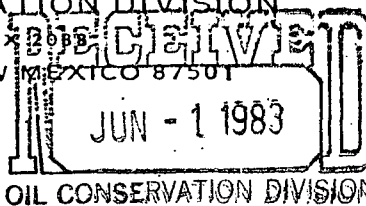


OIL CONSERVATION DIVISION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

Form C-101
Revised 10-1-78

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| LAND OFFICE | |
| OPERATOR | |



5A. Indicate Type of Lease
STATE ☐ FEE ☒

5. State Oil & Gas Lease No.

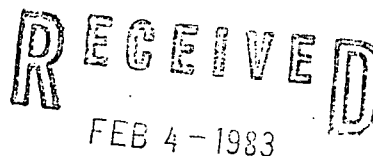
APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

| | | |
|---|--|---|
| 1a. Type of Work DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> | | 7. Unit Agreement Name |
| b. Type of Well OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input checked="" type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/> | | 8. Farm or Lease Name Sovereign 32-6 |
| 2. Name of Operator Sovereign Oil Company | | 9. Well No. No. 1 |
| 3. Address of Operator 7490 Clubhouse Road, Ste 102, Boulder, Colorado 80301 | | 10. Field and Pool, or Wildcat W/C PC |
| 4. Location of Well UNIT LETTER E LOCATED 1730 FEET FROM THE North LINE AND 900 FEET FROM THE West LINE OF SEC. 9 TWP. 32N RGE. 6W NMPM | | 12. County San Juan |
| 19. Proposed Depth 3185 KB | | 19A. Formation Lewis |
| 21A. Kind & Status Plug. Bond One time | | 22. Approx. Date Work will start on approval |
| 21B. Drilling Contractor Four Corners | | |
| 21. Elevations (Show whether DF, RT, etc.) 6157 G.L. | | |
| 23. PROPOSED CASING AND CEMENT PROGRAM | | |

| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | SACKS OF CEMENT | EST. TOP |
|--------------|----------------|-----------------|---------------|-----------------|-----------------|
| 13 3/4 | 9 5/8 | 36# | 200' | 200-3% CaCl | Surface |
| 7 7/8 | 4 1/2 | 10.5# | 3185' | 325 sx | Cover Ojo Alamo |

Drill 13 3/4" hole with spud mud. Set 9 5/8" surface casing and cement to surface. WOC 12 hours. Nipple up BOP's and bleed off manifold and test to 600 psi for 30 min. Drill 7 7/8" hole to 1300'. Begin deviation with Dynadrill maintaining 8° to 11° deviation to proposed TD. Actual depth approximately 3155' KB. Location at TD: 900' FWL, 1500' FNL Section 9, T32N R6W. Run & cement 4 1/2" casing to 1100' depth.

Expected tops: Ojo Alamo-1410'; Kirtland-1530'; Fruitland-2570'; Pictured Cliffs 2740'; Lewis Shale-3140'.



IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Mark Riddle Title Engineer Date 2/1/83

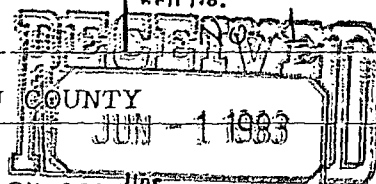
(This space for State Use)

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY: NSP-1329A for 118.2
NSR-7242 for 237.60

All distances must be from the outer boundaries of the Section.

| | | | | | |
|--|---|-----------------------------|--------------------------------|----------------------------------|----------|
| Operator SOVEREIGN OIL CO. | | | Lease SOVEREIGN 32-6 | | Well No. |
| Unit Letter E | Section 9 | Township 32 NORTH | Range 6 WEST | County SAN JUAN COUNTY | |
| Actual Footage Location of Well: 1730 feet from the NORTH line and 900 feet from the WEST | | | | | |
| Ground Level Elev. 6257 | Producing Formation PICTURED CLIFFS | | Pool Wildcat | | |

