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
June 16, 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.

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

Type of action: [X] 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

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

Operator: Dugan Production Corp. OGRID #: 006515 RCVD AUG 8 '08
Address. 709 East Murray Drive, Farmington, New Mexico 87401 OIL CONS. DIV.
Facility or well name: McKenzie #1E DIST. 3
API Number: 30-045-23609 OCD Permit Number:
U/L or Qtr/Qtr D Section 20 Township 30N Range 12W County. San Juan
Center of Proposed Design: Latitude 36.80373 North Longitude 108.12567 West NAD: [X] 1927 [ ] 1983
Surface Owner: [ ] Federal [ ] State [X] Private [ ] Tribal Trust or Indian Allotment

[ ] **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: [ ] Drilling [ ] Workover
[ ] Permanent [ ] Emergency [ ] Cavitation
[ ] Lined [ ] Unlined
Liner type: Thickness _____ mil [ ] LLDPE [ ] HDPE [ ] PVC
[ ] Other _____ [ ] String-Reinforced
Seams: [ ] Welded [ ] Factory [ ] Other _____
Volume. _____ bbl Dimensions: L_____ x W_____ x D_____

[ ] **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
[ ] Drying Pad [ ] Tanks [ ] Haul-off Bins [ ] Other _____
[ ] Lined [ ] Unlined
Liner type: Thickness _____ mil [ ] LLDPE [ ] HDPE [ ] PVC
[ ] Other _____
Seams: [ ] Welded [ ] Factory [ ] Other _____
Volume: _____ bbl _____ yd^3
Dimensions: Length_____ x Width_____

[X] **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: 55 bbl
Type of fluid: Produced H2O
Tank Construction material: Fiberglass
[ ] Secondary containment with leak detection
[ ] Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
[ ] Visible sidewalls and liner (See Closure Plan #2)
[ ] Visible sidewalls only
[X] Other No visible sidewalls, No leak detection
Liner type: Thickness _____ mil [ ] HDPE [ ] PVC
[ ] Other _____

Fencing: Subsection D of 19.15.17.11 NMAC
[X] Chain link, six feet in height, two strands of barbed wire at top
[ ] Four foot height, four strands of barbed wire evenly spaced between one and four feet Other Fencing _____
Netting: Subsection E of 19.15.17 11 NMAC
[ ] Screen [X] Netting [ ] Other _____
[X] Monthly inspections
Signs: Subsection C of 19.15.17.11 NMAC
[X] 12'x24', 2' lettering, providing Operator's name, site location, and emergency telephone numbers
[ ] Signed in compliance with 19.15.3.103 NMAC

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

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:
[X] 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.

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	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other watercourse, 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. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ 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	☐ Yes ☐ No ☒ 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	☐ 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

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 19.15.17.15 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.15 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 - 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: 30-045-_____ or Permit Number: _____

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 (required for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.15
- ☐ Siting Criteria Compliance Demonstrations (required 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 - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

NMAC

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

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 19.15.17.15 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 H_2S, 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

Proposed Closure: 19.15.17.13 NMAC

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

Proposed Closure Method: ☒ Waste Excavation and Removal
☐ 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)

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 watercourse, 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

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.***

- [X] Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- [X] Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- [X] Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- [X] Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- [X] Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15.17.13 NMAC
- [X] 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 Haul-off Bins Only: (19.15.17.13.D NMAC) ***Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings.***

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

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 and Design of Burial Trench (if applicable) 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

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): Kurt Fagrelius Title: Vice President, Exploration

Signature: Kurt Fagrelius Date: 8-5-2008

e-mail address: kfagrelius@duganproduction.com Telephone: 505-325-1821 (O), 505-320-8248 (C)

OCD Approval: [X] Permit Application (including closure plan) [ ] Closure Plan (only)

OCD Representative Signature: _____ **Approval Date:** 8-19-08

Title: Enviro Spec **OCD Permit Number:** _____

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

[ ] **Closure Completion Date:** _____

Closure Method:

[ ] Waste Excavation and Removal [ ] On-Site Closure Method [ ] Alternative Closure Method

[ ] If different from approved plan, please explain.

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
- [ ] Proof of Deed Notice (if applicable)
- [ ] Plot Plan
- [ ] Confirmation Sampling Analytical Results
- [ ] Waste Material Sampling Analytical Results
- [ ] 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

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): Kurt Fagrelius Title: Vice President, Exploration

Signature: _____ Date: _____

e-mail address: kfagrelius@duganproduction.com Telephone: 505-325-1821

McKenzie #1E Hydrogeologic Report

The McKenzie #1E is located on Private land inside the Farmington City Limits in San Juan County, New Mexico. The region is characterized by broad, north and west trending ridges covered by pinon and juniper trees. The region is well drained by south trending arroyos that empty into the Animas River Valley approximately 1-mile south of the proposed below grade tank.

A records search of the NM Office of the State Engineer –iWATERS database was conducted on a three square mile area centered on the McKenzie #1E location (Exhibit 2). Sixty two water wells were located in the search area. The results of the search are shown on Exhibit 1. Numerous water wells are located in the Animas River Valley, south of the proposed below grade tank (well depth 30-80 feet, depth to water 5-50 feet). There are a few water wells to the west and numerous to the northwest (well depth 250-500 feet, depth to water 200-400 feet). The closest water well is 2,200 feet to the northwest. Farmington Reservoir is located 1-mile to the east. The water wells are privately owned and provide water primarily for domestic and agricultural use. Farmington Reservoir is owned by the City of Farmington and is a source of public drinking water.

