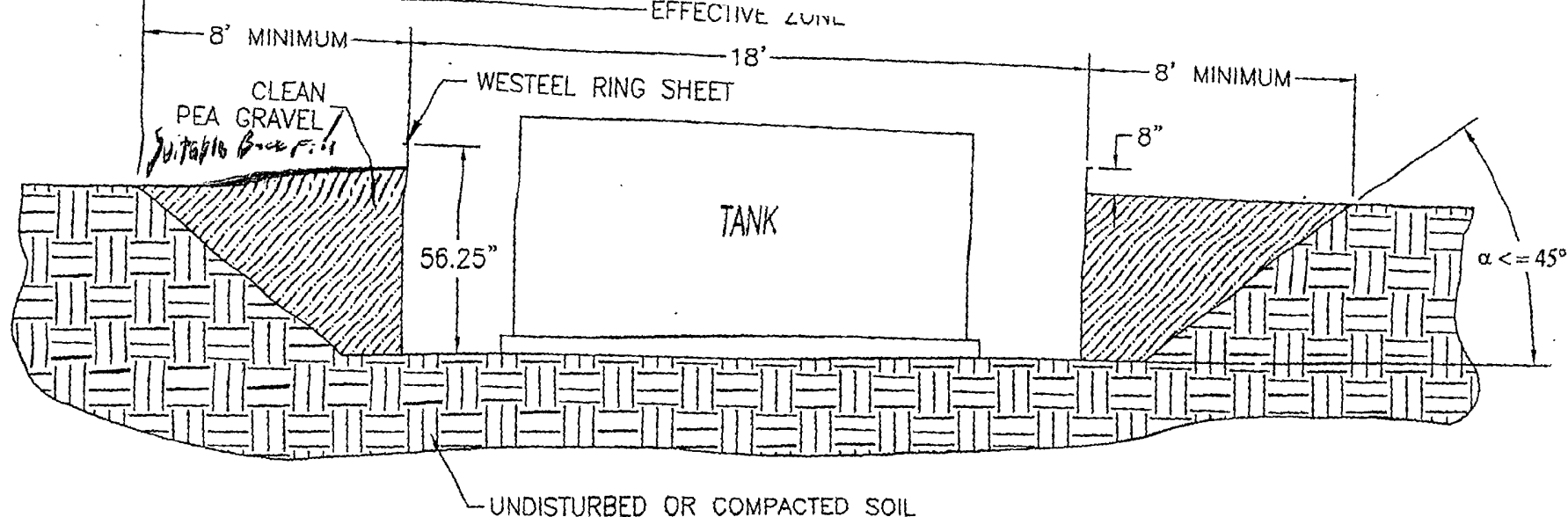
MATERIAL SPECIFICATIONS

THICKNESS	BLANK WIDTH	WALL SHEET PART NO	WEIGHT (lb)
NOMINAL MINIMUM			
0.066	0.061	23.3	C10514
			49.4



NO	DATE	REVISION	E.C.R.	BY	CH
1	06/12/06	CORRECTED HOLE PATTERN ON BOTTOM BLANK	A6898	RF	RF

IMPERIAL (in.)	METRIC (mm)
1/8" ± .003	3.2 ± .08
1/4" ± .003	6.4 ± .08
3/8" ± .003	9.6 ± .08
1/2" ± .003	12.8 ± .08
3/4" ± .003	19.2 ± .08
1" ± .003	25.4 ± .08
1 1/4" ± .003	31.8 ± .08
1 1/2" ± .003	38.1 ± .08
2" ± .003	50.8 ± .08
2 1/2" ± .003	63.5 ± .08
3" ± .003	76.2 ± .08
3 1/2" ± .003	88.9 ± .08
4" ± .003	101.6 ± .08
4 1/2" ± .003	114.3 ± .08
5" ± .003	127.0 ± .08
5 1/2" ± .003	139.7 ± .08
6" ± .003	152.4 ± .08
6 1/2" ± .003	165.1 ± .08
7" ± .003	177.8 ± .08
7 1/2" ± .003	190.5 ± .08
8" ± .003	203.2 ± .08
8 1/2" ± .003	215.9 ± .08
9" ± .003	228.6 ± .08
9 1/2" ± .003	241.3 ± .08
10" ± .003	254.0 ± .08
10 1/2" ± .003	266.7 ± .08
11" ± .003	279.4 ± .08
11 1/2" ± .003	292.1 ± .08
12" ± .003	304.8 ± .08
12 1/2" ± .003	317.5 ± .08
13" ± .003	330.2 ± .08
13 1/2" ± .003	342.9 ± .08
14" ± .003	355.6 ± .08
14 1/2" ± .003	368.3 ± .08
15" ± .003	381.0 ± .08
15 1/2" ± .003	393.7 ± .08
16" ± .003	406.4 ± .08
16 1/2" ± .003	419.1 ± .08
17" ± .003	431.8 ± .08
17 1/2" ± .003	444.5 ± .08
18" ± .003	457.2 ± .08
18 1/2" ± .003	469.9 ± .08
19" ± .003	482.6 ± .08
19 1/2" ± .003	495.3 ± .08
20" ± .003	508.0 ± .08
20 1/2" ± .003	520.7 ± .08
21" ± .003	533.4 ± .08
21 1/2" ± .003	546.1 ± .08
22" ± .003	558.8 ± .08
22 1/2" ± .003	571.5 ± .08
23" ± .003	584.2 ± .08
23 1/2" ± .003	596.9 ± .08
24" ± .003	609.6 ± .08
24 1/2" ± .003	622.3 ± .08
25" ± .003	635.0 ± .08
25 1/2" ± .003	647.7 ± .08
26" ± .003	660.4 ± .08
26 1/2" ± .003	673.1 ± .08
27" ± .003	685.8 ± .08
27 1/2" ± .003	698.5 ± .08
28" ± .003	711.2 ± .08
28 1/2" ± .003	723.9 ± .08
29" ± .003	736.6 ± .08
29 1/2" ± .003	749.3 ± .08
30" ± .003	762.0 ± .08
30 1/2" ± .003	774.7 ± .08
31" ± .003	787.4 ± .08
31 1/2" ± .003	799.1 ± .08
32" ± .003	811.8 ± .08
32 1/2" ± .003	824.5 ± .08
33" ± .003	837.2 ± .08
33 1/2" ± .003	849.9 ± .08
34" ± .003	862.6 ± .08
34 1/2" ± .003	875.3 ± .08
35" ± .003	888.0 ± .08
35 1/2" ± .003	900.7 ± .08
36" ± .003	913.4 ± .08
36 1/2" ± .003	926.1 ± .08
37" ± .003	938.8 ± .08
37 1/2" ± .003	951.5 ± .08
38" ± .003	964.2 ± .08
38 1/2" ± .003	976.9 ± .08
39" ± .003	989.6 ± .08
39 1/2" ± .003	1002.3 ± .08
40" ± .003	1015.0 ± .08
40 1/2" ± .003	1027.7 ± .08
41" ± .003	1040.4 ± .08
41 1/2" ± .003	1053.1 ± .08
42" ± .003	1065.8 ± .08
42 1/2" ± .003	1078.5 ± .08
43" ± .003	1091.2 ± .08
43 1/2" ± .003	1103.9 ± .08
44" ± .003	1116.6 ± .08
44 1/2" ± .003	1129.3 ± .08
45" ± .003	1142.0 ± .08
45 1/2" ± .003	1154.7 ± .08
46" ± .003	1167.4 ± .08
46 1/2" ± .003	1180.1 ± .08
47" ± .003	1192.8 ± .08
47 1/2" ± .003	1205.5 ± .08
48" ± .003	1218.2 ± .08
48 1/2" ± .003	1230.9 ± .08
49" ± .003	1243.6 ± .08
49 1/2" ± .003	1256.3 ± .08
50" ± .003	1269.0 ± .08
50 1/2" ± .003	1281.7 ± .08
51" ± .003	1294.4 ± .08
51 1/2" ± .003	1307.1 ± .08
52" ± .003	1319.8 ± .08
52 1/2" ± .003	1332.5 ± .08
53" ± .003	1345.2 ± .08
53 1/2" ± .003	1357.9 ± .08
54" ± .003	1370.6 ± .08
54 1/2" ± .003	1383.3 ± .08
55" ± .003	1396.0 ± .08
55 1/2" ± .003	1408.7 ± .08
56" ± .003	1421.4 ± .08
56 1/2" ± .003	1434.1 ± .08
57" ± .003	1446.8 ± .08
57 1/2" ± .003	1459.5 ± .08
58" ± .003	1472.2 ± .08
58 1/2" ± .003	1484.9 ± .08
59" ± .003	1497.6 ± .08
59 1/2" ± .003	1510.3 ± .08
60" ± .003	1523.0 ± .08
60 1/2" ± .003	1535.7 ± .08
61" ± .003	1548.4 ± .08
61 1/2" ± .003	1561.1 ± .08
62" ± .003	1573.8 ± .08
62 1/2" ± .003	1586.5 ± .08
63" ± .003	1599.2 ± .08
63 1/2" ± .003	1611.9 ± .08
64" ± .003	1624.6 ± .08
64 1/2" ± .003	1637.3 ± .08
65" ± .003	1650.0 ± .08
65 1/2" ± .003	1662.7 ± .08
66" ± .003	1675.4 ± .08
66 1/2" ± .003	1688.1 ± .08
67" ± .003	1700.8 ± .08
67 1/2" ± .003	1713.5 ± .08
68" ± .003	1726.2 ± .08
68 1/2" ± .003	1738.9 ± .08
69" ± .003	1751.6 ± .08
69 1/2" ± .003	1764.3 ± .08
70" ± .003	1777.0 ± .08
70 1/2" ± .003	1789.7 ± .08
71" ± .003	1802.4 ± .08
71 1/2" ± .003	1815.1 ± .08
72" ± .003	1827.8 ± .08
72 1/2" ± .003	1840.5 ± .08
73" ± .003	1853.2 ± .08
73 1/2" ± .003	1865.9 ± .08
74" ± .003	1878.6 ± .08
74 1/2" ± .003	1891.3 ± .08
75" ± .003	1904.0 ± .08
75 1/2" ± .003	1916.7 ± .08
76" ± .003	1929.4 ± .08
76 1/2" ± .003	1942.1 ± .08
77" ± .003	1954.8 ± .08
77 1/2" ± .003	1967.5 ± .08
78" ± .003	1980.2 ± .08
78 1/2" ± .003	1992.9 ± .08
79" ± .003	2005.6 ± .08
79 1/2" ± .003	2018.3 ± .08
80" ± .003	2031.0 ± .08
80 1/2" ± .003	2043.7 ± .08
81" ± .003	2056.4 ± .08
81 1/2" ± .003	2069.1 ± .08
82" ± .003	2081.8 ± .08
82 1/2" ± .003	2094.5 ± .08
83" ± .003	2107.2 ± .08
83 1/2" ± .003	2119.9 ± .08
84" ± .003	2132.6 ± .08
84 1/2" ± .003	2145.3 ± .08
85" ± .003	2158.0 ± .08
85 1/2" ± .003	2170.7 ± .08
86" ± .003	2183.4 ± .08
86 1/2" ± .003	2196.1 ± .08
87" ± .003	2208.8 ± .08
87 1/2" ± .003	2221.5 ± .08
88" ± .003	2234.2 ± .08
88 1/2" ± .003	2246.9 ± .08
89" ± .003	2259.6 ± .08
89 1/2" ± .003	2272.3 ± .08
90" ± .003	2285.0 ± .08
90 1/2" ± .003	2297.7 ± .08
91" ± .003	2310.4 ± .08
91 1/2" ± .003	2323.1 ± .08
92" ± .003	2335.8 ± .08
92 1/2" ± .003	2348.5 ± .08
93" ± .003	2361.2 ± .08
93 1/2" ± .003	2373.9 ± .08
94" ± .003	2386.6 ± .08
94 1/2" ± .003	2399.3 ± .08
95" ± .003	2412.0 ± .08
95 1/2" ± .003	2424.7 ± .08
96" ± .003	2437.4 ± .08
96 1/2" ± .003	2450.1 ± .08
97" ± .003	2462.8 ± .08
97 1/2" ± .003	2475.5 ± .08
98" ± .003	2488.2 ± .08
98 1/2" ± .003	2500.9 ± .08
99" ± .003	2513.6 ± .08
99 1/2" ± .003	2526.3 ± .08
100" ± .003	2539.0 ± .08
100 1/2" ± .003	2551.7 ± .08
101" ± .003	2564.4 ± .08
101 1/2" ± .003	2577.1 ± .08
102" ± .003	2589.8 ± .08
102 1/2" ± .003	2602.5 ± .08
103" ± .003	2615.2 ± .08
103 1/2" ± .003	2627.9 ± .08
104" ± .003	2640.6 ± .08
104 1/2" ± .003	2653.3 ± .08
105" ± .003	2666.0 ± .08
105 1/2" ± .003	2678.7 ± .08
106" ± .003	2691.4 ± .08
106 1/2" ± .003	2704.1 ± .08
107" ± .003	2716.8 ± .08
107 1/2" ± .003	2729.5 ± .08
108" ± .003	2742.2 ± .08
108 1/2" ± .003	2754.9 ± .08
109" ± .003	2767.6 ± .08
109 1/2" ± .003	2780.3 ± .08
110" ± .003	2793.0 ± .08
110 1/2" ± .003	2805.7 ± .08
111" ± .003	2818.4 ± .08
111 1/2" ± .003	2831.1 ± .08
112" ± .003	2843.8 ± .08
112 1/2" ± .003	2856.5 ± .08
113" ± .003	2869.2 ± .08
113 1/2" ± .003	2881.9 ± .08
114" ± .003	2894.6 ± .08
114 1/2" ± .003	2907.3 ± .08
115" ± .003	2920.0 ± .08
115 1/2" ± .003	2932.7 ± .08
116" ± .003	2945.4 ± .08
116 1/2" ± .003	2958.1 ± .08
117" ± .003	2970.8 ± .08
117 1/2" ± .003	2983.5 ± .08
118" ± .003	2996.2 ± .08
118 1/2" ± .003	3008.9 ± .08
119" ± .003	3021.6 ± .08
119 1/2" ± .003	3034.3 ± .08
120" ± .003	3047.0 ± .08
120 1/2" ± .003	3059.7 ± .08
121" ± .003	3072.4 ± .08
121 1/2" ± .003	3085.1 ± .08
122" ± .003	3097.8 ± .08
122 1/2" ± .003	3109.5 ± .08
123" ± .003	3122.2 ± .08
123 1/2" ± .003	3134.9 ± .08
124" ± .003	3147.6 ± .08
124 1/2" ± .003	3160.3 ± .08
125" ± .003	3173.0 ± .08
125 1/2" ± .003	3185.7 ± .08
126" ± .003	3198.4 ± .08
126 1/2" ± .003	3211.1 ± .08
127" ± .003	3223.8 ± .08
127 1/2" ± .003	3236.5 ± .08
128" ± .003	3249.2 ± .08
128 1/2" ± .003	3261.9 ± .08
129" ± .003	3274.6 ± .08
129 1/2" ± .003	3287.3 ± .08
130" ± .003	3300.0 ± .08
130 1/2" ± .003	3312.7 ± .08
131" ± .003	3325.4 ± .08
131 1/2" ± .003	3338.1 ± .08
132" ± .003	3350.8 ± .08
132 1/2" ± .003	3363.5 ± .08
133" ± .003	3376.2 ± .08
133 1/2" ± .003	3388.9 ± .08
134" ± .003	3401.6 ± .08
134 1/2" ± .003	3414.3 ± .08
135" ± .003	3427.0 ± .08
135 1/2" ± .003	3439.7 ± .08
136" ± .003	3452.4 ± .08
136 1/2" ± .003	3465.1 ± .08
137" ± .003	3477.8 ± .08
137 1/2" ± .003	3490.5 ± .08
138" ± .003	3503.2 ± .08
138 1/2" ± .003	3515.9 ± .08
139" ± .003	3528.6 ± .08
139 1/2" ± .003	3541.3 ± .08
140" ± .003	3554.0 ± .08
140 1/2" ± .003	3566.7 ± .08
141" ± .003	3579.4 ± .08
141 1/2" ± .003	3592.1 ± .08
142" ± .003	3604.8 ± .08
142 1/2" ± .003	3617.5 ± .08
143" ± .003	3630.2 ± .08
143 1/2" ± .003	3642.9 ± .08
144" ± .003	3655.6 ± .08
144 1/2" ± .003	3668.3 ± .08
145" ± .003	3681.0 ± .08
145 1/2" ± .003	3693.7 ± .08
146" ± .003	3706.4 ± .08
146 1/2" ± .003	3719.1 ± .08
147" ± .003	3731.8 ± .08
147 1/2" ± .003	3744.5 ± .08
148" ± .003	3757.2 ± .08
148 1/2" ± .003	3769.9 ± .08
149" ± .003	3782.6 ± .08
149 1/2" ± .003	3795.3 ± .08
150" ± .003	3808.0 ± .08
150 1/2" ± .003	3820.7 ± .08
151" ± .003	3833.4 ± .08
151 1/2" ± .003	3846.1 ± .08
152" ± .003	3858.8 ± .08
152 1/2" ± .003	3871.5 ± .08
153" ± .003	3884.2 ± .08



