<u>District I</u> 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

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

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. Turner Production Co. OGRID #. 23544
Address: One Energy Square, Suite 852, 4925 Greenville Avenue, Dallas, Texas 75206
Facility or well name: Federal 28 # 001
API Number: 30-045-25139 OCD Permit Number: To Be Assigned .
U/L or Qtr/Qtr P Section 28 Township 30N Range 09W County San Juan .
Center of Proposed Design Latitude 36° 46.681' N Longitude 107° 46.826' W NAD: ☐1927 ☐ 1983
Surface Owner: X Federal X State Tribal Trust or Indian Allotment
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
4.
Alternative Method:

Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval

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, institution or church)  Four foot height, four strands of barbed wire evenly spaced between one and four feet  Alternate. Please specify 6 X 6 Wire Mesh With Pipe Top Rail at 4' High	hospital,		
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)			
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			
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 consideration of approval  Exception(s): Requests must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.	office for		
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 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 (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		
<ul> <li>Within an unstable area</li> <li>Engineering measures incorporated into the design; NM Bureau of Geology &amp; Mineral Resources; USGS; NM Geological Society; Topographic map</li> </ul>	☐ Yes ⊠ No		
Within a 100-year floodplain FEMA map	☐ Yes ⊠ 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:
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)
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   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 <sub>2</sub> S, Prevention Plan   Cipit Bled 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  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)
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 Solutions: Please indentify the facility or facilities for the disposal of liquids, dr facilities are required.						
*	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 closured below. Requests regarding changes to certain siting criteria may require considered an exception which must be submitted to the Santa Fe Environmental demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for	administrative approval from the appropriate dist Bureau office for consideration of approval. Justi	rict office or may be				
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	<ul><li>☐ Yes ☐ No</li><li>☐ NA</li></ul>				
Ground water is more than 100 feet below the bottom of the buried waste - NM Office of the State Engineer - 1WATERS database search, USGS; Data obtained from nearby wells						
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other signilake (measured from the ordinary high-water mark).  - Topographic map; Visual inspection (certification) of the proposed site	ficant watercourse or lakebed, sinkhole, or playa	☐ Yes ☐ No				
Within 300 feet from a permanent residence, school, hospital, institution, or church i  Visual inspection (certification) of the proposed site, Aerial photo, Satellite i		☐ Yes ☐ No				
Within 500 horizontal feet of a private, domestic fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of a private, domestic fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less watering purposes, or within 1000 horizontal feet of any other fresh water well or spring that less water well or spring that water water water well or spring that water well or spring that water well or spring that water	ring, in existence at the time of initial application.	☐ Yes ☐ No				
Within incorporated municipal boundaries or within a defined municipal fresh water adopted pursuant to NMSA 1978, Section 3-27-3, as amended.  - Written confirmation or verification from the municipality; Written approval	·	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 a	and Mineral Division	☐ Yes ☐ No				
Within an unstable area.  - Engineering measures incorporated into the design; NM Bureau of Geology Society; Topographic map	& Mineral Resources; USGS, NM Geological	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  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): Randy J. Elledge Title: Agent					
Signature: Date: 9-15-08					
e-mail address: Relledge @ Wapitisuc.com Telephone: 505-320-4969					
20.  OCD Approval:  ☐ Permit Application (including closure plan)  ☐ OCD Conditions (see attachment)					
OCD Representative Signature: Approval Date: Approval Date:					
Title: OCD Permit Number:					
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:					
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 indentify 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)					
☐ 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:					

