

District I
1625 N. French Dr., Hobbs, NM 88240
District II
811 S. First St., 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
Revised June 6, 2013

For temporary pits, below-grade tanks, and multi-well fluid management pits, submit to the appropriate NMOCD District Office.
For permanent pits submit to the Santa Fe Environmental Bureau office and provide a copy to the appropriate NMOCD District Office.

Pit, Below-Grade Tank, or

12366 Proposed Alternative Method Permit or Closure Plan Application

OIL CONS. DIV DIST. 3

NOV 17 2014

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

Instructions: Please submit one application (Form C-144) per individual pit, 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: Williams Four Corners LLC OGRID #: _____
Address: 188 County Road 4900, Bloomfield, NM 87413
Facility or well name: Crandell SRC #2
API Number: 3004510472 OCD Permit Number: _____
U/L or Qtr/Qtr M Section 19 Township 31N Range 10W County: San Juan
Center of Proposed Design: Latitude 36.879276 Longitude -107.928997 NAD: ☐ 1927 ☒ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

2. ☐ Pit: Subsection F, G or J of 19.15.17.11 NMAC
Temporary: ☐ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ P&A ☐ Multi-Well Fluid Management Low Chloride Drilling Fluid ☐ yes ☐ no
☐ Lined ☐ Unlined Liner type: Thickness _____ mil ☐ LLDPE ☐ HDPE ☐ PVC ☐ Other _____
☐ String-Reinforced
Liner Seams: ☐ Welded ☐ Factory ☐ Other _____ Volume: _____ bbl Dimensions: L _____ x W _____ x D _____

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

* Conditions of Approval Attached

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.

5. Fencing: Subsection D of 19.15.17.11 NMAC (Applies to permanent pits, temporary pits, and below-grade tanks)
☐ Chain link, six feet in height, two strands of barbed wire at top (Required if located within 1000 feet of a permanent residence, school, hospital, institution or church)
☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
☐ Alternate. Please specify _____

State of New Mexico
Energy, Minerals and Natural Resources Department

Susana Martinez
Governor

David Martin
Cabinet Secretary

Brett F. Woods, Ph.D.
Deputy Cabinet Secretary

Jami Bailey, Division Director
Oil Conservation Division



New Mexico Oil Conservation Division Approval and Conditions
(C-144)

Application Type:

☐ Temporary Pit ☐ Multi-Well Fluid Management Pit

☒ Below Grade Tank ☐ Other:

Site information:

API WELL #	Well Name	Well #	Operator Name	Type	Stat	County	Surf. Owner	UL	Sec	Twp	N/S	Rng	W/E
30-045-10472-00-00	CRANDELL SRC	002	BURLINGTON RESOURCES OIL & GAS COMPANY LP	G	P	San Juan	F	M	19	31	N	10	W

Conditions of Approval:

Due to incomplete ground water data submitted in the Application, Williams Four Corners LLC, requested that the Closure Plan, for the Crandell SRC #2 be approved using the Most Stringent standards as indicated by the <50 Feet Row. of Table 1 in 19.15.17.13 NMAC


NMOCD Approved by Signature

12/10/14
Date

6.
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)

7.
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 19.15.16.8 NMAC

8.
Variances 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:

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

9.
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. Siting criteria does not apply to drying pads or above-grade tanks.

General siting

Ground water is less than 25 feet below the bottom of a low chloride temporary pit or below-grade tank.

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

☐ Yes ☒ No
☐ NA

Ground water is less than 50 feet below the bottom of a Temporary pit, permanent pit, or Multi-Well Fluid Management pit.

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

☐ Yes ☒ No
☐ NA

Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. (**Does not apply to below grade tanks**)

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

☐ Yes ☐ No

Within the area overlying a subsurface mine. (**Does not apply to below grade tanks**)

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

☐ Yes ☐ No

Within an unstable area. (**Does not apply to below grade tanks**)

- 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. (**Does not apply to below grade tanks**)

- FEMA map

☐ Yes ☐ No

Below Grade Tanks

Within 100 feet of a continuously flowing watercourse, significant watercourse, lake bed, sinkhole, wetland or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☒ No

Within 200 horizontal feet of a spring or a fresh water well used for public or livestock consumption;

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

☐ Yes ☒ No

Temporary Pit using Low Chloride Drilling Fluid (maximum chloride content 15,000 mg/liter)

Within 100 feet of a continuously flowing watercourse, or any other significant watercourse or within 200 feet of any lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). (Applies to low chloride temporary pits.)

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 300 feet from a occupied 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 200 horizontal feet of a spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 300 feet of any other fresh water well or spring, in existence at the time of the initial application.

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

☐ Yes ☐ No

Within 100 feet of a wetland.

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

☐ Yes ☐ No

Temporary Pit Non-low chloride drilling fluid

Within 300 feet of a continuously flowing watercourse, or any other significant watercourse, or within 200 feet of any 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 spring or a private, domestic fresh water well used by less than five households for domestic or stock watering purposes, or 1000 feet of any other fresh water well or spring, in the existence at the time of the initial application;

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

☐ Yes ☐ No

Within 300 feet of a wetland.

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

☐ Yes ☐ No

Permanent Pit or Multi-Well Fluid Management Pit

Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).

- Topographic map; Visual inspection (certification) of the proposed site

☐ Yes ☐ No

Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application.

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

☐ Yes ☐ No

Within 500 horizontal feet of a spring or a fresh water well used for domestic or stock watering purposes, in existence at the time of initial application.

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

☐ Yes ☐ No

Within 500 feet of a wetland.

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

☐ Yes ☐ No

10.

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: _____

11.

Multi-Well Fluid Management Pit 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.

- ☐ 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
- ☐ A List of wells with approved application for permit to drill associated with the pit.
- ☐ 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

- ☐ Hydrogeologic Data - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC

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

12.

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

13.

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 ☐ Multi-well Fluid Management Pit
☐ 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

14.

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 C 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 H of 19.15.17.13 NMAC
☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

15.

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 require justifications and/or demonstrations of equivalency. Please refer to 19.15.17.10 NMAC for guidance.

- | | |
|---|---|
| Ground water is less than 25 feet below the bottom of the buried waste.
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> NA |
| Ground water is between 25-50 feet below the bottom of the buried waste
- NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells | <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> 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 | <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> NA |
| Within 100 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse, lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark).
- Topographic map; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> 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 | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within 300 horizontal feet of a private, domestic fresh water well or spring used for domestic or stock watering purposes, in existence at the time of initial application.
- NM Office of the State Engineer - iWATERS database; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Written confirmation or verification from the municipality; Written approval obtained from the municipality | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within 300 feet of a wetland.
US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input type="checkbox"/> No |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance | <input type="checkbox"/> Yes <input type="checkbox"/> No |

adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	<input type="checkbox"/> Yes <input type="checkbox"/> No
Within a 100-year floodplain. - FEMA map	<input type="checkbox"/> Yes <input type="checkbox"/> No

16.
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 E of 19.15.17.13 NMAC
☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of Subsection K 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 19.15.17.13 NMAC
☐ Waste Material Sampling Plan - based upon the appropriate requirements 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 H of 19.15.17.13 NMAC
☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC

17.
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): Matt Webre Title: Supervisor, Environmental Services
 Signature: [Signature] Date: November 13, 2014
 e-mail address: matt.webre@williams.com Telephone: 505-632-4446

18.
OCD Approval: ☒ Permit Application (including closure plan) ☐ Closure Plan (only) ☒ OCD Conditions (see attachment)
 OCD Representative Signature: [Signature] Approval Date: 12/10/14
 Title: Environmental Spec. OCD Permit Number: *Use most Stringent Standard

19.
Closure Report (required within 60 days of closure completion): 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: _____

20.
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.

