

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 24, 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: ☒ 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: Energen Resources Corporation OGRID #: 162928
Address: 2010 Afton Place, Farmington, New Mexico 87401
Facility or well name: Carracas 21 A #1
API Number: 30-039-30167 OCD Permit Number: DIST. 3
U/L or Qtr/Qtr SWSE Section 21 Township 32N Range 5W County: Rio Arriba
Center of Proposed Design: Latitude 36.96044 N Longitude 107.36573 W NAD: ☐ 1927 ☒ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ Steel Pit
☒ Lined ☐ Unlined
Liner type: Thickness 20 mil ☒ LLDPE ☐ HDPE ☐ PVC
☐ Other _____ ☐ String-Reinforced
Seams: ☐ Welded ☒ Factory ☐ Other _____
Volume: 5000 bbl Dimensions: L 160 x W 60 x D 15

☐ **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 _____ yd³
Dimensions: Length _____ x Width _____

☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: _____ bbl
Type of fluid: _____
Tank Construction material: _____
☐ 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 _____ mil ☐ HDPE ☐ PVC
☐ Other _____

☐ **Fencing:** Subsection D of 19.15.17.11 NMAC
☐ 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
☐ **Netting:** Subsection E of 19.15.17.11 NMAC
☐ Screen ☐ Netting ☐ Other _____
☐ Monthly inspections
☐ **Signs:** Subsection C of 19.15.17.11 NMAC
☐ 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:
☐ 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 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
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 19.15.17.9 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 - 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 (required for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9 NMAC
☐ 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 19.15.17.9 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

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
☐ 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)

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 |

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 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: _____

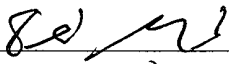
On-Site Closure Plan Checklist: (19.15.17.13 NMAC) *Instructions: Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.*

- ☒ 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:

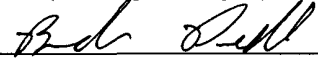
I hereby certify that the information submitted with this application is true, accurate and complete to the best of my knowledge and belief.

Name (Print): Devin Mills Title: Drilling Engineer

Signature:  Date: 7/15/08

e-mail address: dmills@energen.com Telephone: 505-324-4121

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

OCD Representative Signature:  Approval Date: 9-26-08

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): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

Hydrogeologic Data:

100-year Floodplain:

There is no map available from FEMA depicting a 100-year floodplain for the subject well, Carracas 21 A #1 located in that portion of Rio Arriba County, NM.

Site Specific:

The San Jose formation is the highest water bearing zone at this site with the exception of possible perched water. It is the youngest Tertiary bedrock unit in the San Basin. The formation occurs at the surface to a depth of 1,914' at our Carracas 21 A #1 location and ranges from 1,900' to 2,600' in this township and range. The only potentially unstable areas in the region are over subsurface coal mines. This pit will not be located over a subsurface mine.