30 - 045 -25139

### UNITED STATES

DEPARTMENT OF THE INTERIOR	& ITALE DEBINATION AND RESIAL AO.
GEOLOGICAL SURVEY	SF-078128 <sup>-</sup>
APPLICATION FOR PERMIT TO DRILL, DEEPEN BEPTIE BACK	6 IP IN IAN, ALLO STEE OF THE NAME
DRILL X DEEPEN PLANTING	N/A - 7 UNIT AURELMENT NAME N/A
OIL CAR WILL WILL WILL WHER SINGLE G3. MILTIPLE CON	& FARM OR I FANE NAME
WHIL CASE WHILE CON.  2 NAME OF OFFICE AFTOR  J. Glenn Turner Was a Discom.	Feceral 28
P.O. Box 255, Farmington, No. 87401	Basin Dakota
330 ft. FSL, 1040 ft. FEL	II SEC T. R. M. CHHIK.
At prepared and one come	\$28, T30N-R9W, N.M.P.M.
	1_ COL TY OR JALISH 15 STATE
5 miles north of Blanco, N.M.	San Juan   N.M.
Inclinate To Forest Interpret in the int	3:0 ac.
TO ALLE HE ON THE PASS FT. 500 ft. 7030 ft. 7	Rotary .
21 Fig. 74 Ng (St. w. Witcher Df. RT, GR, etc.) This action is subject to administration.	22 MI NOX PATE WORK WILL STAKE
5834 Gr., 5847 est. K.B. This action is subject to administrative	\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
PLOPOSED CASING AND CEMENTING PROGRAM	
8 174" 7" 20# 2725 ft. 600	sx. (2-staged)
Operator proposes to drill a 7030 ft. Dakota test u	itilizing the hole and

casing program shown above. The well will be drilled with mud of appropriate weight & viscosity to an intermediate casing depth of 2725' where 7" casing will be run. No abnormal pressures or temperatures are anticipated. Pressure control equipment used from under surface pipe to T.D. will consist of a doubleram 10", 900 series (3,000 psi W.P.) blowout preventor tested initially and periodically throughout drilling. A dual induction laterlog, gamma density and sidewall neutron porosity log will be run at total depth, 4½" casing run and the well completed as required. Cementing operations will be conducted to completely isolate Pictured Cliffs and Mesaverde zones productive in adjacent wells. Estimated formation tops: Ojo Alamo Ss.-1350', Kirtlard Sh.-1425', Fruitland Fm.-2185', Pictured Cliffs ss.-2510', Lewis Sh.-2625', Cliff House Ss.-4105', Menefee Fm.-4205', Point Lookout Ss.-4725', Mancos Sh.-4870', Dakota Fm.-6825'.

IN ABOVE SPACE DESCRIBE PROPERED PROGRAM: If proposal is to deepen or plug back, give data on present productive tone and proposed to w productive zone. If proposal is to drill or deepen directionally, give pertinent data on subsurface locations and measured and true vertical depths. Give blowout preventer program, if any

SIGNED MILLIAM P. DE	Er note Agent	
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PERMIT NO	APPROVAL DATE	
APPROVED BY	TITLE	I ATE
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For Ellioty

#### F. O. BOX 2088 OIL CONSENSA

form C-107 kerised 10-1-.

ENERGY AND MINERALS DEPARTMENT SANTA FE, NEW MEXICO 87501

All distances must be from the cuter boundaries of the Bertlem.

