STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION
2040 SOUTH PACHECO
SANTA FE, NEW MEXICO 87505

10/9/99
SWD
757

FORM C-108
Revised 4-1-98

APPLICATION FOR AUTHORIZATION TO INJECT

I. PURPOSE: _____ Secondary Recovery _____ Pressure Maintenance X Disposal _____ Storage
Application qualifies for administrative approval? X Yes _____ No

II. OPERATOR: **Mack Energy Corporation**

ADDRESS: **P.O. Box 960, Artesia, NM 88211-0960**

CONTACT PARTY: **Jim Brown** PHONE: **505-748-1288**

III. WELL DATA: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.

IV. Is this an expansion of an existing project? _____ Yes X No
If yes, give the Division order number authorizing the project: _____

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:

SEP 2 4 1999

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 geologic data on the injection zone including appropriate lithologic detail, geologic 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 sources 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: **Robert Chase** TITLE: **Vice President**

SIGNATURE: Robert C. Chase DATE: 9/8/99

* 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 circumstances 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 the 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, 2040 South Pacheco, Santa Fe, New Mexico 87505, 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.

LAW OFFICES

LOSEE, CARSON, HAAS & CARROLL, P. A.

ERNEST L. CARROLL
JOEL M. CARSON
JAMES E. HAAS
R. TRACY SPROULS, LL.M. (TAX)

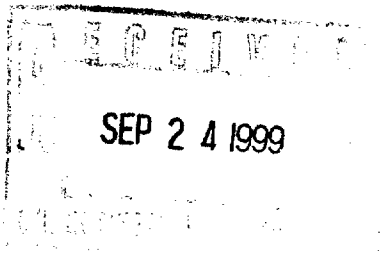
OF COUNSEL
A. J. LOSEE

311 WEST QUAY AVENUE
P. O. BOX 1720
ARTESIA, NEW MEXICO 88211-1720
PHONE (505) 746-3505
FAX (505) 746-6316

ROSWELL OFFICE
400 N. PENN., SUITE 870
ROSWELL, NM 88201
PHONE (505) 623-5154

PLEASE DIRECT ALL CORRESPONDENCE TO OUR ARTESIA OFFICE

September 23, 1999



Ms. Lori Wrotenberry, Director
New Mexico Oil Conservation Division
2040 S. Pacheco
Santa Fe, NM 87504

Dear Ms. Wrotenberry:

Enclosed for filing, please find three copies of Application For Authorization To Inject of Mack Energy Corporation for approval to convert the AID State 14 #1 Well into an injection well for the purpose of injecting produced water into the Cisco formation. The AID State 14 #1 Well is located in unit letter "O", Section 14, Township 17 South, Range 28 East, Eddy County, New Mexico.

The appropriate "Proof of Notice" applicable to the enclosed application will be submitted in the near future.

This matter should not be set for hearing as we hope it can be handled administratively.

Very truly yours,

LOSEE, CARSON, HAAS & CARROLL, P.A.

Ernest L. Carroll

ELC:sj
Enclosures

cc: Jim Brown

Side I

INJECTION WELL DATA SHEET

OPERATOR: **Mack Energy Corporation**

WELL NAME & NUMBER: **Aid State 14 #1** 30-015-29569

WELL LOCATION: **660 FSL 1330 FEL** | **O** | **14** | **17S** | **28E**

FOOTAGE LOCATION | UNIT LETTER | SECTION | TOWNSHIP | RANGE

WELLBORE SCHEMATIC

WELL CONSTRUCTION DATA

Surface Casing

Hole Size: **17 1/2"** Casing Size: **13 3/8" @300'**

Cemented with: **?** sx. or _____ ft

Top of Cement: **Circ** Method Determined: _____

Intermediate Casing

Hole Size: **12 1/4"** Casing Size: **8 5/8" @2670'**

Cemented with: **1086** sx. or _____ ft

Top of Cement: **Circ** Method Determined: _____

Production Casing

Hole Size: **7 7/8"** Casing Size: **5 1/2" @8370'**

Cemented with: **Circ to Surface** sx. or _____ ft

Top of Cement: **Circ** Method Determined: _____

Total Depth: **9350'**

Injection Interval

8370 feet to **9800' (OPEN HOLE)**

(Perforated or Open Hole; indicate which)