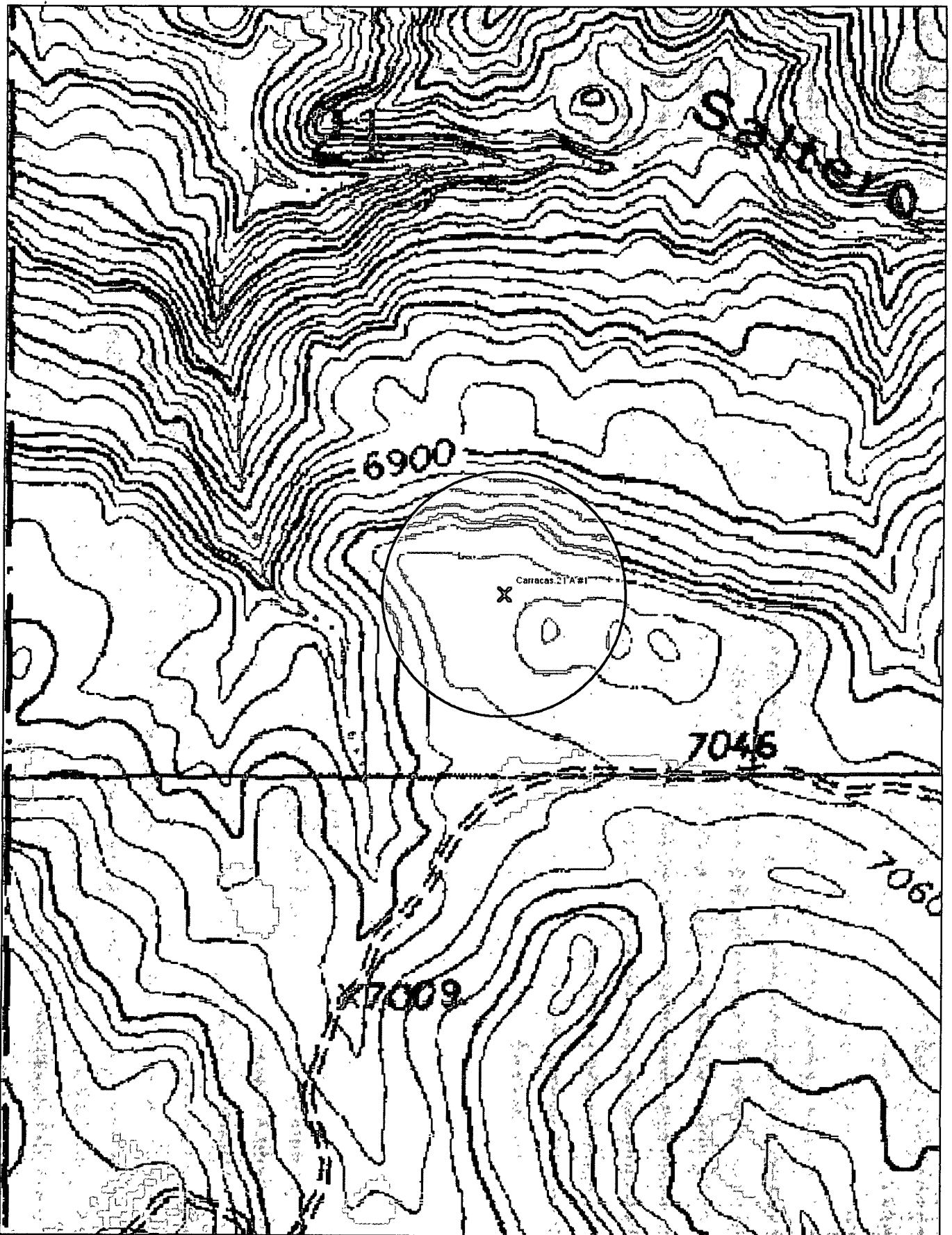
The bottom of Saltero Canyon is 1760' feet to the North and is 500 vertical feet below the pit location so the highest groundwater will be at least 500' below the pit bottom. A visual inspection was also conducted to identify the possibility of water wells with windmills or other pumping equipment or other visual indications and none were observed. No other water well sites within 1000' were indicated being present by the USFS, Jicarilla Ranger District.

Geologic Summary:

The San Jose is a sequence of interbedded sandstones and mudstones deposited in an alluvial and fluvial environment. The formation accumulated in broad, wet, alluvial aprons. Groundwater is associated with the alluvial and fluvial sandstone aquifers, hence it is controlled by the distribution of these sands. The San Jose can further be broken into four members: Cuba Mesa, Regina, Llaves, and Tapicitos (in ascending order). The first two, Cuba Mesa and Regina, are predominately sandstone and the latter two, Llaves and Tapicitos, are predominately mudstone.

Reference:

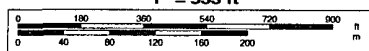
Stone W.J., Lyford F.P., Frenzel P.F., Mizell N.H., and Padgett E.T.: Hydrology and water resources of San Juan Basin, New Mexico Hydrologic Report 6, 1983.



