STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

15 July 1987

EXAMINER HEARING

IN THE MATTER OF:

Application of MorOilCo, Inc. for salt water disposal, Lea County, New Mexico. CASE 9171

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division:

For the Applicant:

MR. STOGNER: This hearing will resume order.

We will call next Case Number 9171, which is the application of MorOilCo, Incorporated, for salt water disposal, Lea County, New Mexico.

At the applicant's request this case will be continued to the Examiner's Hearing scheduled for July 29th, 1987.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9171, heard by me on 15 July 1987.

Michael E. Stogner, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

29 July 1987

EXAMINER HEARING

IN THE MATTER OF:

Application of MorOilCo, Inc. for salt water disposal, Lea County, New Mexico. CASE 9171

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division: Jeff Taylor
Attorney at Law
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

MR. CATANACH: Call next Case 9171.

MR. TAYLOR: The application of MorOilCo, Inc. for salt water disposal, Lea County, New Mexico.

The applicant has requested that this case be continued.

MR. CATANACH: Case 9171 will be continued to the August 12th, 1987, docket.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9171, heard by me on 7/29/87.

David R. Catanach, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO

26 August 1987

EXAMINER HEARING

IN THE MATTER OF:

Application of MorOilCo, Inc. for salt water disposal, Lea County, New Mexico. CASE 9171

BEFORE: David R. Catanach, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division: Jeff Taylor
Attorney at Law
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

MR. CATANACH: Call next Case 9171.

MR. TAYLOR: Application of Mor-Oil-Co, Inc. for salt water disposal, Lea County, New Mexico.

MR. CATANACH: Are there any appearances in this case?

Case 9171 is hereby dismissed.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9171, heard by me on August 26, 1987.

David R. Catanach, Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
12 August
~~29 July~~ 1987

EXAMINER HEARING

IN THE MATTER OF:

Application of MorOilCo, Inc. for salt water disposal, Lea County, New Mexico.	CASE 9171

BEFORE: Michael E. Stogner, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Division: Jeff Taylor
Attorney at Law
Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

MR. STOGNER: Call next Case 9171.

MR. TAYLOR: The application of MorOilCo Company, Inc., MorOilCo, Inc., for salt water disposal, Lea County, New Mexico.

The applicant has requested that this case be continued.

MR. STOGNER: Case Number 9171 will be continued to the Examiner's hearing scheduled for August 26th, 1987.

(Hearing concluded.)

C E R T I F I C A T E

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division (Commission) was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Sally W. Boyd CSR

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 9171, heard by me on 12 August 1982.

Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501

FORM C-108
Revised 7-1-81

Case 9171

APPLICATION FOR AUTHORIZATION TO INJECT

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

II. Operator: MorOilCo. Inc.

Address: P.O. Drawer I Artesia, NM 88211-0269

Contact party: Frank Morgan Phone: 365-2971

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: Frank S. Morgan Title Vice President

Signature: Frank S. Morgan Date: 5/20/1987

* 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. _____

DISTRIBUTION: Original and one copy to Santa Fe with one copy to the appropriate Division district office.

(505) 365-2971

MorOilCo. INC.

DRAWER I
ARTESIA, NEW MEXICO 88210

May 14, 1987

New Mexico Oil Conservation Commission
Energy and Minerals Department
P.O. Box 2088
Santa Fe, NM 87501

Re: Application for Authorization to Inject
Mescalero Ridge Unit #31
NW SW Section 21, T19S R34E
Lea County, New Mexico

Gentlemen:

MorOilCo, Inc., has received approval from Atlantic Richfield Company, El Paso Natural Gas Company, Pennzoil Company and Wainoco Oil & Gas Company for the purpose of constructing a water disposal well. The above referenced well is located in the Mescalero Ridge Unit with the one half mile of review around said well not extending out of the unit operated by Atlantic Richfield Company.

With the off-set operator as ARCO, MorOilCo, Inc., would like to request Administrative Approval for this project. Enclosed is Form C-108 with requirements set out in Rule 701-B. If administrative approval is not possible we ask to be placed on the docket for public hearing. MorOilCo, Inc., appreciates your help in this matter.

Sincerely,

Frank S. Morgan

Frank S. Morgan

FSM/rlm

Enclosures

(505) 365-2971

MorOilCo. INC.

