ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONVERVATION DIVISION

- Engineering Bureau -

1220 South St. Francis Drive, Santa Fe, NM 87505

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE **Application Acronyms:** [NSP-Non-Standard Location] [NSL-Non-Standard Proration Unit] [SD-Simultaneous Dedication] [DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling] [PC-Pool Commingling] [OLS-Off-Lease Storage] [OLM-Off-Lease Measurement] [WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion] [SWD-Salt Water Disposal] [IPI-Injection Pressure Increase] [EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response] **TYPE OF APPLICATION -** Check Those Which Apply for [A] [1] [A] Location - Spacing Unit - Simultaneous Dedication □ NSL □ NSP \square SD NOV 2 7 2001 Check One Only for [B] or [C] [B] Commingling - Storage - Measurement ☐ DHC ☐ CTB ☐ PLC ☐ PC OLS OLM Injection - Disposal - Pressure Increase - Enhanced Oil Recovery ☐ EOR ☐ PPR [D] Other: Specify __ **NOTIFICATION REQUIRED TO:** - Check Those Which Apply, or Does Not Apply [2] Working, Royalty or Overriding Royalty Interest Owners IB1Offset Operators, Leaseholders or Surface Owner [C]Application if One Which Requires Published Legal Notice [D] Notification and/or Concurrent Approval by BLM or SLO U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office For all of the above, Proof of Notification or Publication is Attached, and/or, [E] [F] Waivers are Attached SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE [3] OF APPLICATION INDICATED ABOVE. **CERTIFICATION:** I hereby certify that the information submitted with this application for administrative approval is accurate and complete to the best of my knowledge. I also understand that no action will be taken on this application until the required information and notifications are submitted to the Division. Note: Statement must be completed by an individual with managerial and/or supervisory capacity. Lee R. White **Engineering Manager** 11/26/01 Print or Type Name Signature

Lee.White@Apachecorp.com

e-mail Address

WWW.APACHECORP.COM [713] 296-6000

November 26, 2001

State of New Mexico Energy, Minerals & Natural Resources Dept. Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

Re: Expansion of Waterflood Project

Grizzell Lease Well No. 11 Penrose Skelly; Grayburg Pool

Penrose Skelly; Grayburg Pool Lea County, New Mexico 30-025-24972

Apache Corporation respectfully requests administrative approval of authority to inject within the subject pool and convert the subject well to water injection service. To support this request we submit the following information.

NMOCD Order # R-2794 dated October 30, 1964, granted Gulf Oil Exploration and Production Company permission to conduct waterflood operations in the referenced pool. Subsequent to the formation of the Gulf operated South Penrose Skelly Unit on July 1, 1965; a water injection pilot project was initiated in June of 1967. Active injection was discontinued in April of 1972.

The referenced well was one of two 20-acre infill wells drilled and tested by Gulf in June 1975, for the purpose of evaluating the pilot performance and determining the future of the unit. Neither well was completed as a producer and the South Penrose Skelly Unit was officially terminated on April 1, 1984. Subsequent to the abandonment of the unit, Shell Western assumed operations of all wells in the Grizzell lease, including No. 11, formerly SPSU #262, and applied to the OCD for administrative approval to waterflood the Penrose Skelly; Grayburg pool under the Grizzell lease by converting the No. 11 to injection. Shells' request was approved on June 13, 1985 under Administrative Order No. WFX-547. Shell subsequently decided against implementation of the waterflood, at that time, due to the poor condition of the oil market and the Grizzell # 11 was temporarily abandoned. Apache Corporation acquired the Grizzell lease in March, 1998. Attached, please find the following:

- 1) OCD Form C-108 with attachments
- 2) Maps with surveys which include:
 - A) Lease Map with location of all wells within one-half mile radius of proposed injection well
 - B) Base map for the proposed injection well with location of all leases within a two mile radius included

- 3) Injection Well Data Sheet for proposed injector
- 4) A Publishing Affidavit and copy of legal notice
- 5) List of Surface Owners and Offset Operators with Certified Mail Receipt numbers indicated and copy of letter sent
- 6) Tabulation of Data on wells located within the Area of Review
- 7) Wellbore Diagrams for all wells P&A'd in the Area of Review

If you have any questions or need additional information regarding this application, please contact me at 713-296-6338 or via e-mail at Debra. Anderson@apachecorp.com. Thank you.

Sincerely,

APACHE CORPORATION

Debra J. Anderson

Sr. Engineering Technician

Attachments

cc: Mr. Chris Williams

Oil Conservation Division

Inderwork

District I

1625 N. French Drive

Hobbs, New Mexico 88240

STATE OF NEW MEXICO ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT

OIL CONSERVATION DIVISION 1220 SOUTH ST. FRANCIS DRIVE SANTA FE, NEW MEXICO 87505

Form C-108 Revised 4-1-98

APPLICATION FOR AUTHORIZATION TO INJECT

| i. | PURPOSE: Secondary Recovery Pressure Maintenance Disposal Storage Application qualifies for administrative approval? Yes No |
|-------|--|
| II. | OPERATOR: Apache Corporation ADDRESS: 2000 Post Oak Blvd., Ste. 100, Houston, Texas 77056-4400 CONTACT PARTY: Debra Anderson PHONE: 713-296-6338 |
| 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: |
| ٧. | Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half radius circle drawn around each proposed injection well. This circle identifies the wells 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: |
| | Proposed average and maximum daily rate and volume of fluids to be injected; Whether the system is open or closed; Proposed average and maximum injection pressure; Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and 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, 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) overlaying 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: Debra J. Anderson TITLE: Sr. Engineering Technician |
| | SIGNATURE: DATE: 11/26/01 |
| * | 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: Order No. R-2794 dated 10/30/64 & Supplemental Application dated April 26, 1985 (WFX-547) 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 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, 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.

