

GENERAL CORRESPONDENCE

YEAR(S):





OIL CONSERV. ON DIVISION RECEIVED '93 APR 25 AM 9 01

April 22, 1993

Mr. Roger C. Anderson State of New Mexico Oil Conservation Division P.O. Box 2088 Santa Fe, New Mexico 87504-2088

RE: Discharge Plan GW-36 Renewal Penroc Oil Corporation State "E" Tract 18 Wells No. 21 & 22 Lea County, New Mexico

Dear Mr. Anderson:

Thank you for your letter dated April 13, 1993 for the captioned which was received here yesterday. For your information, Penroc Oil Corporation has never injected any fluids other than produced water. Therefore, we do not plan to pursue Class I classification.

Your cooperation is appreciated and if you have any further questions, please contact me. Thank you.

Sincerely,

la the Co

M. Y. (Merch) Merchant President & Chief Executive Officer

MYM/lm

MAILING ADDRESS: PO Box 5970 Hobbs, NM 88241-5970 DELIVERY ADDRESS: 5014 Carlsbad Hwy. Hobbs, NM 88240-1118 (505) 397-3596 Phone (505) 393-7051 FAX

| Please print or type with an ELITE typewriter in the shaded area only, INSTRUCTIONS ON REVERSE | in the shoded area only, INSTRUCTIONS ON | |
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| the authority | the authority of the Safe Drinking Water Act.) | |
| IV. FACILITY NAME AND LOCATION | | |
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| WELL OPERATION STATUS: PA = P | = PERMANENTLY ABANDONED AND APPROVED | вҮ ѕтат |
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| Plase type or print | ease read instructions on reverse | | Form App OMB No. Approval | roved 2040-0002 2011 x Dires 10-31-84 | | |
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| MAJOR INJECTIO | ON WELLS | | | | | |
| REPORTING AGENCY | V. REPORT FOR QUAF | RTER ENDING (| Mo, day, year) | | | |
| ew Mexico Oil Conservation Division | 12/31/8 | | | | | |
| PERMIT/FACILITY NUMBER | | NAME AND LOCATION | | | | |
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| Discharge Plan GW-36 | Apollo Oil State "E" | Tract 18 Wells | #21 & 22 | | | |
| Sischarge rian on so | , N.M. | ,, 2 | | | | |
| II. NATURE OF NONCOMPLIANCE(S) AND DATE(S) OF O | CCURRENCE(S) | | | | | |
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| None | | | | | | |
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| I. STATE CONTACT (Name, telephone number) | | | <u> </u> | | | |
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| Roger Anderson (505) 827-5885 | | | | | | |
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| | 1 | 10/15/0 | | | | |
| Facility permitted to inject non h not started up, consequently no wa | azardous retinery was ste has been inject. | aste on 12/15/8 ed. The welle | ob. Ketine are used f | ery has for | | |
| injection of produced water only a | | er. Inc werra | are adea i | | | |
| 5. <u>F</u> | | | | | | |
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| ease type or print | | Please read instructions on reve | rse 🍎 | OMB No. 2040 Approval expire | | | | |
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| | | PROTECTION AGENCY | I. DATE EPARED | II. STATE | III. REGION | | | |
| | WASHINGTO | N, DC 20460 | (Mo, day, year) | | | | | |
| | UIC FEDERAL REI 2: QUARTERLY N MAJOR INJEC | ONCOMPLIANCE REPOR | RT · 3/25/87 | N.M. | VI | | | |
| REPORTING AGENCY | | V. REPORT FOR QUAR | TER ENDING (| Mo, day, year) | | | | |
| New Mexico Oil Cons | ervation Divisi | ion | 12/31/8 | 12/31/86 | | | | |
| PERMIT/FACILITY NUMBER | { | VII. PERMITT | TEE NAME AND LOCATION | | | | | |
| Discharge Plan GW | -36 | State "H | Dil Company E" Tract 18 Wells hty, N.M. | #21 & 22 | | | | |
| III. NATURE OF NONCOMPLIA | ANCE(S) AND DATE(S) | OF OCCURRENCE(S) | - | | <u></u> | | | |
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| None | | | | | | | | |
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| . STATUS OF NONCOMPLIAN | CE (Provide date(s) of rev | iew or resolution) | • | ······ | | | | |
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| I. MITIGATING CIRCUMSTAN | CES (if any) | | | | | | | |
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| II. STATE CONTACT (Name, te | lephone number) | | <u></u> | | | | | |
| | | | | | | | | |
| Roger Anderson | (202) 827-2882 | | | • | | | | |
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| III. COMMENT | | | | | | | | |
| Facility permitte | ed to inject no | n hažardous refinery | waste on 12/15/8 | 6. Refine | ery has | | | |
| not started up, o | consequently no | waste has been inje | cted. The wells | are used f | for | | | |
| injection of proc | luced water only | y at this time. | | | | | | |
| | | | | | | | | |

all USGS observation wells in area of myection wells are completed in the Ogallala fm.

| | GEOLOGIC AGE | GEOLOGIC UNIT | THICKNESS (ft) | GENERAL CHARACTER | WATER-BEARING PROPERTIES |
|------------|--------------------|-----------------------------------------------------------------------------------------------------------------|-------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| uaternary | Recent | Sand | 0-30± | Dune sand, unconsolidated stabilized to drifting, semiconsolidated at depth; fine- to medium-grained. | Above the zone of saturation, hence, does not yield water to wells. Aids re- charge to underlying formations by permitting rapid infiltration of rain- water. |
| Quaternary | and Plcistocene | Alluvium | 0–400 <u>+</u> | Channel and lake deposits; alternating thickbedded calcareous silt, fine sand, and clay; thickest in San Simon Swale; less than 100 feet thick in most places. | Saturated and highly permeable in places in east end of Laguna Valley. Forms continuous aquifer with Ogal- lala formation. Wells usually yield less than 30 gpm. Locally above the water table. |
| Tertiary | Pliocene | Ogallala | 0-300± | Semiconsolidated fine-grained calcare- ous sand capped with thick layer of caliche; contains some clay, silt, and gravel. | Major water-bearing formation of the area. Unsaturated in many localitics, such as north side of Grama Ridge, west side of Eunice Plain, Antelope Ridge area, and Rattlesnake Ridge. Greatest saturated thickness along east side of Eunice Plain, west of Monument Draw, where wells yield up to 30 gpm. Highest yields, up to 700 gpm, obtained from wells along south edge of Eunice Plain, east of Jal. |
| Cretaceous | | Undifferentiated | 35± | Small isolated and buried residual blocks of limestone, about 3 miles east of Eunice. | Possibly small isolated bodies of water locally. |
| | | and the second secon | | CONTRACTOR STOCKED IN A STOCKED IN A STOCKED STOCKED IN A S | |
| | dnot | Chinle formation | 0–1,270± | Claystone, red and green; minor fine- grained sandstones and siltstones; un- derlies all of eastern part of southern Lea County area; thins westward; ab- sent in extreme west. | Yields small quantities of water from sandstone bcds. Yields are rarely over 10 gpm. Water has high sulfate content. |
| Triassic | Dockum group | Santa Rosa sandstone | 140-300+ | Sandstone, chiefly red but locally white, gray, or greenish-gray; fine- to coarse- grained; exposed in extreme west; underlies Cenozoic rocks in western | Yields small quantities of water over most of the area. Some wells are re- ported to yield as much as 100 gpm. Water has high sulfate content. |

GROUND WATER sandstone $140 - 300 \pm$ underlies Cenozoic rocks in western Water has high sulfate content. part of area, and is present at depth in eastern part. Permian or Triassic] LEA COUNTY Undiffer-Siltstone, red, shale, and sandstone; No wells are known to be bottomed in the red beds. Probably can yield very entiated 90-400+ present at depth under all of southern Lea County. small quantities of high-sulfate water. Paleozoic Ordovician through Permian Precambrian | Paleozoic Thick basin deposits ranging in character from evaporites to coarse clas-No presently usable water supply available from these rocks. Source of highly 6,500-17,000± tics; thinnest on the east side of the area over the Central basin platform, mineralized oil-field waters. thickest toward the southwest. Granite, granodioritic and other igneous and metamorphic rocks; complex Not hydrologically significant. structure.

USGS Hydrologic Amvestigations altos HA-62 Map. fround Water Conditions in Northern Lea Cty by SR ASh 1963 2 T175 R36E

DTW 125 m/952 Saturated Thickness 175' Ogallala OF ~ 60 ppm Spec, Cond. N 710 ymbos Gound water glow SE

File Engineer USOS computer printon indicates wells in the section have DTW 50-60'.

| | 79 WATER | | | | | | | | | | |
|------------------|-----------------------|--------|-----------|------|---------|---------|------|---------|-----|-------------------|--|
| LOCATION | DUNER NAME | SOURCE | LEVEL | DATE | EMANGE | NIGN | Y R | LOW | YR | YEARS OF RECORD | |
| 105 365 23 241 | T.H. HONTEITH | DOLL | -59.37 | 1-0. | -3.52 | | 55 | -02.59 | 72 | 5+-55,60-03,05-74 | |
| 165 37E 01 311 | wjiki | OULL | -31.99 | 1-03 | -0.55 | -34.00 | - se | | | 52-79 | |
| 165 37E 02 211 | HARAUA | OULL | -75.25 | 1-03 | -0.95 | -35.33 | 50 | -73.25 | 70 | 52-79 | |
| 165 375 07 514 | EFAL GLEASON | OSLL | -03.30 | 1-2- | -0.72 | +38.32 | 50 | -03.30 | | 579 | |
| Te3 37E 11 111 | H.J. TATLOR | OSLI | -78.64 | 1-03 | +0.22 | -31.93 | ۰ ، | -78.4- | 7: | .:-:: | |
| 1eu 37E 25 11 | 4.2. SA928 | OJLL | -04.70 | 1-25 | - | -04.92 | 79 | -24.93 | 7 5 | •. | |
| 145 BEE 25 327 | STATE OF N. MEX. | SGLL | - www. 35 | 1-2. | -2.30 | -20.55 | 5 5 | ***.35 | 7: | ···· | |
| 165 386 27 FT | #DODY' ACESS INC. | OÚL. | -20.84 | 1-1- | -1.07 | -32.85 | 50 | -52.34 | 7 - | 53-70 | |
| 163 351 31 211 | #174.tuu | 0366 | -22.93 | 1-23 | • 2.3 9 | -3:.81 | 51 | -63.22 | 74 | 51-5-,57-74 | |
| 145 385 34 131 | WDODYS ACRES INC. | CULL | -102.76 | 1-23 | +1.56 | -02.34 | 59 | -104.32 | 7 5 | 52,58-74 | |
| 165 396 29 233 | SIND AND HOLDER | 0311 | -71.08 | 1-03 | -2.00 | -525 | 50 | -92.08 | 7 7 | 50-55260-79 | |
| 175 338 13 3-1 | POTASH CO. OF AMERICA | OSLL | -171.04 | 1-04 | -1.22 | -146.05 | 53 | -171.04 | | 52-79 | |
| 175 34E 28 213 | SOUTHWEST POTASH | OSLL | -153.48 | 1-04 | -1.05 | -133.01 | 69 | -153.48 | 79 | 63-79 | |
| 175 346 35 130 | STATE OF H. HEX. | OGLL | -124.32 | 1-04 | -1.32 | -59.88 | 53 | -124.32 | 7 2 | 42-79 | |
| 175 368 27 131 | CORDINE SCHARBAUER | OJLL | -39.51 | 1-0- | -0.47 | -33.05 | 49 | -39.31 | 77 | 47-79 | |
| 175 37E 10 211 | S.M. REILAND | OGLL | -60.08 | 1-03 | -1.22 | -32.87 | 49 | -63.38 | 79 | 49-79 | |
| 175 37E 12 113 | LEE STILES | OSLL | -75.12 | 1-03 | +5.30 | 3.69 | 50 | -75.12 | 79 | 50-79 | |
| 175 378 34 111 | C.G. GCODWIN | OGLL | - 50.96 | 1-03 | -0.01 | ++2.13 | 57 | -69.74 | | 57-79 | |
| 175 38E 02 311 | w.y. LAWRENCE | CGLL | -77.9. | 1-33 | -2.17 | 3.65 | 51 | -79.94 | 7 7 | L°-79 | |
| 175 388 07 11; | L.R. SEBRINGS | OGLL | -58.36 | 1-03 | -0.37 | -25.59 | 52 | -03.30 | 79 | 51-79 | |
| 175 385 08 211 | J.J. HANDLET JR. | OGLL | -70.92 | 1-03 | -0.00 | -30.40 | 50 | -70.92 | 79 | 50-57,59-79 | |
| 175 38E 24 133 | m.V. LAWRENCE | OSEL | -53.02 | 1-03 | -1.20 | -41.30 | 50 | -57.00 | 70 | 50-58,00-0-,05-7 | |
| 175 386 31 311 | G.L. BEENE | DGLL | -52.39 | 1-03 | +2.61 | -25.71 | 49 | -54.70 | 73 | | |
| 175 38E 34 113 | W.E. BUSBY | OGLL | -54.62 | 1-03 | -1.12 | -24.78 | 4 * | -54.62 | 79 | 43-79 | |
| 185 34E 22 343 | CONOCO DIL CO | OGLL | -110.45 | 1-24 | - | -109.22 | 67 | -110.52 | 72 | 65-77,79 | |
| 185 35E 17 1+4 | INT HIN AND CHEM CORP | OGLL | -75.05 | 1-34 | -0.25 | -07.40 | 56 | -75.05 | | 53-79 | |
| 185 36E 27 111 | STATE OF N. MEX. | OGLL | -47.30 | 1-04 | -1.+0 | -38.13 | 43 | -47.30 | | 379 | |
| 195 36E 32 321 | F.K. TURNER | ALV4 | -20.75 | 1-04 | - | -24.05 | 76 | -27.33 | 71 | 71,74-77,79 | |
| 195 37E 34 111 | UNKNOWN | DúĻL | -18.83 | 1-04 | - | -18.85 | 79 | -22.33 | | 74-77,79 | |
| 195 38E 30 \$21 | UNKNOWN | OGLL | -29.66 | 1-04 | +0.88 | -28.53 | 76 | -30.54 | 76 | 74-79 | |
| 195 38E 34 222 - | J.C. COURSET | OGLL | -52.14 | 1-04 | -2.27 | -42.27 | 49 | -55.05 | 72 | 49-59,61-79 | |

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5-210. __INFORMATION TO BE CONSIDERED BY THE DIRECTOR.

A. This section sets forth the information to be considered by the director in authorizing construction and use of an effluent disposal well or in situ extraction well or well field. Certain maps, cross-sections, tabulations of all wells within the area of review, and other data may be included in the discharge plan. submittal by reference provided they are current, readily available to the director and sufficiently identified to be retrieved.

B. Prior to the approval of a discharge plan or project discharge plan allowing construction of a new effluent disposal well, operation of an existing effluent disposal well, or operation of a new or existing in situ extraction well or well field, or conversion of any well to injection use, the director shall consider the following:

1. Information required in Subsection 3-106.C. of these regulations; SEE PAGE 2.

2. A map showing the effluent disposal well, or in situ extraction wells or well fields, for which approval is sought and the applicable area of review. Within the area of review, the map must show, in so far as is known or is reasonably available from the public records, the number, name, and location of all producing wells, injection wells, abandoned wells, dry holes, surface bodies of water, springs, mines (surface and subsurface), quarries, water wells and other pertinent surface features, including residences and roads;

3. A tabulation of data on all wells within the area of review which may penetrate into the proposed injection zone. Such data shall include, as available, a description of each well's type, the distance and direction to the injection well or well field, construction, date drilled, location, depth, record of plugging and/or completion, and any additional information the director may require;

4. For wells within the area of review which penetrate the injection zone, but are not properly completed or plugged, the corrective action proposed to be taken under Section 5-203;

5. Maps and cross-sections indicating the general vertical and lateral limits of all ground water having 10,000 mg/l or less TDS within the area of review, the position of such ground water within the area of review relative to the injection formation, and the direction of water movement, where known, in each zone of ground water which may be affected by the proposed injection operation;

6. Maps and cross-sections detailing the geology and geologic structure of the local area, including faults, if known or suspected;

7. Generalized maps and cross-sections illustrating the regional geologic setting;

8. Proposed operating data, including:

(a) Average and maximum daily flow rate and volume of the fluid to be injected;

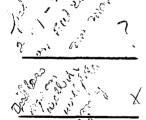
(b) Average and maximum injection pressure;

(c) Source of injection fluids and an analysis or description, whichever the director requires, of their chemical, physical, radiological and biological characteristics;

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c. A proposed discharge plan shall set forth in detail the methods or techniques the discharger proposes to use or processes expected to naturally occur which will ensure compliance with these regulations. At least the following information shall be included in the plan:

- 3-106,C

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Quantity, quality and flow characteristics of 1. the discharge;

2. Location of the discharge and of any bodies of water, watercourses and ground water discharge sites within one mile of the outside perimeter of the discharge site, and existing or proposed wells to be used for monitoring;

3. Depth to and TDS concentration of the ground water most likely to be affected by the discharge;

> 4. Flooding potential of the site;

5. Location and design of site(s) and method(s) to be available for sampling, and for measurement or calculation of %flow;

6. Depth to and lithological description of rock at base of alluvium below the discharge site if such information is available;

7. Any additional information that may be . necessary to demonstrate that approval of the discharge plan will not result in concentrations in excess of the standards of Section 3-103 or the presence of any toxic pollutant at any place of withdrawal of water for present or reasonably foreseeable future use. Detailed information on site geologic and hydrologic conditions may be required for a technical evaluation of the applicant's proposed discharge plan; and

Additional detailed information required for a 8. technical evaluation of effluent disposal wells or in situ extraction wells as provided in Part 5 of these regulations.

g. Results of the formation testing program to obtain an analysis or description, whichever the director requires, of the chemical, physical, and radiological characteristics of, and other information on, the receiving formation, provided that the director may issue a conditional approval of a discharge plan if he finds that further formation testing is necessary for final approval;

10. Expected pressure changes, fluid native displacement, and direction of movement of the injected fluid;

11. Proposed stimulation program;

12. Proposed or actual injection procedure;

13. Schmatic or other appropriate drawings of the surface and subsurface construction details of the well;

14. Construction procedures, including a cementing and casing program, logging procedures, deviation checks, and a drilling, testing, and coring program;

15. Contingency plans to cope with all shut-ins or well failures so as to prevent movement of fluids into ground water having 10,000 mg/1 or less TDS except for fluid movement approved pursuant to Section 5-103;

16. Plans, including maps, for meeting the monitoring requirements of Section 5-207; and

17. The ability of the discharger to undertake measures necessary to prevent contamination of ground water having 10,000 mg/l or less TDS after the cessation of operations, including the proper closing, plugging, and abandonment of a well, ground water restoration if applicable, and any post-operational monitoring as may be needed. Methods by which the discharger may demonstrate the ability to undertake these measures shall include submission of a surety bond or other adequate assurance, such as financial statements or other materials acceptable to the director. If an adequate bond is posted by the discharger to a federal or another state agency, and this bond is to insure closing and proper abandonment of the facility, the director shall consider this bond as a submission of a bond to the Division.

5-200. EECHNICAL CRITERIA AND PERFORMANCE STANDARDS FOR FFLUENT DISPOSAL WELLS AND IN UN EXTRACTION WELLS.

5-201. PURPOSE.

Sections 5-200 through 5-210 of these regulations provide the technical criteria and performance standards for effluent disposal wells and in situ extraction wells.

5-202. AREA OF REVIEW.

A. The area of review is the area surrounding an effluent disposal well or in situ extraction well or the area within and surrounding a well field that is to be examined to identify possible fluid conduits, including the location of all known wells and fractures which may penetrate the injection zone.

B. The area of review for each effluent disposal well, or each in situ extraction well or well field shall be an area which extends:

l. Two and one half $(2\frac{1}{2})$ miles from the well, or well field; or

2. One-quarter $(\frac{1}{2})$ mile from a well or well field where the area of review is calculated to be zero pursuant to Subsection B.3. below, or where the well field production at all times exceeds injection to produce a net withdrawal; or

3. A suitable distance, not less than one-quarter (%) mile, proposed by the discharger and approved by the director, based upon a mathematical calculation to determine the area of review. Computations to determine the area of review may be based upon the parameters listed below and should be calculated for an injection time period equal to the expected life of the effluent disposal well, or in situ extraction well or well field. The following modified Theis equation illustrates one form which the mathematical model may take to compute the area of review; the discharger must demonstrate that any equation or simulation used to compute the area of review applies to the hydrogeologic conditions in the area of review.

$$r = \left(\frac{2.25 \text{ K H t}}{\text{ s 10}^{\text{x}}}\right)^{\frac{1}{2}}$$

Where:

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Km

$$x = \frac{477 \text{ KH } (H_w - H_{bo}) \times S_p G_b}{2.3 \text{ Q}}$$

r = Radius of the area of review for an effluent disposal well or in situ extraction well (length)

- K = Hydraulic conductivity of the injection zone (length/time)
- H = Thickness of the injection zone (length)
- t = Time of injection (time)
- S = Storage coefficient (dimensionless)
- Q = Injection rate (volume/time)

- = Observed original hydrostate head of injection zone (length) measured from base of the lowest aquifer containing ground water of 10,000 mg/1 or less TDS
- H = Hydrostatic head of underground source of drinking water (length) measured from the base of the lowest aquifer containing ground water of 10,000 mg/1 or less TDS
- S G = Specific gravity of fluid in the injection zone (dimensionless)

 \mathcal{H} = 3.142 (dimensionless)

The above equation is based on the following assumptions:

- (a) The injection zone is homogenous and isotropic;
- (b) The injection zone has infinite areal extent;
- (c) The effluent disposal well or in situ extraction well penetrates the entire thickness of the injection zone;
- (d) The well diameter is infinitesimal compared to "r" when injection time is longer than a few minutes; and
- (e) The emplacement of fluid into the injection zone creates an instantaneous increase in pressure.

5-205. CONSTRUCTION REQUIREMENTS.

A. General Construction Requirements Applicable to Effluent Disposal Wells and In Situ Extraction Wells.

1. Construction of all effluent disposal wells and all new in situ extraction wells shall include casing and cementing. Prior to well injection, the discharger shall demonstrate that the construction and operation of:

(a) Effluent disposal wells will not cause or allow movement of fluids into ground water having 10,000 mg/l or less TDS except for fluid movement approved pursuant to Section 5-103;

(b) In situ extraction wells will not cause or allow movement of fluids out of the injection zone into ground water having 10,000 mg/1 or less TDS except for fluid movement approved pursuant to Section 5-103.

2. The construction of each newly drilled well shall be designed for the proposed life expectancy of the well.

3. In determining if the discharger has met the construction requirements of this section and has demonstrated adequate construction, the director shall consider the following factors:

(a) Depth to the injection zone;

(b) Injection pressure, external pressure, annular pressure, axial loading, and other stresses that may cause well failure;

(c) Hole size;

(d) Size and grade of all casing strings, including wall thickness, diameter, nominal weight, length, joint specification, and construction material;

(e) Type and grade of cement;

(f) Rate, temperature, and volume of injected

fluid;

2

(g) Chemical and physical characteristics of the injected fluid, including corrosiveness, density, and temperature;

(b) Chemical and physical characteristics of the formation fluids including pressure and temperature;

(i) Chemical and physical characteristics of the receiving formation and confining zones including lithology and stratigraphy, and fracture pressure; and

(j) Depth, thicknesses and chemical characteristics of penetrated formations which may contain ground water.