21.
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 for private land only)
☐ Plot Plan (for on-site closures and temporary pits)
☐ Confirmation Sampling Analytical Results (if applicable)
☐ Waste Material Sampling Analytical Results (required for on-site closure)
☐ Disposal Facility Name and Permit Number
☐ Soil Backfilling and Cover Installation
☐ Re-vegetation Application Rates and Seeding Technique
☐ Site Reclamation (Photo Documentation)

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

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: _____



**Williams Four Corners LLC
Closure Plan - Below Grade Tanks
San Juan Basin – New Mexico**

Background

The following Closure Plan has been developed to satisfy requirements of the "Pit Rule" as defined in Title 19 Chapter 15 Part 17 of the New Mexico Administrative Code (NMAC) and describes the requirements and procedures to be used by Williams Four Corners LLC (Williams) when removing below grade tanks (BGTs). The plan will be used when closing BGT locations owned or operated by Williams.

Certain BGTs targeted under this closure plan were, in some cases, installed subsequent to earthen pit closures and were constructed in conformance with New Mexico Oil Conservation Division (NMOCD) approved criteria. All BGTs have been operating in general compliance with NMOCD regulations developed prior to the new Pit Rule enacted in June 2013.

Applicability

This plan shall be implemented when any BGT is closed. The plan shall also be used if any leaking BGT is not retrofitted or modified to comply with applicable design criteria defined in the Pit Rule or when it is determined that continued operation of the BGT represents an imminent danger to fresh water, human health, or the environment. All BGTs with or without completely visible sidewalls, and that do not meet current design standards, shall be closed prior to sale, transfer, or change of Operator or will be retrofitted to meet current design standards.

If there are conditions at a BGT location which prevent or limit adherence to this plan, a separate site specific plan will be developed. Such a plan will be prepared and submitted to the NMOCD for approval and serve as a new, site specific closure plan.

Description of Work

Prior to initiating BGT closure work, notification will be made to the appropriate division district office at least 72 hours, but not more than one week, prior to any closure operation. As indicated on the variance page, notifications to NMOCD will be made in writing via email and will include the legal location of the BGT, and the well name / number and American Petroleum Institute (API) number if the BGT is associated with a well. Verbal notifications to the NMOCD will be provided at the request of the division district office.

In addition, the landowner of record (obtained through county tax records) will be notified in advance by certified mail with return receipt at least 72 hours, but not more than one week, prior to any closure operation. Notifications will provide operator identity, and legal location of the BGT, and the well name / number and API number if the BGT is associated with a well. Public entities including the Bureau of Land Management (BLM), State of New Mexico, local government/municipalities, and/or tribal agencies may be

notified via email based on their notification preferences (as indicated on the variance page).

Removal of liquids and sludge from the BGT will commence within 60 days of cessation of operations. The liquids and sludge removed from the BGT will be disposed at a division-approved facility. Removal of the BGT and any equipment associated with the BGT will commence within 6 months of cessation of operations. Williams will remove the BGT 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.

Table 1 provides a summary of waste materials and the facility proposed for disposal or recycling. Williams may utilize other facilities which may be approved by the NMOCD in the future. As such, the selected disposal site will be identified on the closure form (C-144) prepared for each discrete closure action.

Table 1 - Summary of Waste Materials and Disposal Facilities

Waste Materials	Disposal Facility
Steel Tank	SJ County Landfill or Steel Recycling
Fiberglass Tank	SJ County or Bondad Landfill * or Re-use
Liner (cleaned – absent soil / sludge)	SJ County or Bondad Landfill
Sludge	Envirotech, IEI, TNT, or Bondad Landfill
Liquids (Water / Hydrocarbons)	Basin Disposal, Key Energy, TNT
Contaminated Soil	Envirotech, IEI, TNT, or Bondad Landfill
Fencing / Miscellaneous	Re-use or scrap

*The tank must be empty, cut up or shredded and EPA clean

The use of any disposal or recycling facility will be identified on the C-144 form submitted to the NMOCD as part of the closure report. Any and all ancillary equipment related to the tank will also be removed, including any synthetic liner material(s) and fencing. Williams will ensure that liners and liner material will be free of soil and sludge material and disposed of at a NMOCD approved solid waste facility (e.g. San Juan County Landfill or Permitted Colorado Facility).

Steel or fiberglass tanks will be removed and transported to a storage yard where the condition of each tank will be evaluated for recycling, reuse, or disposal. If the tank is not in a condition allowing reuse, it will either be shipped to a permitted recycling facility (for steel tanks) or it will be disposed of at the San Juan County Landfill (NMED Permit SWM-052426) or other NMOCD approved solid waste disposal site. Specific waste acceptance conditions of the landfill could necessitate further actions as appropriate. Such actions include, but may not be limited to, cutting, shredding, or sizing; emptying or cleaning of tanks or liner material, and otherwise those necessary to conform with permit conditions for Subtitle D disposal and conditions identified in 19.15.35.8 NMAC.

After the tank and equipment have been removed, soils beneath the tank will be tested and evaluated to determine if there is hydrocarbon impact or otherwise if a release event has occurred. Specific sampling protocol will follow the description provided in the Pit Rule which calls for a five point composite sample (see Sampling and Lab Analyses section) to include any obvious staining, or when wet or discolored soil exists, or if there is other evidence of contamination will be collected under the liner or BGT. Samples will

be shipped to an off-site environmental testing laboratory for proper analyses. Results will be submitted to the NMOCD on Form C-141. Further sampling may be required if NMOCD determines additional assessment work is necessary.

If there has been no release to underlying soils as demonstrated by soil analyses (i.e. lab results), or if impacts are below closure limits provided in the table below, then the depression (i.e., excavation) will be backfilled with "non-waste containing" fill material. Sampling of the excavated material is detailed in the Sampling and Laboratory Analyses section later in this plan. Depending on site conditions and operating needs, the backfilled area will be reclaimed with prescribed topsoil and reseeded.

Due to the fact that a majority of Williams BGTs are located on active well sites, reclamation efforts may be deferred in order to avoid impact to ongoing lease operations. In this event, the area of the retired BGT will be incorporated into the overall well site reclamation effort with Williams documenting surface owner and lease operator approval of the proposed alternative.

The BGT site will nevertheless be prepared to prevent erosion, and protect fresh water, human health, and the environment. Williams will submit this documentation to the NMOCD for approval.