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www.delorme.com

Scale 1 : 6,400

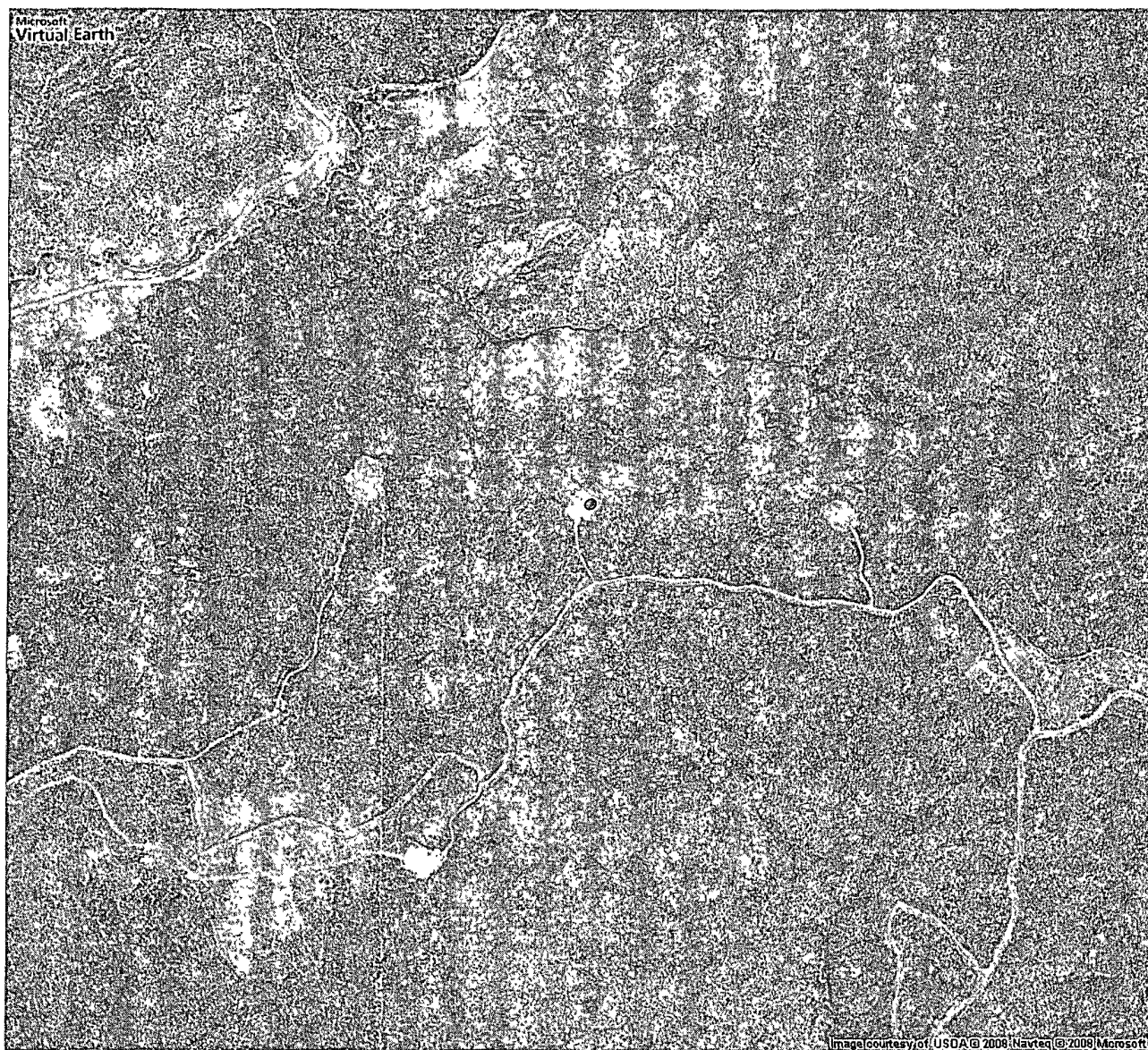
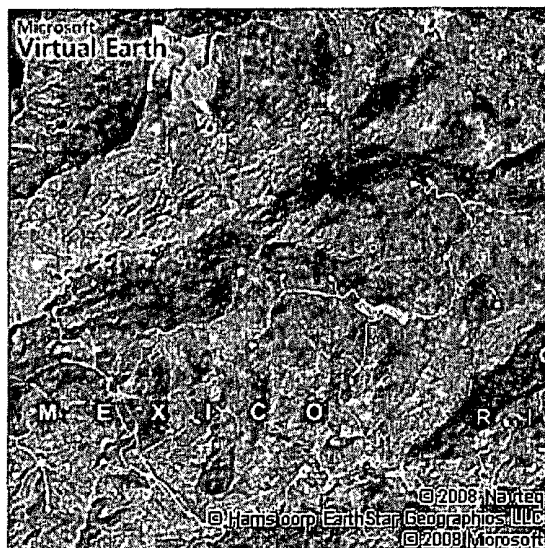
1" = 533 ft