То demonstrate adequate construction, 4. appropriate logs and other tests shall be conducted during the drilling and construction of new effluent disposal wells or in situ extraction wells or during work-over of existing wells in preparation for reactivation or for change to injection use. A descriptive report interpreting the results of such logs and tests shall be prepared by a knowledgeable log analyst and submitted to the director for review prior to well injection. The logs and tests appropriate to each type of injection well shall be based on the intended function, depth, construction and other characteristics of the well, availability of similar data in the area of the drilling site and the need for additional information that may arise from time to time as the construction of the well progresses.

(a) The discharger shall demonstrate through use of sufficiently frequent deviation checks, or another equivalent method, that an effluent disposal well or in situ extraction well drilled using a pilot hole then enlarged by reaming or another method, does not allow a vertical avenue for fluid migration in the form of diverging holes created during drilling.

(b) The director may require use by the discharger of the following logs to assist in characterizing the formations penetrated and to demonstrate the integrity of the confining zones and the lack of vertical avenues for fluid migration:

(i) For casing intended to protect ground water having 10,000 mg/1 or less TDS:

(A) Resistivity, spontaneous potential, and caliper logs before the casing is installed; and

(B) A cement bond, or temperature log after the casing is set and cemented.

(ii) For intermediate and long strings of casing intended to facilitate injection:

(A) Resistivity, spontaneous potential, porosity, and gamma ray logs before the casing is installed;

6

(B) Fracture finder or spectral

logs; and

(C) A cement or temperature log after the casing is set and cemented.

5. In addition to the requirements of Section 5-102, the discharger shall provide notice prior to commencement of drilling, cementing and casing, well logging, mechanical integrity tests, and any well work-over to allow opportunity for on-site inspection by the director or his representative.

B. Additional Construction Requirements for Effluent Disposal Wells.

1. All effluent disposal wells shall be sited in such a manner that they inject into a formation which is beneath the lowermost formation containing, within one quarter mile of the well bore, ground water having 10,000 mg/l TDS or less except as approved pursuant to Section 5-103.

2. All effluent disposal wells shall be cased and cemented by circulating cement to the surface.

3. All effluent disposal wells, except those municipal wells injecting noncorrosive wastes, shall inject fluids through tubing with a packer set in the annulus immediately above the injection zone, or tubing with an approved fluid seal as an alternative. The tubing, packer, and fluid seal shall be designed for the expected length of service.

(a) The use of other alternatives to a packer may be allowed with the written approval of the director. To obtain approval, the operator shall submit a written request to the director which shall set forth the proposed alternative and all technical data supporting its use. The director may approve the request if the alternative method will reliably provide a comparable level of protection to ground water. The director may approve an alternative method solely for an individual well or for general use.

(b) In determining the adequacy of the specifications proposed by the discharger for tubing and packer, or a packer alternative, the director shall consider the following factors:

(i) Depth of setting;

(ii) Characteristics of injection fluid (chemical nature or characteristics, corrosiveness, and density);

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(iii) Injection pressure;

(iv) Annular pressure;

(v) Rate, temperature and volume of

(vi) Size of casing.

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njected fluid; and

5-209.

MUGGING AND ABANDONMENT.

A. The discharger shall submit as part of the discharge plan, a plan for plugging and abandonment of an effluent disposal well or an in situ extraction well that meets the requirements of Subsections 3-109.C. and 5-101.C. for protection of ground water. If requested, a revised or updated abandonment plan shall be submitted for approval prior to closure.

B. Prior to abandonment of a well used in an effluent disposal or in situ extraction operation, the well shall be plugged in a manner which will not allow the movement of fluids through the well bore out of the injection zone or between other zones of ground water. Cement plugs shall be used unless a comparable method has been approved by the director for the plugging of in situ extraction wells at that site.

C. Prior to placement of the plugs, the well to be abandoned shall be in a state of static equilibrium with the mud weight equalized top to bottom, either by circulating the mud in the well at least once or by a comparable method approved by the director.

D. Placement of the plugs shall be accomplished by one of the following:

1. The Balance Method; or

2. The Dump Bailer Method; or

3. The Two-Plug Method; or

4. An equivalent method with the approval of the director.

E. The following shall be considered by the director in determining the adequacy of a plugging and abandonment plan.

1. The type and number of plugs to be used;

2. The placement of each plug, including the elevation of the top and bottom;

3. The type, grade and quantity of cementing slurry to be used;

4. The method of placement of the plugs;

the well; and

5. The procedure to be used to plug and abandon ; and

6. Such other factors that may affect the adequacy of the plan.

F. The discharger shall retain all records concerning the nature and composition of injected fluids until five years after completion of any plugging and abandonment procedures.

STATE OF NEW MEXICO



14

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

GOVERNOR

December 15, 1986

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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Nr. Alan W. Ralston Apollo Oil Company P. C. Box 1737 Hobbs, New Mexico 88240

RE: Discharge Plan GW-36 Apollo Oil Company State "E" Tract 18 Wells #21 and #22

Dear Mr. Ralston:

The ground water discharge plan (GW-36) for the Apollo Oil Company State "E" Tract 18 wells #21 and #22 Class I effluent (non-hazardous) injection wells, and associated surface facilities located in the NE/4 of Section 2, Township 17 South, Range 36 East (NMPM), Lea County, New Mexico, is hereby approved with the following provisions:

- 1. To prevent corrosion and provide maximum protection for the casing, injection shall be through plastic lined tubing with a packer set no more than 100 feet from the bottom of the long-string casing.
- 2. The casing-tubing annulus shall be filled with an inert fluid, and a minimum pressure of 100 psi maintained pursuant to WQCC 5-206.B.2.
- 3. Continuous monitoring devices shall be installed to provide a record of injection pressure (vacuum), flow rate, flow volume and annular pressure, pursuant to N.M. WQCC 5-207.B.2. Such devices shall be installed prior to injection of any industrial effluent.
- 4. Monthly reports of the disposal of produced water shall be submitted in accordance with Rules 704 and 1120 of the Division Class II Rules and Regulations.
- 5. For wastes other than produced water, the operator shall keep and make available for inspection, records for each calendar month on the source, location, volume and type of waste, date of disposal and pipeline or hauling company that disposes of fluids or materials in the facility. Such records shall be

and the

maintained for a period of two years from the date of disposal. This requirement is pursuant to WQCC 3-107.A. and is needed to track the types and volumes of waste received by the facility.

- 6. The operator shall provide a representative analysis of the injected fluids quarterly pursuant to WQCC 5-208.A.2(a). Constituents to be analyzed for will be determined by the type of effluent received and will be determined through coordination with the OCD and the operator when specific types and sources of effluent are identified.
- Mechanical integrity for each effluent disposal well shall be demonstrated yearly during the life of the well pursuant to WQCC 5-207.A. and Apollo letter of November 25, 1986. The type of test shall be approved by the Division and witnessed by an OCD respresentative.
- 8. The injection well or system shall be equipped with a pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than the requested 1650 psi injection pressure.
- 9. The operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer in the wells or the leakage of water from around said wells, or associated surface facility, and take such steps as may be timely and necessary to correct such failure or leakage pursuant to WQCC 5-208.A.1.
- 10. Pursuant to WQCC 5-208.2, the following quarterly reports will be submitted to the Director:
 - a) The analyses as required in (6) above.
 - b) Monthly average, maximum and minimum values for injection pressure, flow rate and volume, and annular pressure.
 - c) Any well workover.

The discharge plan was submitted pursuant to Section 3-106 of the New Mexico Water Quality Control Commission Regulations. It consists of the application dated September 17, 1986, and a supplement dated November 25, 1986. It is approved pursuant to Section 3-109.C. which provides for the possible future amendments of the plan. Please be advised that the approval of this plan does not relieve you of liability should your operation result in actual pollution of surface or ground waters which may be actionable under other laws and/or regulations.

Please note that Section 3-104 of the regulations requires that "when a plan has been approved, discharges must be consistent with the terms and conditions of the plan." Pursuant to Section 3-107.C., you are required to

Page 3

notify the Director of any facility expansion or process modification that would result in any change in the discharge of water quality or volume. You are further required to notify the Director prior to the receipt of any industrial effluent.

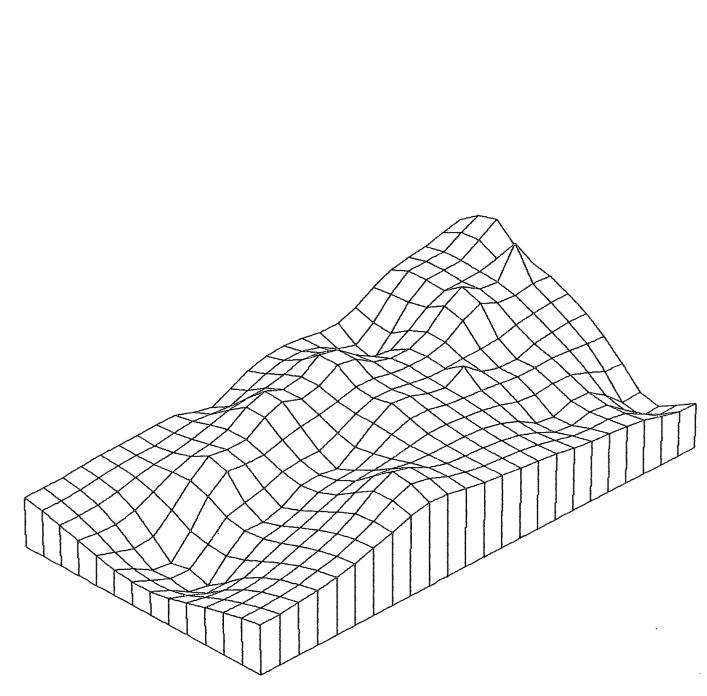
On behalf of the staff of the Oil Conservation Division, I wish to thank you and your staff for your cooperation during this discharge plan review.

Sincerely; STAMETS

R. L. STAMET: Director

RLS:RCA:dp

cc: OCD, Hobbs Joe Ramey, Hobbs James E. Snipes, Lovington



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OIL CONSERVATION DIVISION

5 1986

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DEC -

NEW MEXICO OIL CONSERVATION COMMISSION

NOTIFICATION OF FIRE, BREAKS, SPILLS, LEAKS, AND BLOWOUTS

| ADDRESS ADDRESS | | | | | | | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------|------------|--------------------|-----------|----------|---------------------|--------|-----------|-----------------------|-------------|--|
| OPERATOR Apollo Oil Company Box 1737, Hobbs, N.M. 88240 | | | | | | | | | | |
| REPORT OF | FIRE | BREAK | SPILL | LEAK XX | BLOWOUT | | OTHER* | | | |
| TYPE OF | DRLG | PROD | ANK P | J | | 0IL | OTHER* | | | |
| FACILITY | WELL | WELL E | | | | RFY | 0 | | | |
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| FACILITY | | C. S. Ca | | | | | | · | | |
| LOCATION O | | | | 2 NW/4 | | SEC. 6 | TWP.17 | s ^{RGE} .37E | COUNTY | |
| TER SECTION | | | 110N | | 1 | | 1 | 1 | 'Lea | |
| DISTANCE AND DIRECTION FROM NEAR- Approximately one mile southwest of the EST TOWN OR PROMINENT LANDMARK Southern Union Refinery. | | | | | | | | | | |
| DATE AND HO | <u>qui</u> | | | | DATE AND | HOUR | 11-19-86 | 1.00 |) P.M. | |
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| BY | | ŧ | | | DATE | | 20.00 | 1.00 D M | | |
| MII011 - | ollo Oil | Company | | | AND HOUR | \ | -20-86 | 1:00 P.M. | 1 | |
| TYPE OF FLUID LOST | Oil | - | | | QUANTITY OF LOSS | 24 k | obls. | VOLUME RI COVERED | - 14 bbls. | |
| DID ANY FL | | H YES | NO | QUANTIT | (| | | | | |
| A WATERCOU | | | XX | <u> </u> | - <u> </u> | | <u>lu</u> | | | |
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| DESCRIBE CAUSE OF PROBLEM AND REMEDIAL ACTION TAKEN** | | | | | | | | | | |
| Leak in the sump drain line; repaired it and blocked it off. | | | | | | | | | | |
| | | | | | | | | | | |
| | | | | | | | | | | |
| DESCRIBE AREA AFFECTED AND CLEANUP ACTION TAKEN** | | | | | | | | | | |
| | | | | | | | | | | |
| Oil leaked into the area inside the fence at the Tank Battery; vacuum truck called to vacuum up oil. Covered the area with sand. | | | | | | | | | | |
| vacuum u | p orr. (| | e alea wi | ui saiu. | | | | | | |
| DESCRIPTIO | | ARMING | | <u></u> | | PO | THER* | ····· | | |
| OF AREA | N F | ARMING | GRAZIN | u | URBAN | 0 | Inck^ Ins | side the t | fenced T.B. | |
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| DESCRIBE G | ENERAL CO | NDITIONS PR | REVAILING | (TEMPERA | TURE, PRE | CIPITA | TION, ETC | .)** | | |
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| I HEREBY CERTIFY THAT THE INFORMATION ABOVE IS TRUE AND COMPLETE TO THE BEST OF MY | | | | | | | | | | |
| KNOWLEDGE AND BELIEF | | | | | | | | | | |
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| *SPECIFY | | **A1 FACH | ADDITIONA | L SHEETS | IF NECES | SARY | | | | |



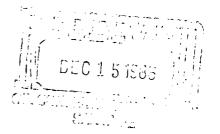
From

BONNIE PRICHARD District I - UIC Coordinator December 12, 1986

To Roger Anderson

As per your conversation with Eddie Seay, we are enlosing copies of the tests conducted on the Apollo Oil Company Wells No. State E Tract 18 SWD 21-N, 2-17-36 and State E Tract 18 SWD 22-G 2-17-36.

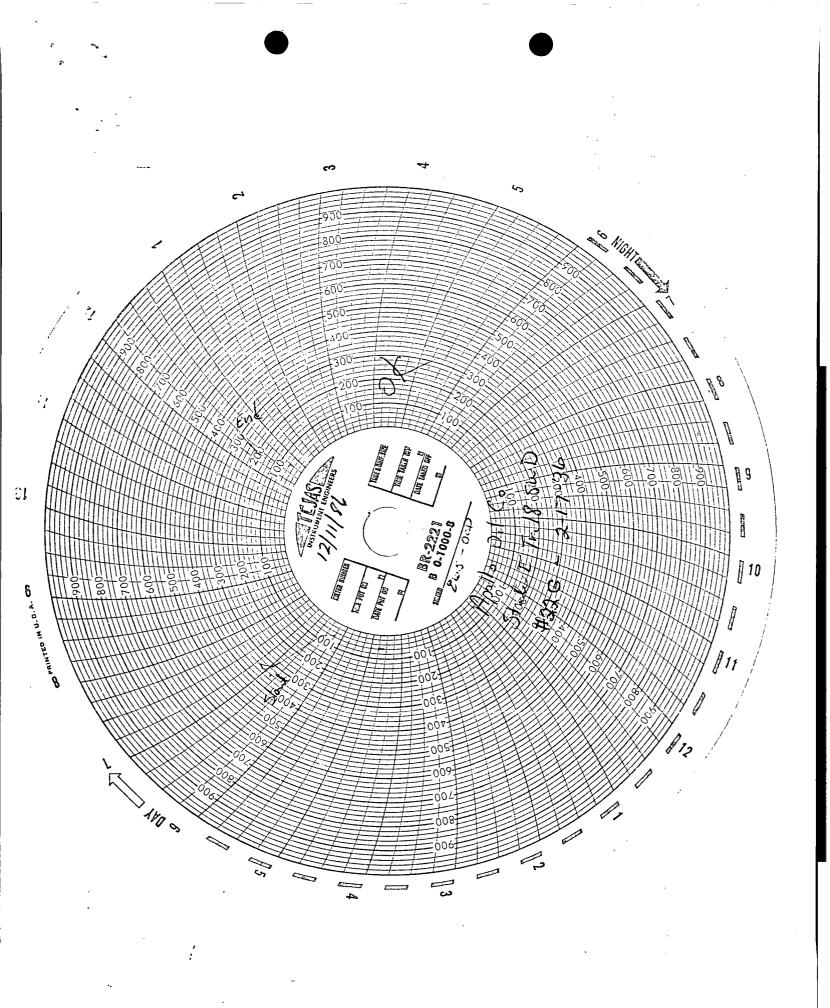
If you need further information, please advise.



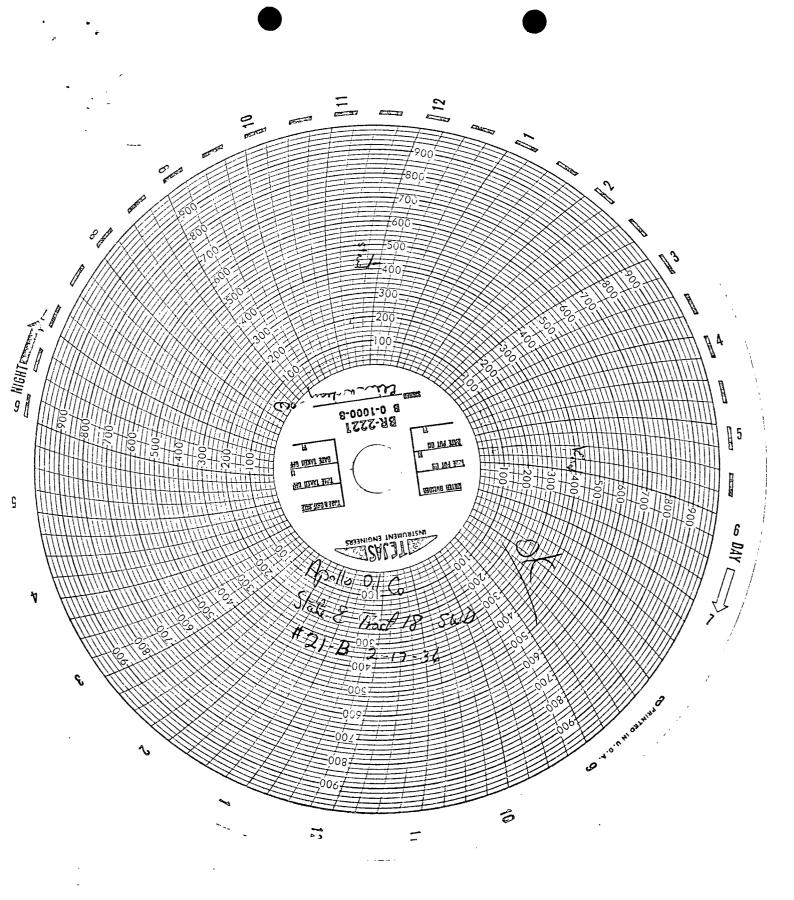
Oil Conservation Division PO Box 1980, Hobbs, New Mexico 88240

OIL CONSERVATION DIVISION CASING--BRADENHEAD TEST 0 aho 330-9000' (0 Poo1/FM Unit use Name State, Er 18 SWD Ne11#22 Letter 2 Sec 2 Twp 17 Rge 36 Inj. Press Limit 1650 Order # 19-6461 Sectors Test Oper. 0CD 9 q Rep Date Rep. CCC Charters (25) TOC CASING STRING Size Set At Cemented Pressure Remarks 1985 1338 266' 2752 SURFACE OOplanto 25 9/8 3287' 300 ay INTERMEDIATE \bigcirc Ophow to \$5 5 2 8330 835 at PRODUCTION 6 9~fl 248264au 23/8 8272' P.K. 14 10 TUBING If well is on Vacuum: SI _____Min. The Press 14" Csg: Vacuum _____ Static Test Reviewed by BY Approximately how many hours a day is the well used _____ wal pust in use of the Time Remarks 1982 - ran caginap log to 8150 porta at 3700 4 ago w/150 OCD Test **Oper** Rep Date Rep. TOC Size Set At Cemented Pressure CASING STRING Remarks SURFACE INTERMEDIATE PRODUCTION TUBING If well is on Vacuum: SI_____Min. Tbg Press_____ Csg: Vacuum _____ Static_____ Approximately how many hours a day is the well used ______ Test Reviewed by:_____ Remarks: Test 000 **Oper** Date Rep. Rep TOC · · Size Set A+ Gemented Pressure Remarks CASING STRING SURFACE INTERMEDIATA. PRODUCTION . TUBING If well is on Vacuum: S1_____Min Tbg.Press_____Csg: Vacuum_____Static_____ Approximately how many hours a day is the well used ______ Test Reviewed by:_____ Remarks _

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OIL CONSERVATION DIVISION CASING--BRADENHEAD TEST ho. OPERATOR: Pool/FM Unit Lease Hame Xtato Letter K Sec Z Twp /7 Rge 36 18.54/ Well#21 Inj. Press Limit 1675 Onder # 17-5855 Footage Test Oper. 0CD Rep Date Rep. TOC CASING STRING Size Set At Comented Pressure Remarks 33/8 .1751 275 SURFACE 9% 3300 3000 INTERSEDIATE 30 839/1 550 PRODUCTION 12, 100 t, 30 secto 2% 8367' F.K. TUBING Q"7/ac Vac If well is on Vacuum: SI <u>20</u> Min. The Press <u>9 Vac</u> Csg: Vacuum <u>~</u> Static Test Approximately how many hours a day is the well used Reviewed by: ter 20 min Everything the Remarks_117 Bhbs/day a BHT DK S. Dayy nord * 1979 Ke-cement 710 Oper Rep. OCD Test Date 9/9 Rep TOC CASING STRING Set At Cemented Pressure Remarks Size 275 275 SURFACE <u>9% 3300 300sy</u> INTERMEDIATE 8391' 550 AV PRODUCTION ()8367'-P.R. 2/2 TUBINC If well is on Vacuum: SI _____ Min. Tbg Press the Csg: Vacuum _____ Static_ Approximately how many hours a day is the well used _____ Test Reviewed by: $\underline{\mathcal{B}}$ 0.P Remarks: Well not being und 10 discharge Plan attacheds Test **Oper** OCD Date Rep Rep. TOC 🕔 🕚 CASING STRING Size Set At Cemented Pressure Remarks SURFACE INTERMEDIATE PRODUCTION TUBING If well is on Vacuum: SI_____Min Tbg.Press_____Csg: Vacuum_____Static_____ Approximately how many hours a day is the well used ______ Test Reviewed by:_____ Remarks



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NCTICE OF PUBLICATION STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following proposed discharge plan has been submitted for approval to the Director of the Oil Conservation Division, State Land Office Building, P. O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505) 827-5800:

(GW-36) Apollo Oil Company, Alan Ralston, owner, P. O. Box 1737, Hobbs, New Mexico 88240, proposes to reclassify their State "E" Tract 18 Well No. 21 and Well No. 22 from Class II salt water disposal wells to Class I effluent disposal (nonhazardous) wells. The disposal facility is located in the NE/4 of Section 2, Township 17 South, Range 36 East (NMPM), Lea County, New Mexico. Up to 10,000 barrels (420,000 gallons) per day of produced water and/or non-hazardous refinery effluent will be disposed of through the two disposal wells into the Abo formation at a depth from 8300 to 9100 feet. Discharge concentrations are expected to range between 1200 and 45,000 mg/l total dissolved solids. The approximate total dissolved solids concentration of formation fluids is 45,000 mg/l. The discharge plan addresses current and proposed construction, operation and monitoring of the wells and associated surface facility, and provides a contingency plan in the event of spills, leaks and other unauthorized discharges to ground water. Protectable ground water most likely to be affected in the event of unauthorized discharge is at a depth of approximately 60 feet with a total dissolved solids concentration of approximately 892 mg/l.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN Under the Seal of the New Mexico Oil Conservation Commission at Santa Fe, New Mexico on this 30th day of September, 1986. To be published on or before October 10, 1986.