Reclamation will be performed as early as possible with the goal of matching original conditions or the final land use. Restoration efforts shall incorporate proper contouring as described in the Pit Rule and shall be constructed in a manner to provide dust control, prevent ponding, and minimize erosion, utilizing drainage controls such as water bars and/or silt traps as appropriate. Topsoils and subsoils will be replaced to their original relative positions and contoured so as to achieve erosion control, long-term stability and preservation of surface water flow patterns. Soil cover suitable for vegetative growth will be equivalent to the background thickness of topsoil or a minimum one foot depth (or background thickness whichever is greater). The area will be contoured in a manner blending soil into/with the surrounding grade. Reclamation shall target the location of the BGT along with associated access roads (not used for production operations) and be implemented to ensure a safe and stable condition that blends with the surrounding undisturbed area.

Re-vegetation efforts will conform with NMOCD approved methods and recommendations including seed type and application rates. The reclaimed area will be reseeded in the first favorable growing season following closure of the BGT. Reclamation and revegetation will be considered complete when all ground surface disturbing activities at the site have been completed, and a uniform vegetative cover has been established that reflects a life-form ratio of plus or minus fifty percent (50%) of pre-disturbance levels and a total percent plant cover of at least seventy percent (70%) of pre-disturbance levels, excluding noxious weeds.

Any other obligations imposed by tribal or federal agencies will be adhered to if such obligations provide equal or better protection of fresh water, human health, and the environment. Williams will notify the NMOCD once reclamation and re-vegetation are complete.

Sampling and Laboratory Analyses

A minimum five point composite sample shall be collected from the soils beneath the BGT which will include any obvious stained, wet, or discolored soils, or soil showing other evidence of a release. Soil will be placed in clean glass jars and chilled and maintained at 4°C. Samples will be packaged and shipped under United States Environmental Protection Agency (USEPA) Chain-of-Custody protocol to an approved and certified environmental laboratory.

Soil samples collected from the earthen containment (i.e. BGT excavation) will be analyzed by an approved environmental laboratory by the listed test methods or as may be directed by the NMOCD. Table 2 summarizes the constituents of concern (COC), testing methods, and the closure limits defining action levels:

Table 2 - Summary of COCs, Test Methods, and Closure Limits

Depth below bottom of pit to groundwater less than 10,000 mg/L TDS	Constituents of Concern	Test Methods	Closure Limits (mg/Kg)**
≤50 feet	Chlorides	EPA 300.0	600
	TPH	EPA SW-846 Method 418.1	100
	GRO + DRO	EPA SW-846 Method 8015M	100
	BTEX	EPA SW-846 Method 8021B or 8260B	50
	Benzene	EPA SW-846 Method 8021B or 8015M	10
51 feet – 100 feet	Chlorides	EPA 300.0	10,000
	TPH	EPA SW-846 Method 418.1	2,500
	GRO + DRO	EPA SW-846 Method 8015M	1,000
	BTEX	EPA SW-846 Method 8021B or 8260B	50
	Benzene	EPA SW-846 Method 8021B or 8015M	10
>100 feet	Chlorides	EPA 300.0	20,000
	TPH	EPA SW-846 Method 418.1	2,500
	GRO + DRO	EPA SW-846 Method 8015M	1,000
	BTEX	EPA SW-846 Method 8021B or 8260B	50
	Benzene	EPA SW-846 Method 8021B or 8015M	10

** Or background concentration – whichever is greater.

If any contaminant concentration is higher than the parameters listed in Table I of 19.15.17.13 NMAC, the division may require additional delineation upon review of the results and Williams must receive approval before proceeding with closure. If all contaminant concentrations are less than or equal to the parameters listed in Table I of 19.15.17.13 NMAC, then Williams will proceed to backfill the excavation with non-waste containing, uncontaminated, earthen material.

Sampling of any excavated or stockpiled material, if required, shall conform with standard environmental sampling protocol. Samples from excavated materials (excavated to facilitate the BGT removal) will be composite samples comprised of at least five discrete samples from the inside and on the surface of the soil pile. A minimum of one composite will be collected from each 100 cubic yards of soil (i.e. one fraction from each cubic yard). Additional samples may be required at the direction of the

NMOCD. Every effort will be made to collect composite fractions from the inside and outside of the soil pile such that a “representative” sample is analyzed.

Stockpile sampling will be facilitated by utilizing a clean soil probe inserted into the soil pile at least three feet or by turning the soil pile with mechanized equipment to expose new soil. The goal is to collect a sample representative of the “whole”. These samples will be handled and packaged as described above and be analyzed by the methods listed in Table 2. Soil with contaminant concentrations at or below the Closure Limits may be returned to the BGT excavation prior to initiating reclamation work.

Records and Documentation

All closure activities will be properly documented and include preparation of Form C-144 which shall be submitted to the NMOCD within 60 days of completing closure tasks. Information to be included in the closure report filing shall include, but not necessarily be limited to, the following:

- Proof of closure notice to NMOCD division and surface owner
- Confirmation sampling and analytical reports (results)
- Disposal facility name and permit information
- Description of capping and reclamation actions (i.e. revegetation rates)
- Photo documentation of site reclamation
- Other information required to complete applicable sections of C-144

As stated above, should conditions at any location necessitate a change to the approach described herein, separate site specific closure details will be provided as an addendum to this plan.

**New Mexico Office of the State Engineer
POD Reports and Downloads**

Township: 31N Range: 11W Sections:

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 08/20/2008

(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 (in feet) Column
SJ 02395	31N	11W	13	1	1	3				95	35	60
SJ 01640	31N	11W	13	2	4					32	7	25
SJ 01551	31N	11W	13	2	4					64	42	22
SJ 00560	31N	11W	13	2	4					39	25	14
SJ 01729	31N	11W	13	2	4					48	28	20
SJ 01541	31N	11W	13	3						52	30	22
SJ 01539	31N	11W	13	3						52	30	22
SJ 00946	31N	11W	13	3	3					135	100	35
SJ 01540	31N	11W	13	4						52	30	22
SJ 01879	31N	11W	13	4						26	8	18
SJ 01801	31N	11W	13	4						22	15	7
SJ 03413	31N	11W	13	4	2					60		
SJ 03412	31N	11W	13	4	2					60		
SJ 03736 POD1	31N	11W	13	4	2	1				19	6	13
SJ 02495	31N	11W	13	4	2	1				28	12	16
SJ 03623	31N	11W	13	4	2	1				30	16	14
SJ 03264	31N	11W	13	4	2	2				20	11	9
SJ 03124	31N	11W	13	4	2	4				20	5	15
SJ 03125	31N	11W	13	4	2	4				20	5	15
SJ 03712 POD1	31N	11W	13	4	3	1				19	11	8
SJ 03018	31N	11W	13	4	3	4				20	8	12
SJ 03670	31N	11W	13	4	3	4				26	10	16
SJ 01538	31N	11W	13	4	4					52	30	22
SJ 01683	31N	11W	13	4	4					45	25	20
SJ 01731	31N	11W	13	4	4					43	25	18
SJ 01644	31N	11W	13	4	4					23	6	17
SJ 02149	31N	11W	13	4	4					35		
SJ 01645	31N	11W	13	4	4					22	6	16
SJ 01767	31N	11W	13	4	4					42	18	24
SJ 01730	31N	11W	13	4	4					40	24	16
SJ 01699	31N	11W	13	4	4					42	12	30
SJ 01609	31N	11W	13	4	4					40	18	22