Operator,			7:	<del></del>	Well No.
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J. GLEN TUE!	ection	Township	FEDERAL 28	County	
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Actual Footage Locati		301		San Juan	· <del></del> · · · · · · · · · · · · · · · · · ·
830	feet from the S	outh line and	<del></del>	it from the East	line
5834	Producting Form	ecton » akota	Pool Basin Dakota	-	Dedice ed Acres,e:
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Yes	] No If er	iswer is "yes," type	of consolidation		
this form if n No allowable	will be assigned	d to the well until a	ll interests have been	consolidated (by c	lated (Use coverse side of hour tiration, unstitution,
forced-poolin	g, or otherwise)	or until a non-standa	rd unit, eliminating su	ch interests, has la	n approved by the Commis-
	<u> </u>	· · · · · · ·	CONTRACTOR OF THE	K	CERTIFICATION
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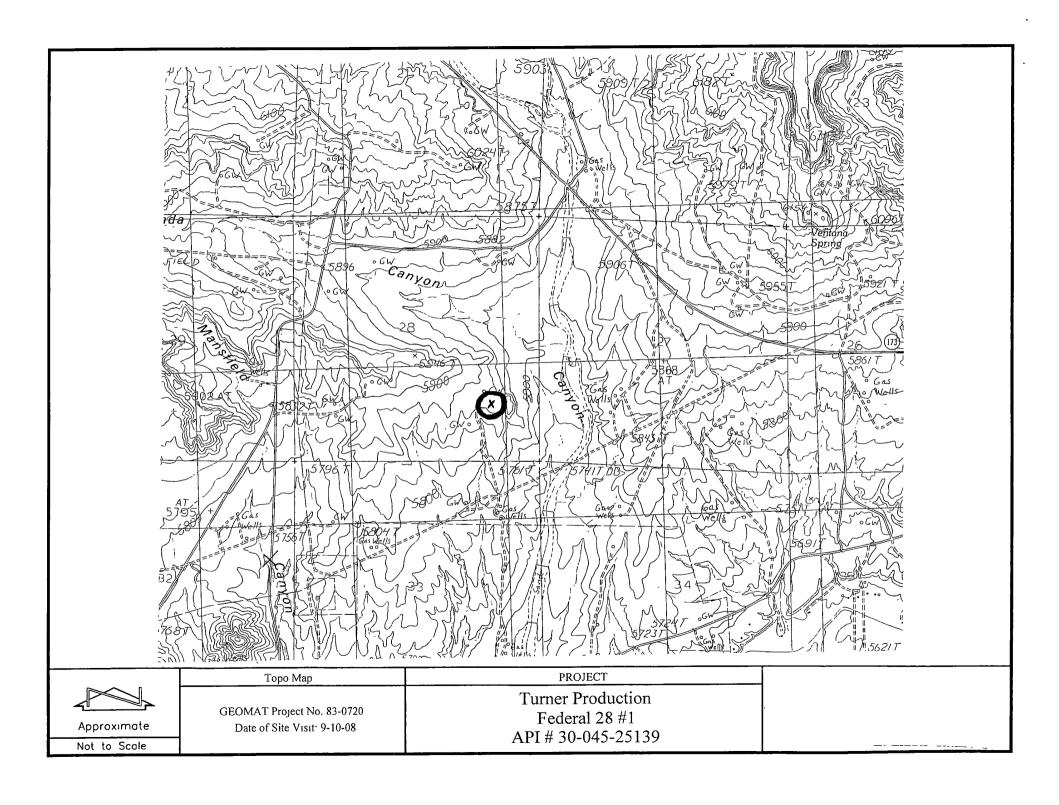
### New Mexico Office of the State Engineer POD Reports and Downloads

