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

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

Form C-144
June 24, 2008

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

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

JUL 15 2008
NMOCD ARTESIA

Type of action: ☒ Permit of a pit, closed-loop system, below-grade tank, or proposed alternative method
☐ Closure of a pit, closed-loop system, below-grade tank, or proposed alternative method

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

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

Operator: McKay Oil Corporation OGRID #: 14424
Address: P. O. Box 2014, Roswell, NM 88201
Facility or well name: SNAKEWEED B FEDERAL #1
API Number: 30-005-64002 OCD Permit Number:
U/L or Qtr/Qtr K Section 18 Township 6S Range 23E County: Chaves
Center of Proposed Design: 1980' FSL & 2080' FWL, NE ¼, SW ¼ NAD: ☐1927 ☐ 1983
Surface Owner: ☒ Federal ☐ State ☐ Private ☐ Tribal Trust or Indian Allotment

☒ **Pit:** Subsection F or G of 19.15.17.11 NMAC
Temporary: ☒ Drilling ☐ Workover
☐ Permanent ☐ Emergency ☐ Cavitation ☐ Steel Pit
☒ Lined ☐ Unlined
Liner type: Thickness 20 mil ☒ LLDPE ☐ HDPE ☐ PVC
☐ Other geo-membrane ☒ String-Reinforced
Seams: ☒ Welded ☒ Factory ☐ Other
Volume: 2,565 bbl Dimensions: L 60' x W 40' x D 8'

☐ **Closed-loop System:** Subsection H of 19.15.17.11 NMAC
☐ Drying Pad ☐ Tanks ☐ Haul-off Bins ☐ Other
☐ Lined ☐ Unlined
Liner type: Thickness mil ☐ LLDPE ☐ HDPE ☐ PVC
☐ Other
Seams: ☐ Welded ☐ Factory ☐ Other
Volume: bbl yd³
Dimensions: Length x Width

☐ **Below-grade tank:** Subsection I of 19.15.17.11 NMAC
Volume: bbl
Type of fluid:
Tank Construction material:
☐ Secondary containment with leak detection
☐ Visible sidewalls, liner, 6-inch lift and automatic overflow shut-off
☐ Visible sidewalls and liner
☐ Visible sidewalls only
☐ Other
Liner type: Thickness mil ☐ HDPE ☐ PVC
☐ Other

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

☐ **Alternative Method:**
Submittal of an exception request is required. Exceptions must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. (E) NOTE CLOSURE REQ.

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.

 020123

Siting Criteria (regarding permitting): 19.15.17.10 NMAC

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

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

Temporary Pits, Emergency Pits, and Below-grade Tanks Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: ***Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Hydrogeologic Report (Below-grade Tanks) - based upon the requirements of Paragraph (4) of Subsection B of 19.15.17.9 NMAC
- ☒ Hydrogeologic Data (Temporary and Emergency Pits) - based upon the requirements of Paragraph (2) of Subsection B of 19.15.17.9 NMAC
- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☒ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

☒ Previously Approved Design (attach copy of design) API Number: 30-005-64002 or Permit Number: _____

Closed-loop Systems Permit Application Attachment Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: ***Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.***

- ☐ Geologic and Hydrogeologic Data (required for on-site closure) - based upon the requirements of Paragraph (3) of Subsection B of 19.15.17.9
- ☐ Siting Criteria Compliance Demonstrations (required for on-site closure) - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Design Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

NMAC

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

Permanent Pits Permit Application Checklist: Subsection B of 19.15.17.9 NMAC

Instructions: Each of the following items must be attached to the application. Please indicate, by a check mark in the box, that the documents are attached.

- ☐ Hydrogeologic Report - based upon the requirements of Paragraph (1) of Subsection B of 19.15.17.9 NMAC
- ☐ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☐ Climatological Factors Assessment
- ☐ Certified Engineering Design Plans - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Dike Protection and Structural Integrity Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Leak Detection Design - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Liner Specifications and Compatibility Assessment - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Quality Control/Quality Assurance Construction and Installation Plan
- ☐ Operating and Maintenance Plan - based upon the appropriate requirements of 19.15.17.12 NMAC
- ☐ Freeboard and Overtopping Prevention Plan - based upon the appropriate requirements of 19.15.17.11 NMAC
- ☐ Nuisance or Hazardous Odors, including H_2S, Prevention Plan
- ☐ Emergency Response Plan
- ☐ Oil Field Waste Stream Characterization
- ☐ Monitoring and Inspection Plan
- ☐ Erosion Control Plan
- ☐ Closure Plan - based upon the appropriate requirements of Subsection C of 19.15.17.9 NMAC and 19.15.17.13 NMAC

Proposed Closure: 19.15.17.13 NMAC

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

Proposed Closure Method: ☐ Waste Excavation and Removal
☐ Waste Removal (Closed-loop systems only)
☒ On-site Closure Method (Only for temporary pits and closed-loop systems)
☐ In-place Burial ☒ On-site Trench Burial
☐ Alternative Closure Method (Exceptions must be submitted to the Santa Fe Environmental Bureau for consideration)

Siting Criteria (regarding on-site closure methods only): 19.15.17.10 NMAC

Instructions: Each siting criteria requires a demonstration of compliance in the closure plan. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Justifications and/or demonstrations of equivalency are required. Please refer to 19.15.17.10 NMAC for guidance.

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

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

- ☐ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☐ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☐ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings)
- ☐ Soil Backfill and Cover Design Specifications - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☐ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- ☐ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Waste Removal Closure For Closed-loop Systems That Utilize Haul-off Bins Only: (19.15.17.13.D NMAC) ***Instructions: Please indentify the facility or facilities for the disposal of liquids, drilling fluids and drill cuttings.***

Disposal Facility Name: _____ Disposal Facility Permit Number: _____

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

- ☒ Siting Criteria Compliance Demonstrations - based upon the appropriate requirements of 19.15.17.10 NMAC
- ☒ Proof of Surface Owner Notice - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☒ Construction and Design of Burial Trench (if applicable) based upon the appropriate requirements of 19.15.17.11 NMAC
- ☒ Protocols and Procedures - based upon the appropriate requirements of 19.15.17.13 NMAC
- ☒ Confirmation Sampling Plan (if applicable) - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☒ Waste Material Sampling Plan - based upon the appropriate requirements of Subsection F of 19.15.17.13 NMAC
- ☒ Disposal Facility Name and Permit Number (for liquids, drilling fluids and drill cuttings or in case on-site closure standards cannot be achieved)
- ☒ Soil Cover Design - based upon the appropriate requirements of Subsection H of 19.15.17.13 NMAC
- ☒ Re-vegetation Plan - based upon the appropriate requirements of Subsection I of 19.15.17.13 NMAC
- ☒ Site Reclamation Plan - based upon the appropriate requirements of Subsection G of 19.15.17.13 NMAC

Operator Application Certification:

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

Name (Print): Carol Shanks Title: Production Analyst

Signature: Carol Shanks Date: 7/14/2008

e-mail address: carol@mckayoil.com Telephone: (575) 623-4735

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

OCD Representative Signature: [signature] **Approval Date:** 7/18/08

Title: District II Supervisor **OCD Permit Number:** 020823

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

☐ **Closure Completion Date:** _____

Closure Method:

☐ Waste Excavation and Removal ☐ On-Site Closure Method ☐ Alternative Closure Method

☐ If different from approved plan, please explain.

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

- ☐ Proof of Closure Notice
- ☐ Proof of Deed Notice (if applicable)
- ☐ Plot Plan
- ☐ Confirmation Sampling Analytical Results
- ☐ Waste Material Sampling Analytical Results
- ☐ Disposal Facility Name and Permit Number
- ☐ Soil Backfilling and Cover Installation
- ☐ Re-vegetation Application Rates and Seeding Technique
- ☐ Site Reclamation (Photo Documentation)

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

Operator Closure Certification:

I hereby certify that the information and attachments submitted with this closure report is true, accurate and complete to the best of my knowledge and belief. I also certify that the closure complies with all applicable closure requirements and conditions specified in the approved closure plan.

Name (Print): _____ Title: _____

Signature: _____ Date: _____

e-mail address: _____ Telephone: _____

SNAKEWEED B FEDERAL #1
1980' FSL & 2080' FWL, NE ¼ & SW ¼, Unit K, SEC18, T6S, R23E
API: 30-005-64002

McKay Oil Corporation
P. O. Box 2014
Roswell, NM 88202
(575) 623-4735

PIT SITING REQUIREMENTS (19.15.17.10)

Siting Requirements

See attachments - applicable to this permit request.

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.**	
a. Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No
b. 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
c. Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ NA
d. Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☒ NA
e. Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
f. 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 In county	☐ Yes ☒ No
g. Within 500 feet of a wetland. - US Fish and Wildlife Wetland Identification map; Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
✓ h. Within the area overlying a subsurface mine. - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
✓ i. Within an unstable area. - Engineering measures incorporated into the design; NM Bureau of Geology & Mineral Resources; USGS; NM Geological Society; Topographic map	☐ Yes ☒ No
j. Within a 100-year floodplain. - FEMA map	☐ Yes ☒ No

e.

Mike Bratcher has attachment (from Fri - Jul 11th)

Snakeweed B ~~Sec~~ #1

WETLANDS

Content Citation
Title:WETLANDS
Content Type:
Publisher: Contact
Publication Date: Unknown

Content Description
Abstract:NWI digital data files are records of wetlands location and classification as defined by the U.S. Fish & Wildlife Service. This dataset is one of a series available in 7.5 minute by 7.5 minute blocks containing ground planimetric coordinates of wetlands point, line, and area features and wetlands attributes. When completed, the series will provide coverage for all of the contiguous United States, Hawaii, Alaska, and U.S. protectorates in the Pacific and Caribbean. The digital data as well as the hardcopy maps that were used as the source for the digital data are produced and distributed by the U.S. Fish & Wildlife Service's National Wetlands Inventory project.
Purpose: The data provide consultants, planners, and resource managers with information on wetland location and type. The data were collected to meet U.S. Fish & Wildlife Service's mandate to map the wetland and deepwater habitats of the United States. The purpose of this survey was not to map all wetlands and deepwater habitats of the United States, but rather to use aerial photointerpretation techniques to produce thematic maps that show, in most cases, the larger ones and types that can be identified by such techniques. The objective was to provide better geospatial information on wetlands than found on the U.S. Geological Survey topographic maps. It was not the intent of the NWI to produce maps that show exact wetland boundaries comparable to boundaries derived from ground surveys. Boundaries are therefore generalized in most cases. Consequently, the quality of the wetland data is variable mainly due to source photography, ease or difficulty of interpreting specific wetland types, and survey methods (e.g., level of field effort and state-of-the-art of wetland delineation) (see section on "Completenesss_Report" for more information.

Content Status
Progress: Complete
Update Frequency: Irregular

Content Keywords
Theme Keywords: None, wetlands, hydrologic, land cover, surface and manmade features
Place Keywords:

Spatial Domain
West Coordinate:342016.629953, -106.766548
East Coordinate:628815.769903, -103.559496
North Coordinate:4053253.350102, 36.624812

South Coordinate:3623941.979891, 32.741989

Spatial Data Information
Data
Projection:NAD_1983_UTM_Zone_13N
Data Type: Vector
Data Format: Personal GeoDatabase Feature Class

Access and Usage Information
Access Constraints: None
Usage Constraints: Federal, State, and local regulatory agencies with jurisdiction over wetlands may define and describe wetlands in a different manner than that used in this inventory. There is no attempt, in either the design or products of this inventory, to define the limits of proprietary jurisdiction of any Federal, State, or local government or to establish the geographical scope of the regulatory programs of government agencies. Persons intending to engage in activities involving modifications within or adjacent to wetland areas should seek the advice of appropriate Federal, State, or local agencies concerning specified agency regulatory programs and proprietary jurisdictions that may affect such activities. The NWI maps do not show all wetlands since the maps are derived from aerial photointerpretation with varying limitations due to scale, photo quality, inventory techniques, and other factors. Consequently, the maps tend to show wetlands that are readily photointerpreted given consideration of photo and map scale. In general, the older NWI maps prepared from 1970s-era black and white photography (1:80,000 scale) tend to be very conservative, with many forested and drier-end emergent wetlands (e.g., wet meadows) not mapped. Maps derived from color infrared photography tend to yield more accurate results except when this photography was captured during a dry year, making wetland identification equally difficult. Proper use of NWI maps therefore requires knowledge of the inherent limitations of this mapping. It is suggested that users also consult other information to aid in wetland detection, such as U.S. Department of Agriculture soil survey reports and other wetland maps that may have been produced by state and local governments, and not rely solely on NWI maps. See section on "Completeness_Report" for more information. Also see an article in the National Wetlands Newsletter (March-April 1997; Vol. 19/2, pp. 5-12) entitled "NWI Maps: What They Tell Us" (a free copy of this article can be ordered from U.S. Fish and Wildlife Service, ES- NWI, 300 Westgate Center Drive, Hadley, MA 01035).

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Results 1 - 12 of 76 records (63.907 seconds)

New Mexico Land Cover Map
This coverage is a raster version of the final land cover map in ARC/INFO grid format This coverage was prepared from Landsat TM imagery for integration in national Gap Analysis Program. The coverage depicts 42 land cover classes describing natural ...
Publishing Organization: New Mexico Cooperative Fish and Wild. Res. Unit

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WETLANDS
NWI digital data files are records of wetlands location and classification as defined by the U.S Fish & Wildlife Service. This dataset is one of a series available in 7.5 minute by 7.5 minute blocks containing ground planimetric coordinates of wetla...
Publishing Organization: U.S. Fish & Wildlife Service, National Wetlands Inventory

Groundwater-vegetation relations
Human demands for surface and shallow groundwater sources have contributed to the loss, fragmentation, and ecological simplification of riparian ecosystems. Cottonwoods (Populus spp.) typically dominate riparian ecosystems throughout arid and semiari...
Publishing Organization: U S. Geological Survey, Fort Collins Science Center (FORT)

Texas Wetland Information Network
Wetland data for the State of Texas, available in ArcInfo Coverage Export files and ArcView Shape files. Data includes, Texas Coastal Zone Boundary, Audubon Sanctuaries, Bathymetry, Gulf Beach Access Points, Marinas and National Parks/National Seasho...

Texas General Land Office
Texas GIS maps; basemaps, statewide resources, leases, coastal/oil spill response, coastal management program, energy resource, and survey data

My Geography

Where: (Geographic Footprint, e.g. Harrison, NY)

Chaves county, NM

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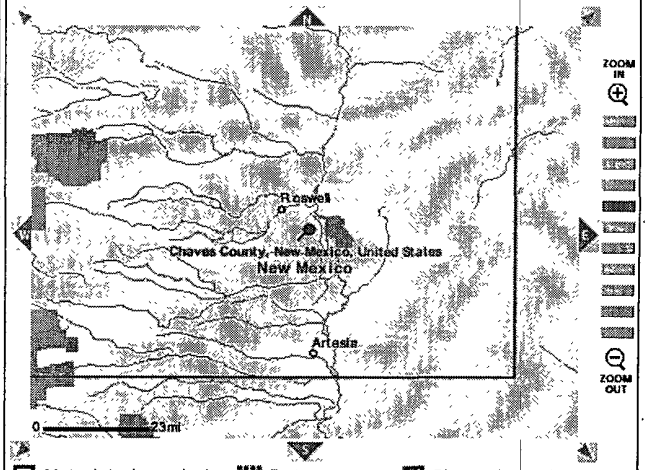
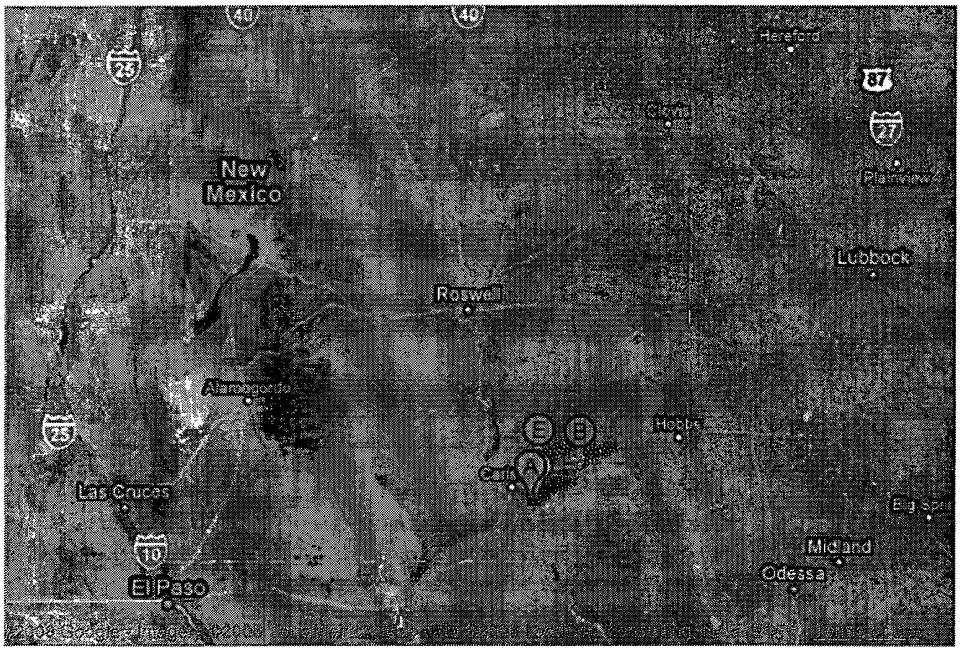


Metadata boundaries | Data requests | Planned acquisitions

Google Maps

Results **1-5** of about **17** for **potash mines** near **Chaves County, New Mexico**



A. Mosaic **Potash** Carlsbad
1361 Potash Mines Rd, Carlsbad, NM - (575) 887-2871

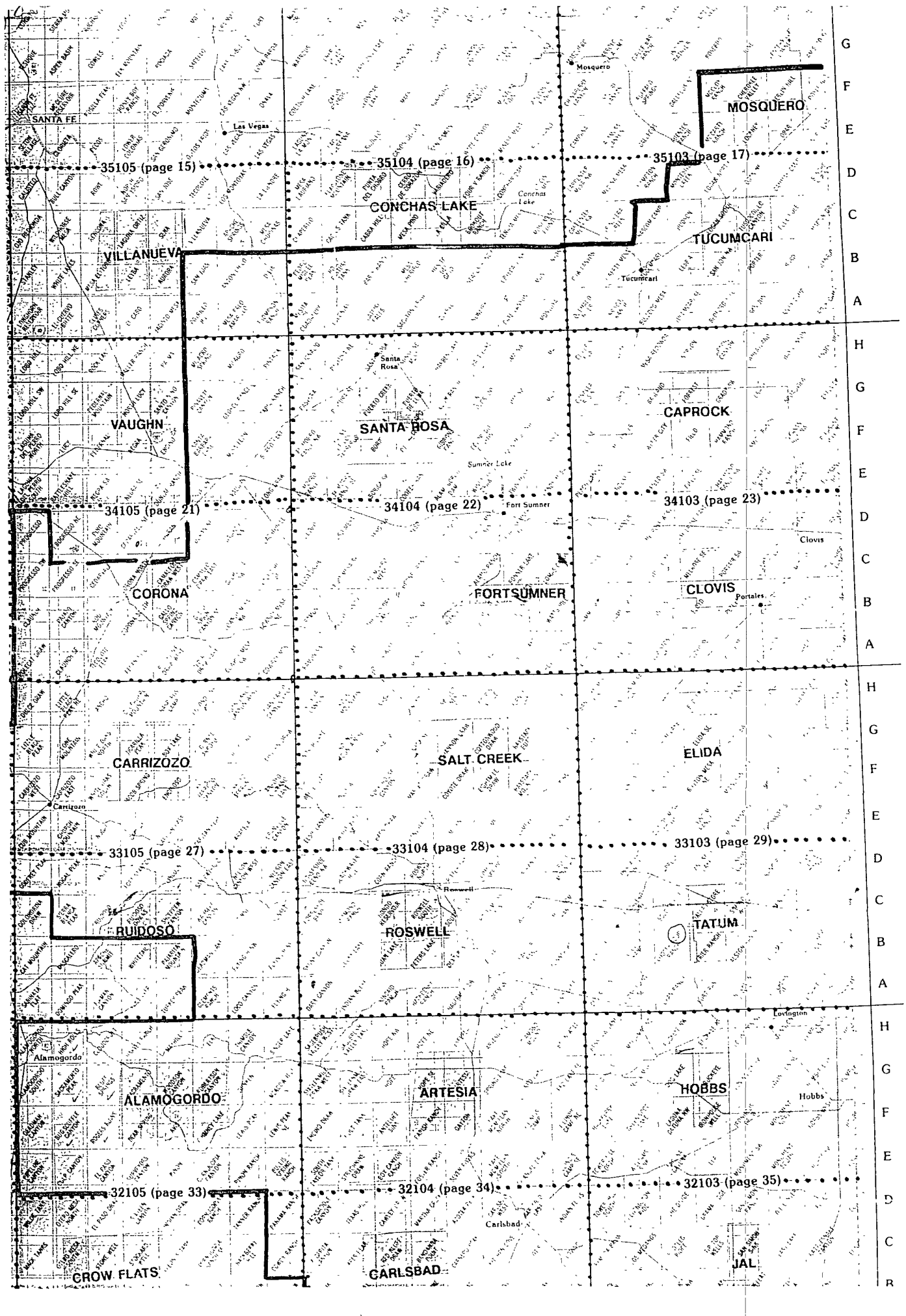
B. Intrepid **Potash** East
210 Red Cloud, Carlsbad, NM - (575) 887-1117

C. Highlands Gas
260 Potash Mines Rd, Loving, NM - (575) 745-2315

D. Intrepid **Potash**
1996 Potash Mines Rd, Carlsbad, NM - (575) 887-5591

E. Intrepid **Potash**
6288 Hobbs Hwy, Carlsbad, NM - (575) 885-3134

No mining activity in Chaves County, NM.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35103 (page 17)
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32104 (page 34)
32103 (page 35)
SANTA FE
Las Vegas
Mosquero
MOSQUERO
CONCHAS LAKE
Conchas Lake
VILLANUEVA
TUCUMCARI
Tucumcari
Santa Rosa
VAUGHN
SANTA ROSA
CAPROCK
Sumner Lake
Fort Sumner
Clovis
CORONA
FORTSUMNER
CLOVIS
Portales
CARRIZOZO
Carrizozo
SALT CREEK
ELIDA
RUIDOSO
Roswell
ROSWELL
TATUM
Lovington
Alamogordo
ALAMOGORDO
ARTESIA
HOBBS
Hobbs
Carlsbad
CROW FLATS
CARLSBAD
JAL
G
F
E
D
C
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E
D
C
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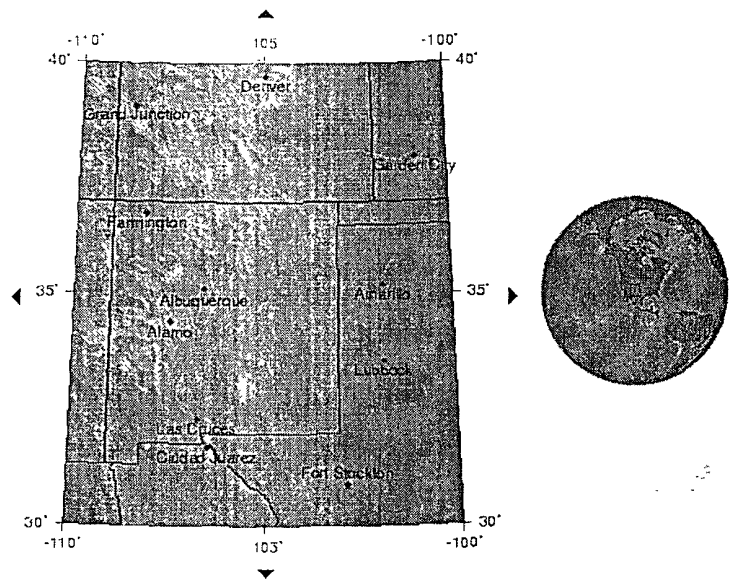
C
B

USGS science for a changing world

Earthquake Hazards Program

10-degree Map Centered at 35°N,105°W



last hour | day | week | mag >7 | 6 | 5 | 4 | 2.5 | ?

Instructions

- Click on an earthquake for more information
- Click on blue arrows around map to see next map in that direction.

Tips

- To convert UTC to US time zones, see this list or this table.
- Magnitude = ? for new earthquakes until a magnitude is determined
- Maps show events recorded in the last 7 days with M2 5+ within the United States and adjacent areas, M4.0+ in the re st of the world.
- Maps are updated whenever a new earthquake has been located Try to reload this page if you do not have the most cur rent map

Earthquake Lists

- List of Earthquakes on this Map
- World M2 5/4+ Earthquake list
- World M5+ Earthquake list

Did you feel it?

- Report an Earthquake

Back

- Back to List of Regional Maps
- Back to World Map

U.S. Department of the Interior | U.S. Geological Survey
URL: http://earthquake.usgs.gov/eqcenter/recenteqsww/Maps/degree10/255_35.php
Page Contact Information: EHP Web Team
Page Last Modified: September 04, 2007 22:31:33 UTC

USGS science for a changing world

Earthquake Hazards Program

Earthquake List for 10-degree Map Centered at 35°N, 105°W

Update time = Fri Jun 13 20:12:07 UTC 2008

There are no earthquakes on the 10-degree Map Centered at 35°N, 105°W at this time.

Back to 10-degree Map Centered at 35°N, 105°W

U.S. Department of the Interior | U.S. Geological Survey
URL: http://earthquake.usgs.gov/eqcenter/recenteqsww/Maps/degree10/255_35_eqs.php
Page Contact Information: EHP Web Team
Page Last Modified: June 13, 2008 20:12:12 UTC
age Last Modified: June 13, 2008 20:12:12 UTC

Earthquake Hazards Program

New Mexico

Earthquake History

Most of New Mexico's historical seismicity has been concentrated in the Rio Grande Valley between Socorro and Albuquerque. About half of the earthquakes of intensity VI or greater (Modified Mercalli intensity) that occurred in the State between 1868 and 1973 were centered in this region.

The earliest reported earthquake in New Mexico was an intensity V tremor that occurred near Socorro on April 20, 1855. In the years that followed, Socorro was struck by numerous low to moderate intensity earthquakes. Most of these caused little or no damage and were felt over a small area. However, beginning on July 2, 1906, and lasting well into 1907 the area was affected by shocks almost daily. There were three fairly severe shocks in this series. The first was an intensity VII tremor that struck on July 12 and cracked some adobe walls and threw others down. Ground fissures and visible waves on the surface were reported with this earthquake. Another shock of intensity VII on July 16, was felt at Raton, about 370 km northeast of Socorro and at Douglas, Arizona, about 420 km southwest. The epicenter was probably about 16 km west of Socorro. On November 15, an intensity VII shock was felt over an area of about 250,000 square kilometers. Rumbling sounds were heard during this earthquake. Later shocks occurred at Socorro on July 18, 1913 (intensity V), January 31, 1919 (intensity IV-V), and February 1, 1919 (intensity V). An intensity V earthquake cause slight damage at Socorro on January 7, 1934. The most recent shock to affect the area occurred on July 3, 1961, causing slight damage at Socorro (intensity VI).

The towns of Bernardo and La Joya, about 30 kilometers and 40 kilometers north of Socorro, have been the center of a number of moderately strong earthquakes. On February 20, 1935, an intensity VI shock damaged adobe and concrete buildings at Bernardo. This earthquake was accompanied by a thunderous roar. On July 22, 1960, an intensity V tremor knocked some items from shelves at La Joya. The next day, a weak adobe wall was toppled and adobe buildings were cracked by an intensity VI earthquake. The total felt area of this shock was about 7,800 square kilometers. One day later on July 24, an intensity V shock broke two small windows at Boys Ranch and awakened many persons at Bernardo.

Belen, about 56 kilometers south of Albuquerque, experienced a series of earthquakes that lasted from December 12 to 30, 1935. Loud subterranean sounds accompanied a strong shock on December 17, that cracked the brick wall of an old public school buildings in Belen. In addition, there were reports of fallen plaster and small objects shaken from shelves. Numerous weak intermittent tremors were felt in the area, with additional slight damage from tremors on December 19 and 21.

The area around Los Lunas was affected by a series of earthquakes in 1893 that lasted for about 3 months. On September 7, 1893, five strong shocks, the most severe of intensity VII, struck Los Lunas. Many adobe buildings, weakened by earlier disturbances, were thrown down. Felt reports were also received from Sabainal.

Albuquerque has been the center of several moderately strong shocks. On July 12, 1893, three intensity V earthquakes shook every house in the city. Clocks stopped, and one report told of a chandelier swinging for 10 minutes. On December 3, 1930, two distinct shocks cracked plaster and dishes. A strong localized shock of intensity VI on February 4, 1931, caused people to leave houses and created a near panic situation in theaters. Many people

reported they were thrown from bed. Some building damage and landslides occurred. On November 6, 1947, Zamora, slightly east of Albuquerque, was shaken by an earthquake. Cracks were reported in plaster and a fireplace.

Minor plaster cracks in a bank building in Albuquerque were reported from an intensity V earthquake on November 3, 1954. The shock was also felt at Bernalillo, Sandoval, and Sandia Pueblo. A lighter shock on November 2 was fel over the same area. An earthquake, measured at 3.8, on November 28, 1970, awakened thousands at Albuquerque. The shock had a felt area of 3,000 square kilometers. The roof of a barn collapsed and a rooftop air-conditioner shook loose and fell through a skylight. Plaster cracks, broken windows, and many other instances of minor damage were reported. Many burglar alarms were activated. On January 4, 1971, another shock caused considerable minor damage in Albuquerque, principally at the University of Albuquerque.

An earthquake with strong local effects occurred on May 18, 1918, in Santa Fe county. At Cerrillos, people were thrown off their feet, a break in the earth's surface was noted, and fallen plaster was reported (intensity VII - VIII). Similar effects were noted at Stanley.

On January 22, 1966, a magnitude 5.5 earthquake centered near Dulce affected about 39,000 square kilometers of northwestern New Mexico and southwestern Colorado. Nearly every building in Dulce was damaged to some degree; many buildings had exterior and interior damage and considerable chimney damage was noted. The principal property damage was sustained at the Bureau of Indian Affairs School and Dormitory Complex and at the Dulce Independent Schools. Rockfalls and landslides occurred along Highway 17, about 15 to 25 km west of Dulce; in addition some minor cracks appeared in the highway. Minor damage was also reported at Lumberton, NM, and Edith, Colorado.

A magnitude 4.1 shock on December 24, 1973, occurred near Grants. The tremor caused minor damage in the Grants area and was also felt at Laguna, Bluewater, and Fort Wingate. Maximum reported intensity was V.

Abridged from Earthquake Information Bulletin, Volume 7, Number 3, May-June 1975, by Carl von Hake

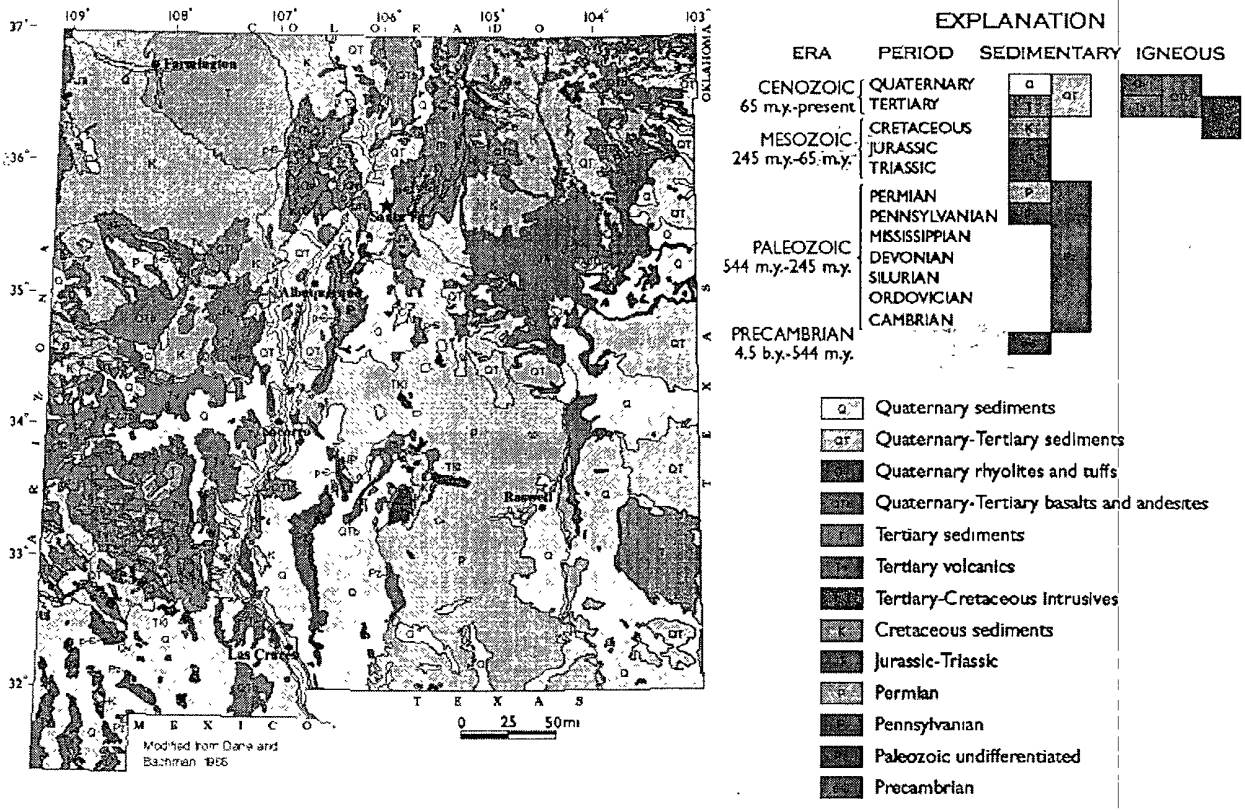
For a list of earthquakes that have occurred since this article was written, use the Earthquake Search.
U.S. Department of the Interior | U.S. Geological Survey
URL: http://earthquake.usgs.gov/regional/states/new_mexico/history.php
Page Contact Information: EHP Web Team
Page Last Modified: February 08, 2008 19:23:37 UTC
d: February 08, 2008 19:23:37 UTC

Geologic Map of New Mexico

Geologic Maps of the U.S. States

Back to the New Mexico page

GENERALIZED GEOLOGIC MAP OF NEW MEXICO



Back to the New Mexico page

Recent Helicorder Displays
New Mexico Seismic Network

ANMO BHZ IU : Albuquerque USGS Seismological Lab

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00) | 06/28/2008 (00) | 06/27/2008 (00) | 06/26/2008 (00) | 06/25/2008 (00) | 06/24/2008 (00) | 06/23/2008 (00)

BAR EHZ SC : Barrett

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

BMT EHZ SC : Bear Mountains

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

CAR EHZ SC : Carthage

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

CARB BHE SC : Carthage Broadband Z

11/14/2007 (00) | 11/13/2007 (00) | 11/12/2007 (00) | 11/11/2007 (00) | 11/10/2007 (00) | 11/09/2007 (00) | 11/08/2007 (00) | 11/07/2007 (00) | 11/06/2007 (00) | 11/05/2007 (00) | 11/04/2007 (00) | 11/03/2007 (00) | 11/02/2007 (00) | 11/01/2007 (00)

CARB BHN SC : Carthage Broadband N

11/14/2007 (00) | 11/13/2007 (00) | 11/12/2007 (00) | 11/11/2007 (00) | 11/10/2007 (00) | 11/09/2007 (00) | 11/08/2007 (00) | 11/07/2007 (00) | 11/06/2007 (00) | 11/05/2007 (00) | 11/04/2007 (00) | 11/03/2007 (00) | 11/02/2007 (00) | 11/01/2007 (00)

CARB BHZ SC : Carthage Broadband E

11/14/2007 (00) | 11/13/2007 (00) | 11/12/2007 (00) | 11/11/2007 (00) | 11/10/2007 (00) | 11/09/2007 (00) | 11/08/2007 (00) | 11/07/2007 (00) | 11/06/2007 (00) | 11/05/2007 (00) | 11/04/2007 (00) | 11/03/2007 (00) | 11/02/2007 (00) | 11/01/2007 (00)

CBET EHZ SC : Carlsbad East Tower

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

CBKS BHZ US : Cedar Bluffs, KS

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

CL2B EHZ SC : Gnome Location

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

CL7 EHZ SC : WIPP Site

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

CPRX EHZ SC : Cap Rock

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

DAG EHZ SC : Dagger Draw

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

GDL2 EHZ SC : Guadalupe Mountains

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

HTMS EHZ SC : Hat Mesa

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

ISCO BHZ US : Idaho Springs, CO

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

LAZ EHZ SC : Sierra Ladrones

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

LEM EHE SC : Lemitar E

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

LEM EHN SC : Lemitar N

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

LEM EHZ SC : Lemitar Z

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

LPM EHZ SC : Los Pinos Mountains

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

MLM EHZ SC : Mesa Lucero

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

SBY EHZ SC : South Baldy

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

SDCO BHZ US : Sand Dunes National Park, CO

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

SMC EHZ SC : Southern Magdalena Mountains

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

SRH EHZ SC : Seven River Hills

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

SSS EHZ SC : San Simon Sink

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) |

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WIS IS1 SC : Workman Infrasound

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

WTX EHZ SC : Wood's Tunnel (NMT)

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

WUAZ BHZ US : Wupatki, AZ

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

Y22D BHE TA : IRIS PASSCAL, Socorro, NM

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

Y22D BHN TA : IRIS PASSCAL, Socorro, NM

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

Y22D BHZ TA : IRIS PASSCAL, Socorro, NM

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

S21A BHE TA : Coal Bank Pass, CO

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

S21A BHN TA : Coal Bank Pass, CO

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

S21A BHZ TA : Coal Bank Pass, CO

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) |

07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

121A BHE TA : Cook's Peak, NM

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

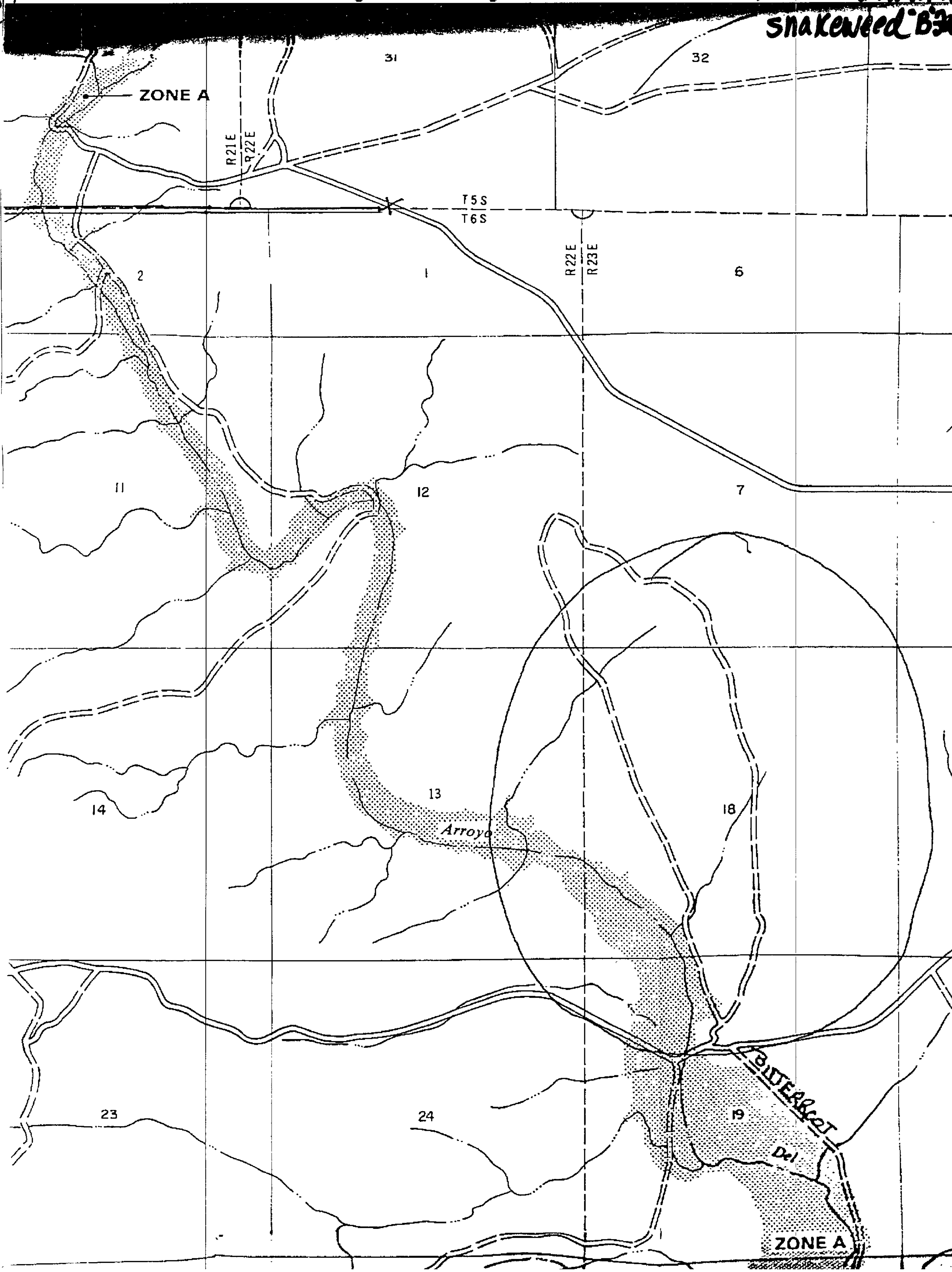
121A BHN TA : Cook's Peak, NM

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

121A BHZ TA : Cook's Peak, NM

07/14/2008 (00) | 07/13/2008 (00) | 07/12/2008 (00) | 07/11/2008 (00) | 07/10/2008 (00) | 07/09/2008 (00) | 07/08/2008 (00) | 07/07/2008 (00) | 07/06/2008 (00) | 07/05/2008 (00) | 07/04/2008 (00) | 07/01/2008 (00) | 06/30/2008 (00) | 06/29/2008 (00)

Flood Plain MAP
Snakeweed



SNAKEWEED B FEDERAL #1
1980' FSL & 2080' FWL, NE ¼ & SW ¼, Unit K, SEC18, T6S, R23E
API: 30-005-64002

McKay Oil Corporation
P O. Box 2014
Roswell, NM 88202
(575) 623-4735

PIT PROOF OF SURFACE OWNER NOTICE (19.15.17.13)

Proof of Surface Owner Notice

1. APD Application to drill approved. Sundry Notice to be submitted on date well spud.

SNAKEWEED B FEDERAL #1
1980' FSL & 2080' FWL, NE ¼ & SW ¼, Unit K, SEC18, T6S, R23E
API: 30-005-64002

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Roswell, NM 88202

PIT DESIGN AND CONSTRUCTION SPECIFICATIONS (19.15.17.11)

General Specifications

1. Any topsoil, which can sustain plant vegetation, will be bladed and piled for future rehabilitation.
2. The location slopes very slightly to the east and southeast. Ground will be excavated no steeper than 2.1 slope.
3. The 40' X 60' X 8' pit shall be constructed and maintained so that runoff water from outside the location is not allowed to enter the pit. The berms surrounding the entire perimeter of the pit shall extend a minimum of two (2) feet above ground level. At no time will standing fluids in the pit be allowed to rise above ground level.
4. Pit will be properly constructed on firm unyielding base, free of large rocks, debris and sharp edges to support all liquids and prevent tears.
5. A 20 MIL, low linear density polyethylene (LLDPE), string-reinforced liner, with factory-welded seams will be placed on excavated ground bed by qualified a qualified backhoe service. Liner will be large enough to reduce stress-strain on the liner.
6. Anchor trench will be 18" deep and all edges anchored securely.
7. A four foot high, four-stranded barbed wire fence, evenly spaced between 4', will be erected around 3 sides on three (3) sides during drilling operations. The fourth side shall be fenced immediately upon rig release.
8. A 12" X 24" sign with 2" lettering will be placed on fence surrounding pit.
   SIGN READS:
   McKay Oil Corporation
   NE ¼ & SW ¼, Unit K, SEC18, T6S, R23E
   (575) 623-4735

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PIT CLOSURE METHOD (19.15.17.13)

Onsite Trench burial Closure Method

1. Operator will remove all liquid contents in 40' X 60' pit and allow to the bottom of pit to dry.
2. Pile cuttings and original pit liner on west side of pit area. * DIG TRENCH BEFORE MOVING CUTTINGS.
3. Collect *soil samples from inside the pit on the cleared side (south side) of pit at surface.
4. Dig trench 1 (west side of pit area) big enough to put all of the cuttings in and leave enough room for 4' backfill material. (NOTE: Trench size depends on the amount of cuttings, rock formations, surrounding terrain and mud solidity.)
5. Collect *soil samples (see Exhibit A) from inside trench 1 area consisting of a five-point, composite soil sample. Collect individual grab samples from any area that is wet, discolored or showing other evidence of a release.
6. Solidify the contents to a bearing capacity sufficient to support the temporary pit's final cover of the trench burial. Operator shall not exceed the 3:1 mixing ratio (soil or other material to contents).
7. Line trench 1 with 20 MIL liner, and in accordance with the design and construction requirements specified in Subsection J of 19.15.17.11 NMAC.
8. Fill trench 1 with cuttings, original pit liner and any contaminated soil. @ CONTENTS ANALYSISED PER 19.15.17.13 F(3) BEFORE CAPPING
9. Cap trench 1 with 20 MIL liner.
10. Backfill trench 1 area with 4' of topsoil.
11. Test west side of pit area for chlorides as shown on Exhibit A. Dig trench 2 (south side of pit area) down to a depth that test a maximum of 250-ppm chloride, putting the soil on a 20 MIL liner on NW corner of location.
12. Line trench 2 with 20 MIL liner.
13. Fill trench 2 with any contaminated soil.
14. Cap trench 2 with 20 MIL liner.
15. Backfill trench 2 area with 4' of topsoil, re-contour where applicable to conform to original topography of the area @ ONLY AFTER CONTENTS OF TRENCH 2 HAS BEEN ANALYSISED 19.15.17.13 F(3)
16. Seed entire pit area per BLM specifications.

Quality Control

1. *Soil samples will be collected per EPA SWA-846 protocol. Samples will be kept in sterile sample-dedicated containers and homogenized with a trowel. After sample containers are filled, they will be immediately sealed, and processed for shipment to the Cardinal Laboratory in Hobbs, NM for TPH and Chloride testing. TPH not to exceed 2.500 mg. Chlorides not to exceed 250mg. Cardinal Lab will prepare an analytical data report of the soil.
2. Cardinal Lab will report back to McKay Oil, results from soil samples.
3. Operator to submit Form C-141, with Analytical Data Report, to OCD.

Cardinal Laboratories (Soil Analysis)
101 E. Marland
Hobbs, NM 88240
Contact: Larry Bailey
(575) 393-2326 (or) 800-588-5227

Talon, LPE (Soil Sampler)
318 E. Taylor
Hobbs, NM 88240
Contact: Shelly Tucker
(575) 706-7234

SNAKEWEED B FEDERAL #1
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PIT CLOSURE METHOD (19.15.17.13) - ALTERNATE METHOD

Waste Excavation and Removal

1. Operator will remove all liquid contents in 40' X 60' pit and allow the bottom of pit to dry.
2. Pile cuttings and original pit liner in Roll-off Box on west side of pit area.
3. Collect *soil samples (see Exhibit A) from inside trench 1 area consisting of a five-point, composite soil sample. Collect individual grab samples from any area that is wet, discolored or showing other evidence of a release.
4. Haul off drill cuttings and liquid contents in Roll-off Box to *Gandy Marley Landfill.
5. Backfill trench 1 area with 4' of topsoil.
6. Re-contour where applicable to conform to original topography of the area.
7. Seed entire pit area per BLM specifications.

Quality Control

1. *Soil samples will be collected per EPA SWA-846 protocol. Samples will be kept in sterile sample-dedicated containers and homogenized with a trowel. After sample containers are filled, they will be immediately sealed, and processed for shipment to the Cardinal Laboratory in Hobbs, NM for benzene and chloride analytical testing. Cardinal Lab will prepare an analytical data report of the soil.
2. Cardinal Lab will report back to McKay Oil, results from soil samples.
3. Operator to submit Form C-141, with Analytical Data Report, to OCD.

Cardinal Laboratories (Soil Analysis)
101 E. Marland
Hobbs, NM 88240
Contact: Larry Bailey
(575) 393-2326 (or) 800-588-5227

Talon, LPE (Soil Sampler)
318 E. Taylor
Hobbs, NM 88240
Contact: Shelly Tucker
(575) 706-7234

Gandy Marley (Waste Disposal)
PERMIT NO: NM-711-1-0020
Mile Marker 196, US 380 E
Roswell, NM 88201
(575) 626-6513

SNAKEWEED B FEDERAL #1
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PIT SITING REQUIREMENTS (19.15.17.10)

Siting Requirements

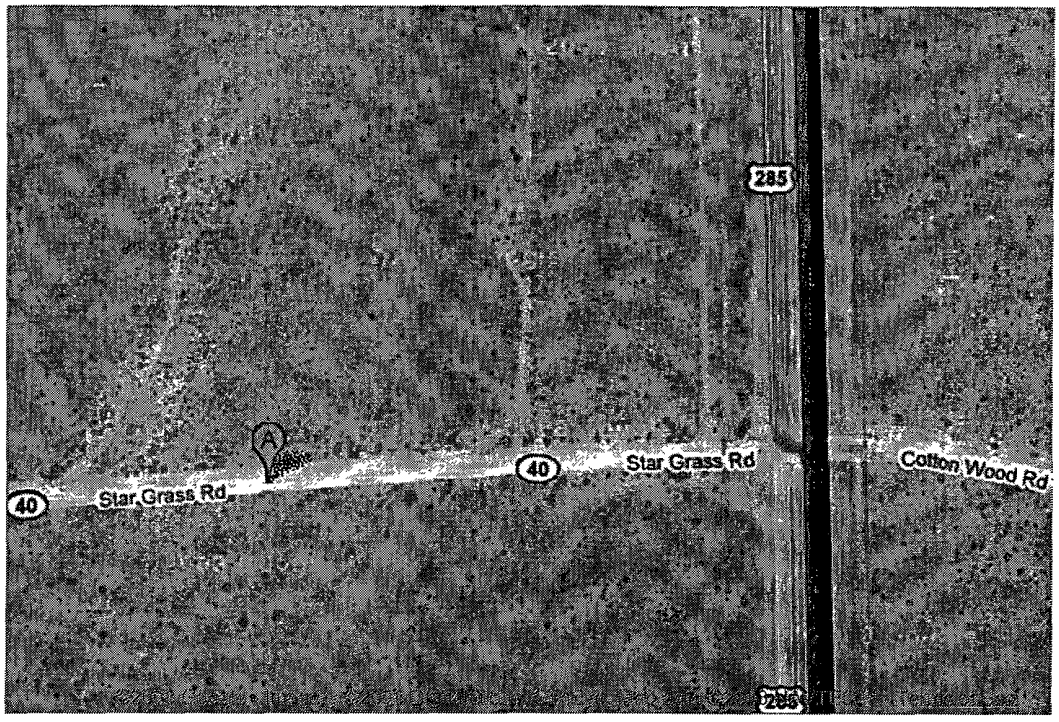
Siting Criteria (regarding permitting): 19.15.17.10 NMAC ***Instructions:*** ***The applicant must demonstrate compliance for each siting criteria below in the application. Recommendations of acceptable source material are provided below. Requests regarding changes to certain siting criteria may require administrative approval from the appropriate district office or may be considered an exception which must be submitted to the Santa Fe Environmental Bureau office for consideration of approval. Applicant must attach justification for request. Please refer to 19.15.17.10 NMAC for guidance.*** **Siting criteria does not apply to drying pads or above-grade tanks associated with a closed-loop system.**	
Ground water is less than 50 feet below the bottom of the temporary pit, permanent pit, or below-grade tank. - NM Office of the State Engineer - iWATERS database search; USGS; Data obtained from nearby wells	☐ Yes ☒ No
Within 300 feet of a continuously flowing watercourse, or 200 feet of any other significant watercourse or lakebed, sinkhole, or playa lake (measured from the ordinary high-water mark). - Topographic map; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within 300 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to temporary, emergency, or cavitation pits and below-grade tanks)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☒ No ☐ NA
Within 1000 feet from a permanent residence, school, hospital, institution, or church in existence at the time of initial application. *(Applies to permanent pits)* - Visual inspection (certification) of the proposed site; Aerial photo; Satellite image	☐ Yes ☐ No ☒ NA
Within 500 horizontal feet of a private, domestic fresh water well or spring that less than five households use for domestic or stock watering purposes, or within 1000 horizontal feet of any other fresh water well or spring, in existence at the time of initial application. - NM Office of the State Engineer - iWATERS database search; Visual inspection (certification) of the proposed site	☐ Yes ☒ No
Within incorporated municipal boundaries or within a defined municipal fresh water well field covered under a municipal ordinance adopted pursuant to NMSA 1978, Section 3-27-3, as amended. - Written confirmation or verification from the municipality; Written approval obtained from the municipality	☐ Yes ☒ No
Within 500 feet of a wetland. nearest Bitterlake - 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. Potash or Coal - Written confirmation or verification or map from the NM EMNRD-Mining and Mineral Division	☐ Yes ☒ No
Within an unstable area. No areas mapped - 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. – Sweetwater area - FEMA map	☐ Yes ☒ No

See Attachments. (a) thru (i) are not applicable to this permit request.

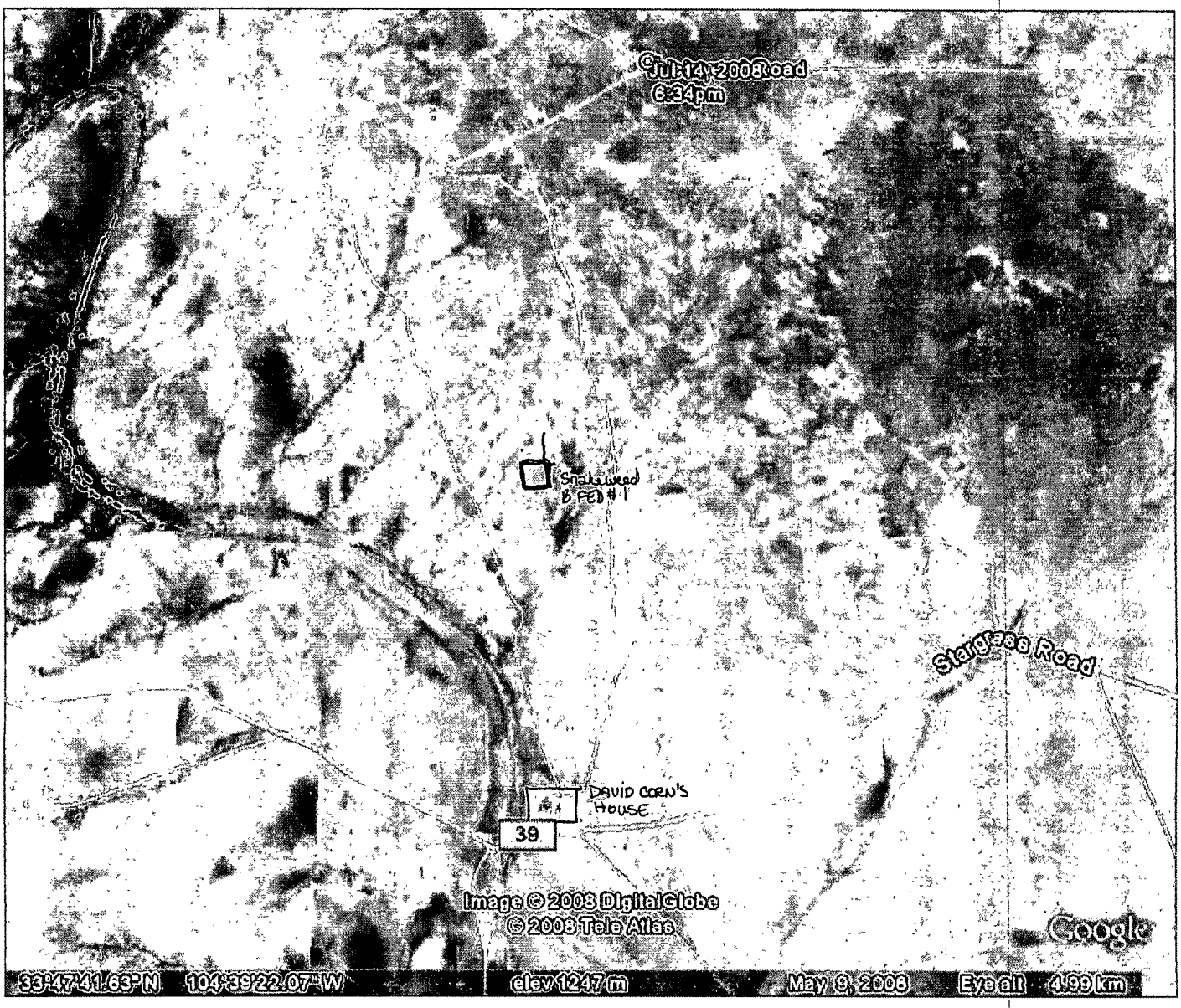
Shakemeed "B" Fed #1

Google Maps

Address **471 Stargrass Rd**
Roswell, NM 88201



No buildings (school, hospital, institution, church)


Jul 14, 2008 6:34pm
Road
Snakeweed
& FED #1
Stargaze Road
DAVID CORN'S
HOUSE
39
Image © 2008 DigitalGlobe
© 2008 Tele Atlas
Google
33°47'41.63"N 104°39'22.07"W
elev 1247 m
May 9, 2008
Eye alt 4.99 km