INSTALLATION INSTRUCTIONS & SITE REQUIREMENTS

1. EXCAVATE AS PER ABOVE
2. FOR BEST RESULTS, BACKFILL WITH CLEAN PEA GRAVEL (OR EQUIVALENT FREE FLOWING MATERIAL) EVENLY AROUND THE STRUCTURE, TAKING CARE NOT TO FILL IN ANY ONE AREA VERY HIGH RELATIVE TO OTHER AREAS, SO AS TO MAINTAIN THE STRUCTURE AS ROUND. WORKING AROUND THE STRUCTURE IN APPROXIMATELY 6" LIFTS IS RECOMMENDED. (NOTE: ALTERNATIVE MATERIALS CAN BE USED BUT CARE MUST BE TAKEN TO INSURE THAT THE EXTERNAL PRESSURES ACTING ON THE STRUCTURE REMAIN UNIFORM. IF NATIVE SOIL IS USED AS A BACKFILL MATERIAL, IT SHOULD BE UNIFORM IN CONSISTENCY, AND BE FREE OF LARGE ROCKS OR UNBROKEN CLUMPS, WHICH COULD RESULT IN UNEVEN LOADING).
3. THE COMPLETED STRUCTURE SHOULD EXTEND APPROXIMATELY 8" ABOVE GRADE
4. TO INSURE STRUCTURAL INTEGRITY, UNEVEN EXTERNAL WALL PRESSURE IS TO BE AVOIDED. NO VEHICLES OR OTHER SOURCES OF POINT LOADING SHOULD BE PERMITTED WITHIN THE EFFECTIVE ZONE (AS ILLUSTRATED).
5. WESTEEL IS NOT LIABLE FOR ANY DAMAGES OR INJURIES RESULTING FROM ANY FAILURE DUE TO IMPROPER INSTALLATION, IMPROPER SITE CONDITIONS, OR INADEQUATE MAINTENANCE OF THE SITE.

NOTE: THIS SYSTEM IS NOT DESIGNED FOR THE SECONDARY CONTAINMENT OF LIQUIDS, RATHER, TO ALLOW FOR INSPECTION OF THE TANK.

PRODUCT DESCRIPTION

DURA-SKRIM J30, J36 and J45 are Linear Low Density Polyethylene geomembranes reinforced with a heavy encapsulated 1300 Denier polyester reinforcement. In addition to excellent dimensional stability the tri-directional reinforcement provides exceptional tear and tensile strength.

DURA-SKRIM J-Series membranes are formulated with thermal and UV stabilizers to assure a long service life. Custom colors are available based on minimum volume requirements.

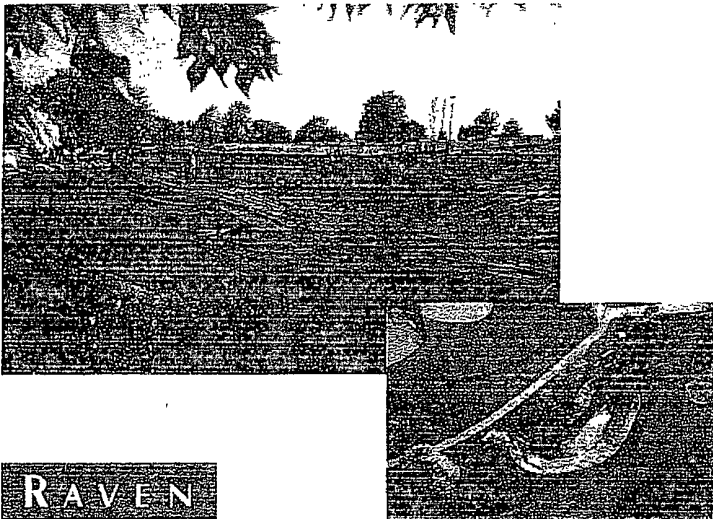
PRODUCT USE

DURA-SKRIM J30, J36 and J45 are used in applications that require exceptional outdoor life and demand high tear strength and resistance to thermal expansion.

DURA-SKRIM J30, J36 and J45 are manufactured from a very chemical-resistant, Linear Low Density Polyethylene with excellent cold crack performance.

SIZE & PACKAGING

DURA-SKRIM J30, J36 and J45 are available in a variety of widths and lengths to meet the project requirements. Large diameter mill rolls are available to assure an efficient seaming process. Factory welded panels are accordion folded and tightly rolled on a heavy-duty core for ease of handling and time saving installation.