OIL CONSERVATION DEVISION R. L. STAMETS Director

STATE OF NEW MEXICO

SEAL

Page One

Discharge Plan Application GW-36 Discussion Sheets

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Exhibit A denotes the location of the only watercourse that would be affected in the event of a major spill, in excess of the capacity of the berm around the battery, or a rupture of the injection line. The feature is a depression locally referred to as a "buffalo wallow" with a size of approximately 5-8 acres and a capacity of around 80,000 barrels.

In the event of a spill due to equipment malfunction or line rupture, the system will be shut down until repairs are made and vacuum trucks will be employed to pick up any injection fluid spilled.

The entire system will be physically checked by company personnel twice daily. Injection pressures and annular pressure of the wells will be noted and any abnormalities reported immediately. Mechanical Integrity Tests will be conducted every five years, or at intervals required by the Division, by pressuring the tubing-casing annulas. Volumes injected in the wells will be continually metered and the meter read twice daily. Injection rates will be calculated from these daily readings. Apollo does not anticipate installing continuous metering equipment to record injection pressures and annular pressures at the wells since the twice a day visual inspections should be adequate. However, if the Division requires this in the final Discharge Plan, then eight-day recording meters will be installed at each well.

In the event of a well failure, that well will be shut-in immediately and will not be subject to injection until repairs are made.

The surface facility, Exhibit B, will comprise three tanks: a 750-barrel receiving tank, a 500-barrel injection tank, and a 300-barrel tank for collecting oils, sludges, and tank bottoms which may enter the system. Industrial effluent will enter the system via pipeline to the 750-barrel tank. This tank will have a high level activating float which will be connected to a valve on the pipeline and on the line from the truck terminal. If the fluid level reaches this critical height, then all lines coming into the tank will close; thereby preventing overflow of the receiving tank.

From the receiving tank, the effluent will siphon through a water leg to the 500-barrel injection tank. A high level switch will activate the pump and a low level switch will shut down the pump. Any oils, sludges, etc., will be skimmed off as needed and will be disposed of through Pollution Control.

Line values are in place at each disposal well which gives Apollo the flexibility of injecting into either or both wells. Lines can be tested for leaks by closing both values and pressuring the disposal line to approximately ten pounds. Apollo will test the



Page Two

Discharge Plan Application GW-36 Discussion Sheets

C.

line prior to injecting any industrial effluent and yearly thereafter. The injection lines are four inch PVC and not subject to corrosion.

Injected fluids will enter the Abo reef well below the water-oil contact. It is anticipated that the fluids will migrate within the reef in a circular pattern, mixing with the natural fluids in the reef. Overall, injection in the reef at the Lovington Abo and Vacuum Abo has been greater than withdrawals. Water from trucking operations, from other formations in the area, and for several years from the Southern Union Refinery have more than surpassed the withdrawal of oil from the reservoirs. The Abo reef continues to be an excellent disposal zone despite this. Apollo would anticipate that the fluid levels would rise appreciably in the wells, perhaps to a level of 4000 feet, during maximum injection but not to the extent of requiring pressure to inject the fluids.

The trucking terminal will consist of up to six inlet points. Each point will be secured with a lock and only authorized truckers will be issued a key. A high level shut-down valve will be installed on the inlet line from the truck terminal which will close if the fluid level in the receiving tank reaches the critical height.

Mechanical integrity tests will be conducted on the wells by December 5, 1986. Pressure will be applied on the annular space between the long string of casing and the injection tubing and will establish the integrity of the casing, tubing and packers in the wells.

The Hobbs District Office will be notified prior to conducting the mechanical integrity tests so that they may witness the tests and results will be immediately submitted to the Division's Santa Fe office. After the December initial test, yearly mechanical tests will be conducted on the wells.

Exhibit C is a revised wellbore arrangement of Well #21. The original Exhibit for this well indicated a cement top of 8250 feet on the long string. An Acoustic Freepipe Locator Log run on January 30, 1979, indicated cement to 4814 feet. The well is essentially cemented from 8391 feet to the base of the intermediate casing at 3300 feet. The intermediate casing does not have cement over the interval from 1500 feet to the surface casing shoe at 269 feet. There is no safe and reasonable way to cement this interval at this time. The risk involved in perforating two strings of casing and cementing through the perforations does not justify the risk of collapsing casing or ending up with perforations which cannot be effectively squeezed. The interval open is in the red bed section and it would be reasonable to assume that these red beds have sloughed off and have filled the area making it virtually impermeable to fluid



Page Three

Discharge Plan Application GW-36 Discussion Sheets

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movement. Also, static fluid levels were shot on the wells on November 12, 1986, and levels were found at 8029 feet in Well #21 and at 7998 feet in Well #22. At maximum injection rates, Apollo would not anticipate fluid levels close to the 1500 foot level.

Samples of the injected fluid will be collected and analyzed as soon as possible and the results forwarded to the Division's Santa Fe Office. A quarterly analysis will be submitted thereafter.

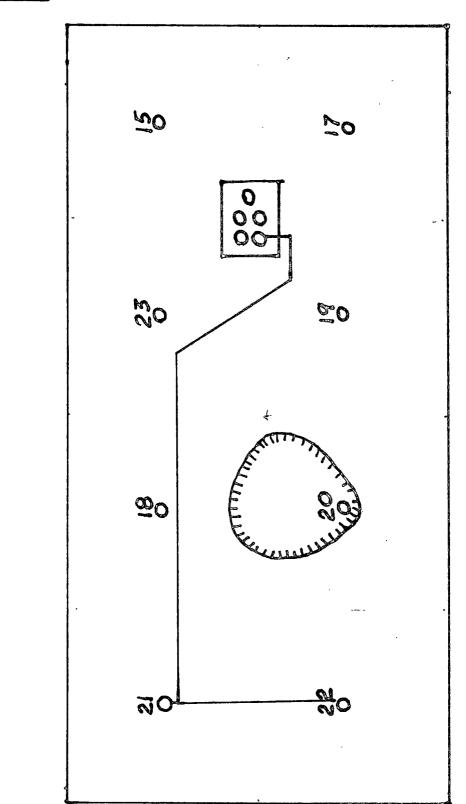
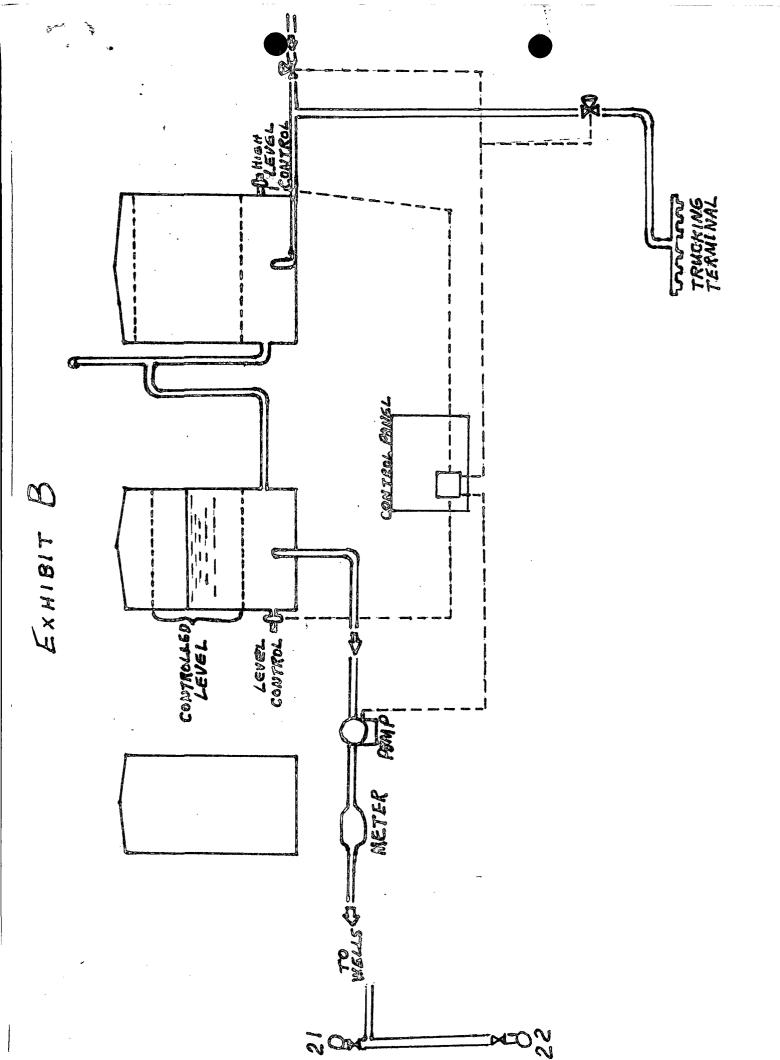
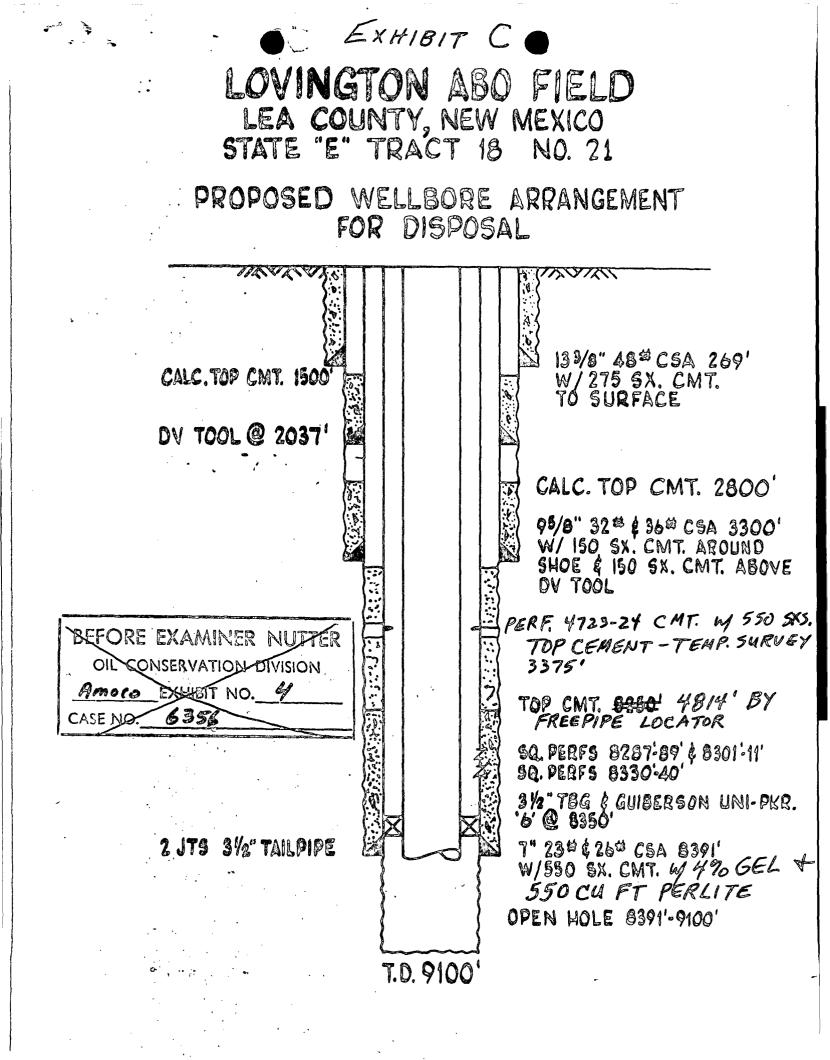


EXHIBIT A

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P. O. BOX 1737 HOBBS, NEW MEXICO 88240 505-393-2273



Re: State 'E' Tract 18 Wells #21 and #22Discharge Plan Application GW-36

New Mexico Oil Conservation Division Box 2088 Santa Fe, New Mexico 87501-2088

Attn: Roger C. Anderson

Dear Sir:

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Attached are discussion sheets and exhibits, which you requested in your letter of November 4, 1986, to complete Discharge Plan Application GW-36.

Should you require further information, please advise.

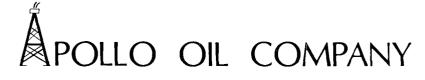
Yours truly,

Alan W. Ralston

Owner

AWR:md Attachments

cc: Hobbs-OCD James E. Snipes, Lovington File



November 17, 1986

P. O. BOX 1737 HOBBS, NEW MEXICO 88240 505-397-4611

State 'E' Tract 18, Well #21 fluid level as of 11-12-86. Unit Letter B, Section 2-175-36E Fluid level was 259 joints from surface. 259 joints x 31' per joint = a fluid level of 8029' from surface.

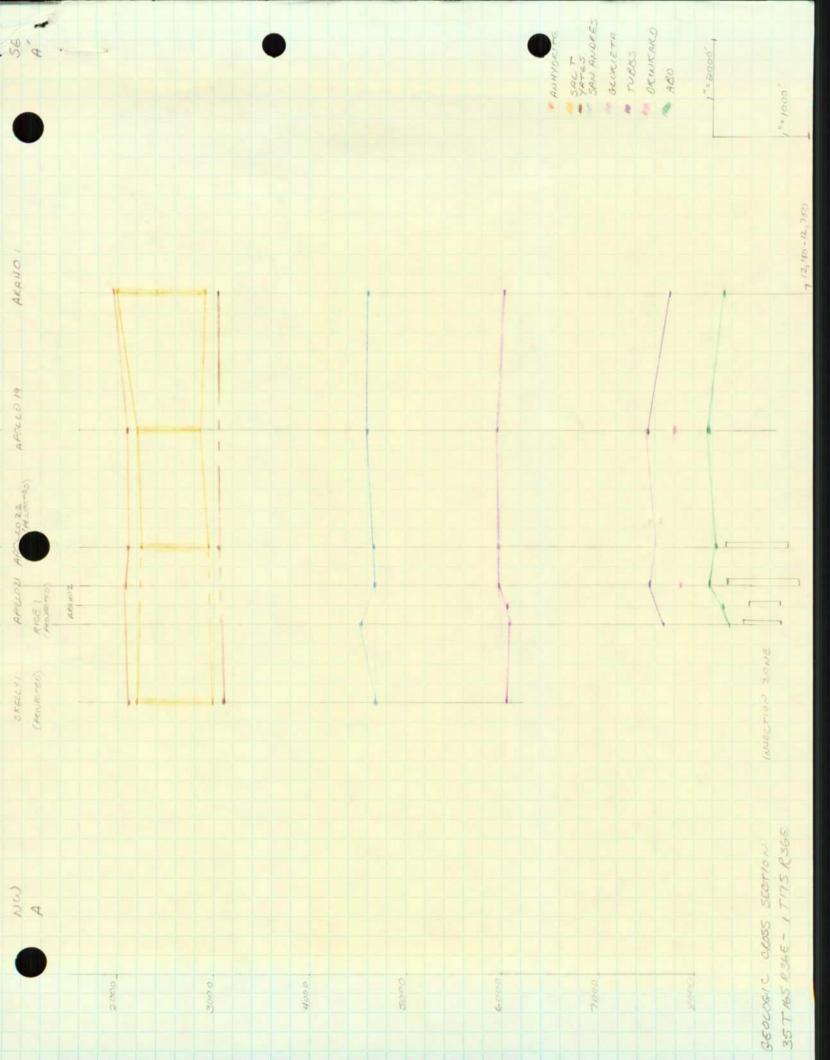


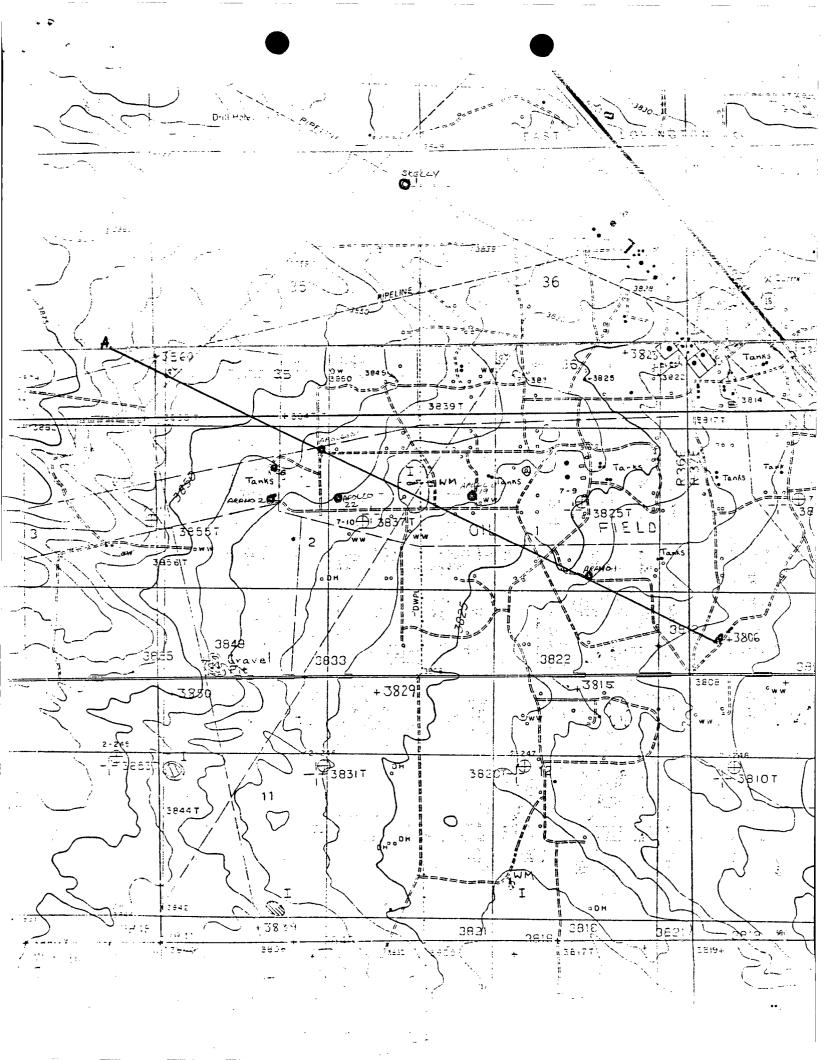
P. O. BOX 1737 HOBBS, NEW MEXICO 88240 505-397-4611

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State 'E' Tract 18, Well #22 fluid level as of 11-12-86. Unit Letter G, Section 2-17S-36E

Fluid level was 258 joints from surface. 258 joints x 31' per joint = a fluid level of 7998' from surface.





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ATTACH SEPARATE SHEET IF ADDITIONAL SPACE IS NEEDED

I hereby swear or affirm that the information given herewith is a complete and correct record of the well and all work done on it so far as can be determined from available records.

August 19, 1953

(Date) Oil and Gas Co. Address Box 68 - Hobbs, New Mexico Stanolind or Operator. Naug zullickon Position or Title.....Field...Superintendent

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If onl'stom or other special tests or actiation surveys were made, submit report in separate (sees and attach hereto

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| Cable too | is were us | ed from | feet to | fcet, a | nd from | ••••••••••••••••••••••••••••••••••••••• | feet to | feet. |
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ATTACH SEPARATE SHEET IF ADDITIONAL SPACE IS NEEDED

I hereby swear or affirm that the information given herewith is a complete and correct record of the well and all work done on it so far as can be determined from available records.

Hobbs, New Mexico March 10, 1951

. . .

The Ohio Oil Company Comp from Name.

Address P. O. Box 2107, Hobbs, New Maxico

Position or Title_____Superintendent

STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION



TONEY ANAYA GOVERNOR

November 4, 1986

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

CERTIFIED MAIL RETURN RECEIPT REQUESTED

Mr. Alan W. Ralston Apollo Oil Company P. C. Box 1737 Hobbs, N. M. 88240

RE: DISCHARGE PLAN APPLICATION GW-36 APOLLO OIL COMPANY STATE "E" TRACT 18 . WELLS #21 AND #22

Dear Mr. Ralston:

The Oil Conservation Division has received, and is in the process of reviewing the above-referenced discharge plan application. The plan submittal, dated September 17, 1986, was received by the OCD on September 22, 1986. Public notice has been issued and the comment period ends November 9, 1986. The following comments and requests for additional information are based on our review of the data provided in the plan and observations from a site inspection field trip conducted August 29, 1986. The discharge plan review and evaluation is pursuant to the requirement to bring the subject wells and their associated surface equipment into compliance with Part 3 (Discharges to Ground Water) and Part 5 (Underground Injection Control) of the New Mexico Water Quality Control Commission (WQCC) Regulations.

General Comments

Our review of the discharge plan, the review of the OCD well files for the subject wells, and the August site visit, indicate that submission of additional information as detailed below is required for further review. Specific monitoring, operating and reporting requirements need to be addressed and clarified.

Although the subject wells fulfill the requirements to be permitted as Class II SWD wells, their construction does not meet the requirements for Class I effluent disposal wells. Certain remedial work and corrective actions will be required prior to injection of any industrial effluent. A commitment to correct remaining deficiencies under a schedule of compliance after industrial effluent injection commences would be considered under limited circumstances.

Specific Comments

- 1) A general description of the geologic and hydrologic conditions was contained in the application. Specific maps and cross sections were omitted. However, in lieu of the submission of these items, the following references as researched by the OCD staff will be incorporated in your discharge plan where available and appropriate:
 - a. Sidney R. Ash, Ground-Water Conditions in Northern Lea County, Hydrologic Investigations Atlas HA-62, USGS, 1963, satisfies the requirement for maps and cross sections indicating the general vertical and lateral limits of all ground waters having 10,000 mg/l or less TDS within the area of review.
 - b. A cross section prepared by J. Bailey, OCD, using OCD well files, drillers logs and log files satisfies the requirement for maps and cross sections detailing the geology and geologic structure of the local area. A copy of this review will be placed in your discharge plan file.
- 2) Please supply the following additional information:
 - a. Locations of any watercourse or body of water within one mile of the discharge site that would be impacted by any accidental and/or unauthorized release of effluent on the surface.
 - b. Information on expected pressure changes, formation fluid displacement, and direction of movement of injected fluids in the injection zone.
 - c. Contingency plans for well failures or shut-ins to prevent movement of fluids to zones other than the approved injection zone.
- 3) A description of the surface facility and a monitoring system was submitted in the plan. Please submit the following information and clarifications:
 - a. A schematic or appropriate drawings of the surface facility from effluent receiving point to wellhead.
 - b. Location, schematics and plans for operation of continuous monitoring devices to be installed and used to provide a record of injection pressure (vacuum), flow rate, flow volume and annular pressures.
 - c. Contingency plans for any unauthorized release resulting from leaks or rupture of a flow line not contained by the proposed berms. What automatic flow shutdown devices will be employed? How will any small leaks be detected? How often will the system be physically checked?