The source of groundwater in the region is encountered in valley-fill deposits of the Animas River Valley or existing arroyos at shallow depths of approximately 5 – 50 feet below the surface. The proposed Below Grade Tank is not located in the Animas River Valley or in an arroyo. There is one arroyo 900 feet west and a second 900 feet to the east, both breech the surface down to a depth of 50 feet.

The Nacimiento Formation extends from the surface down to a depth of approximately 400 feet. Thin (5-10 feet thick), silty sands inter-bedded with mudstone / shale are present in the top of the section. Thicker (30-40 feet thick), cleaner sands with less mudstone and silt are present in the lower part of the section. The water wells to the west and northwest of the proposed tank produce ground water from the sands in the lower part of the Nacimiento (100-feet above the top of the Ojo Alamo).

The underlying Ojo Alamo Sandstone ranges from approximately 400 feet down to a depth of 520 feet and is comprised of a coarse grained alluvial sandstone inter-bedded with lenses of mudstone and occasional conglomeratic sandstone. The Ojo Alamo may yield additional quantities of groundwater; however, the water quality is typically greater than 1,000 ppm total dissolved solids and high in sulfate.

Based on electric open hole logs, the iWATERS database, literature reviewed, field inspections, and existing water wells in the area, depth to water ranges from 5 – 20 feet below the surface in the Animas River Valley. Moving away from the river valley, ground water depth drops rapidly to greater than 200 feet below the surface. At the location of the proposed below grade tank, lesser amounts of poor quality ground water might be found at depths of approximately 300 feet in the lower Nacimiento (amount and quality increase with depth). A second source of ground water would be the Ojo Alamo Sandstone at 400-520 feet below the surface.

Stone, W.J., Lyford, F.P., Frenzel, P.F., Mizell, N.H., and Padgett, E.T., 1983, Hydrogeology and water resources of San Juan Basin, New Mexico: New Mexico Bureau of Mines and Mineral Resources Hydrologic Report 6, 70 p.

Brown, D.R., and Stone, W.J., 1979, Hydrogeology of Aztec quadrangle, San Juan County, New Mexico: New Mexico Bureau of Mines and Mineral Resources Hydrogeologic Sheet 1.

Levings, G.W., Craigg, S.D., Dam, W.L. Kernodle, J.M., and Thorn, C.R., 1990, Hydrogeology of the San Jose, Nacimiento, and Animas Formations in the San Juan Structural Basin, New Mexico, Colorado, Arizona and Utah: U.S. Geological Survey, Atlas HA-720-A, Sheet 1 and 2.

Thorn, C.R., Levings, G.W., Craigg, S.D., Dam, W.L., and Kernodle, J.M., 1990, Hydrogeology of the Ojo Alamo Sandstone in the San Juan Structural Basin, New Mexico, Colorado, Arizona and Utah: U.S. Geological Survey, Atlas HA-720-B, Sheet 1 and 2.

Siting Criteria for the McKenzie #1E

1. Ground water is not less than 50-feet below the bottom of the below grade tank. Ground water is greater than 100-feet below the bottom of the below grade tank.

2. The below grade tank is not within 300-feet of a continuously flowing water course, or 200 feet of any other watercourse, lakebed, sinkhole, or playa lake (measured from ordinary high water mark). See the attached Topographic map (Exhibit 2) and Visual Inspection Certification of the location and area around the subject below grade tank.

3. The below grade tank is not within 300-feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. See the attached Satellite Image (Exhibit 3) and Visual Inspection certification of the location and area around the subject below grade tank.

4. The below grade tank is not within 500-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. See the attached NM Office of the State Engineer iWATERS database search (Exhibit 4) and Visual Inspection certification of the location and area around the subject below grade tank.

5. The below grade tank is not located within the 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. See the attached Topographic map of the location and area around the subject below grade tank.

6. The below grade tank is not located within 500-feet of a wetland. See the attached Topographic map and Visual Inspection Certification of the location and area around the subject below grade tank.

7. The below grade tank is not located within the area overlying a subsurface mine. See the attached Mine, Mills and Quarry Map of New Mexico (New Mexico, EMND 2008) (Exhibit 5) showing the location and area around the subject pit.

8. The below grade tank is not located within an unstable area. See the attached Topographic map of the location and area around the subject below grade tank.

9. The below grade tank is not located within a 100-year floodplain area. See the attached FEMA map (Exhibit 6) of the 100 year floodplain showing the location and area around the subject pit.

McKenzie #1E Visual Inspection Certification

I, Kurt Fagrelius, Vice President of Exploration for Dugan Production Corp. 709 East Murray Drive, Farmington, New Mexico hereby certify that I or persons under my direct supervision, prepared the attached exhibits and conducted a Visual Inspection of the location and area around the McKenzie #1E below grade tank (Week of July 21, 2008). This application is in full compliance with all siting criteria and standards for below grade tanks established by the State of New Mexico, Energy Minerals and Natural Resources Department 19.15.17.10 NMAC.

Kurt Fagrelius — Kurt Fagrelius

8-5-08 — Date

EXHIBIT 1.