SJ 01537	31N 11W 13 4 4			52	28	24
SJ 01542	31N 11W 13 4 4					
SJ 01663	31N 11W 13 4 4			45	25	20
SJ 02093	31N 11W 13 4 4	W	470700 2143800	40	20	20
SJ 03440	31N 11W 13 4 4 1			20	6	14
SJ 03084	31N 11W 13 4 4 2			19	11	8
SJ 03085	31N 11W 13 4 4 2			18	8	10
SJ 02801	31N 11W 13 4 4 3			36	5	31
SJ 03064	31N 11W 13 4 4 3			45		
SJ 01142	31N 11W 13 4 4 4			30	8	22
SJ 02838	31N 11W 13 4 4 4			38	10	28
SJ 02855	31N 11W 13 4 4 4			31		
SJ 01173	31N 11W 13 4 4 4			46	28	18
SJ 02289	31N 11W 13 4 4 4			45	16	29
SJ 03458	31N 11W 19 3 3 4			140		
SJ 02978	31N 11W 23 2 1 3			800		
SJ 01817	31N 11W 23 2 4			65	20	45
SJ 02129	31N 11W 23 2 4			72	35	37
SJ 02161	31N 11W 23 3 4			40	25	15
SJ 01600	31N 11W 24 1			30	6	24
SJ 02124	31N 11W 24 1 1			55	40	15
SJ 03755 POD1	31N 11W 24 1 4	269112	2142037	27	7	20
SJ 03695 POD1	31N 11W 24 1 4 2			25	13	12
SJ 03695 POD	31N 11W 24 1 4 2			25	13	12
SJ 03696	31N 11W 24 1 4 2			24	12	12
SJ 03695	31N 11W 24 1 4 2			25	13	12
SJ 03696 POD1	31N 11W 24 1 4 2			24	12	12
SJ 01559	31N 11W 24 2			50	27	23
SJ 01744	31N 11W 24 2 2			44	20	24
SJ 01375	31N 11W 24 2 2			30	11	19
SJ 01986 S	31N 11W 24 2 2 2			45	30	15
SJ 01986	31N 11W 24 2 2 2			38	21	17
SJ 00555	31N 11W 24 2 2 4			60	19	41
SJ 03408	31N 11W 24 2 3 1			26	11	15
SJ 02928	31N 11W 24 2 3 2			70		
SJ 02924	31N 11W 24 2 3 2			33	15	18
SJ 02846	31N 11W 24 2 3 3			45	18	27
SJ 02888	31N 11W 24 2 3 3			65		
SJ 03650	31N 11W 24 2 3 3			32	15	17
SJ 00555 X	31N 11W 24 2 4			58	39	19
SJ 02839	31N 11W 24 2 4 1			55	19	36
SJ 03707 POD1	31N 11W 24 2 4 1			60	40	20
SJ 02758	31N 11W 24 2 4 2			69	51	18
SJ 02791	31N 11W 24 2 4 2			74	54	20
SJ 00379	31N 11W 24 2 4 4			65	40	25
SJ 00365	31N 11W 24 2 4 4			71	40	31
SJ 01670	31N 11W 24 3			45	27	18
SJ 00287	31N 11W 24 3 2 4			38	6	32
SJ 01553	31N 11W 24 3 4			44	35	9
SJ 02171	31N 11W 24 3 4 3			45	25	20
SJ 01366	31N 11W 24 4 1			30	11	19
SJ 02644	31N 11W 24 4 1 4			45	18	27
SJ 00913	31N 11W 24 4 3			81	55	26
SJ 01405	31N 11W 24 4 3			30	9	21
SJ 01455	31N 11W 24 4 3 4			101	66	35
SJ 01047	31N 11W 24 4 3 4			205	70	135
SJ 00405	31N 11W 24 4 3 4			69	42	27
SJ 03438	31N 11W 24 4 4 4			40		
SJ 03045	31N 11W 25 1 4 4			200		

SJ 02499	31N 11W 25 2 1 1	66	45	21
SJ 03198	31N 11W 25 3 3 1	600	100	500
SJ 02834	31N 11W 25 3 3 3	200	160	40
SJ 03450	31N 11W 25 3 3 3	144	95	49
SJ 03126	31N 11W 26 1 1 1	41	21	20
SJ 01233	31N 11W 26 1 4	49	27	22
SJ 03158	31N 11W 26 1 4 2	280	25	255
SJ 00675	31N 11W 26 1 4 3	36	22	14
SJ 02887	31N 11W 26 1 4 4	51	28	23
SJ 02898	31N 11W 26 2 1 4	50		
SJ 01789	31N 11W 26 3 1	29	12	17
SJ 00705	31N 11W 26 3 1 1	18	8	10
SJ 00371	31N 11W 26 3 1 2	29	9	20
SJ 03323	31N 11W 26 3 1 4	30	6	24
SJ 00363	31N 11W 26 3 1 4	25	5	20
SJ 01545 x	31N 11W 26 3 3	27	10	17
SJ 00926	31N 11W 26 4 1	62	32	30
SJ 01519	31N 11W 26 4 2	69	47	22
SJ 01620	31N 11W 26 4 2	67	26	41
SJ 00610	31N 11W 26 4 2	80	50	30
SJ 02011	31N 11W 26 4 2	55	38	17
SJ 01628	31N 11W 26 4 2	66	25	41
SJ 03697 POD1	31N 11W 26 4 2 3	80	50	30
SJ 00562	31N 11W 26 4 3	40	20	20
SJ 00561	31N 11W 26 4 3	38	20	18
SJ 01042	31N 11W 26 4 4	100	30	70
SJ 00494	31N 11W 26 4 4	88	60	28
SJ 02482	31N 11W 27 4 1 2	75	55	20
SJ 03600	31N 11W 27 4 2 1	51	39	12
SJ 03540	31N 11W 27 4 2 1	40	21	19
SJ 03772 POD1	31N 11W 27 4 2 1	41	30	11
SJ 02914	31N 11W 27 4 2 3	25	15	10
SJ 02468	31N 11W 27 4 2 3	49	30	19
SJ 02656	31N 11W 27 4 2 4	21	9	12
SJ 02871	31N 11W 27 4 2 4	22	11	11
SJ 02215	31N 11W 27 4 3	54	23	31
SJ 02676	31N 11W 27 4 3	19	7	12
SJ 03247	31N 11W 27 4 3 1	70		
SJ 03505	31N 11W 27 4 3 3	50	14	36
SJ 02549	31N 11W 27 4 3 3	49	30	19
SJ 02853	31N 11W 27 4 3 4	22	6	16
SJ 02984	31N 11W 27 4 4 1	20		
SJ 03181	31N 11W 27 4 4 1	19	10	9
SJ 01884	31N 11W 30 4 2 3	71	30	41
SJ 01739	31N 11W 30 4 2 4	98	30	68
SJ 01154	31N 11W 30 4 2 4	190	150	40
SJ 01834	31N 11W 30 4 2 4	103	30	73
SJ 01797	31N 11W 30 4 4	100	40	60
SJ 01396	31N 11W 30 4 4 1	80	57	23
SJ 00970	31N 11W 30 4 4 4	110	80	30
SJ 01811	31N 11W 31 2 2	89	50	39
SJ 02994	31N 11W 33 4 3 2	300	200	100
SJ 02993	31N 11W 33 4 3 2	280	160	120
SJ 01137	31N 11W 33 4 4 4	37	19	18
SJ 02277	31N 11W 34 1 2	16	7	9
SJ 02167	31N 11W 34 1 4	83	69	14
SJ 01533	31N 11W 34 1 4	58	40	18
SJ 01251	31N 11W 34 1 4	79	65	14
SJ 03211	31N 11W 34 1 4 1	24	14	10

