STEVENS OPERATING CORPORATION
1250 UNITED BANK PLAZA
P. O. BOX 2408
ROSWELL, NEW MEXICO 88201
505-622-7273

July 31, 1991

Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: C 108 Application or Authorization to Inject
Stevens Operating Corporation
#4 McClellan Federal
Unit P, Section 27, T13S, R29E
Chaves County, New Mexico

Gentlemen:

I am enclosing herewith two executed copies of the above captioned C-108.

Yours very truly,

M. Sandra Parsons

M. Sandra Parsons
Administrative Secretary

MSP/hs
Enclosures-2

One copy sent to OCD, Artesia Office

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

FORM C-108
Revised 7-1-81

Stevens Operating Corporation
#4 McClellan-Federal
Unit P Sec. 27, T13S,R29E
Chaves County, NM

APPLICATION FOR AUTHORIZATION TO INJECT

I. Purpose: ☐ Secondary Recovery ☐ Pressure Maintenance ☒ Disposal ☐ Storage
Application qualifies for administrative approval? ☐ yes ☒ no

II. Operator: STEVENS OPERATING CORPORATION

Address: P. O. Box 2203, Roswell, New Mexico 88201

Contact party: Donald G. Stevens Phone: 622-7273

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 ☒ 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:

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 source 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: Donald G. Stevens Title President

Signature: Donald G. Stevens Date: 7/29/91

* If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be duplicated and 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;

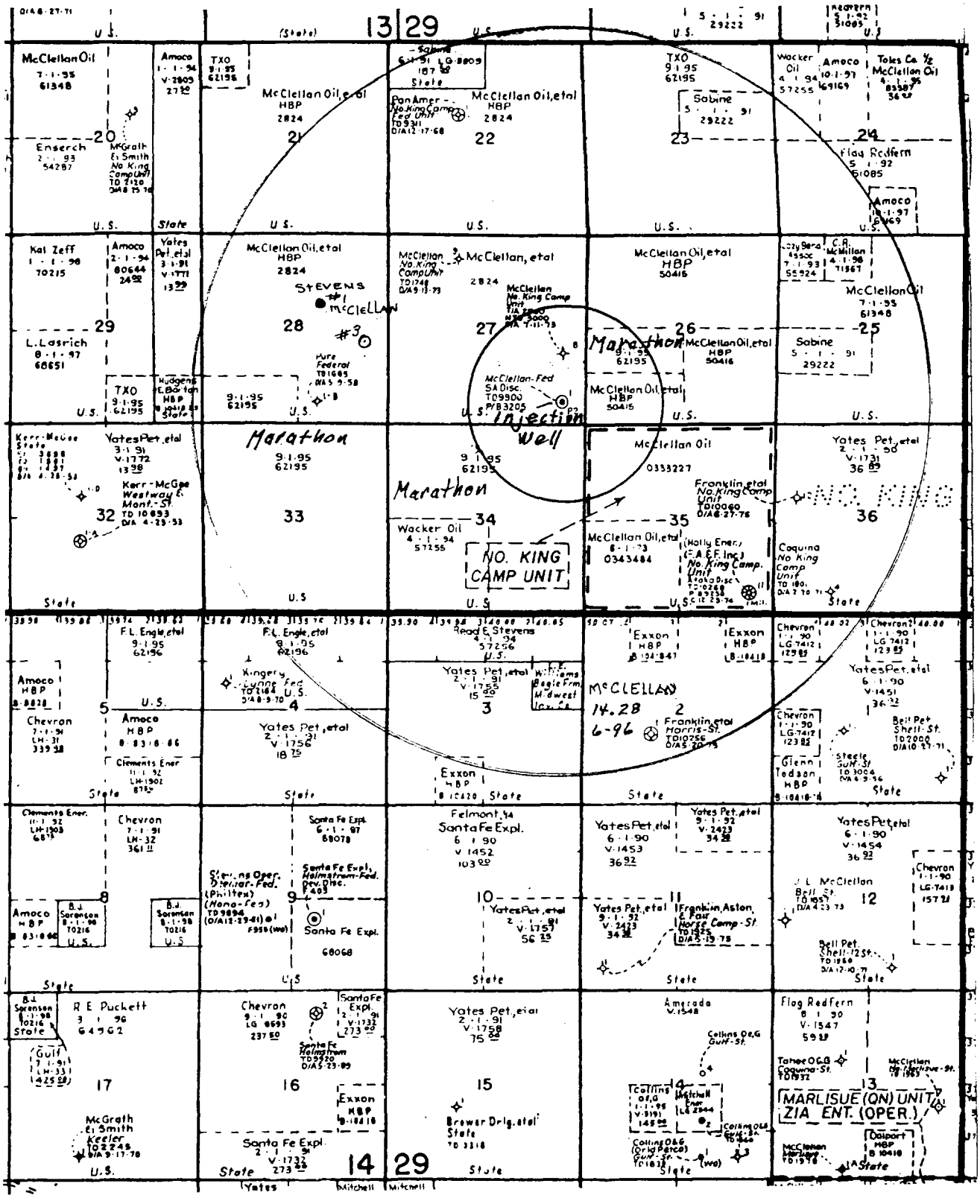
(3) the formation name and depth with expected maximum injection rates and pressures; and