Page 2

- d. Plans and diagrams outlining the security system to prevent unauthorized disposal and/or operation.
- e. What will be the disposition of fluids including oils, sludges and tank bottoms that may be received but cannot be injected?
- 4) As mentioned previously, the subject Class II SWD wells do not meet the more stringent Class I effluent disposal well construction requirements. The following are the minimum requirements for conversion of your Class II SWD wells to Class I effluent disposal (non-hazardous) wells and for associated surface facilities. Additional requirements may be identified and added based on an additional site inspection, test results, and/or public response following public notification. Please submit plans for compliance including expected dates of completion.

Not all items listed below need be completed before injection of industrial effluent. However, prior to such injection, those items listed in Section (a) below must be completed and the results evaluated by OCD prior to injection approval. The items listed in Section (b) below must be completed within six months of the date of any agreement by Apollo to receive such effluent. The items listed in Section (c) below will be performed from onset of injection throughout the period the well is used for injection of industrial effluent.

- a. Prior to injection of any industrial effluent:
 - 1. Static fluid level determination.
 - 2. Mechanical Integrity Test.
 - 3. Installation of continuous monitoring equipment to provide a record of injection pressure (vacuum), flow rate, flow volume, and pressure on the annulus.
 - 4. An analysis of the fluid injected.
 - 5. Well No. 21 will not be allowed to be used for injection of industrial effluent until 4.b.1, 4.b.2, and 4.b.3 below are completed. The well file indicates the production casing is cemented from 8391 to 8250 feet, and from 4723 to 3375 feet leaving the annulus from 4723 to 8250 uncemented. The driller's log places the top of the Abo at 8172 and in the uncemented portion of the annulus potentially allowing the injected fluids to communicate to other zones through the annulus.
- b. Completed within six months:
 - 1. Placement of cement in the annulus between the drilled hole and each string of casing extending from the bottom of the pipe to within the previous string of casing where such cement may not now be present.

- 2. A bond log or temperature survey verifying all casing is cemented so as to fulfill the requirement in b.1 above.
- 3. Performance of a Mechanical Integrity Test after remedial work in b.1 above. Until successful completion of this MIT, all injection shall be on a vacuum.
- 4. Automatic equipment shall be installed to interrupt the flow to the facility in the event of tank overflow.
- 5. Any pits on the facility shall conform to the OCD "Guidelines".
- c. During the period the well is used for injection of industrial effluent:
 - 1. Inject through plastic lined tubing with a packer set no more than 100 feet from the bottom of the long string casing.
 - 2. Surface equipment will be secured to prevent unauthorized operation.
 - 3. Surface equipment shall be maintained and have proper berms to contain any leaks or spills.
 - 4. Continuous monitoring of injection pressure (vacuum), flow rate, flow volume, and pressure on the annulus with a monthly summary report to the Division.
 - 5. A quarterly chemical analysis of the injected fluids for those constituents representative of fluid characteristics and required by OCD.

Enforcement Agreement

The wells proposed for reclassification can retain their Class II SWD permit and can continue to be used for produced water disposal pursuant to OCD Rules and Regulations. In the event you plan to receive industrial effluent for disposal prior to discharge plan approval, an enforcement agreement will need to be negotiated as OCD is prohibited from issuing temporary permits for Class I wells.

Prior to injecting any industrial effluent pursuant to such an agreement, the following will be required:

- 1. Static fluid level determination.
- 2. Mechanical Integrity Test.
- 3. Installation of surface monitoring equipment.
- 4. An analysis of the fluid injected.

Page 5

5. Well No. 21 will not be allowed to be used for injection of industrial effluent until 4.b.l, 4.b.2., and 4.b.3 above are completed. The well file indicates the production casing is cemented from 8391 to 8250 feet, and from 4723 to 3375 feet, leaving the annulus from 4723 to 8259 uncemented. The driller's log places the top of the Abo at 8172 and in the uncemented portion of the annulus potentially allowing the injected fluids to communicate to other zones through the annulus.

During the period of an agreement, the following will be required:

- 1. Injection of fluids on a vacuum.
- 2. Continuous monitoring of injection pressure (vacuum), flow rate, flow volume, and pressure on the annulus with a monthly summary report to the Division.
- 3. A quarterly chemical analysis of the injected fluids for those constituents representative of fluid characteristics and required by OCD.

If you have any questions, please do not hesitate to call me at (505) 827-5885.

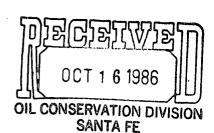
Sincerely,

Inderson

ROGER'C. ANDERSON Environmental Engineer

RCA:dp

cc: Hobbs-OCD James E. Snipes, Lovington



LAW OFFICES OF

A PROFESSIONAL CORPORATION 205 NORTH FIRST STREET P. O. BOX 1565 LOVINCTON, NEW MEXICO 88260 (505) 396-3692

October 1, 1986

Apollo Oil Company P. O. Box 1737 Hobbs, New Mexico 88240

Dear Sir:

This office represents the City of Lovington. In response to your letter, without date and without signature, received September 26, 1986 by the City of Lovington, we need a bit more information.

In checking with the New Mexico Oil Conservation Division for more information, I discovered your notification involves a different township 6 miles to the west of the one you described and is for a type of authority by the division which does not presently exist.

As you know, the City of Lovington has a significant portion of its water wells in the area you are concerned with. Although the City does not wish to complicate your plans, I'm afraid the City does not have adequate information upon which to approve or object to your application. Therefore, please treat this letter as an objection to your plan. To that end, I am sending a copy of this letter to the New Mexico Oil Conservation Commission.

The City of Lovington will try to cooperate with you but we need information upon which to do it. Please forward this office complete copies of your application and plans as well as a reasonable description of the industrial effluents you plan to produce and dispose of in the subject well.

Sincerely, 6. Shipe JAMES E. SNIPES

JES/me

√cc: New Mexico Oil Conservation Commission

apollo well deficiencies wque 5-205, B, 2 # 21 1 Cement not unsulated to Sufere Movement of fluic may not be prevented ta other zous 000 - 702 a) No cement around 53 Srom 4723 to 8250 (3527 ft) T. San andres ط ما خال T. Gloriela 5958 T. Doundrand 7861 7. Tulles ?583 T. A60 8172 Cement does not COVER ENTIRE Atto zouA wacc 1) Cement not circulated to Surg 2) San andres not correct #27 5-205.8.2

UNITED STATES department of the interior FISH AND WILDLIFE SERVICE Field Supervisor ological Services, USFWS Post Office Box 4487 Iquerque, New Mexico 87196 OCT 2 0 1986 October 15, 1986 OIL CONSERVATION DIVISION SANTA FE

R. L. Stamets, Director Oil Conservation Division State of New Mexico State Land Office Building P. O. Box 2088 Santa Fe, New Mexico 87504-2088

Dear Mr. Stamets:

We have reviewed the proposed discharge plan for GW-36, Apollo 0il Company, Hobbs New Mexico. The facitlity is located in the NE 1/4 of Section 2, T17S, R36E, NMPM, Lea County. The discharge plan is for the disposal into two wells of up to 10,000 barrels per day of oil well produce water. We have not identified any resource issues of concern to our agency and have no objection to the discharge plan.

These comments represent the views of the Fish and Wildlife Service. Thank you for the opportunity to comment on the proposed plan If you have any questions concerning our comments please contact Tom O'Brien at (505) 766-3966 or FTS 474-3966.

Sincerely yours John C. Peterson Field Supervisor

cc:

Director, New Mexico Department of Game and Fish, Santa Fe, New Mexico Director, New Mexico Health and Environment Department, Environmental Improvement Division, Santa Fe, New Mexico

Regional Administrator, Environmental Protection Agency, Dallas, Texas Regional Director, FWS, Wildlife Enhancement, Albuquerque, New Mexico

Affidavit of Publication

STATE OF NEW MEXICO)) ss. COUNTY OF LEA)

Joyce Clemens being first duly sworn on oath deposes and says that he is Adv. Director of THE LOVINGTON DAILY LEADER, a daily newspaper of general paid circulation published in the English language at Lovington, Lea County, New Mexico; that said newspaper has been so published in such county continuously and uninterruptedly for a period in excess of Twenty-six (26) consecutive weeks next prior to the first publication of the notice hereto attached as hereinafter shown; and that said newspaper is in all things duly qualified to publish legal notices within the meaning of Chapter 167 of the 1937 Session Laws of the State of New Mexico.

That the notice which is hereto attached, entitled

Notice Of Publication

| and numbered in the |
|------------------------------------------------------|
| |
| County, New Mexico, was published in a regular and |
| entire issue of THE LOVINGTON DAILY LEADER and |
| not in any supplement thereof, once each week on the |
| same day of the week, for One (1) |
| consecutive weeks, beginning with the issue of |
| October 7 19.86 |
| and ending with the issue of |
| |

And that the cost of publishing said notice is the sum of \$.....

| which sum has been (Paid) (Assessed) as Court Costs |
|-----------------------------------------------------------------------------------------------------------------|
| Subscribed and sworn to before me this _22nd |
| day of Ceteber 19.86 |
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| Notary-Public Lea County, New Mexico |
| My Commission Expires, Sept. 28, 19.90 |
| The second se |

LEGAL NOTICE NOTICE OF PUBLICATION STATE OF NEW MEX ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION Notice is hereby given that pursuant to New Mexico Water Quality Control Commission Regulations, the following proposed discharge plan has been submitted for approval to the Director of the Oil Conservation Division, State Land Office Building, P.O. Box 2088, Santa Fe, New Mexico 87504-2088, Telephone (505)827-5800:

(GW-36) Apollo Oil Company, Alan Ralston, owner, P.O. Box 1737, Hobbs, New Mexico 88240, proposes to reclassify their State "E" Tract 18 Well No. 21 and Well No. 22 from Class II salt water disposal wells to Class I effluent disposal (non-hazardous) wells. The disposal facility is located in the NE/4 of Section 2, Township 17 South, Range 36 East (NMPM), Lea County, New Mexico. Up to 10,000 barrels (420,000 gallons) per day of produced water and/or non-hazardous refinery effluent will be disposed of through the two disposal wells into the Abo formation at a depth from 8300 to 9100 feet. Discharge concentrations are expected to range between 1200 and 45,000 mg/1 total dissolved solids. The approximate total dissolved solids concentration of formation fluids is 45,000 mg/1. The discharge plan addresses current and proposed construction, operation and monitoring of the wells and associated surface facility, and provides a contingency plan in the event of spills, leaks and other unauthorized discharges to ground water. Protectable ground water most likely to be affected in the event of unauthorized discharge is at a depth of approximately 60 feet with a total dissolved solids concentration of approximately 892 mg/1.

Any interested person may obtain further information from the Oil Conservation Division and may submit written comments to the Director of the Oil Conservation Division at the address given above. Prior to ruling on any proposed discharge plan or its modification, the Director of the Oil Conservation Division shall allow at least thirty (30) days after the date of publication of this notice during which comments may be submitted to him and a public hearing may be requested by any interested person. Requests for a public hearing shall set forth the reasons why a hearing should be held. A hearing will be held if the Director determines there is significant public interest.

If no public hearing is held, the Director will approve or disapprove the proposed plan based on information available. If a public hearing is held, the Director will approve or disapprove the proposed plan based on information in the plan and information submitted at the hearing.

GIVEN Under the Seal of the New Mexico Oil Conservation Commission at Santa Fe, New Mexico on this 30th day of September, 1986. To be published on or before October 10, 1986.

STATE OF NEW MEXICO OIL CONSERVATION DIVISION R.L. STAMETS Director

(SEAL) Published in the Lovington Daily Leader October 7, 1986.

STATE OF NEW MEXICO County of Bernalillo THOMAS J. SMITHISON

being duly sworn declares and

says that he is NATE ADV. MCR. of the Albuquerque Journal, and that this newspaper is duly qualified to publish legal notices or advertisements within the meaning of Section 3, Chapter 167, Session Laws of 1937, and that payment therefore has been made or assessed as court costs; that the notice, a copy of which is hereto attached, was published in said paper in the regular daily edition,

.,198. ..., 0..., and the subsequent consecutivepublications on Official seal COMMIE MONTOVA Sworn and subscribed to before me, a Notary Public in and for the County of Bernalillo and State of New Mexico, / MOTARY PUBLIC - STATE OF NEW MEXICO this \mathcal{A} day of \mathcal{A} Notary Public Filed with Secretary of StatePRICE 25,77 anne 1 Statement to come at end of month. EDJ-15 (R-2/86) ACCOUNT NUMBER

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STATE OF NEW MEXICO OIL CONSERVATION DIVISION S/R. L. STAMETS Director

Journal, October 9, 1986

AFFIDAVIT OF PUBLICATION

State of New Mexico,

County of Lea.

1. -

Robert L. Summers

of the Hobbs Daily News-Sun, a daily 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 in a supplement thereof for a period

of _

... weeks.

Beginning with the issue dated October 8 86

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and ending with the issue dated

October 8 86 19

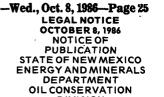
Publisher.

Sworn and subscribed to before

me day of Notary Public.

My Commission expires _ (Seal)

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.



DIVISION

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STATE OF NEW MEXICO OIL CONSERVATION DIVISION R.L. STAMETS Director SEAL

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NOTICE OF PUBLICATION STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

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(GW-36) Apollo Oil Company, Alan Ralston, owner, P. O. Box 1737, Hobbs, New Mexico 88240, proposes to reclassify their State "E" Tract 18 Well No. 21 and Well No. 22 from Class II salt water disposal wells to Class I effluent disposal (nonhazardous) wells. The disposal facility is located in the NE/4 of Section 2, Township 17 South, Range 36 East (NMPM), Lea County, New Mexico. Up to 10,000 barrels (420,000 gallons) per day of produced water and/or non-hazardous refinery effluent will be disposed of through the two disposal wells into the Abo formation at a depth from 8300 to 9100 feet. Discharge concentrations are expected to range between 1200 and 45,000 mg/1 total dissolved solids. The approximate total dissolved solids concentration of formation fluids is 45,000 mg/l. The discharge plan addresses current and proposed construction, operation and monitoring of the wells and associated surface facility, and provides a contingency plan in the event of spills, leaks and other unauthorized discharges to ground water. Protectable ground water most likely to be affected in the event of unauthorized discharge is at a depth of approximately 60 feet with a total dissolved solids concentration of approximately 892 mg/l.

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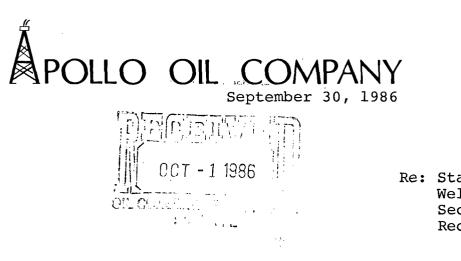
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> STATE OF NEW MEXICO OIL CONSERVATION DIVISION R. L. STAMETS

Director

SEAL



P. O. BOX 1737 HOBBS, NEW MEXICO 88240 505 393-2273

Re: State 'E' Tract 18 Wells #21 and #22 Section 2-17S-36E Reclassification

Attached please find a corrected page to be inserted in the application for reclassification, dated September 17, 1986, for the subject wells.

APOLLO OIL COMPANY

P. O. BOX 1737 HOBBS, NEW MEXICO 88240 505 393-2273

This is to serve as notification of Apollo Oil Company's intent to convert their State "E" Tract 18 Well Nos. 21 and 22 located 660' N & 1650' E and 1650' N&E, respectively, Section 2, Township 17 South, Range 36 East, Lea County, New Mexico, from Salt Water Injection wells (Class II) to Effluent Disposal Wells (Class I). The discharge plan to cover this operation has been filed with the New Mexico Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501.

Copies of the plan may be obtained by calling the above number. Any objection to the plan should be forwarded to the Oil Conservation Division at the above address.

Mobil Prod. Texas & NM Inc. Box 633 Midland, TX 79702

Texaco USA Box 728 Hobbs, NM 88240

Exxon

Box 1600

Marathon Oil Company Box 552 Midland, TX 79702

Midland, TX 79702

Cities Service Oil Company Box 1919 Midland, TX 79701

Amerada Box 2040 Tulsa, OK 74102

City of Lovington

City Manager

Phillips Petroleum Company 4001 Penbrook Odessa, TX 79762

Apollo will dispose of up to 10,000 barrels per day of industrial effluent (non-hazardous) wastes in the Abo formationin the subject wells. The disposal zone will be from around 8300-9100 feet.

APOLLO OIL COMPANY

P. O. BOX 1737 HOBBS, NEW MEXICO 88240 505 393-2273

This is to serve as notification of Apollo Oil Company's intent to convert their State "E" Tract 18 Well Nos. 21 and 22 located 660' N & 1650' E and 1650' N&E, respectively, Section 2, Township 17 South, Range 36 East, Lea County, New Mexico, from Salt Water Injection wells (Class II) to Effluent Disposal Wells (Class I). The discharge plan to cover this operation has been filed with the New Mexico Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501.

Copies of the plan may be obtained by calling the above number. Any objection to the plan should be forwarded to the Oil Conservation Division at the above address.

Mobil Prod. Texas & NM Inc. Box 633 Midland, TX 79702

Texaco USA Box 728 Hobbs, NM 88240

Marathon Oil Company Box 552 Midland, TX 79702 Cities Service Oil Company Box 1919 Midland, TX 79701

Amerada Box 2040 Tulsa, OK 74102

Phillips Petroleum Company 4001 Penbrook Odessa, TX 79762

City of Lovington City Manager

Exxon Box 1600 Midland, TX 79702

Apollo will dispose of up to 10,000 barrels per day of industrial effluent (non-hazardous) wastes in the Abo formationin the subject wells. The disposal zone will be from around 8300-9100 feet.



P. O. BOX 1737 HOBBS, NEW MEXICO 88240 505 393-2273

Re: State 'E' Tract 18 Wells #21 and #22

> Section 2-17S-36E Reclassification



Oil Conservation Division Box 2088 Santa Fe, New Mexico 87504-2088

Attn: David G. Boyer

Dear Sir:

With this application, Apollo Oil Company is seeking to reclassify their State 'E' Tract 18 Well #21, located 660 feet from the North and 1650 feet from the East, and Well #22, located 1650 feet from the North and 1650 feet from the East, both in Section 2, Township 17 South, Range 36 East, Lea County, New Mexico, from a Class II salt water disposal well to a Class I effluent disposal well. Apollo further seeks a discharge plan approval for these effluent disposal wells.

The above wells were approved by Oil Conservation Division Orders No. R-5855 and R-6461 for Amoco Production Company. Apollo has purchased the State 'E' Tract 18 lease, including the disposal wells.

The proposed area of review is one-half mile, since this is the area of review required by the Oil Conservation Division for all salt water disposal wells. There is a total of nine wells, in addition to the two subject wells, within the area of review which penetrated the injection interval. The construction information on all but one of these was submitted as Exhibit No. 7 in Case No. 7009. A copy of this exhibit, plus the information on the other well, is attached. Two of the wells have been plugged and abandoned and schematic diagrams of these are included. Of the nine wells, five are producing oil wells from the Lovington Abo Pool, two are salt water disposal wells, and two are plugged and abandoned. All nine wells are cased, cemented or plugged in such a manner as to prevent the migration of fluid from the Abo formation to any other formation, and particularly into the Ogallala fresh water aquifer.

Apollo will continue to dispose of water produced from wells on the State 'E' Tract 18 lease. The system will also be open to anyone desiring to truck water to the system. A truck terminal with key and sensor system will be installed at the lease tank battery. If refinery effluent is disposed of, a pipeline from the refinery to

Oil Conservation Division

the tank battery will be installed. Although tanks will be regularly inspected and maintained, a fire wall of sufficient height to contain one-half of a day's disposal volume will be constructed and maintained at the battery. In the event of a tank or pump failure, the effluent will be retained within the fire walls around the battery.

Page Two

The receiving tank at the battery is a 750 barrel tank with a water leg. Separation of any oil or sediments will occur in this tank. Water (effluent) will then transfer to a 500 barrel disposal tank. This 500 barrel disposal tank will be equipped with high-low shut-off switches which will activate a pump. This pump forces the water into the pipelines to the two disposal wells. Meters are installed downstream of the pumps and effluent will be continuously measured.

Apollo is presently disposing of around 600 barrels of produced water per day in the two disposal wells. A sample analysis of this water, obtained by Amoco, is attached. Total solids are indicated to be 45,740 mg/l. Possible sources of other effluent would be from the Southern Union Refinery located approximately one mile to the north. When this refinery was in operation, it generated around 6000 barrels per day. A sample of this effluent is not available at this time. However, a representative analysis should be available in their discharge plan approved by the OCD. Other minor sources would be spent acids and caustics used by operators and gasoline plants in the Lea County area.

Since it is known what the chemical composition of the produced waters are, Apollo does not propose to sample the effluent until such time as outside sources materialize. At that time, quarterly grab samples will be taken and analyzed for those constituents deemed appropriate by the OCD.

Apollo anticipates disposing of a maximum of 10,000 barrels of effluent per day through the two wells and into the Abo formation. The present volume of 600 barrels per day is being disposed of on vacuum with Well #21 indicating eight inches and Well #22 fourteen inches of vacuum. The wells should be capable of taking 10,000 barrels per day without pressure. However, a maximum authorized pressure of 1650 psi is requested. This is slightly less than the normal .2 psi per foot and should not result in any formation fracturing. No well stimulation is anticipated. However, should formation plugging be indicated, Apollo would most probably inject acid into the disposal stream to clean the open hole interval and the formation.

The only known source of fresh water in the area is from the Ogallala. The Ogallala is a large aquifer extending about 40 miles north and south and 20 miles west of this area. The depth to the base of the Ogallala is around 240 feet and the formation can be characterized as unconsolidate course sands and gravels. There is an Ogallala water well, which utilizes a windmill for pumping, located NW SW NE of Section 2, around 660 feet southeast of Well #21 and 660 feet northeast of Well #22. A sample analysis of water from this well is attached. Apollo proposes that this well be the monitor

Oil Conservation Division

Page Three

well for this disposal system. A sample will be caught and analyzed every six months for those constituents deemed necessary by the OCD. Water movement in the Ogallala is generally to the southeast.

The Abo disposal zone has a thickness of 700± feet and is described as a gray-white to light brown, fine to medium sucrose dolomite. Porosity ranges from pin point to small vugs. Permeability is / excellent, based on producing characteristics of wells and volumes of water disposed of in nearby Abo disposal wells. The areal extent of the Abo reef in this immediate area is unknown. However, some 46 wells were drilled in this pool indicating an extent of at least 1600 acres. Production from a similar Abo reef occurs in the Vacuum Field some 12 miles west of the Lovington Field. It is quite possible , that the water bearing portion of the Abo reef extends throughout the area between the Lovington and Vacuum Fields. Disposal into the Abo reef at Lovington was initiated by Rice Engineering in the early 1970's and water is still being disposed of without pumping. So the Abo reef, in this area, has to be classified as an excellent disposal zone. Available engineering and geological data has been examined and there is no evidence of open faults or any other hydrologic connection between the disposal zone at around 8300-9100 feet and any underground source of drinking water. The character of the disposal zone and the mechanical integrity of the wells penetrating the zone can only lead to the conclusion that effluent injected into the Abo reef will be contained in the Abo reef. The reef is overlain by the Abo shale which effectively seals the Abo reef.