Side 2

INJECTION WELL DATA SHEET

Tubing Size: **2 7/8"** Lining Material: **Plastic Coated**

Type of Packer: **Haliburton Trump Packer**

Packer Setting Depth: **8270'**

Other Type of Tubing/Casing Seal (if applicable): _____

Additional Data

1. Is this a new well drilled for injection? [ ] Yes [X] No

   If no, for what purpose was the well originally drilled? **Morrow Test**

2. Name of the Injection Formation: **Cisco**

3. Name of Field or Pool (if applicable): _____

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail, i.e. sacks of cement or plug(s) used. **No**

5. Give the name and depths of any oil or gas zones underlying or overlying the proposed injection zone in this area: **7 Rivers, Grayburg, San Andres, Atoka, Morrow**

MACK ENERGY CORPORATION

Aid State 14 #1

Sec 14 T17S R28E 660FSL 1330FEL

WELL HISTORY

ELEV: 3637 GR

PBTD: P&A

TD: 10540'

SP Csg: 13 3/8 K55 68# BT&C @ 350' C/w Class C, 2% CC, .25 # CF (CIRC CEMENT)

INT Csg: 8 5/8 K55 ST&C 32# @ 2670' C/w 1086sx Prem Plus 50/50 Poz, 10% Gel, 8#salt, 2# sx Flocele (Circ 140 sx)

LS Csg: NONE

DV TOOL NONE

T SALT:

B SALT:

PERFS: NONE

DRILLING REPORT

08/18/1997 Drilling @ 8400', LOST RETURNS @ 8390', Top Cisco 8364'.

08/19/1997 Drilling @ 8516', Not Returns 8400'-8459, Drilling w/Partial Returns.

08/20/1997 Drilling @ 8830'. Prep to Squeeze.

08/21/1997 Pump 150sx Premium Cmt w/6% gel 5# sx Gilsonite, .5# sx flocele, wait 4 hours drilling cement.

08/22/1997 Drilling w/full Returns.

08/23/1997 Drilling @ 9414, Lost 80 Bbls

08/24/1997 Drilling @ 9630, Top Strawn 9350, Lost 1000 Bbls.

08/25/1997 Drilling @ 9677, Pump 200sx Premium Cement.

08/26/1997 Drillling @ 9740',

08/27/1997 Drilling @ 9945, Drillling Break @ 9934-9945, 2500 Unit Gas

08/28/1997 Drilling @ 10180

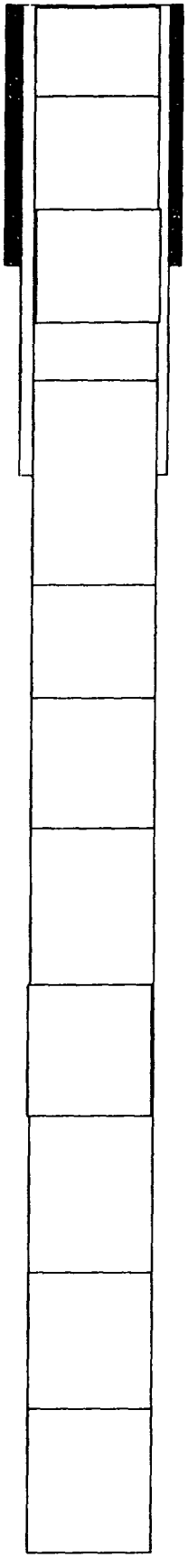
08/29/1997 Drilling @ 10426 Drilling Break @ 10255-10263, Top Morrow 10255, Top Chester 10405.

08/30/1997 Drilling @ 10525

08/31/1997 Drilling @ 10540 Logging, Calling for plugging orders

09/01/1997 80 sx plug @ 10040-9800, 40sx plug 6970-6870, 40sx plug @ 5842-5742, 50sx plug @ 2715-2615, 30sx plug @ 450-350, 10sx at surface.