(4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501 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.

C-108, PARAGRAPH V



C-108 PARAGRAPH VI

INJECTION WELL DATA SHEET

SIDE 1

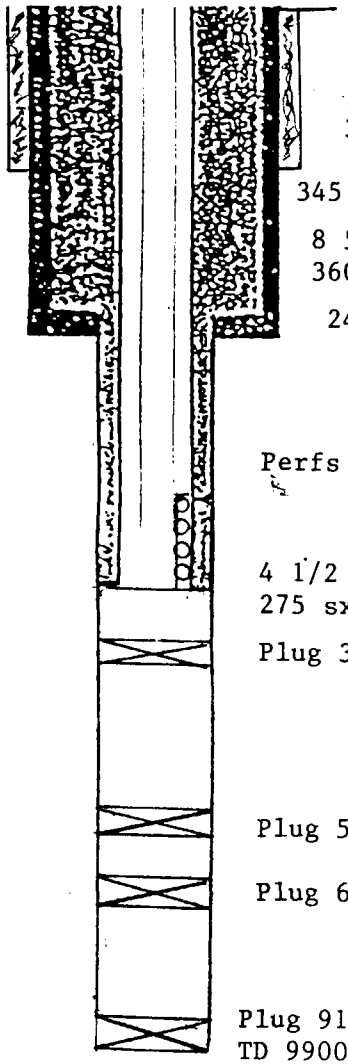
STEVENS OPERATING CORPORATION — McClellan Federal

OPERATOR — LEASE

4	Unit P 660' FSL 660' FEL	Sec. 27	13S	29E
WELL NO.	FOOTAGE LOCATION	SECTION	TOWNSHIP	RANGE

Spud 7/19/81 Completed 11/13/81 — Elevation 3773.6 GR

Schematic



Tabular Data

Surface Casing

Size 13 3/8" Cemented with 350 sx.

TOC Surface feet determined by Circulate 80 sxs

Hole size 17"

Intermediate Casing

Size 8 5/8" Cemented with 360 sx.

TOC Surface feet determined by Circulate 35 sxs

Hole size 12 1/2"

Long string

Size 4 1/2" Cemented with 275 sx.

TOC 1532 feet determined by Calculation

Hole size 7 1/2"

Total depth 3205

Injection interval

2766'-3130' perfs feet to 3205'-3300 OH feet

(perforated or open-hole, indicate which)

INJECTION WELL DATA SHEET -- SIDE 2

Tubing size 2 3/8" lined with Corrosion Inhibitor (material) set in a

4 1/2" Baker Lockset Nickel Plated (brand and model) packer at 2700' feet

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation San Andres

2. Name of Field or Pool (if applicable) Undesignated

3. Is this a new well drilled for injection? /_/ Yes /X/ No

   If no, for what purpose was the well originally drilled? Wildcat, later for oil production in San Andres

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

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. Lone Wolf, South, Devonian 9850', King Camp, North Atoka, 9200' and Devonian 9700'