ATTACHMENT FOR FORM C-108 GRIZZELL LEASE MISCELLANEOUS DATA

111. **WELL DATA**

Queen @ +/- 3320' B. (5) Next higher oil zone Next lower oil zone San Andres @ +/- 3816'

VII. PROPOSED OPERATION

Average Injection Rate 500 BWPD 1. Maximum Injection Rate 1000 BWPD

2. Closed Injection System

3. Average Injection Pressure 500 psi

> Maximum Injection Pressure 716 psi (approximate)

> > (will not exceed 0.2 psi/ft to top perforation)

Analysis Attached 4. Source Water Grayburg

San Andres Analysis Attached

IX. STIMULATION PROGRAM

Acidize injection interval with +/- 3000 gals 15% HCL

XI. There are no Fresh Water Wells

South Permian Basin Region 10520 West I-20 East Odessa, TX 79765 (915) 498-9191 Lab Team Leader - Sheila Hernandez (915) 495-7240

Water Analysis Report by Baker Petrolite

| Company: | APACHE CORPORATION | Sales RDT: | 33102 |
|---------------------|--------------------|------------------|-----------------------------|
| Region: | PERMIAN BASIN | Account Manager: | MIKE EDWARDS (505) 910-9517 |
| Area: | EUNICE, NM | ID #: | 22639 |
| Lease/Platform: | GRIZZELL UNIT | Analysis Cost: | \$40.00 |
| Entity (or well #): | 12 | | |
| Formation: | Grayburg | | |

Sample Point:

WELLHEAD

| Summa | ry | | An | alysis of Sa | ample 209886 @ 75 | °F | |
|-----------------------|-------------|-------------------------|--------|--------------|-------------------|--------|-------|
| Sampling Date: | 11/15/01 | Anions | mg/l | meq/l | Cations | mg/l | meq/l |
| Analysis Date: | 11/20/01 | Chloride: | 4050.0 | 114.24 | Sodium: | 2894.3 | 125.9 |
| Analyst: JAN | MES AHRLETT | Bicarbonate: | 2405.0 | 39.42 | Magnesium: | 112.0 | 9.21 |
| TDS (mg/l or g/m3): | 9975.3 | Carbonate: | 0.0 | 0. | Calcium: | 262.0 | 13.07 |
| Density (g/cm3, tonne | | Sulfate: | 20.0 | 0.42 | Strontium: | 9.0 | 0.21 |
| Anion/Cation Ratio: | 1.0000001 | Phosphate: | | | Barium: | 6.0 | 0.09 |
| Amon/Cation Ratio. | 1.0000001 | Borate: | | | Iron: | 4.0 | 0.14 |
| | | Silicate: | | | Potassium: | 213.0 | 5.45 |
| 0.1. 5: :: | | | | | Aluminum: | | |
| Carbon Dioxide: | | Hydrogen Sulfide: | | | Chromium: | | |
| Oxygen: | | pH at time of sampling: | | | Copper: | | |
| Comments: | | , , | | | Lead: | | |
| | | pH at time of analysis: | | 7.47 | Manganese: | | |
| | | pH used in Calculation | n: | 7.47 | Nickel: | | |
| | | | | | | | |
| | | | | | | | |

| Condi | tions | | Values C | alculated | at the Giver | Conditio | ns - Amoui | nts of Sca | le in lb/1000 |) bbl | | |
|-------|-----------------|-------|----------------|-----------|---------------|----------|----------------|------------|---------------|-------|-------------|--------------|
| Iamn | Gauge Press. | 1 | alcite aCO3 | | sum 4*2H20 | | ydrite aSO4 | | estite SO4 | | rite SO4 | CO2 Press |
| °F | psi | Index | Amount | Index | Amount | Index | Amount | Index | Amount | Index | Amount | psi |
| 80 | 0 | 1.32 | 171.78 | -2.42 | 0.00 | -2.49 | 0.00 | -2.11 | 0.00 | 0.82 | 2.78 | 0.94 |
| 100 | 0 | 1.41 | 181.85 | -2.44 | 0.00 | -2.44 | 0.00 | -2.09 | 0.00 | 0.67 | 2.78 | 1.28 |
| 120 | 0 | 1.51 | 191.57 | -2.45 | 0.00 | -2.37 | 0.00 | -2.07 | 0.00 | 0.55 | 2.43 | 1.7 |
| 140 | 0 | 1.60 | 199.89 | -2.46 | 0.00 | -2.29 | 0.00 | -2.04 | 0.00 | 0.45 | 2.08 | 2.2 |

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.

South Permian Basin Region 10520 West I-20 East Odessa, TX 79765 (915) 498-9191 Lab Team Leader - Sheila Hemandez (915) 495-7240

Water Analysis Report by Baker Petrolite

| Company: | APACHE CORPORATION | Sales RDT: | 33102 |
|---------------------|--------------------|------------------|-----------------------------|
| Region: | PERMIAN BASIN | Account Manager: | MIKE EDWARDS (505) 910-9517 |
| Area: | EUNICE, NM | ID #: | 22638 |
| Lease/Platform: | GRIZZELL UNIT | Analysis Cost: | \$40.00 |
| Entity (or well #): | 10 | | |
| Formation: | San Andres | | |
| Sample Point: | WELLHEAD | | |