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 30N Range: 12W Sections: 16,17,18,19,20,21,28,29,30

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○Non-Domestic ○Domestic ◉All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

WATER COLUMN REPORT 08/01/2008

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

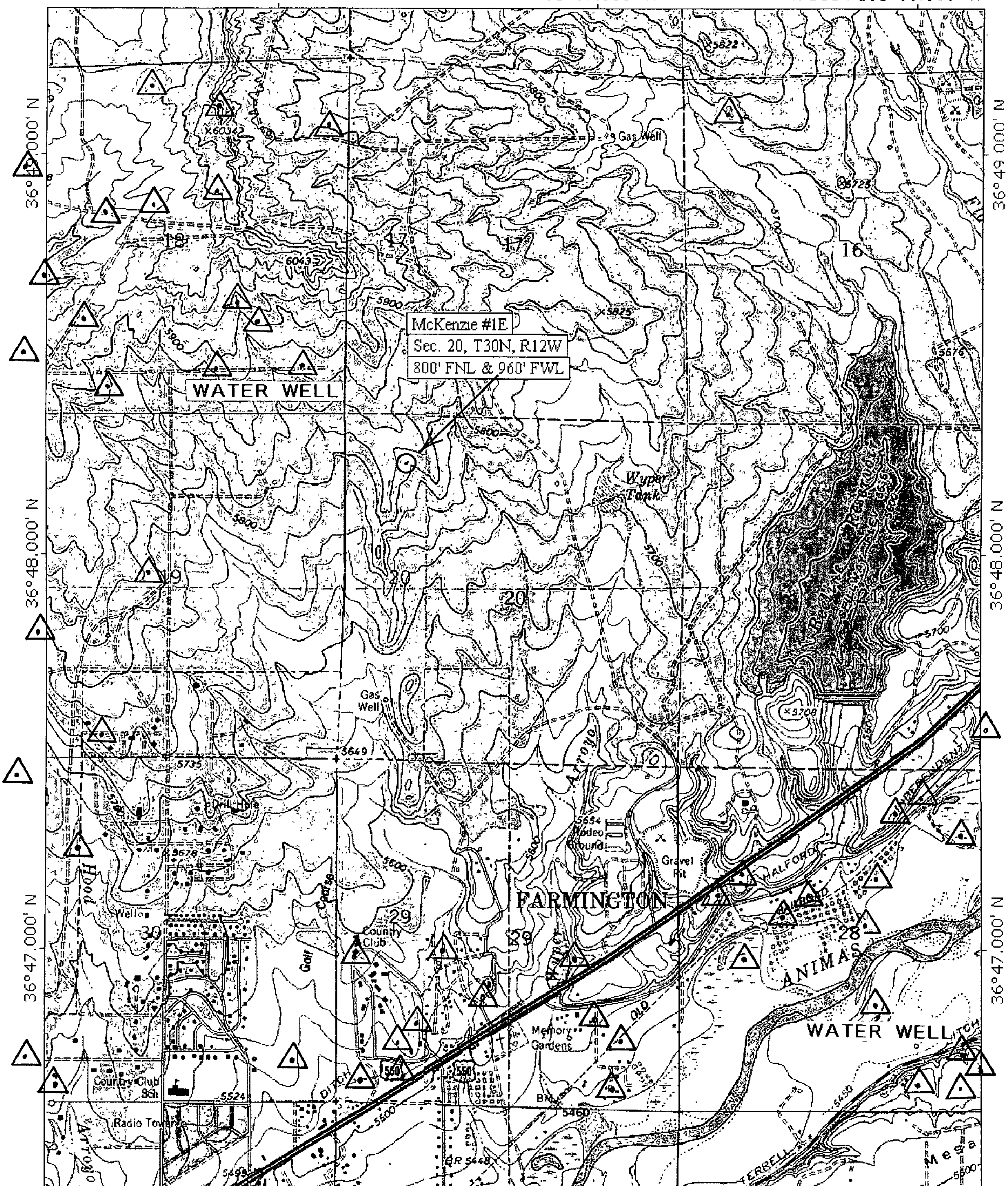
POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column (in feet)
SJ 01279	30N	12W	16	4	4					200	100	100
SJ 02627	30N	12W	18	1	2	2				354	250	104
SJ 03808 POD1	30N	12W	18	1	3	1		266399	2116162	42	9	33
SJ 02697	30N	12W	18	1	4	3				360	290	70
SJ 01892	30N	12W	18	1	4	4				465	420	45
SJ 01619	30N	12W	18	2	1					395	345	50
SJ 01619 X	30N	12W	18	2	1					380	350	30
SJ 02137	30N	12W	18	2	2	4				460	380	80
SJ 01737	30N	12W	18	2	3					540		
SJ 02080	30N	12W	18	2	3					370	340	30
SJ 01014	30N	12W	18	3						306	250	56
SJ 01013	30N	12W	18	3						310	250	60
SJ 01080	30N	12W	18	3	1					305	265	40
SJ 00575	30N	12W	18	3	3	1				420	390	30
SJ 01514	30N	12W	18	3	4	3				430	380	50
SJ 02035	30N	12W	18	4						500	190	310
SJ 01971	30N	12W	18	4						405	345	60
SJ 02040	30N	12W	18	4	1	4				460	400	60
SJ 02247	30N	12W	18	4	3					465	375	90
SJ 01283	30N	12W	18	4	3					425	380	45
SJ 01896	30N	12W	18	4	4					415	372	43
SJ 01809	30N	12W	18	4	4					371	317	54
SJ 00148	30N	12W	19							270	240	30
SJ 01831	30N	12W	19	3	1					244	195	49
SJ 03477	30N	12W	19	3	4	3						
SJ 00950	30N	12W	21	4	4					70	35	35
SJ 02163	30N	12W	21	4	4	4	W	424400	2174000	31	15	16
SJ 00282	30N	12W	28							84	52	32
SJ 01309	30N	12W	28	1	3					55	32	23
SJ 00122 CLW283728	30N	12W	28	1	3					126	61	65
SJ 00122	30N	12W	28	1	3	2				80	40	40
SJ 02142	30N	12W	28	1	4					55	35	20
SJ 01275	30N	12W	28	1	4	3				30	5	25
SJ 02016	30N	12W	28	2	1					120	56	64
SJ 01129	30N	12W	28	2	1	2				40	10	30
SJ 03702 POD1	30N	12W	28	2	2	3				30	5	25
SJ 03702	30N	12W	28	2	2	3				30	5	25
SJ 00346	30N	12W	28	2	3	1				41	15	26
SJ 03796 POD1	30N	12W	28	3	1	2		264258	2104657	22	5	17
SJ 02571	30N	12W	28	4	1	3				21	6	15
SJ 03096	30N	12W	28	4	3	4				125		
SJ 00669	30N	12W	28	4	4					70	30	40
SJ 02833	30N	12W	28	4	4	1				50		
SJ 03688	30N	12W	28	4	4	3				50	25	25