C-108 PARAGRAPH VI

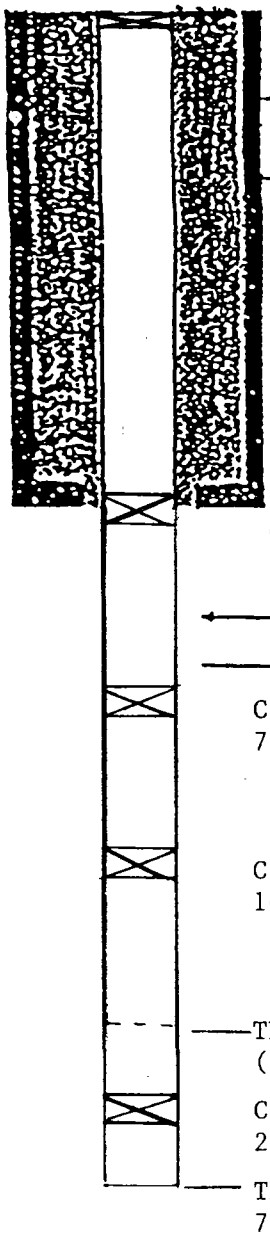
WELL BORE SKETCH

OPERATOR/LEASE/WELL McClellan Oil Corporation #8 North King Camp Unit

LOCATION Unit I, Section 27, Township 13 South, Range 29 East, 1980'FSL 660'FEL

FIELD/POOL Wildcat, Spud 1/29/73, Plugged 7/10/73

PLUG BACK DEPTH _____ KB _____ / ELEVATION 3783 GL



Cement Plug
10 Sx at surface

Hole Size 12 1/4"

SURFACE CASING:
Size 8 5/8" Weight 20# Grade _____
Set at 350' with 100 Sacks Cement
Circulate 10 Sacks to Surface
Remarks: _____

350'
Cement plug 300'-400'

Hole Size 7 7/8"

PRODUCTION CASING: - None
Size _____ Weight _____ Grade _____
Set at _____ with _____ Sacks Cement
Cement Top: Calculated _____ Temperature Survey _____
Remarks: _____

Cement plug
795'-895'

Cement plug
1683'-1783'

TD 2500'
(3/12/73)

Cement plug
2660'2760'

TD 3004'
7/6/73

C-108 PARAGRAPH VII

1. **Proposed average daily rate: 500 BOPD**
   Proposed maximum daily rate: 3000 BOPD

2. **The system is closed with a gas blanket on all storage tanks.**

3. **Proposed average injection pressure is 300.**
   Proposed maximum injection pressure is 540 unless step rate test allows higher pressure to a maximum at 1600#.

4. **Analysis of injection water is attached.**

5. **The disposal zone (San Andres) formation water is generally slightly higher in salinity and dissolved solids than Devonian produced water. Water compatibility tests in other areas between San Andres and Devonian waters generally indicate compatibility.**

Bell PETROLEUM LABORATORIES

P. O. BOX 2988 Midland, Texas 79702 PHONE 563-2628 - 694-6712

API FORM 45-1

API WATER ANALYSIS REPORT FORM

Company: STEVENS OPERATING CO.		Sample No.: 20291	Date Sampled: 4/10/91	Date Recd.: 4/10/91
Field	Legal Description	County or Parish: CHAVES	State: N.M.	
Lease or Unit: MCCLELAN FEDERAL	Well: #1, DST #1	Depth: 9820-9854'	Formation: DEVONIAN	Water, B/D
Type of Water (Produced, Supply, etc.): PRODUCED	Sampling Point: SAMPLE CHAMBER	Sampled By: PERMIAN TESTERS		

DISSOLVED SOLIDS

CATIONS	mg/l	me/l
Sodium, Na (calc.)	12,483	543
Calcium, Ca	1,322	66
Magnesium, Mg	286	24
Barium, Ba		

ANIONS	mg/l	me/l
Chloride, Cl	20,345	574
Sulfate, SO_4	2,250	47
Carbonate, CO_3	0	0
Bicarbonate, HCO_3	744	12

Total Dissolved Solids (calc.): 37.535

Iron, Fe (total): 105

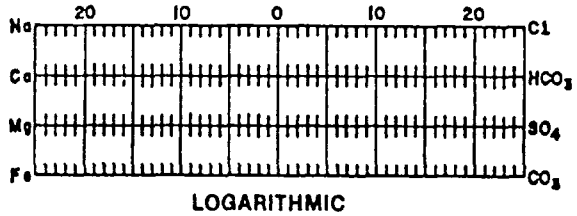
Sulfide, as H_2S:

OTHER PROPERTIES

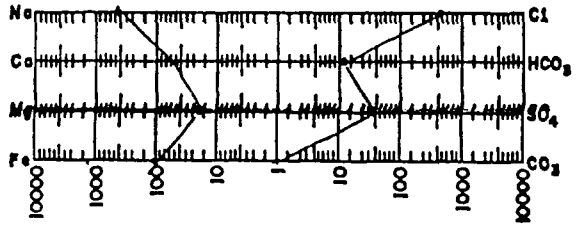
pH	6.8
Specific Gravity, 60/60 F.	1.033
Resistivity (ohm-meters) 77°F.	.108
Total Hardness, as $CaCO_3$ mg/l	4,482
Total Alkalinity, as $CaCO_3$ mg/l	
Supersaturation, as $CaCO_3$ mg/l	

WATER PATTERNS — me/l

STANDARD



LOGARITHMIC



REMARKS & RECOMMENDATIONS:

COPIES TO:

ANALYSIS BY: Darrell Cooke

C-108 PARAGRAPH VIII

Attached CNL-FDC, DIL, SFL shows injection zone lithology to be variable porous, variable permeable San Andres Dolomite 534' thick @ 2766'-3300'. Nearest known underground sources of drinking water is at Horse Camp well 1 1/2 miles south in Section 3, Township 14 South, Range 29 East.

C-108 PARAGRAPH VIII

Schlumberger

COMPENSATED NEUTRON FORMATION DENSITY

COMPANY WESTERN PRODUCERS, INC. RECEIVED

OCT 8 1982

O. C. D.

WELL MCCLELLAN FEDERAL #1 ARTESIA, OFFICE

FIELD WILDCAT San Andres

COUNTY CHAVES STATE NEW MEXICO

LOCATION 660' FFL & 660' FSL

API SERIAL NO | SEC 27 | TWP 13-S | RANGE 29-E

Other Services: D!-SFL

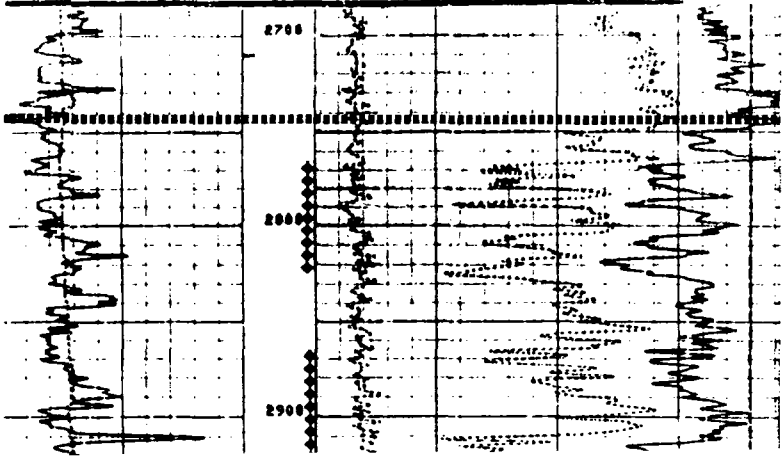
Permanent Datum: GL ; Elev.: 3770

Log Measured From: KB, 12 Ft. Above Perm. Datum

Drilling Measured From: KB

Elev.: K.B. 3782 D.F. G.L. 3770

Date	8-18-81			
Run No.	ONE			
Depth-Driller	9687			
Depth-Logger	9698			
Btm. Log Interval	9695			
Top Log Interval	SURF			
Casing-Driller	8 5/8@ 2450	@	@	@
Casing-Logger	2450			
Bit Size	7 7/8			
Type Fluid in Hole	SALT GEL			
Dens. / Visc.	9.4 / 35			
pH / Fluid Loss	8 / 9 ml	ml	ml	ml
Source of Sample	MUD PIT			
Rm @ Meas. Temp.	.33 @ 72 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.25 @ 72 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	.5 @ 72 °F	@ °F	@ °F	@ °F
Source: Rmf / Rmc	C			
Rm @ BHT	.19 @133 °F	@ °F	@ °F	@ °F
Circulation Stopped	1400			
Logger on Bottom	2000			
Max. Rec. Temp.	133 °F	°F	°F	°F
Equip. / Location	8194 / RSWL			
Recorded By	ADLAKHA			
Witnessed By	BECKER			