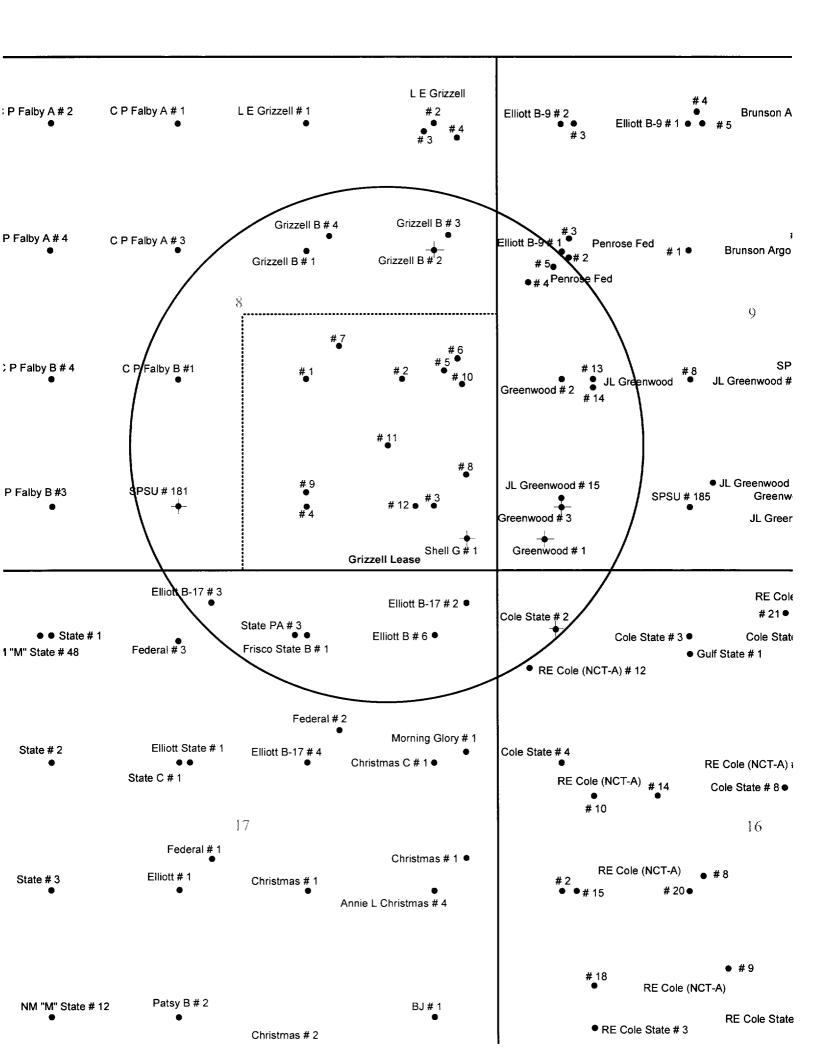
| Summary | | | An | alysis of Sa | ample 209885 @ 75 | °F | |
|--|---|-------------------------|--------|--------------|--------------------------|--------|--------|
| Sampling Date: | 11/15/01 | Anions | mg/l | meq/l | Cations | mg/l | meq/l |
| Analysis Date: | 11/20/01 | Chloride: | 4111.0 | 115.96 | Sodium: | 2877.7 | 125.17 |
| Analyst: JAMES | AHRLETT | Bicarbonate: | 2282.0 | 37.4 | Magnesium: | 114.0 | 9.38 |
| TD0 (| 0004.7 | Carbonate: | 0.0 | 0. | Calcium: | 281.0 | 14.02 |
| TDS (mg/l or g/m3): | 9891.7 | Sulfate: | 20.0 | 0.42 | Strontium: | 9.0 | 0.21 |
| Density (g/cm3, tonne/m3 Anion/Cation Ratio: | 3): 1.007 ¹ 1.0000000 | Phosphate: | | | Barium: | 8.0 | 0.12 |
| Anion/Cation Ratio: | 1.0000000 | Borate: | | | Iron: | 4.0 | 0.14 |
| | | Silicate: | | | Potassium: | 185.0 | 4.73 |
| | | | | | Aluminum: | | |
| Carbon Dioxide: | | Hydrogen Sulfide: | | | Chromium: | | |
| Oxygen: | | pH at time of sampling: | | | Copper: | | |
| Comments: | | | | | Lead: | | |
| | | pH at time of analysis: | | 7.44 | Manganese: | | |
| | | pH used in Calculation | on: | 7.44 | Nickel: | | |
| | | | | | | | |
| | | | | | | | |