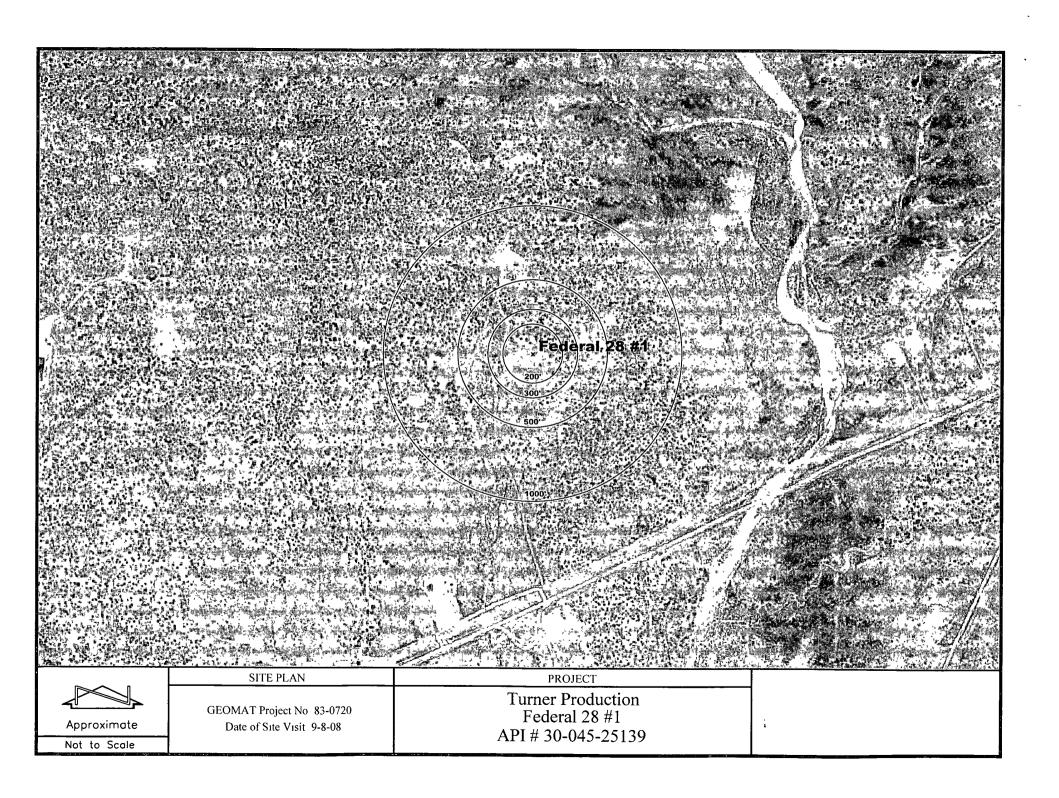
Township: 30N Range: 09W Sections:					
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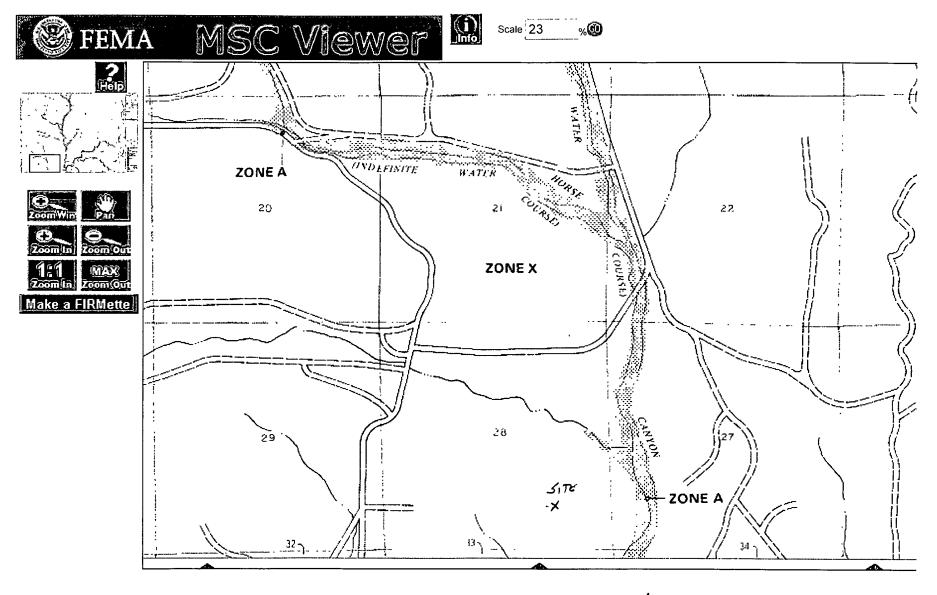
#### AVERAGE DEPTH OF WATER REPORT 09/03/2008

							(Depth 1	Water ın	Feet)
Bsn	Tws	Rng Sec	Zone	X	Y	Wells	Mın	Max	Avg
SJ	30N	09W 06				1	60	60	60
SJ	30N	09W 25				1	10	10	10
'SJ	30N	09W 33				1	15	15	15
SJ	30N	09W 35				1	10	10	10
SJ	30N	09W 36				2	4	5	5