The disposal wells will be tested for mechanical integrity at least every five years. Yearly bradenhead tests have been conducted by the OCD on the subject wells since 1982 and 1983 and are attached. Mechanical integrity tests were conducted on the subject wells in 1984 as part of the Underground Injection Control program. These tests are also attached.

At the conclusion of operations, the wells will be plugged and abandoned in a manner satisfactory to the Hobbs District Office. A suggested plan at this time is as follows:

- 1. Pull tubing and packer and load hole with mud.
- 2. Install bridge plug above open hole and cap with 25 sacks cement.
- 3. Twenty five sack plugs inside the casing at top Paddock, San Andres, base and top salt, across shoe of surface pipe and at the surface.

Flooding potential at the tank and well sites is remote. The terrain is relatively flat and slopes gently to the southeast. There are several gentle draws which run through the area which effectively carry runoff during heavy thunderstorms. Tank battery and well locations have been elevated, with caliche pads, from six to twelve inches above the natural ground level.



Oil Conservation Division

Page Four

A letter of notification of the filing of this discharge plan has been forwarded by Certified Mail to all leasehold operators and the surface owner, copy attached.

Yours truly,

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Alan W. Ralston

AWR:md

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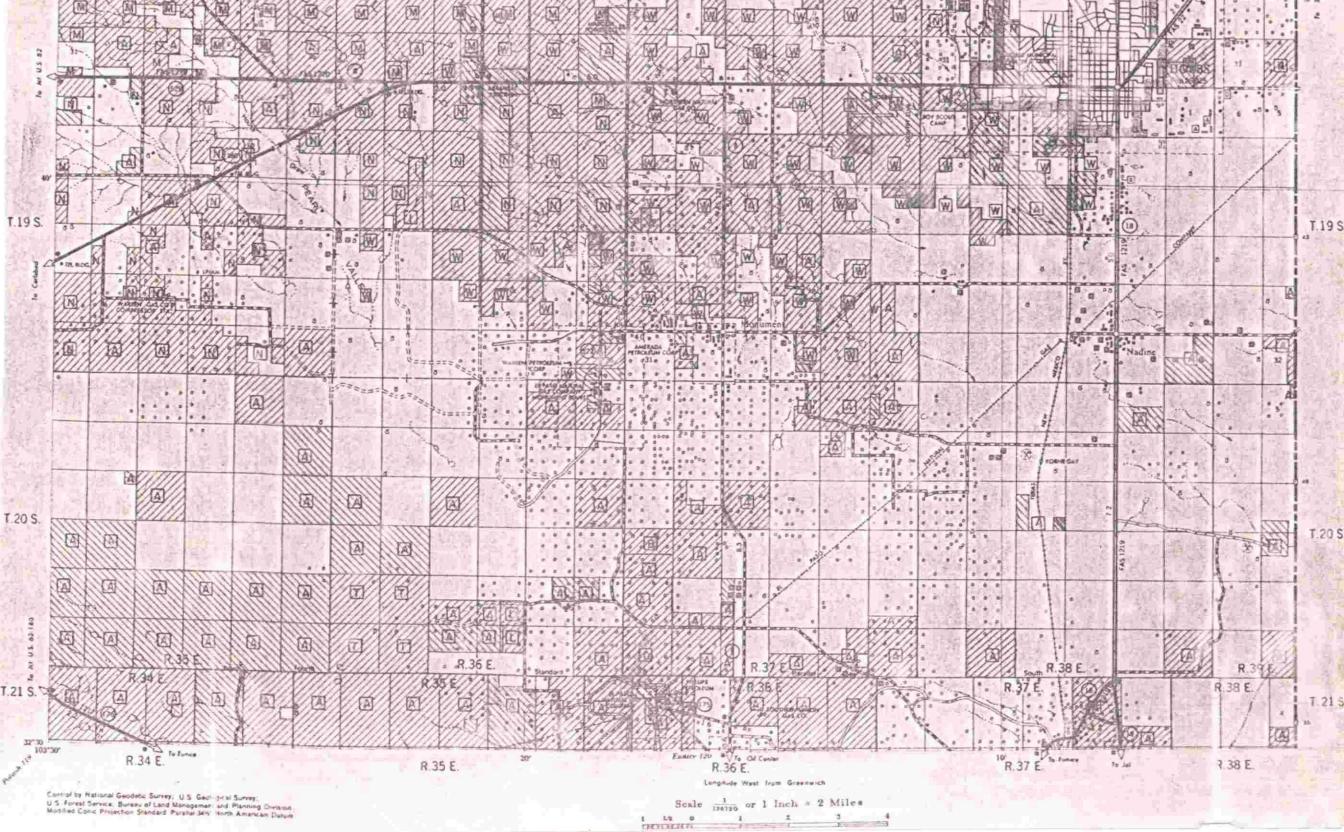
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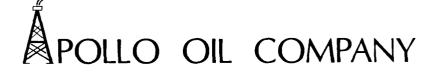
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September 17, 1986

P. O. BOX 1737 HOBBS, NEW MEXICO 88240 505 393-2273



Mr. David G. Boyer Oil Conservation Division P. O. Box 2088 Santa Fe, New Mexico 87504-2088

Dear Mr. Boyer:

Enclosed please find two copies of our proposed discharge plan to cover the operation of Effluent Discharge Wells on the State "E" Tract 18 lease. If you have any questions about the plan or require further information, please contact Mr. Joe D. Ramey at 392-6525.

Yours very truly,

Alan Ralston



P. O. BOX 1737 HOBBS, NEW MEXICO 88240 505 393-2273

CERTIFICATION

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalities for submitting false information including the possibility of fine and imprisonment.

alito Man W. P Alan Ralston

Owner Apollo Oil Company

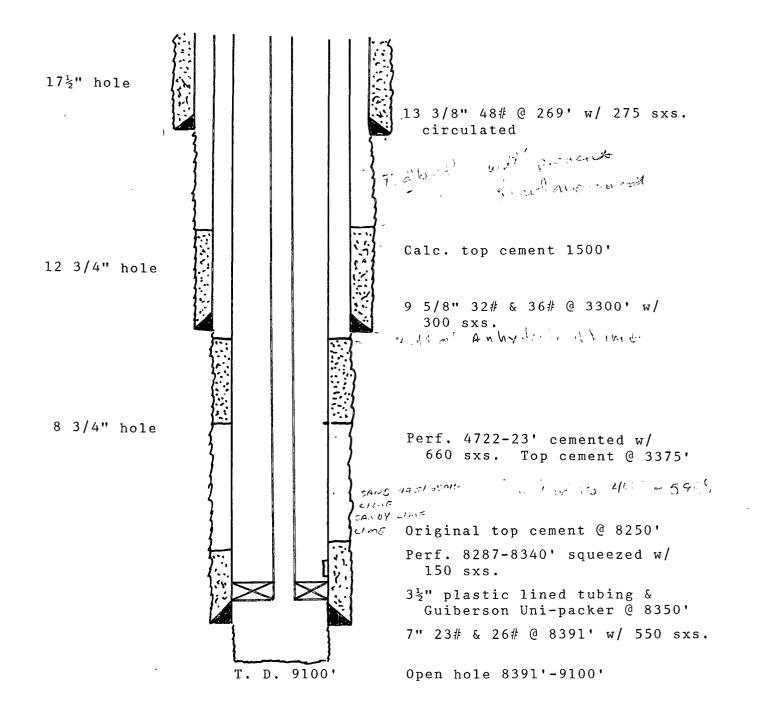
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APOLLO OIL COMPANY STATE "E" TRACT 18 NO. 21

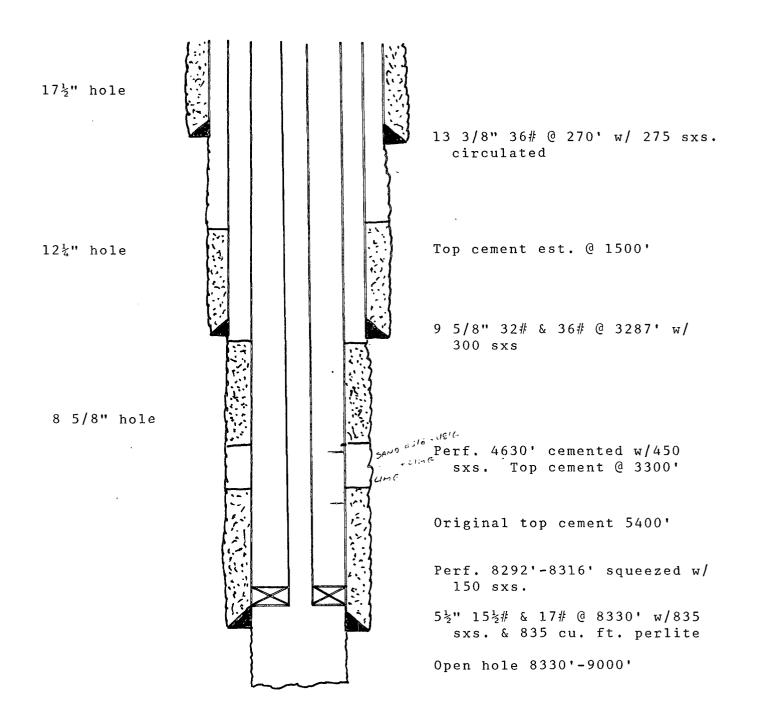
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WELLBORE ARRANGEMENT FOR DISPOSAL



APOLLO OIL COMPANY STATE "E" TRACT 18 NO. 22

WELLBORE ARRANGEMENT FOR DISPOSAL



| ı | n 9 | | | | | | | | | |
|-----------------------------------------------------------------|---------------------------------------------------------------------|-------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------|-------------------------------------------------------------------------|-------------------------------------------------|--------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------|
| | CEMENT TOP | Circ. 1600' 4979' | Circ. 1537 6775 | Circ. 1660' (Calc.) 4128' (Calc.) | Circ. 1500' (Calc.) 3375' | Circ. Circ. (Calc.) 2436' | Circ. (Calc.) Circ. (Calc.) | 2653' (Calc.) Circ. (Calc.) Circ. (Calc.) | 1358' (Calc.) Circ. (Calc.) Circ. (Calc.) 2739' (Calc.) | |
| | SACKS CEMENT | 275 300 550 | 332 300 225 | 300 300 | 275 300 1105 | 635 2800 1000 | 450 1750 | 1400 600 1136 | 800 450 1750 1380 | 325 2150 720 |
| | CASING | 13 3/8" @ 259' 9 5/8" @ 3226' 7" @ 8530' | 13 3/8" @ 266' 9 5/8" @ 3298' 7" @ 8530' | 13 3/8" @ 280' 9 5/8" @ 3299' 7" @ 8520' | 13 3/8" @ 269' 9 5/8" @ 3300' 7" @ 8391' | 11 3/4" @ 336' 8 5/8" @ 5116' 5 1/2" @ 8356' | 13 3/8" @ 349' 9 5/8" @ 3318' | 1/2" 3/4" 5/8" | 1/2" @ 3/8" @ 5/8" @ 1/2" @ | 3/8" @ 5/8" @ 1/2" @ |
| CASING DATA 18 WELL NO. 22 .ICATION | PRODUCING INTERVAL (SUBSEA DEPTH) | Abo: PF 8336' - 8392' (-4488' to -4544') | Abo: PF 8254'-64', 8340'-50' (-4410' to -4420', -4496' to -4506') | Abo: PF 8239'-99', 8338'-48' (-4392' to -4461', -4500' to -4510') | Abo SWD: OH 8391' - 8987' (-4538 to ~-5134') | Abo: PF 8234' - 8268' (-4392' to -4426') | Abo SWD: OH 8528' - 8889' (-4670' to -5301') | PF 6 to - | Abo: OH 8534' - 8858' (-4675' to -4999') | Paddock WI: PF 6194' - 6224', 6292' - 6328' (-2333' to -2363', -2431' to -2467') |
| COMPLETION & CASING STATE "E" TRACT 18 WEL SWD APPLICATIO | CURRENT PBD | 8415 - | 8481' | 8365 ' | 8381 | 8350' | 8889 ' | 6303 ' | 8853 ' | 6343' |
| COI STATE | TOTAL DEPTH | 8530' | 8530 | 8525' | 12868 | 8442' | 8889 ' | 9746' | 8858 ' | - 6906 |
| | LOCATION | 330' FNL & 330' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico | 1650' FNL & 990' FWL Sec. 1, T-17-S, R-36-E Lea County, New Mexico | 1650' FNL & 330' F⊌L Sec. 2, T-17-S, R-36-E Lea County, New Mexico | 660' FNL & 1650' FEL Sec. 2, T-17-S, R-36-E Lea County, New Mexico | 860' FNL & 790' FWL Sec. 1, T-17-S, R-36-E Lea County, New Mexico | 1650' FNL & 2310' FWL Sec. 2, T-17-5, R-36-E | Lea County, New Mexico 1980' FSL & 560' FEL Sec. 2, T-17-5, R-36-E | Lea County, New Mexico 990' FNL & 2310' FWL Sec. 2, T-17-S, R-36-E Lea County, New Mexico | |
| BEFORE EXAMINER STAMETS OIL CONSERVATION DIVISION | CASE NO. 2009 Submitted by Amole Rod. 6. Hearing Date 8/24/60 | AMOCO PRODUCTION CO. State "E" Tr. 18 #18 | State "E" Tr. 18 #19 | State "E" Tr. 18 #20 | State "E" Tr. 18 #21 | State "E" Tr. 18 #23 | ARAHO, INC. State WD-2 | GETTY Lovington Paddock Unit WI-62 | RICE ENGINEERING State WD #1 | PHILLIPS Lovington #2 |

| CASING DATA | A OF REVIEW |
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| COMPLETION | WELLS WITHIN |

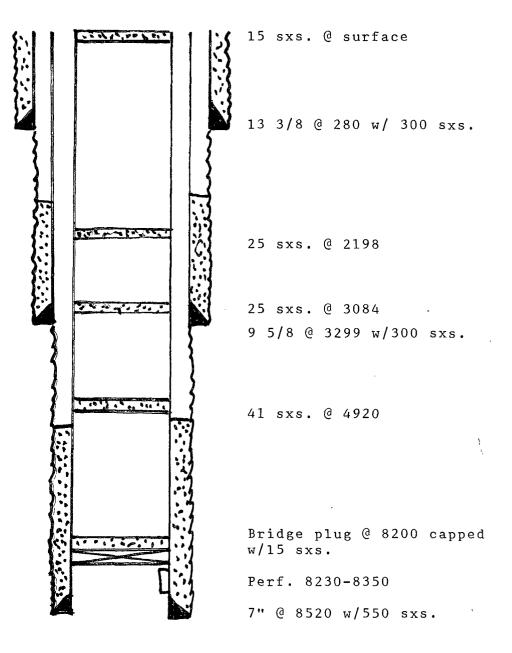
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| <u>OPERATOR</u> | TOTAL | PRODUCING INTERVAL | CASING | SACKS | CEMEN T |
|---------------------------------------------------------|-------|--------------------------------|--------------------------------------------|--------------------|------------------------------|
| Texaco | DEPTH | (SUBSEA DEPTH) | | CEMENT | TOP |
| Skelly S State #2 990 S & 330 E Sec. 35-T16S-R36E | 8471' | Abo: 8440-8464' (-45814605) | 13 3/8 @240' 8 5/8 @ 3291 5½ @ 8471' | 240 1300 900 | Circ. Circ. 2600 Calc. |

Remainder of wells which penetrated the injection interval submitted as exhibit No. 7 in OCD Case 7009. NOTE:

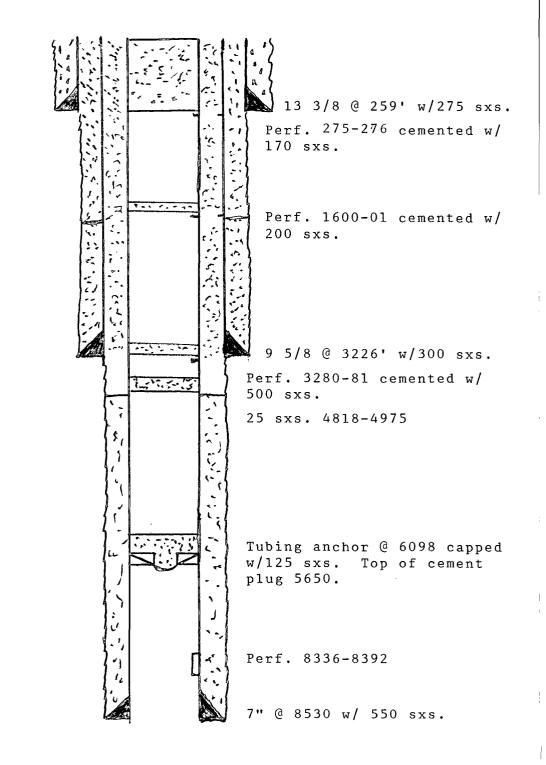
AMOCO PRODUCTION COMPANY STATE E TRACT 18 NO. 20 1650 N & 330 W Section 2-T17S-R36E

PLUGGED & ABANDONED



AMOCO PRODUCTION COMPANY STATE E TRACT 18 NO. 18 330 N & E Section 2-T17S-R36E

PLUGGED & ABANDONED



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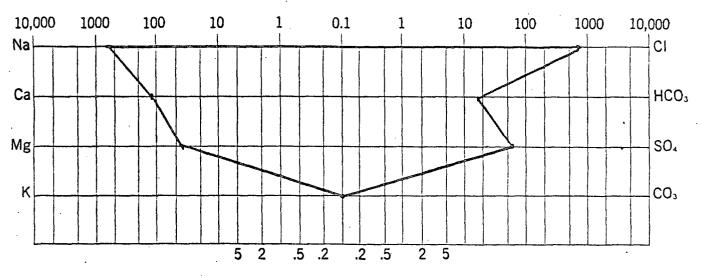
Amoco Production Company RESEARCH CENTER WATER ANALYSIS

| .S. or File No | <u>, 535 //</u> |
|-----------------------|-----------------|
| Lab. No | <u>T-24790</u> |
| Fi e ld No | • |

API Well No.___ LOCATION SAMPLED: Division Houston Levelland District Area Amoco 15 Lovington Abo Operator (Plant)____ _ Well No.____ Lease _____ New Mexico __ County (Parish)___ State (Province). Rng. 36 E Twp. 17 1 S Sec. ____ Quarter (Lsd.)___ ____ Other (Meridian)___ ____ Wildcat () Field Well (X) Field name_____ Sample collected from wellhead 9-1-78 _____ Date ____ _____Sample collected by _____ Abo Interval sampled ______to ____ Interval name____ Recovery____ 9-8-78 Form 97 transmitted by V. E. Staley Date____ Authorized by ____ ORGANIC CONSTITUENTS in mg/1 CONVENTIONAL MAJOR ION ANALYSIS BOTTOM MIDDLE TOP MUD Major % of Total Reaction % of Total Benzene lons Major Value Reaction mg/1Toluene lons meq/1Value 👷 Sodium Na+ 14,395 31.70 40.71 HC Gases 626.17 Calcium ő C1++ 2,040 4.49 101.80 6.62 Magnesium Mg++ 500 1.10 41.10 2.67 Potassium K+ Chloride CI-24,600 54.18 693.72 45.10 DESCRIPTION OF SAMPLE Bicarbonate HCO3-1,170 2.58 19.19 1.25 Sample used for detailed analyses_____ O Sulfate SO4--2,700 5.95 56.16 3.65 Date received_ CO3--0 0 0 Condition as received 0 TOTAL 45,405 Color_____ 45,740 Odor ____ Total solids by evaporation____ mg/153,599 NaCl resistivity equivalent (Dunlap)___ Suspended solids mg/1.147______ohm-meters at ____ 77 Resistivity_____ °F Bottom sediment___ pH______ Specific gravity 1.034 at ______ 75 .°F Oil or fluorescence_____ Ryznar stability index (2pHs-pH)_ °F _at_ QUALITY OF SAMPLE OTHER IONS AND DISSOLVED SOLIDS BOTTOM MIDDLE TOP CATIONS mg/1ANIONS mg/1 OTHERS mg/1 Chloride ion mg/1: COMMENTS: RECEIVED **STRICT REMARKS AND CONCLUSIONS:** OCT 5 1978 อร DAS DE N AF DS SE AS PMG 1 2-111 RIGI (1)Bastwin 1-no ton B File CC: W. V. Grisham Analyst DAME B A. R. Reed 10-2-78 A. H. Green Date

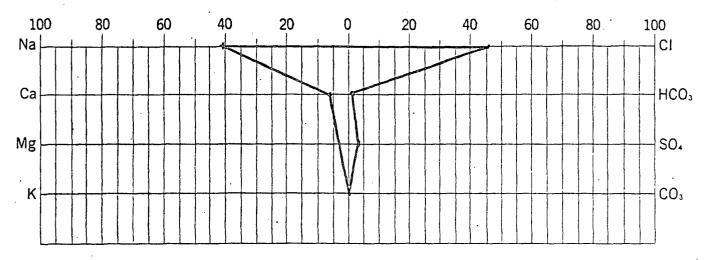
G. W. Schmidt David Boatwright Form 66 4-71

WATER ANALYSIS PATTERNS



MILLIEQUIVALENTS PER LITER

PERCENT OF TOTAL MILLIEQUIVALENTS PER LITER



| · · · · | | INTERN | | |
|-------------------------------------------------------------------------------------------------------------|----------------------------------------------------|-----------------------|-------------------------------|-----------------------------|
| - | NORTH LEECH | | P.O.BOX 1499 | |
| | HOBBS, | NEW MEXIC | 0 88240 | |
| COMPANY : APOLLO OIL DATE : 9-10-86 FIELD,LEASE&WELL : UN SAMPLING POINT: DATE SAMPLED : 9-9-80 | NIT G SECTION | 2 TRACT | 18 | |
| SPECIFIC GRAVITY = 1 TOTAL DISSOLVED SOLID PH = 6.99 |)S = 892 | | | |
| | | | ME/L | MG∕L |
| CATIONS | | | | |
| CALCIUM MAGNESIUM SODIUM | (CA)+2 (MG)+2 (NA),CALC. | | 5 1.6 7.0 | 100. 19.5 161. |
| ANI ONS | | | | |
| BICARBONATE CARBONATE HYDROXIDE SULFATE CHLORIDES | (HCO3)-1 (CO3)-2 (OH)-1 (SO4)-2 (CL)-1 | | 4.6 0 1.0 8 | 280. 0 0 50 280 |
| DISSOLVED GASES | | | | |
| CARBON DIOXIDE HYDROGEN SULFIDE OXYGEN | (CO2) (H2S) (O2) | | NOT RUN NOT RUN NOT RUN | |
| IRON(TOTAL) BARIUM MANGANESE | (FE) (BA)+2 (MN) | | 0 NOT RUN | .3 .27 |
| IONIC STRENGTH (MOLA | _) =.017 | | | |
| SCALIN | G INDEX | TEMP 30C | | |
| CARBONATE INDEX CALCIUM CARBONATE SC | àl ING | 86F 1.29 LIKELY | | |
| CALCIUM SULFATE INDEX CALCIUM SULFATE SCAL | | -17. UNLIKELY | | |

OIL CONSERVATION DIV CASING--BRADENHEAD TEST accèle & Poo1/FM al 8330-9000 OPERATOR: -7 Unit Lease Name Al well# 22 Letter # Sec 2 Twp 17 Rge 36 Inj.Press Limit 16.50 Order # R-6461 Footage -10-030per. Rep. OCD Test X. Ken. Rep Date 1982 Set At Cemented Pressure TOC Remarks CASING STRING Size 13 266 225 SURFACE INTERMEDIATE 3287' 3004 Imint 62 20 9as PRODUCTION 5/2 8330' 8354 a mil تلاي 140 8272 PKN 23/8 TUBING ir" Uqc Vac If well is on Vacuum: SI 60 Min. Tbg Press 10 C _Csg: Vacuum_ Static Test Approximately how many hours a day is the well used Reviewed by: Remarks in began 2/8/ \$ 3/82 ra Oper OÇD Test Date Y-10 Rep Rep. TOC CASING STRING Size Set At Cemented Pressure Remarks Spec. mech. Integ Ust SURFACE 266' 275 3287' 300. INTERMEDIATE 5/2 <u>8330' 8354</u> PRODUCTION Smit N. LI aver Gas 2% 8272' PKN TUBING 23 m Vaci If well is on Vacuum: SI <u>20</u> Min. Tbg Press <u>20 is C</u>sg: Vacuum _____ Static_ Test Reviewed by: ED-ok Approximately how many hours a day is the well used 300-Remarks: 120 345/s Test 0CD Oper JESSE 11-27-85 LYLE Date Rep. Rep TOC -CASING STRING Set At Cemented Pressure Remarks Size and the 2752 266 SURFACE CLOWIT. DIN F INTERMEDIATE 3287 300 0 Flow To DIN 6 3 - 0 8330' 835 @ PRODUCTION 248 S A. Th In M. 2.1% 8272 TR TUBING 7 " If well is on Vacuum: SI_20_Min_Tbg.Press_/7"_Csg: Vacuum_____Static_O ____ Test Reviewed by: <u>_____</u> Approximately how many hours a day is the well used ____ CI. Remarks 103 FTLS.

