

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

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

Form C-144  
July 21, 2008

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

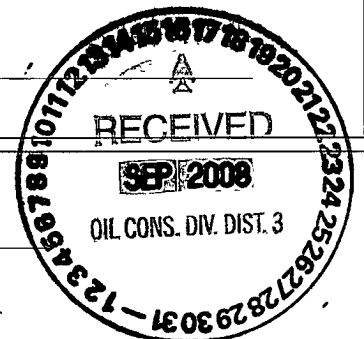
**Pit, Closed-Loop System, Below-Grade Tank, or  
Proposed Alternative Method Permit or Closure Plan Application**

1593  
Type of action: ☒ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method  
☐ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method  
☐ Modification to an existing permit  
☐ Closure plan only submitted for an existing permitted or non-permitted pit, closed-loop system, below-grade tank, or proposed alternative method

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

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

|   |   |
|---|---|
| 1 | Operator <u>DJ Simmons, Inc</u> OGRID# <u>005578</u><br>Address <u>1009 Ridgeway Place</u> Farmington, NM 87410<br>Facility or well name <u>Jicarilla H No 101 GDP</u><br>API Number <u>300-3922005</u> OCD Permit Number _____<br>U/L or Qtr/Qtr <u>A</u> Section <u>5</u> Township <u>24N</u> Range <u>4W</u> County <u>Rio Arriba</u><br>Center of Proposed Design Latitude <u>36 346867</u> Longitude <u>-107 270295</u> NAD <input type="checkbox"/> 1927 <input checked="" type="checkbox"/> 1983<br>Surface Owner <input checked="" type="checkbox"/> Federal <input type="checkbox"/> State <input type="checkbox"/> Private <input type="checkbox"/> Tribal Trust or Indian Allotment  |
| 2 | <input type="checkbox"/> <b>Pit:</b> Subsection F or G of 19 15 17 11 NMAC<br>Temporary <input type="checkbox"/> Drilling <input type="checkbox"/> Workover<br><input type="checkbox"/> Permanent <input type="checkbox"/> Emergency <input type="checkbox"/> Cavitation <input type="checkbox"/> P&A<br><input type="checkbox"/> Lined <input type="checkbox"/> Unlined Liner type Thickness _____ mil <input type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other _____<br><input type="checkbox"/> String-Reinforced<br>Liner Seams <input type="checkbox"/> Welded <input type="checkbox"/> Factory <input type="checkbox"/> Other _____ Volume _____ bbl Dimensions L _____ x W _____ x D _____   |
| 3 | <input type="checkbox"/> <b>Closed-loop System:</b> Subsection H of 19 15 17 11 NMAC<br>Type of Operation <input type="checkbox"/> P&A <input type="checkbox"/> Drilling a new well <input type="checkbox"/> Workover or Drilling (Applies to activities which require prior approval of a permit or notice of intent)<br><input type="checkbox"/> Drying Pad <input type="checkbox"/> Above Ground Steel Tanks <input type="checkbox"/> Haul-off Bins <input type="checkbox"/> Other _____<br><input type="checkbox"/> Lined <input type="checkbox"/> Unlined Liner type Thickness _____ mil <input type="checkbox"/> LLDPE <input type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other _____<br>Liner Seams <input type="checkbox"/> Welded <input type="checkbox"/> Factory <input type="checkbox"/> Other _____ |
| 4 | <input checked="" type="checkbox"/> <b>Below-grade tank:</b> Subsection I of 19 15 17 11 NMAC<br>Volume <u>210</u> bbl Type of fluid: <u>Produced Water</u><br>Tank Construction material: <u>Steel</u><br><input type="checkbox"/> Secondary containment with leak detection <input type="checkbox"/> Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off<br><input checked="" type="checkbox"/> Visible sidewalls and liner <input type="checkbox"/> Visible sidewalls only <input type="checkbox"/> Other _____<br>Liner type: Thickness <u>12</u> mil <input checked="" type="checkbox"/> HDPE <input type="checkbox"/> PVC <input type="checkbox"/> Other _____  |
| 5 | <input type="checkbox"/> <b>Alternative Method:</b><br>Submission of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval.  |



17

6

**Fencing:** Subsection D of 19 15 17 11 NMAC (*Applies to permanent pits, temporary pits, and below-grade tanks*)

- ☐ Chain link, six feet in height, two strands of barbed wire at top (*Required if located within 1000 feet of a permanent residence, school, hospital, institution or church*)
- ☐ Four foot height, four strands of barbed wire evenly spaced between one and four feet
- ☐ Alternate Please specify \_\_\_\_\_

7

**Netting:** Subsection E of 19 15 17 11 NMAC (*Applies to permanent pits and permanent open top tanks*)

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

8

**Signs:** Subsection C of 19 15 17 11 NMAC

- ☐ 12"x 24", 2" lettering, providing Operator's name, site location, and emergency telephone numbers
- ☒ Signed in compliance with 19 15 3 103 NMAC

9

**Administrative Approvals and Exceptions:**

Justifications and/or demonstrations of equivalency are required. Please refer to 19 15 17 NMAC for guidance.