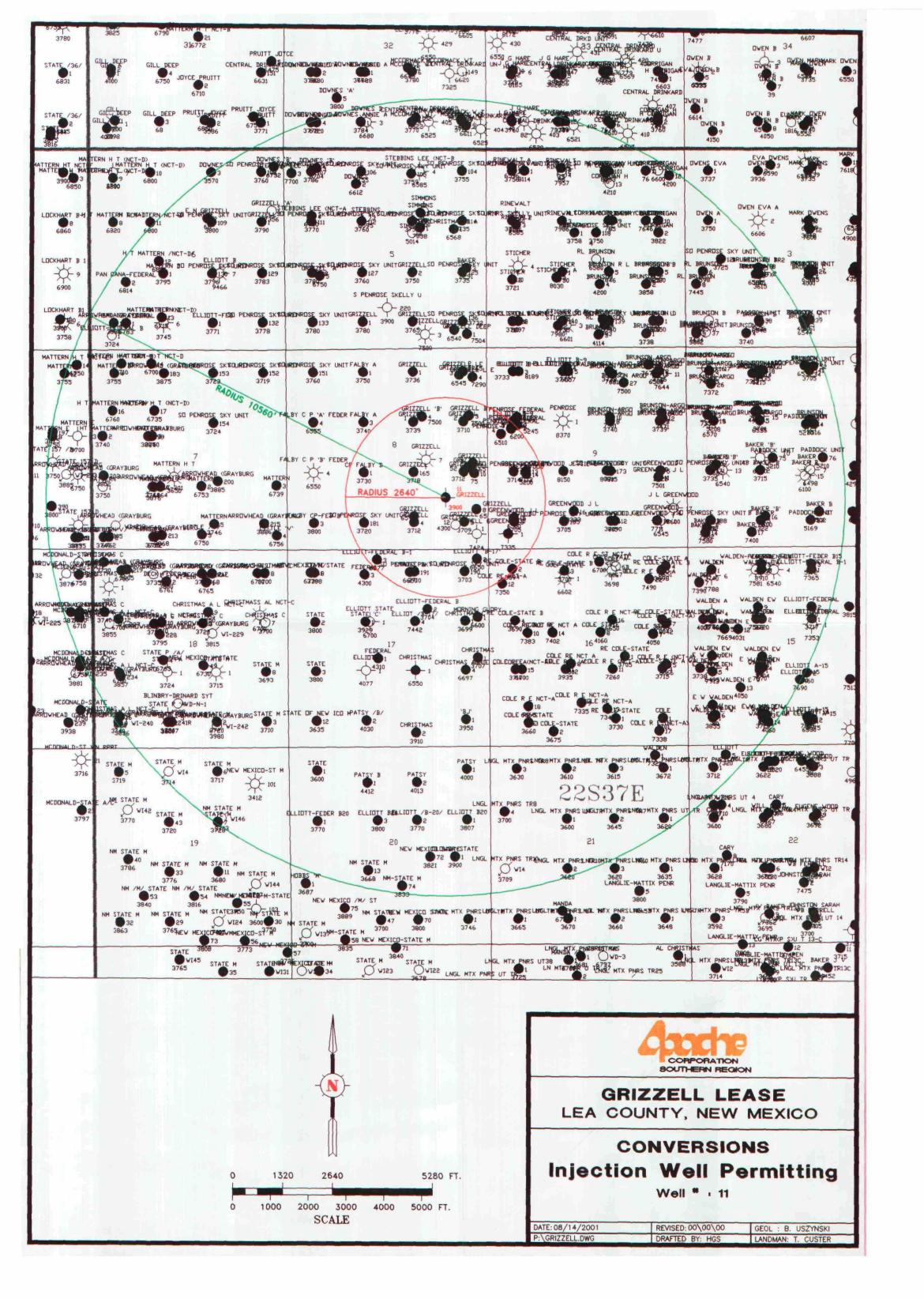
| Condi | tions | | Values C | alculated | at the Giver | Conditio | ns - Amour | nts of Sca | le in lb/1000 | bbl | | |
|-------|-----------------|-------|----------------|-----------|---------------|----------|----------------|------------|---------------|-------|-------------|--------------|
| ITAMA | Gauge Press. | | alcite aCO3 | ,, | sum 4*2H20 | ł | ydrite iSO4 | | estite SO4 | | rite SO4 | CO2 Press |
| °F | psi | Index | Amount | Index | Amount | Index | Amount | Index | Amount | Index | Amount | psi |
| 80 | 0 | 1.30 | 177.00 | -2.39 | 0.00 | -2.46 | 0.00 | -2.11 | 0.00 | 0.94 | 4.16 | 0.95 |
| 100 | 0 | 1.39 | 188.80 | -2.41 | 0.00 | -2.41 | 0.00 | -2.10 | 0.00 | 0.79 | 3.82 | 1.3 |
| 120 | 0 | 1.49 | 199.91 | -2.42 | 0.00 | -2.34 | 0.00 | -2.07 | 0.00 | 0.67 | 3.47 | 1.71 |
| 140 | 0 | 1.59 | 209.97 | -2.43 | 0.00 | -2.26 | 0.00 | -2.04 | 0.00 | 0.57 | 3.12 | 2.2 |

Note 1: When assessing the severity of the scale problem, both the saturation index (SI) and amount of scale must be considered.

Note 2: Precipitation of each scale is considered separately. Total scale will be less than the sum of the amounts of the five scales.

Note 3: The reported CO2 pressure is actually the calculated CO2 fugacity. It is usually nearly the same as the CO2 partial pressure.





AFFIDAVIT OF PUBLICATION

State of New Mexico, County of Lea.

I, KATHI BEARDEN

Publisher

| of the Hobbs News-Sun, a |
|----------------------------------|
| newspaper published at |
| Hobbs, New Mexico, do solemnly |
| swear that the clipping attached |
| hereto was published once a |
| week in the regular and entire |
| issue of said paper, and not a |
| supplement thereof for a period. |
| |

| of | |
|--------------------------------------|---------|
| | weeks. |
| Beginning with the issue | dated |
| February 16 | 2001 |
| and ending with the issue | |
| February 16 | 2001 |
| Kachi Brear | |
| Publisher Sworn and subscribed to | |
| me this 16th | _day of |
| February | 2001 |
| Λ · Λ | |

My Commission expires October 18, 2004 (Seal)

Notary Public.

This newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Laws of 1937, and payment of fees for said publication has been made.

LEGAL NOTICE February 16, 2001

Notice is hereby given of the application of Apache Corporation, 2000 Post Oak Blvd., Ste. 100, Houston, TX 77506, (713) 296-6000, to the Oil Conservation Division, New Mexico Energy, Minerals and Natural Resources Department, for approval of the following injection well for the purpose of secondary recovery.

Pool Name: Penrose Skelly; Grayburg Located in Lea County, New Mexico Lease/Unit Name: Grizzell Well No. 11

The injection formation is the Grayburg located between the interval of 3580' MD to 3816' MD below the surface of the ground. Expected maximum injection rate is 1000 barrels per day and the expected maximum injection pressure is 718 psi. Interested parties must file objections or requests for hearing with the Oil Conservation Division, 1220 South St. Francis Drive, Santa Fe, NM 87505 within fifteen days.

02102716000 01546577 Apache Corporation 2000 Post Oak Boulevard Suite

Apache Corporation 2000 Post Oak Boulevard Suite 100 Houston, TX 77056-4400



WWW.APACHECORP.COM (713) 296-6000

November 26, 2001

Surface Owner

Ms. Lucy Flowers 200 South Linam Hobbs, New Mexico 88240 Certified Mail Receipt # 7000-2870-0000-2222-3672

Re: Application to Expand Waterflood Project

Grizzell Lease Well No. 11 Penrose Skelly; Grayburg Pool Lea County, New Mexico

Attached please find a copy of completed form C-108 with attachments on the above referenced well, which Apache Corporation has filed with the New Mexico Oil Conservation Division.

Sincerely,

APACHE CORPORATION

Debra J. Anderson

Sr. Engineering Technician

Attachments

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.

Inderval

Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505



WWW.APACHECORP.COM (713) 296-6000

November 26, 2001

Offset Operator

Re: Application to Expand Waterflood Project

Grizzell Lease Well No. 11 Penrose Skelly; Grayburg Pool Lea County, New Mexico

Attached please find a copy of completed form C-108 with attachments and a plat of Apache Corporation's lease, which we have filed with the New Mexico Oil Conservation Division. The plat shows the referenced well in relation to your offset operations.