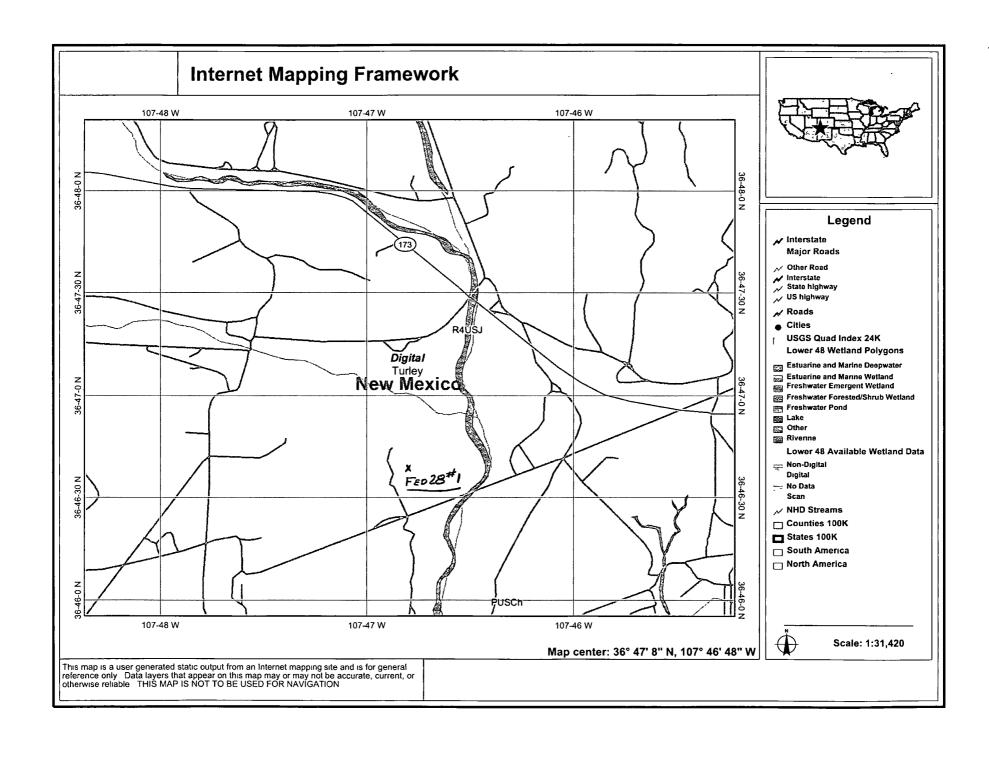
Record Count: 6



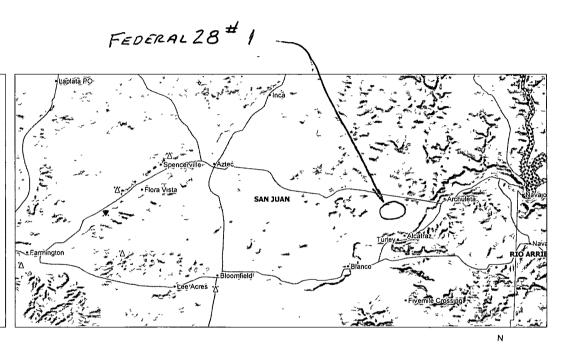




SEZ 28 T30N R9W FEOGRAL 28#1



### **MMQonline Public Version**







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#### HYDROGEOLOGICAL REPORT Federal 28 #1

#### **Regional Geological Context:**

The Nacimiento Formation is of Paleocene age and forms the land surface over much of the eastern portion of the San Juan Basin of northwestern New Mexico. It overlies the Ojo Alamo Sandstone. The Tapacitos and Llaves Members form the upper portion of the Nacimiento Formation in its eastern reaches.

The Nacimiento Formation generally consists of gray shale with interbedded arkosic sandstone in the southwest, grading to predominantly sandstone with shale interbeds in the northeast. The Nacimiento Formation is thought to have been deposited in a fluvial (stream) environment. Thickness of the Nacimiento Formation is as much as 580 meters.

#### **Hydraulic Properties:**

Numerous water-bearing layers are present within the sandstones of the Nacimiento Formation, while the shales typically form aquitards. Reported well yields from the Nacimiento Formation range from 2 to 15 gallons per minute (Robson, et. al., 1995, Table 1).