268239 2135717

<u>SJ 01125</u>	31N 11W 34 1 4 2	59	42	17
<u>SJ 01657</u>	31N 11W 34 2	20	6	14
<u>SJ 01675</u>	31N 11W 34 2	33	7	26
<u>SJ 00632</u>	31N 11W 34 2	25	7	18
<u>SJ 01656</u>	31N 11W 34 2	20	6	14
<u>SJ 00656</u>	31N 11W 34 2	30	8	22
<u>SJ 00631</u>	31N 11W 34 2	30	11	19
<u>SJ 03448</u>	31N 11W 34 2 1	41	21	20
<u>SJ 01267</u>	31N 11W 34 2 1	65	45	20
<u>SJ 01618</u>	31N 11W 34 2 1	28	8	20
<u>SJ 01840</u>	31N 11W 34 2 1 1	65	25	40
<u>SJ 03316</u>	31N 11W 34 2 1 1	30	10	20
<u>SJ 00660</u>	31N 11W 34 2 1 1	50	30	20
<u>SJ 01768</u>	31N 11W 34 2 2	20	6	14
<u>SJ 01721</u>	31N 11W 34 2 2	22	10	12
<u>SJ 03172</u>	31N 11W 34 2 2 2	19	7	12
<u>SJ 03047</u>	31N 11W 34 2 2 4	19	6	13
<u>SJ 02119</u>	31N 11W 34 2 3	11	3	8
<u>SJ 02113</u>	31N 11W 34 2 3	12	4	8
<u>SJ 00659</u>	31N 11W 34 2 3	33	11	22
<u>SJ 00661</u>	31N 11W 34 2 3 1	52	32	20
<u>SJ 02972</u>	31N 11W 34 2 3 4	15	5	10
<u>SJ 03107</u>	31N 11W 34 2 4 1	18	8	10
<u>SJ 03106</u>	31N 11W 34 2 4 1	25		
<u>SJ 03183</u>	31N 11W 34 2 4 4	19	6	13
<u>SJ 03780</u> <u>POD1</u>	31N 11W 34 3 1 2	28	12	16
<u>SJ 02859</u>	31N 11W 34 3 1 4	22	6	16
<u>SJ 02967</u>	31N 11W 34 3 2 3	20	5	15
<u>SJ 02856</u>	31N 11W 34 3 2 3	24	6	18
<u>SJ 02852</u>	31N 11W 34 3 2 3	23	7	16
<u>SJ 03065</u>	31N 11W 34 3 2 3	22	7	15
<u>SJ 03025</u>	31N 11W 34 3 2 3	22	5	17
<u>SJ 03014</u>	31N 11W 34 3 2 4	30	5	25
<u>SJ 03002</u>	31N 11W 34 3 2 4	22		
<u>SJ 02861</u>	31N 11W 34 3 3 1	21	7	14
<u>SJ 03220</u>	31N 11W 34 3 3 1	20	6	14
<u>SJ 03042</u>	31N 11W 34 3 3 2	23	6	17
<u>SJ 03710</u> <u>POD1</u>	31N 11W 34 3 3 2	20	4	16
<u>SJ 03048</u>	31N 11W 34 3 3 4	21	4	17
<u>SJ 02857</u>	31N 11W 34 3 4 1	23	6	17
<u>SJ 03492</u>	31N 11W 34 3 4 2	30		
<u>SJ 03631</u>	31N 11W 34 3 4 2	27	6	21
<u>SJ 03493</u>	31N 11W 34 3 4 2	25	15	10
<u>SJ 03357</u>	31N 11W 34 3 4 2	22	6	16
<u>SJ 03260</u>	31N 11W 34 3 4 4	41	3	38
<u>SJ 03609</u>	31N 11W 34 3 4 4	27	6	21
<u>SJ 01608</u>	31N 11W 34 4	48	17	31
<u>SJ 03720</u> <u>POD1</u>	31N 11W 34 4 1 3	21	6	15
<u>SJ 03497</u>	31N 11W 34 4 1 4	30	10	20
<u>SJ 03402</u>	31N 11W 34 4 1 4	25		
<u>SJ 03377</u>	31N 11W 34 4 2 4	20	2	18
<u>SJ 03016</u>	31N 11W 34 4 3 1	35		
<u>SJ 03739</u> <u>POD1</u>	31N 11W 34 4 3 1	25	3	22
<u>SJ 02966</u>	31N 11W 34 4 3 3	48	20	28
<u>SJ 00985</u>	31N 11W 34 4 4	40	16	24
<u>SJ 02827</u>	31N 11W 35 1 1 2	60		
<u>SJ 03371</u>	31N 11W 35 1 1 3	21	5	16
<u>SJ 02902</u>	31N 11W 35 1 1 3	19	5	14
<u>SJ 02897</u>	31N 11W 35 1 3 1	17	6	11

267922 2130341

SJ 00333	31N 11W 35 1 3 4		30	6	24
SJ 03760 POD1	31N 11W 35 1 4 1	268465 2130772	43	12	31
SJ 03543	31N 11W 35 1 4 4		61	30	31
SJ 01144	31N 11W 35 1 4 4		55	30	25
SJ 01319	31N 11W 35 2 2 2			155	
SJ 00185	31N 11W 35 2 3		54		
SJ 03676	31N 11W 35 2 3 1		52	19	33
SJ 03560	31N 11W 35 2 3 2		62	32	30
SJ 03165	31N 11W 35 2 4 4		20		
SJ 03166	31N 11W 35 2 4 4		20		
SJ 00983	31N 11W 35 3		110	70	40
SJ 00939	31N 11W 35 3		60	30	30
SJ 00940	31N 11W 35 3 1		64	15	49
SJ 01580	31N 11W 35 3 1 1		65	30	35
SJ 02932	31N 11W 35 3 1 2		27	14	13
SJ 02933	31N 11W 35 3 1 2		37	24	13
SJ 03574	31N 11W 35 3 1 4		100		
SJ 00591	31N 11W 35 3 1 4		83	54	29
SJ 00939 1	31N 11W 35 3 2		60	30	30
SJ 00713	31N 11W 35 4 2		37	19	18

Record Count: 229

**New Mexico Office of the State Engineer
POD Reports and Downloads**

Township: Range: Sections:

NAD27 X: Y: Zone: Search Radius:

County: Basin: Number: Suffix:

Owner Name: (First) (Last) ☐ Non-Domestic ☐ Domestic ☒ All

WATER COLUMN REPORT 08/21/2008

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

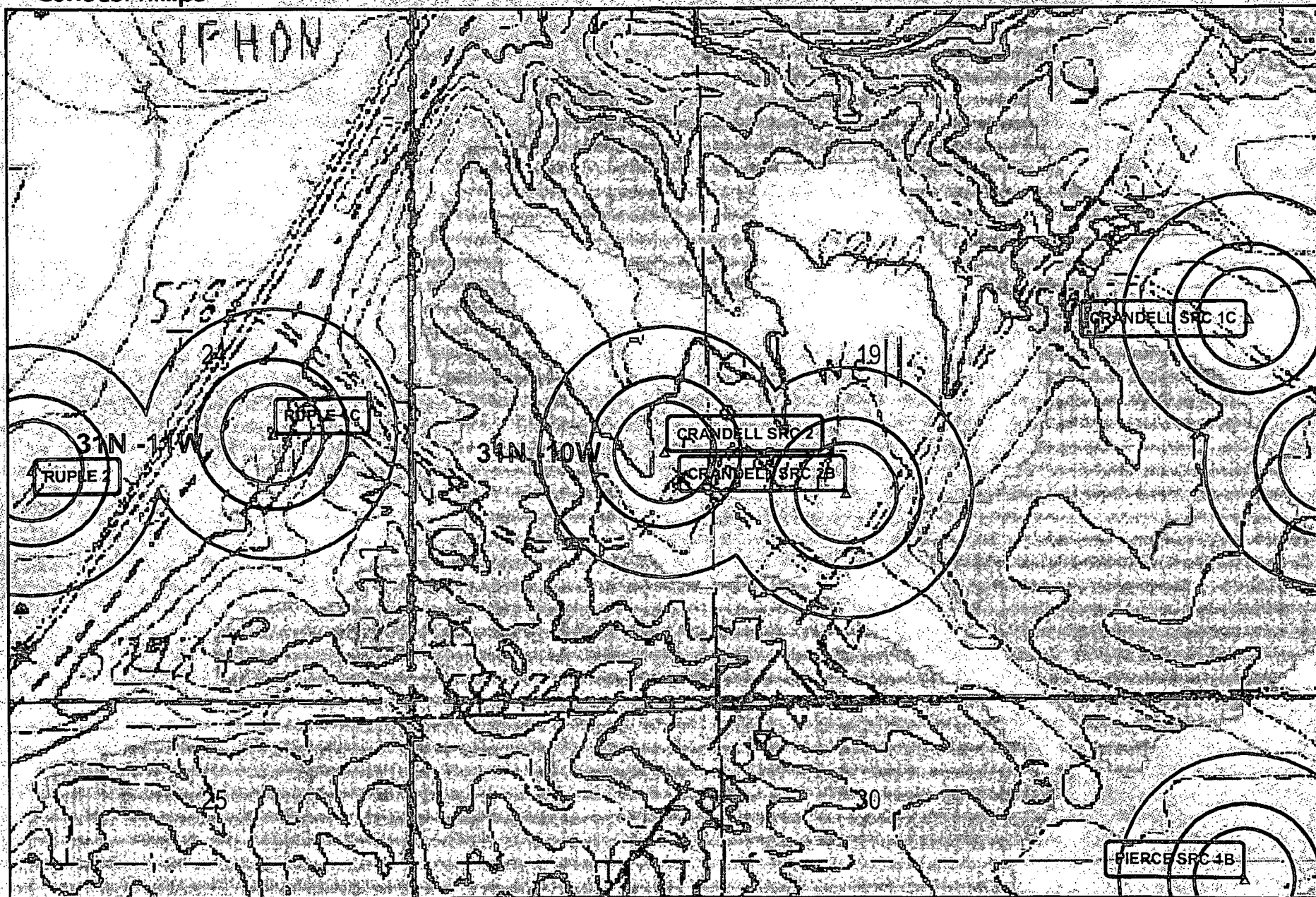
POD Number	Tws	Rng	Sec	q	q	q	Zone	X	Y	Depth Well	Depth Water	Water (in feet) Column
SJ 00050	30N	10W	02	1	3	2				520	306	214
SJ 03460	30N	10W	02	1	3	2				520	500	20
SJ 03230	30N	10W	03	1	2	1				120	70	50
SJ 03113	30N	10W	05	4	1	4				42	30	12
SJ 00589	30N	10W	08	1	1	1				175	150	25
SJ 00774	30N	10W	08	1	2	1				195	160	35
SJ 02316	30N	10W	08	1	3					210	98	112
SJ 02102	30N	10W	08	1	3	4				190	90	100
SJ 01527	30N	10W	08	2	2					120	60	60
SJ 01193	30N	10W	08	2	2					100	70	30
SJ 02808	30N	10W	08	2	3	4				165	105	60
SJ 01102	30N	10W	08	2	4					200	159	41
SJ 02998	30N	10W	08	3	3	1				260	117	143
SJ 02772	30N	10W	08	4	2	2				200	160	40
SJ 00523	30N	10W	08	4	4					160	120	40
SJ 01362	30N	10W	20	1	3	3				238	190	48
SJ 03442	30N	10W	20	1	4	1				200		
SJ 02782	30N	10W	20	1	4	4				250		
SJ 02797	30N	10W	20	2	4	1				70		
SJ 00024	30N	10W	23	2	4	2				305		
SJ 00051	30N	10W	23	2	4	2				305		
SJ 00197	30N	10W	23	4	2					975	500	475
SJ 00010	30N	10W	24	2						292		
SJ 01116	30N	10W	33	2	1					105	45	60
SJ 01059	30N	10W	34	1	2	4				115	75	40
SJ 01182	30N	10W	34	1	3	3				235	125	110

Record Count: 26

ConocoPhillips

USGS TOPO MAP

CRANDELL SRC 2



Wetlands data acquired from U.S. Fish
and Wildlife
<http://wetlandswms.er.usgs.gov>

Ground Water

⊕ iWaters

+ COP

Buffers

200ft 500ft

300ft Wetlands

0 500 1,000
Feet
1:6,000

NAD 1983 StatePlane
NMWest_FIPS_3003

8/08

ContoPhillips

AERIAL MAP CRANDELL SRC 2



Data Source
Aerial flown locally Sedgewick in 2005.