SJ 03688 POD1	30N	12W	28	4	4	3	50	25	25
SJ 03383	30N	12W	28	4	4	3	50	20	30
SJ 02022	30N	12W	29	3			297	100	197
SJ 03187	30N	12W	29	3	1	1	160	29	131
SJ 02476	30N	12W	29	3	2	1	225	185	40
SJ 03280	30N	12W	29	3	2	4	100		
SJ 03358	30N	12W	29	3	3	1	100	60	40
SJ 03278	30N	12W	29	3	3	3	120	40	80
SJ 03279	30N	12W	29	3	3	4	120	60	60
SJ 00536	30N	12W	29	4			50	28	22
SJ 02309	30N	12W	29	4	1	2	50	27	23
SJ 02306	30N	12W	29	4	4	1	44	25	19
SJ 01052	30N	12W	29	4	4	3	39	11	28
SJ 01006	30N	12W	30	1			38	16	22
SJ 01314	30N	12W	30	1	1	1	240	220	20
SJ 01637	30N	12W	30	3	3		127	52	75
SJ 01632	30N	12W	30	3	4	4	175	87	88
SJ 02219	30N	12W	30	4	4		240	80	160

Record Count: 62

TOPO! map printed on 08/01/08 from "New Mexico.tpo" and "Untitled.tpg"

EXHIBIT 2.



TN / MN 11°

0 .5 1 MILE
0 1000 FEET 0 500 1000 METERS

Printed from TOPO! ©2001 National Geographic Holdings (www topo com)

EXHIBIT 3.

36°48'13.34" N 108°07'32.44" W elev 5811 ft
Jul 2005
Eye alt 42604 ft
Google
Image © 2008 DigitalGlobe
Image NRCS
© 2008 Tele Atlas
2.02 mi
Flora Vista
McKenzie #1E
36°80'73" N 108°12'67" W

EXHIBIT 4.

New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 30N Range: 12W Sections: 17,18,19,20

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ○Non-Domestic ○Domestic ◉All