Sincerely,

APACHE CORPORATION

Debra J. Anderson

Sr. Engineering Technician

Attachments

cc: State of New Mexico

Energy, Minerals & Natural Resources Dept.

Oil Conservation Division 1220 South St. Francis Drive Santa Fe, New Mexico 87505

APPLICATION TO EXPAND WATERFLOOD GRIZZELL LEASE OFFSET OPERATORS

Anadarko Petroleum Corporation Box 130 Artesia, New Mexico 88211-0130 Certified Ropt. # 7000-2870-0000-2222-3399 Finley Resources Inc. 1308 Lake Street, Suite 200 Fort Worth, Texas 76102 Certified Ropt. # 7000-2870-0000-2222-3498

ROC Energy Inc. Box 51008 Midland, Texas 79710 Certified Rcpt. # 7000-2870-0000-2222-3597

Arch Petroleum Inc. 802 E Texas Eunice, New Mexico 88231 Certified Rcpt. # 7000-2870-0000-2222-3405 GP II Energy Inc. Box 50682 Midland, Texas 79710 Certified Rcpt. # 7000-2870-0000-2222-3504

Saga Petroleum LLC 415 S Wall, Suite 835 Midland, Texas 79701 Certified Rcpt. # 7000-2870-0000-2222-3603

ARCO Permian
P O Box 1610
Midland, Texas 79702-1610
Certified Rcpt. # 7000-2870-0000-2222-3412

Gruy Petroleum Management Inc. 600 E Las Colinas Blvd., Suite 1200 Irving, Texas 75014-0907 Certified Rcpt. # 7000-2870-0000-2222-3511 Sapient Energy Corporation 8801 S Yale, Suite 220 Tulsa, Oklahoma 74137 Certified Rcpt. # 7000-2870-0000-2222-3610

BEC Corporation 110 N Marienfeld, Suite 370 Midland, Texas 79702 Certified Rcpt. # 7000-2870-0000-2222-3429 Doyle Hartman Oil Producer Box 10426 Midland, Texas 79702 Certified Rcpt. # 7000-2870-0000-2222-3528 Texaco Expl & Production Inc.
Hobbs Operating Unit
P O Box 3109
Midland, Texas 79702
Certified Rcpt. # 7000-2870-0000-2222-3627

Bettis, Boyle & Stovall
Box 1240
Graham, Texas 76450
Certified Rcpt. # 7000-2870-0000-2222-3436

John H. Hendrix Corporation Box 3040 Midland, Texas 79702 Certified Rcpt. # 7000-2870-0000-2222-3535 Titan Resources LTD 500 W Texas, Suite 500 Midland, Texas 79701 Certified Ropt. # 7000-2870-0000-2222-3634

Campbell & Hedrick Box 401 Midland, Texas 79701 Certified Rcpt. # 7000-2870-0000-2222-3443

Marathon Oil Company Box 2409 Hobbs, New Mexico 88240 Certified Rcpt. # 7000-2870-0000-2222-3542 Wagner & Brown LTD 300 N Marienfeld, Suite 1100 Midland, Texas 79702 Certified Rcpt. # 7000-2870-0000-2222-3641

Chevron USA Inc.
P O Box 1150
Midland, Texas 79702
Certified Rcpt. # 7000-2870-0000-2222-3450

McCasland Management Inc.
Box 755
Hobbs, New Mexico 88241
Certified Rcpt. # 7000-2870-0000-2222-3559

Wiser Oil Company 3504 N West County Road Hobbs, New Mexico 88241 Certified Rcpt. # 7000-2870-0000-2222-3658

Conoco Inc. 10 Desta Drive, Suite 100W Midland, Texas 79705 Certified Rcpt. # 7000-2870-0000-2222-3467 Me-Tex Oil & Gas Inc. 401 W Taylor Hobbs, New Mexico 88240 Certified Rcpt. # 7000-2870-0000-2222-3566

Zia Energy Inc.
Box 2510
Hobbs, New Mexico 88241-2510
Certified Rcpt. # 7000-2870-0000-2222-3665

Louis Dreyfus Natural Gas Corporation 309 S Halaqueno Street Carlsbad, New Mexico 88220 Certified Rcpt. # 7000-2870-0000-2222-3474 Oxy USA Box 50250 Midland, Texas 79710 Certified Ropt. # 7000-2870-0000-2222-3573

ExxonMobil
P O Box 4697
Houston, Texas 77210-4697
Certified Rcpt. # 7000-2870-0000-2222-3481

Penroc Oil Corporation
Box 5970
Hobbs, New Mexico 88241
Certified Rcpt. # 7000-2870-0000-2222-3580

A copy of the application was mailed to the Offset Operators listed above on November 26, 2001.