MACK ENERGY CORPORATION
Aid State 14 #1
Sec 14 T17S R28E 660FSL 1330FEL



10 Sack Plug @ Surface

13 3/8 K55 68# BT&C @ 350' C/w Class C, 2% CC, .25 # CF (CIRC CEMENT)

30 Sack Plug 450'-350'

8 5/8 K55 ST&C 32# @ 2670' C/w 1086sx Prem Plus 50/50 Poz, 10% Gel, 8#salt, 2# sx Flocele (Circ 140 sx)

50 Sack Plug 2715'-2615'

40 Sack Plug 5842'-5742'

40 Sack Plug 6970'-6870'

Top Cisco 8364' LOST RETURNS @ 8390'

TOP STRAWN 9350'

Top Morrow 10255'

80 Sack Plug 10040'-9800'

Top Chester 10405'

TD 10540'

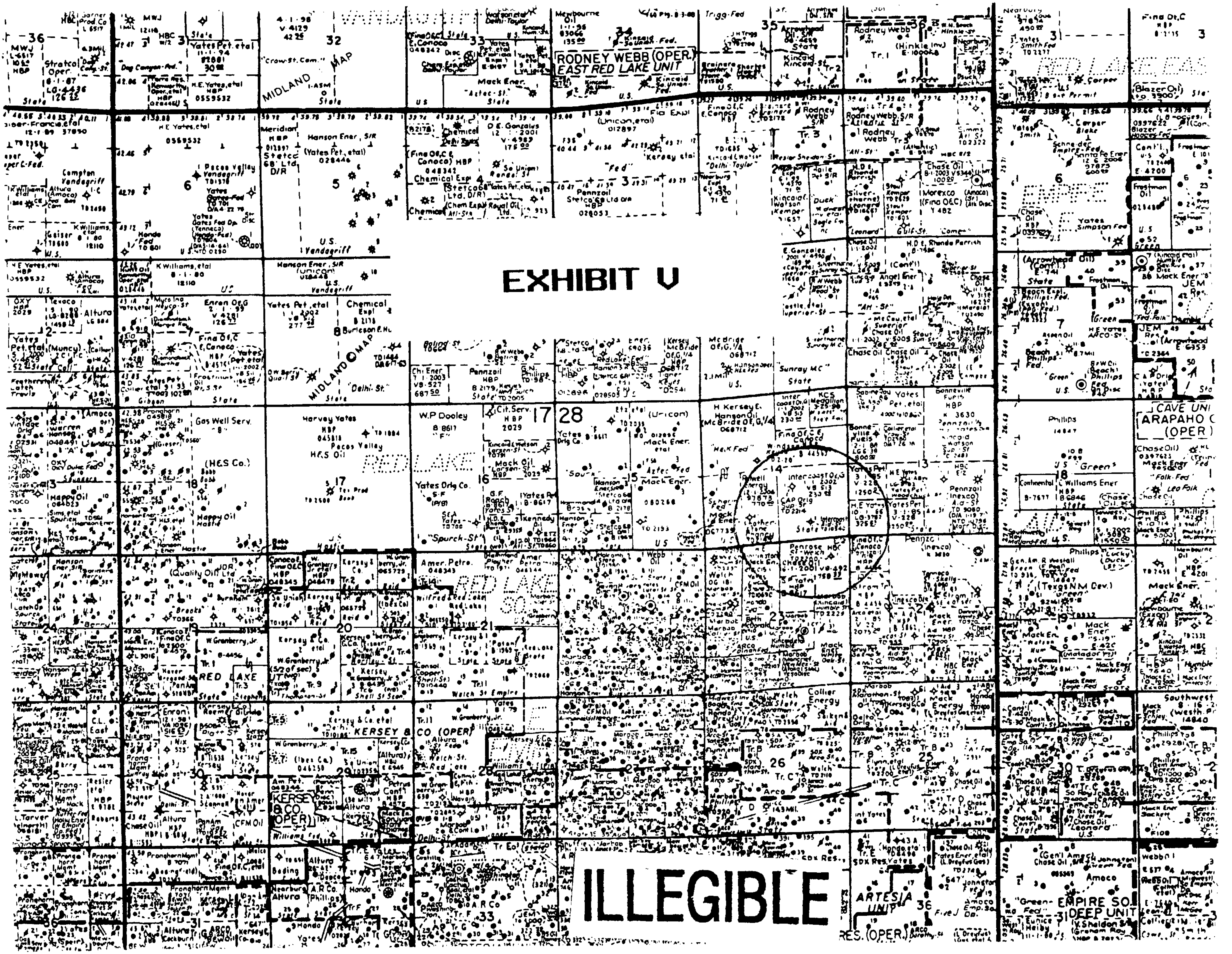


EXHIBIT V
ILLEGIBLE
RODNEY WEBB (OPER)
EAST RED LAKE UNIT
MIDLAND MAP
CAVE UNI
ARAPAHO
(OPER)
KERSEY & CO (OPER)
RED LAKE
ARTESIA UNIT
EMPIRE SO.
DEEP UNIT
RES.(OPER)