RAVEN
INDUSTRIES
Engineered Films Division

PRODUCT	PART NUMBER
DURA-SKRIM J30	J30BB
DURA-SKRIM J36	J36BB
DURA-SKRIM J45	J45BB

COMMON APPLICATIONS

- Waste Lagoon Liners
- Floating Covers
- Daily Landfill Covers
- Modular Tank Liners
- Tunnel Liners
- Remediation Liners
- Earthen Liners
- Interim Landfill Covers
- Remediation Covers
- Landfill Caps
- Erosion Control Covers
- Radon Retarder
- Canal Liners
- Disposal Pit Liner
- Water Containment Ponds
- Heap Leach Liner



DURA-SKRIM®

J30, J36 & J45 BB



PROPERTIES	TEST METHOD	DURA-SKRIM J30BB		DURA-SKRIM J36BB		DURA-SKRIM J45BB	
		Min. Roll Averages	Typical Roll Averages	Min. Roll Averages	Typical Roll Averages	Min. Roll Averages	Typical Roll Averages
APPEARANCE		Black/Black		Black/Black		Black/Black	
THICKNESS, NOMINAL	ASTM D5199	27 mil	30 mil	32 mil	36 mil	40 mil	45 mil
WEIGHT <small>lbs/MSF (oz/yd²)</small>	ASTM D5261	126 lbs (18.14)	140 lbs (20.16)	151 lbs (21.74)	168 lbs (24.19)	189 lbs (27.21)	210 lbs (30.24)
CONSTRUCTION		**Extrusion laminated with encapsulated tri-directional scrim reinforcement					
PLY ADHESION	ASTM D413	16 lbs	20 lbs	19 lbs	27 lbs	25 lbs	33 lbs
1" TENSILE STRENGTH	ASTM D7003	88 lbf MD 63 lbf DD	110 lbf MD 79 lbf DD	90 lbf MD 70 lbf DD	113 lbf MD 87 lbf DD	110 lbf MD 84 lbf DD	138 lbf MD 105 lbf DD
1" TENSILE ELONGATION @ BREAK % (FILM BREAK)	ASTM D7003	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD	550 MD 550 DD	750 MD 750 DD
1" TENSILE ELONGATION @ PEAK % (SCRIM BREAK)	ASTM D7003	20 MD 20 DD	33 MD 33 DD	20 MD 20 DD	30 MD 31 DD	20 MD 20 DD	36 MD 36 DD
TONGUE TEAR STRENGTH	ASTM D5884	75 lbf MD 75 lbf DD	97 lbf MD 90 lbf DD	75 lbf MD 75 lbf DD	114 lbf MD 107 lbf DD	100 lbf MD 100 lbf DD	125 lbf MD 127 lbf DD
GRAB TENSILE	ASTM D7004	180 lbf MD 180 lbf DD	218 lbf MD 210 lbf DD	180 lbf MD 180 lbf DD	295 lbf MD 294 lbf DD	220 lbf MD 220 lbf DD	341 lbf MD 337 lbf DD
TRAPEZOID TEAR	ASTM D4633	120 lbf MD 120 lbf DD	146 lbf MD 141 lbf DD	130 lbf MD 130 lbf DD	189 lbf MD 172 lbf DD	160 lbf MD 160 lbf DD	193 lbf MD 191 lbf DD
*DIMENSIONAL STABILITY	ASTM D1204	<1	<0.5	<1	<0.5	<1	<0.5
PUNCTURE RESISTANCE	ASTM D4833	50 lbf	64 lbf	65 lbf	83 lbf	80 lbf	99 lbf
MAXIMUM USE TEMPERATURE		180°F	180°F	180°F	180°F	180°F	180°F
MINIMUM USE TEMPERATURE		-70°F	-70°F	-70°F	-70°F	-70°F	-70°F

MD = Machine Direction
DD = Diagonal Directions



Note: Minimum Roll Averages are set to take into account product variability in addition to testing variability between laboratories.

*Dimensional Stability Maximum Value

**DURA-SKRIM J30BB, J36BB and J45BB are a four layer reinforced laminate. The outer layers consist of a high strength polyethylene film manufactured using virgin grade resins and stabilizers for UV resistance in exposed applications.

DURA-SKRIM J30BB, J36BB and J45BB are reinforced with a 1300 denier tri-directional scrim reinforcement.

Note: To the best of our knowledge, unless otherwise stated, these are typical property values and are intended as guides only, not as specification limits. NO WARRANTIES ARE MADE AS TO THE FITNESS FOR A SPECIFIC USE OR MERCHANTABILITY OF PRODUCTS REFERRED TO, no guarantee of satisfactory results from reliance upon contained information or recommendations and disclaims all liability for resulting loss or damage.



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Ph: (605) 335-0174 • Fx: (605) 331-0333
Toll Free: 800-635-3456



ISO 9001:2000
CERTIFIED MANAGEMENT SYSTEM

www.ravengeo.com

6/09 EFD 1126

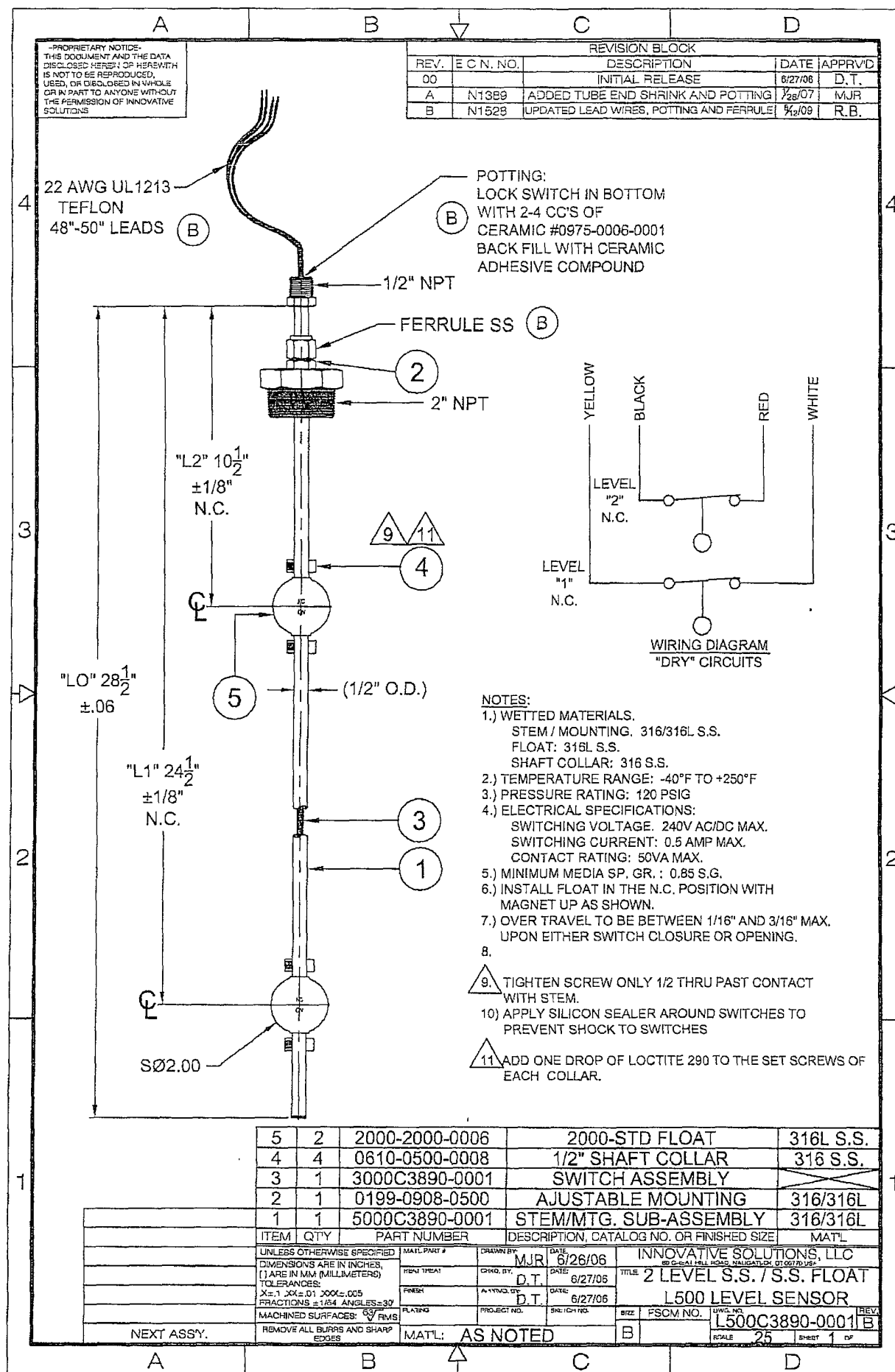


Exhibit 2.4

Section III

Operation & Maintenance Plan

EnerVest Operating, LLC (EV)

**BELOW-GRADE TANK
OPERATIONAL REQUIREMENTS**

Rule 19.15.17.12

- A. EV will operate and maintain Below-Grade Tanks to insure the integrity of the below-grade tank, liner, liner system or berms to prevent contamination of fresh water and protect public health and the environment.

EV will not discharge or store any hazardous waste material of any kind in any Below-Grade Tank.

Any penetration of the below-grade below the liquid's surface that may occur, EV shall remove all liquid above the damage or leak line within 48 hours of the discovery. EV shall notify the appropriate district office within 48 hours of the discovery and repair the damage or replace the liner or below-grade tank.

EV will insure the metal retaining walls of the below-grade system around each tank will extend at least 6" above ground level or be equipped with a 6" earthen berm in an effort to divert run-on water around the below-grade system.

- D. EV will insure that a below-grade tank constructed and installed prior to June 16, 2008 that does not meet the requirements of 19.15.17.11 NMAC and does not demonstrate integrity or that the below-grade tank develops any conditions as identified in 19.15.17.12 NMAC shall close the existing below-grade tank pursuant to the closure requirements of 19.15.17.13 NMAC and install a below-grade tank that is in full compliance with our approved design. Please see below-grade system diagram in Appendix 8 for details.

EV will insure all Below-grade tanks will be equipped with automatic high-level alarm which sounds at 24" and than shut off devise to insure that flow will shut off at the freeboard height of 10 1/2 inches.

The majority of our below-grade tanks are within the berm around our tank battery and as so are protected from run-on water. Those outside this berm will be protected with an earthen berm which will extend at least 6" above surface ground level to divert run-on around the tank.

EV will remove any visible or measurable layer of oil from the fluid surface of a below-grade tank.

With any below-grade tank, installed before June 16, 2008, that is retrofitted or replaced with another tank, EV will insure that the soil beneath the removed soil is inspected for wet, discolored, or any other evidence of release, with photographic evidence. EV will report the results of all testing to the division on form C-141 and demonstrate to the division whether the evidence of contamination indicates at an imminent threat to fresh water, public health, safety of the environment exists. If the division determines that the contamination does not pose an imminent threat to fresh water, public health, safety or the environment, EV shall complete the retrofit or the replacement of the below-grade tank as per our approved design program as indicated in Appendix 8. If EV or the division determines that the contamination poses an imminent threat to fresh water, public health, safety or the environment, then EV shall close the existing below-grade tank pursuant to the closure requirements of 19.17.15.13 NMAC prior to initiating the retrofit or replacement.

Table 1.1 GSE HD Smooth Geomembrane

TESTED PROPERTY	TEST METHOD	FREQUENCY	MINIMUM AVERAGE VALUE				
			30 mil	40 mil	60 mil	80 mil	100 mil
Thickness, (minimum average) mil (mm)	ASTM D 5199	every roll	30 (0.75)	40 (1.00)	60 (1.50)	80 (2.00)	100 (2.50)
Lowest individual reading (~10%)			27 (0.69)	36 (0.91)	54 (1.40)	72 (1.80)	90 (2.30)
Density, g/cm ³	ASTM D 1505	200,000 lb	0.94	0.94	0.94	0.94	0.94
Tensile Properties (each direction)	ASTM D 6693, Type IV Dumbell, 2 ipm	20,000 lb					
Strength at Break, lb/in-width (N/mm)			120 (21)	152 (26)	243 (42)	327 (57)	410 (71)
Strength at Yield, lb/in-width (N/mm)			66 (11)	84 (14)	132 (23)	177 (30)	212 (37)
Elongation at Break, %			700	700	700	700	700
Elongation at Yield, %			13	13	13	13	13
	G.L. 2.0 in (51 mm)						
	G.L. 1.3 in (33 mm)						
Tear Resistance, lb (N)	ASTM D 1004	45,000 lb	21 (93)	28 (124)	42 (186)	58 (257)	73 (324)
Puncture Resistance, lb (N)	ASTM D 4833	45,000 lb	65 (289)	85 (378)	125 (556)	160 (711)	195 (867)
Carbon Black Content, % (Range)	ASTM D 1 603*/421 8	20,000 lb	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0	2.0 - 3.0
Carbon Black Dispersion	ASTM D 5596	45,000 lb	Note ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾	Note ⁽¹⁾
Notched Constant Tensile Load, hr	ASTM D 5397, Appendix	200,000 lb	1000	1000	1000	1000	1000
Oxidative Induction Time, min	ASTM D 3895, 200°C; O ₂ , 1 atm	200,000 lb	>140	>140	>140	>140	>140
TYPICAL ROLL DIMENSIONS							
Roll Length ⁽²⁾ , ft (m)			1,120 (341)	870 (265)	560 (171)	430 (131)	340 (104)
Roll Width ⁽²⁾ , ft (m)			22.5 (6.9)	22.5 (6.9)	22.5 (6.9)	22.5 (6.9)	22.5 (6.9)
Roll Area, ft ² (m ²)			25,200 (2,341)	19,575 (1,819)	12,600 (1,171)	9,675 (899)	7,650 (711)

NOTES:

- * ⁽¹⁾Dispersion only applies to near spherical agglomerates. 9 of 10 views shall be Category 1 or 2. No more than 1 view from Category 3.
- * ⁽²⁾Roll lengths and widths have a tolerance of ± 1%.
- GSE HD is available in rolls weighing approximately 3,900 lb (1,769 kg).
- All GSE geomembranes have dimensional stability of ±2% when tested according to ASTM D 1204 and LTB of <-77° C when tested according to ASTM D 746
- *Modified.