POD / Surface Data Report | Avg Depth to Water Report | Water Column Report

Clear Form | iWATERS Menu | Help

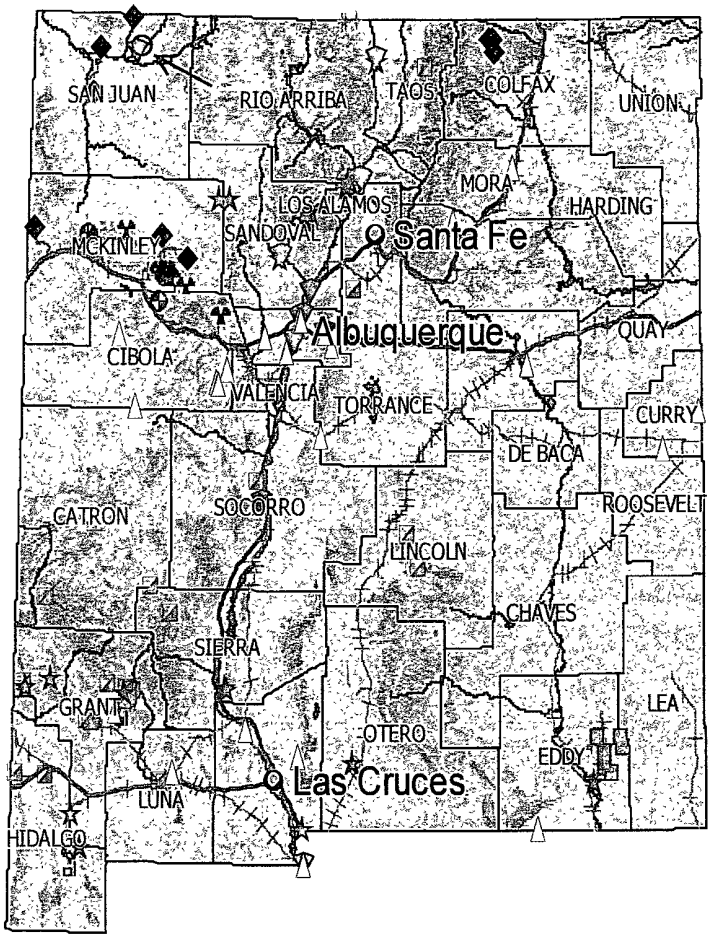
WATER COLUMN REPORT 08/01/2008

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

POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water Column (in feet)
SJ 02627	30N	12W	18	1	2	2				354	250	104
SJ 03808 POD1	30N	12W	18	1	3	1		266399	2116162	42	9	33
SJ 02697	30N	12W	18	1	4	3				360	290	70
SJ 01892	30N	12W	18	1	4	4				465	420	45
SJ 01619	30N	12W	18	2	1					395	345	50
SJ 01619 X	30N	12W	18	2	1					380	350	30
SJ 02137	30N	12W	18	2	2	4				460	380	80
SJ 01737	30N	12W	18	2	3					540		
SJ 02080	30N	12W	18	2	3					370	340	30
SJ 01013	30N	12W	18	3						310	250	60
SJ 01014	30N	12W	18	3						306	250	56
SJ 01080	30N	12W	18	3	1					305	265	40
SJ 00575	30N	12W	18	3	3	1				420	390	30
SJ 01514	30N	12W	18	3	4	3				430	380	50
SJ 01971	30N	12W	18	4						405	345	60
SJ 02035	30N	12W	18	4						500	190	310
SJ 02040	30N	12W	18	4	1	4				460	400	60
SJ 02247	30N	12W	18	4	3					465	375	90
SJ 01283	30N	12W	18	4	3					425	380	45
SJ 01896	30N	12W	18	4	4					415	372	43
SJ 01809	30N	12W	18	4	4					371	317	54
SJ 00148	30N	12W	19							270	240	30
SJ 01831	30N	12W	19	3	1					244	195	49
SJ 03477	30N	12W	19	3	4	3						

Record Count: 24

EXHIBIT 5.



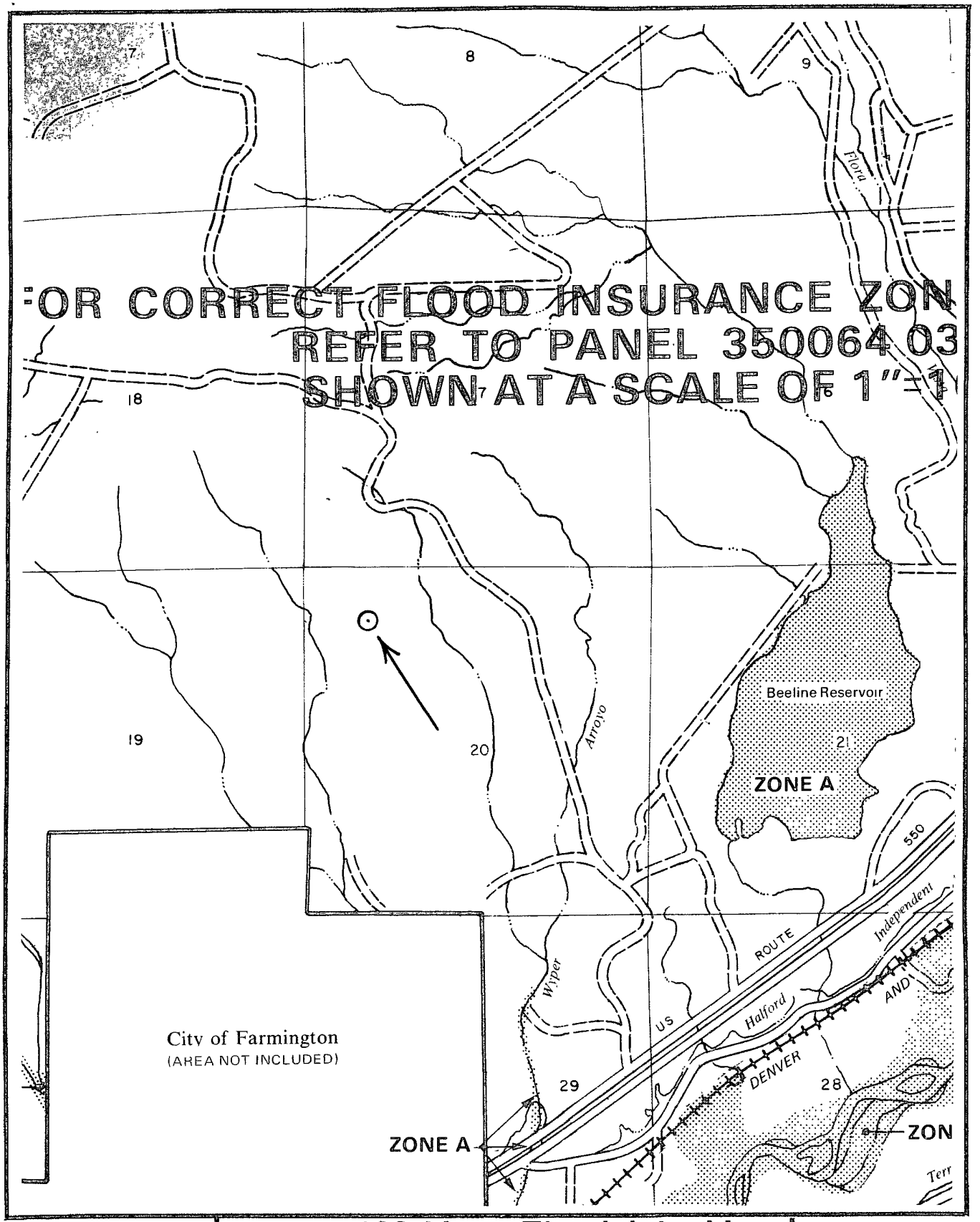
Mine, Mills and Quarry Map of New Mexico