Debra J. Anderson, Sr. Engineering Technician

11-26-01 Date

AREA OF REVIEW / WELL DATA

| | | | | WELL | COMP | | aus | SURFACE | CASING | _ | INTERMEDIATE CASING | MEDIA. | TE CA | Š | | PODE | PRODUCTION CASING | CAS | ล | | | LINER | | |
|---------------------------------|--------------|------------|--------------------|------|----------|---------|---------------|---------|--------|-----------|---------------------|--------|-------|--------------|-------|-------|-------------------|--------------|----------|-------|------------|-----------|-----|------|
| WELL NAME | API NO. | S/T/R | LOCATION | TYPE | DATE | TD | HOLE | CSG | | ĭ | HOLE | CSG | SET | SET CMT HOLE | | csG | SET | CMT | тос | HOLE | HOLE LINER | DEPTH | CMT | Тос |
| Grizzell # 1 | 30-025-10111 | 8/22S/37E | 1980 FSL- | 0 | 02/03/38 | 3718 | | 8-5/8 | _ | 500 | | | | 1 | 1 1 | 5-1/2 | 3568 | 175 | 2431 (C) | | | | | |
| Grizzell # 2 | 30-025-10107 | 8/22S/37E | 1980 FSL- | 0 | 03/03/38 | 3712 | 2-1/4 | 10-3/4 | 7 | ğ | | L | | | 1 | | 3563 | 125 | 2800 (C) | | | | T | |
| Grizzell # 4 | 30-025-10119 | 8/225/375 | 660 EST-1080 EET | | 10/10/38 | 3710 | = = | 8-5/8 | 1160 | 2 8 | | | | 1 | 7-7/8 | 5-1/0 | 35,60 | λ Σ | 2800 (C) | | 1 | | | |
| Grizzell # 5 | 30-025-10113 | 8/22S/37E | 72 | 0 | 12/09/47 | 5244 | 7 | 8-5/8 | 1163 | 80 | | | | ~ | | | 5243 | 80 | 367 (C) | | | | | |
| Grizzell # 6 | 30-025-10114 | 8/22S/37E | 2200 FSL- | 0 | 08/01/52 | 6541 | 17-1/4 | 13-3/8 | 255 | 300 11 | | 8-5/8 | 2798 | 1300 | | | | | | 7-7/8 | 5-1/2 2 | 2589-6536 | 700 | 2589 |
| Grizzell # 7 | 30-025-10115 | 8/22S/37E | ~ | G | 09/04/52 | 6537 | 17-1/4 | 13-3/8 | 214 | 350 11 | | ш | | 1500 | | | | | | 8/2-7 | | 2595-6535 | 450 | |
| Grizzell # 8 | 30-025-10116 | 8/22S/37E | $\boldsymbol{-}$ | 0 | 10/06/52 | 6513 | 17-1/4 13-3/8 | 13-3/8 | 254 | 300 11 | | 8-5/8 | 2796 | 1500 | | | | L | | 7-7/8 | 5-1/2 2 | 2571-6510 | 675 | 2571 |
| Grizzell # 9 | 30-025-20562 | 8/22S/37E | | 0 | 07/27/63 | 6575 | 2-1/4 | 8-5/8 | 275 | 250 | | | | 7 | | 4-1/2 | _ | 80 | 2864 (C) | | | | | |
| Grizzell # 10 | 30-025-26723 | 8/22S/37E | 1940 FSL- | 0 | 04/28/80 | 7508 | 4-3/4 | 11-3/4 | 1200 | 800 11 | | 8-5/8 | 3910 | 1600 7 | Ŀ | 5-1/2 | | 1225 | 1730 (T) | | L | | | |
| Grizzell # 12 | 30-025-35269 | 8/22S/37E | | G | 06/29/01 | 4300 | 2-1/4 | 8-5/8 | 1160 | 460 | L. | | L | | 1 | 5-1/2 | 4300 | 975 | Surface | | L | | | |
| Grizzell B # 1 | 30-025-10110 | 8/22S/37E | | 0 | 11/09/37 | 6580 | | 10-3/4 | Т | 200 | | | | | 8-3/4 | | 3473 | 8 | 0 (C) | 6-1/4 | 5 | 3348-6579 | 300 | |
| Grizzell B # 2 | 30-025-10101 | 8/22S/37E | | P&A | 12/16/37 | 5260 | 1 α | 10-3/4 | _ | 1 20 | | | | | | | 3400 | 8 | 0 (C) | 6-1/4 | 5 | 5260 | | 3746 |
| Grizzell B # 3 | 30-025-26437 | 8/225/3/ 0 | 1939 ENI -1750 EEI | | 08/00/80 | 7500 | 17-1/2 | 13-3/8 | 1 - 0 | 3 2 | 12-1/4 9-5/8 | | 3010 | 2200 8-3/4 | | 1 | 7 000 | 200 | 1750 (B) | | lacksquare | | | |
| CP Falby B # 1 | 30-025-10103 | 8/22S/37E | | 0 (| 03/29/38 | 6550 | 2-1/4 | 10-3/4 | _ | <u></u> | | 9 | | 2 | 8-3/4 | 7 | 3500 | 300 | 1616 (T) | | 1 | | 1 | |
| South Penrose Skelly Unit # 181 | 30-025-10119 | 8/22S/37E | | P&A | 06/19/39 | 3720 | 12-1/4 | 10-3/4 | | 200 | | | | 7 | | 5-1/2 | 3512 | 500 | 1607 (C) | | | | | |
| Shell G # 1 | 30-025-23287 | 8/22S/37E | | D&A | 07/08/70 | 7424 | 11 | 8-5/8 | 1193 | 385 | | | | | 7-7/8 | 4-1/2 | 7420 | 240 | 6307 (C) | | | | | |
| Elliott B-9 # 1 | 30-025-10121 | 9/22S/37E | 1980 FNL- | 1 | 03/17/38 | 3725 | 12-1/4 | 10-3/4 | Т | 225 9 | 9-1/4 | 7-5/8 | _ | 425 6 | 1 | 5-1/2 | 3417 | 425 | 0 (C) | | | | | |
| Penrose # 3 | 30-025-10147 | 9/225/37F | 1874 FNI - 766 FWI | | 01/20/47 | 8120 | 17-1/2 | 13-3/8 | 153 | 65 2 | 165 12-1/4 | 9-5/8 | 2785 | 1400 8-3/4 | _ | 7 | 8089 | 80 5 | 2469 (C) | | | | T | |
| Penrose # 4 | 30-025-10148 | 9/22S/37E | 2310 FNL- | _ | 07/02/53 | 6510 | 2-1/4 | 10-3/4 | | 180 9-1/4 | | _ | | 800 6-3/4 | - 1 | 5-1/2 | _ | 30 | 2672 (C) | | | | | |
| Penrose # 5 | 30-025-32510 | 9/22S/37E | 2175 FNL- | П | 10/26/94 | 6200 | 12-1/4 | 8-5/8 | 1179 | 640 | | | | 7 | | 5-1/2 | | 1145 | 1450 (T) | | | | | |
| Greenwood # 1 | 30-025-23691 | 9/22S/37E | 330 FSL- | Г | 03/26/71 | 7335 | 11-1/4 8-5/8 | 8-5/8 | 1162 | 325 | | | | | 1 | 4-1/2 | 7335 | 75 | 6875 (C) | | | | | |
| Greenwood # 2 | 30-025-10123 | 9/22S/37E | 1980 FSL- | ┿ | 03/31/38 | 3714 | 12-1/4 | 9-5/8 | 339 | 125 | | | | 1 00 | 8-3/4 | 7 | 3558 | 530 | 0 (C) | | | | | |
| Greenwood # 3 | 30-025-10124 | 9/22S/37E | 660 FSL- | 1. | 11/02/38 | 3705 | 3-3/8 | 9-5/8 | 240 | 125 | | 4_ | 2 | 2 6 | 1 | | 3600 | 400 | 790 (C) | | ļ | | | |
| JL Greenwood # 13 | 30-025-10135 | 9/22S/37F | 1905 FSI - 990 FWL | 0 | 12/19/47 | 5200 17 | 7-1/2 | 13-3/8 | 329 | 300 9-1/4 | | 7-5/8 | 2799 | 850 6 | 6-3/4 | 5-1/2 | 5199 | 350 | 774 (C) | | | | | |
| JL Greenwood # 15 | 30-025-10136 | 9/22S/37E | 760 FSL- | 0 | 01/17/53 | 6500 | 2-1/4 | 10-3/4 | 329 | 300 9-1/4 | | _ | | 1800 6 | - 1 | 5-1/2 | 6499 | 200 | 3970 (C) | | | | | |
| Cole State # 2 | 30-025-10322 | 16/22S/37E | 660 FNL- 600 FWL | P&A | 06/23/38 | 3694 | 9-7/8 | 7-5/8 | 289 | 150 | | | | 6 | 6-3/4 | 5-1/2 | 3548 | 250 | 387 (C) | | | | | |
| Elliott B-17 # 2 | 30-025-24864 | 17/22S/37E | | 0 | 11/23/74 | 6650 | | 8-5/8 | 1150 | 600 | | | | | 7-7/8 | 5-1/2 | 6650 | 750 | 2079 (C) | | ₩ | | | |
| Elliott B-17 # 3 | 30-025-10330 | 17/22S/37E | 1 | 0 | 12/18/62 | 6577 | 2-1/4 | 10-3/4 | 330 | 300 9 | _ | 7-5/8 | | 2328 | | | | | | 6-3/4 | 4-1/2 | 3730-6577 | 400 | 3730 |
| | 30-025-10333 | 17/22S/37E | 1 | 0 | 08/05/38 | 3700 | 2-1/4 | 10-3/4 | 262 | 225 9 | 9-1/4 | 7-5/8 | 1162 | 300 6-3/4 | | 5-1/2 | 3530 | 425 | 0 (C) | | | | | |
| Frisco State B # 1 | 30-025-10341 | 17/22S/37E | +- | 0 | 11/07/38 | 3710 | | 8-5/8 | 1139 | 500 | Ļ | | | | | _ | | 50 | 2576 (C) | | | | | |
| State PA # 3 | 30-025-25209 | 17/22S/37E | 660 FNL-2100 FEL | 0 | 03/11/76 | 6650 | = | 8-5/8 | 1175 | 450 | | | | 7 | 7-7/8 | 5-1/2 | 6649 | 1900 | 0 (C) | | | | | |
| | | | | | | | | | | | | | | | | | | | | | | | | |
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| | | | | | | | | | | | | | | | | | | | | | | | | |
| Top of Cement Legend: | | | | | | | | | | L | | | | | | | | | | | | | | |
| B = Cement Bond Log | | | | | | | | | | | | | | | | | | L | | | | | | |
| C = Calculated | | | | | | | | | | | | | | | | | | L | | | | | | |
| Surface = Circulated | | | | | | | | | | | | | | | | | | | | | | | T | |
| T = Temperature Survey | | | | | | | | | | L | | | | | | | | | | | | | | |