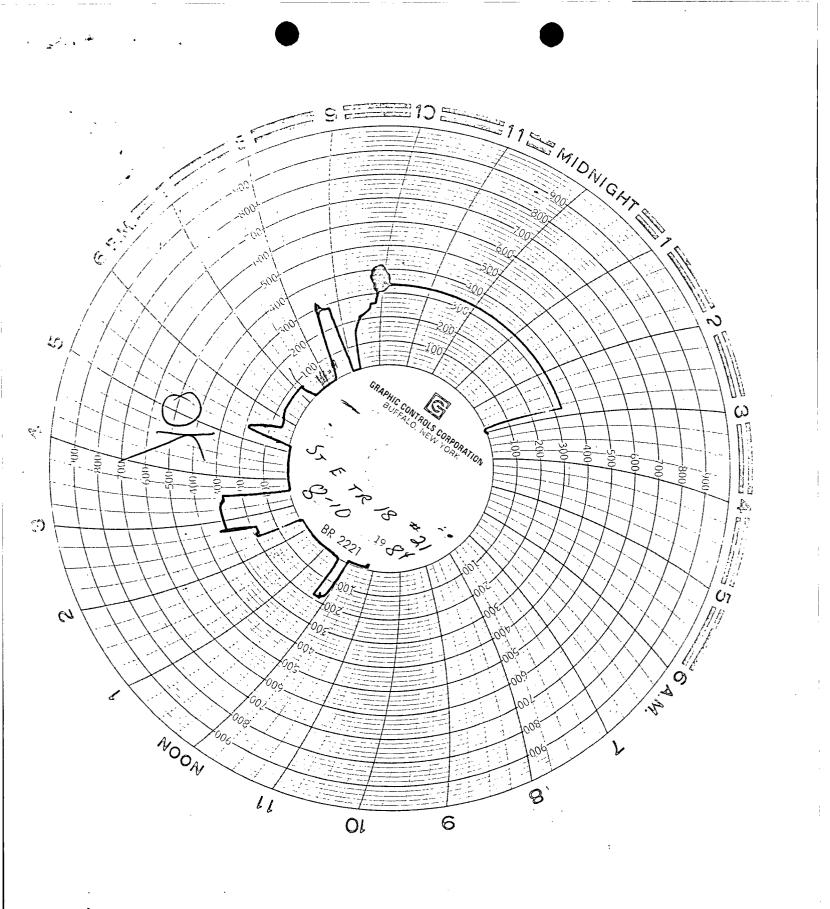
OIL CONSERVATION DIVE CASING--BRADENHEAD T JERATOR: (LOD Pool/FM (lhs 8330-9000' Unit Well#22 Letter Sec Twp_17 Rge 36 Lease Name Inj. Press Limit_1650_Order # R-6461 Footage_ Test q Oper. 0CD Q Rep. Rep Date Hlan Size Set At Cemented Pressure Remarks 1985 TOC CASING STRING 1318 266' 275 SURFACE 0 OBlow to \$5 3287' 300 ay INTERMEDIATE 0 OBhow to 85. 8330 835 M 5% PRODUCTION 6 O-fl 248 Bar 4 au 238 8272' P.K. TUBING-Uac #CASUMP # 200342 If well is on Vacuum: SI Min. Tbg Press 14 Csg: Vacuum Static Test Reviewed by: Approximately how many hours a day is the well used ____ wal ast in use of the Tim Remarks 1982 - ran cag insp log to 8/50 forfd at 3700 150 OCD Test Oper Rep Rep. Date TOC Remarks CASING STRING Size Set At Cemented Pressure SURFACE INTERMEDIATE PRODUCTION TUBING If well is on Vacuum: SI _____Min. Tbg Press _____Csg: Vacuum _____Static_ Approximately how many hours a day is the well used Test Reviewed by: Remarks: 000 Test 0per Date Rep. Rep Size Set A+ cemented Pressure TOC 🕔 CASING STRING Remarks SURFACE INTERMEDIATL PRODUCTION TUBING If well is on Vacuum: SI_____Min Tbg.Press_____Csg: Vacuum_____Static_ Approximately how many hours a day is the well used ______ Test Reviewed by:_____ Remarks

OIL CONSERVATION DIVIS Apollo dit CASING--BRADENHEAD TE 1 ha OPERATOR: 4 Poo1/FM Unit Lease NameX18 SW/Well#21 Letter & Sec 21 Twp 17 Rge 36 1210 Inj.Press Limit 16/2 Foolage Order # -5855 0CD Test Oper. 85 Rep Date_/ Rep. TOC CASING STRING Set At Comented Pressure. Remarks 19 🗹 Size 3% 275 275 SURFACE <u>3300' 300-</u> INTERMEDIATE 350 Bled 15 pec 839/1. <u>550er</u> PRODUCTION -1/2 air, to ∛⊿ ML Inn 8367' F.K. 23 TUBING 9" Vac If well is on Vacuum: SI <u>2.0 Min</u>. Tbg Press <u>9 Vac</u> Csg: Vacuum <u>-</u> Static Test Approximately how many hours a day is the well used Reviewed by: SI Remarks do * 1979 Ke-Cemint 7.0 E. Gingero 0CD Oper Alan Rep. Alan Test Date 9 Rep TOC CASING STRING Set At Cemented Pressure Remarks Size 275 2750 SURFACE 9% 3300 30004 INTERMEDIATE $rac{1}{2}$ 839/ 550AH/ PRODUCTION 8367' Y.kr 2% R."Vac, TUBINC If well is on Vacuum: SI 7 Min. Tbg Press the Csg: Vacuum _____ Static_ • Approximately how many hours a day is the well used Test Reviewed by: Remarks: Well not Test **O**per 000 Date Rep. Rep TOC 🕔 CASING STRING Size Set At Cemented Pressure Remarks SURFACE INTERMEDIATE PRODUCTION TUBING If well is on Vacuum: SI_____Min Tbg.Press_____Csg: Vacuum_____Static Approximately how many hours a day is the well used ______ Test Reviewed by:____ Remarks

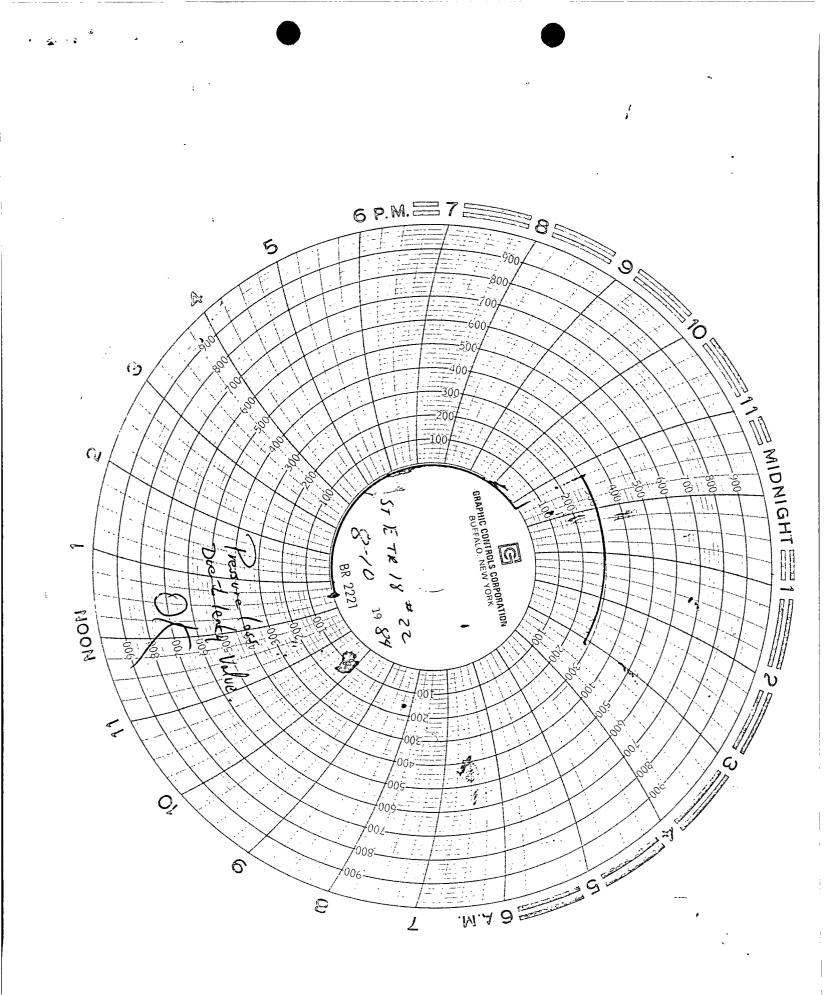
OIL CONSERVATION DIV CASING--BRADENHEAD TE M Lovington al-Poo1/FM OPERATOR: amoco frod Co. Lease Name State Trill Swd E Well# 2/ Letter \mathcal{B} Sec 2Twp / 7 Rge 36. Inj.Press Limit 1675 Order # R-5853-Footage Test **OCD** Oper. Rep. Ken Komine 1-8-82 Rep ave **Date** - TOC Size Set At Cemented Pressure Remarks 1981 CASING STRING 133 25 2755 SURFACE \$ 9 7/8 3300' 2min to O. Gas. INTERMEDIATE 300 3 423 0 7: 3375 PRODUCTION 8391 15 anti 8 550. <u>5</u># 2<u>%</u> PKR 8367 TUBING lač 5 Jac OPER. Static /5 # If well is on Vacuum: SI 15 Min. Tbg Press 7' Csg: Vacuum Test Reviewed by: OK Approximately how many hours a day is the well used 85+ED Remarks \$ 1979 - recent 7" Test 11-18-53 Oper Rep. OCD D.C. Rep Date TOC CASING STRING Size Set At Cemented Pressure Remarks 13 7 275' SURFACE 275 びん 0 9 1/2 3300 3004 INTERMEDIATE 2000 40 3.70 3375 PRODUCTION 7 8391 5304 8 H anto. \$KN 2/2 8367' TUBING 3" Vac. If well is on Vacuum: SI 15 Min. Tbg Press Sin. Csg: Vacuum _____ Static_ Approximately how many hours a day is the well used _____ Test Reviewed by: $\frac{\mathcal{E}\mathcal{E}}{\mathcal{E}}$ Remarks: OCD Rep 2WS Test Oper - 10-84 Rep. Aichors Date TOC -CASING STRING Size Set At Cemented Pressure Remarks spec much Integ test. 13% 275 SURFACE 2754 9% 3300' 300' INTERMEDIATE 1 230 <u>3</u>315 8391' 5304 PRODUCTION 9# BEST Δ 30 2/2 8361' PKN TUBING If well is on Vacuum: SI <u>20</u> Min Tbg.Press <u>/V</u> Csg: Vacuum_____ Static__ Approximately how many hours a day is the well used ____ Test Reviewed by: OKED Remarks loop hol 300# 1:50

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OIL CONSERVATION OTVISION **CASING--BRADENHEAD TEST** di Co. OPERATOR: amora Poo1/FM Loungto Unit Lease Name State E Tr. 18 Swd Well# 21 Letter E Sec 17 Rge 36 1675 Order # 6-58.55 Footage Inj.Press Limit Test Oper. 0CD Rep. Ken Komine Date 8-92 Rep ane 1951 TOC CASING STRING Size Set At Cemented Pressure Remarks 13% 275 215 SURFACE 9% 3300' amin to 0. INTERMEDIATE 3000 Cas. 423 0 7. 3.375 PRODUCTION 530. 8391 БĦ 15 an to a 2% PKR 8361 TUBING kac 151 1.76.12 5.1 Static /5 # If well is on Vacuum: SI 15 Min. The Press 7 Csg: Vacuum Test Reviewed by: OK Approximately how many hours a day is the well used Remarks \$ 1979 - recent 9" OCD Test **Oper** 11-18-83 <u>)</u>),Ć Cen. Date Rep. Rep TOC CASING STRING Size Set At Cemented Pressure Remarks 13% 225 SURFACE 275 ロット 9 1/8 3300 INTERMEDIATE 3004 2min to 0 3.70 Geo PRODUCTION 7 3375 8391 530 N anteo Q H 21/2 8361' 9KN TUBING 3" Vac. If well is on Vacuum: SI_<u>15</u> Min. Tbg Press<u>Sin</u>_ Csg: Vacuum_____ Static_ Approximately how many hours a day is the well used _____ Test Reviewed by: \mathcal{EP} of Remarks: Test Oper 0 OCD 10-84 Acchar : WS Date Rep. Red TOC -CASING STRING Size Set At Cemented Pressure Remarks spec. mech. Integ test. 13% 275 2751 SURFACE 9% 3300' 300' INTERMEDIATE t 220 8391' 5301 3315 PRODUCTION 0# Bh D 305 イ 2/2 8367 PKA TUBING <u>Э</u>5њ If well is on Vacuum: SI 20 Min Tbg.Press 18 ... Csg: Vacuum_____ Static_ Approximately how many hours a day is the well used Test Reviewed by: OKED 300# Remarks low hale 1:50 ~ . . .



OIL CONSERVATION DIVISION CAS, ING--BRADENHEAD TEST ycelle oil 8330-9000 OPERATOR: Poo1/FM al-7 Unit 22 Letter # Sec 2 17_ Rge*36* Lease Name Seval Well# Twp <u>1650</u> Order # R-6461 Footage Inj.Press Limit -c" SRep. Test OCD X. Ken. Date Rep 1982 Remarks TOC CASING STRING Size Set At Cemented Pressure 266' 225 SURFACE 9% 3287' 3004 INTERMEDIATE 1mint 5/2 8330' 8354 PRODUCTION 🥍 ca min 61 140 Gas 2% 8272 PW TUBING Vac Va If well is on Vacuum: SI <u>60</u> Min. Tbg Press <u>18</u> Csg: Vacuum_ Static Test Approximately how many hours a day is the well used Reviewed by: Remarks in began ip. long to \$150' - perf at 3700' + \$ 373 W/ 1500 + \$ 3/82 Cagin Ran Test. **Oper** 0CD Date 8-10-84 Rep Rep. TOC CASING STRING Apec mech Integ tes Size Set At Cemented Pressure 13 7/1 SURFACE 266 275 INTERMEDIATE <u>3287</u>' 300 5/2 8330' 8354 PRODUCTION 141 Emas anthe 2% 8272' PKN TUBING 23 m Vaci If well is on Vacuum: SI 29 Min. Tbg Press 2000 Csg: Vacuum _____ Static___ Approximately how many hours a day is the well used Remarks: 20 mol 11 345/5 300-Test 0CD 0per 11-27-85 JESSE LYLE Date Rep. Rep TOC · CASING STRING Remarks Size Set At Cemented Pressure Town of the pro-266' SURFACE ELOUIT: DIN F SU 9% 3287 INTERMEDIATE 300. MONTO OIN TOTO 0 8330 835. PRODUCTION 248 GAS S SAR TO O IN 10 MIN. 2.18 TUBING 8272 17 " If well is on Vacuum: SI <u>Jo</u> Min Tbg.Press <u>/7"</u> Csg: Vacuum_____ Static <u>O</u> Approximately how many hours a day is the well used _____ Test Reviewed by: Remarks 103 MTV- Jay



ROSWELL GEOLOGICAL SOCIETY SYMPOSIUM

Data prepared by: R.C. Gallaway Affiliation: Shell Oil Company Date: 7-1-56

Field Name: Lovington (Abo) Location: Tps. 16, 17 S., Rs. 36, 37 E. County & State: Lea County, New Mexico

DISCOVERY WELL: Skelly, State "O" #9M

COMPLETION DATE: 12-8-51

PAY ZONE: Abo pay zone, lower Leonard series of the Permian system. Lithology consists of graywhite to light brown, fine to medium sucrose dolomite. Porosity ranges from pin point to small vugs, usually encountered about 100 feet below the top of Abo shale. Average producing depth from 8,340 to 8,430 feet. Net pay varies from about 20 to 150 feet within a gross section of about 200 feet.

TYPICAL CORE ANALYSIS OF A PAY INTERVAL IN THIS FIELD:

| TYPICAL CORE ANA | LYSIS OF A PAY II | NTERVAL IN THIS FI | ELD: No | t available | | | | |
|------------------|-------------------|--------------------|------------------------------------------------|-------------|--|--|--|--|
| Perm. in r | nillidarcys | % Porosity | % Porosity Liquid Saturation (% of pore space) | | | | | |
| Horizontal | Vertical | | Water | Oil | | | | |
| | | | | | | | | |

OTHER SHOWS ENCOUNTERED IN THIS FIELD: Queen, San Andres, Paddock, Tubb, Wolfcamp and Pennsylvanian See other Lovington field data sheets.

TRAP TYPE: Closed anticline.

Gravity 39° A.P.I. NATURE OF OIL: NATURE OF GAS:

NUCINIC TONIE MATER

| NATUR | E OF PRODUCING | | | Kesi | stivity: | 10 | 1m-meters | w | <u> </u> | | |
|-------|----------------|------|----|------|----------|------|-----------|------|----------|----|-----|
| | Total Solids | Na+K | Ca | Mg | Fe | SO 4 | C1 | CO 2 | HCO 3 | ОН | H2S |
| ppm | | | | | | | | | | | |

INITIAL FIELD PRESSURE: 3,248 psi.

TYPE OF DRIVE: Water drive

NORMAL COMPLETION PRACTICES: Conventional drilling through pay zone. Electric logs usually run from San Andres to total depth with microlog in pay zone and selected intervals. Production string set through pay zone. Completion made from perforations after acid treatment.

PRODUCTION DATA:

| No | No. of wells @ yr, end Production | | | | | | | wells | @ yr. end | Production | | |
|------|-----------------------------------|-------|---------------------------------------|-------------------|-------------------------|------|----------|-------|---------------|-------------------------------|------------|--|
| Year | Type | Prod. | Shut in or | | in barrels s in MMCF | Year | Type | Prod. | Shut in or | Oil in barrels Gas in MMCF | | |
| 7 | ۴- | - □ | Abnd. | Annual Cumulative | | | <u>н</u> | ٩ | Abnd. | Annual | Cumulative | |
| | oil | | | | | | oil | | | | | |
| 941 | gas | | | | | 1949 | gas | | | | | |
| | oil | | | | | | oil | | | | | |
| 1942 | gas | | | | | 1950 | gas | | | | | |
| | oil | | | | | | oil | 1 | 0 | 3,518 | 3,518 | |
| 1943 | gas | | | | | 1951 | gas | | | | | |
| | oil | | | | | | oil | 14 | 1 | 585,996 | 589,514 | |
| 944 | gas | | | | | 1952 | gas | | | | | |
| | oil | | | | | | oil | 37 | 1 | 1,463,283 | 2,052,797 | |
| 1945 | gas | | | | | 1953 | gas | | | | | |
| | oil | | · · · · · · · · · · · · · · · · · · · | | | | oil | 41 | 3 | 1,602,756 | 3,655,553 | |
| 1946 | gas | | | | | 1954 | gas | | | | | |
| | oil | | | | | | oil | 40 | 6 | 1,636,351 | 5,291,904 | |
| 947 | gas | | | [| | 1955 | gas | | | | | |
| | oil | | | | | | oil | 40 | 6 | 528,550 | 5,820,454 | |
| 1948 | gas | | | | | 1956 | *gas | | | , | | |

* 1956 Figure is production to 5-1-56.

NOTE: Refer to map of Lovington area with contours on top Pennsylvanian.

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ROSWELL GEOLOGICAL SOCIETY SYMPOSIUM

Field Name: E. C. Caffey & R. H. Dubitzky Vacuum Abo Reef Author: Affiliation: Standard Oil Company of Texas Location : T-17, 18-S, R-34-35-E County & State: Lea County, New Mexico Date: May 1966 Discovery Well: Standard Oil Co. of Texas No. 2 Vac Edge Unit, SW/4 NW/4, Section 4, T-18-S, R-35-E IP: 240 B0/24 hrs, GOR 1340:1, Disc. Date: 10/17/60. Exploration Method Leading to Discovery: 90% subsurface, 10% Dipmeter Pay Zone: Depth & Datum Discovery Well: T/Pay 8650 (-4690) Formation Name: Abo Lithology Description: Gray to brown, coarsely crystalline to vuggy dolomite, fractured, with streaks of gray shale and anhydritic dolomite. Approximate average pay: <u>560</u> gross _____ net Productive Area <u>11,760</u> ocres Type Trap: Stratigraphic (Reef), updip pinchout of porosity, downdip limit of field controlled by water - partially structurally controlled. avg. Reservoir Data: avg. % /Porosity, _ <u>13.9</u>Md /Permeability, <u>26</u>% Sw, <u>74</u>% So 4.<u>7</u> 40° API, green, sweet Oil: GOR 900, Gr. 1.064 @ O# psi and 76° F, Sweet Gast Water: 17,830 No+K, 1360 Co, 3500, 26,850ci, 4000 so, 1560 HCO3, ____ Fe 0.104 _____ ohms @ ___ 80 produced water _°F Initial Field Pressure: <u>3230 psi @ -4800</u> datum Reservoir Temp. <u>136</u>°F -4725

Type of Drive: solution gas and partial water drive

Normal Completion Practices: 13 3/8" csg @ approximately 300', 8 5/8" @ approx. 3300, 5 1/2" @ approx. 9100'. Drl. to approx. 9100', set csg through pay & selectively perf. Perf 2 shots/ft, selectively. Acid w/1000 gal mud acid.