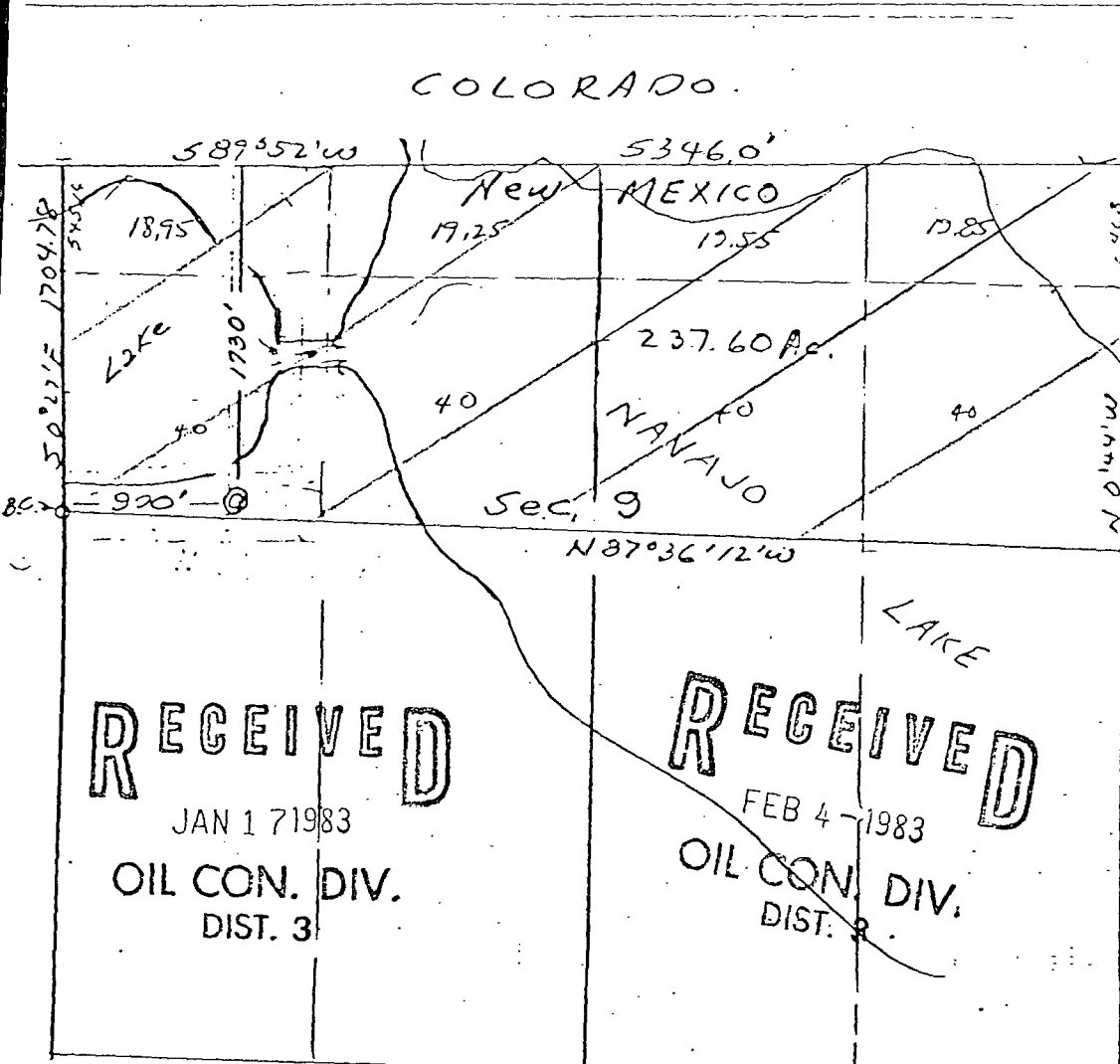


1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty).
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☒ No If answer is "yes," type of consolidation UNITIZATION

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Division.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

MERLYN L. RIDGEN

Name

ENGINEER

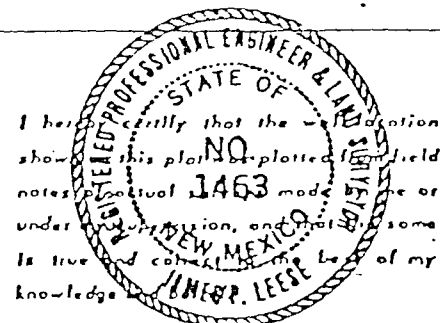
Position

SOVEREIGN OIL COMPANY

Company

JANUARY 17, 1983

Date



January 6, 1983

Date Surveyed

James P. Leese

Registered Professional Engineer and/or Land Surveyor

Certificate No.

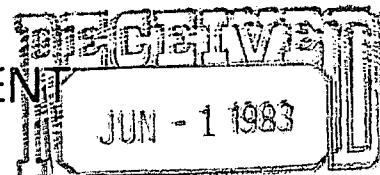
1463



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

January 28, 1983

TONEY ANAYA
GOVERNOR



OIL CONSERVATION DIVISION
SANTA FE
POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Sovereign Oil Company
6395 Sunpark Drive
Penthouse
Boulder, Colorado 80301

Attention: Merle Ridlen

Administrative Order NSP-1329-A

Gentlemen:

Reference is made to your application for a 118.2-acre non-standard proration unit consisting of the following acreage in the Pictured Cliffs Pool:

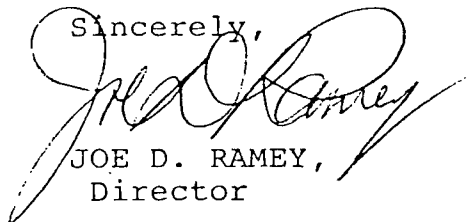
SAN JUAN COUNTY, NEW MEXICO
TOWNSHIP 32 NORTH, RANGE 6 WEST, NMPM
Section 9: NW/4

It is my understanding that this unit is to be dedicated to your 32-6 Well No. 1 to be located at a surface location of 900 feet from the West line and 1730 feet from the North line to the Pictured Cliffs at 900 feet from the West line and 1500 feet from the North line of said Section 9.

By authority granted me under the provisions of Rule 104 D II, the above non-standard proration unit is hereby approved.

That NSP-1329 is hereby superseded.