Dugan Production Corp.

McKenzie #1E

Taken from the New Mexico Energy, Minerals and Natural Resources Department.
Mining and Minerals Division.

EXHIBIT 6.



FEMA 100-Year Floodplain Map

McKenzie #1E

McKenzie #1E Design and Construction Plan

The McKenzie #1E below grade tank will be designed and constructed in accordance with the following requirements:

1. Below grade tank will be designed and constructed to contain liquids and solids, prevent contamination of fresh water and protect the public health and environment (Exhibit 7).

2. Stockpile topsoil prior to digging pit, keep separate from subsoil and use as final cover and fill when closing pit.

3. Sign-12" by 24" with operator name, lease name, well #, location (unit letter, qtr/qtr, Sect., Twp., and Rge.) and emergency phone #'s will be posted on location. Sign will be posted in a location where it can be easily read.

4. Fencing around the McKenzie #1E below grade tank will be constructed and operated in a manner that prevents unauthorized access and shall be maintained in good condition to protect the public and wildlife. Fencing will include a 4-foot hog wire fencing with two strands of barbed wire or top rail of re-bar or pipe on top. See the attached request for Administrative Approval. The McKenzie #1E below grade tank is not located within 1000 feet of a house, school, hospital or church.

5. The McKenzie #1E below grade tank will be covered with expanded metal, chicken-wire or a metal lid on top of the tank.

6. McKenzie #1E below grade tank will be designed and constructed to ensure the confinement of liquids and prevent unauthorized releases. Pit will be constructed with a firm foundation and interior slopes, smooth and free of rocks or sharp edges to prevent punctures, cracks or indentations of the liner or tank bottom.

7. McKenzie #1E below grade tank will be constructed of materials resistant to the tank's particular contents and resistant to damage from sunlight.

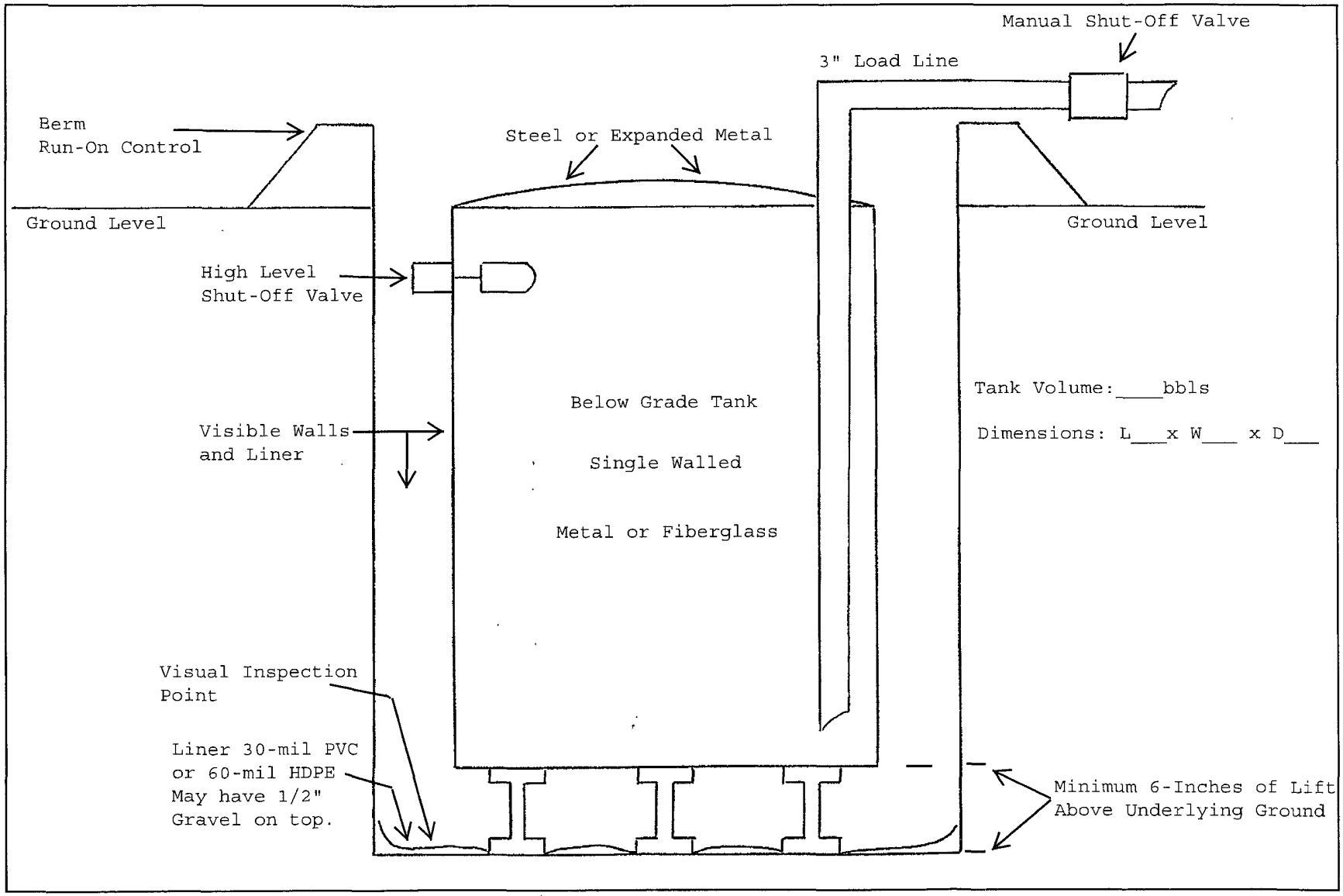
8. Liner will be 30-mil flexible PVC or 60-mil HDPE, string reinforced, impervious material, resistant to UV light, hydrocarbons, salt, acidic or basic liquids. The liner will have a hydraulic conductivity less than 1 x 10-9 cm/sec. Liner compatibility will comply with EPA SW-846.