 Live Search Maps

Carracas 21 A #1 o

 **NEW! Try Live Search 411**
Dial **1-800-CALL-411** for latest info



New Mexico Office of the State Engineer
POD Reports and Downloads

Township: 32N | Range: 05W | Sections: 21

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

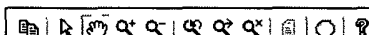
Help

AVERAGE DEPTH OF WATER REPORT 07/07/2008

Bsn	Tws	Rng	Sec	Zone	X	Y	Wells	(Depth Water in Feet)		
								Min	Max	Avg

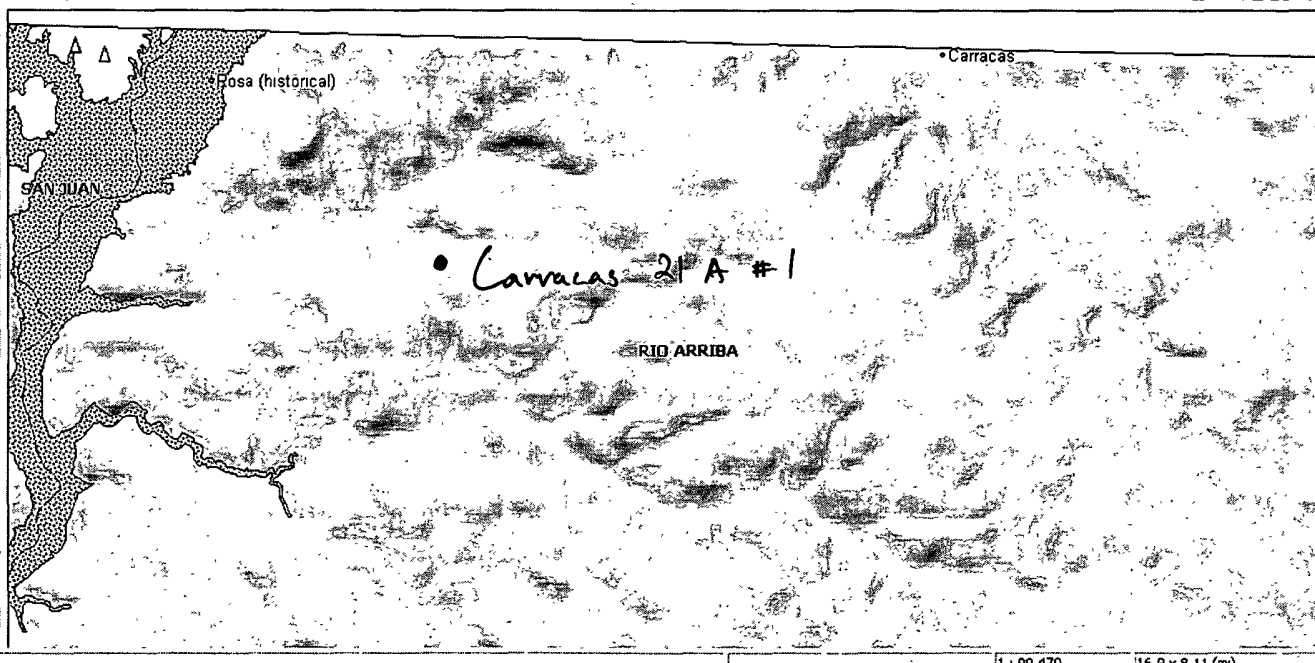
No Records found, try again

Mines, Mills and Quarries Web Map



autodesk

- ☒ Mines, Mills & Quarries
 - ☒ Aggregate & Stone
 - ☒ Coal Mines
 - ☒ Industrial Miner.
 - ☒ Industrial Miner.
 - ☒ Metal Mines and
 - ☒ Potash Mines &
 - ☒ Smelters & Refr.
 - ☒ Uranium Mines
 - ☒ Uranium Mills
- ☐ Mines, Mills & Quarries
 - ☒ Active Mining
 - ☒ Active Mining
 - ☒ Permanent Clos.
 - ☒ Permanent Clos.
 - ☒ Temporary Susp.
 - ☒ Under Develop.
- ☒ Population
- ☒ Cities (2000 Cen.)
- ☒ Transportation



Countries : RIO ARRIBA

1 : 99,470

16.9 x 8.11 (mi)

How to Use this MapQuestions? Contact [Susan Lucas Kamat](#) or [John Pfell](#)

The mining operation data depicted in this map was collected under the authority of NMSA, 1978, Chapter 69 by the Mine Registration, Reporting and Safeguarding (MRRS) Program of the Mining and Minerals Division. It is the sole responsibility of mine operators to register any mine, mill, smelter, pit, quarry or other mining facility with the Program prior to the start of operations; and to notify the Program of any operational changes. Data in this map is dynamically pulled from the Mining and Minerals Division Mine Registration Database. Mine registration data is verified for completeness and accuracy before being added to the map. Some of the data may not be current since information may have changed since the last reporting cycle.