Sincerely,


JOE D. RAMEY,
Director

JDR/RLS/dr

cc: Oil Conservation Division - Aztec
Oil & Gas Engineering Committee - Hobbs
Minerals Management Service - Farmington

RECEIVED

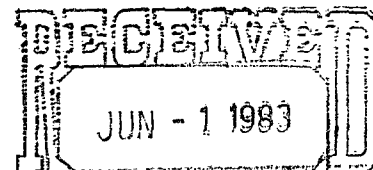
FEB 7-1983

OIL CON. DIV.
DIST. 3



Sovereign Oil
Company

MCMLXXX



OIL CONSERVATION DIVISION
SANTA FE



OIL CON. DIV.
DIST. 3

April 14, 1983

New Mexico Oil & Gas Commission
Mr. Frank Chavez
1000 Rio Brazos Rd.
Aztec, New Mexico 87401

Subject: Directional Drilling
Report

Dear Mr. Chavez:

Enclosed please find the Eastman Whipstock directional drilling report you mentioned was mission from our files on the Sovereign Navajo Lake No. 9-1 well.

I am preparing the corporate papers to qualify Sovereign in the State of New Mexico.

Also, I'll send the casing pressure data in a day or so.

Yours sincerely,

M. R. McCoy
President

MRM:kaa

Enclosure

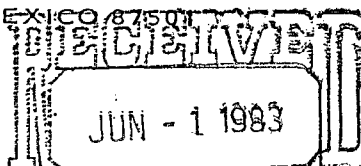
OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-78

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5a. Indicate Type of Lease
State ☒ Fee ☐
5. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS CONSERVATION DIVISION

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT - " (FORM C-101) FOR SUCH PROPOSALS.)

OIL WELL ☐ GAS WELL ☒ OTHER-

1. Name of Operator

Sovereign Oil Company

2. Address of Operator

7490 Clubhouse Rd. Suite 102 Boulder, Colo. 80301

3. Location of Well

UNIT LETTER _____ 1730 FEET FROM THE North LINE AND 800' FEET FROM THE West LINE, SECTION 9 TOWNSHIP 32N RANGE 6W NMPM.

7. Unit Agreement Name

8. Farm or Lease Name

Navajo Lake

9. Well No.

32-6 No. 1

10. Field and Pool, or Wildcat

Ignacio Blanco

15. Elevation (Show whether DF, RT, GR, etc.)

6169' K.B. 6157' G.L.

12. County

San Juan

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐
TEMPORARILY ABANDON ☐
PULL OR ALTER CASING ☐
OTHER ☐

PLUG AND ABANDON ☐
CHANGE PLANS ☐
OTHER ☐

REMEDIAL WORK ☐
COMMENCE DRILLING OPNS. ☐
CASING TEST AND CEMENT JOB ☒
OTHER ☐

ALTERING CASING ☐
PLUG AND ABANDONMENT ☐
OTHER ☐

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

On January 23, 1983, 256' of new 8 5/8" 24#/ft casing was set and cemented with 250 sx. of Class "G" cement with 100% returns. After 12 hours the casing was pressure tested to 1500# for 15 minutes before drilling out.

RECEIVED
APR 25 1983
OIL CON. DIV.
DIST. 3

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED

TITLE

Operations Engineer

DATE 4/19/83

APPROVED BY

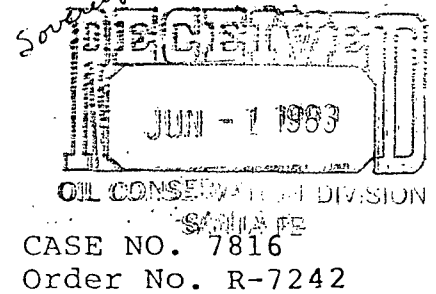
TITLE

DATE

CONDITIONS OF APPROVAL IF ANY:

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

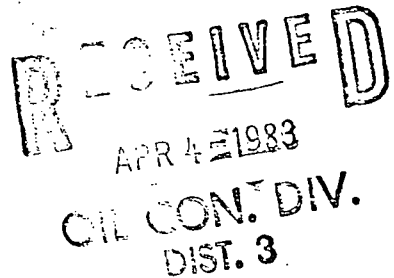
IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
DIVISION FOR THE PURPOSE OF
CONSIDERING:



APPLICATION OF SOVEREIGN OIL CO.
FOR DIRECTIONAL DRILLING, UNORTHODOX
LOCATION, COMPULSORY POOLING, AND A
NON-STANDARD PRORATION UNIT, SAN JUAN
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:



This cause came on for hearing at 9 a.m. on March 16, 1983, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 29th day of March, 1983, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Sovereign Oil Co., seeks authority to directionally drill its proposed 32-6 Well No. 1 from a surface location 1730 feet from the North line and 900 feet from the West line of Section 9, Township 32 North, Range 6 West, San Juan County, New Mexico, by kicking off from the vertical at a depth of 1500 feet and drilling in a northerly direction in such a manner as to penetrate the Pictured Cliffs formation at an unorthodox location within 50 feet of a point 1500 feet from the North line and 900 feet from the West line and to penetrate the Mesaverde formation at an unorthodox location no nearer than 1100 feet from the North line and no nearer than 700 feet from the West line, all in said Section 9, dedicating the N/2 of said Section 9 to the well.
- (3) That the applicant further seeks an order pooling all mineral interests in the Mesaverde and Pictured Cliffs formations underlying a 237.6-acre non-standard proration unit

comprising the N/2 of said Section 9. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision, designation of applicant as operator of the well and a charge for risk involved in drilling said well.