VI TABULATION OF DATA OF AREA OF REVIEW

There has not been a well that has penetrated the proposed injection zone

V11 DATA SHEET: PROPOSED OPERATIONS

1 Proposed average and maximum daily rate and volume of fluids to be injected;

Respectively, 1500 BWPD and 2500 BWPD

2 The system is closed or open;

Closed

3 Proposed average and maximum injection pressure:;

Vacuum- 100#

4 Sources and an approprate analysis of injection fluid and compatibility with the receving formation if other tan reinjected produced water;

WE WILL BE REINJECTING PRODUCED WATER

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;

WE WILL BE REENTERING THIS WELL AND INFORMATION IS NOT AVAILABLE

VIII GEOLOGICAL DATA

LITHOLOGIC DETAIL
DOLOMITIC & LIME
GEOLOGICAL NAME
CISCO
THICKNESS
986'
DEPTH
8364-9350

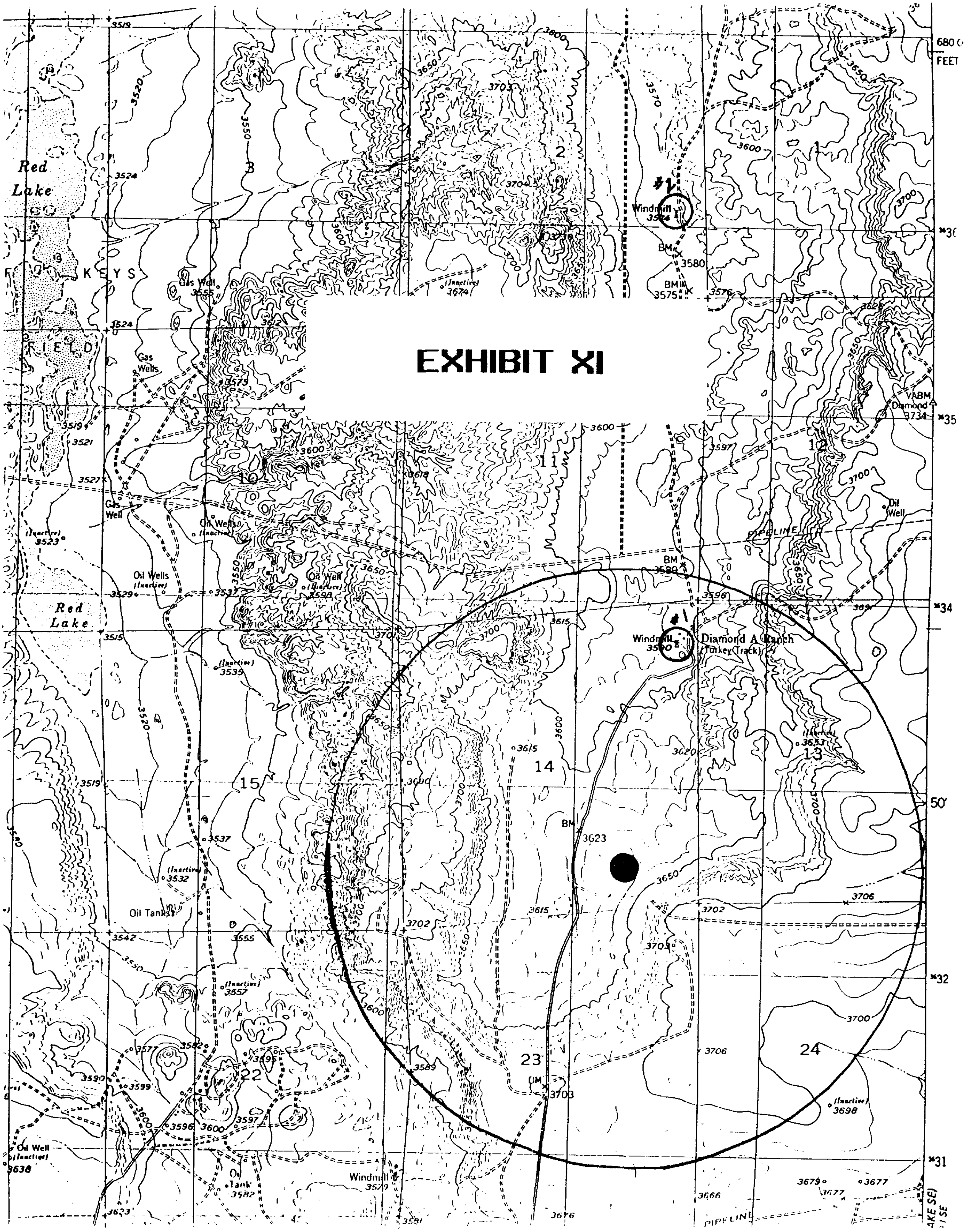
IX PROPOSED STIMULATION PROGRAM

TO BE TREATED WITH 1000 GALLONS 15% ACID

X LOGS AND TEST DATA

Well Data has been filed with the OCD

EXHIBIT XI



Red Lake
KEYS
FIELD
Gas Well
Gas Wells
Oil Wells
Oil Well
Oil Tanks
Oil Tank
Windmill
Diamond A Ranch
(Turkey Track)
VABM
Diamond
3734
PIPELINE
BM
3623
3703
FEET
1
2
3
10
11
12
13
14
15
22
23
24

MCI
CHEMICALS and CONSULTING

MILLER CHEMICALS, INC.
Post Office Box 298
Artesia, N.M. 88211-0298
(505) 746-1919 Artesia Office
(505) 393-2893 Hobbs Office
(505) 746-1918 Fax

WATER ANALYSIS REPORT

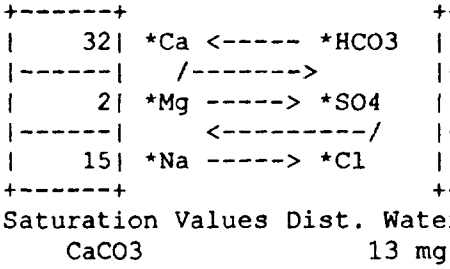
Company : MACK ENERGY
Address :