1000FT



300FT

0 500 1,000 Feet

1:6,000

NAD 1983 SP
NM West FIPS 3003
8/08

Mines, Mills and Quarries Web Map

CRANDELL SRC 2

Unit Letter: M, Section: 19, Town: 031N, Range: 010W

Mines, Mills & Quarries Commodity Groups

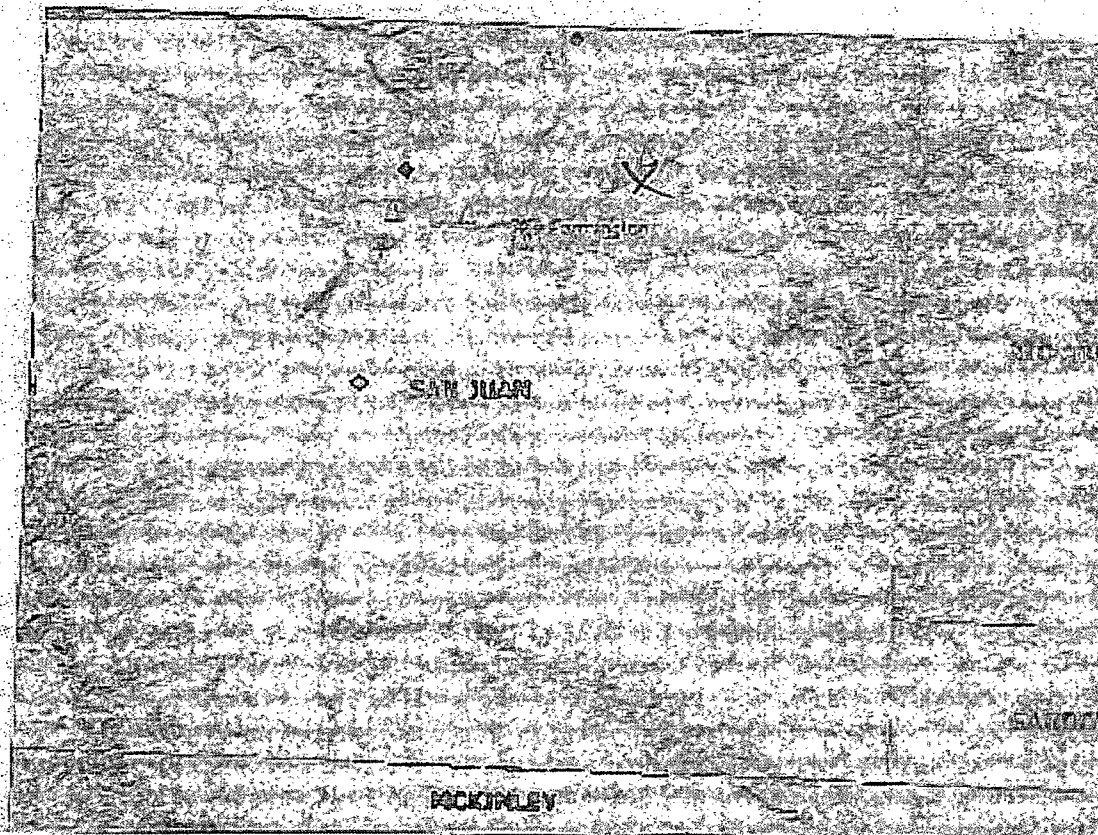
- △ Aggregate & Stone Mines
- ◇ Coal Mines
- ★ Industrial Minerals Mines
- ◆ Industrial Minerals Mills
- ☐ Metal Mines and Mill Concentrate
- Potash Mines & Refineries
- Smelters & Refinery Ops.
- ✱ Uranium Mines
- ⊙ Uranium Mills

Population

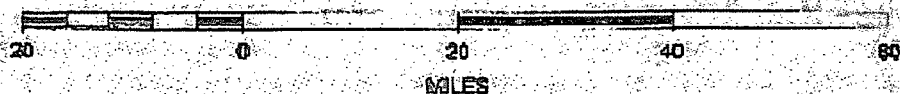
- Cities - major

Transportation

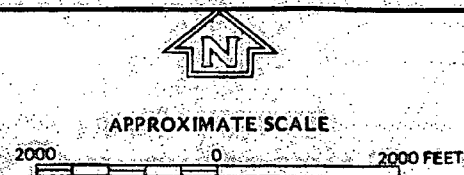
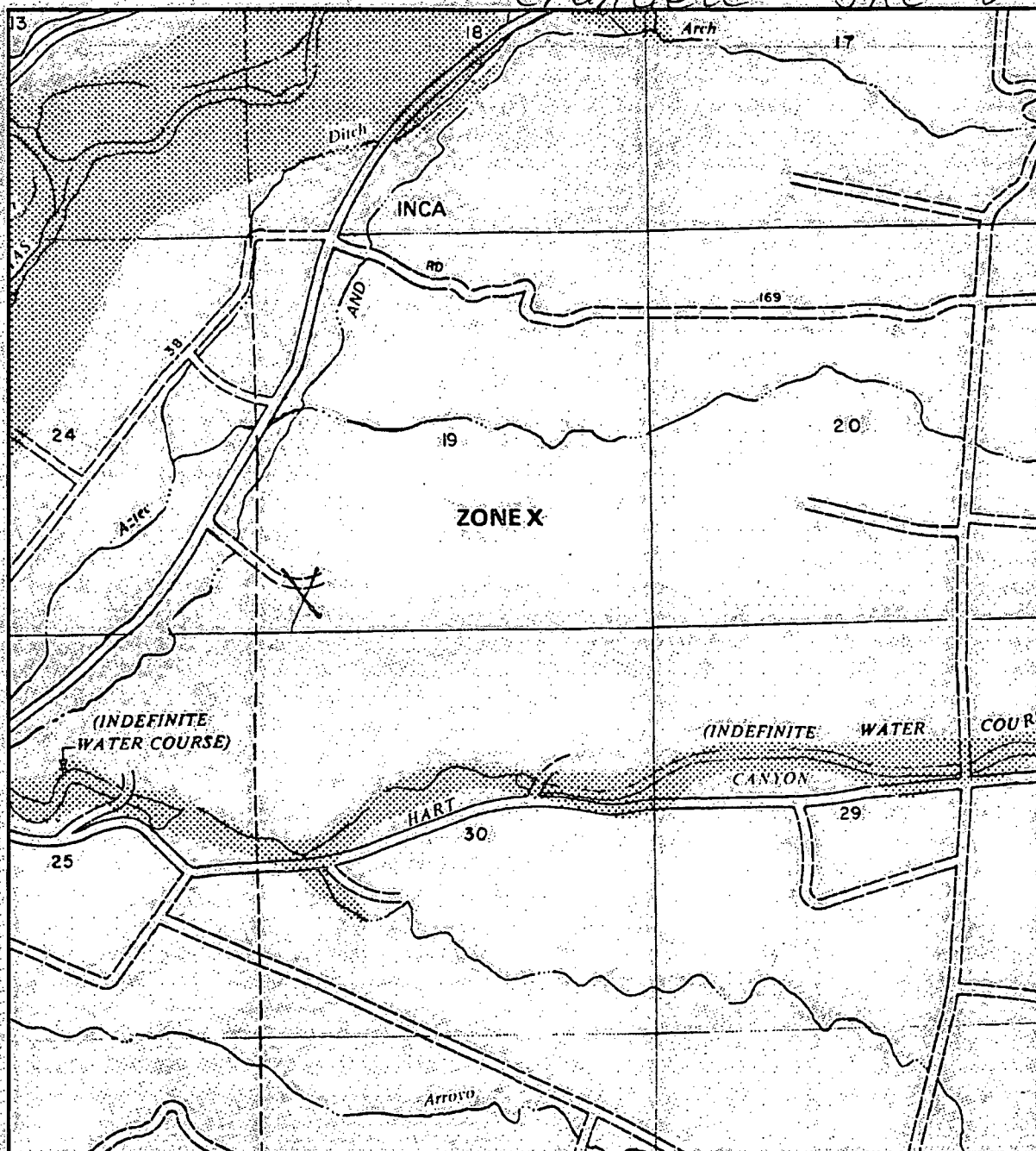
- Railways
- Interstate Highways
- Major Roads