O.R.E. SYSTEMS
P.O. Box 3677
Farmington, NM 87499
(505) 327-2161

Section IV

Closure Plan

EnerVest Operating, LLC (EV)

**BELOW-GRADE TANK
CLOSURE REQUIREMENTS**

Rule 19.15.17.13

Before June 15, 2013, EV shall close, retrofit, or replace an existing below-grade tank that has not demonstrated integrity.

EV shall close a below-grade tank within the time periods provided in 19.15.17.13 NMAC, or by an earlier date that the division requires because of imminent danger to fresh water, public health or the environment.

- A. EV shall close an existing below-grade tank that does not meet the requirements of Subsection I, paragraphs (1) through (4), of 19.15.17.11 NMAC if not retrofitted to comply with said requirements prior to any sale or change of operator to 19.15.9.9 NMAC.

Any below-grade tank installed prior to June 16, 2008 that is single walled and where any portion of the tank sidewall is below the ground surface and not visible shall equip or retrofit the below-grade tank to comply with paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC, or close it, within 5 years after June 16, 2008.

Within 60 days of cessation of the permitted below-grade tanks operation or as required by Subsection B of 19.15.17.17 NMAC, EV shall close the below-grade tank in accordance with a closure plan that the appropriate division district office approves.

- J. Prior to implementing any closure operations EV shall research county tax records to determine the name and address of the surface owner of the properties involved. EV shall notify this surface owner via Certified U.S. Mail, return receipt requested, of their intent to close said below-grade tank.

Upon determination, EV will notify the appropriate district office prior to any closure operations beginning. Such notification shall be at least 72 hours, via U.S. Mail, prior to beginning work but not more than one week prior to beginning work. Such notice shall contain at a minimum the following:

Operators Name
Unit letter, Section, Township, & Range of well
Well name and well number
API Number of well

- E. .All free standing liquids and sludge will be removed at the start of the below-grade tank closure process from the below-grade tank and disposed of in one of the below division-approved facility as indicated below:

TNT Land Farm	Permit # NM-01-0008	Liquids & Sludge
Environtech Land Farm	Permit # NM-01-0011	Solids
AguaMoss	Permit # 247130	Liquids

EV will obtain prior approval from the division to dispose, recycle, reuse, or reclaim the below-grade tanks and provide documentation of the final disposition of the below-grade tank in the closure report.

Existing liners that are removed as a result of closure will be wiped cleaned and disposed of at a solid waste facility listed below in compliance with Subparagraph (M) of Paragraph (I) of Subsection C 19.15.35.8 NMAC..

San Juan Regional Landfill	Permit # SWM 052426 or
“	Special Waster Permit # SWM052433 “sp”

If there is any on-site equipment associated with a below0grade tank, EV shall remove the equipment, unless the equipment is required for some other purpose .

Upon removal of the below-grade tank, EV will take, at a minimum, a five point composite sample from where the tank was sitting. EV shall collect individual grab samples will be taken from any area that is wet, discolored or showing other evidence of a release. All samples will be analyzed for the following:

Components	Test Method	Limits (mg/Kg)
Benzene	EPA SW-846 8021B or 8260B	0.2
BTEX	EPA SW-846 8021B or 8260B	50
TPH	EPA SW-846 418.1	100
Chlorides	EPA 300.1	250 or background, whichever is greater

EV will insure that the results of all sampling shall be reported to the division on approved form C-141. EV understands that the division may require additional delineation upon review of the results.

If sampling demonstrates that concentrations specified above have NOT been exceeded, or that a release has NOT occurred, EV will backfill the excavation with compacted, non-waste containing, earthen material, construct a division prescribed soil cover, and recontour and re-vegetate the site. The division prescribed soil cover, recontouring, and re-vegetation shall comply with 19.15.17.13.

If EV or the division determines that a release has occurred, EV shall fully comply with 19.15.29 NMAC and 19.15.30 NMAC as appropriate.

- G. Once EV has closed a below-grade tank, we shall reclaim the site to a safe and stable condition that blends with the surrounding undisturbed area. When possible, EV will restore the impacted surface area to the condition that existed prior to oil and gas operations by the placement of soil cover.

If the closed area is within the confines of the pad location EV will blend the site to match the pad location as much as possible. Such activities shall prevent erosion, protect fresh water, human health and the environment. EV will obtain written agreement from the surface owner for any alternate re-vegetation proposals and submit to the division for final approval.

- H. The soil cover design will be consistent with the requirements of 19.15.17.13(H)(1) and (3). The soil cover will consist of the background thickness of topsoil or one foot of suitable material to establish vegetation at the site, whichever is greater. The soil cover will be constructed to the site's existing grade and prevent ponding of water and erosion of the cover material.

- I. EV will seed the disturbed areas the first growing season after closing the below grade tank. Seeding will be accomplished via drilling on the contour whenever practical or by other division-approved methods. BLM or Forest Service stipulated seed mixes will be used on federal lands. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintain that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs. During the two growing seasons that prove viability, there shall be no artificial irrigation of the vegetation.

EV shall notify the division when it has seeded or planted and when it successfully achieves re-vegetation by U.S. Mail.

- K. Within 60 days of completion of closure operations, EV will file Form C-144, with attachments, outlining the detailed operations of the closing operations. Such attachments shall include, but not limited to, proof of surface owner and division notifications, confirmation of sampling analysis, disposal facility names and permit numbers, soil backfilling and cover installation, re-vegetation application rates and seeding techniques, and photo documentations.

Section V

Hydrogeology Report

Regional Hydrogeology Report

The San Jose Formation of Eocene age occurs in New Mexico and Colorado, and its outcrop forms the land surface over much of the eastern half of the central San Juan Basin. It overlies the Nacimiento Formation in the area generally south of the Colorado-New Mexico state line and overlies the Animas Formation in the area generally north of the State line.

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

Ground water is associated with alluvial and fluvial sandstone aquifers. Therefore the occurrence of ground water is mainly controlled by the distribution of sandstone in the formation. The distribution of such sandstone is the results of original depositional extend plus any post-depositional modifications, namely erosion and structural deformation.

Transmissivity data for the San Jose Formation are minimal. Values of 40 and 120 feet squared per day were determined from two aquifer tests (Stone et al, 1983. table 5). The reported or measured discharge from 46 water wells completed in San Jose Formation ranges from 0.15 to 61 gallons per minute and the median is 5 gallons per minute. Most of the wells provide water for livestock and domestic use.

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

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

Site Specific Hydro Geologic Analysis

Jicarilla B #3M API 30-039-29638

The above referenced well is located at UL J, Sec 15, 26N, 05W at an elevation of 6,611. Surface casing was set to a depth of 316' or at a depth of 6,295'.

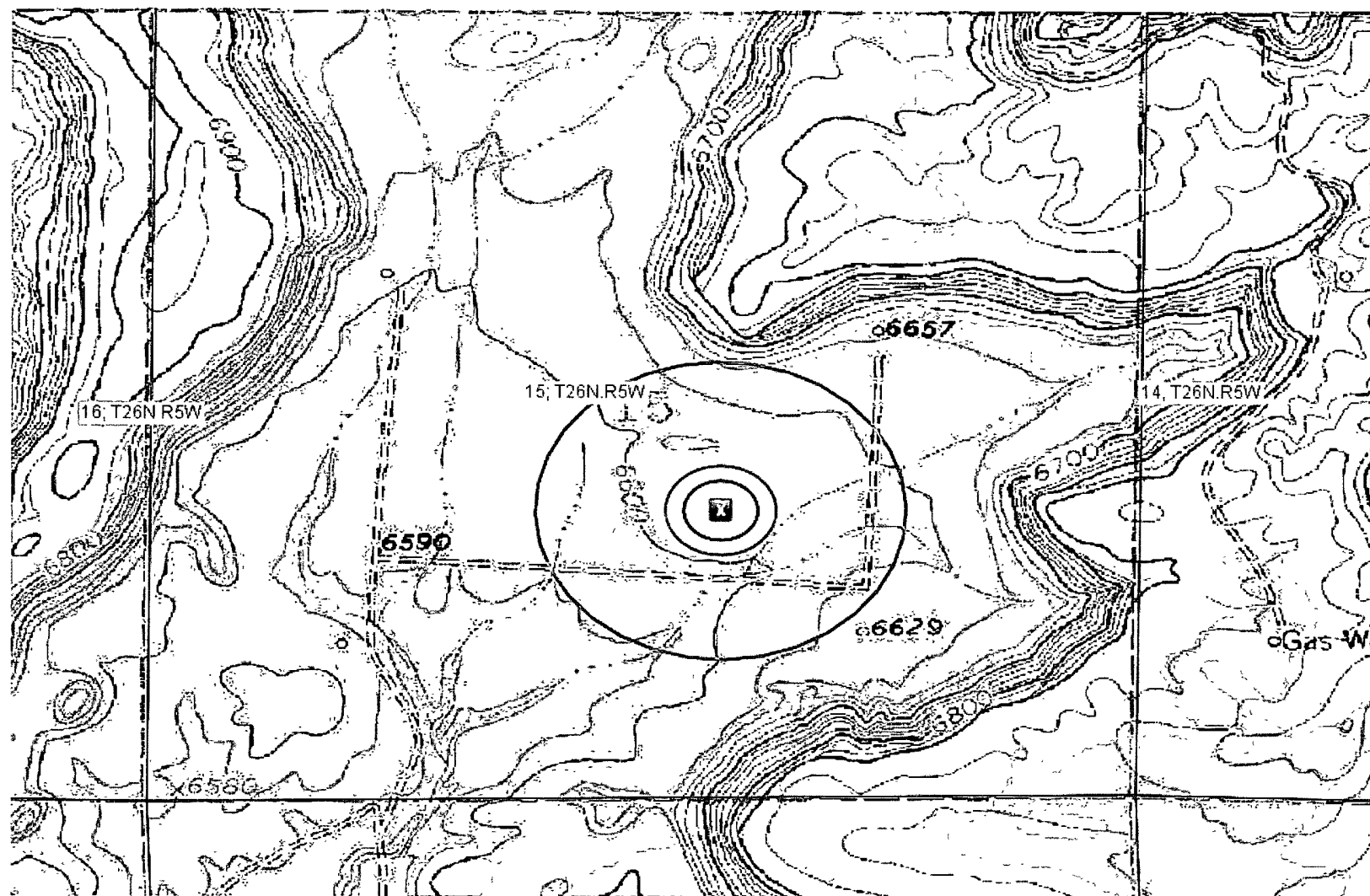
According to the Office of State Engineer, the closest water well drilled was RG 81026 about 3.5 miles North of our location. Drilled to 468 feet at an unknown elevation, it shows water encountered at 186 feet.