Lease : WINDMILL
Well : #2
Sample Pt. :

Date : 9-3-99
Date Sampled : 9-3-99
Analysis No. : 8083

	ANALYSIS		mg/L		* meq/L
1.	pH	7.0			
2.	H2S	0			
3.	Specific Gravity	1.001			
4.	Total Dissolved Solids		3374.9		
5.	Suspended Solids		NR		
6.	Dissolved Oxygen		NR		
7.	Dissolved CO2		NR		
8.	Oil In Water		NR		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	183.0	HCO3	3.0
12.	Chloride	Cl	170.0	Cl	4.8
13.	Sulfate	SO4	2000.0	SO4	41.6
14.	Calcium	Ca	648.0	Ca	32.3
15.	Magnesium	Mg	22.3	Mg	1.8
16.	Sodium (calculated)	Na	351.2	Na	15.3
17.	Iron	Fe	0.4		
18.	Barium	Ba	0.0		
19.	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)		1710.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter



Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	3.0	243
CaSO4	68.1	29.3	1997
CaCl2	55.5		
Mg(HCO3)2	73.2		
MgSO4	60.2	1.8	110
MgCl2	47.6		
NaHCO3	84.0		
Na2SO4	71.0	10.5	744
NaCl	58.4	4.8	280

REMARKS:

SCALE TENDENCY REPORT

Company	: MACK ENERGY	Date	: 9-3-99
Address	:	Date Sampled	: 9-3-99
Lease	: WINDMILL	Analysis No.	: 8083
Well	: #2	Analyst	: STEVE TIGERT
Sample Pt.	:		

STABILITY INDEX CALCULATIONS
(Stiff-Davis Method)
CaCO3 Scaling Tendency

S.I. =	0.3	at	70 deg. F or	21	deg. C
S.I. =	0.3	at	90 deg. F or	32	deg. C
S.I. =	0.3	at	110 deg. F or	43	deg. C
S.I. =	0.4	at	130 deg. F or	54	deg. C
S.I. =	0.4	at	150 deg. F or	66	deg. C

****

CALCIUM SULFATE SCALING TENDENCY CALCULATIONS
(Skillman-McDonald-Stiff Method)
Calcium Sulfate