#### References:

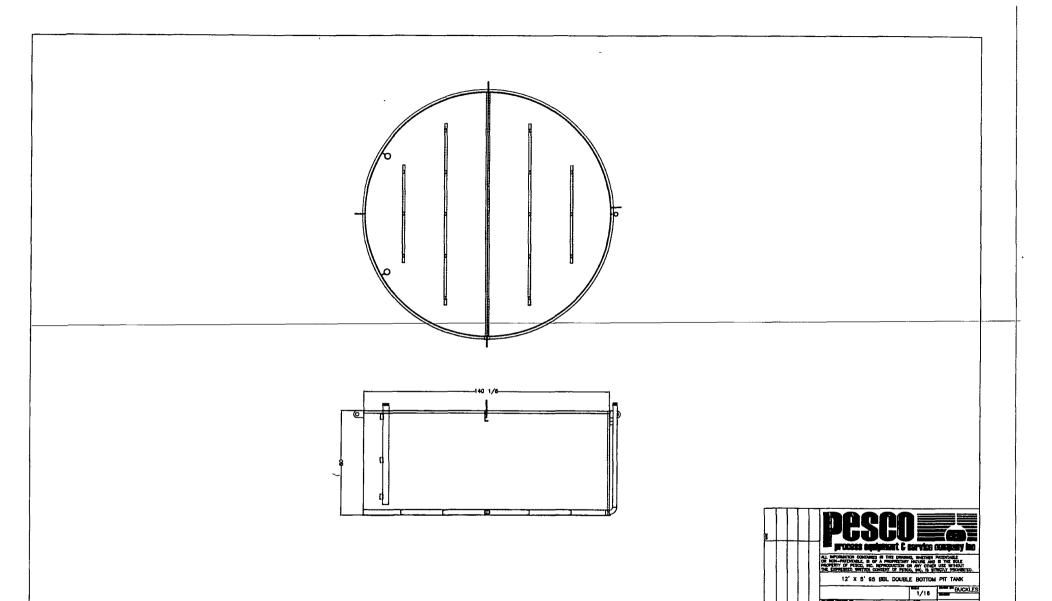
Robson, S. G. and Wright, Winfield G., 1995, Ground-Water Resources of the Florida Mesa Area, La Plata County, Colorado, USGS Water Resources Investigations Report 95-4190.

## Turner Production San Juan Basin Below Grade Tank Design and Construction

In Accordance with NMAC 19.15 17 the following information describes the design and construction of below grade tanks on Turner Production, (TP) locations This is TP's standard procedure for all below grade tanks (BGT) A separate plan will be submitted for any BGT which does not conform to this plan

#### General Plan:

- 1 TP will design and construct a BGT to contain liquids and to prevent contamination of fresh water and protect public health and environment
- 2 TP will use the general location sign posted on location. If no general sign is posted a separate sign at the location of the BGT will be provided
- 3. TP shall construct 4' high fencing around the BGT using 6 x 6 wire mesh fencing topped with a pipe top rail. A six foot chain link fence top with three strands of barbed wire will be used if the well location is within 1000 feet of permanent residence, school, hospital, institution or church
- 4. TP will cover the top of the BGT with chicken wire to render it non-hazardous to wildlife including migrating birds.
- 5 TP shall ensure that a below-grade tank is constructed with materials resistant to the below-grade tank's particular contents and resistant to damage from sunlight.
- The TP below-grade tank system shall have a properly constructed foundation consisting of a level base free of rocks, debris, sharp edges of irregularities to prevent punctures, cracks or indentations of the liner or tank bottom
- 7 TP shall construct a below-grade tank to prevent overflow and the collection of surface water run-on
- 8 TP will construct and use a below-grade tank that does not have double walls. The below-grade tank's side walls will be open for visual inspection for leaks and the below grade tank will have a double bottom separated by approximately three inches. The three inch space will be equipped with a port to allow scheduled visual leak detection
- 9 TP shall equip below-grade tanks designed in this manner with a properly operating automatic high-level shut-off control device and manual controls to prevent overflows
- 10 The geomembrane liner shall consist of 30-mil flexible PVC or 60-mi HDPE liner, of an equivalent liner material that the appropriate division district office approves. The geomembrane liner shall have a hydraulic conductivity no greater than 1 x 10-9 cm/sec. The geomembrane liner shall be composed of an impervious, synthetic material that is resistant to petroleum hydrocarbons, salts and acidic and alkaline solutions. The liner material shall be resistant to ultraviolet light. Liner compatibility shall comply with EPA SW-846 method 9090A



0130-D CUSTOMER

# Turner Production San Juan Basin Below Grade Tank Maintenance Operating Plan

In accordance with Rule 19 15 17 the following information describes the operation and maintenance of Below Grade Pit (BGT) on Turner Production (TP) locations. This is TP's standard procedure for all BGT. A separate plan will be submitted for any BGT which does not conform to this plan.