DRAWER I
ARTESIA, NEW MEXICO 88210

May 14, 1987

New Mexico Oil Conservation Commission
Energy and Minerals Department
P.O. Box 2088
Snata Fe, NM 87501

RE: Application for Authorization to Inject
Mescalero Ridge Unit #31
NM-056376
NW SW Section 21, T19S, R34E
Lea County, New Mexico

Gentlemen:

MorOilCo, Inc., is seeking authorization to convert the above referenced well into a produced water disposal in the Yates and Queen Formations. Attached is an injection well data sheet showing the proposed mechanical configuration and a map showing the one-half mile radius around the proposed injector. A brief description of the wells within this radius is given below:

NE NW Section 21: Sinclair Oil & Gas Company, Mescalero Ridge Unit #22 - Spud 9/16/66. Completed 11/13/66. T.D. 10,132'. 11-3/4" 42# set at 423' with 275 sx. 8-5/8" 24#, 32#, 36# set at 5547' with 585 sx. 5-1/2" 14#, 15#, 17# set at 10,132' with 625 sx. Perforations from 10,114' - 10,124' (20 holes). Acidized w/ 500 gallons mud acid. Producing.

NW NW Section 21: El Paso Natural Gas Company, Mescalero Ridge Unit #1 - Spud 5/9/61. Completed 8/30/61. T.D. 13,972'; PBTD 13,430'. 13-3/8" set at 839' with 900 sx. 9-5/8" set at 5522' with 2970 sx. 7" set at 13,709' with 700 sx. Perforations 13,328' to 13,340'. Treated with 13,150 gallons 5% MSA, 500# WAC No. 9, 400# gel. Well is a dual completion between Bone Springs and Morrow formation. Producing.

NE SW Section 21: Drilling & Exploration Company, Inc., Mescalero Ridge Unit #3 - Spud 11/5/62. 8-5/8" casing set at 1897'. Cemented with 500 sx. 6% gel and 100 sx. "C" neat, circulate cement. T.D. 10,164'. Spot 35 sx. cement plug at 9905', 35 sx. plug at 7000', 35 sx. plug at 3400', 35 sx. plug at 1950' and 15 sx. plug in top of 8-5/8" casing. P & A January 3, 1969.

NW NW Section 28: Sinclair Oil Corporation, Mescalero Ridge Unit MA #32 - Spud 9/18/68. Completed 10/4/68. T.D. 4100'. 8-5/8" 24# set at 326' with 300 sx. cement. 4-1/2" set 4094' with 275 sx. cement. Producing.

The proposed injection well will dispose of Queen produced water from MorOilCo, Inc., leases as well as produced water from near-by operators. Our average injection rate into the well will be .5 BPM with an average daily total of 250 barrels. The maximum rate we anticipate is 1.0 BPM with a maximum daily total of 650 barrels. We expect an average injection pressure of 700 psi, and request an operating maximum of 1400 psi. The system will be regulated with Murphy Controls so not to have a continuous injection of fluid. No deeper acquifers nearby containing usable water are known.

MorOilCo, Inc.'s, geological consultant has studied existing geological data and believes there is no connection between the Queen and Yates formations with any acquifer containing potable water.

Scott Exploration, Inc.

Suite 648, Petroleum Bldg.
Roswell, New Mexico 88201
Tel: (505) 622-5891

5-21-1987

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

RE: Proposed Water Disposal Well
#31 Mescalero Ridge Unit MA
Section 21-T19S-R34E
1980' FS & 660' FWL
Lea County, New Mexico

This is in reference to converting captioned well into a water disposal well. This well was drilled in 1968 by Sinclair. The present operator is ARCO, who has concluded an agreement with MorOilCo., Inc. to use the well for water disposal.

The well originally was drilled to a TD of 5000 feet and 4 1/2 inch casing was run to 4064 feet. The Yates was perforated 3952 - 3958 feet and completed as a gas well in July 1968. The well rapidly depleted and was plugged in May, 1971. The 4 1/2" casing was shot off at 2990 feet and pulled. A 35 sack plug was then spotted in and out of the casing stubb from 3002 - 2902 feet.

MorOilCo. proposes to re-enter this well, run 4 1/2" casing to the stub at 2990 feet, tie-in to the top of the shut off casing and clean out to the original, total depth of 5000 feet.