(4) That at the time of the hearing the applicant requested and received approval to dismiss those portions of this application seeking compulsory pooling and directional drilling to the Mesaverde formation.

(5) That the unorthodox surface location and directional drilling are necessary in that a standard well location lies below the high water mark within Navajo reservoir.

(6) That the non-standard prortion unit is the result in variation in the legal subdivision of the U. S. Public Land Surveys.

(7) That the applicant should be required to determine the subsurface location of the bottom hole and of the hole within the Pictured Cliffs formation by means of a continuous multi-shot directional survey conducted subsequent to said directional drilling, if said well is to be completed as a producing well.

(8) That the application should be approved.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sovereign Oil Co., is hereby authorized to directionally drill a well from an unorthodox surface location 1730 feet from the North line and 900 feet from the West line of Section 9, Township 32 North, Range 6 West, NMPM, San Juan County, New Mexico, vertically to an approximate depth of 1500 feet and then directionally to a bottom hole location in the Pictured Cliffs formation within 50 feet of a point 1500 feet from the North line and 900 feet from the West line of said Section 9.

(2) That a 237.6 acre non-standard gas proration unit consisting of the North half of said Section 9 to be dedicated to said directionally drilled well, is hereby approved for the Pictured Cliffs formation.

PROVIDED HOWEVER, that subsequent to the above-described directional drilling, should said well be a producer, a continuous multi-shot directional survey shall be made of the wellbore from total depth to the kick-off point with shot

points not more than 100 feet apart; that the operator shall cause the surveying company to forward a copy of the survey report directly to the Santa Fe office of the Division, P. O. Box 2088, Santa Fe, New Mexico, and that the operator shall notify the Division's Aztec District Office of the date and time said survey is to be commenced.

(3) That Form C-105 shall be filed in accordance with Division Rule 1105 and the operator shall indicate thereon true vertical depth in addition to measured depths, and the bottom hole location of the well.

(4) That those portions of the subject application seeking compulsory pooling in the Pictured Cliffs and Mesaverde formations and for directional drilling to the Mesaverde formation are hereby dismissed.

(5) That jurisdiction of this cause, is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY,
Director

S E A L

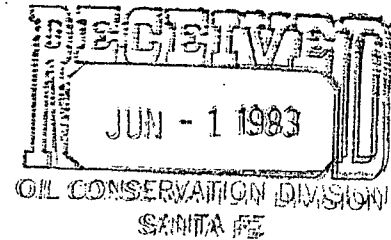


TONEY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-5178

January 24, 1983



Sovereign Oil Company
7490 Clubhouse Road, Suite 102
Boulder CO 80301

Re: Sovereign 32-6 #1, E-9-32N-6W

Dear Sirs:

The referenced well needs to have a new case docketed for the directional drilling, nonstandard location, and nonstandard proration unit (for the Pictured Cliffs), at the new location, therefore we are returning the Application for Permit to Drill for you to outline the directional drilling in the proposed casing and cement program.

The APD cannot be approved without a division order allowing the direction drilling at a specific location. The bond must show this exact location also.

If you have any questions please call this office.

Yours truly,

Jeff A. Edmister
Geologist II

JAE:gc

Enc.

cc: Operator file
Well file



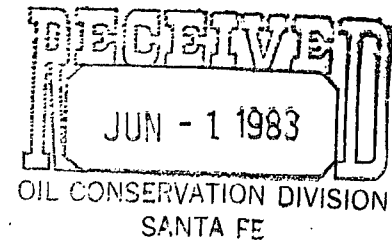
TONY ANAYA
GOVERNOR

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
AZTEC DISTRICT OFFICE

1000 RIO BRAZOS ROAD
AZTEC, NEW MEXICO 87410
(505) 334-6178

April 29, 1983

Mr. Perry Pearce
Oil Conservation Division
P.O. Box 2088
Santa Fe NM 87501



Re: Forced Plugging Cases

Dear Perry:

Please docket the following cases:

- (1) A case calling Red Mountain Associates and United States Fidelity and Guaranty to appear and show cause why their below listed wells in McKinley County should not be plugged and abandoned in accordance with a Division approved plugging program.

All wells in Township 20 North, Range 9 West

Chaco Wash Mesaverde Pool-Santa Fe Pacific lease

#101, #103, #104, #110, #113 all in Unit P of Section 21; #106 in Unit M of Section 22; #114, #116, #117 in Unit N of Section 22. State Lease #1, #6, #7, #8, #11, #12, #20, #21 in Unit A of Section 28; #2, #3, #9, #10, #13, #22, #23, #24, #25, #26, #27, #100 in Unit B of Section 28; and #100 in Unit G of Section 28.

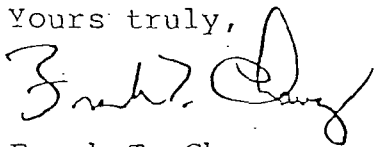
Red Mountain Menefee Pool-Santa Fe Pacific Lease

#2, #3, #4, #9, #23, #28, #36, #38, #47 in Unit O of Section 20; #24, #I-12, #I-10 in Unit P of Section 20; #I-7, and #I-8 in Unit A of Section 29; #33, #34, #35, #42, #43, #I-5, #I-22, #1, #20 in Unit B of Section 29; #I-13 and #I-21 in Unit C of Section 29; #I-20 in Unit F of Section 29.