Type completion: Flowing

Normal Well Spacing _____40 ____ Acres

Deepest Horizon Penetrated & Depth: Siluro-Devonian 11,956' - Texas Pacific Oil Co. No. 3 State "AF" NW/4 SW/4 Section 8, T-18-S, R-35-E, Lea County, New Mexico Other Producing Formations in Field: Yates 2850', Grayburg-San Andres 4500', Glorieta 6200', Devonian North 11,850'.

Production Data:

| AR | TYPE | No. of @ yr | . end | OIL IN | JCTION BARRELS M M C F | YEAR | ſPE | No. of @ yr | | OIL IN | UCTION BARRELS MMCF |
|------|------|----------------|----------------|-----------|------------------------------|------|-----|----------------|----------------|-----------|---------------------------|
| YE | F | Prod. | S.I.or Abd. | ANNUAL | CUMULATIVE | 77 | F | Prod. | S.I.or Abd. | ANNUAL | CUMULATIVE |
| 1961 | OIL | 36 | | 621,383 | 621,383 | 965 | OIL | 146 | 1 | 4,913,155 | 17,552,911 |
| | GAS | | | 470,094 | | | GAS | | | 4,878,933 | |
| 1962 | OIL | 93 | | 2,542,850 | 3,287,601 | | OIL | | | | |
| | GAS | | | 2,112,406 | | | GAS | | | | |
| 1963 | OIL | 129 | | 4,235,946 | 7,523,547 | | OIL | | | | |
| | GAS | | | 3,753,683 | | | GAS | | | | |
| 1964 | OIL | 147 | | 5,116,209 | 12,639,756 | | OIL | | | | |
| | GAS | | | 4,600,950 | ,, | | GAS | | | | |

APOLLO OIL COMPANY

P. O. BOX 1737 HOBBS, NEW MEXICO 88240 505 393-2273

This is to serve as notification of Apollo Oil Company's intent to convert their State "E" Tract 18 Well Nos. 21 and 22 located 660' N & 1650' E and 1650' N&E, respectively, Section 2, Township 17 South, Range 3 East, Lea County, New Mexico, from Salt Water Injection wells (Class II) to Effluent Disposal Wells (Class I). The discharge plan to cover this operation has been filed with the New Mexico Oil Conservation Division, P. O. Box 2088, Santa Fe, New Mexico 87501.

Copies of the plan may be obtained by calling the above number. Any objection to the plan should be forwarded to the Oil Conservation Division at the above address.

Mobil Prod. Texas & NM Inc. Box 633 Midland, TX 79702

Texaco USA Box 728 Hobbs, NM 88240

Marathon Oil Company Box 552 Midland, TX 79702 Cities Service Oil Company Box 1919 Midland, TX 79701

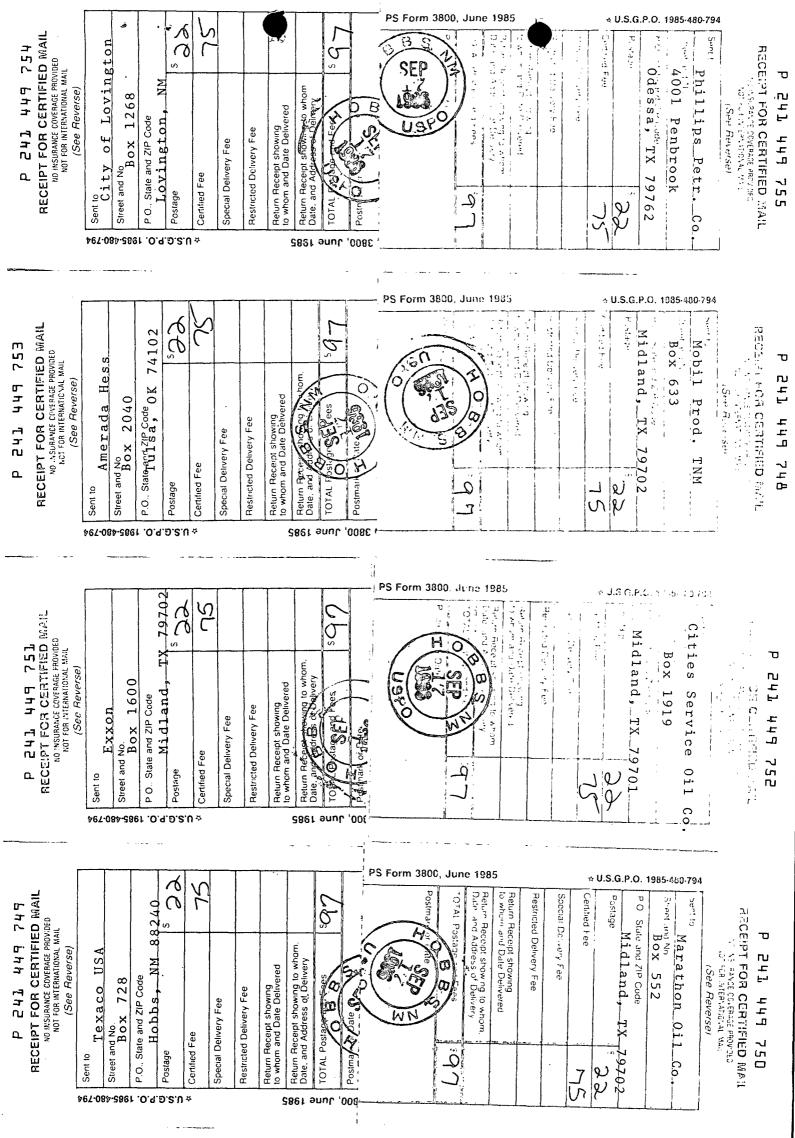
Amerada Box 2040 Tulsa, OK 74102

Phillips Petroleum Company 4001 Penbrook Odessa, TX 79762

City of Lovington City Manager

Exxon Box 1600 Midland, TX 79702

Apollo will dispose of up to 10,000 barrels per day of industrial effluent (non-hazardous) wastes in the Abo formation in the subject wells. The disposal zone will be from around 8300-9100 feet.



Memo From DAVID G. BOYER **Hydrogeologist** To Alam Raiston 9/2 Here is the listing of CURRENT hajardous wastes From petroleum refining YOUR Well should not receive ony of These plus any acidic wasks must be above pH=2 when necessed. Our meeting Friday was very use sul. Permitting Time should be minimal Since you have much of The necessary information a needy. A Boys **Oil Conservation Division** P.O. Box 2088 Santa Fe, N.M. 87501 D.D. LAN RALSTO 215 W. Broadway - Suite B P.O. Box 1737 (505) 393-2273 Hobbs, New Mexico 88241



K034 . . . Filter solids from the filtration of hexachloro-cyclopentadiene in the production of chlordane.....(T)

K036 Still bottoms from toluene reclamation distillation in the production of disulfoton. (T)

K037 Wastewater treatment sludges from the production of disulfoton......(T)

K038..... Wastewater from the washing and stripping of phorate production.....(T)

K039 Filter cake from the filtration of diethylphosphorodithoric acid in the production of phorate (T)

K042 Heavy ends or distillation residues from the distillation of tetrachlorobenzene in the production of 2,4,5-T(T)

K097 Vacuum stripper discharge from the chlordane chlorinator in the production of chlordane. . . . (T)

K099 Untreated wastewater from the production of 2,4-D......(T)

Explosives:

K044 Wastewater treatment sludges from the manufacturing and processing of explosives.......(R)

K046 Wastewater treatment sludges from the manufacturing, formulation and loading of lead-based initiating compounds.(T)

K047 Pink/red water from TNT operations.....(R)

Petroleum Refining:

| • | K048 Dissolved air flotation (DAF) float fromthe petroleum refining industry |
|---|---------------------------------------------------------------------------------|
| | K049 |
| • | K050 Heat exchanger bundle cleaning sludge from the petroleum refining industry |
| | K051 API separator sludge from the petroleumrefining industry |
| • | K052 Tank bottoms (leaded) from the petroleumrefining industry |
| n | and Steel: |

Iron and Steel:

Secondary Lead:

K069 Emission control dust/sludge from secondary lead smelting(T)

K100 Waste leaching solution from acid leaching of emission control dust/sludge from secondary lead smelting(T)

Veterinary Pharmaceuticals:

K084 Wastewater treatment sludge generated during the production of veterinary pharmaceuticals from arsenic or organo-arsenic compounds. (T)

Gas Plant Sheet, Prea Opreview 12 mile check area of review - Class If permit was prior to 32 mechanical Integrity -cHack Logt Run logel, check Sor Flind movement behind casiny, adequate casing 19,600 Hot Stor bbl/day to yone Packer Fluid in between caring Itulring 8/29/86 Apollo Oil Meeting - Hobbs Alan Ralson Joe Ramey Dave Boyer Roger Anderson - - - -- -• • • • • • • · · · · · · ·

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:

CASE NO. 6356 Order No. R-5855

APPLICATION OF AMOCO PRODUCTION COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 25, 1978, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 14th day of November, 1978, 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, Amoco Production Company, is the owner and operator of the State "E" Tract 18 Well No. 21, located in Unit B of Section 2, Township 17 South, Range 36 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Abo formation, with injection into the open-hole interval from approximately 8391 feet to 9100 feet.

(4) That the injection should be accomplished through 3 1/2-inch plastic lined tubing installed in a packer set at approximately 8350 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer. -2-Case No. 6.56 Order No. R-5855

(5) That the injection well or system should be equipped with a pop-off value or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1675 psi. C

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(6) That the subject well is presently equipped with 13 3/8-inch surface casing set at 269 feet with cement circulated to the surface; 9 5/8-inch intermediate casing set at 3300 feet and cemented with 300 sacks, calculated top of cement being at 2800 feet; and 7-inch long string set at 8391 feet and cemented with 550 sacks, with top of cement being at 8250 feet.

(7) That the above-described casing and cementing program leaves the San Andres and Paddock formations open without any protective cement opposite these formations around the long string of casing in the subject well.

(8) That secondary recovery water injection operations are currently being conducted in both the San Andres and Paddock formations within one-half mile of the subject well.

(9) That in order to prevent the subject well from becoming an avenue of escape for waters injected into the San Andres and Paddock formations in nearby wells, or into the Abo formation in the subject well, it (the subject well) should be recemented from the present top of cement on the long string ito a point well above the top of the San Andres formation.

(10) That prior to its use as a salt water disposal well, the subject well should be recemented in such a manner as to cause cement around the 7-inch casing to come from the present top of cement at 8250 feet to a point at least 300 feet above the top of the San Andres formation.

(11) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of recementing operations on the subject well and also of the installation of disposal equipment so that the same may be witnessed and/or inspected.

(12) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(13) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights. -3-Case No. 6356 Order No. R-5855

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to utilize its State "E" Tract 18 Well No. 21, located in Unit B of Section 2, Township 17 South, Range 36 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico, to dispose of produced salt water into the Abo formation, injection to be accomplished through 3 1/2-inch tubing installed in a packer set at approximately 8350 feet, with injection into the openhole interval from approximately 8391 feet to 9100 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

(2) That the injection well or system shall be equipped with a pop-off valve or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1675 psi.

(3) That upon conversion to salt water disposal, applicant shall recement the 7-inch casing in the subject well in such a manner as to cause cement to come from the present top of cement at 8250 feet back up to a point at least 300 feet above the top lof the San Andres formation.

(4) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the recementing operations on the subject well and also of installation of disposal equipment.

(5) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(6) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.

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

-4-Case No. 6356 Order No. R-5855

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

STATE OF NEW MEXICO OLL CONSERVATION DIVISION JOE D. RAMEY Director

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Entered September 10, 1980

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:

> CASE NO. 7009 Order No. R-6461

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APPLICATION OF AMOCO PRODUCTION COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on August 20, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this <u>10th</u> day of September, 1980, 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, Amoco Production Company, is the owner and operator of the State "E" Tract 18 Well No. 22, located in Unit G of Section 2, Township 17 South, Range 36 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Abo formation, with injection into the open hole interval from approximately 8330 feet to 9000 feet.

(4) That the injection should be accomplished through 3 1/2-inch plastic lined tubing installed in a packer set at approximately 8300 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer. -2-Case No. 7009 Order No. R-6461

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(5) That prior to injection the applicant should recement the 5 1/2-inch casing in said well from a depth of approximately 5400 feet to 5000 feet, obtain a formation water analysis at the injection interval, and file such analysis with the Director of the Division.

(6) That the injection well or system should be equipped with a pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 1650 psi.

(7) That the Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Abo formation.

(8) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(9) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(10) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to utilize its State "E" Tract 18 Well No. 22, located in Unit G of Section 2, Township 17 South, Range 36 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico, to dispose of produced salt water into the Abo formation, injection to be accomplished through 3 1/2-inch tubing installed in a packer set at approximately 8300 feet, with injection into the open hole interval from approximately 8330 feet to 9000 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.



-3-Case No. 7009 Order No. R-6461

<u>PROVIDED FURTHER</u>, that prior to injection the applicant shall recement the 5 1/2-inch casing in said well from a depth of approximately 5400 feet to 5000 feet, obtain a formation water analysis at the injection interval, and file such analysis with the Director of the Division.

(2) That the injection well or system shall be equipped with a pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 1650 psi.

(3) That the Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Abo formation.

(4) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(5) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(6) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.

(7) 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

SEAL fd/

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:

CASE NO. 6356 Order No. R-5855

APPLICATION OF AMOCO PRODUCTION COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on October 25, 1978, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 14th day of November, 1978, 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, Amoco Production Company, is the owner and operator of the State "E" Tract 18 Well No. 21, located in Unit B of Section 2, Township 17 South, Range 36 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Abo formation, with injection into the open-hole interval from approximately 8391 feet to 9100 feet.

(4) That the injection should be accomplished through 3 1/2-inch plastic lined tubing installed in a packer set at approximately 8350 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer. -2-Case No. 6356 Order No. R-5855

(5) That the injection well or system should be equipped with a pop-off valve or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1675 psi.

(6) That the subject well is presently equipped with 13 3/8-inch surface casing set at 269 feet with cement circulated to the surface; 9 5/8-inch intermediate casing set at 3300 feet and cemented with 300 sacks, calculated top of cement being at 2800 feet; and 7-inch long string set at 8391 feet and cemented with 550 sacks, with top of cement being at 8250 feet.

(7) That the above-described casing and cementing program leaves the San Andres and Paddock formations open without any protective cement opposite these formations around the long string of casing in the subject well.

(8) That secondary recovery water injection operations are currently being conducted in both the San Andres and Paddock formations within one-half mile of the subject well.

(9) That in order to prevent the subject-well from becoming an avenue of escape for waters injected into the San Andres and Paddock formations in nearby wells, or into the Abo formation in the subject well, it (the subject well) should be recemented from the present top of cement on the long string to a point well above the top of the San Andres formation.

(10) That prior to its use as a salt water disposal well, the subject well should be recemented in such a manner as to cause cement around the 7-inch casing to come from the present top of cement at 8250 feet to a point at least 300 feet above the top of the San Andres formation.

(11) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of recementing operations on the subject well and also of the installation of disposal equipment so that the same may be witnessed and/or inspected.

(12) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(13) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights. -3-Case No. 6356 Order No. R-5855

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to utilize its State "E" Tract 18 Well No. 21, located in Unit B of Section 2, Township 17 South, Range 36 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico, to dispose of produced salt water into the Abo formation, injection to be accomplished through 3 1/2-inch tubing installed in a packer set at approximately 8350 feet, with injection into the openhole interval from approximately 8391 feet to 9100 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

(2) That the injection well or system shall be equipped with a pop-off valve or other acceptable device which will limit the wellhead pressure on the injection well to no more than 1675 psi.

(3) That upon conversion to salt water disposal, applicant shall recement the 7-inch casing in the subject well in such a manner as to cause cement to come from the present top of cement at 8250 feet back up to a point at least 300 feet above the top of the San Andres formation.

(4) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the recementing operations on the subject well and also of installation of disposal equipment.

(5) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(6) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.

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

-4-Case No. 6356 Order No. R-5855

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

STATE OF NEW MEXICO OLL CONSERVATION DIVISION JOE D. R Director RAMEY

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| ENI | 61AIL OF NEW MEXICO ENGY AND MINI HALS DEPARIMENT | REQUEST FO AUTHIORIZATION TO TRAVS | bbs, N.M. 88240 | Form C-104 Revised 10-1-70 | | |
|----------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------|------------------------------------------------------------------------|------------------------------------------------------------------------------|--|--|
| 11. | If change of Wwmership give name and address of previous owner DESCRIPTION OF WELL AND Leave Name State E Tract 18 Lecolion B 66 | LEASE 1 No. Pool Name, Including J 21 Lovington | ABO Stote, Federa | er Foo State B-1553 | | |
| | 0ntl Letter: | U Feel From The North Lin Mahip 175 Range | and <u>1650</u> Feet From 36E , KIAPA, 1 | The East | | |
| m. | DESIGNATION OF TRANSFOR | FER OF OIL AND NATURAL GA | Address (Give address to which appro | wed copy of this form is to be sent) | | |
| Hane at Authorized Transperter of Casinghead Gas or Dry Gas Address (Give address to which approved copy of this form is to be a | | | | | | |
| | If well produces off ar liquids, give location of tanks, | Unit Sec. Twp. Rge. | Is gas actually connected? Wh | en | | |
| :v. | If this production is commingled wi COMPLETION DATA | th that from any other lease or pool, | | 19.900 - August Maran Banaga ang ang ang ang ang ang ang ang an | | |
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| п. | CERTIFICATE OF COMPLIANC | E | OIL CONSLEVAT | TION DIVISION | | |
| I | I hereby certify that the rules and r Division have been complied with above is live and complete to the | and that the information given | APPROVED APR 1 | 5 1986 19 VISOR | | |
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Owner_____ 4-11-86 (Pole)

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If this is a request for allowable for a newly dilled or despen-ted), this form must be recompanied by a tendetion of the device tests token on the well in accordance with AULE. It. All sections of this form must be filled out completely for ell-eble on new real recomplated wells. Fill out only Sections 1. H. BL, and VL for charges of one well must on number, or tennelouter, or the such throngs of conditi-berates. Forms (2-10% must be filled for each prod for multi-completed varia.

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| CONTRACTOR | NEW MEXICO OIL CONSERVATION COMMISSION | Form C-103 Supervedes Old C-102 and C-103 Effective 1-1-65 |
| U.S.G.S. LAND OFFICE OPERATOR | (n) | 5a. Indicate Type of Lease State State For State Cil & Gas Lease No. |
| SUNDRY NOTICE | ES AND REPORTS ON WELLS HILL ON TO DEEPEN OF PLUG BACK TO A DIFFERENT RESERVOIR. MIT - " (FORM C-101) FOR SUCH PROPOSALS.) | |
| ARE CONTRACT OTHER | Injection | 7. Unit Agreement Name 8. Furm of Lease Name |
| Amoco Production Company | | State E Tract 18 |
| P.O. Drawer "A", Levelland, | , Texas 79336 | 9. Well No. 21 |
| B 660 | FEET FROM THE NORTH LINE AND 1650 FEET | Lovington |
| THE East 2 | TOWNSHIP 17-S RANGE 36-E | мем. () () () () () () () () () () () () () |
| | 15. Elevation (Show whether DF, RT, GR, etc.) 3853 RDB | L2. County Lea |
| NOTICE OF INTENTION TEMPORAPILY ABANDON TEMPORAPILY ABANDON THE CRAFTER CASING CONSERVATION SANTA FE OTHER T. Cechtice intived or Completed Operations (Cl Work, SEE ROLE 1103. Moved in service unit 1/29/ retainer to 8275'. Squeeze followed by 100 sx Class H interval 4722'-23' with 4 J perfs and circulated out br 7" casing with 560 sx Class followed by 100 sx Class C Survey and found top of cemu Ran bit to 8257' and driller 8381'-8470'. Drilled formation and set packer at 8367'. Ac | T. PLUG AND ASANDON TI REMEDIAL WORK | ALTERING CASING PLUG AND ABANDONMENT Convert to SWD Wing estimated date of starting any proposed Ran tubing and cement cement plus 6% Halad 9 Alled tubing and perforated 53'. Pumped 283 BW thru retainer at 4638'. Cement salt plus 1/4# Flocele/sx 5 sx. Ran Temperature retainer 4638'-4727'. 8381'. Drilled fill from and bit. Ran 2 1/2" tubing Can bit. R |
| signed a second start of the second start of t | e and complete to the best of my knowledge and belief. | |
| insure on the states | SUPERVISOR DISTRIC | MAR 20 1979 |
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| N . OF COPIES RECEIVED | | Form C+103 |
| DISTRIBUTION | | Supersedes Old |
| SANTA FE | NEW MEXICO OIL CONSERVATION COMMISSION | C-102 and C-103 Effective 1-1-65 |
| FILE | | |
| U.S.G.S. | | 5a. Indicate Type of Lease |
| LAND OFFICE | | State K Fee |
| OPERATOR |] | 5, State Oil & Gas Lease No. |
| SUNDR | RY NOTICES AND REPORTS ON WELLS POSALS TO DRILL OR TO DEEPEN OR PLUE BACK TO A DIFFERENT RESERVOIR. ION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.) | |
| OIL CAS WELL | OTHER- | 7. Unit Agreement Name |
| Name of Operator | | 8. Farm or Lease liame |
| Amoco Production Comp | bany | State "E" Tract 18 |
| . Address of Operator | | 9. Weil No. |
| P.O. Drawer "A", Leve | elland, Texas 79336 | 21 |
| 4. Location of Well | | 10. Field and Pooi, or Wildcat |
| | 660 FEET FROM THE NORTH LINE AND 1650 FEET FROM | Lovington |
| | ON TOWNSHIP 17-S 36-E NMPM | |
| | 15. Elevation (Show whether DF, RT, GR, etc.) 3853 RDB | 12. County Lea |
| | Appropriate Box To Indicate Nature of Notice, Report or Ot | |
| NOTICE OF IN | NTENTION TO: SUBSEQUEN | T REPORT OF: |
| FERFORM REMEDIAL WORK | PLUG AND ABANDON REMEDIAL WORK | ALTERING CASING |
| TEMPORARILY ABANDON | COMMENCE DRILLING OPNS. | PLUG AND ABANDONMENT |
| PULL OR ALTER CASING | CHANGE PLANS CASING TEST AND CEMENT JOB | , |
| Convert to | SWD DTHER | |

Per NMOCD order No, R-5885 dated 10/25/78, propose to convert well to SWD by the following procedure. Pull rods, tubing and packer. Run tubing and cement retainer to 8275'. Squeeze Abo perfs 8330'-8340' with 100 sx Class H cement plug additives and 100 sx Class H cement plug 2% HR4. Pull out of retainer. Perf 7" casing w/4 shots/foot over 1 foot interval at approx. 4720'. Run tubing with cement retainer and set above perfs at 4670'. Cement 7" casing with 560 sx Class C Incor plus additives and 100 sx Class C Incor plus 9.5# fine grained salt/sx. to circulate to surface. Pull out of retainer. Run bit and drill pipe. Drill out cement retainers and CIBP set at 8380'. Deepen hole to 9100'. Pull drill pipe and bit. Run workstrin, treating packer and tailpipe. Acidize open hole with 5000 gal 15% HCL. Pull workstring, treating packer, and tailpipe. Run internally coated tubing and injection packer. Set packer at approx. 8370'. Place well on injection.