Water would be injected into both the open hole section from 4064 - 5000 feet and into perforations in the Yates formation at 3951 - 3966, and 3988 - 3995 feet. With the exception of the depleted Yates Zone all porous beds in the hole exhibit very high water saturations. The porous zones that should take water are summarized as follows:

Cased Hole
Yates formation (to be perforated)
3951-90 feet
3988-95 feet

Open Hole
Seven Rivers Formation
4284-88 feet
4308-12 feet
4334-38 feet
4418-24 feet

Queen Formation
4504-08 feet
4514-33 feet
4539-46 feet
4552-59 feet
4751-56 feet

Penrose Member of Queen Formation
4828-30 feet
4860-66 feet

Vertical fluid communication from (or within) the injection zones is restricted by dense zones of anhydritic dolomite.

There are no fresh water acquifiers currently being produced within a two-mile radius of the proposed water disposal. There is also no evidence of faulting or any other hydrologic connection between potential fresh water acquifiers and the potential injection zone. No wells within a half mile radius of the proposed disposal well producing oil or gas from the zones proposed for injection.

Exhibits Furnished

Exhibit #1. Logs of the ARCO (Sinclair) #31 Mescalero Ridge Unit MA, which is the proposed water disposal well showing the perforations and open hole section.

Exhibit #2. Map showing all wells and leases within a two-mile and a one-half mile radius around the proposed disposal well.

Sincerely,

George L. Scott

George L. Scott
Consulting Geologist

GLS/ja

SCHLUMBERGER BOREHOLE COMPENSATED SONIC LOG - GAMMA RAY

COMPANY SINCLAIR OIL & GAS CO

WELL MESCALERO RIDGE #31

FIELD MESCALERO

COUNTY LEA STATE NEW MEXICO

COUNTY FIELD or LOCATION WELL COMPANY

LOCATION 1980 FSL - 660 FWL

Sec. 21 Twp. 19S Rge. 34E

Other Services: L

2149-34

Permanent Datum: GL, Elev. 3722

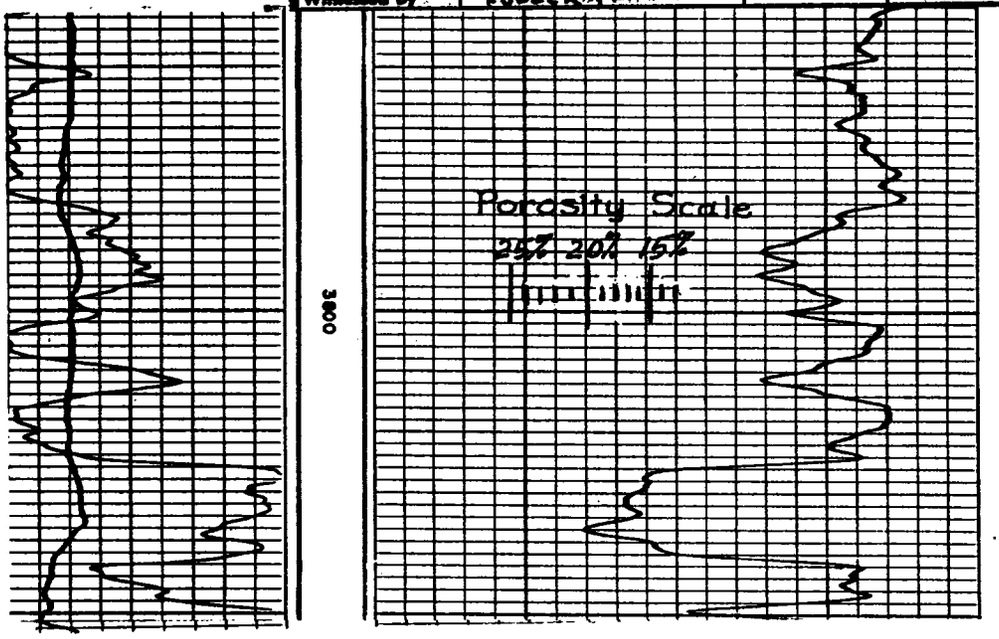
Log Measured From GL, 0 Ft. Above Perm. Datum