S =	1661	at	70 deg. F or	21	deg C
S =	1691	at	90 deg. F or	32	deg C
S =	1697	at	110 deg. F or	43	deg C
S =	1683	at	130 deg. F or	54	deg C
S =	1657	at	150 deg. F or	66	deg C

Respectfully submitted,
STEVE TIGERT

MCI
CHEMICALS and CONSULTING

MILLER CHEMICALS, INC.
Post Office Box 298
Artesia, N.M. 88211-0298
(505) 746-1919 Artesia Office
(505) 393-2893 Hobbs Office
(505) 746-1918 Fax

WATER ANALYSIS REPORT

Company	: MACK ENERGY	Date	: 9-3-99
Address	:	Date Sampled	: 9-3-99
Lease	: WINDMILL	Analysis No.	: 8082
Well	: #1		
Sample Pt.	:		

	ANALYSIS		mg/L		* meq/L
1.	pH	7.0			
2.	H2S	0			
3.	Specific Gravity	1.002			
4.	Total Dissolved Solids		5370.8		
5.	Suspended Solids		NR		
6.	Dissolved Oxygen		NR		
7.	Dissolved CO2		NR		
8.	Oil In Water		NR		
9.	Phenolphthalein Alkalinity (CaCO3)				
10.	Methyl Orange Alkalinity (CaCO3)				
11.	Bicarbonate	HCO3	231.0	HCO3	3.8
12.	Chloride	Cl	1491.0	Cl	42.1
13.	Sulfate	SO4	1875.0	SO4	39.0
14.	Calcium	Ca	952.0	Ca	47.5
15.	Magnesium	Mg	44.4	Mg	3.6
16.	Sodium (calculated)	Na	775.6	Na	33.7
17.	Iron	Fe	1.8		
18.	Barium	Ba	0.0		
19.	Strontium	Sr	0.0		
20.	Total Hardness (CaCO3)		2560.0		

PROBABLE MINERAL COMPOSITION

*milli equivalents per Liter

48	*Ca <----- *HCO3	4
	/------->	
4	*Mg -----> *SO4	39
	<---------/	
34	*Na -----> *Cl	42

Compound	Equiv wt	X meq/L	= mg/L
Ca(HCO3)2	81.0	3.8	307
CaSO4	68.1	39.0	2657
CaCl2	55.5	4.7	259
Mg(HCO3)2	73.2		
MgSO4	60.2		
MgCl2	47.6	3.6	174
NaHCO3	84.0		
Na2SO4	71.0		
NaCl	58.4	33.7	1972

Saturation Values Dist. Water 20 C

CaCO3	13 mg/L
CaSO4 * 2H2O	2090 mg/L
BaSO4	2.4 mg/L

REMARKS:

SCALE TENDENCY REPORT

Company	: MACK ENERGY	Date	: 9-3-99
Address	:	Date Sampled	: 9-3-99
Lease	: WINDMILL	Analysis No.	: 8082
Well	: #1	Analyst	: STEVE TIGERT
Sample Pt.	:		

STABILITY INDEX CALCULATIONS
(Stiff-Davis Method)
CaCO3 Scaling Tendency

S.I. =	0.4	at	70	deg. F or	21	deg. C
S.I. =	0.5	at	90	deg. F or	32	deg. C
S.I. =	0.5	at	110	deg. F or	43	deg. C
S.I. =	0.5	at	130	deg. F or	54	deg. C
S.I. =	0.6	at	150	deg. F or	66	deg. C

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CALCIUM SULFATE SCALING TENDENCY CALCULATIONS
(Skillman-McDonald-Stiff Method)
Calcium Sulfate

S =	2048	at	70	deg. F or	21	deg C
S =	2091	at	90	deg. F or	32	deg C
S =	2106	at	110	deg. F or	43	deg C
S =	2092	at	130	deg. F or	54	deg C
S =	2067	at	150	deg. F or	66	deg C

Respectfully submitted,
STEVE TIGERT

XII AFFIRMATIVE STATEMENT

RE: Aid State 14 #1

We have examined the available geologic and engineering data and find no evidence of open faults or any other hydraulic connection between the disposal zone and any underground source of drinking water.

Mack Energy Corporation

Date: 9/8/99

Robert C. Chase, Vice President