Internet

Temporary Pit Design Plan:

The pit will be designed and constructed in the following manner:

- 1) Top soil will be stripped, stockpiled and stored as designated on the attached well sight layout schematic.
- 2) A sign will be posted on location in accordance with 19.15.3.103 NMAC.
- 3) A four strand barbwire fence will be constructed around the perimeter of the pit with the strands evenly spaced between one and four feet from the ground. This fence will be used to excluded livestock from inadvertently entering the pit. The side of the fence adjacent to the rig will be removed during operations. This fence if located within 1000 feet of a permanent residence, school, hospital, institution or church will be a six foot chain link fence with two strands of barbed wire at the top.
- 4) The pit will be designed to confine liquids, prevent unauthorized releases by constructing a foundation with interior slopes consisting of a firm and unyielding base that are smooth and free of rocks, debris or other sharp edges to prevent liner damage. The slopes will be constructed with a 2:1 ratio of vertical to horizontal with a changing slope within five feet of the shale shakers trending towards horizontal. The volume of the pit will no exceed 10 acre feet including freeboard. The pit will be lined with a LLDPE geomembrane liner with a thickness of no less than 20mm. The liner material will be compatible with EPA SW-846 method 9090A. Liner seams will be orientated along the dump axis and will be factory manufactured with an overlap of four to six inches. If needed a geotextile will be placed under the liner to reduce localized stress-strain that may compromise liner integrity. The edges of the liner will be anchored in the bottom of a compacted earth-filled trench no less than 18 inches deep.
- 5) To prevent runoff of surface water a berm no less than 12 inches high will be constructed around the perimeter of the pit. With drainage ditches being directed to the runoff requirements set forth in the APD Condition of Approval.

AT II
South First, Artesia, N.M. 88210

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

DISTRICT IV
2040 South Pacheco, Santa Fe, NM 87505

OIL CONSERVATION DIVISION
2040 South Pacheco
Santa Fe, NM 87505

Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

1 API Number		2 Pool Code		3 Pool Name FRUITLAND COAL	
4 Property Code		5 Property Name CARRACAS 21A			6 Well Number 1
7 OGRID No.		8 Operator Name ENERGEN RESOURCES CORPORATION			9 Elevation 7065'

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
0	21	32N	5W		700'	SOUTH	2045'	EAST	RIO ARRIBA