Drilling Measured From GL

Elev.: K.B. —
D.F. —
G.L. 3722

Date	6-21-68			
Run No.	ONE			
Depth—Driller	5000			
Depth—Logger	4999			
Btm. Log Interval	4997			
Top Log Interval	3400			
Casing—Driller	8 5/8 @ 320	@	@	@
Casing—Logger	—			
Bit Size	7 7/8			
Type Fluid in Hole	BRINE			
Dens. / Visc.	10.2 36			
pH / Fluid Loss	10 ml	ml	ml	ml
Source of Sample	PIT			
R_m @ Meas. Temp.	.047 @ 80 °F	@ °F	@ °F	@ °F
R_{mf} @ Meas. Temp.	.040 @ 81 °F	@ °F	@ °F	@ °F
R_{mc} @ Meas. Temp.	— @ — °F	@ °F	@ °F	@ °F
Source: R_{mf} R_{mc}	M —			
R_m @ BHT	.037 @ 109 °F	@ °F	@ °F	@ °F
Time Since Circ.	3 HR			
Max. Rec. Temp.	109 °F	°F	°F	°F
Equip. / Location	3701 / HOBBS			
Recorded By	RATLIFF			
Witnessed By	FULLER			

EXHIBIT 1



SCHLUMBERGER DUAL INDUCTION LATEROLOG

COMPANY SINCLAIR OIL & GAS Co

WELL MESCALERO RIDGE # 31

FIELD MESCALERO

COUNTY LEA STATE New Mexic

LOCATION 1980 FSL - 660 FWL

Other Services: FDC-G

Sec. 21 Twp. 19S Rge. 34E

COUNTY / FIELD or LOCATION / WELL / COMPANY

Permanent Datum: GL, Elev. 3722

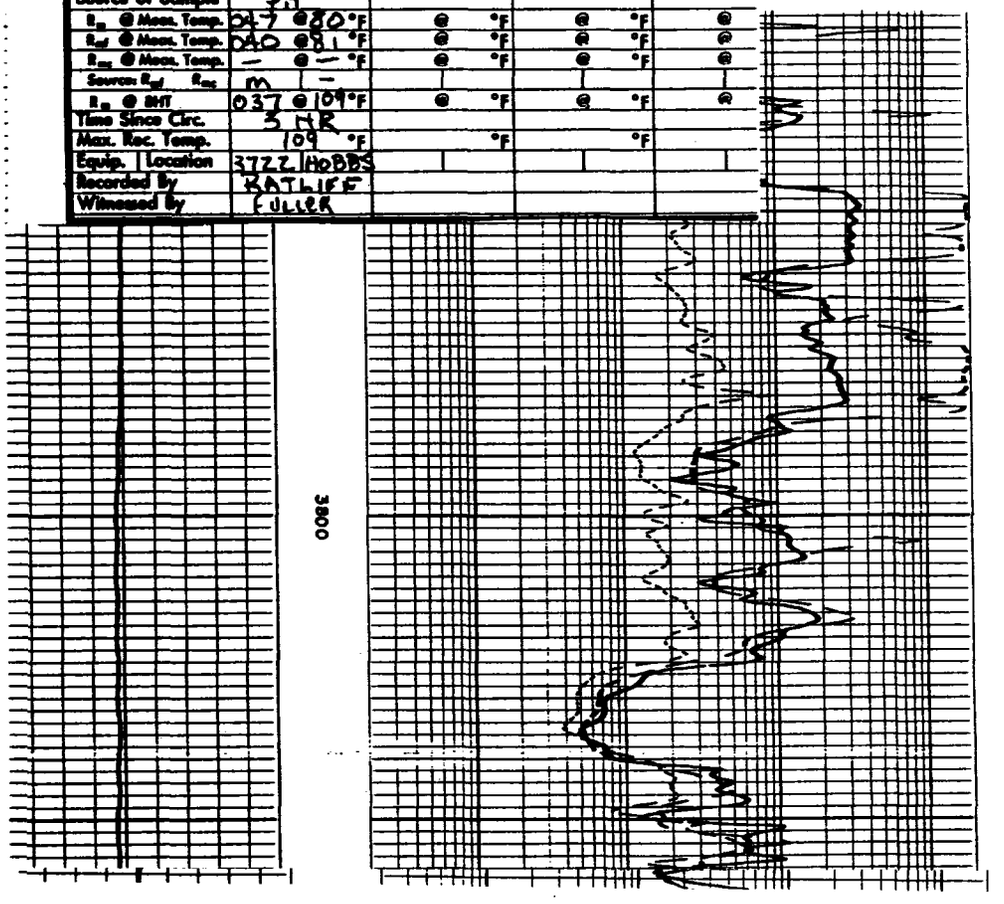
Log Measured From GL, 0 Ft. Above Perm. Datum