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

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

10

**Siting Criteria (regarding permitting):** 19 15 17 10 NMAC

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

|   |  |
|---|--|
| Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank<br>- NM Office of the State Engineer - iWATERS database search, USGS, Data obtained from nearby wells   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |
| Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark)<br>- Topographic map, Visual inspection (certification) of the proposed site   | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |
| Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application ( <i>Applies to temporary, emergency, or cavitation pits and below-grade tanks</i> )<br>- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No<br><input type="checkbox"/> NA |
| Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application ( <i>Applies to permanent pits</i> )<br>- Visual inspection (certification) of the proposed site, Aerial photo, Satellite image   | <input type="checkbox"/> Yes <input type="checkbox"/> No<br><input checked="" type="checkbox"/> NA |
| Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application<br>- NM Office of the State Engineer - iWATERS database search, Visual inspection (certification) of the proposed site | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |
| Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended<br>- Written confirmation or verification from the municipality, Written approval obtained from the municipality  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |
| Within 500 feet of a wetland<br>- US Fish and Wildlife Wetland Identification map, Topographic map, Visual inspection (certification) of the proposed site  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |
| Within the area overlying a subsurface mine<br>- Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |
| Within an unstable area<br>- Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources, USGS, NM Geological Society, Topographic map  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |
| Within a 100-year floodplain<br>- FEMA map  | <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No                                |

11

**Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist:** Subsection B of 19 15 17 9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☒ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19 15 17 9 NMAC
- ☐ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19 15 17 9 NMAC
- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17 10 NMAC
- ☒ Design Plan - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19 15 17 12 NMAC
- ☒ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC

☐ Previously Approved Design (attach copy of design) API Number \_\_\_\_\_ or Permit Number \_\_\_\_\_

12

**Closed-loop Systems Permit Application Attachment Checklist:** Subsection B of 19 15 17 9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Geologic and Hydrogeologic Data (only for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19 15 17 9
- ☐ Siting Criteria Compliance Demonstrations (only for on-site closure) - based upon the appropriate requirements of 19 15 17 10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19 15 17 12 NMAC
- ☐ Closure Plan (Please complete Boxes 14 through 18, if applicable) - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC

☐ Previously Approved Design (attach copy of design) API Number \_\_\_\_\_

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

13

**Permanent Pits Permit Application Checklist:** Subsection B of 19 15 17 9 NMAC**Instructions:** Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19 15 17 9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19 15 17 10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19 15 17 12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19 15 17 11 NMAC
- ☐ Nuisance or Hazardous Odors, including H<sub>2</sub>S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19 15 17 9 NMAC and 19 15 17 13 NMAC

14

**Proposed Closure:** 19 15 17 13 NMAC**Instructions:** Please complete the applicable boxes, Boxes 14 through 18, in regards to the proposed closure plan.

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

☐ Alternative

Proposed Closure Method ☒ Waste Excavation and Removal

☐ Waste Removal (Closed-loop systems only)

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

☐ In-place Burial ☐ On-site Trench Burial

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

15

**Waste Excavation and Removal Closure Plan Checklist:** (19 15 17 13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

- ☒ Protocols and Procedures - based upon the appropriate requirements of 19 15 17 13 NMAC
- ☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC
- ☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☒ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

16

**Waste Removal Closure For Closed-loop Systems That Utilize Above Ground Steel Tanks or Haul-off Bins Only:** (19 15 17 13 D NMAC)

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

Disposal Facility Name \_\_\_\_\_ Disposal Facility Permit Number \_\_\_\_\_

Disposal Facility Name \_\_\_\_\_ Disposal Facility Permit Number \_\_\_\_\_

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

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

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

☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC

☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC

☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17 13 NMAC

17

**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

18

**On-Site Closure Plan Checklist:** (19 15 17 13 NMAC) **Instructions:** Each of the following items must be attached to the closure plan. Please indicate, by a check mark in the box, that the documents are attached.

☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17 10 NMAC

☐ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC

☐ Construction/Design Plan of Burial Trench (if applicable) based upon the appropriate requirements of 19 15 17 11 NMAC

☐ Construction/Design Plan of Temporary Pit (for in-place burial of a drying pad) - based upon the appropriate requirements of 19 15 17 11 NMAC

☐ Protocols and Procedures - based upon the appropriate requirements of 19 15 17 13 NMAC

- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19 15 17 13 NMAC
- ☐ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19 15 17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☐ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19 15 17 13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19 15 17 13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19 15 17.13 NMAC

19

**Operator Application Certification:**

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

Name (Print) John Byrom Title President

Signature: [Signature] Date: 9/16/08

e-mail address jbyrom@djsimmons.com Telephone: 505-326-3753

20

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

OCD Representative Signature: [Signature] Approval Date: 3/09/2012

Title: Compliance Officer OCD Permit Number: \_\_\_\_\_

21.

**Closure Report (required within 60 days of closure completion):** Subsection K of 19 15 17.13 NMAC

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

☐ Closure Completion Date: \_\_\_\_\_

22.

**Closure Method:**

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

23

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

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

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number \_\_\_\_\_

Disposal Facility Name: \_\_\_\_\_ Disposal Facility Permit Number \_\_\_\_\_

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

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

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

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

24

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

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

On-site Closure Location Latitude \_\_\_\_\_ Longitude \_\_\_\_\_ NAD ☐ 1927 ☐ 1983

\* Note test result limit correction in Closure Plan

**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 Report  
DJ Simmons, Inc  
Jicarilla H No. 101 HDP  
T24N, R4W, Sec. 05**

**Regional Hydrological Context**

**Referenced Well Location:**

The referenced well and pit is located on Federal Bureau of Land Management land in San Juan County, New Mexico. This site is positioned in the northeastern portion of the San Juan Basin, an asymmetrical syncline that extends from northwestern New Mexico into southwestern Colorado (Carson National Forest DEIS, 2007). Elevation of the referenced well is approximately 7025 feet MSL.

**General Regional Groundwater Description:**

As a portion of the San Juan Basin, this region is underlain by sandstone aquifers of the Colorado Plateau. The primary aquifer of potential concern at this location is the Unita-Animas Aquifer, composed primarily of Lower Tertiary rocks in the San Juan Basin. The aquifer consists of the San Jose Formation; the underlying Animas formation and its lateral equivalent, the Nacimiento formation, and the Ojo Alamo Sandstone. The thickness of the Unita-Animas aquifer generally increases toward the central part of the basin. In the northeastern part of the San Juan Basin, the maximum thickness of the aquifer is approximately 3500 feet (USGS, 2001). This aquifer contains fresh to moderately saline water.

Groundwater generally flows toward the San Juan River and its tributaries, where it becomes alluvial groundwater or is discharged to stream flow. Additional information regarding the Hydrogeologic setting can be found in the provided references.

**Site Specific Information:**

**Surface Hydrology:**

The pit is located on relatively even terrain on an upland bench associated with Johnson Canyon. The nearest designated significant ephemeral drainage, which is 320 feet from the Hanson Federal No. Vaulted Tank, is associated with the greater Largo wash watershed.

**1<sup>st</sup> Water Bearing Formation:**

San Jose, Tertiary

**Formation Thickness:**

Approximately 1,900- feet.

**Underlying Formation:**

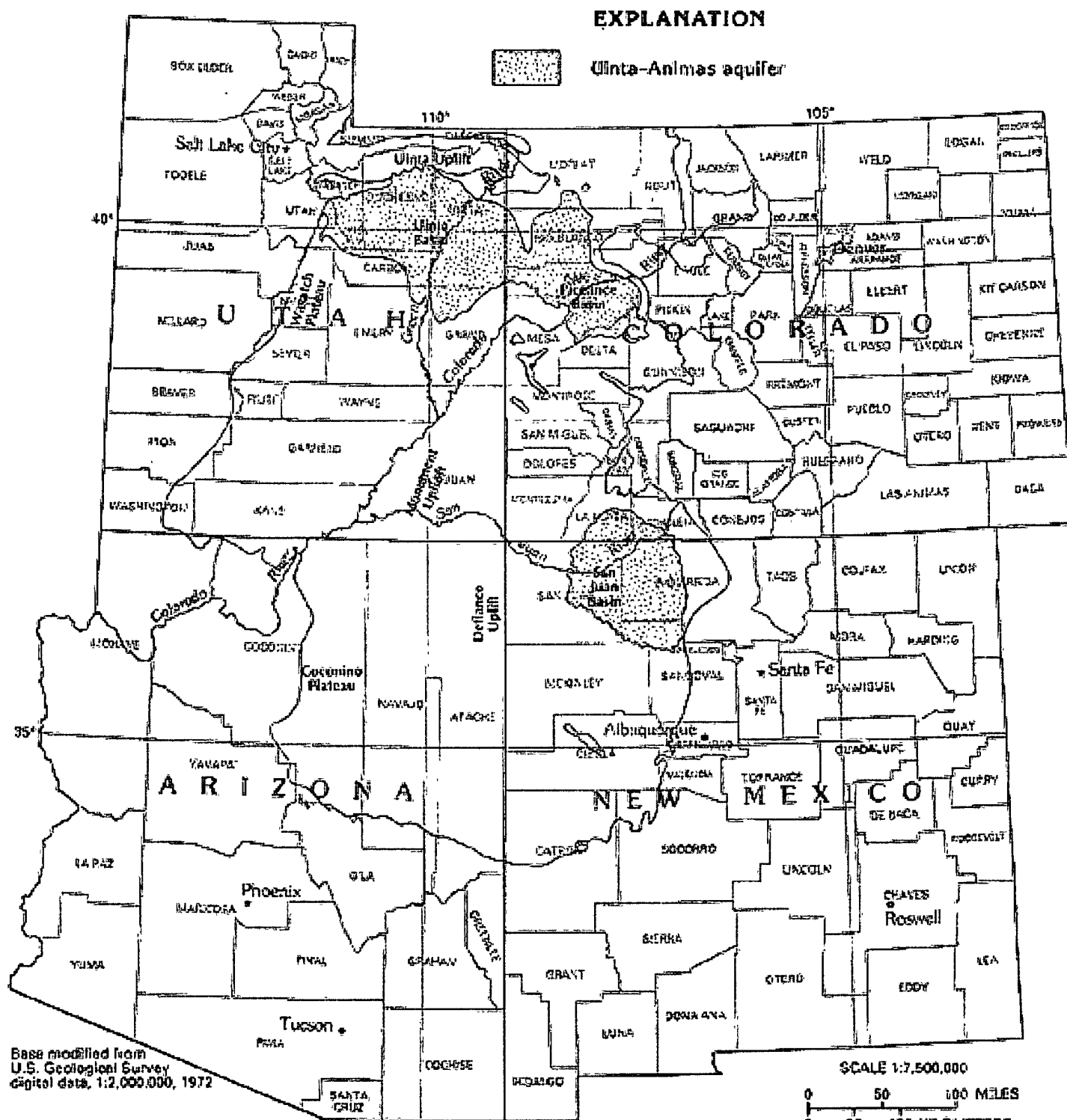
Nacimiento, Tertiary

**Depth to Groundwater:**

Depth to groundwater is estimated at greater than 90 feet bgs. The closest iWATERS wells are within 4750 ft of this site location. T24N, R4W, Sec. 5. The well is No. RG 70162.

**References:**

- Allen, Erin. Undated. Colorado Plateau Aquifers  
<http://academic.emory.edu/schulmeier/hydro/TERM%20PROJECTS/2007/Allen/Aquifer.html>.
- New Mexico Energy, Minerals and Natural Resources Department, Division of Mining and Minerals. Database. 2008. Internet accessed August 2008.
- New Mexico Office of the State Engineer. August 2008. iWaters database. Internet accessed August 2008.
- New Mexico WQCC. 2005. State of New Mexico Water Quality Act and the Water Control Commission Regulations.
- United States Department of Agriculture, Forest Service. 2007. Draft Environmental Impact Statement for Surface Management of Gas Leasing and Development. Jicarilla Ranger District, Carson National Forest, Rio Arriba County, New Mexico.
- United States Department of the Interior. Bureau of Land Management. 2003. Final Farmington Resource Management Plan and Final Environmental Impact Statement. Farmington Field Office, Farmington, New Mexico.
- United States Geological Survey. 2001. Groundwater Atlas of the United States. Arizona, Colorado, New Mexico and Utah. USGS Publication HA 730-C, <http://capp.water.usgs.gov>



**Figure 108.** The Uinta-Animas aquifer is the shallowest of the Colorado Plateaus aquifers and is present in the Uinta, Piceance, and San Juan Basins.



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

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Township:  Range:  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

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POD / SURFACE DATA REPORT

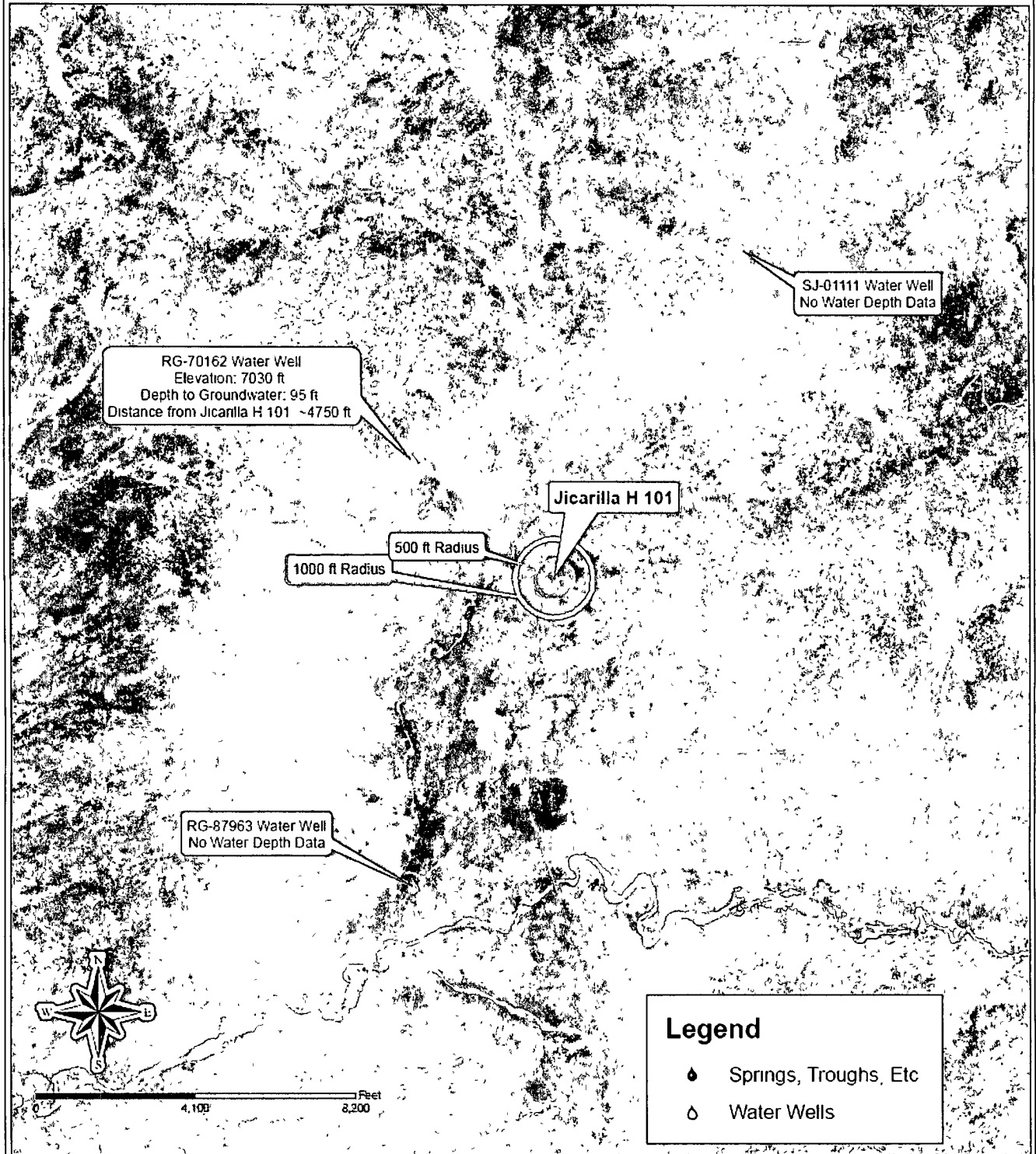
09/16/2008

(quarters are 1=NW 2=NE 3=SW 4=SE)  
(acre ft per annum)

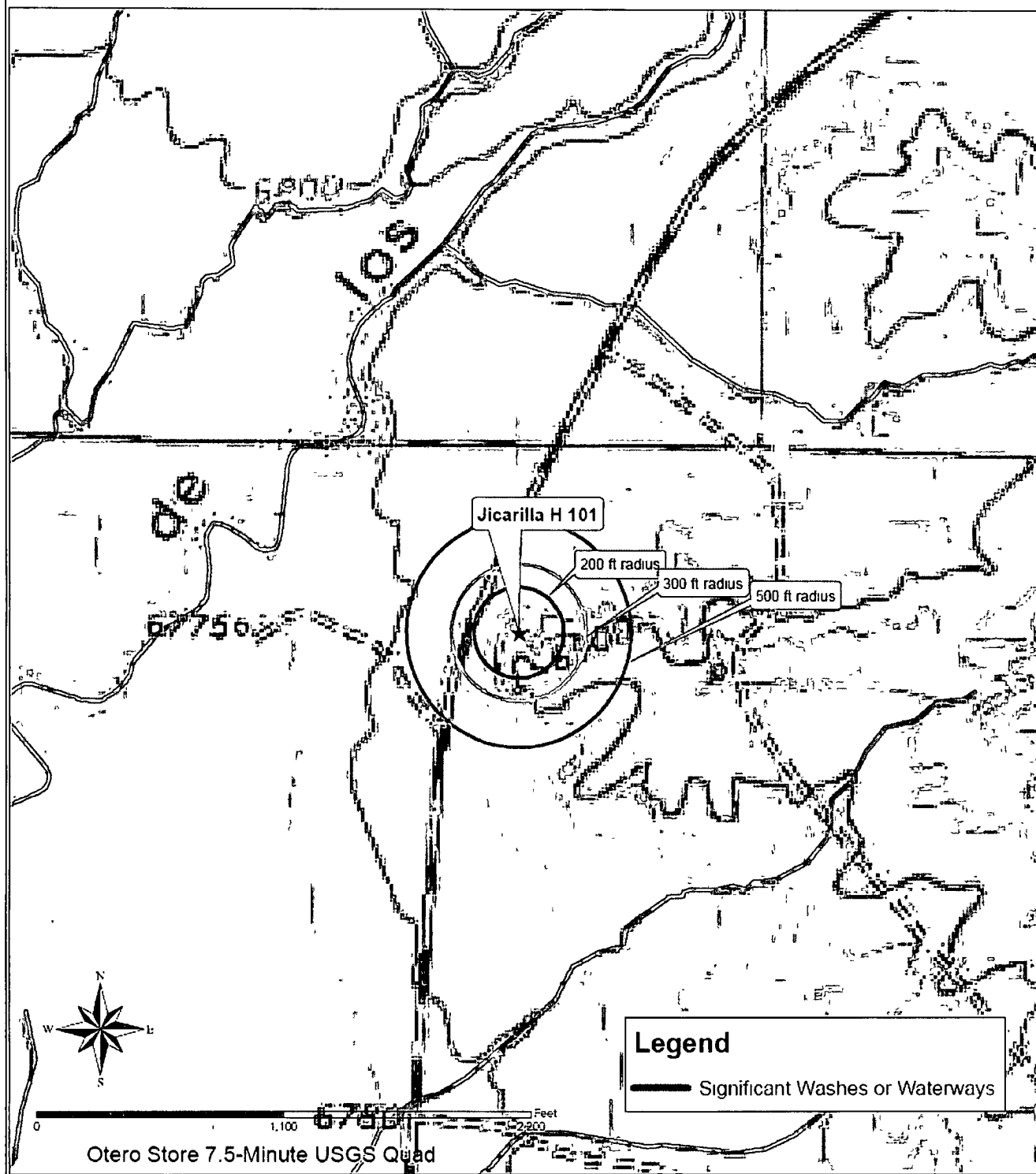
| (quarters are biggest to smallest) |         | X Y are in Feet |        |       | UTM are in      |          |
|------------------------------------|---------|-----------------|--------|-------|-----------------|----------|
| Meters)                            |         | Start           | Finish | Depth | Depth (in feet) |          |
| DB File Nbr                        | Use     | Diversion       | Owner  | POD   |                 |          |
| Number                             | Source  | Tws             | Rng    | Sec   | q q q           | Zone X Y |
| UTM_Zone                           | Easting | Northing        | Date   | Date  | Well            | Water    |

No Records found, try again

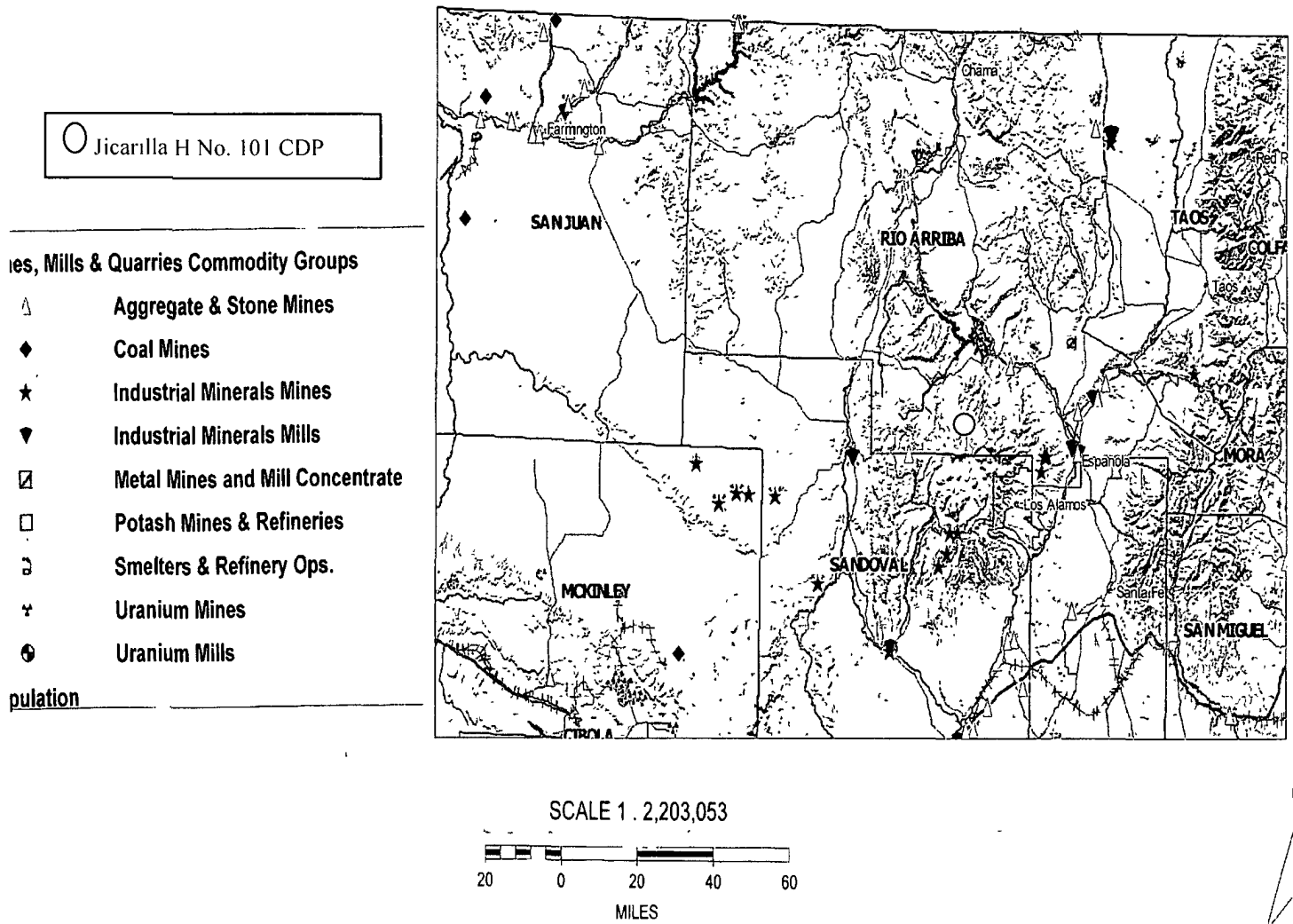
Siting Criteria Map I  
Water Wells & Springs  
D.J. Simmons, Incorporated  
Jicarilla H 101  
Rio Arriba County, New Mexico



Siting Criteria Map II  
Topographic Features  
D.J. Williams, Incorporated  
Jicarilla H 101  
Rio Arriba County, New Mexico



# Jicarilla H No. 101 CDP Mines, Mills and Quarries Web Vicinity Map



**Siting Criteria Compliance Demonstrations:**

The Jicarilla H 101 CDP well is not located in an unstable area. The location is not situated over a mine or a steep slope. The vault is not located within 300 feet of a continuously flowing water course or within 200 feet of any other significant water course, lakebed, sinkhole, or playa lake (see Siting Compliance Map II). The site is not within 500 feet of any reported riparian areas or wetlands (see attached USFWS Wetland Map), within 500 feet of any private, domestic fresh water well or spring; or within 1000 feet of any other fresh water well or spring (see Siting Compliance Map I). The pit will not be within any incorporated municipal boundaries or defined municipal freshwater well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. The location of the proposed pit is not within 300 feet of any permanent residence, school, hospital, institution, or church.

**FEMA Map – 100-Year Floodplain:**

According to FEMA records, The site location is in a portion of the Jicarilla Reservation not covered under flood plain surveys.

**DJ Simmons, Inc**  
**San Juan Basin**  
**Below Grade Tank and Sump**  
**Operating and Maintenance Plan**

In Accordance with Rule 19.15.17, the following information describes the general operation and maintenance (O&M) of Below Ground Tanks (BGT) and Sumps on DJ Simmons, Inc (DJ Simmons) locations in the San Juan Basin of New Mexico. This is DJ Simmons standard operating and maintenance procedure for BGTs and Sumps. A Separate plan would be submitted and implemented for any BGT or sump which does not conform to DJ Simmons standard plan outlined hereafter pursuant to 19.15.17.11 Subsection I and 19.15.17.12 Subsection D.

**General Operating and Maintenance:**

1. DJ Simmons will operate and maintain a BGT to contain liquids and solids and would maintain the integrity of the liner, prevent contamination of fresh water and protect public health and the environment
2. DJ Simmons shall not store or discharge into any hazardous waste in the below ground tank or sump
3. DJ Simmons shall not allow a below grade tank to overflow or allow surface run-on to enter the below grade tank
4. DJ Simmons shall continuously remove any visible or measurable layer of oil from the fluid surface of a below grade tank in an effort to prevent significant accumulation of oil overtime
5. DJ Simmons shall inspect the below grade tank at least monthly, assessing tank and sump integrity, and would maintain a cumulative written record of each inspection for five years
6. DJ Simmons shall maintain adequate freeboard to prevent overtopping of the below grade tank
7. If any DJ Simmons BGT, Sump or BGT liner's integrity is compromised, or if any penetration of the liner occurs or if penetration of the tank occurs above the liquid's surface, DJ Simmons shall repair the damage or replace the liner or tank as necessary. DJ Simmons will notify the NMOCD Aztec District Office by phone or email within 48-hours of discovery. Any leakage below the liquid's surface, DJ Simmons shall suspend operations, remove all liquids above the damaged tank area within 48 hours, and repair the damage or replace the tank. DJ Simmons will notify and report to NMOCD.
8. DJ Simmons shall visually inspect a sump's integrity annually and promptly repair or replace a sump that fails the inspections
9. DJ Simmons shall maintain records of sump inspection and make the records available for the appropriate division district offices review upon request

**DG Simmons, Inc**  
**San Juan Basin**  
**Below Grade Tank Closure Plan**

In Accordance with Rule 19.15.17.12 NMAC the following information describes the closure requirements of Below Grad Tanks (BGTs) on DJ Simmons, Inc locations, hereinafter known as DJ Simmons locations, in the San Juan Basin of New Mexico. This is DJ Simmons's standard procedure for all BGTs. A separate plan would be submitted and utilized for any BGT which does not conform to this plan.

All closure activities will include proper documentation as stipulated by 19.15.17 NMAC and will be submitted to OCD within 60 days of the closure on a Closure Report using Division Form C-144. The Report will include the following:

- Details on Capping and Covering, where applicable
- Plot Plan (Pit Diagram)
- Inspection reports
- Sampling Results

Copy of Deed Notice filed with the County Clerk (format to meet County requirements)

General Requirements

17. DJ Simmons shall close a below-grad tank within the time periods provided in 19.15.17.13 NMAC, or by an earlier date that, if the division requires due to any imminent danger to fresh water, public health or the environment.
18. DJ Simmons shall close an existing below grade tank that does not meet the requirements of Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC or is not included in Paragraphs (5) of Subsection I of 19.15.17.11 NMAC within five years after 16 June 2008, if not retrofitted to comply with Paragraphs (1) through (4) of Subsection I of 19.15.17.11 NMAC.
19. DJ Simmons shall close a permitted below-grade tank within 60 days of cessation of the below-grade tank's operation or as required by the transitional provisions of Subsection B of 19.15.17.17 NMAC in accordance with a closure plan that the appropriate division district office approves. The closure report would be filed on a C-144 form.
20. DJ Simmons shall remove all free standing liquids and sludge from a below grade tank prior to implementation of a closure method. Liquids will be removed in a manner that the appropriate District Office approves including, recycled, reused, reclaimed, evaporated, and/or disposed of in a Division-approved facility.
21. DJ Simmons shall remove the below-grade tank and dispose of it at a licensed disposal facility (probably San Juan Regional Landfill operated by Waste Management under NMED Permit SWM-052426) and/or recycled, reused, or reclaimed in a manner that the appropriate division district office approves.
22. If there is any on-site equipment associated with a below grade tank, DJ Simmons shall remove the equipment, unless the equipment is required for some other purpose(s).
23. DJ Simmons shall test the soils beneath the below-grad tank to determine whether a release has occurred. DJ Simmons shall collect, at a minimum, a five point, composite sample. The samples would be taken of the affected area using sampling tools and all samples tested per 19.15.17.13(B)(1)(b) NMAC. In the event that the criteria are not met (See Table 1), all contents will be handled per 19.15.17.13(B)(1)(a) (i.e. dig and haul to a Division-approved facility). Approval to haul will be requested of the Aztec District office prior to initiation. Collected samples would include individual grab samples from any area that is wet, discolored or showing other evidence of a release and analyze samples for BTEX, TPH and chlorides to demonstrate that the benzene concentration, as determined by EPA SW-846 methods 8021B or 8260B or other EPA

methodology that the division approves, does not exceed 50mg/kg. the TPH concentration, as determined by the EPA method 418.1 or other EPA methodology that the division approves, does not exceed 100 mg/kg. and the chloride concentration, as determined by the EPA method 300.1 or other EPA methodology that the division approves, does not exceed 250 mg/kg, or the background concentration, which may be greater. DJ Simmons shall notify the division of its results on form C-141

Table 1. Closure Criteria for Below Grade Tanks

| Components | Testing Methods                                       | Closure Limits (mg/Kg) |
|------------|---|------------------------|
| Benzene    | EPA SW-846 Method 8021B or 8260B                      | 0.2                    |
| BTEX       | EPA SW-846 Method 8021B or 8260B                      | 50                     |
| TPH        | EPA SW-846 Method 8015 M(Full Range)* or Method 418.1 | 2500                   |
| GRO/DRO    | EPA SW-846 Method 8015M (GRO/DRO)                     | 500                    |
| Chlorides  | EPA SW-846 Method 300.1                               | 1000                   |

\* Preferred method

*see above text for correct test result limits*

24. If DJ Simmons or the division determines that a release has occurred, DJ Simmons shall comply with 19.15.17.116 NMAC and 19.15.1.19 NMAC stipulations as appropriate
25. If contamination is confirmed by field sampling, DJ Simmons will follow the *Guidelines For Remediation Of Leaks, Spills, and Releases* per NMOCD August 1993 mandate, when remediating identified contaminants.
26. If the sampling program demonstrates that a release has occurred or that any release does not exceed the concentrations specified in Paragraph (4) of Subsection E of 19.15.17.13 NMAC, then DJ Simmons shall backfill the excavation with compacted, non-waste containing, earthen material, construct a division prescribed soil cover, re-contour and re-vegetate the site.
27. Notice of Closure will be given to the Aztec Division office between 72 and 7 days (one Week) of the closure via e-mail, or verbally. The notification of closure will include the following.
  - i. Operator's name (DJ Simmons)
  - ii. Well Name and API Number
  - iii. Location (USTR)
28. All closure activities will include proper documentation and be available for review per request and will be submitted to OCD within 60 days of closure of the below grade tank. The closure report will be filed on a C-144 form and incorporate the following
  - iv. Details on Capping and Covering, where applicable
  - v. Inspection reports
  - vi. Sampling Results
29. Re-contouring of the location would match the original geographic features and topographic fit, lines, form, shape and texture of the surrounding topographical contours. Re-shaping of the contour would include establishment or reestablishment of drainages to control sedimentation, total dissolved solids (TDS), and to mitigate ponding and prevent erosion. Natural drainages will be unimpeded and appropriate hydrologic BMPs such as water bars and/or silt traps will be placed in areas where needed to prevent erosion and sediment movement on a large scale. The final re-contour shall have a uniform appearance with smooth surface, fitting the aesthetic of the surrounding natural landscape.
30. DJ Simmons shall seed the disturbed areas within the first growing season after the operator has closed the pit. Seeding will be accomplished via drill on the contour whenever possible or by other division approved methods. Vegetative cover will equal 70% of the native perennial vegetative cover (un-impacted) consisting of at least three native plant species, including at least one grass, but not including noxious weeds, and maintained that cover through two successive growing seasons. Repeat seeding or planting will be continued until successful vegetative growth occurs. *Note: DJ Simmons assumes the seeding stipulations including mix and seeding methods specified by the Surface Management Agency (BLM, BOR, USFS, Tribal, etc.) or Land owner as part of a*



*surface use agreement or APD are Division-approved methods unless notified by the Division of their unacceptability* The Operator would be responsible for monitoring vegetative stand development and for eradicating all noxious/invasive weeds within the re-vegetated area.

- 31 A Minimum of four feet of cover shall be achieved and the cover shall include one foot of suitable material to establish vegetation at the site, or the background thickness of topsoil whichever maybe greater
- 32 The surface owner shall be notified of DJ Simmons's proposed below-grade tank closure plan using a means that provides proof of notice (i.e certified mail/return receipt requested)