In 1980, the Jicarilla B #3E (30-039-06459) was drilled about 1,200 feet SE of our location. It was at an elevation of 6,637 with no indication of water being encountered. Surface casing was set at 284 feet which would be at 6,353. This would be 53 feet above than our well. We believe that the sand and limestone will prevent any migration of fluids.

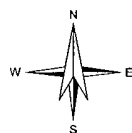
The groundwater at our well site would be greater than 100 feet at a minimum. This should allow ample protection for any groundwater in the area.

Appendix 01

U.S. 7.5 Minute TOPO Map



0 500 1000ft



Petroleum Recovery
Research Center

TOPO - Jicarilla B #3M

Figure: 01

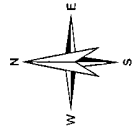
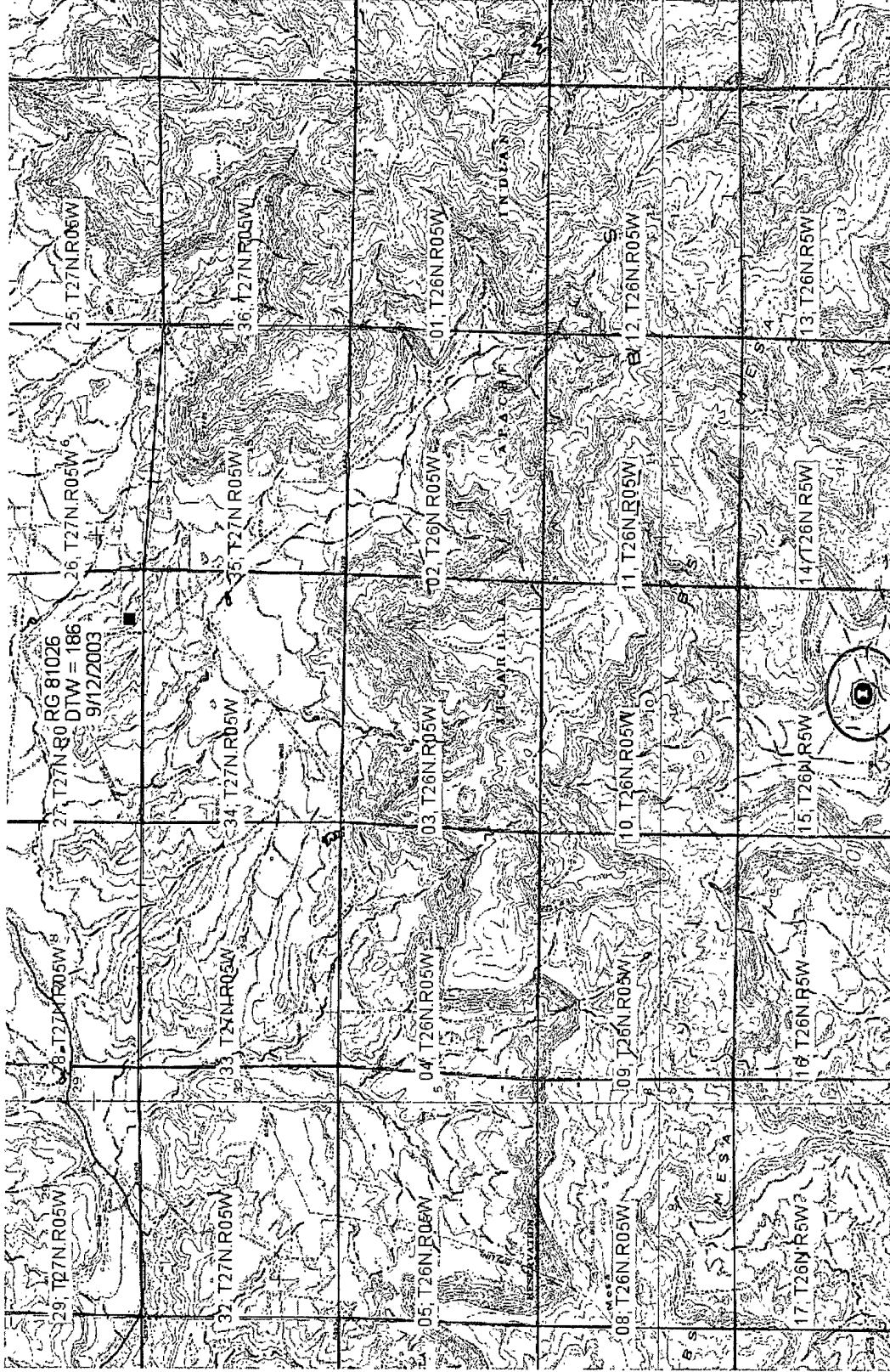
J - Sec 15, 26N, 05W

May 03, 2010

API 30-039-29638

Appendix 02

Ground Water Depth



0 2000 4000ft

Petroleum Recovery
Research Center

OSE Surface Water- Jicarilla B #3M

Figure: 02

J - Sec 15, 26N, 05W

May 03, 2010

API 30-039-29638



New Mexico Office of the State Engineer

Water Right Summary



WR File Number: RG 81026

Primary Purpose: STK 72-12-1 LIVESTOCK WATERING

Primary Status: PMT PERMIT

Total Acres:

Total Diversion: 3

Owner: BUREAU OF LAND MANAGEMENT

Contact: DALE WIRTH

Documents on File

Doc	File/Act	Status			Transaction Desc.	From/To	Acres	Diversion	Consumptive
		1	2	3					
72121	2003-09-02	PMT	LOG	PRC	RG 81026	T		3	

Point of Diversion

(NAD83 UTM in meters)

Pod Number	Source	Q	Q	Q	Sec	Tws	Rng	X	Y	Other Location Desc
RG 81026	Shallow	3	4	4	27	27N	05W	290530	4046294*	LIVESTOCK WELL

An () after northing value indicates UTM location was derived from PLSS - see Help



New Mexico Office of the State Engineer

Point of Diversion Summary

(quarters are 1=NW 2=NE 3=SW 4=SE)

(quarters are smallest to largest)

(NAD83 UTM in meters)

POD Number

Q64 Q16 Q4 Sec Tws Rng

X Y

RG 81026

3 4 4 27 27N 05W

290530 4046294*

Driller License: SUNBELT DRILLING, LLC

Driller Name:

Source: Shallow

Drill Start Date: 09/12/2003

Drill Finish Date: 09/16/2003

Log File Date: 10/01/2003

PCW Received Date:

Pump Type:

Pipe Discharge Size:

Casing Size: 5.00

Estimated Yield: 3

Depth Well: 460 feet

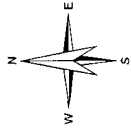
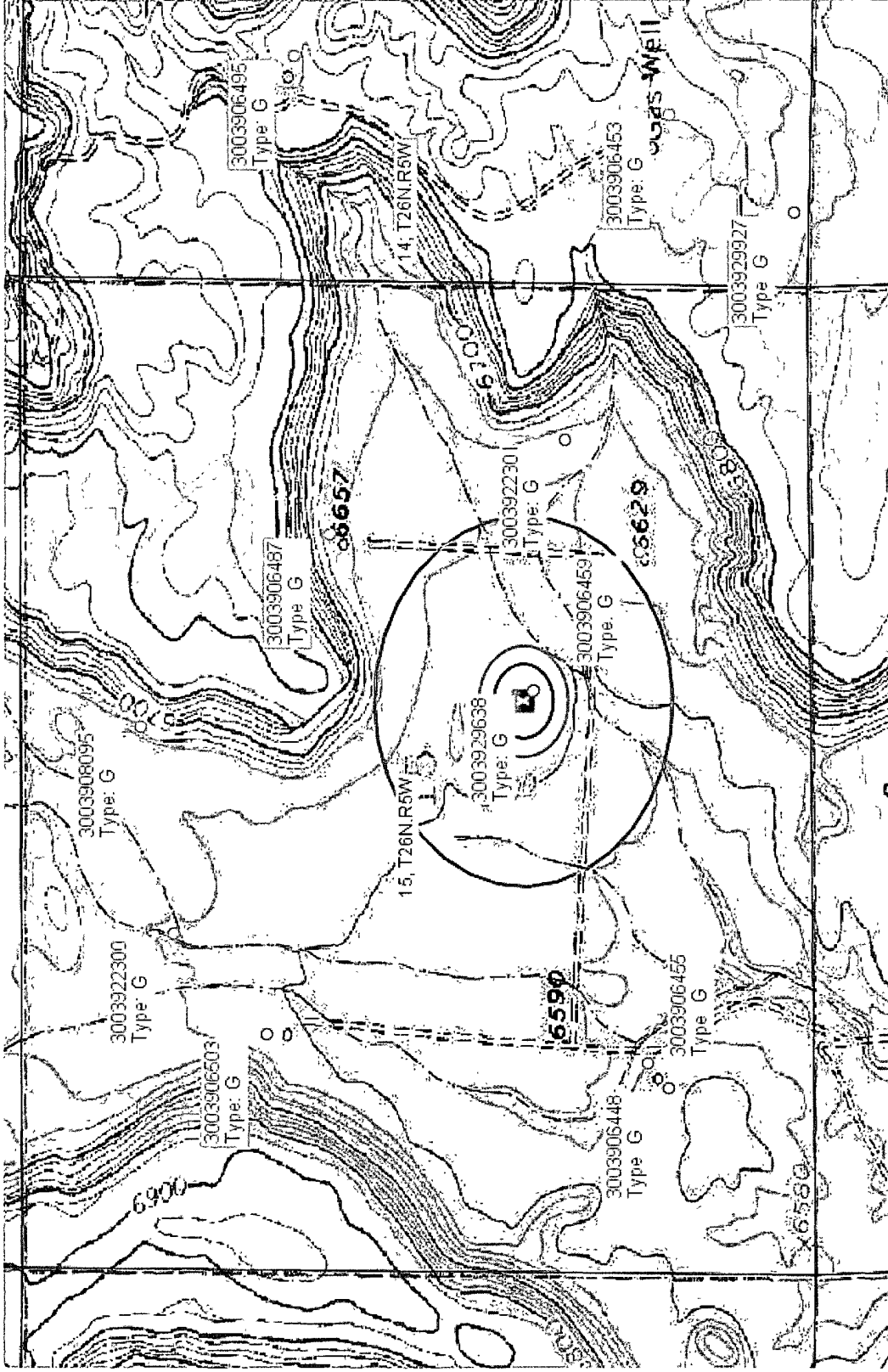
Depth Water: 186 feet

Water Bearing Stratifications:	Top	Bottom	Description
	180	195	Sandstone/Gravel/Conglomerate
	430	460	Sandstone/Gravel/Conglomerate

Casing Perforations:	Top	Bottom
	412	452

*UTM location was derived from PLSS - see Help

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



0 500 1000ft

Petroleum Recovery
Research Center

Offset Wells - Jicarilla B #3M

Figure: 02a

J - Sec 15, 26N, 05W

May 03, 2010

API 30-039-29638

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

22301

Form Approved.
Budget Bureau No. 42-R1424

DEC 9 1980

SUNDRY NOTICES AND REPORTS ON WELLS

(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir. Use Form 9-331-C for such proposals.)