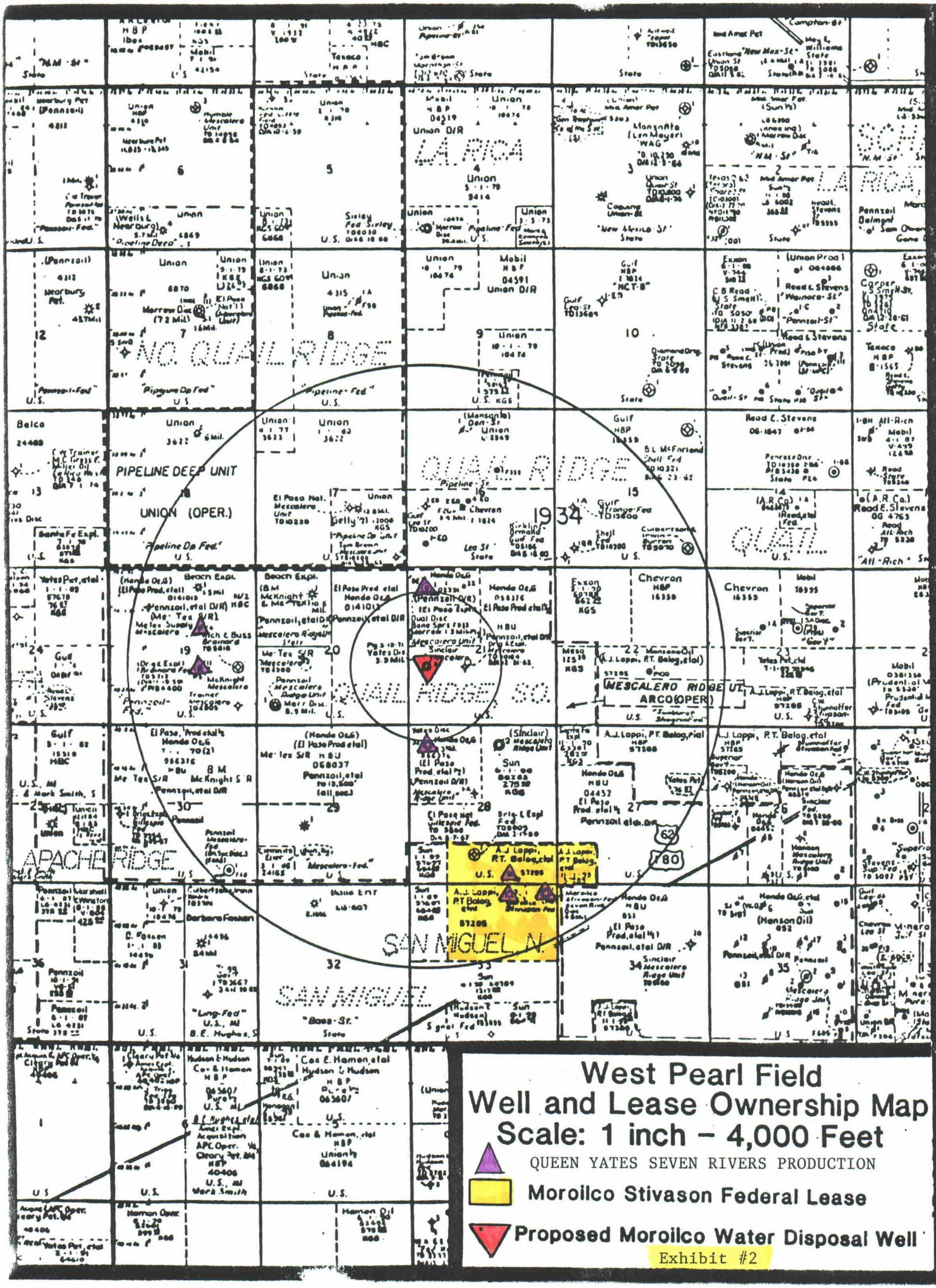
Drilling Measured From RL

Elev.: K.B. —
D.F. —
G.L. 372

Date	6-21-68			
Run No.	ONE			
Depth—Driller	5000	Tex Star Exploration, Inc.		
Depth—Logger	4999	Suite 640, Petroleum Building		
Btm. Log Interval	4996	Roswell, New Mexico 88201		
Top Log Interval	3400			
Casing—Driller	8 5/8 @ 320	@	@	@
Casing—Logger	—			
Bit Size	7 7/8			
Type Fluid in Hole	BRINE			
Dens. / Visc.	10.2 / 36			
pH / Fluid Loss	— / 10 ml	ml	ml	
Source of Sample	PIT			
R_m @ Meas. Temp.	.047 @ 80 °F	@ °F	@ °F	@
R_{mf} @ Meas. Temp.	.040 @ 81 °F	@ °F	@ °F	@
R_{mc} @ Meas. Temp.	— @ — °F	@ °F	@ °F	@
Source: R_{mf} R_{mc}	M —	—	—	—
R_m @ BHT	.037 @ 109 °F	@ °F	@ °F	@
Time Since Circ.	3 HR			
Max. Rec. Temp.	109 °F	°F	°F	
Equip. / Location	3722 / HOBBS			
