

OFF: (505) 325-8786



LAB: (505) 325-5667

NMOCD
2040 S. Pacheco
Santa Fe, New Mexico 87505

RE: APPLICATION FOR AUTHORIZATION TO INJECT

Gentlemen:

Mountain States Petroleum Corporation submits this application for the NW Cha Cha Unit, Well # 30 located in the SE/4 of Section 22, T-29-N, R-14-W, San Juan County, New Mexico. Said well is 480' FSL & 1980' FEL of Section 22. The tubing is 2 2/8" J55. The packer is a 5 1/2 E-1. The injection formation is the Cha Cha Gallup. The maximum injection rate will be 1000 BWPD with an average injection rate of 700 BWPD. The maximum injection pressure will be 1200 PSI with an average injection pressure rate of 1000 psi. The operation will be continuous. The water source will be produced and make up water supplied by permitted wells on the lease.

There are no off setting operators. This is an extention of PMX - 20, Order No. R-2154.

All other required information is attached either in the application or as Exhibits.

Sincerely,

A handwritten signature in black ink, appearing to read 'Robert L. Crabb', with a stylized flourish at the end.

Robert L. Crabb
On Site Technologies, Ltd.
Agent for Mountain States Petroleum Corporation

msocd301.doc

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: ☒ Secondary Recovery ☒ Pressure Maintenance ☐ Disposal ☐ Storage
Application qualifies for administrative approval? ☒ Yes ☐ No
- II. OPERATOR: MOUNTAIN STATES PETROLEUM CORPORATION
ADDRESS: P.O. Box 3531, MIDLAND, TX 79702
CONTACT PARTY: SAM BILLINGTON PHONE: 505-326-7700
- III. WELL DATA: Complete the data required on the reverse side of this form for each well processed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project: ☒ Yes ☒ No
If yes, give the Division order number authorizing the project R-2154
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)
- * XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.
- NAME: SAM D BILLINGTON TITLE: Operation Manager
SIGNATURE: Sam D Billington DATE: 4-29-76
- * If the information required under Sections VI, VIII, ☒ X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstance of the earlier submittal. _____

III. WELL DATA

A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:

- (1) Lease name; Well No.; Location by Section, Township, and Range; and footage location within the section.
- (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
- (3) A description of the tubing to be used including its size, lining material, and setting depth.
- (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District Offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need be shown only when different. Information shown on schematics need not be repeated.

- (1) The name of the injection formation and, if applicable, the field or pool name.
- (2) The injection interval and whether it is perforated or open-hole.
- (3) State if the well was drilled for injection or, if not, the original purpose of the well.
- (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
- (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

- (1) The name, address, phone number, and contact party for the applicant;
- (2) The intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) The formation name and depth with expected maximum injection rates and pressures; and
- (4) A notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, PO Box 2088, Santa Fe, NM 87504-2088 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBMITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

NEW MEXICO UIC
PERMIT APPLICATION

Well # NW Cha Cha #30
Permit # API # 30-045-1310700
Date Received: _____
*EPA Authorization # _____

Permit Application Checklist

- | <u>Attached</u> | <u>Not Attached</u> | |
|---------------------|---------------------|--|
| 1. <u>Exhibit A</u> | _____ | 1. BLM Sundry Notice "Notice of Intent" (BLM Form 3160-3), or BLM Application for Permit to Drill (BLM Form 3160-5). (2 copies to EPA) |
| 2. <u>Exhibit B</u> | _____ | 2. Map using Sections, Township and Range to show the location of wells within 1/2 mile (2,640 ft.) of the proposed well. |
| 3. <u>Exhibit C</u> | _____ | 3. Tabulation of data on wells within 1/2 mile (2,640 ft.) including: |
| | _____ | depth |
| | _____ | location |
| | _____ | For wells that penetrate the injection interval, also show: |
| | _____ | date drilled |
| | _____ | record of plugging and/or completion |
| | _____ | corrective action plan for inadequately completed or plugged wells. |
| 4. <u>Exhibit D</u> | _____ | 4. Injection well schematic drawings of surface and subsurface details showing: |
| | _____ | a. total depth, and plugback depth, |
| | _____ | b. depth to top and bottom of injection interval, |
| | _____ | c. depth to top and bottom of casing(s) and cemented interval(s), plus amount of cement, |
| | _____ | d. size(s) of casing and tubing and depth of packer, and |
| | _____ | e. hole diameter(s), |
| | _____ | f. other perforated intervals, |
| | _____ | g. daily drilling report, if available |

* Applicable to wells authorized by rule only.

NEW MEXICO UIC
PERMIT APPLICATION

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- | | <u>Attached</u> | <u>Not Attached</u> | |
|-------------------------|-----------------|---------------------|---|
| 5. <u>Exhibit E</u> | <u> </u> | | 5. Operating data including: <ul style="list-style-type: none">a. maximum and average injection rate,b. maximum and average injection pressure,<u>.65</u> c. fracture pressure gradient of injection zone,d. whether operation is cyclic or continuous, ande. source and analysis of injected fluids including TDS, chlorides, and additives. |
| 6. <u>Exhibit F</u> | <u> </u> | | 6. Geologic data on the injection and confining zones, including: faults, geological name, thickness, porosity, permeability, depth, current reservoir pressure or fluid level, water quality, and lithologic description. |
| 7. <u>Exhibit F</u> | <u> </u> | | 7. Depth to base of fresh water (10,000 mg/l). |
| 8. <u>Exhibit G</u> | <u> </u> | | 8. Verification of public notice, consisting of a list showing names, addresses, and date that notice of permit application was given or sent to each: <ul style="list-style-type: none">a. the surface landowner,b. tenants,c. operator of a producing lease within one-half mile of the well location, andd. affected Tribal Government. |
| 9. <u>ON FILE NMDCO</u> | <u> </u> | | 9. All available logging and testing data on the well (for existing wells only). |
| 10. <u>✓</u> | <u> </u> | | 10. Proof of adequate financial responsibility. |
| 11. <u>✓</u> | <u> </u> | | 11. Certification form signed by well owner/operator or authorized representative (authorization must be in writing and copy attached). |
| 12. <u>(YES)</u> | <u>(NO)</u> | | 12. Has the applicant declared any part of his submission confidential? |
| 13. <u>(YES)</u> | <u>(NO)</u> | | 13. Is the injection well currently authorized by rule? If yes, EPA Form No. is _____. |
| 14. <u>(YES)</u> | <u>(NO)</u> | | 14. Was applicant required by EPA to apply for a permit? |

NEW MEXICO UIC
PERMIT APPLICATION

3

- | <u>Attached</u> | <u>Not Attached</u> | |
|-------------------------------|---------------------|---|
| 15. <u>(YES)</u> | <u>(NO)</u> | 15. The permit applicant is the <u>owner/operator</u> .
(Circle one) |
| 16. <u>(YES)</u> | <u>(NO)</u> | 16. Has the applicant requested emergency authorization to inject? |
| 17. <u>(YES)</u>
Exhibit H | <u>(NO)</u> | 17. Plugging and Abandonment Plan, and estimated cost of plan. |

ADMINISTRATIVE REVIEW

Signature

Date

TECHNICAL REVIEW

Signature

Date

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT---" for such proposals

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

5. Lease Designation and Serial No.
14-20-603-2199A

6. If Indian, Allottee or Tribe Name
Navajo

7. If Unit or CA, Agreement Designation

NW Cha Cha Unit

8. Well Name and No.

#30

9. API Well No.

30-045-1310400

10. Field and Pool, or Exploratory Area
Cha Cha Gallup

11. County or Parish, State
San Juan County, New Mexico

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil ☐ Gas ☐ Other

2. Name of Operator

Mountain States Petroleum Corporation

3. Address and Telephone No.

P.O. Box 3531, Midland, TX 79702, 915-685-0878

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

480' FSL & 1980 FEL, Section 22, T-29-N, R-14-W, NMPM

12. CHECK APPROPRIATE BOX(es) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☐ Notice of Intent

☒ Subsequent Report

☐ Final Abandonment Notice

TYPE OF ACTION

☐ Abandonment

☐ Recompletion

☐ Plugging Back

☐ Casing Repair

☐ Altering Casing

☐ Other _____

☐ Change of Plans

☐ New Construction

☐ Non-Routine Fracturing

☐ Water Shut-Off

☒ Conversion to Injection

☐ Dispose Water

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depth for all markers and zones pertinent to this work.)*

To amend original Sundry submitted on February 15, 1996:

Item # 2 should read - "Mountain States Petroleum" instead of Sirgo Operating

14. I hereby certify that the foregoing is true and correct

Signed Robert L. Crabb Robert L. Crabb Title: Agent for Mountain States Petroleum Date February 19, 1996

(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

*See Instruction on Reverse Side

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir.
Use "APPLICATION FOR PERMIT---" for such proposals

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

5. Lease Designation and Serial No.
14-20-603-2199

6. If Indian, Allottee or Tribe Name
Navajo

7. If Unit or CA, Agreement Designation

NW Cha Cha Unit

8. Well Name and No.

30

9. API Well No.

30-045-1310400

10. Field and Pool, or Exploratory Area
Cha Cha Gallup

11. County or Parish, State
San Juan County, New Mexico

SUBMIT IN TRIPLICATE

1. Type of Well

☒ Oil ☐ Gas ☐ Other

2. Name of Operator

Sirgo Operating, Inc.

3. Address and Telephone No.

P.O. Box 3531 Midland, TX 79702 915-685-0878

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

480' FSL & 1980' FEL, Section 22, T-29-N, R-14-W NMPM

12. CHECK APPROPRIATE BOX(es) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☒ Notice of Intent

☐ Subsequent Report

☐ Final Abandonment Notice

TYPE OF ACTION

☐ Abandonment

☐ Recompletion

☐ Plugging Back

☐ Casing Repair

☐ Altering Casing

☐ Other _____

☐ Change of Plans

☐ New Construction

☐ Non-Routine Fracturing

☐ Water Shut-Off

☒ Conversion to Injection

☐ Dispose Water

(Note: Report results of multiple completion on W Completion or Recompletion Report and Log form)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depth for all markers and zones pertinent to this work.)*

Well # 30 has been an oil producing well and scheduled to be converted to an injection well

RECEIVED
BUREAU OF LAND MANAGEMENT
FEB 15 PM 4:01
OFFICE OF THE DIRECTOR, NM

14. I hereby certify that the foregoing is true and correct

Signed Robert L. Crabb Title: Agent for Sirgo Operating, Inc. Date February 15, 1996
(This space for Federal or State office use)

Approved by _____ Title _____ Date _____
Conditions of approval, if any:

APPROVED

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or representations as to any matter within its jurisdiction.

BLM/BLM/DOO

*See Instruction on Reverse Side

OPERATOR

Feb-19-96 10:58 SIRGO

P.O.

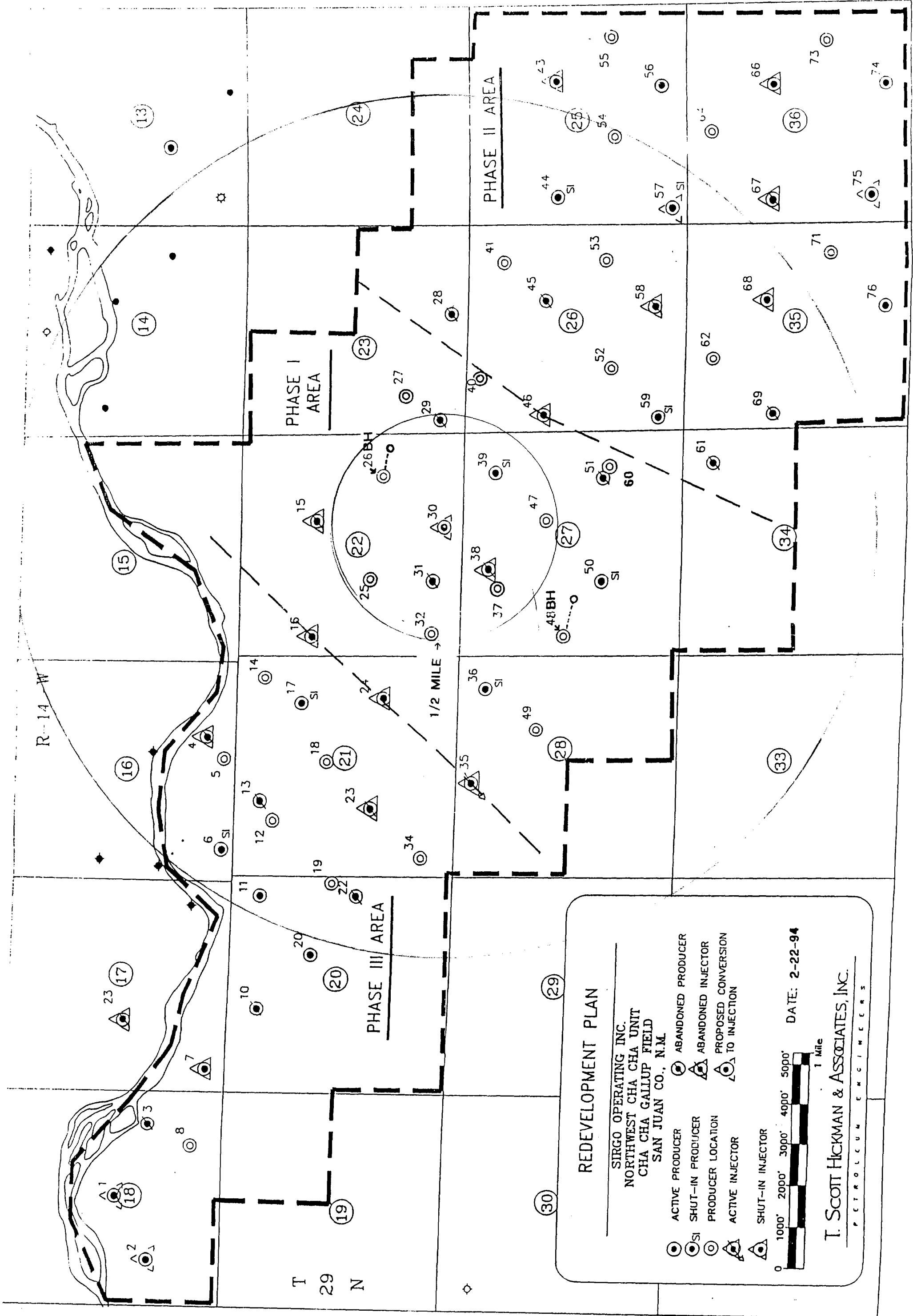
EXHIBIT A

UNITED STATES DEPARTMENT OF THE INTERIOR

BUREAU OF LAND MANAGEMENT
FARMINGTON DISTRICT OFFICE
1235 LA PLATA HIGHWAY
FARMINGTON, NEW MEXICO 87401

CONDITIONS OF APPROVAL

1. You are required to obtain approval from the EPA and submit an approved copy to this office
2. You are required to submit a detail procedure to convert to injection to this office



WELLBORE DIAGRAM

K.B. ELEV.: 5700
 K.B. CORRECTION: 12
 G.L. ELEV.: 5688

WOLE SIZE: 12 1/4"

8 5/8" 24" GRADE

SET AT 202

CEMENT WITH 160 SX

Top of Cement at uniform

E SIZE: 7 7/8"

D.V. tool @ _____

Cement with _____ sx

*TOP PERF: 5286

FIELD: _____

LOCATION: _____

*BOT PERF: 5299

2 3/8 - 5290

TOC 4367 Calc

PBTD: 5368'

TOTAL DEPTH 5405'

*INDIVIDUAL PERFS: _____

4 1/2" 9.5" GRADE

SET AT 5403'

CEMENT WITH 250 SX _____ STGS

Top of cement at 4367 Calc

6 SPF = _____ HOLES

LEASE NAME: Cha Cha

WELL NO.: 22-14

WELLBORE DIAGRAM AS OF DATE: _____

STATE: NY COUNTY: San Juan BLOCK: _____ SECTION: 22

TOWNSHIP: 29N RANGE: 14W LEGAL: 480 FSL 1980 FEL

OPERATOR: 501 WORKING INTEREST: _____ ROYALTY INTEREST: _____

COMPLETION DATE: 12-8-60 CURRENT STATUS: (PIF) (FLOW) (INJ) (T/A) (SI) _____

REMARKS: _____

Section VIII Geologic and Hydrologic Data For Well #30

General Background Information

The formations in this area are affected by the regional influence of the San Juan Basin, which is a structural basin, and consequently dip toward the east. The proposed injection zone is in the Gallup submember of the Mancos Shale, from approximately 5250 ft. to 5348 ft., which is the original "pay zone". The well was originally perforated from 5286 ft. to 5293 ft.

Major Aquifers

There are many small locally important aquifers within the geologic units, but in this area, the major aquifers (See Figure #1) include the Farmington Sandstone, the Pictured Cliffs Sandstone, the Allison/Menefee Formation, and the Point Lookout Sandstone. The lithologic well log for well #30 could not be located, so the well log for well #60, located approximately 4000 feet to the southeast of Well #30, was used. The log from Well #60 indicates that the lithology of the bedrock above the Gallup Sandstone consists of fairly homogeneous shale, with very little sandstone, until the Point Lookout Sandstone is encountered. This sandstone is an aquifer, and consists of fairly fine grained, clean sandstone, with lenses of silt and clay within. However, since there exists approximately 800 feet of fairly homogeneous shale between the aquifer and the underlying Gallup formation, they are probably not hydraulically interconnected.

The Mancos Shale continues beneath the Gallup Sandstone for at least another 1500 feet, and the subunits within the Mancos are classified as aquitards, so there is little chance of hydraulic connection between the Gallup and the underlying Dakota Sandstone.

Lithology of the Injection Zone

The electric resistivity log was examined for Well #30, and the long normal log indicates that a zone of sandy material lies within the Gallup Formation from approximately 4900 ft. to 5350 ft. This is assumed to be the potential injection zone, ie. about 450 ft. thick. The actual injection zone will probably be much less than that, because of limited permeability in the upper 1/2 of the Gallup Formation. The depth of the Gallup Formation is from about 4900 to TD, which is at 5348. The upper Gallup Unit (Gallup "A") consists of dark brown shale, silty, firm, with occasional lenses of very fine grained argillic silty sandstone. As a result of this lithology, these sandstone lenses probably have a low permeability.

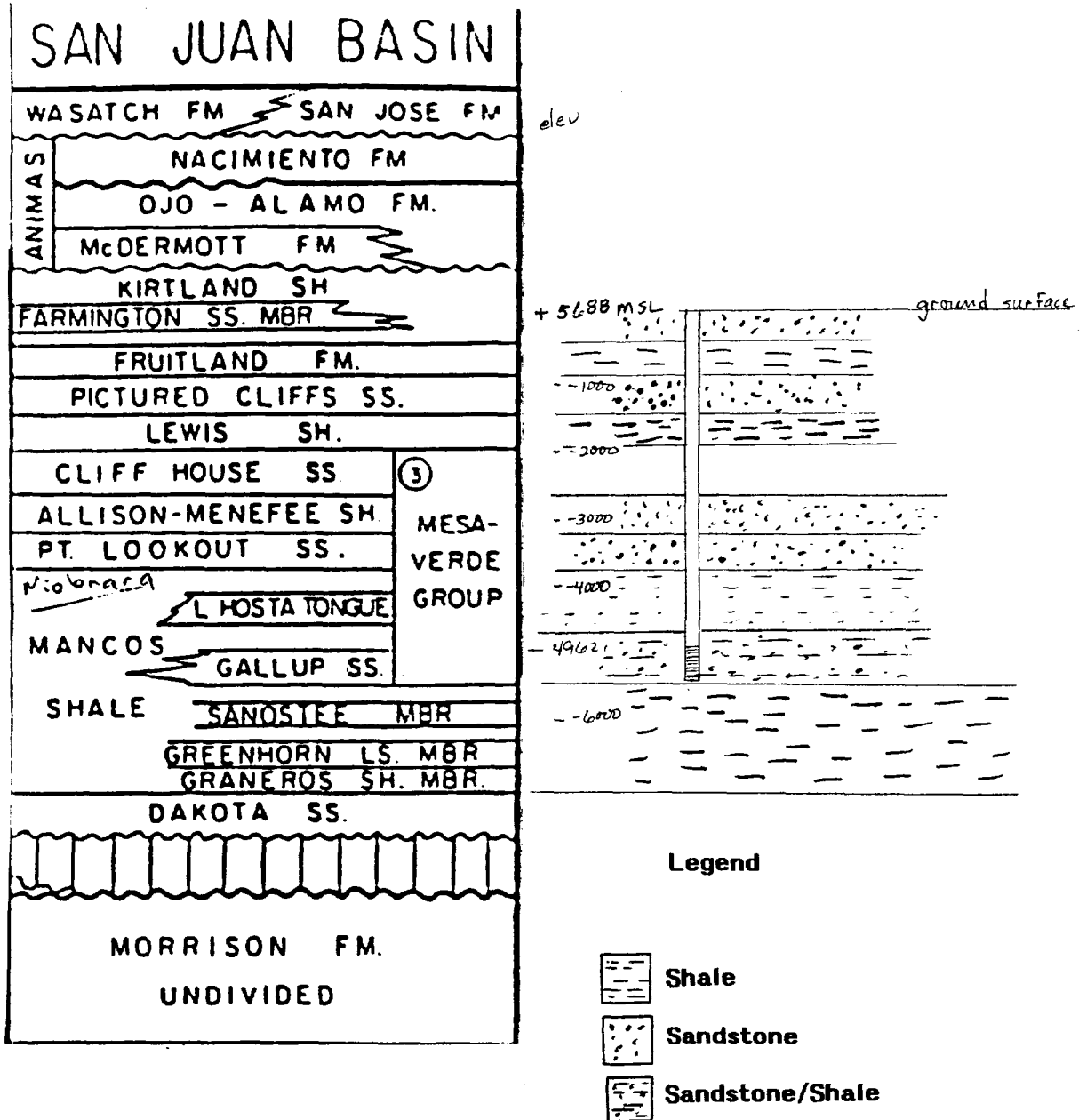
The lower Gallup Unit (Gallup "B") has a higher percentage of sandstone than the "A" unit as a whole, and is described as light gray to off white, very fine grained, subrounded grains, and calcareous. There is no mention of an argillic matrix or silty sandstone, so the permeability appears to be somewhat higher than the upper unit.

22-141 50 SHEETS
22-142 100 SHEETS
22-144 200 SHEETS



Figure #1

Lithology and Hydrology of the Proposed Injection Well #30



UTM WINDOW SEARCH

T29N R14W
SECTION 27 NE 1/4 SE 1/4

=====

coordinates for centroid easting = 742080 meters northing = 4061350 meters

search distance from centroid 1,609 meters east 1,609 meters west
1,609 meters north 1,609 meters south

window coordinates > minimum east minimum north maximum east maximum north
740,471 4062741 743,689 4065959

WELLNO	EAST	NORTH	DRILLED	DEPTH	SWL	AQUIFER	OPERATOR
13T-519	743424	4064187	8/22/71	728 FT		211KRLD	TRIBE O&M

211KRLD = KIRTLAND FORMATION
(PROBABLY FARMINGTON
SANDSTONE MEMBER)

BOB: HERE'S THE DATABASE SEARCH RESULTS FOR THE SECTION 27 LOCATION.
(NO WELLS WERE FOUND WITHIN ONE MILE OF THE SECTION 22 LOCATION.)
AS YOU CAN SEE, ONLY ONE WELL SHOWS UP: 13T-519. I'VE ALSO
SENT THE RECORD FOR WELL 13T-519; WE DON'T HAVE MUCH
INFORMATION ON THIS ONE BEYOND LOCATION, BUT APPARENTLY
IT'S AN ABANDONED TRIBAL WELL. I'VE FILLED IN SOME INFO
FROM THE WELL FILE. HOPE THIS HELPS. ANY QUESTIONS
JUST CALL.

Mike

Post-it* Fax Note	7671	Date	01/26/96	# of pages	2
To	BOB CRABB	From	MIKE - HANSEN		
Co./Dept.		Co.	NAVAJO WATER RES.		
Phone #	(505) 327-1072	Phone #	(520) 729-4004		
Fax #	(505) 327-1496	Fax #	(520) 729-4126		

1

TRIBAL WELL NO >13T-519

PWSID > *****

STATE NUMBER

WELL NAME/OTHER NO >WELL#4

WELL TYPE >WW

WELL STATUS ABA

WELL USE >UNK

QUAD NO >031 MILES WEST > 1.30 MILES SOUTH > 3.90

10 ACRE > 40 ACRE > 160 ACRE >NE SECT >34 TOWNSHIP >T29.0N RANGE >R11.0W

APPROXIMATE LOCATION >4 M SE UPPER FRONTLAND CHPT. HSE.

UTM COORD: X(EAST) >743424 Y(NORTH) >4064187 ZONE > 0 OPERATOR >TRIBE O&M

WATERSHED CODE > 0 STATE >NM COUNTY >SA CHAPTER CODE >FRU1

GRAZING DISTRICT >13

LOCATION DATA SOURCE >WELL FILES-WELEX-USGS

FIELD CHECKED BY >

....no structure data available

....no hydrology data available

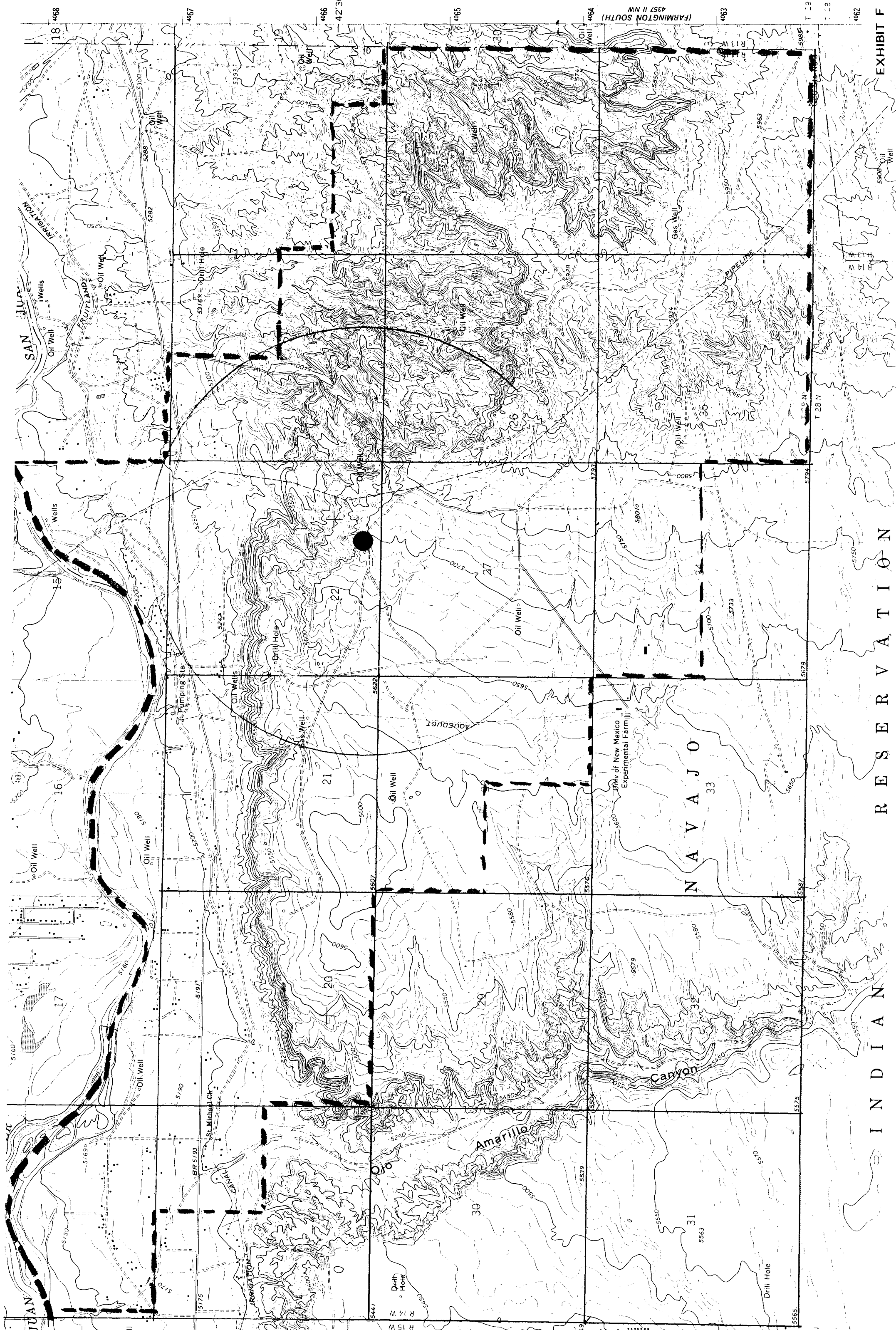
....no static water level data available

....no geologic interval data available

....no field water quality data available

N.A.P.T. FARM DEVELOPMENT TOOK OVER THE LAND IN THIS AREA.

WELL CONFIRMED-UPDATED PER * O&M SURVEY OF FALL 9' *



INDIAN RESERVATION

OFF: (505) 325-8786



LAB: (505) 325-5667

March 29, 1996

Mr. Akhtar Zaman, Director
Minerals Department
Navajo Nation
P.O. Box 146
Window Rock, AZ 86515

Dear Mr. Zaman:

Notice is hereby given that Mountain States Petroleum Corporation of P.O. Box 3531, Midland, Texas 79702, intends to install four water injection wells in the NW Cha Cha Unit. Location of the wells will be 1930' FSL & 971' FEL of Section 27, T29N, R14W, NMPM, San Juan County, New Mexico, known as the NW Cha Cha Unit # 60, 480' FSL & 1980 FEL of Section 22, T29N, R14W, NMPM, San Juan County, New Mexico, known as the NW Cha Cha Unit # 30, 317' FEL & 2077' FSL of Section 22, T29N, R14W, NMPM, San Juan County, New Mexico, known as the NW Cha Cha Unit # 26 and 436' FNL & 1892' FWL of Section 27, T29N, R14W, NMPM, San Juan County, New Mexico, known as the NW Cha Cha Unit # 37. The purpose of the wells is for tertiary recovery from the Gallup formation at a depth of 5,400' with expected maximum injection rates of 750 BBPD per well and pressure of 1,500 psi. The contact person for this project is Mr. Sam Billington. His address is 1512 West Murray Drive, Farmington, NM. Mr. Billington's phone number is 505-326-7700.

Sincerely,

Robert L. Crabb
On Site Technologies, Ltd.
Agent for Mountain States Petroleum Corporation

On Site Technologies Ltd.

N.W. Cha Cha #30
Sirgo Brothers Energy Corp.

480' FSL x 1980' FEL
Section 22, T29N, R14W
San Juan County, NM

Lease No.: 30-045-1310400
Field: Cha Cha Gallup

Well Bore Data

Spud Date: 11/15/60

Surface Casing: 8 5/8", 24ppf, J-55, set at 202'. 12 1/4" hole diameter. Cemented to surface with 160 sks. Circulated cement to surface.

Injection Casing: 4 1/2", 9.50 ppf, J55 set at 5403'. 7 7/8" hole diameter. Cemented w/ 250 sks

Total Depth: 5405'
PBSD: '

Formation Tops:	Pictured Cliffs	1176'
	Mesa Verde	2340'
	Gallup	4918'

P & A Procedure

1. MIRU. POOH with tbg. Run CBL to determine TOC.
2. Shoot holes and squeeze 4 1/2" x 7 7/8" annulus to surface.
3. Set cement retainer at 4868' (+/-). Cement perforations under retainer with 50 sks Class 'b' neat. Spot 5 sks of cmt on top of retainer.
4. Spot 9 ppg mud from 4868 to 3850'.
5. Set 120 sk balanced cmt plug across Mesa Verde (class 'b' neat) from 3850 to 2300'.
6. Spot 9 ppg mud from 2300 to 1225
7. Set 25 sk balanced cmt plug across PC from 1225 o 1100'
8. Spot 9 ppg mud from 1100 ' to surface.
9. Set 10 sk cmt plug at surface.
10. Weld on cap and install dry hole marker.

Estimated P & A Cost

Rig Cost 20 hrs x 145/hr	2,900
Crew Travel	400
Supervision	800
Water	1,500
CBL	1,600
Test Packer	650
Cmt Retainer	650
Mud & Chemicals	700
Cementing	5,700
Dry Hole Marker	500
TOTAL	<u>15,400</u>

Client: **Sirgo Brothers**
Project: **Sirgo Brothers**
Sample ID: **Well #1**
Laboratory ID: **0396W00186**
Sample Matrix: **Water**
Condition: **Cool/Intact**

Date Reported: **02/23/96**
Date Sampled: **02/14/96**
Time Sampled: **9:45**
Date Received: **02/14/96**

Parameter	Analytical Result	Units
Total Coliform.....	Absent	Colonies/100 mL
Turbidity.....	25.0	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by AK

Client: **Sirgo Brothers**
Project: **Sirgo Brothers**
Sample ID: **Well #2**
Laboratory ID: **0396W00187**
Sample Matrix: **Water**
Condition: **Cool/Intact**

Date Reported: **02/23/96**
Date Sampled: **02/14/96**
Time Sampled: **9:05**
Date Received: **02/14/96**

Analytical		
Parameter	Result	Units

Total Coliform.....	Present	Colonies/100 mL
Turbidity.....	23.5	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by SB

Reviewed by df

Client: **Sirgo Brothers**
Project: **Sirgo Brothers**
Sample ID: **Well #3**
Laboratory ID: **0396W00188**
Sample Matrix: **Water**
Condition: **Cool/Intact**

Date Reported: **02/23/96**
Date Sampled: **02/14/96**
Time Sampled: **9:50**
Date Received: **02/14/96**

Analytical		
Parameter	Result	Units
Total Coliform.....	Absent	Colonies/100 mL
Turbidity.....	34.5	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by SB

Reviewed by AK

Client: **Sirgo Brothers**
Project: **Sirgo Brothers**
Sample ID: **Well #4**
Laboratory ID: **0396W00189**
Sample Matrix: **Water**
Condition: **Cool/Intact**

Date Reported: **02/23/96**
Date Sampled: **02/14/96**
Time Sampled: **9:20**
Date Received: **02/14/96**

Parameter	Analytical Result	Units
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Total Coliform.....	Absent	Colonies/100 mL
Turbidity.....	13.3	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by AK

Client: **Sirgo Brothers**
Project: Sirgo Brothers
Sample ID: Well #5
Laboratory ID: 0396W00190
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 02/23/96
Date Sampled: 02/14/96
Time Sampled: 9:30
Date Received: 02/14/96

Parameter	Analytical Result	Units
Total Coliform.....	Absent	Colonies/100 mL
Turbidity.....	9.00	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by AK

Client: **Sirgo Brothers**
Project: Sirgo Brothers
Sample ID: Well #6
Laboratory ID: 0396W00191
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 02/23/96
Date Sampled: 02/14/96
Time Sampled: 9:40
Date Received: 02/14/96

Parameter	Analytical Result	Units
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Total Coliform.....	Absent	Colonies/100 mL
Turbidity.....	16.0	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by dr

Client: **Sirgo Brothers**
Project: Sirgo Brothers
Sample ID: Well #7
Laboratory ID: 0396W00192
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 02/23/96
Date Sampled: 02/14/96
Time Sampled: 9:55
Date Received: 02/14/96

Parameter	Analytical Result	Units
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Total Coliform.....	Absent	Colonies/100 mL
Turbidity.....	50.0	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by AK

Client: **Sirgo Brothers**
Project: Sirgo Brothers
Sample ID: Well #8
Laboratory ID: 0396W00193
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 02/23/96
Date Sampled: 02/14/96
Time Sampled: 9:00
Date Received: 02/14/96

Parameter	Analytical Result	Units
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Total Coliform.....	Present	Colonies/100 mL
Turbidity.....	96.0	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by AB

Reviewed by AK

Client: **Sirgo Brothers**
Project: Sirgo Brothers
Sample ID: Well #9
Laboratory ID: 0396W00194
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 02/23/96
Date Sampled: 02/14/96
Time Sampled: 8:45
Date Received: 02/14/96

Parameter	Analytical Result	Units
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Total Coliform.....	Absent	Colonies/100 mL
Turbidity.....	29.5	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by dr

Client: **Sirgo Brothers**
Project: **Sirgo Brothers**
Sample ID: **Well #10**
Laboratory ID: **0396W00195**
Sample Matrix: **Water**
Condition: **Cool/Intact**

Date Reported: **02/23/96**
Date Sampled: **02/14/96**
Time Sampled: **10:00**
Date Received: **02/14/96**

Parameter	Analytical Result	Units
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Total Coliform.....	Absent	Colonies/100 mL
Turbidity.....	45.0	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by dr

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client: **Sirgo Brothers**
Project: Sirgo Brothers
Sample ID: Well #11
Laboratory ID: 0396W00196
Sample Matrix: Water
Condition: Cool/Intact

Date Reported: 02/23/96
Date Sampled: 02/14/96
Time Sampled: 9:15
Date Received: 02/14/96

Parameter	Analytical Result	Units
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Total Coliform.....	Absent	Colonies/100 mL
Turbidity.....	21.8	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by df

Client: **Sirgo Brothers**
Project: **Sirgo Brothers**
Sample ID: **Well #12**
Laboratory ID: **0396W00197**
Sample Matrix: **Water**
Condition: **Cool/Intact**

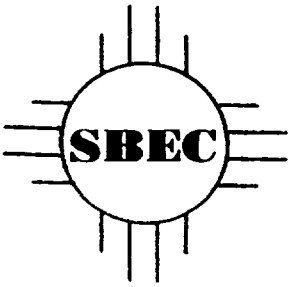
Date Reported: **02/23/96**
Date Sampled: **02/14/96**
Time Sampled: **10:05**
Date Received: **02/14/96**

Analytical		
Parameter	Result	Units
Total Coliform.....	Absent	Colonies/100 mL
Turbidity.....	26.3	N.T.U

Reference: U.S.E.P.A. 600/4-79-020, "Methods for Chemical Analysis of Water and Wastes", 1983.
"Standard Methods For The Examination Of Water And Waste Water", 19th ed., 1995.

Reported by JB

Reviewed by AK



Sirgo Brothers Energy Corp.


P.O. BOX 3531 • MIDLAND, TX 79702
(915) 685-0878 • FAX (915) 682-6224

1512 W. MURRAY DR. • FARMINGTON, NM 87401
(505) 326-7700 • FAX (505) 325-7400

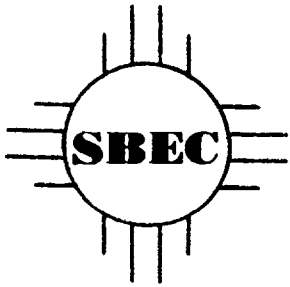
April 24, 1996

TO WHOM IT MAY CONCERN:

Sirgo Brothers Energy Corp. operates under Mountain States Petroleum Corp. Blanket Bond 01013016278 and Slayton Oil Collective Bond AR 71-371.



Brian M. Sirgo



Sirgo Brothers Energy Corp.

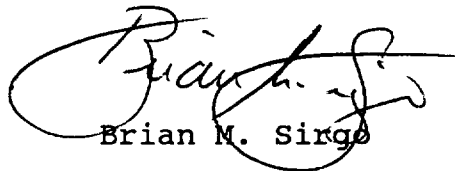
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(505) 326-7700 • FAX (505) 325-7400

April 24, 1996

TO WHOM IT MAY CONCERN:

All the information contained in the Injection Well Permits is true and correct to the best of our knowledge.



Brian M. Sirgo

Legals



PUBLIC NOTICE

Notice is hereby given that Mountain States Petroleum Corporation of P.O. Box 3531, Midland, Texas 78702, intends to install four water injection wells in the NW Cha Cha Unit. Location of the wells will be 1930' FSL & 971' FEL of Section 27, T29N, R14W, NMPM, San Juan County, New Mexico, known as the NW Cha Cha Unit # 60, 480' FSL & 1980 FEL of Section 22, T29N, R14W, NMPM, San Juan County, New Mexico, known as the NW Cha Cha Unit # 30, 317' FEL & 2077' FSL of Section 22, T29N, R14W, NMPM, San Juan County, New Mexico, known as the NW Cha Cha Unit # 26 and 436' FNL & 1892' FWL of Section 27, T29N, R14W, NMPM, San Juan County, New Mexico, known as the NW Cha Cha Unit # 37. The purpose of the wells is for tertiary recovery from the Gallup formation at a depth of 4900' - 5400' with expected maximum injection rates of 1000 BPD and pressure of 1200 PSI. Interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87504-2088 within 15 days of this notice.

Contact Person:

Mr. Sam Billington
1512 West Murray Drive
Farmington, New Mexico
87401
Phone: 505-326-7700

Legal No. 36231 published in The Daily Times, Farmington, New Mexico, on Sundays, April 28 and May 5, 1996.