1. oil ☐ gas ☒ other ☐
2. NAME OF OPERATOR
Tenneco Oil Company
3. ADDRESS OF OPERATOR
P.O. Box 3249, Englewood, CO 80155
4. LOCATION OF WELL (REPORT LOCATION CLEARLY. See space 17 below.)
AT SURFACE: 1685' FSL, 955' FEL "I"
AT TOP PROD. INTERVAL:
AT TOTAL DEPTH:

16. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

REQUEST FOR APPROVAL TO:

TEST WATER SHUT-OFF ☐
FRACTURE TREAT ☐
SHOOT OR ACIDIZE ☐
REPAIR WELL ☐
PULL OR ALTER CASING ☐
MULTIPLE COMPLETE ☐
CHANGE ZONES ☐
ABANDON* ☐

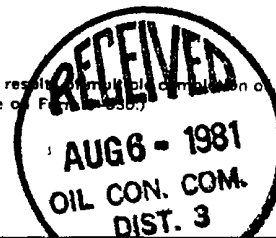
SUBSEQUENT REPORT OF:

☒
☐
☐
☐
☐
☐
☐
☐

(other) Spudding/commence drlg. ops.

5. LEASE
Contract #109
6. IF INDIAN, ALLOTTEE OR TRIBE NAME
7. UNIT AGREEMENT NAME
8. FARM OR LEASE NAME
Jicarilla "B"
9. WELL NO.
3E
10. FIELD OR WILDCAT NAME
Basin Dakota
11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Section 15, T26N, R5W
12. COUNTY OR PARISH
Rio Arriba
13. STATE
New Mexico
14. API NO.
15. ELEVATIONS (SHOW DF, KDB, AND WD)
6637' GR

(NOTE: Report results of multiple completion or zone change on Form 9-331-C)



17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

11/5/80

Spud 12-1/4" hole 11/4/80. Drill to 285'. TOH. Run 7 jts. (272') of 9-5/8" 36# csg. Set @ 284'. Cmt. w/225 sxs CL-B w/2% CACL₂. Good returns thruout. Circ. cmt. to surface. WOC. Reduce hole to 8-3/4" continue drilling. NUBOP. Test to 1000 PSI. OK. Drill ahead.

Subsurface Safety Valve: Manu. and Type _____ Set @ _____ Ft.

18. I hereby certify that the foregoing is true and correct

SIGNED William A. Hughes TITLE Sr. Prod. Analyst DATE 12/5/80

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

NMOCC

*See Instructions on Reverse Side

BY _____

submitted in lieu of Form 3160-5

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Sundry Notices and Reports on Wells 2006 APR 27 AM 6 55

1. Type of Well
GAS

RECEIVED
070 FARMINGTON NM

2. Name of Operator
CDX RIO, LLC

3. Address & Phone No. of Operator

2010 Afton Place, Farmington, New Mexico 87401 (505) 326-3003

4. Location of Well, Footage, Sec., T, R, M
1900'FSL, 2300'FEL, Sec.15, T-26-N, R-5-W, NMPM

DHC-2151az

5. Lease Number
Jicarilla Contract 109
6. If Indian, All. or
Tribe Name
Jicarilla Apache
7. Unit Agreement Name

8. Well Name & Number

Jicarilla B #3M
9. API Well No.

30-039-29638
10. Field and Pool

Blanco MV/Basin DK
11. County and State

Rio Arriba Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission	Type of Action
<input type="checkbox"/> Notice of Intent	<input type="checkbox"/> Abandonment <input type="checkbox"/> Change of Plans
<input checked="" type="checkbox"/> Subsequent Report	<input type="checkbox"/> Recompletion <input type="checkbox"/> New Construction
<input type="checkbox"/> Final Abandonment	<input type="checkbox"/> Plugging <input type="checkbox"/> Non-Routine Fracturing
	<input type="checkbox"/> Casing Repair <input type="checkbox"/> Water Shut off
	<input type="checkbox"/> Altering Casing <input type="checkbox"/> Conversion to Injection
	<input checked="" type="checkbox"/> Other Spud



13. Describe Proposed or Completed Operations

4-20-06 MIRU.

4-21-06 Spud well @ 2:00 a.m. 4-21-06. Drill to 320'. Circ hole clean. TOO. TIH w/7 jts 9 5/8" 36# K-55 csg, set @ 316'. Cmted w/180 sx STD cmt w/2% calcium chloride, 0.25 pps Flocele (212 cu.ft.). Displace w/wtr. Circ 10 bbl cmt to surface. WOC.

4-22-06 NU BOP. PT blind rams; outside valves, inside valves, csg to 250 psi low, 1500 psi high, OK. PT pipe rams, floor valve, kelly valve, kill line valve to 250 psi low, 1500 psi high, OK. (PT's witnessed by BLM). TIH w/bit. Drilling ahead.

APD ROW related

14. I hereby certify that the foregoing is true and correct.

Signed Nancy Oltmanns Title Agent

Date 4-24-06

ACCEPTED FOR RECORD

(This space for Federal or State Office use)

APPROVED BY _____ Title _____

Date APR 28 2006

CONDITION OF APPROVAL, if any:

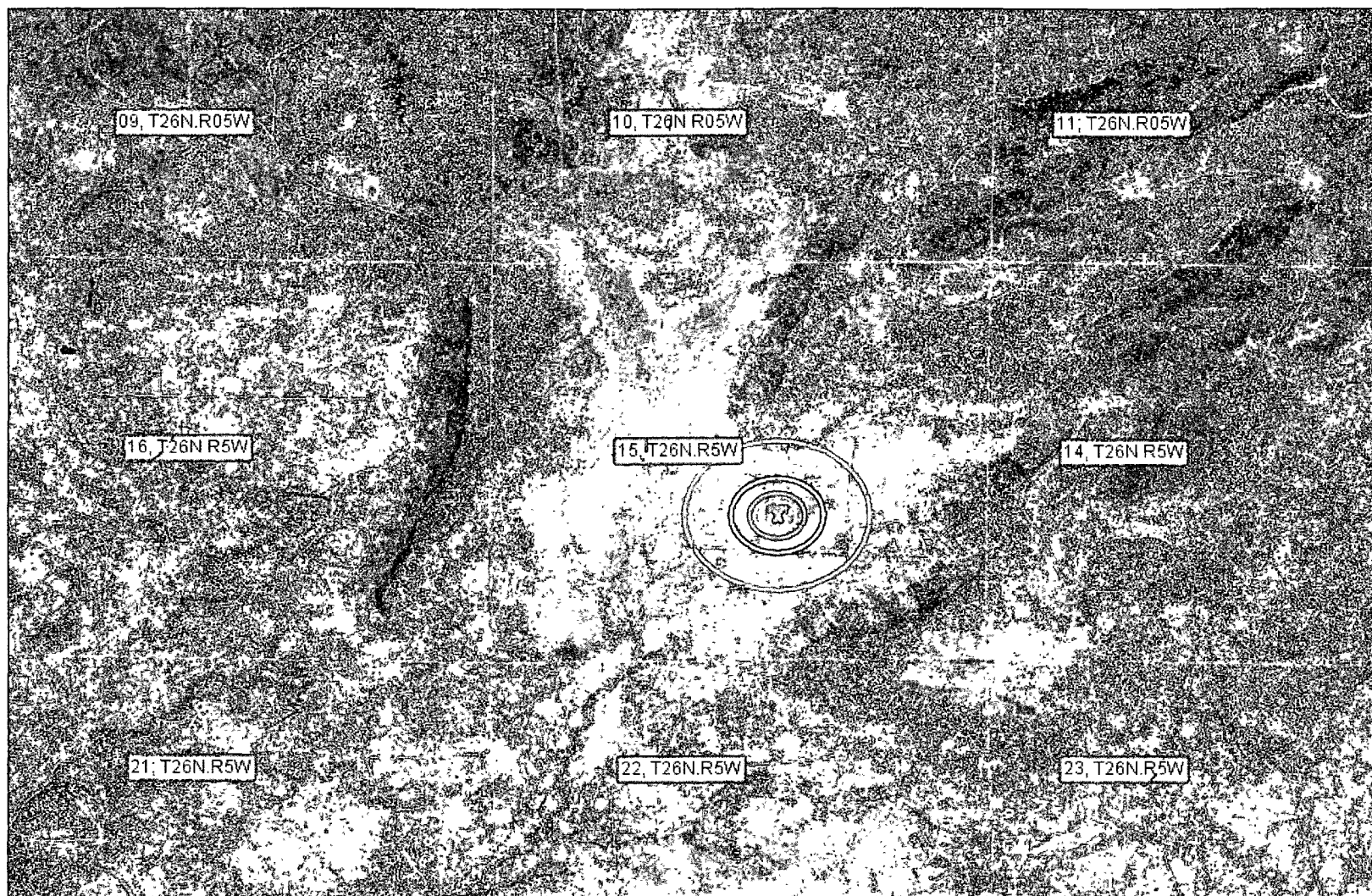
FARMINGTON FIELD OFFICE

NMOCDBY [Signature]

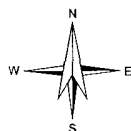
Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction

Appendix 03

Aerial Photo



0 1000 2000ft



Petroleum Recovery
Research Center

Aerial View - Jicarilla B #3M

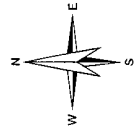
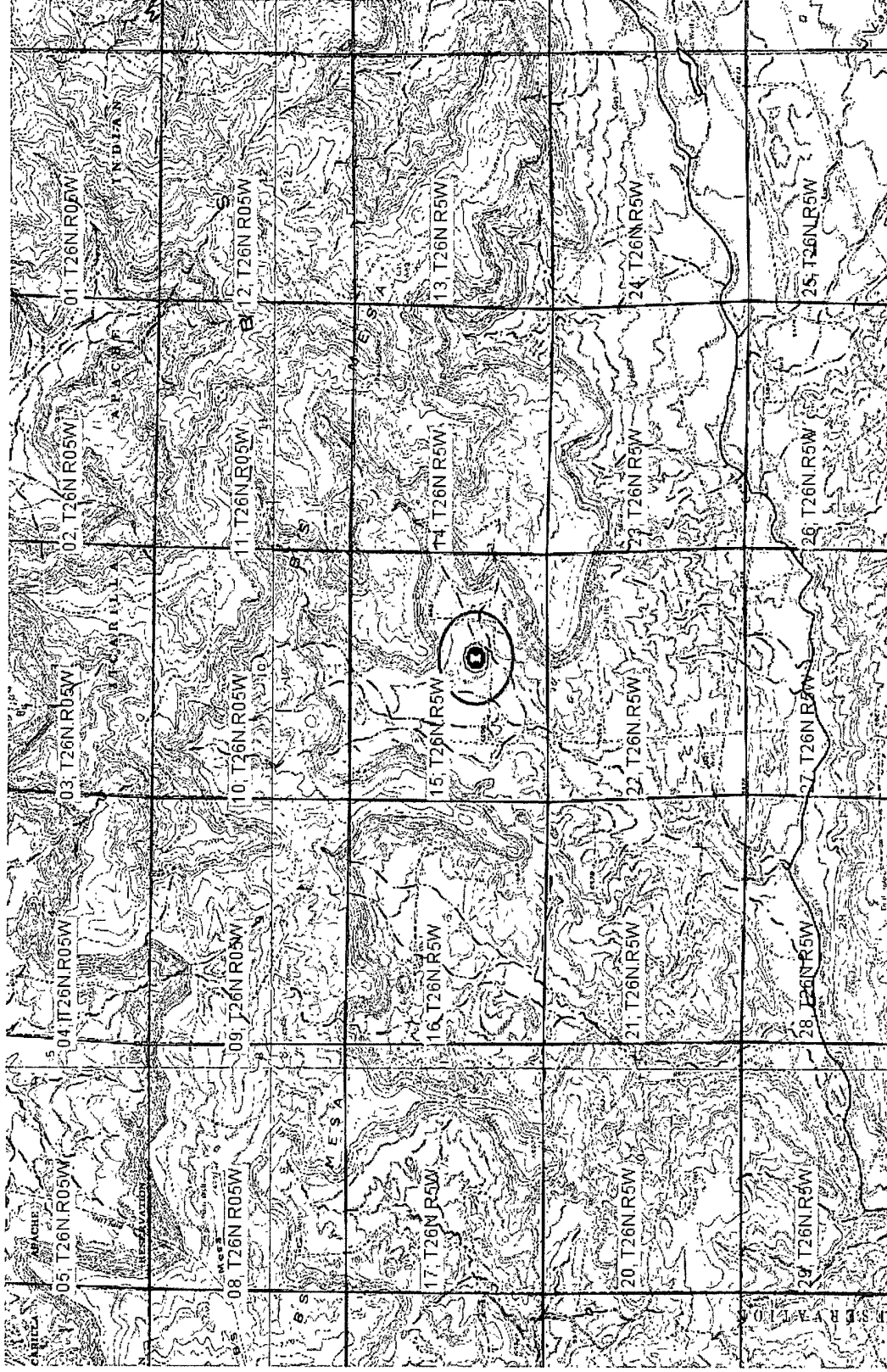
Figure: 03