Recorded By	KATHLIFF			
Witnessed By	FULLER			

EXHIBIT 1

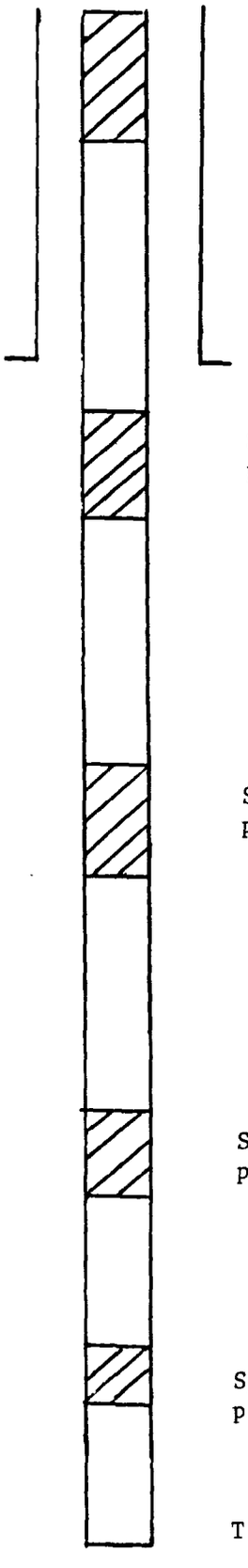



West Pearl Field
Well and Lease Ownership Map
Scale: 1 inch - 4,000 Feet
QUEEN YATES SEVEN RIVERS PRODUCTION
Moroilco Stivason Federal Lease
Proposed Moroilco Water Disposal Well
Exhibit #2
LA RICA
NO. QUAIL RIDGE
QUAIL RIDGE
QUAIL RIDGE SO.
PIPELINE DEEP UNIT
UNION (OPER.)
MESCALERO RIDGE UT.
ARCO (OPER)
APACHE RIDGE
SAN MIGUEL N.
SAN MIGUEL
1934

PHONE (505) 748-2194
PHONE (505) 748-2325

MORILCO. INC.

DRAWER I
ARTESIA, NEW MEXICO 88210



15 sx. plug in top of 8-5/8" casing.

8-5/8" surface casing.

1897'

Spot 35 sx. cement plug at 1950'.

Spot 35 sx. cement plug at 3400'.

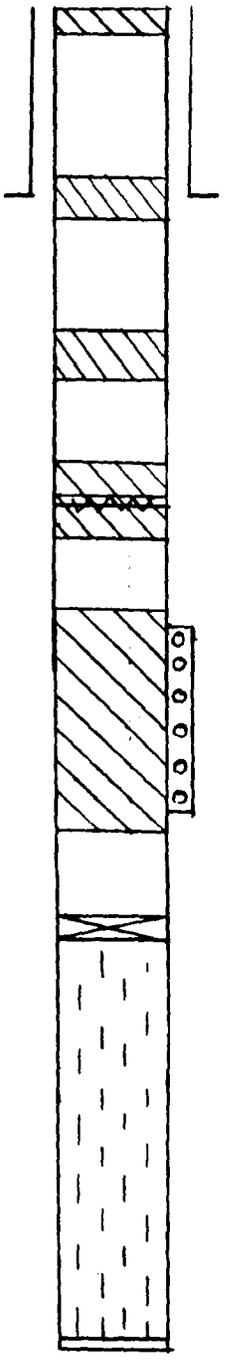
Spot 35 sx. cement plug at 7000'.