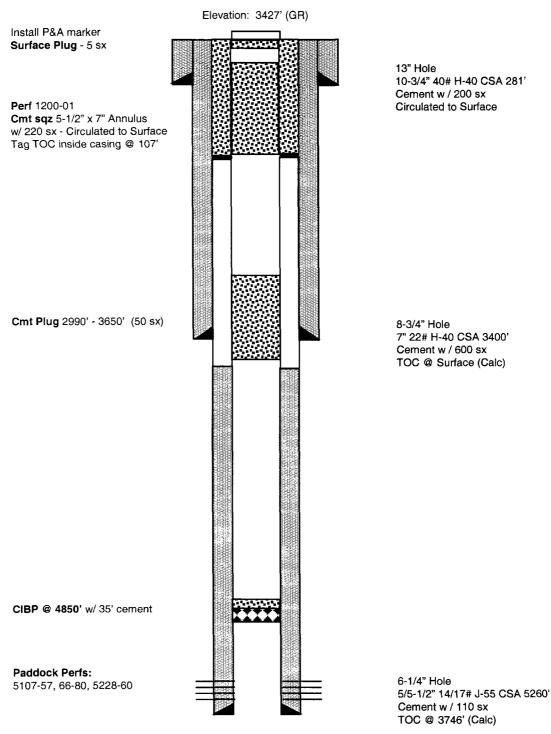
Well: Grizzell B # 2

Field: Paddock Current Status: P&A (2/89)

Location: 1980' FNL & 660' FEL

Unit H, Sec. 8, T22S, R37E Lea County, New Mexico

API #: 30-025-10101



TD @ 5260'

Well:

So. Penrose Skelly Unit # 181

Field:

Penrose Skelly; Grayburg

Location:

660' FSL & 1980' FWL

Unit N, Sec. 8, T22S, R37E Lea County, New Mexico

API#:

30-025-10119

Install P&A marker Surface Plug - 0' - 50'