SCALE 1 : 1,180,363



Crandell SRC 2



NATIONAL FLOOD INSURANCE PROGRAM

FIRM
FLOOD INSURANCE RATE MAP

SAN JUAN COUNTY,
NEW MEXICO
UNINCORPORATED AREAS

PANEL 350 OF 1450
(SEE MAP INDEX FOR PANELS NOT PRINTED)



PANEL LOCATION

COMMUNITY-PANEL NUMBER
350064 0350 B

EFFECTIVE DATE:
AUGUST 4, 1988



Federal Emergency Management Agency

This is an official copy of a portion of the above referenced flood map. It was extracted using F-MIT On-Line. This map does not reflect changes or amendments which may have been made subsequent to the date on the title block. For the latest product information about National Flood Insurance Program flood maps check the FEMA Flood Map Store at www.msc.fema.gov

CRANDELL SRC 2

Site Specific Hydrogeology

A visual site inspection confirming the information contained herein was performed on the well 'CRANDELL SRC 2', which is located at 36.87947 degrees North latitude and 107.92893 degrees West longitude. This location is located on the Cedar Hill 7.5' USGS topographic quadrangle. This location is in section 19 of Township 31 North Range 10 West of the Public Land Survey System (New Mexico Principal Meridian). This location is located in San Juan County, New Mexico. The nearest town is Cedar Hill, located 4.7 miles to the northeast. The nearest large town (population greater than 10,000) is Farmington, located 18.3 miles to the southwest (National Atlas). The nearest highway is US Highway 550, located 0.3 miles to the northwest. The location is on BLM land and is 208 feet from the edge of the parcel as notated in the BLM land status layer updated January 2008. This location is in the Animas, Colorado, New Mexico, Sub-basin. This location is located 1809 meters or 5933 feet above sea level and receives 12 inches of rain each year. The vegetation at this location is classified as Colorado Plateau Pinon-Juniper Woodland as per the Southwest Regional Gap Analysis Program.

The estimated depth to ground water at this point is 174 feet. This estimation is based on the data published on the New Mexico Engineer's iWaters Database website and water depth data from ConocoPhillips' cathodic wells. Groundwater data available from the NM State Engineer's iWaters Database for wells near the proposed site are attached. The nearest stream is 852 feet to the east and is classified by the USGS as an intermittent stream. The nearest perennial stream is named Animas River and is 5,405 feet to the northwest. The nearest water body is 7,203 feet to the northwest. It is classified by the USGS as an intermittent lake and is 7.9 acres in size. The nearest spring is 17,854 feet to the northwest. All stream, river, water body and spring information was determined as per the USGS Hydrographic Dataset (High Resolution), downloaded 3/2008. The nearest water well is 1,601 feet to the northwest. The nearest wetland is a 1.4 acre Freshwater Forested/Shrub Wetland located 4,976 feet to the northwest. The slope at this location is 0 degrees to the north as calculated from USGS 30M National Elevation Dataset. This information is also discerned from the aerial and topographic map included. The surface geology at this location is NACIMIENTO FORMATION--Shale and sandstone with a Shale dominated formations of all ages substrate. The soil at this location is 'Haplargids-Blackston-Torriorthents complex, very steep' and is well drained and not hydric with severe erosion potential as taken from the NRCS SSURGO map unit, downloaded January 2008. The nearest underground mine is 6.1 miles to the north as indicated on the Mines, Mills and Quarries Map of New Mexico provided.

Regional Geological context:

The Nacimiento Formation is of Paleocene age (Baltz, 1967, p. 35). It crops out in a broad band inside the southern and western margins of the central basin and in a narrow band along the west face of the Nacimiento Uplift. The Nacimiento is a nonresistant unit and typically erodes to low, rounded hills or forms badland topography.

The Nacimiento Formation occurs in approximately only the southern two-thirds of the San Juan Basin where it conformably overlies and intertongues with the Ojo Alamo Sandstone (Fassett, 1974, p. 229). The Nacimiento Formation grades laterally into the main part of the Animas Formation (Fassett and Hinds, 1971, p. 34); thus, in this area, the two formations occupy the same stratigraphic interval.

Strata of the Nacimiento Formation were deposited in lakebeds in the central basin area with lesser deposition in stream channels (Brimhall, 1973, p. 201). In general, the Nacimiento consists of drab, interbedded black and gray shale with discontinuous, white, medium- to very coarse grained arkosic sandstone (Stone et al., 1983, p.30). Stone et al. indicated that the formation may contain more sandstone than commonly reported because some investigators assume the slope-forming strata in the unit area shales, whereas in many places the strata actually are poorly consolidated sandstones.

Total thickness of the Nacimiento Formation ranges from about 500 to 1,300 feet. The unit generally thickens from the basin margins toward the basin center (Steven et al., 1974). The sandstone deposits within the Nacimiento Formation are much thinner than the total thickness of the formation because their environment of deposition was localized stream channels (Brimhall, 1973, p. 201). The thickness of the combined San Jose, Animas, and Nacimiento Formations ranges from 500 to more than 3,500 feet.

Hydraulic Properties:

Reported well yields for 53 wells completed in either the Animas or Nacimiento Formations range from 2 to 90 gallons per minute and the median yield is 7.5 gallons per minute. The primary use of water from Nacimiento and Animas Formations is domestic and livestock supplies. There are no known aquifer tests for the Animas or Nacimiento Formations, but specific capacities reported for six wells range from 0.24 to 2.30 gallons per minute per foot of drawdown (Levings et al., 1990).

The Animas and Nacimiento Formations are in many ways hydrologically similar to the San Jose Formation because sands in both units produce approximately the same quantities of water. However, the greater percentage of fine materials in the Animas and Nacimiento Formations may restrict downward vertical leakage to the Ojo Alamo Sandstone or Kirtland Shale. The poorly cemented fine material is highly erodible, forms a badland terrain, and supports only spotty vegetation. These conditions are more conducive to runoff than retention of precipitation.

References:

- Baltz, E.H., 1967, Stratigraphy and regional tectonic implications of part of Upper Cretaceous rocks, east-central San Juan Basin, New Mexico: USGS Professional Paper 552, 101 p.
- Brimhall, R.M., 1973, Ground-water hydrology of Tertiary rocks of the San Juan Basin, New Mexico, in Fassett, J.E., ed., Cretaceous and Tertiary rocks of the Southern Colorado Plateau: Four Corners Geological Society Memoir, p. 197-207.
- Fassett, J.E., 1974, Cretaceous and Tertiary rocks of the eastern San Juan Basin, New Mexico and Colorado, in Guidebook of Ghost Ranch, central-northern New Mexico: New Mexico Geological Society, 25th Field Conference, p. 225-230.
- Fassett, J.E., and Hinds, J.S., 1971, Geology and fuel resources of the Fruitland Formation and Kirtland Shale of the San Juan Basin, New Mexico and Colorado: USGS Professional Paper 676, 76 p.
- Levings, G.W., Craig, 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: USGS Hydrologic Investigations Atlas HA-720-A, 2 sheets.
- 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.