Perry Pearce
April 29, 1983
Page two

- (2) A case calling Sovereign Oil Company and Allied Fidelity Insurance Company to appear and show cause why the Sovereign 32-6 #1 in Unit E, Section 9, Township 32 North, Range 6 West, should not be plugged and abandoned in accordance with a Division approved plugging program.
- (3) A case calling Petro-Lewis Corporation, Dyna Ray Oil and Gas Company, Inc., and Floyd J. Ray, to appear and show cause why the Earnhardt #1 in Unit G, Section 35, Township 24 North, Range 1 West, should not be plugged and abandoned in accordance with a Division approved plugging program.

Yours truly,



Frank T. Chavez
District Supervisor

FTC/lh

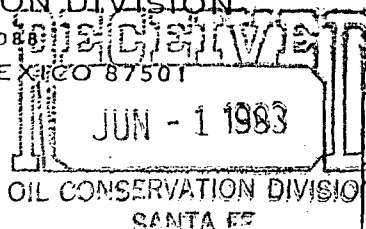
OIL CONSERVATION DIVISION

P. O. BOX 20888

SANTA FE, NEW MEXICO 87501

Form C-103
Revised 10-1-78

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| LAND OFFICE | |
| OPERATOR | |



| |
|--|
| 5a. Indicate Type of Lease |
| State <input type="checkbox"/> Fee <input checked="" type="checkbox"/> |
| 5. State Oil & Gas Lease No. |

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR.
USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)

| | |
|---|---|
| 1. <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER | 7. Unit Agreement Name |
| 2. Name of Operator Sovereign Oil Company | 8. Farm or Lease Name Navajo Lake 32-6 |
| 3. Address of Operator 7490 Clubhouse Road, Suite 102, Boulder, Colorado 80301 | 9. Well No. 1 |
| 4. Location of Well UNIT LETTER _____ 1730 FEET FROM THE North LINE AND 900' FEET FROM THE West LINE, SECTION 9 TOWNSHIP 32 N RANGE 6 W NMPM. | 10. Field and Pool, or Wildcat Wildcat |
| 11. Elevation (Show whether DF, RT, GR, etc.) 6157' GL 6169' KB | 12. County San Juan |

15. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

| | |
|-----------------------|--------------------------|
| PERFORM REMEDIAL WORK | <input type="checkbox"/> |
| TEMPORARILY ABANDON | <input type="checkbox"/> |
| PULL OR ALTER CASING | <input type="checkbox"/> |
| OTHER | <input type="checkbox"/> |

| | |
|------------------|--------------------------|
| PLUG AND ABANDON | <input type="checkbox"/> |
| CHANGE PLANS | <input type="checkbox"/> |

SUBSEQUENT REPORT OF:

| | |
|-----------------------------|-------------------------------------|
| REMEDIAL WORK | <input type="checkbox"/> |
| COMMENCE DRILLING OPNS. | <input checked="" type="checkbox"/> |
| CASING TEST AND CEMENT JOBS | <input checked="" type="checkbox"/> |
| OTHER | <input type="checkbox"/> |

| | |
|----------------------|--------------------------|
| ALTERING CASING | <input type="checkbox"/> |
| PLUG AND ABANDONMENT | <input type="checkbox"/> |

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

Spud 12 $\frac{1}{4}$ " hole at 7:30 P.M. 1/21/83. Drill to 264'. Set 6 jts..
8 5/8" 24#/ft k-55 casing at 260' KB. Drill 7 7/8" hole to 3182' KB
with fresh water gel mud system. Using Dyna-Drill to whipstock well
to bottom-hole location of 1500' FNL, 900' FWL \pm 50'. Run IEL/CDL/CNL
logs. Run 75 jts. 4 $\frac{1}{2}$ " new 11.6#/ft J55 casing. Casing landed at 3180'
KB. Cemented with 302 sx. Howco lite cement and 150 sx class "B" cement
w/4% gel. Plug down at 1:30 A.M. 1/30/83.

RECEIVED

FEB 14 1983

OIL CON. DIV.
DIST. 3

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED [Signature] TITLE Operations Engineer DATE 2/6/83

APPROVED BY _____ TITLE _____ DATE _____

CONDITIONS OF APPROVAL, IF ANY:

DIVISION APPROVED PLUGGING PROGRAM

Sovereign Oil Company
Navajo Lake 32-6 #1, E-9-32N-6W

Downhole Equipment

8 5/8" surface pipe at 256'
7 7/8" hole to 3182'
4 1/2" 11.6# casing at 3180'

1. Go in hole with tubing to 2800' and set a cement plug 2800' to 2550' inside casing. Come out of hole with tubing.
2. Perforate casing at 1450' and set a cement plug 1450-1350 in and outside casing. Come out of hole with tubing.
3. Wait on cement at least 6 hours. Go in hole with tubing and tag plug #2. If cement is above 1370' go to step 4. If not fill to 1350. Come out of hole with tubing.
4. Perforate casing at 300' and set a cement plug 300'-200' in and outside casing.
5. Set a top plug and erect a dry hole marker with at least 10 sacks of cement.
6. Fill pits, clean and level location, pull anchors or cut cables at least one foot below ground leve.

All plugs will be with neat cement containing no more than 3% CACL₂.

Note: This is a directionally drilled hole and these are measured depths.

Suite 102
1349 Chatham Rd.
Boulder 80301

Vandenberg 6395 Bumpkin
Dr.



RECEIVED

APR 18 1983

OIL CON. DIV.
DIST. 3

SOVEREIGN OIL COMPANY
COMPANY

NAVAJO LAKE NO. 9-1
WELL NAME

SAN JUAN COUNTY, NEW MEXICO
LOCATION

Surface location 1530' FNL ; 900' FNL
Bottom hole location 1432' FNL ; 822' FNL



**REPORT
of
SUB-SURFACE
DIRECTIONAL
SURVEY**

SOVEREIGN OIL COMPANY
COMPANY

NAVAJO LAKE NO. 9-1
WELL NAME

SAN JUAN COUNTY, NEW MEXICO
LOCATION

JOB NUMBER
RM183-D1274

TYPE OF SURVEY
MAGNETIC SINGLE
SHOT

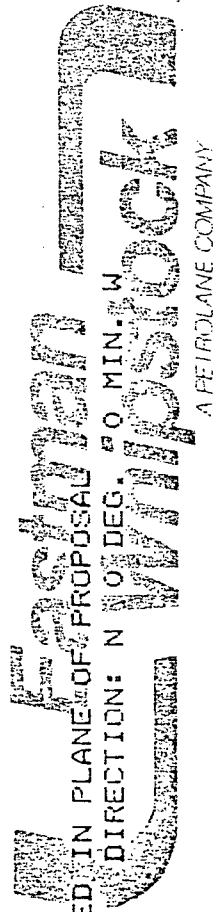
DATE
31 JANUARY 1983

SURVEY BY
LYNN BADER

OFFICE
ROCKY MOUNTAIN

COMPLETION REPORT

SOVEREIGN OIL COMPANY
WELL NAME: NAVAJO LAKE NO. 9-1
LOCATION: SAN JUAN COUNTY, NEW MEXICO
FILE NO.: A2-139, FL7-09
DATE: 26 JANUARY 1983
JOB NO.: RM103-D1274
TYPE: MAGNETIC SINGLE SHOT
DIRECTIONAL DRILLER: LYNN BADER
DECLINATION:
COMPUTER OPERATOR: STEVE THURSTON
RELATED FILES: A2-124



VERTICAL SECTION CALCULATED IN PLANE OF PROPOSAL
DIRECTION: N 10 DEG. 30 MIN. W

RECORD OF SURVEY

RADIUS OF CURVATURE METHOD

| MEASURED DEPTH FEET | DRIFT ANGLE D M | DRIFT DIRECTION D M | COURSE LENGTH FEET | TRUE | | VERTICAL SECTION FEET | R E C T A N G U L A R | | DOGLEG SEVERITY DG/100FT |
|---------------------------|-----------------------|---------------------------|--------------------------|---------------|------------------|-----------------------------|-----------------------|------|--------------------------------|
| | | | | DEPTH FEET | VERTICAL FEET | | C O O R D I N A T E S | FEET | |
| 1230.00 | 0 0 | 0 0 | 0.0 | 1230.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| 1260.00 | 1 0 | N 39 0 E | 30.0 | 1260.00 | 0.20 | 0.20 | 0.16 | E | 3.33 |
| 1291.00 | 1 30 | N 16 0 E | 31.0 | 1290.99 | 0.80 | 0.80 | 0.47 | E | 2.25 |
| 1322.00 | 3 30 | N 8 0 E | 31.0 | 1321.96 | 2.12 | 2.12 | 0.76 | E | 6.53 |
| 1353.00 | 5 0 | N 4 0 W | 31.0 | 1352.87 | 4.41 | 4.41 | 0.84 | E | 5.60 |
| 1384.00 | 7 0 | N 10 0 W | 31.0 | 1383.70 | 7.63 | 7.63 | 0.44 | E | 6.75 |
| 1415.00 | 7 30 | N 9 0 W | 31.0 | 1414.45 | 11.49 | 11.49 | 0.20 | W | 1.66 |
| 1446.00 | 8 0 | N 10 0 W | 31.0 | 1445.17 | 15.61 | 15.61 | 0.89 | W | 1.67 |
| 1510.00 | 8 30 | N 12 0 W | 64.0 | 1508.51 | 24.62 | 24.62 | 2.65 | W | 0.90 |
| 1572.00 | 9 30 | N 6 0 W | 62.0 | 1569.74 | 34.20 | 34.20 | 4.16 | W | 2.21 |
| 1630.00 | 10 0 | N 10 0 W | 58.0 | 1626.91 | 43.92 | 43.92 | 5.53 | W | 1.45 |
| 1701.00 | 10 45 | N 14 0 W | 71.0 | 1696.75 | 56.43 | 56.43 | 8.19 | W | 1.46 |
| 1765.00 | 11 15 | N 15 0 W | 64.0 | 1759.57 | 68.25 | 68.25 | 11.25 | W | 0.84 |
| 1832.00 | 10 45 | N 19 0 W | 67.0 | 1825.34 | 80.47 | 80.47 | 14.98 | W | 1.36 |
| 1894.00 | 11 45 | N 15 0 W | 62.0 | 1886.15 | 92.03 | 92.03 | 18.52 | W | 2.04 |
| 1954.00 | 11 45 | N 16 0 W | 60.0 | 1944.89 | 103.81 | 103.81 | 21.78 | W | 0.34 |
| 2018.00 | 11 15 | N 18 0 W | 64.0 | 2007.60 | 116.01 | 116.01 | 25.31 | W | 1.00 |
| 2080.00 | 11 30 | N 17 0 W | 62.0 | 2068.39 | 127.67 | 127.67 | 29.19 | W | 0.51 |
| 2142.00 | 11 0 | N 16 0 W | 62.0 | 2129.19 | 139.27 | 139.27 | 32.63 | W | 0.87 |
| 2204.00 | 10 45 | N 16 0 W | 62.0 | 2190.08 | 150.51 | 150.51 | 35.85 | W | 0.40 |
| 2301.00 | 10 45 | N 16 0 W | 97.0 | 2285.38 | 167.90 | 167.90 | 40.84 | W | 0.00 |
| 2363.00 | 10 30 | N 17 0 W | 62.0 | 2346.31 | 178.87 | 178.87 | 44.08 | W | 0.50 |
| 2425.00 | 10 15 | N 17 0 W | 62.0 | 2407.30 | 189.54 | 189.54 | 47.35 | W | 0.40 |
| 2487.00 | 10 15 | N 11 0 W | 62.0 | 2468.31 | 200.24 | 200.24 | 50.02 | W | 1.72 |
| 2550.00 | 9 45 | N 16 0 W | 63.0 | 2530.35 | 210.88 | 210.88 | 52.57 | W | 1.59 |
| 2644.00 | 9 45 | N 16 0 W | 94.0 | 2623.00 | 226.18 | 226.18 | 56.96 | W | 0.00 |
| 2736.00 | 9 45 | N 19 0 W | 92.0 | 2713.67 | 241.04 | 241.04 | 61.64 | W | 0.55 |
| 2798.00 | 9 15 | N 15 0 W | 62.0 | 2774.82 | 250.82 | 250.82 | 64.63 | W | 1.34 |
| 2859.00 | 9 30 | N 16 0 W | 61.0 | 2835.00 | 260.40 | 260.40 | 67.29 | W | 0.49 |
| 2922.00 | 9 0 | N 17 0 W | 63.0 | 2897.18 | 270.11 | 270.11 | 70.16 | W | 0.83 |

OVEREIGN OIL COMPANY

COMPLETION REPORT

COMPUTATION

PAGE NO. 2

WELL NAME: NAVAJO LAKE NO. 2-1

LOCATION: SAN JUAN COUNTY, NEW MEXICO

TIME DATE

13:46:07 31-JAN-83

TRUE

| MEASURED DEPTH FEET | DRIFT ANGLE D M | DRIFT DIRECTION D M | COURSE LENGTH FEET | VERTICAL DEPTH FEET | VERTICAL SECTION FEET | RECTANGULAR COORDINATES FEET | DOG LEG SEVERITY DG/100FT |
|---------------------------|-----------------------|---------------------------|--------------------------|---------------------------|-----------------------------|------------------------------------|---------------------------------|
| 3047.00 | 8 45 | N 15 0 W | 125.0 | 3020.69 | 288.64 | 288.64 N 75.48 W | 0.32 |
| 3109.00 | 8 30 | N 16 0 W | 62.0 | 3081.99 | 297.60 | 297.60 N 77.96 W | 0.47 |

THE NEXT STATION IS A PROJECTION TO TD.