9. The McKenzie #1E below grade tank will be constructed with single walled sides and bottom which will be open for visual inspection for leaks. The below grade tank will be elevated a minimum of 6-inches above the underlying ground surface. The below grade tank will be underlain with a geo-membrane liner designed to divert any leaked fluid to a visual inspection point. Liner may be covered with gravel.

10. The McKenzie #1E below grade tank will be equipped with a properly operating automatic high-level shut-off control device and manual controls to prevent overflows.

11. Diversionary berms, ditches or sloping will be constructed as necessary to prevent overflow and the collection of surface water entrapment.

Design Plan For Below Grade Tank



Dugan Production Corp.
McKenzie #1E

EXHIBIT 7.

McKenzie #1E Operational Requirements

The McKenzie #1E below grade tank will be maintained and operated in accordance with the following requirements:

1. The McKenzie #1E below grade tank will be operated and maintained to contain liquids and solids and maintain the integrity of the tank / liner system or secondary containment system to prevent contamination of fresh water and protect public health and environment.

2. All fluids will be recycled, reused, reclaimed or disposed of in a manner approved by NMOCD rules.

3. Do not dispose of solid waste, trash, debris or hazardous material into the pit.

4. If the McKenzie #1E below grade tank develops a leak or if a penetration occurs below the liquids surface, all liquid will be removed above the damage or leak line within 48-hours. The NMOCD office will be notified within 48-hours of the discovery. The below grade tank / liner system or secondary containment system will then be either replaced or repaired.

5. Below grade tank will be constructed and operated in a manner that prevents the tank from over flow and prevents surface water from entering the pit. Diversion berms will be constructed around the sides of pit and an automatic high level shut-off will be installed.

6. Any measurable oil will be continuously removed from the McKenzie #1E below grade tank to prevent a significant accumulation of oil overtime.

7. The McKenzie #1E below grade tank will be inspected at least monthly and records of each inspection will be maintained for five years.

8. Adequate freeboard will be maintained to prevent overtopping of the McKenzie #1E below grade tank.

McKenzie #1E Closure Plan–Methods, Procedures and Protocols

1. Comply with deadlines for closure of a pit or below grade tank established by the State of New Mexico, Energy Minerals and Natural Resources Department 19.15.17.13 NMAC, or an earlier date if required by the NMOCD in the case of imminent danger to fresh water, public health or the environment.

Existing *On June 16, 2008*	Permit Applc Submittal or *Modification Request*	File Closure Plan By	Stop Use By	Close By
Temporary Pit - Unlined	Not Permtd under 19.15 17	7/16/2008	Upon drlg rig release	9/16/2008
Permanent Pit - Unlined or Lined	Not permitted with NMOCD	7/16/2008	6-16-2008	12/16/2008
Permanent Pit - Unlined	Permitted or with NMOCD	12-16-2008	6-16-2010	6-16-2011
BGT-Aprvd Design	Not Permtd under 19.15.17 Applc by 9-16-2008	12/16/2008	failed integrity replc w/apprvd design	
BGT-Not Aprvd Design Nor Retrofit to Comply w/19 15 17	Not Permtd under 19.15.17 Mod. Rqust by 9-16-2008	12/16/2008	6/16/2013	6-16-2013
BGT-Not Aprvd Design Nor Retrofit to comply w/19 15.17	NA	12/16/2008	6/16/2013	6/16/2013
Permanent Pit-Design and Constr Does not comply w/19 15.17 permitted and lined	Mod. Rqust by 12-16-2008 Comply w/in 18-mos of aprvl	12/16/2008 submit w/mod request	failed integrity replc w/apprvd design	60-days after cessation
Permanent Pit-Design and Constr Does not comply w/19 15.17 Registered and Lined	Permit Applc by 12-16-2008 Comply w/in 18-mos of aprvl	12/16/2008 submit w/permit Applc		60-days after cessation
Permanent Pit	Permitted under 19 15.17	60-Days prior to close		
Temporary Pit	Permitted under 19.15 17	Prior to closure	Upon drlg rig release	6-mos after rig release
BGT	Permitted under 19.15.17	12/16/2013 or prior to closure	failed integrity replc w/apprvd design	60-days after cessation

2. The McKenzie #1E below grade tank was registered under rule 50; however, it is not an approved design under rule 19.15.17. Upon approval of this application, the existing below grade tank will be closed and a new below grade tank that meets the design requirements of rule 19.15.17 will be constructed.