J - Sec 15, 26N, 05W

May 03, 2010

API 30-039-29638

Appendix 04
Municipality Boundary Map



0 2000 4000ft

Petroleum Recovery
Research Center

Municipalities - Jicarilla B #3M

Figure: 04

J - Sec 15, 26N, 05W

May 03, 2010

API 30-039-29638

Appendix 05

U.S. Fish & Wildlife Wetland Identification Map

U. S. Fish & Wildlife Wetland Map



Legend

Ohio_wet_scan

- 0
- 1
- Out of range

Interstate
Major Roads

- Other Road
- Interstate
- State highway
- US highway

Roads

Cities

USGS Quad Index 24K

Lower 48 Wetland Polygons

- Estuarine and Marine Deepwater
- Estuarine and Marine Wetland
- Freshwater Emergent Wetland
- Freshwater Forested/Shrub Wetland
- Freshwater Pond
- Lake
- Other
- Riverine

Lower 48 Available Wetland Data

Non-Digital

Digital

No Data

Scan

NHD Streams

Counties 100K

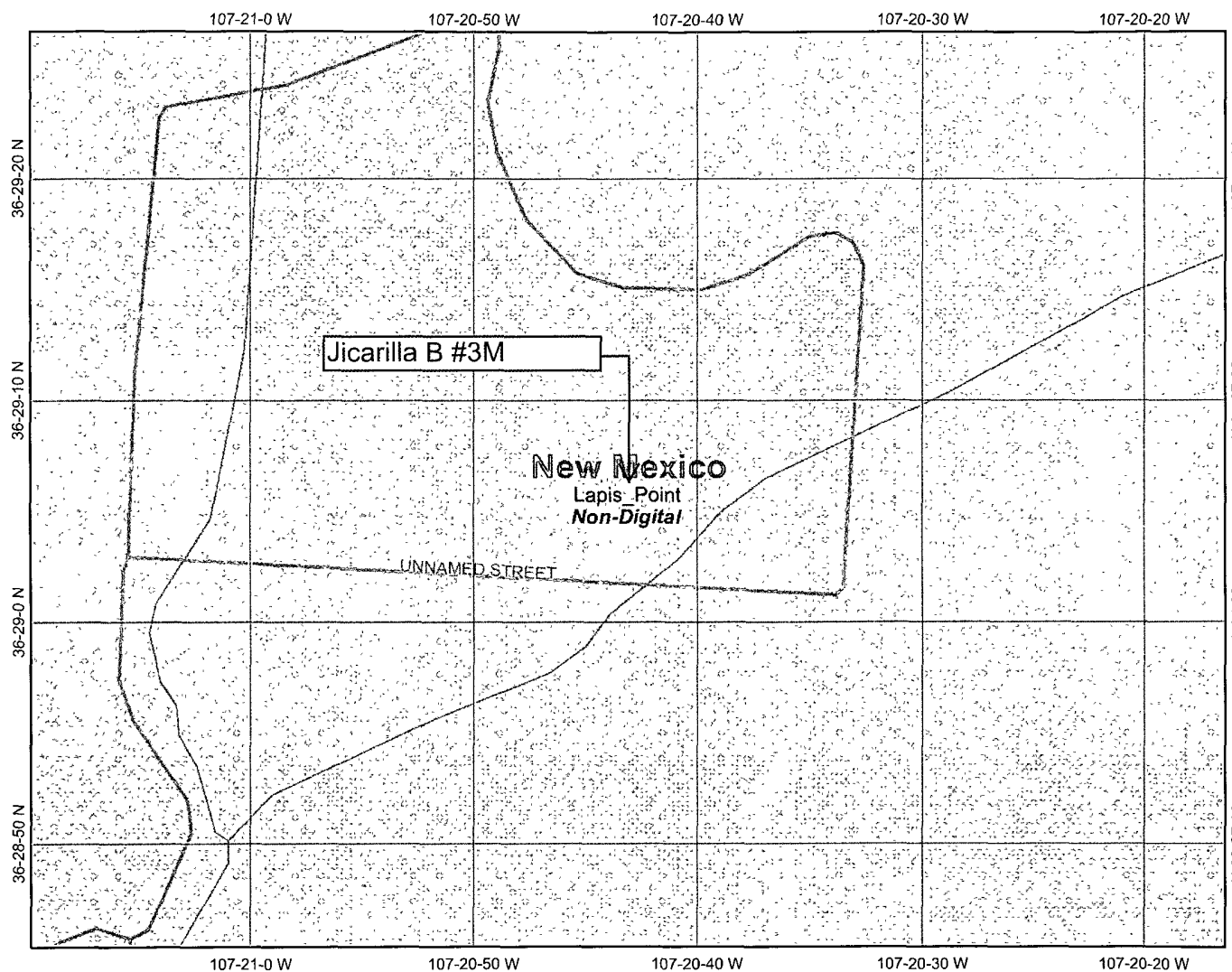
States 100K

South America

North America



Scale: 1:8,925

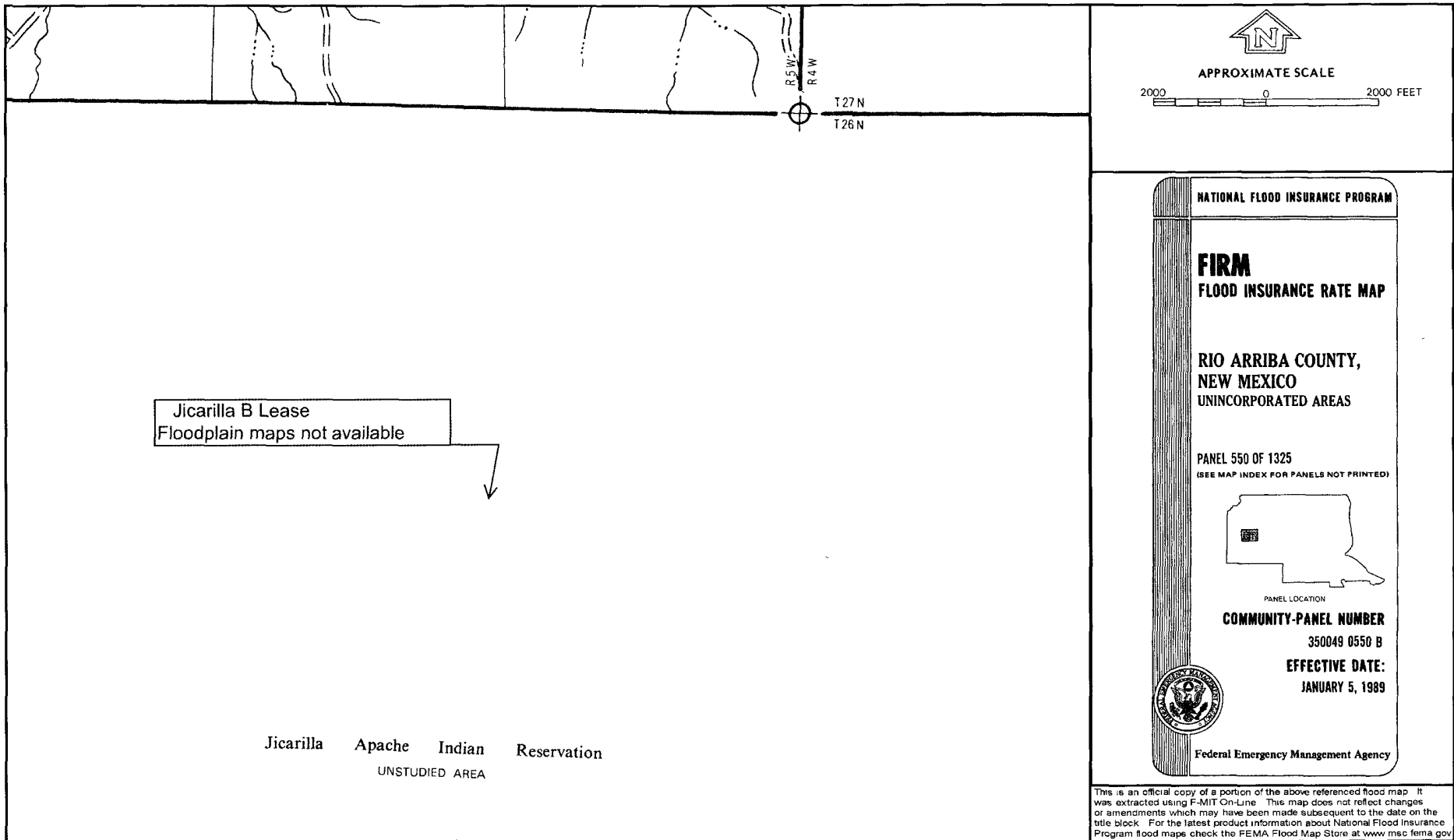


Map center: 36° 29' 6" N, 107° 20' 43" W

This map is a user generated static output from an Internet mapping site and is for general reference only. Data layers that appear on this map may or may not be accurate, current, or otherwise reliable. THIS MAP IS NOT TO BE USED FOR NAVIGATION.