Schlumberger

DUAL INDUCTION-SFL

COMPANY WESTERN PRODUCERS, INC. RECEIVED

OCT 8 1982

O. C. D.

WELL MCCLELLAN FEDERAL #1 ARTESIA, OFFICE

FIELD WILDCAT San Andres

COUNTY CHAVES STATE NEW MEXICO

LOCATION 660' FEL & 660' FSL

API SERIAL NO | SEC 27 | TWP 13-S | RANGE 29-E

Other Services: CNL/FDC

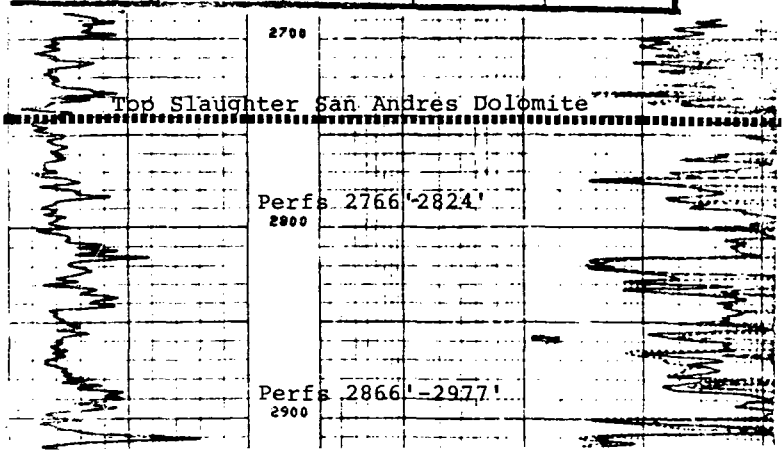
Permanent Datum: GL ; Elev.: 3770

Log measured From: KB, 12 Ft. Above Perm. Datum

Drilling Measured From: KB

Elev.: K.B. 3782 D.F. G.L. 3770

Date	8-19-81			
Run No.	ONE			
Depth-Driller	9687			
Depth-Logger (Schl.)	9698			
Btm. Log Interval	R			
Top Log Interval	2450			
Casing-Driller	8 5/8@ 2450	@	@	@
Casing-Logger	2450			
Bit Size	7 7/8			
Type Fluid in Hole	SALT GEL			
Dens. / Visc.	9.4 / 35			
pH / Fluid Loss	8 / 9 ml	ml	ml	ml
Source of Sample	MUD PIT			
Rm @ Meas. Temp.	.33 @ 72 °F	@ °F	@ °F	@ °F
Rmf @ Meas. Temp.	.25 @ 72 °F	@ °F	@ °F	@ °F
Rmc @ Meas. Temp.	.5 @ 72 °F	@ °F	@ °F	@ °F
Source: Rmf / Rmc	C			
Rm @ BHT	.19 @133 °F	@ °F	@ °F	@ °F
Circulation Stopped	1400 8-18			
Logger on Bottom	0230 8-19			
Max. Rec. Temp.	133 °F	°F	°F	°F
Equip. / Location	8194 / RSWL			
Recorded By	ADLAKHA			
Witnessed By	BECKER			



C-108 PARAGRAPH IX

The stimulation program on the perforated injection zone was a total of 2500 gallons 15% acid, plus 20,000 gallons cross-linked gel water and 250 sacks 20/40 sand. Possibly an additional 3000 gallons, 28% will be added to open hole section 3205'-3300'.

PARAGRAPH X

Logs and tests on file OCD.

PARAGRAPH XI

No fresh water wells are nearby, nearest is 1 1/2 miles south in Horse Camp well, SE/4NE/4 Section 3, T 14 S, R 29 E, producing stock water from a shallow sand.

PARAGRAPH XII

Applicant has examined available geologic and engineering data and believes there are no open faults within five miles nor any other hydrogeologic connection between the disposal zone and any possible underground drinking water.

Legal Notices

Publish July 31, 1991

NOTICE

Stevens Operating Corporation, Box 2203, Roswell 88201, Contact Bob Farmer, proposes converting the oil well known as McClellan Oil Corporation #1, SE/4SE4, Section 27, T-13-S, R-29E, Chaves County, into a saltwater disposal well. The produced saltwater will be injected into the Slaughter San Andres formation from 2766' to 3300' with anticipated maximum injection rate of 3000 barrels per day and a maximum injection pressure up to 1600# subject to the New Mexico Oil Conservation Division rules and directives. Interested parties must file objections or requests for hearing with the Oil Conservation Division, P.O. Box 2088, Santa Fe, New Mexico 87501 within 15 days.