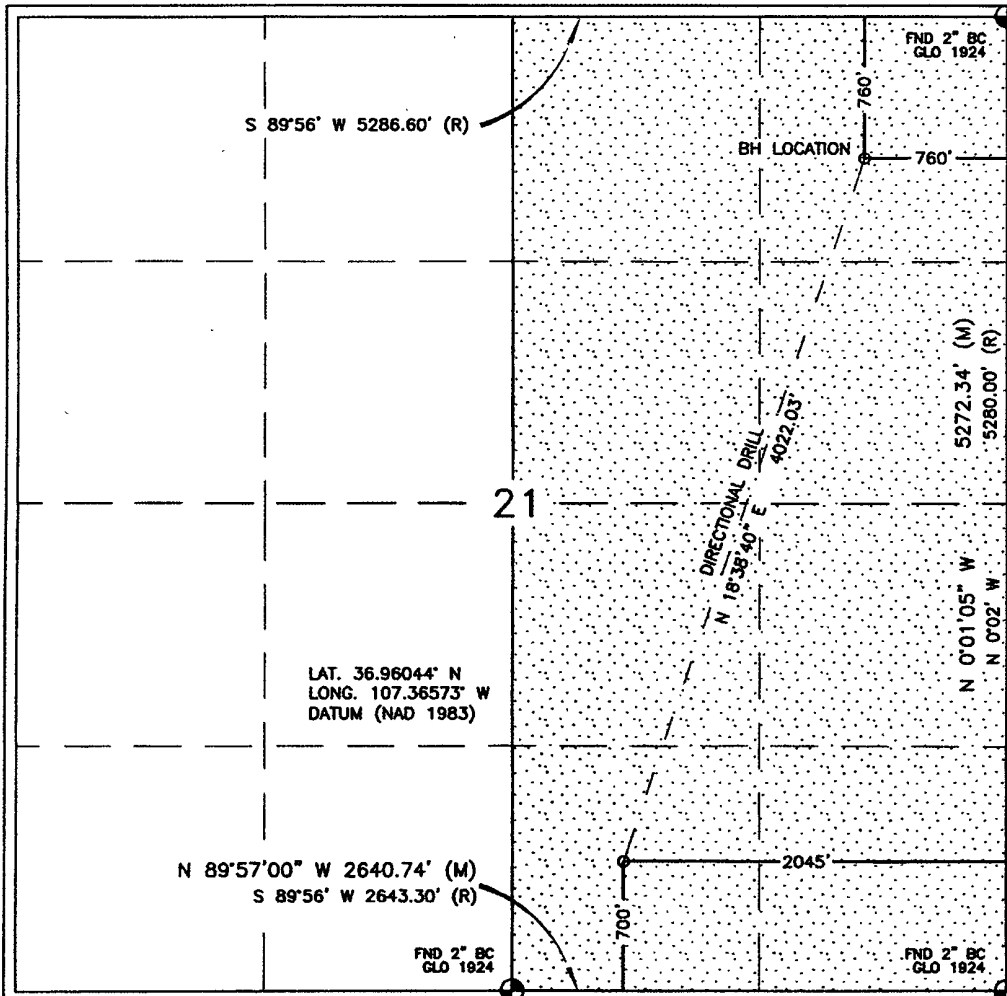
11 Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	21	32N	5W		760'	NORTH	760'	EAST	RIO ARRIBA

12 Dedicated Acres 319.51 Acres - (E/2)		13 Joint or Infill		14 Consolidation Code		15 Order No.	
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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



17 OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief

Nathan Smith
Signature
Nathan Smith
Printed Name
Drilling Engineer
Title
1/19/07
Date

18 SURVEYOR CERTIFICATION

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.

OCTOBER 4, 2006

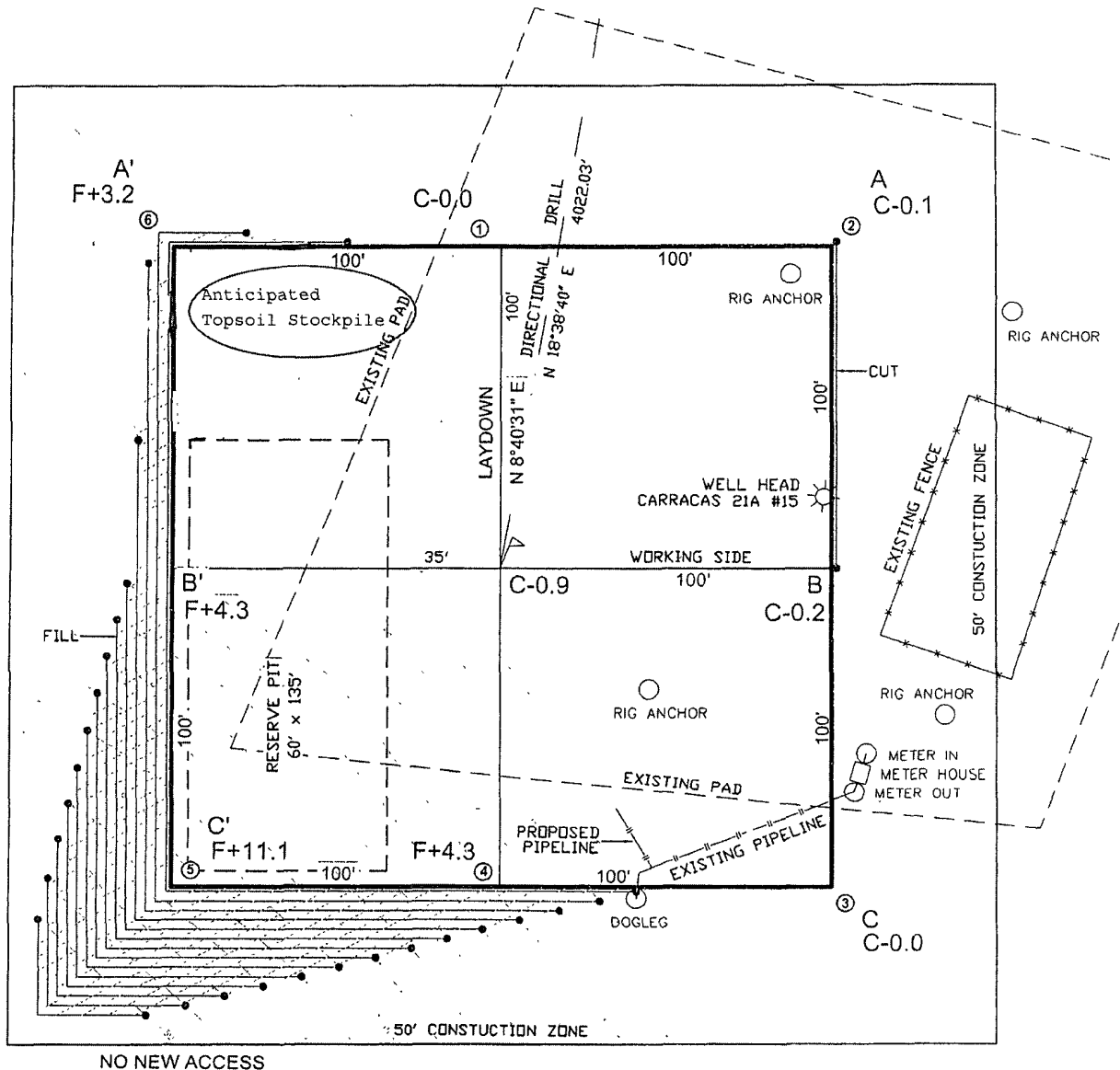
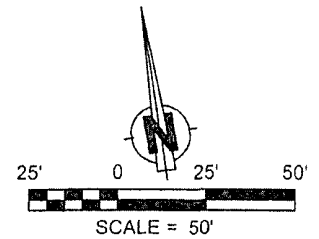
Date of Survey
Signature and Seal of Professional Surveyor:

David R. Russell
DAVID R. RUSSELL
NEW MEXICO
REGISTERED PROFESSIONAL LAND SURVEYOR
10201
DAVID RUSSELL
Certificate Number 10201

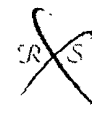
DE: 36.96044°N
UDE: 107.36573°W
DATUM: NAD 83

ENERGEN RESOURCES CORPORATION

CARRACAS 21A #1
700' FSL & 2045' FEL
LOCATED IN THE SW/4 SE/4 OF
SECTION 21, T32N, R5W, N.M.P.M.,
RIO ARriba COUNTY, NEW MEXICO
GROUND ELEVATION: 7065', NAVD 88
FINISHED PAD ELEVATION: 7064.5', NAVD 88



1 FOOT CONTOUR INTERVAL SHOWN
SCALE: 1" = 50'
JOB No.: ERG143
DATE: 10/16/06



Russell Surveying
1409 W. Aztec Blvd. #5
Aztec, New Mexico 87410
(505) 334-8637

Temporary Pit Operations Plan:

The pit will be operated and maintained; to contain liquids and solids, to insure liner and secondary containment integrity, to aid in the prevention of contamination of fresh water sources, in order to protect public health and the environment. To attain this goal the following steps will be followed;

- 1) The fluids in the pit remaining after rig release will be vacuumed out and transported to active drilling locations to be reused or disposed of with Agua Moss LLC in the Pretty Lady #1 (Disposal API Number # 30-048-30922) within 30 days. Residual fluids after vacuuming will be allowed to evaporate.
- 2) No hazardous waste, miscellaneous solid waste or debris will be discharged into or stored in the pit. Only fluids or cuttings used or generated in the drilling process will be placed or stored in the pit.
- 3) The division district office will be notified within 48 hrs of the discovery of compromised liner integrity. Upon the discovery of the compromised liner repairs will be enacted immediately.
- 4) The division district office will be notified within 48 hrs of the discovery of compromised liner integrity below the fluid level unless more than 25 bbls is released in which case Rule 116's 24 hr notification will apply. All liquid above the damaged liner section will be removed to a level below the damage within 48 hrs and repairs will be enacted.
- 5) Precautionary measures will be taken to insure no liner damage is caused when adding or removing fluids and solids from the pit. This will be accomplished by gradually increasing the slope of the pit from negligible underneath the shale shakers to the 2:1 ratio required by 19.15.17.11 within five feet. A perforated pipe will be installed in the corner of the pit so that a vacuum hose can be run through it to remove fluids without damaging the liner.
- 6) Perimeter berms and ditches will be constructed around the exterior of the pit to prevent surface water run-on but the rig side may be left open to allow location drainage.
- 7) A oil absorbent boom will be maintained on site to remove oil from the pit's surface if necessary. Immediately on the cessation of drilling any accumulated oil will be removed from the surface of the pit.
- 8) A minimum of two feet of freeboard will be maintained at all times. Once fluid levels have the possibility of rising above the minimum freeboard fluid will be vacuumed out of the pit.
- 9) All of the above operations will be inspected and a log will be signed and dated. During drilling operations the inspection will be daily and after rig release they will be carried out weekly as long as there is fluid in the pit.