#### **General Plan:**

- 1 TP will operate and maintain a BGT to contain liquids and solids and prevent contamination of fresh water and protect public health and environment
- 2 TP shall not allow a below-grade tank to overflow or allow surface water run-on to enter the below-grade tank.
- 3. TP shall continuously remove any visible or measurable layer of oil from the fluid surface of a below-grade tank in an effort to prevent significant accumulation of oil overtime
- 4. TP shall inspect the below-grade tank at least monthly and maintain a written record of each inspection for five years
- 5 TP shall maintain adequate freeboard to prevent overtopping of the below-grade tank

## Turner Production San Juan Basin Below Grade Tank Closure Plan

#### **General Requirements:**

- 1. TP 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 of fresh water, public health or the environment.
- TP shall close an existing below-grade tank that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19 15 17 11 NMAC or is not included in Paragraph (5) of subsection I of 19.15.17 11 NMAC within five years after June 16, 2008, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15 17 11 NMAC.
- 3. TP shall close a permitted below-grade tank within 60 days of cessation of the below-grade tank's operation or as requested by the transitional provisions of subsection B of 19 15 17 17 NMAC in accordance with a closure plan that the appropriate division district office approves. The closure report will be filed on C-144.
- 4 TP shall remove liquids and sludge fro a below-grade tank prior to implementing a closure method and shall dispose of the liquids and sludge in a division-approved facility
- 5. TP shall remove the below-grade tank and dispose of it in a division-approved facility or recycle, reuse, or reclaim it in a manner that the appropriate division district office approves
- 6 If there is any on-site equipment associated with the below-grade tank, then TP shall remove the equipment, unless the equipment is required for some other purpose
- 7. Notice of closure will be given to the Aztec division office between 72 hours and one week of closure via email, or verbally The notification of closure will include the following.
  - i Operators Name
  - ii Location by Unit Letter, Section, Township, and Range Well name and API number.
- 8. All closure activities will include proper documentation and be available for review upon request and will be submitted to OCD within 60 days of closure of the below-grade tank. Closure report will be filed on C-144 and incorporate the following:
  - Details on Capping and Covering, where applicable
  - Inspection Reports
  - Sampling Results
- 9. The surface owner shall be notified of TP closing of the below-grade tank as per approved closure plan using certified mail, return receipt requested

#### Sampling Plan:

1 TP shall test the soils beneath the below-grade tank to determine whether a release has occurred. TP shall collect, at a minimum, a five point, composite sample, collect individual grab samples from any area that is wet, discolored or showing other evidence of a release, and analyze for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B if 8260B or other EPA

method that the division approves, does not exceed 0.2 mg/kg, total BTEX concentration, as determined by EPA SW 846 methods 8021B of 8260B or other EPA method that the division approves, does not exceed 50 mg/kg, the TPH concentration, as determined by EPA method 418.1 or other EPA method that the division approves, does not exceed 100mg/kg, and the chloride concentration, as determined by EPA method 300.1 or other EPA method that the division approves, does not exceed 250 mg/kg, or the background concentration, whichever is greater BR shall notify the division of its results on form C-141.

- 2 If TP or the division determines that a release has occurred, then TP shall comply with 19 15 3 116 NMAC and 19.15 1.19 NMAC, as appropriate.
- 3 If contamination is confirmed by field sampling TP will follow those guidelines for Remediation of Leaks, Spills, and Releases NMOCD August 1993 when remediating contaminants identified

#### **Soil Backfill and Cover Specifications:**

- If the sampling program demonstrates that a release has not occurred or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19 15 17 13 NMAC, then TP shall backfill the excavation with compacted, non-waste containing, earthen material, construct a division-prescribed soil cover; recontour and revegetate the site
- 2 A minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil, whichever is greater

#### **Site Reclamation:**

- Re-contouring of locations will match fit, shape, line, form and texture of the surrounding. Re-shaping will include drainage control, prevent ponding, and prevent erosion. Natural drainages will be unimpeded and water bars and/or silt traps will be placed in areas where needed to prevent erosion on a lager scale. Final re-contour shall have a uniform appearance with smooth surface, fitting the natural landscape.
- 2 BR shall seed the disturbed areas the first growing season after the operator closes the pit. 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. Vegetation 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 successful growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs.