OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

LAB: (505) 325-5667

NMOCD
2040 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 # 60 located in the SE/4 of Section 27, T-29-N, R-14-W, San Juan County, New Mexico. Said well is 1930' FSL & 971' FEL of Section 27. 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 extension of PMX-20, Order No. R-2154.

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

Sincerely,

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

msocd301.doc

STATE OF NEW MEXICO
ENERGY, MINERALS and NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
PO BOX 2088
SANTA FE, NM 87504-2088

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: X Secondary Recovery X 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: X Yes (NO) X 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.

RECEIVED
APR 30 1996
OIL CON. DIV.
DIST. 3

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/1 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: Operations Manager

SIGNATURE: Sam D Billington DATE: 4-29-96

* 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. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate District Office

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 #60
Permit # API # 30-045-29125
Date Received: _____
*EPA Authorization # _____

Permit Application Checklist

Attached	Not Attached		
1. Exhibit A	____	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. Exhibit B	____	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. Exhibit C	____	3.	Tabulation of data on wells within 1/2 mile (2,640 ft.) including:
	____		depth
	____		location
			For wells that penetrate the injection nterval, also show:
	____		date drilled
	____		record of plugging and/or completion
	____		corrective action plan for inadequately completed or plugged wells.
4. Exhibit D	____	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.

Attached	Not Attached		
5. Exhibit E	____	5.	Operating data including:
			a. maximum and average injection rate,
			b. maximum and average injection pressure,
		.65	c. fracture pressure gradient of injection zone,
			d. whether operation is cyclic or (continuous), and
			e. source and analysis of injected fluids including TDS, chlorides, and additives.
6. Exhibit F	____	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 lithologi description.
7. Exhibit F	____	7.	Depth to base of fresh water (10,000 mg/l).
8. Exhibit G	____	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:
			a. the surface landowner,
			b. tenants,
			c. operator of a producing lease within one-half mile of the well location, and
			d. affected Tribal Government.
9. Exhibit H	____	9.	All available logging and testing data on the well (for existing wells only).
10. ✓	____	10.	Proof of adequate financial responsibility.
11. ✓	____	11.	Certification form signed by well owner/operator or authorized representative (authorization must be in writing and copy attached).
12. (YES)	(NO)	12.	Has the applicant declared any part of his submissio confidential?
13. (YES)	(NO)	13.	Is the injection well currently authorized by rule? If yes, EPA Form No. is _____.
14. (YES)	(NO)	14.	Was applicant required by EPA to apply for a permit?

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

Exhibit I

ADMINISTRATIVE REVIEW

Signature _____ Date _____

TECHNICAL REVIEW

Signature _____ Date _____

Form 3160-5
(June 1990)

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

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

SUBMIT IN TRIPLICATE

1. Type of Well
X 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)
1930' FSL & 971 FEL, Section 27, T-29-N, R-14-W, NMPM

5. Lease Designation and Serial No.
14-20-603-2168A

6. If Indian, Allottee or Tribe Name
Navajo

7. If Unit or CA, Agreement Designation
NW Cha Cha Unit

8. Well Name and No.
#60

9. API Well No.
30-045-29125

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

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

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

TYPE OF SUBMISSION	TYPE OF ACTION	
☐ Notice of Intent	☐ Abandonment	☐ Change of Plans
	☐ Recompletion	☐ New Construction
X Subsequent Report	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
☐ Final Abandonment Notice	☐ Altering Casing	X Conversion to Injection
	☐ Other _____	☐ 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**

(BLMSUN.DOC)

EXHIBIT A

(June 1990)

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

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

SUBMIT IN TRIPLICATE

1. Type of Well
X 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)
1930' FSL & 971' FEL, Section 27, T-29-N, R-14-W NMPM

5. Lease Designation and Serial No.
14-20-603-2168A

6. If Indian, Allottee or Tribe Name
Navajo

7. If Unit or CA, Agreement Designation
NW Cha Cha Unit

8. Well Name and No.
60

9. API Well No.
30-045-29125

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

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

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

TYPE OF SUBMISSION	TYPE OF ACTION	
X Notice of Intent	☐ Abandonment	☐ Change of Plans
	☐ Recompletion	☐ New Construction
☐ Subsequent Report	☐ Plugging Back	☐ Non-Routine Fracturing
	☐ Casing Repair	☐ Water Shut-Off
☐ Final Abandonment Notice	☐ Altering Casing	X Conversion to Injection
	☐ Other _____	☐ 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.)*

Well # 60 will be converted to an injection well

RECEIVED
96 FEB 15 PM 4:01
070 FARMINGTON, NM

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

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
FEB 16 1996
DISTRICT MANAGER

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

OPERATOR

Feb-19-96 10:59 SIRGO P.04

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

3. you are required to submit a Completion Report to this office by March 15,1996

EXHIBIT A

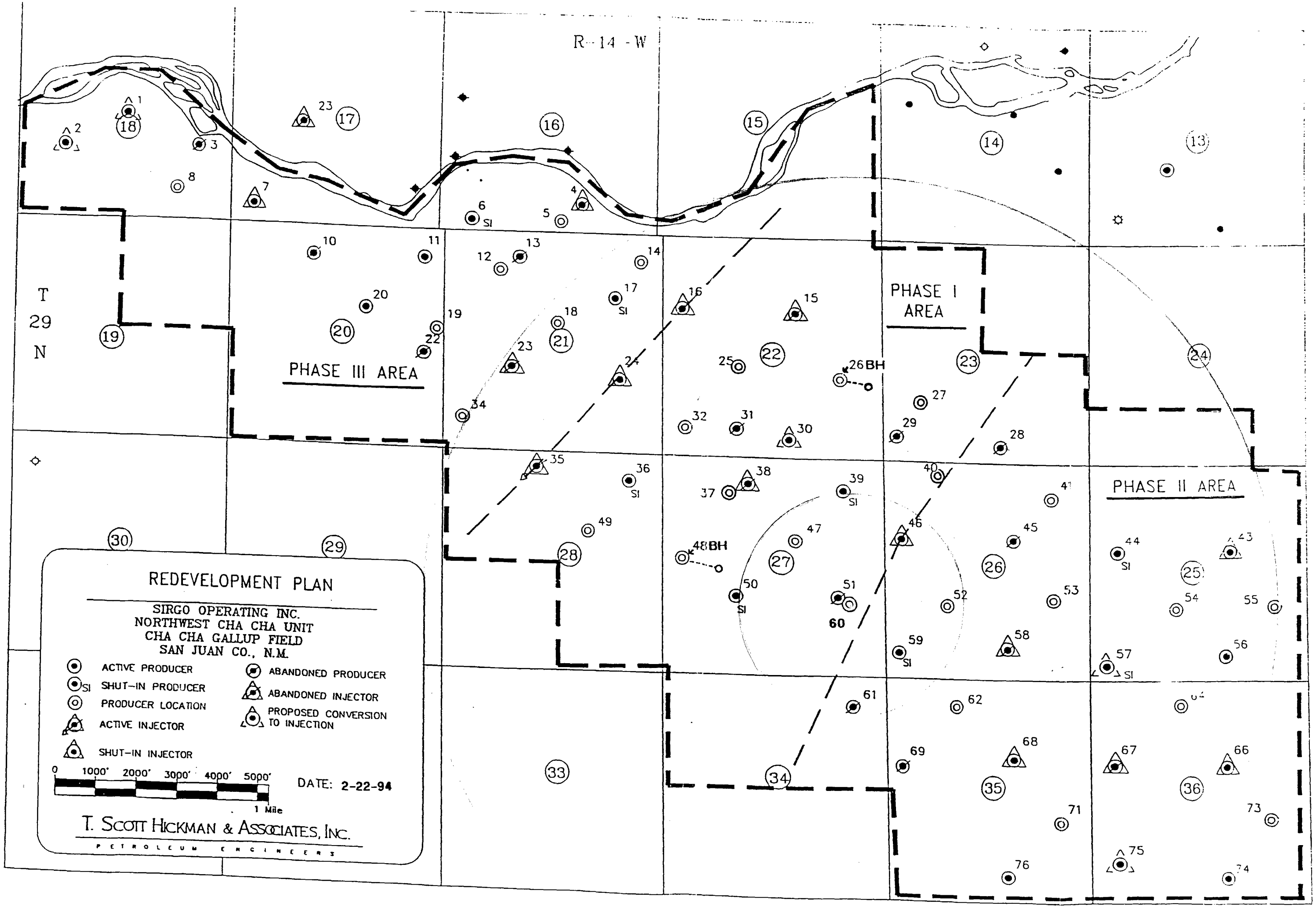
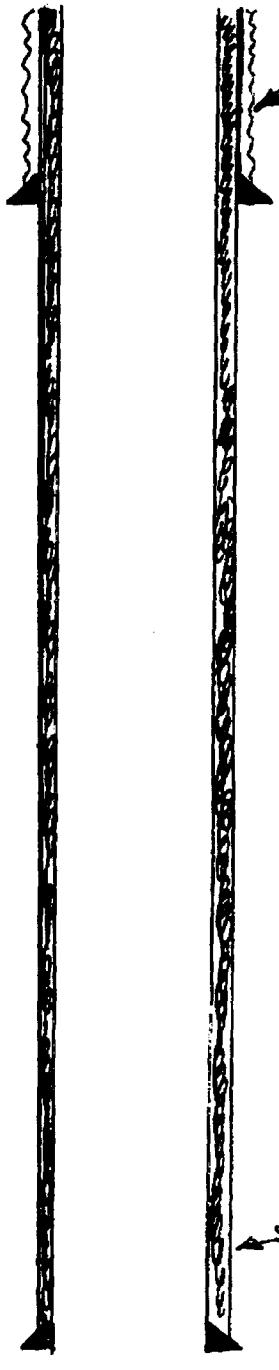

R-14-W
T
29
N
PHASE III AREA
PHASE I
AREA
PHASE II AREA
26BH
48BH
60
SI
REDEVELOPMENT PLAN
SIRGO OPERATING INC.
NORTHWEST CHA CHA UNIT
CHA CHA GALLUP FIELD
SAN JUAN CO., N.M.
ACTIVE PRODUCER
SHUT-IN PRODUCER
PRODUCER LOCATION
ACTIVE INJECTOR
SHUT-IN INJECTOR
ABANDONED PRODUCER
ABANDONED INJECTOR
PROPOSED CONVERSION TO INJECTION
0 1000' 2000' 3000' 4000' 5000'
1 Mile
DATE: 2-22-94
T. SCOTT HICKMAN & ASSOCIATES, INC.
PETROLEUM ENGINEERS

EXHIBIT B

N.W. CHA CHA #60 INJECTION PERMIT

(#4)



12 1/4" HOLE

8 5/8" CSG 24# @ 241'

CMTD w/ 183 SXS AS PER DRILLING REPORT CIRC TO SURFACE

TOP OF INJECTION INTERUAL 5200'

BOTTOM 5450'

PACKER WILL BE SET @ 5150' (50' ABOUE TOP PERF)

2 3/8" PLASTIC COATED TUBING

NO OTHER PERFORAT INTERUALS IN WELL

7 7/8" HOLE

5 1/2" J-55 CASING 15.5 @ 5485 (FROM SURFAC PBTD 5431

CMTD 5 1/2" W/ 485 SX AS PER DRILLING REPORT, CIRC 20 BBL TO SURFACE

EXHIBIT D

Section VIII
Geologic and Hydrologic Data For Well #60

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 4962 ft. to TD, which is at 5485 ft. The existing casing in the well has never been perforated or screened at any depth.

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 well logs indicate 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 injection zone lies within the Gallup Formation and has a maximum vertical extent of approximately 523 feet, which is the total thickness of the formation. However, 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 4962 to TD, which is at 5485. 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.

EXHIBIT F

Figure #1

Lithology and Hydrology of the Proposed Injection Well #60

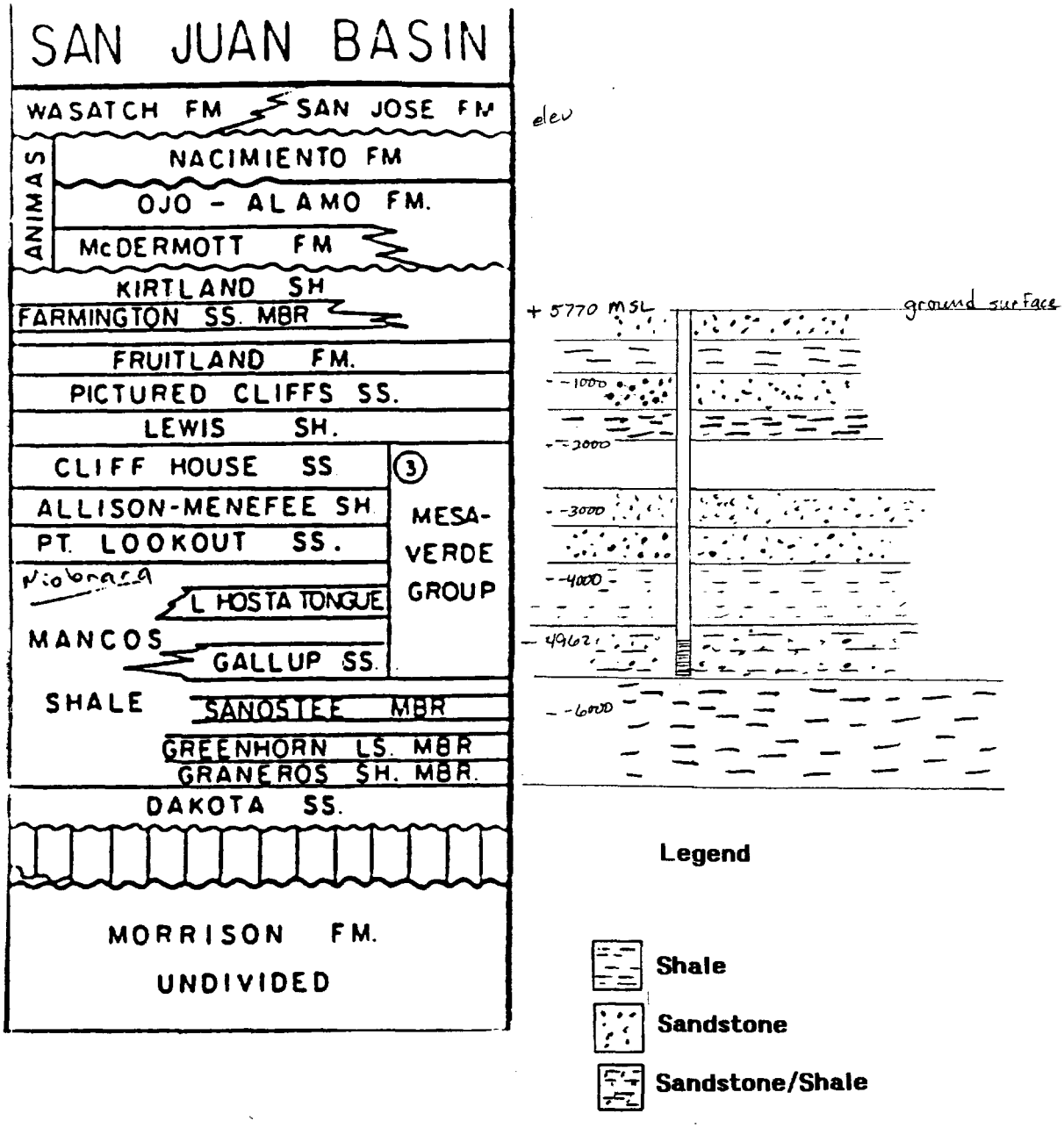


EXHIBIT F

1

UTM WINDOW SEARCH

==========

T29N R14W
SECTION 27 NE¼ SE¼

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 DONT 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 JOHNSON	
Co./Dept.	Co. NAVAJO WATER RES.	
Phone # (505) 327-1072	Phone # (520) 729-4004	
Fax # (505) 327-1496	Fax # (520) 729-4126	

EXHIBIT F

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 TWNSHP >T29.0N RANGE >R14.0W

APPROXIMATE LOCATION >4 M SE UPPER FRUITLAND CHPTR. HSE.

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

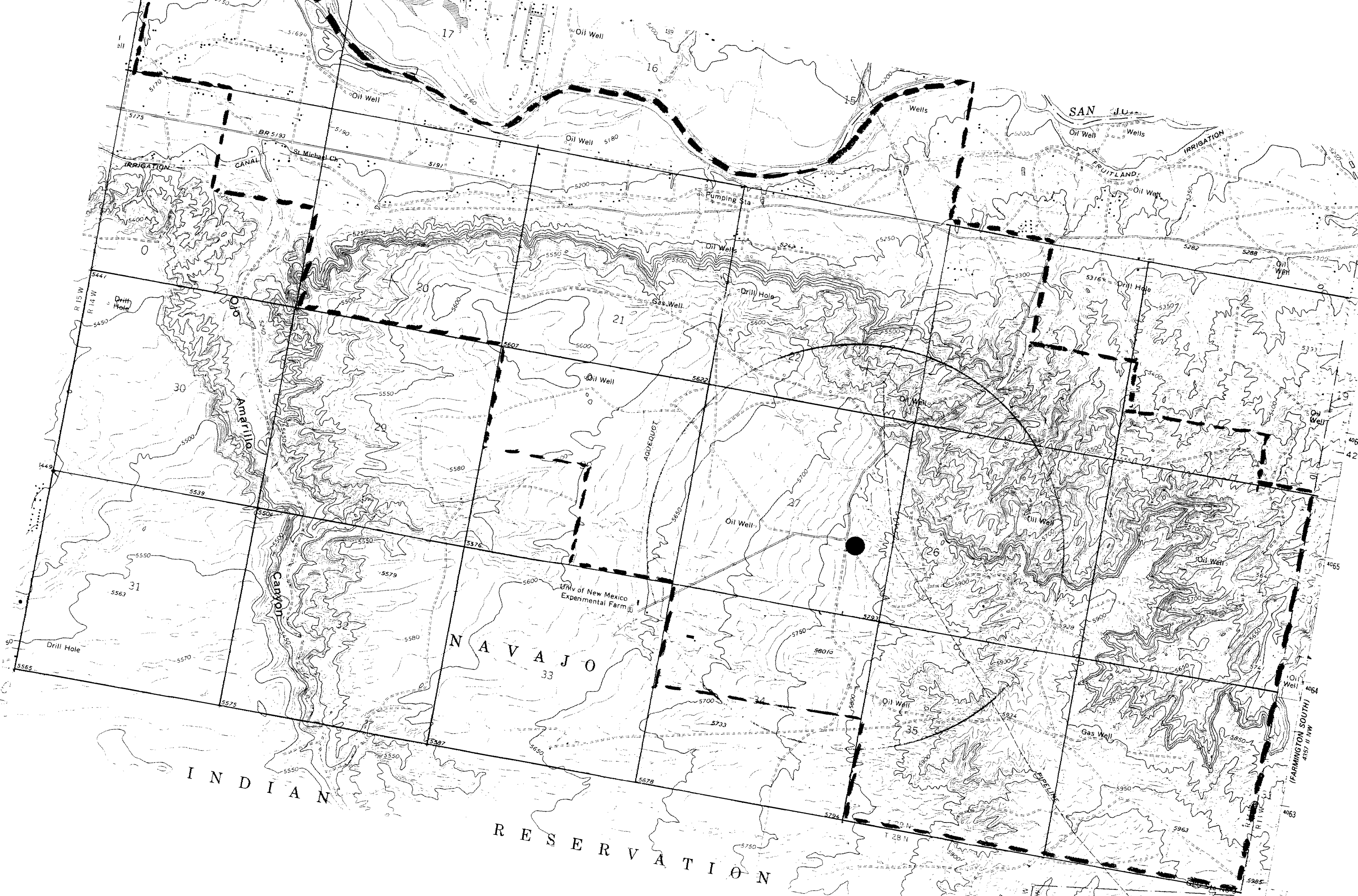
WATERSHED CODE > 0 STATE >NM COUNTY >SA CHAPTER CODE >FRUI

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 91 *

EXHIBIT F


SAN
IRRIGATION
CANAL
St. Michael Ch
BR 5193
Oil Well
Wells
FRUITLAND
Pumping Sta
Oil Wells
Drill Hole
Gas Well
Drift Hole
Ojo
Amarillo
Canyon
Univ of New Mexico
Experimental Farm
AQUEDUCT
PIPELINE
(FARMINGTON SOUTH)
4161 II NW
NAVAJO
INDIAN
RESERVATION
R 15 W
R 14 W
T 29 N
T 28 N

OFF: (505) 325-8786

ON SITE
TECHNOLOGIES, LTD.

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 will 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 #60
Sirgo Brothers Energy Corp.

1930' FSL x 971' FEL
Section 27, T29N, R14W
San Juan County, NM

Lease No.: 14-20-603-2168A
Field: Cha Cha Gallup

Well Bore Data

Spud Date: 7/28/94

Surface Casing: 8 5/8", 24ppf, J-55, set at 241'. 12 1/4" hole diameter. Cemented to surface with 145 sks. Circulated cement to surface.

Injection Casing: 5 1/2", 15.50 ppf, J55 set at 5485'. 7 7/8" hole diameter. Cemented to surface with 220 sks class 'b' + additives and 265 sks, class 'b' thixotropic + additives. Circulated 20 bbls of cement to surface.

Total Depth: 5485'
PBTD: 5431'

Formation Tops:		
	Pictured Cliffs	1238'
	Cliffhouse	2807'
	Point Lookout	3777'
	Gallup	4962'

P & A Procedure

1. MIRU. Set cement retainer at 4912' (+/-). Cement perforations under retainer with 60 sks Class 'b' neat. Spot 5 sks of cmt on top of retainer.

2. Spot 9 ppg mud from 4912 to 3900'.

3. Set 130 sk balanced cmt plug across Mesa Verde (class 'b' neat) from 3900 to 2750'.

4. Spot 9 ppg mud from 2750 to 1350'.

5. Set 25 sk balanced cmt plug across PC from 1350 to 1200'.

6. Spot 9 ppg mud from 1200 ' to surface.

7. Set 10 sk cmt plug at surface.

8. Weld on cap and install dry hole marker.

EXHIBIT I

Estimated P & A Cost

Rig Cost 12 hrs x 145/hr	1,740
Crew Travel	200
Supervision	450
Water	1,200
Cmt Retainer	650
Mud & Chemicals	700
Cementing	3,850
Dry Hole Marker	500
TOTAL	9,290

DAILY DRILLING REPORT

NW CHA CHA UNIT
WELL NO. 60
1930' FSL & 971' FEL UNIT I
SEC. 27, T29N, R14W, NMPM
SAN JUAN CO., NM
GL 5770'

OPER: SIRGO BROS. ENERGY CORP.
915/685-0878 FAX 915/682-6224
PROPOSED TD 5490'
CHA CHA (GALLUP)
SPUD DATE: 7-28-94

DATE	DESCRIPTION OF WORK
7-29-94	7:00 a.m. (Report Time) Total depth 247'. MI&RU United Drilling. Spud at 4:00 p.m. 7-28-94. Drld 7-1/2 hrs., circ. 1/2 hr., trip 1/2 hr., run casing 4-1/2 hrs., cement 1-1/2 hrs., MI&RU 10 hrs. Drill rat hole & mouse hole. Ran 6 jts. (230') 8-5/8" 24#, J-55, casing set at 241'. Cemented w/145 sx. B neat + 2% CaCl2 + 1/4#/sx Celloseal. Slurry wt. 15.6 ppg, slurry yield 1.18 cu.ft., slurry volume 30 bbls. + 38 sx. B neat, slurry wt. 15.6 ppg, slurry yield 1.18 cu. ft., slurry volume 8 bbls. Circ. to surface. Plug down at 1:58 a.m.
7-30-94	7:00 a.m. (Report Time) Total depth 760'. Drld 7-1/4 hrs., WOC 13 hrs., Dev. sur. 1/4 hr. 3/4 degree at 504', drill cement and insert float 3-1/2 hrs. PP 1000#, SPM 64, Bit #2 7-1/4 hrs. WOB 40,000#, RPM 45, MW 8.8#.
7-31-94	7:00 a.m. (Report Time) Total depth 2232'. Drld 16-3/4 hrs., repair rig 6 hrs., Dev. sur 1 hr, 1/2 degree at 1024', 1 degree at 1522', 1/2 degree at 2017'. WOB 40,000#, RPM 65, MW 8.8#. Tops: Fruitland at 660', Picture Cliffs at 1240', Lewis at 1383', Chacra 2187', 5 shows from 1098-1238, gas units 175-350 Coal.
8-1-94	7:00 a.m. (Report Time) Total depth 3814'. Drld 22-1/4 hrs., service rig 1/2 hr. Dev. sur 1-1/4 hr., 1/2 degree at 2542', 1/4 degree at 3005', 3/4 degree at 3503'. Bit #2 46-1/4 hrs. PP 1200#, SPM 62, WOB 40,000#, RPM 65.
8-2-94	7:00 a.m. (Report Time) Total depth 4478'. Drld 16-1/2 hrs., trip 6-1/2 hrs., rig repair 1/4 hr., Dev. survey 1/2 hr., 1/2 degree at 4001'. PP 1200#, SPM 60 Bit #3 6-1/4 hrs. MW 8.8#, Vis. 28. (8-1-94) Mud Log 5 shows 2900-3732 350-410 units of gas, Coal zones.
8-3-94	7:00 a.m. (Report Time) Total depth 5151'. Drld 22 hrs, trip 1-1/2 hrs., Dev. survey 1/2 hr., 1-1/4 degree at 4498', 1/4 degree at 5026'. PP 1000#, SPM 56, Bit #3 28-1/4 hrs. WOB 40,000#, RPM 65, MW 8.9#, Vis. 34, WL 18, PH 10. Drilling in Gallup - 2 shows 4362-65 240 units, 4380-83 300 units.

DAILY DRILLING REPORT

NW CHA CHA UNIT
WELL NO. 60
1930' FSL & 971' FEL UNIT I
SEC. 27, T29N, R14W, NMPM
SAN JUAN CO., NM
GL 5770'

OPER: SIRGO BROS. ENERGY CORP.
915/685-0878 FAX 915/682-6224
PROPOSED TD 5490'
CHA CHA (GALLUP)
SPUD DATE: 7-28-94

DATE	DESCRIPTION OF WORK
8-4-94 pm 8-3-94 136 jts.	7:00 a.m. (Report Time). Total Depth 5485'. Reached TD at 7:45 a.m. Circ. 3 hrs., lay down drill pipe 4-1/4 hrs., ND 1-1/4 hrs., wait on casing crew 1-1/4 hrs., rig casing crew 3/4 hrs. Ran ~~141~~ jts. 5-1/2" J-55 casing. Cemented long string Lead Slurry 220 sx. Class B + 3% Thrifty Lite + 1/4#/sx. Celloseal. Slurry wt. 10.5#, slurry yield 4.06 cu. ft, slurry volume 159 bbls. + 265 sx. Class B + 10% Thixad + .4% CF-2 14.2#. Slurry yield 1.6 cu. ft., slurry volume 76 bbls. Plug down at 4:23 p.m. Circulated 20 bbls. to surface. FINAL REPORT

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #1	Date Sampled:	02/14/96
Laboratory ID:	0396W00186	Time Sampled:	9:45
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

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

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #2	Date Sampled:	02/14/96
Laboratory ID:	0396W00187	Time Sampled:	9:05
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

Parameter	Analytical 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

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #3	Date Sampled:	02/14/96
Laboratory ID:	0396W00188	Time Sampled:	9:50
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

Parameter	Analytical 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

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #4	Date Sampled:	02/14/96
Laboratory ID:	0396W00189	Time Sampled:	9:20
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units
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

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #5	Date Sampled:	02/14/96
Laboratory ID:	0396W00190	Time Sampled:	9:30
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

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

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #6	Date Sampled:	02/14/96
Laboratory ID:	0396W00191	Time Sampled:	9:40
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units
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

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 8740'

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #7	Date Sampled:	02/14/96
Laboratory ID:	0396W00192	Time Sampled:	9:55
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units
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

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #8	Date Sampled:	02/14/96
Laboratory ID:	0396W00193	Time Sampled:	9:00
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units
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 SB

Reviewed by

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #9	Date Sampled:	02/14/96
Laboratory ID:	0396W00194	Time Sampled:	8:45
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units
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 _____ Reviewed by _____

Inter·Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #10	Date Sampled:	02/14/96
Laboratory ID:	0396W00195	Time Sampled:	10:00
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units
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

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #11	Date Sampled:	02/14/96
Laboratory ID:	0396W00196	Time Sampled:	9:15
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

Parameter	Analytical Result	Units
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.

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Reviewed by _____

Inter-Mountain Laboratories, Inc.

2506 W. Main Street
Farmington, New Mexico 87401

Client:	**Sirgo Brothers**		
Project:	Sirgo Brothers	Date Reported:	02/23/96
Sample ID:	Well #12	Date Sampled:	02/14/96
Laboratory ID:	0396W00197	Time Sampled:	10:05
Sample Matrix:	Water	Date Received:	02/14/96
Condition:	Cool/Intact		

Parameter	Analytical 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

SBEC

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:

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

Brian M. Sirgo

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

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.