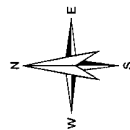
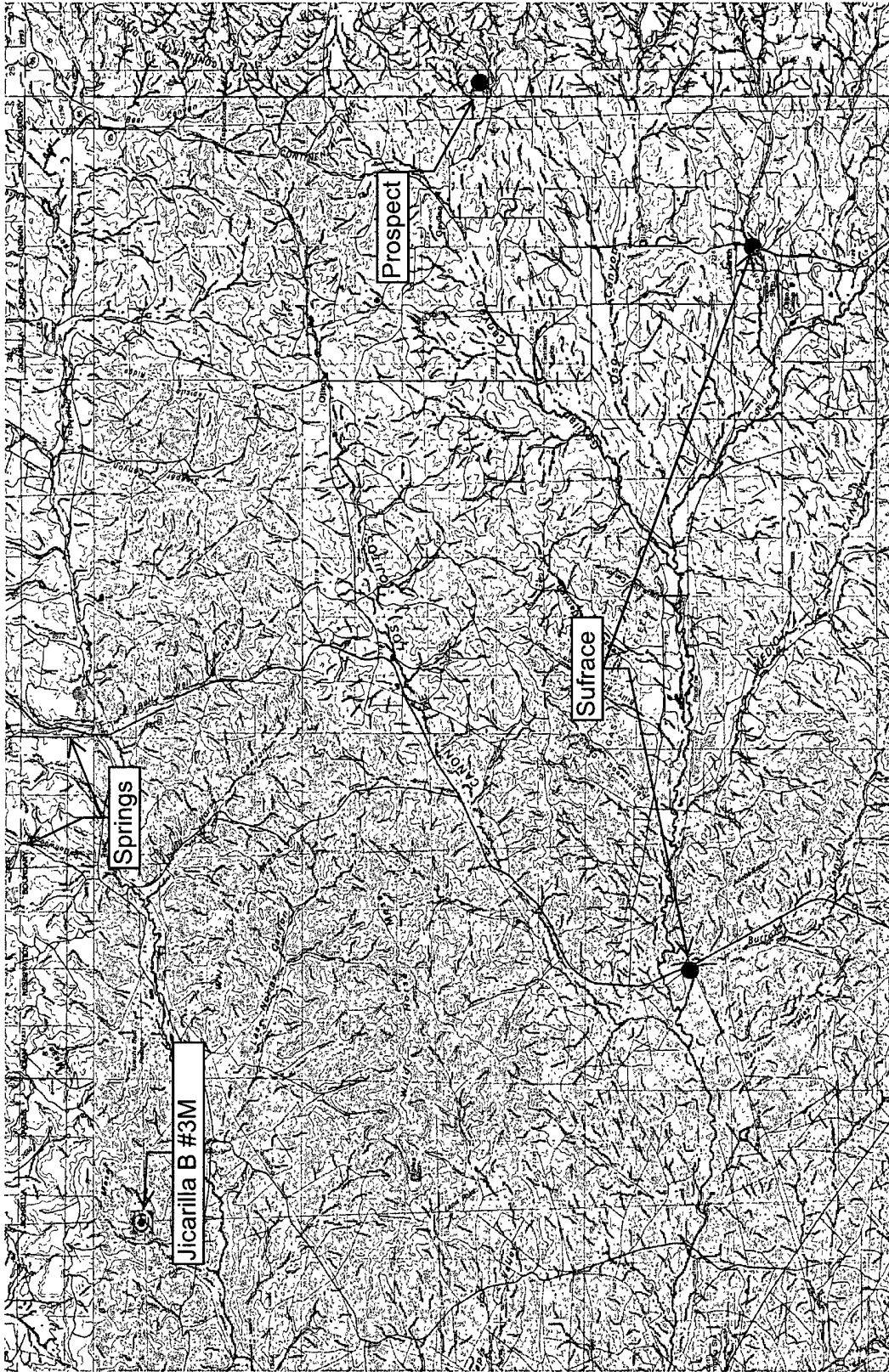
Appendix 06

FEMA 100-year Floodplain Map



Appendix 07

Mines, Mills, & Quarries Map



Petroleum Recovery
Research Center

Mines, Mills, Quarries - Jicarilla B #3M

Figure: 07

J - Sec 15, 26N, 05W

May 03, 2010

API 30-039-29638

Appendix 08

**C-203 Location Plat
Site Physical Inspection Sheet**

DISTRICT 1
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II
1301 W. Grand Ave., Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 South St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

Form C-102
Revised June 10, 2003

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

RECEIVED

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039- 29638		*Pool Code 72319/71599	*Pool Name Blanco Mesaverde/Basin Dakota
*Property Code 33460 ✓	*Property Name JICARILLA B ✓		*Well Number 3M ✓
*OGRID No. 222374 ✓	*Operator Name CDX GAS, LLC ✓ 210		*Elevation 6611' ✓


¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
J	15	26-N	5-W	.	1900	SOUTH	2300	EAST	RIO ARRIBA

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
²³ Dedicated Acres MV - S/320 DK - S/320			²² Joint or Infill		²⁴ Consolidation Code		²⁵ Order No.		

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED
OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16 	15 	17 CALC'D CORNER BY DBL. PROP. 	18 OPERATOR CERTIFICATION <i>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</i> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"> <i>Richard Corcoran</i> Signature </div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"> Richard Corcoran Printed Name </div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"> Land Manager Title </div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"> 5/10/05 Date </div>
CALC'D CORNER BY DBL. PROP. 	14 LAT. 36°29'06.0"N (NAD 83) LONG. 107°20'43.1" W (NAD 83) 2300' 1900' N 80°42'27" W 5346.08' (C)	19 CALC'D CORNER BY DBL. PROP. 	20 SURVEYOR CERTIFICATION <i>I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.</i> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"> Date of Survey </div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"> Signature and Title of Surveyor </div> <div style="text-align: center;">  </div> <div style="border-bottom: 1px solid black; margin-bottom: 5px;"> Certificate Number </div>

ENERVEST OPERATING LLC

Below Grade Tank

Observed Sitting Requirements

Lease Name & Well Number	Jicarilla B 3M
API No.	300392963 80 0
Observed by	ROY GREENE
Date Observed	September 1 2009
GPS	36, 48S 107.34S 306

MEASURED FROM THE BELOW-GRADE TANK:

Yes No If not within limits, explain:

Continuously flowing water course > 300ft.

X

Significant Watercourse, lakebed, sinkhole or
playa lake > 200 feet

X

Permanent Residence > 200 feet

X

School > 200 feet

X

Hospital > 200 feet

X

Institution or Church > 200'

X

Private, domestic fresh water well or
spring > 500 feet

X

Any other fresh water well or spring > 1000 feet

X

Within incorporated municipal boundary of
defined municipal fresh water field

X

Wetland area > 500 feet

X

Overlying a subsurface mine

X

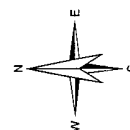
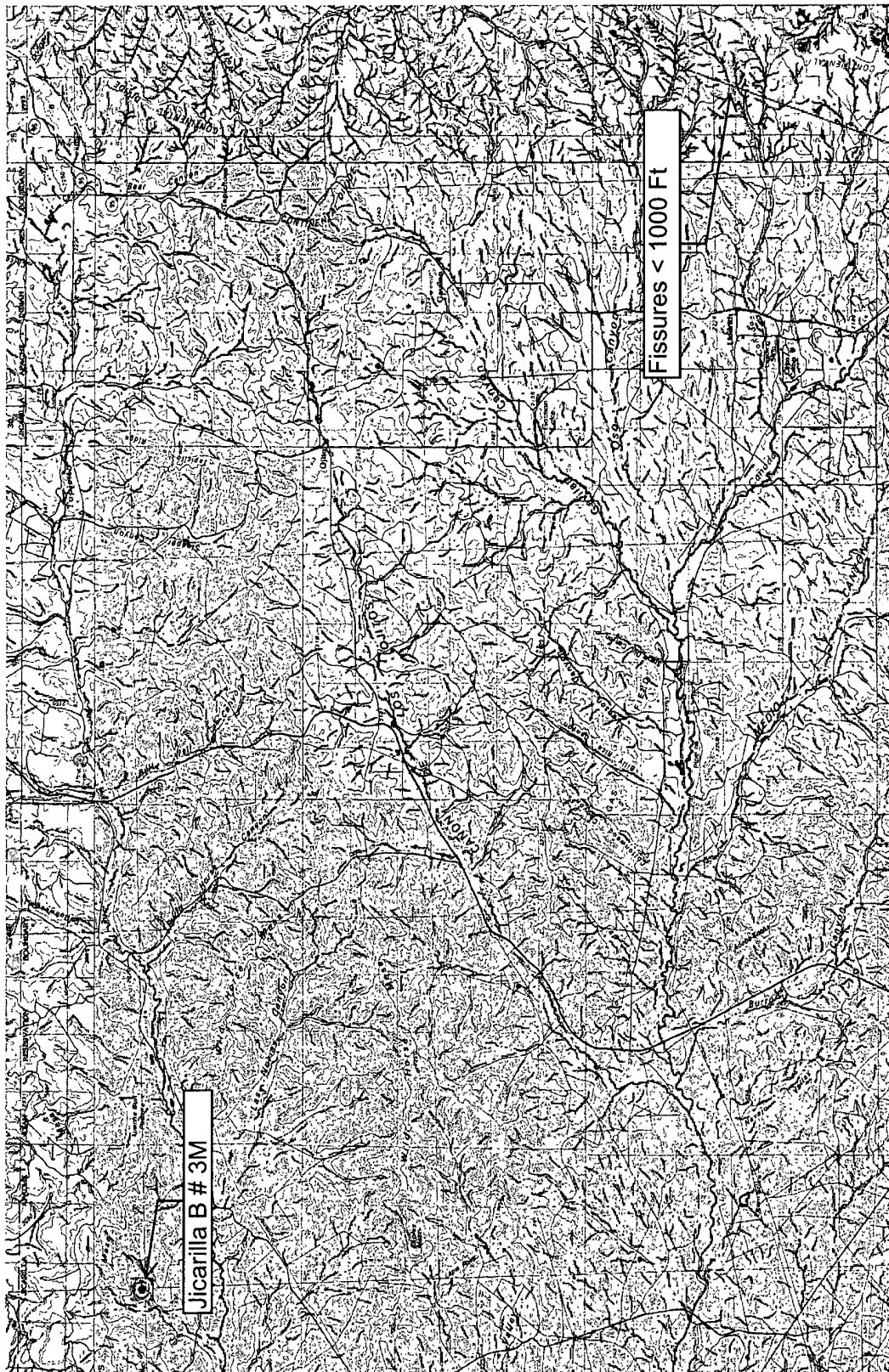
Distance to watercourse or dry wash should be to nearest edge

Please include distance & direction to all waterwells and/or wetland areas

Each Below-Grade Tank needing to be permitted, needs a visual inspection
of the above Criteria as per Rule 19.15.17.10

Appendix 09

Karst Map



Petroleum Recovery
Research Center

Karts Area - Jicarilla B #3M

Figure: 09

J - Sec 15, 26N, 05W

May 03, 2010

API 30-039-29638

REFERENCES

Wetland Map:

U. S. Fish and Wildlife Service
National Wetlands Inventory
Wetlands Mapper
www.fws.gov/wetlands/data/mapper

Floodplains map:

Federal Emergency Management Agency
National Flood Insurance Program
FIRM (Flood Insurance Rate Map)
Map Service Center
<http://msc.fema.gov/webapp/wcs/stores/servlet/FemaWelcomeView?storeId=10001&catalogId=10001&langId=-1>

Depth to Ground Water: Individual water well documentation.

State of New Mexico
Office of the State Engineer
New Mexico Water Rights Reporting System
http://www.ose.state.nm.us/waters_db_index.html

Subsurface Mines:

EMNRD
Mining & Minerals Division
Mines, Mills & Quarries Commodity Group
<http://www.emnrd.state.nm.us/MMD/index.htm>

Regional Hydrogeology:

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

Base Maps:

Petroleum Recovery Research Center
PRRC PitRule Web Mapping Portal
USGS Topo
TerraServer – US
www.pitrule.source3.com