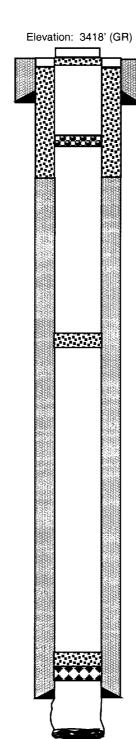
Perf 1298 - 1301 Cement Retainer @ 1226' Cmt sqz behind 5-1/2" w/ 300 sx TOC @ 60' (Temp Survey)

Cmt Plug 2318' - 2418' (12 sx)

CIBP @ 3475' w/ 12 sx cement

Grayburg Open Hole: 3512' - 3681'

Dump 10 sx cement on bottom PBTD @ 3681'



12-1/4" Hole 10-3/4" 32# H-40 CSA 339' Cement w / 200 sx Circulated to Surface

Current Status: P&A (11/84)

7-7/8" Hole 5-1/2" 17# J-55 CSA 3512' Cement w / 500 sx TOC @ 1607' (Calc)

TD @ 3720'

Well: Shell G # 1

Field: Undesignated Current Status: D&A (7/70)

Location: 330' FSL & 330' FEL

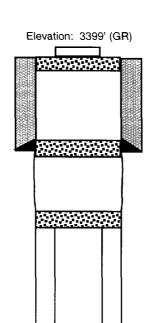
Unit P, Sec. 8, T22S, R37E Lea County, New Mexico

API #: 30-025-23287

Install P&A marker Surface Plug - 10 sx

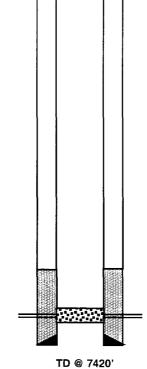
Cmt Plug @ 1200' w/ 25 sx

Pulled 2260' - 4-1/2" Casing **Cmt Plug** - Casing Stub @ 2260' w/ 25 sx



11" Hole 8-5/8" 32# J-55 CSA 1193' Cement w / 385 sx Circulated to Surface

Perforations: 7319-27 Cement Plug - Across Perfs W/ 25 sx



7-7/8" Hole 4-1/2" 9.5/11.6# J-55 CSA 7420' Cement w / 240 sx TOC @ 6307' (Calc) Well:

Greenwood # 1

Field:

Undesignated

Location:

330' FSL & 500' FWL

Unit M, Sec. 9, T22S, R37E Lea County, New Mexico

API#:

30-025-23691

Install P&A marker Surface Plug - 10 sx

Cmt Plug @ 1162' w/ 25 sx

Cmt Plug @ 2400' w/ 25 sx

Cmt Plug @ 5035' w/ 25 sx

Cmt Plug @ 5485' w/ 25 sx

Cmt Plug @ 6030' w/ 25 sx

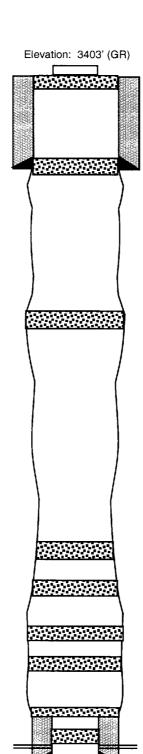
Cmt Plug @ 6160' w/ 25 sx

Pulled 6875' - 4-1/2" casing Cmt Plug - Casing Stub @ 6875' w/ 25 sx

Cmt Plug @ 7278' w/ 25 sx

Perforations:

7281-7301



TD @ 7335'

11-1/4" Hole

8-5/8" 24# J-55 CSA 1162' Cement w / 325 sx Circulated to Surface

Current Status: D&A (3/71)

7-7/8" Hole 4-1/2" 10.5# J-55 CSA 7335' Cement w / 75 sx TOC @ 6876' (Calc) Well:

Greenwood #3

Field:

Penrose Skelly; Grayburg

Location:

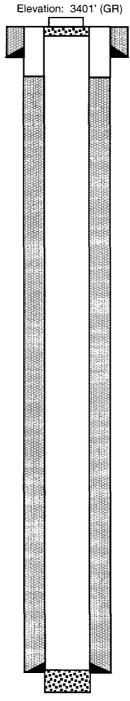
660' FSL & 660' FWL

Unit M, Sec. 9, T22S, R37E Lea County, New Mexico

API#:

30-025-10124

Install P&A Marker Surface Plug - 0' - 35' w/ 10 sx



13-3/8" Hole 9-5/8" 36# H-40 CSA 440' Cement w / 125 sx Circulated to Surface

Current Status: P&A (10/70)

Cmt Plug - 3600-3702 w/ 50 sx

Grayburg Open Hole: 3600 - 3705

8-34" Hole 7" 24# J-55 CSA 3600' Cement w / 400 sx TOC @ 790' (Calculated)

TD @ 3705'

Well: Cole State # 2

Field: Penrose Skelly; Grayburg

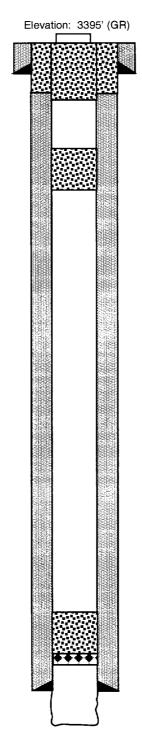
Location: 660' FNL & 660' FWL

Unit D, Sec. 16, T22S, R37E Lea County, New Mexico

API #: 30-025-10322

Install P&A Marker Surface Plug - 0' - 411' w/ 40 sx

Cmt Plug - 994 - 1240 w/ 25 sx



9-7/8" Hole 7-5/8" 26# H-40 CSA 289' Cement w / 150 sx Circulated to Surface

Current Status: P&A (8/98)

Cmt Squeeze @ 322' w/ 100 sx

Cmt Plug - 3244-3490 w/ 25 sx CIBP @ 3490'

Grayburg Open Hole: 3548 - 3730

6-34" Hole 5-1/2" 15# J-55 CSA 3548' Cement w / 250 sx TOC @ 387' (Calculated)

TD @ 3730'