3. Below grade tank will be closed within 60-days after cessation of use.

4. Proof of closure notice will be provided by certified mail to surface owner after closure. Proof of notice will be attached to final closure report.

5. Remove all liquid from below grade tank prior to closure and dispose of at the Dugan Production operated Sanchez O'Brien #1 SWD (permit SWD-694) located 1650 feet from the South line and 990 feet from the West line (Unit L) of Section 6, Township 24 North, Range 9 West.

6. All solids from the below grade tank and all solids removed from the containment pit will be excavated, hauled to and disposed of at either the Envirotech facility (permit #NM-01-0011) facility located in Section 6, Township 26 North, Range 10 West or the IEI facility (permit NM-01-0010B) located in Section 2, Township 29 North, Range 12 West.

7. Remove below grade tank and dispose of in a NMOCD approved facility, or recycle, reuse, or reclaim it in a manner that the NMOCD approves.

8. On site equipment associated with the below grade tank will be removed unless it is needed for some other purpose.

9. Collect a five point, composite sample of the soils beneath the below grade tank (any area that is wet, discolored or shows evidence of a release) to demonstrate that Benzene, BTEX, TPH and chlorides do not exceed the standards as specified in 19.15.17.13.E or the background concentration, whichever is greater.

Components	Test Method	Limit (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
GRO/DRO	EPA SW-846 8015M	NS
Chlorides	EPA 300.1	250 or Background

10. The NMOCD will be notified of the testing results on form C-141.

11. If it is determined that a release has occurred, rule 19.15.3.116 NMAC and 19.15.1.19 NMAC will be complied with as required.

12. If the sampling results demonstrate that a release has not occurred, or that any release does not exceed the concentrations specified above or background concentrations, the pit will be backfilled with compacted, non-waste containing, earthen material.

13. Stockpiled sub-surface soil will be used to backfill pit and re-contour (to a final or intermediate cover that blends with the surrounding topography). A minimum of four feet of compacted, non-waste containing, earthen material will be used as backfill.

14. Stockpiled surface soil will be used as a cover over the backfilled pit and disturbed area no longer needed for production operations. The soil cover will include either the background thickness of top soil or one foot of suitable material to establish vegetation at the site whichever is greater.

15. The area will be re-seeded as per BLM guidelines. Re-seeding will be repeated until 70% of the native natural cover is achieved and maintained for two successive growing seasons. The first growing season after the pit is closed the disturbed area will be re-seeded. The seeding method will be to drill on contour whenever possible.

16. The NMOCD will be notified within 60-days of closure of the below grade tank. The closure report will be filed on form C-144 and will document all closure activities, sampling results, a plot plan, and details on backfilling and capping where applicable.

17. The NMOCD will be notified once successful re-vegetation has been achieved.

McKenzie #1E Request for Administrative Approval

Administrative approval is hereby requested for an alternative to the fencing design for the McKenzie #1E below grade tank.

The request for administrative approval cited above is needed to help minimize environmental impact and increase safety and protect wildlife and public health. The alternative proposed will protect fresh water, public health, safety and the environment more effectively than the design and construction specifications established by the State of New Mexico, Energy Minerals and Natural Resources Department do in rule 19.15.17.11 NMAC.

1. The proposed alternative fencing design will include T-posts spaced 10-feet apart. Hog wire / field fence 4-feet in height will be strung tightly and anchored to the top and bottom of each T-post. Small holes (3" high X 6" wide) in the hog-wire will be located at ground level with increasing larger holes (up to 7" high X 6" wide) located at the top of the fence. Anchor braces will be put at all four corners to strengthen and tighten the fence. Two strands of barbed wire or a pipe / re-bar top rail will be constructed above the hog wire. This fence design (developed over the last 30-years) has proven to be very effective controlling unauthorized access to below grade tanks.

   The existing rule (19.15.17.11.D.3) would require the operator to fence the below grade tank with a four foot fence that has at least four strands of barbed wire evenly spaced in the interval between on foot and four feet above the ground level. The proposed fencing alternative would provide better security against unauthorized access to below grade tanks. The smaller holes in hog-wire (3" X 6" up to 7" X 6") is more effective at controlling unauthorized access by the public and wildlife than 4-strands of barbed wire spaced 12" apart.

   The proposed fence around the below grade tank will be constructed and operated in a manner that prevents unauthorized access and shall maintain the fence in good condition to protect the public and wildlife.

   The request for administrative approval cited above is needed to help minimize environmental impact, increase safety and protect wildlife and public health. The alternatives proposed will protect fresh water, public health, safety and the environment more effectively than the design and construction specifications established by the State of New Mexico, Energy Minerals and Natural Resources Department do in rule 19.15.17.11 NMAC.