Spot 35 sx. cement plug at 9905'.

T.D. 10,164'.

PLUGGING DETAIL

Drilling & Exploration Co. Inc
Mescalero Ridge Unit #3.
Spud 11/5/62. 8-5/8" casing set at 1897'. Cemented with 50 sx. 6% gel and 100 sx. "C" neat, circulate cement. T.D. 10,164'. P & A January 3, 1969.



10 sx at surface

8-5/8' set to 323'

Spotted 35 sx plug 273' - 373'
in & out 8-5/8" casing shoe.

Spotted 35 sx plug 1775' - 1875'.

Shot 4-1/2" casing & collar at
2990'. Spotted 35 sx plug 2902' -
3002' in & out of 4-1/2" casing
stub.

Spotted 20 sx plug 3735' -
3976' to cover perforations
3952' - 58' (Yates).

4-1/2" casing shoe at
4064'.

Open hole interval
of 935'.

T.D. 5000'

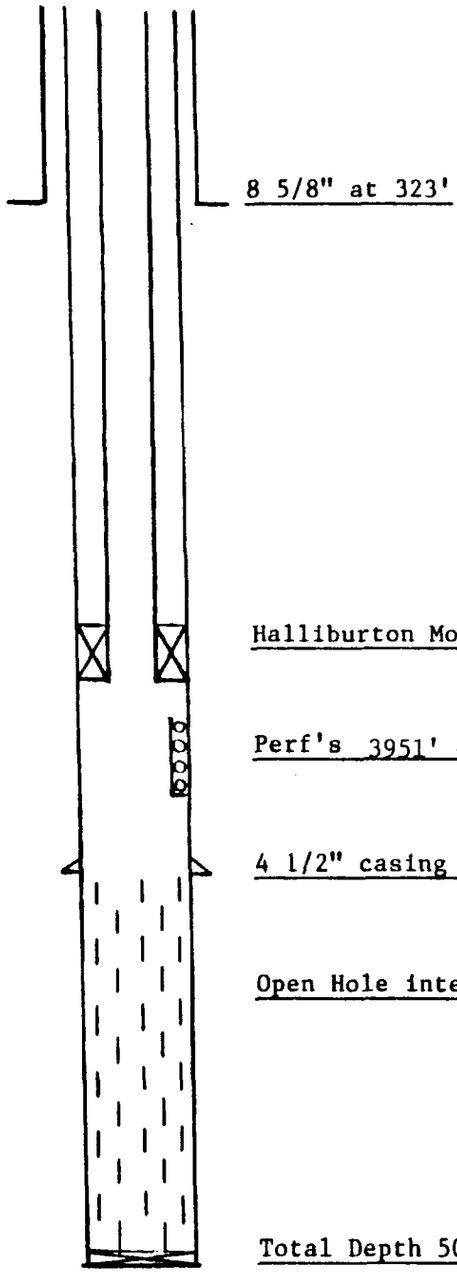
PLUGGING DETAIL

Atlantic Richfield Co.
Mescalero Ridge Ut. #31
Sec. 21 T19S R34E
Lea County, NM

OPERATOR MorOilco Inc. LEASE Mescalero Ridge Ut. WELL NO. 31

WELL NAME Mescalero Ridge Ut. #31 SEC. 21 TWN. 19S RGE. 34E FTG. 1980' FSL 660' FWL

Schematic



Surface Casing
Size 8 5/8" Cemented with 300 sx.
TOC Surface feet determined by circ.
Hole size 12 1/4"

Long String
Size 4½" 9.5# Cemented with 325 sx.
TOC 3100 feet determined by free-point Hole size 7-7/8"
Total Depth 4064'
Injection interval 3951' to 3996' Open hole interval 4064' to 5000'.

Tubing size 2-3/8" lined with plastic set in a Halliburton Model "R" packer at 3800' (approx) feet. (brand and model)
Describe any other casing-tubing seal _____.

Other Data

1. Name of the injection formation Queen - Yates.
2. Name of Field of Pool (if applicable) Quail Ridge South.
3. Is this a new well drilled for injection? _____ YES ___X___ NO.
   If no, for what purpose was the well originally drilled? Oil production.
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) Yates perf's 3952' - 3958', 20 sx. cement plug from 3435' - 3976'.
5. Give the depth to and name of any overlying and/or underlying oil or gas zones (wells) in this area. _____.