Temporary Pit Closure Plan:

The pit will be closed with in place burial. The surface owner will be notified by certified mail and the return receipt will be included in the closure packet. The OCD will be verbally or by other means notified at least 72 hours and not more than one week prior to the pit closing. The following process will be used to close the pit:

- 1) At time of closure, all free standing fluids will be removed and the liner will be cut off at the mudline.
- 2) The contents will be solidified to a bearing capacity sufficient to support the final cover. This will be accomplished by mixing the contents with soil at a mixing ratio no greater than 3:1 soil to contents.
- 3) Sampling will be done by collecting a minimum of a five-point composite sample of the contents after stabilization. The sample will be analyzed for the following components;

Components	Tests 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	2500
GRO/DRO	EPA SW-846 8015M	500
Chlorides	EPA 300.1	1000

- 4) After demonstrating that the stabilized contents are under the limits listed above the contents will be covered with compacted non-waste containing earthen material to a minimum of three feet. If stabilized contents exceed a volume that can be covered with three feet of earth and a foot of topsoil the excess contents will be removed and sent to Envirotech (Permit NM-01-0011). If the stabilized contents do not meet the above stated limits the stabilized contents will all be hauled to Envirotech.
- 5) After the stabilized contents have been covered, the stockpiled topsoil will be replaced to a minimum depth of one foot. Topsoil cover will be graded to prevent ponding of water and erosion of the cover material. This will be accomplished within six months of rig release.
- 6) The precise location of the on-site burial will be reported to the Aztec field office on the C-105 form. A dead notice identifying the exact location of the on-site burial will be filed with the county clerk.
- 7) The disturbed area will be seeded or planted the first growing season after closing the pit. Seed will be drilled on the contour whenever practical or by other division-approved methods. The being to obtain vegetative cover that equals 70% of the native cover (un-impacted by overgrazing, fire or other intrusion damaging to native vegetation) consisting of at least three native plant species, including at least one grass but not including noxious weeds. Cover will be maintained through two successive growing seasons. During the two growing seasons that prove viability there shall be no artificial irrigation of the vegetation. Seeding or planting will continue until the required cover is reached. If conditions are not favorable to establishment of vegetation due to periods of drought or similar problems then the Aztec office of the OCD will

be notified. The Aztec office of the OCD will also be notified when the disturbed ground successfully achieves re-vegetation.

- 8) The final closure report (C-144) will be filled within 60 days of closure completion and include sampling results, plot plan, details on back filling, covering and inspections during the life of the pit.
- 9) Until the abandonment of the wells on the pad where the pit is located a steel marker no less than four inches in diameter will be cemented in a hole three feet deep in the center of the onsite burial. The top of this marker will be flush with the ground. Once all wells on the pad are abandoned a four foot tall riser will be welded on top of the marker with; operator name, lease name, well name and number, unit number, section, township and range, and a designation that it is an onsite burial location

Justin Anchors

From: Justin Anchors
Sent: Monday, July 14, 2008 3:48 PM
To: 'jreidinger@fs.fed.us'
Subject: Carracas Temporary Drilling Pits

John-

We are planning on building temporary drilling reserve pits for the following wells:

Carracas 15 A #11
Carracas 18 B #3
Carracas 21 A #1
Carracas 30 B #6
Carracas 32 B #7
Carracas Canyon Unit 10 A #16

Thanks.

Justin Anchors
Energen Resources
Summer Intern
janchors@energen.com

7/14/2008