FINAL CLOSURE - DIRECTION: N 14 DEGS 40 MINS 48 SECS W
DISTANCE: 307.65 FEET

Eastman Whipstock
A PETROLANE COMPANY

13:46:07

31-JAN-83

FILE NUMBER: 139

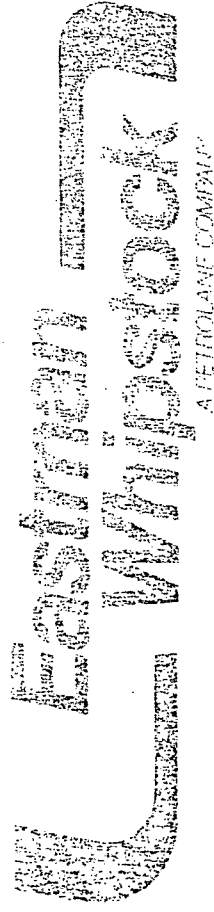
SOVEREIGN OIL COMPANY

COMPLETION REPORT

WELL NAME: NAVAJO LAKE NO.9-1

LOCATION: SAN JUAN COUNTY, NEW MEXICO

CONVERSATIONAL SURVEY PROGRAM VO2.11



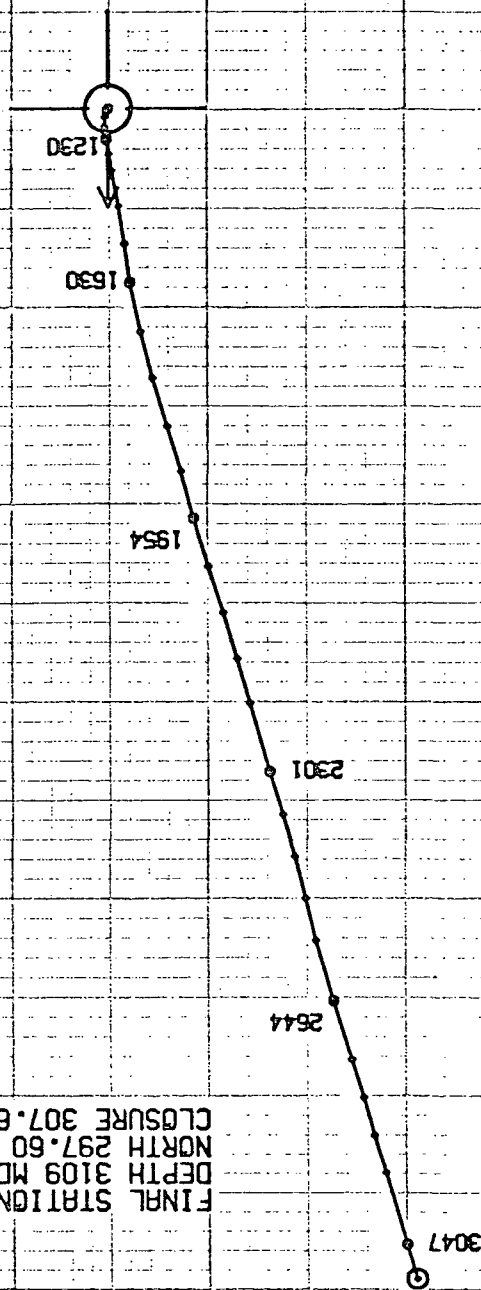
HORIZONTAL PROJECTION

SCALE 1 IN. = 50 FEET
DEPTH INDICATOR: MD

SOVEREIGN OIL COMPANY
WELL NAME: NAVAJO LAKE NO. 9-1
LOCATION: SAN JUAN COUNTY, NEW MEXICO

EASTMAN WHIPSTOCK, INC.

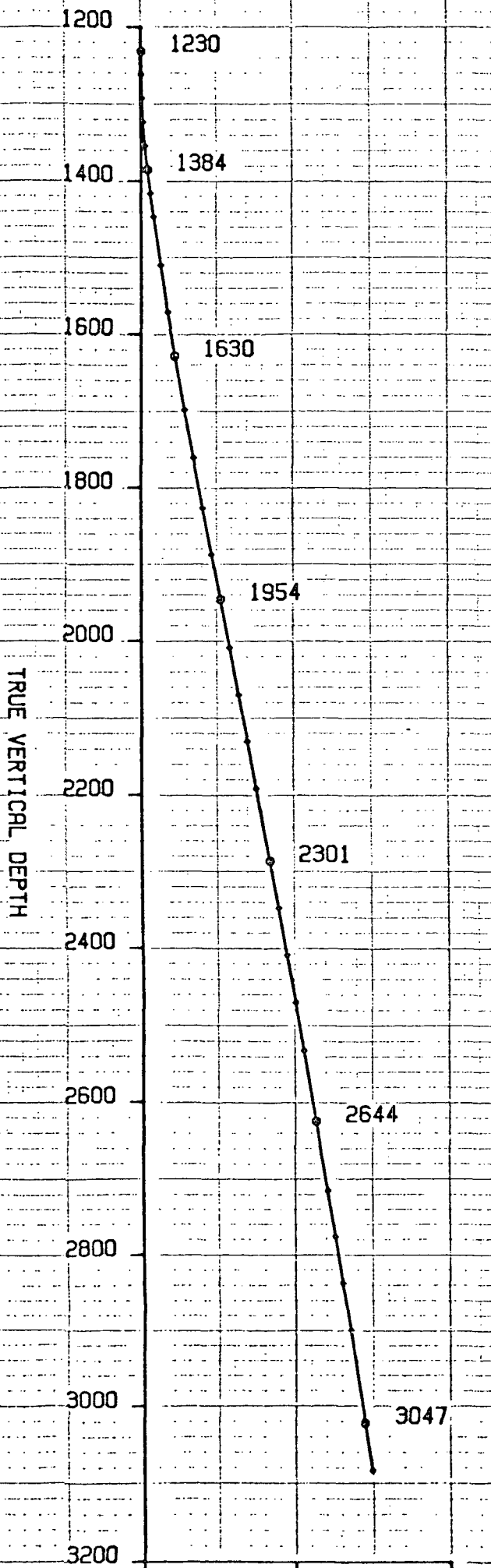
FINAL STATION:
DEPTH 3109 MD. 3081.98 TVD
NORTH 297.60 WEST 77.96
CLOSURE 307.64 N 14 40 48 M



SOVEREIGN OIL COMPANY
WELL NAME: NAVAJO LAKE NO. 9-1
LOCATION: SAN JUAN COUNTY, NEW MEXICO

VERTICAL PROJECTION
SCALE 1 IN. = 200 FEET

EASTMAN WHIPSTOCK, INC.



CLOSURE 307.64 N 14 40 48 W