| I hereby certify that the information above is true and comple | tte to the best of my knowledge and belief. | ·····,, · · · · · · · · · · · · · · · · |
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| · IGNED Ray Of | Administrative Supervisor | February 1, 1979 |
| AMPROVED BY IS NOT ANY | UPERVISOR DISTRICT | FEB 2 1979 |

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| U.S.G.S. | + | | | | STATE | |
| LAND OFFICE | | | | | | & Gas Lease No. |
| OPERATOR | | | | | B-1553 | 3 |
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| b. Type of Well DRILL | | DEEPEN | | | 8. Farm or L | ease Name |
| OIL X GAS WELL | OTHER | · · · · · · · · · · · · · · · · · · · | ZONE MULT | ZONE | | E Tract 18 |
| 2. Name of Operator Amoco Production Cor | many | | | | 9. Well No. | 21 |
| 3. Address of Operator | | | | <u>.</u> | I | d Pool, or Wildeat |
| P.O. Drawer A, Leve | lland, Texas 79 | 336 | , | | Loving | · · · · · |
| 4. Location of Well | . <u>B</u> Loc | ATED 660 FE | ET FROM THE NORTH | LINE | | |
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| | | /////////////////////////////////////// | 9100 - | A. Formation | n. | 20. Rotary or C.T. Rotary |
| 21. Elevations (Show whether DF, I | RT, etc.) 21A. Kind | & Status Plug. Bond 21 | | | 22. Approx | . Date Work will start |
| 3853' RDB | Blanke | t on File | NA | | Aug. 25 | 5, 1978 |
| 23. | p | ROPOSED CASING AND | CEMENT PROGRAM | 1 1m | ۰. | · · · · · · · · · · · · · · · · · · · |
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| SIZE OF HOLE | SIZE OF CASING | WEIGHT PER FOOT | SETTING DEPTH | SACKSON | CEMENT | EST. TOP |
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| hole, test injectiv | ity by pumping | 500 bbl of prod | uced water and | convert | well to | a |
| salt water disposal. | | , | • | | | · · · |
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| IN ABOVE SPACE DESCRIBE PRO | PROGRAM, IF ANY. | AUFUSAL IS IU UEEPEN OR | | FRESENT PRO | SOCIAL ZONE | AND FRUFUSED REW PRUDUC+ |
| I hereby certify that the information | above is true and comp | lete to the best of my kny | owledge and belief. | | | |
| Signed David It | orter | tureAsst.Admi | nistrative Anal | yst | Date <u>7-2</u> | 27-78 |
| (This price for Si | ate Use) /7 // | / | المحكمة بالمكتبر ومرابعة المحمد ومراجع المحتول الم | | | 2 |
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| | NO. AF COULT RECEIVED DISTREDUTION SANTA FE FILE U.S.G.S. LAND OF FICE I RANSPORTER OPERATOR PRORATION OFFICE Operation Operation Constant of the section Operation Constant of the section Constant of the sec | REQUEST I | DNSERVATION COMMISSION FOR ALLOWABLE AND NSPORT OIL AND NATURAL GA E C E I V E D | Form C - 104 Supersedes Old C-104 and C-116 Elfactivo 1-1-65 AS |
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| And and a second of the second o | Address BOX 68, HOBBS, N. M. 8 Reason(s) for filing (theck proper bos) New Vell Recompletion Change in Ownership If change of ownership give name and address of previous owner | • | | ECTIVE 10-1-71 KELLY OL CO |
| II. | DESCRIPTION OF WELL AND I STATE & TRACI Location Unit Letter B : 660 Line of Section X & Tow | LEASE Well No. Frei Name, Including Fo B21 LOVING TOI Feel From The DOPTH Line mehip 17-S Range E | V ABO State, Federal | or Fec STATE B-1553 |
| · · · | DESIGNATION OF TRANSPORT Name of Authorized Transporter of Cill IEXAS-NEW ME OHILLIPS PETRI If well produces off or liquide, give location of tarks. | | Address (Give address to which approve BOX 1510 Min DU Autors (Five address to which approv BIRTES VILLE Is gas actually connected? VES | ed copy of this form is to be sent) AND /EXAS d copy of this form is to be sent) KCA |
| . IV. | COMPLETION DATA Designate Type of Completion Date Spudded Elevations (DF, RKB, RT, GR, etc.) Perforations | n - (X) Gas Well Date Compl. Ready to Prod. | New Weil Workover Deepen Total Depth Top O:1/Gas Pay | Plug Back Same Res'v. Diff. Res'v. P.B.T.D. Tubing Depth Depth Casing Shoe |
| | HOLE SIZE | CASING & TUBING SIZE | CEMENTING RECORD | SACKS CEMENT |
| v. | TEST DATA AND REQUEST FO OIL, WELL Date First New Gil Run To Tanke Length of Test Actual Prod. During Tent | DR ALLOWABLE (Test must be a) able for this de Date of Test Tubing Pressure Oll-Bble. | l (ter recovery of total volume of load oil a pth or be for full 24 hours) Producing Method (Flow, pump, gae lift Casing Preseure Water-Bbls. | |
| vi | GAS WELL Actual Frid. Trit-MOP/D Testing Meiket (plint, back pr.) . CEPTIFICATE OF COMPLIAN | Longth of Test Tubing Prenaure (Shut-in) CE | | Gravity of Condensate Choke Size |
| 7 | $\begin{array}{c} C_{n1}, \ldots, \ldots, c_{n1}, c_{n2}, c_{n2}, c_{n2}, c_{n2}, c_{n3}, c$ | equintions of the Oil Conservation with and that the information given best of my knowledge and belief. | well, this form must be accompar- tests taken on the well in accor- All sections of this form mu- able on new and recompleted we Fill out only Sections I. Il well name or number, or transport | nble for a newly drilled or deepened then by a tabulation, of the deviation dance with AULE 1911, at be filled out completely for allow- |

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| NEW MEXICO OIL CONSERVATION COMMISSION FORM C-103 (Rev 3-55) | | | | | | | | | | |
| | | | MISCEL | LANEOUS | REPOR | RTS ON | WELLS | iss office | OCĊ | |
| | MISCELLANEOUS REPORTS ON WELLSAS OFFICE OCC (Submit to appropriate District Office as per Commission Rule 1706) | | | | | | | | | |
| Name of Com | ipa ny | | | | 4 Addres | S S | 1635 14 | W 23 M | 8-1 | 9 |
| 6 | | oleur | Corporation | | | | Hobbs, 1 | | | |
| Lease | | _ | | 1 | | 4 | Township | 3 | Range | |
| Date Work P | E" Tract 1 | | Pool | 21 | В | 12 | T_1 | 7-S | F | 1-36-Е |
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| 1977 | | | | Position | | | | | | |
| Witnessed by M. R. H | | | · · · | Field Fore | | · • | Company Pan Amen | rican Petro | ່ງອາກາ | Corporation |
| | 194701 | | FILL IN BEI | LOW FOR REM | | | | | - X 14816 - | |
| | | | | ORIGINAL | WELL I | DATA | | | | |
| D F Elev. | | TD | | PBTD | | | Producing | | | letion Date |
| 3853 F Tubing Diam | | | 8470 [†] Tubing Depth | 8370 | | | | | | 14-59 |
| $2-3/8^{11}$ | DD | | 8341* | | 711 | ng Diamer | er . | Oil String 83 | 91 | |
| Perforated In 8330-934 | | | | | | | | | | |
| Open Hole In | | | | _, _, _, _, _, _, _, _, _, _, _, _, _, _ | Produci | ing Format | tion(s) Abo | | | · · |
| | | | - <u></u> | RESULTS | FWOR | KOVER | | | | |
| Test | Date of Test | | Oil Production BPD | Gas Produ MCFP | | | roduction PD | GOR Cubic feet/Bt | | Gas Well Potential MCFPD |
| Before Workover | 8-22-59 | | 81 | | | 14 | 0 | | | |
| Aíter Workover | 11-14-59 | | 65 | | | 14 | 0 | | | |
| | DIL CONSI | ERVAT | CION COMMISSION | | | I hereby certify that the information given above is true and complete to the best of my knowledge. | | | | s true and complete |
| Approved by | V. | | 172 | | Name | Name Name | | | | |
| Title | <u>(</u> | | CARL' | <u> </u> | Positi | | ()u | × cr | | |
| | | / | | | | Are | a Superi | intendent | | |
| Date | 6 | | | | Compa | ny Pan | America | n Petroleur | n Cor | poration |

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

HOBBS OFFICE OCC

MISCELLANEOUS NOTICES

Submit this notice in TRIPLICATE to the District Office, Oil Conservation Commission, before the work specified is to begin A gopy will be returned to the sender on which will be given the approval, with any modifications considered advisable, or the rejection by the Commission or agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Notice by Checking Below

| Notice of Intention to Change Plans | | Notice of Intention to Temporarily Abandon Well | | Notice of Intention to Drill Deeper | |
|-----------------------------------------------|--------|----------------------------------------------------|---------------------------------------|-----------------------------------------|---------------------|
| Notice of Intention to Plug Well | | Notice of Intention to Plug Back | x | Notice of Intention to Set Liner | |
| Notice of Intention to Squeeze | | Notice of Intention to Acidize | x | Notice of Intention to Shoot (Nitro) | · · · |
| Notice of Intention to Gun Perforate | X | Notice of Intention (Other) | | Notice of Intention (Other) | |
| OIL CONSERVATION COMM SANTA FE, NEW MEXICO | ISSION | Hobbs, New Mexico | | October 2, 1959 | |
| | | (Place) | · · · · · · · · · · · · · · · · · · · | (Date) | |
| Gentlemen: | • | | . . | | e ; p |

| Following is a Notice of Intention to do certain work as described below at the. Pan American Petroleu | m Corr | eration |
|--------------------------------------------------------------------------------------------------------|--------|----------|
| State "E" Tract 18 Well No. 21 | in- | B |
| (Company or Operator) | 2 | "(Unit) |
| | • | Pool |
| ^σ | | C) FT |
| County. | C | 8 |
| FULL DETAILS OF PROPOSED PLAN OF WORK | G. 10 | č č |

(FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS)

In order to shut off formation water and increase productivity the following remedial work is planned:

Set a cast iron bridge plug in 7" casing at 8380' and cap with 10' cement. Perforate with two shots per ft., intervals, 8287-8289, 8301-8311. Acidize perforations with 500 gallons 15% regular acid. Overflush with 10-15 barrels of oil.

Put well on production.

| Approved | Pan American Petroleum Corporation |
|-----------------------------------------|------------------------------------------------------------------------|
| Except as follows: | ByBy |
| Approved OIL CONSERVATION COMMISSION | Position Area Superintendent Send Communications regarding well to: |
| By | Name J. W. Brown |
| Tide | Address. P. Q. Box 68-Hobbs, New Mexico |

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fo, New Mexico

JN MISCELLANEOUS NOTICES

Submit this notice in TRIPLICATE to the District Office, Oil Conservation Commission, before the work specified is to begin. A copy will be returned to the sender on which will be given the approval, with any modifications considered advisable, or the rejection by the Commission or agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Notice by Checking Below

| NOTICE OF INTENTION TO CHANGE PLANS | | NOTICE OF INTENTION TO TEMPORARILY ABANDON WELL | | Notice of Intention to Drill Deeper | |
|-----------------------------------------|---|----------------------------------------------------|---|-----------------------------------------|--|
| Notice of Intention to Plug Well | | Notice of Intention to Plug Back | | Notice of Intention to Set Liner | |
| Notice of Intention to Squeeze | x | NOTICE OF INTENTION TO ACIDIZE | x | Notice of Intention to Shoot (Nitro) | |
| Notice of Intention to Gun Perforate | X | Notice of Intention (Other) | | Notice of Intention (Other) | |

OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO

Hobbs New Mexico

6-17-59

Gentlemen:

Following is a Notice of Intention to do certain work as described below at the Pan American Petroleum Corporation

| | State E Tract 18 | Well | No. 21 in | B |
|-----------------------|------------------|------------|---------------|--------|
| (Company or Operator) | | Loase | | (Unit) |
| | T. 17-S. R. 36 | -E.NMPM. | Lovington Abo | Pool |
| (40-acre Subdivision) | | د ي | // | |

Lea.....County.

FULL DETAILS OF PROPOSED PLAN OF WORK (FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS)

In order to shut off water and increase production, we propose the following:

Set drillable retainer at 8385' and squeeze open hole 8391' - 8470' with 200 sacks slo-set cement, leaving 10' cap on top of retainer. Perforate 8330-40 with 2 shots per foot, acidize with 500 gallons 15% acid and flush with 50 barrels oil. Test well and return to production.

| Approved | Pen American Petroleum Corporation |
|-----------------------------------------|-----------------------------------------------------------------------|
| Except as follows: | Company or Operator By |
| Approved OIL CONSERVATION COMMISSION | PositionArea Superintendent Send Communications regarding well to: |
| By Aller Hundren | Name J.W. Brown |
| Title | Address Box 68 - Hobbs, New Mexico |

| | | LINA |
|-----------------------------------------------------------------------------------------|------------------------------------------------------------------|--------------------------------------------|
| | HODRE | |
| · 自然间。我们也有了我们,我们不可以 | 10197 | Form C-103 Revised 3-55) |
| NEW MEXICO OIL CONSE | RVATION COMMISSION | |
| | | ···· 10 · 25 |
| (Submit to appropriate District Offic | e as per Commission Rule II | 00) |
| | ration Post Office Box 68. H | obbs, New Mexico |
| (Add | lress) | |
| LEASE State E Tract 18 WELL NO. | 2] UNIT B S 2 T | 17 R 36 |
| DATE WORK PERFORMED May 19, 1958 | POOL Lovington Abo | |
| This is a Report of: (Check appropriate) | block) Results of Test | of Casing Shut-off |
| Beginning Drilling Operations | X Remedial Work | · · · |
| Plugging | Other | · |
| Detailed account of work done, nature and In accordance with Form C-102 approved 5-1 | d quantity of materials used a 2-58 the following work was pe | nd results obtained rformed and results |
| obtained: Set packer at approximately 843 | 0° and acidized down casing wi | th 500 gallons 15% |
| regular and flushed with 50 barrels of oil | • On retest well pumped 126 b | arrels oil and 52 |
| barrels water, 29.09 MCF Gas in 24 hours. | GOR 231. | · |
| | <i>,</i> | |
| | · · · | |
| | | · · · |
| | | |
| FILL IN BELOW FOR REMEDIAL WORK | REPORTS ONLY | · · · · · |
| Original Well Data: | | • • • |
| DF flev. 3853 RDB TD 84.70 PBD _ | Prod. Int. <u>8418</u> Com | pl Date <u>11-15-53</u> |
| Tbng. Dia_211 Tbng Depth_8448 C | Dil String DiaOil Str | ing Depth 8393 |
| Perf Interval (s) | | |
| Open Hole Interval 8393-8470 Produc | cing Formation (s) Abo | |
| RESULTS OF WORKOVER: | BEFORE | AFTER |
| Date of Test | 2-14-58 | 5-22-58 |
| Oil Production, bbls. per day | 115 | 129 |
| Gas Production, Mcf per day | | 29.09 |
| Water Production, bbls. per day | 44 | 52 |
| Gas-Oil Ratio, cu. ft. per bbl. | | 231 |
| Gas Well Potential, Mcf per day | | |
| Witnessed by M. R. Frazier | Pan American Petroleum Corpor | |
| | I hereby certify that the init | ormation given |
| OIL CONSERVATION COMMISSION | above is true and complete | |
| Name AAucalist | my knowledge, Name KIO AKALUU / 1 | 2 |
| Title Fnginger District | Position Field Superintend | ent |
| Date MAY 29 1458 | Company Pan American Pet | roleum Corporation |

NEW MEXICO OIL CONSERVATION COMMISSION

ITAN OF Santa Fe, New Mexico HUDBE UFFICE OCC

MISCELLANEOUS NOTICES 9 Fil 3:28

Submit this notice in TRIPLICATE to the District Office, Oil Conservation Commission, before the work specified is to begin. A copy will be returned to the sender on which will be given the approval, with any modifications considered advisable, or the rejection by the Commission or agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Notice by Checking Below

| Notice of Intention to Change Plans | Notice of Intention to Temporarily Abandon Well | · · · · | Notice of Intention to Drill Deeper | |
|-----------------------------------------|----------------------------------------------------|---------|-----------------------------------------|--|
| NOTICE OF INTENTION TO PLUG WELL | Notice of Intention to Plug Back | | Notice of Intention to Set Liner | |
| NOTICE OF INTENTION TO SQUEEZE | Notice of Intention to Acidize | x | Notice of Intention to Shoot (Nitro) | |
| Notice of Intention to Gun Perforate | NOTICE OF INTENTION (OTHER) | | Notice of Intention (Other) | |

OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO

Hobbs ... New Mexico

Gentlemen:

Lea

Following is a Notice of Intention to do certain work as described below at the Pan American Petroleum Corporation.

1.958

(Date)

| State "E" Tract 18 | | Well No. 21 in | В |
|-----------------------|---------|----------------|--------|
| (Company or Operator) | Lesse | | (Unit) |
| | -E NMPM | Lovington Abo | |
| (40-acre Subdivision) | | *429 | 1 |

.....County.

FULL DETAILS OF PROPOSED PLAN OF WORK (FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS)

In order to stimulate production we propose the following: Set packer at approximately 8430' and acidize down casing with 500 gallons 15% regular and flush with 50 barrels of oil. Test well and return to production.

TAV 1 2 1958

| Approved, 19 | Pan American Petroleum Corporation |
|-----------------------------------------|----------------------------------------|
| Except as follows: | By TARA Heulick Jen |
| A | Position Field Superintendent |
| Approved OIL CONSERVATION COMMISSION | Send Communications regarding well to: |
| By Alacher | Name R. L. Hendrickson |
| Title | Address Box 68. Hobbs, New Mexico |

XICO OIL CONSERVATION COMMISSION Form C-110 (File the original and 4 copies with the appropriate district office) Revised 7/1/55

A . CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS



| Company or Operator Pan American Petroleum | Corporation Lease State "E" Tr. 18 |
|---------------------------------------------------------------------------------------|-----------------------------------------------------|
| Well No. 21 Unit Letter B S 2 T 1 | 7 R 36 Pool Lovington Abo |
| County Lea Kind of Lease (S | tate, Fed. or Patented) State |
| If well produces oil or condensate, give location | |
| Authorized Transporter of Oil or Condensate | Texas-New Mexico Pipe Line Co. |
| | |
| Address | Box 1510 - Midland, Texas |
| (Give address to which approved co | py of this form is to be sent) |
| | Skelly Oil Co. |
| Address | Box 1135, Eunice, New Mexico |
| (Give address to which approved co If Gas is not being sold, give reasons and also | |
| | |
| Reasons for Filing: Please check proper box) | New Well () |
| Change in Transporter of (Check One): Oil () | |
| | |
| | Other (x) |
| Remarks: | (Give explanation below) |
| Change of operating name from "Stanolind "Pan American Petroleum Corporation" eff | Oil and Gas Company" to ective February 1, 1957. |
| · · · · · · · · · · · · · · · · · · · | |
| The undersigned certifies that the Rules and Re mission have been complied with. | gulations of the Oil Conservation Com- |
| Executed this the 28th day of January 19 | 57 |
| JAN 29 1957 | By Kalphel House |
| Approved JAN 19 | Title Field Superintendent |
| OIL CONSERVATION COMMISSION | Pan American Company Petroleum Corporation |
| By E. Fischer | Address Box 63 |
| Title Engineer District | Hobbs, New Mexico |

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| | | | | NEW MEXICO | OIL CONSI | ERVATION O | MMUSSION NOV 18 1 | 1953 |
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| | | | | n an | WELL R | ECORD | Invite Stri | .) E |
| | | | | | | -15 | J.L. | Strates |
| | 10 | | Mail to Dist | rict Office, Oil C | conservation Con | mission, to which | h Form C-101 wa | as sent not |
| | | | of the Commi | ission. Submit in | QUINTUPLICA | TE. | ons in Rules and l | Regulations |
| LOCAT | REA 640 ACRE E WELL CORF | LS RECTLY | anter and an | یسلا کر تعلقاً و | 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - | The second second | en endet with | |
| Stanoli | nd Oil | and Gas | Company | · · · · · | S | tate E Tra | ict 18 | |
| | | | | ing the contemport | | 2. W | erondon (m. s | 1216110 |
| Well No | | , in | | 1/4, of Sec | Teo | भी राज्य राज्य राज्य । | | |
| | ******************** | | | | | | and the second second as | County. |
| Well in DD | 101 137 7 75 344 | feet from | North | ine and | 16501 10 18217 - 52 | feet from. | Last | |
| of Section | لەۋىرىي ىرى ۋىزىمومىيى | If St | ate Land the Oil an | nd Gas Lease No. | is | B-1555 | ···· | |
| Drilling Comp | nenced | 2-26-53 | | 19. Drilling | was Completed | 11-9 | | , 1953 |
| | • | | ee Drilling | | | | | <u>. 48 1</u> |
| Address | biltow | er Build | ing - Tuls: | a, Oklahon | 1 3 | ····· | | ······ |
| Elevation abov | re sea level at | Top of Tubing | g Head | | | ormation given is | to be kept confid | lential until |
| Not Con | | | | | podroll 1 .7 | ng ngga ng tina n | | |
| itan ana a | and a strange | Marrie Line | | L SANDS OR ZO | DNES | | | · |
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| | | | 8470 01 | | | | | def et |
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| 140, 5, 11010 | | | 1 | | 1011 | ··· · · · · | | - 1 |
| Include data | on rate of wa | ter inflow and | elevation to which | RTANT WATER water rose in hole | | • ••••• | and a second | as 24 - 1 Line 1 |
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as can be determined from available records.

November 16, 1953

npany or Operator. Stanolind Oil and Gas Co. Cor ORIGINAL SIGNED BY Na

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Address Box 68, Hobbs, N. M.

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Position or Title Readwots Son - Foreman FIELD SUPERINTENDENT

| NEW EXICO OIL CONSERVATION COMPSION DECENVENTION DECENVENTION COMPSION DECENVENTION DECENVERSION DECENVENTION DECENVENTI DECENVENTION DECENVENTION DECENVENTION DECENVENTION DECENVENTION |
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| WE ARE HEREBY REQUESTING AN ALLOWABLE FOR A WELL KNOWN AS |
| Stanolind Oil and Gas Company St. E Tr., Well No. 21 , in NW 1/4 NE 1/4, (Company or Operator) (Lease) |
| B, Sec2, T17-S, R36-E, NMPM.,Lovington Abo |
| (Unit) |
| Lea County. Date Spudded 7-26-53 , Date Completed 11-15-53 |
| Please indicate location: |
| ElevationRDB-38531_Total Depth_84701, P.B. |
| |
| Top oil/gas pay 8250! Prod. Form Abo |
| |
| Casing Perforations: Open_hole_completionor |
| Depth to Casing shoe of Prod. String |
| Natural Prod. TestBOPD |
| Natural Prod. 1estBOPD |
| based onbbls. Oil inHrsMins. |
| Test after acid or shot 294.60 |
| Casing and Cementing Record |
| Size Feet Sax Based on 14730 bbls. Oil in 12 Hrs Mins. |
| Gas Well Potential |
| |
| Size choke in inches. 13/64 |
| 9-5/8# 32861 300 |
| 11-14-53 |
| Date first oil run to tanks or gas to Transmission system: $11-14-53$ |
| 7" 8380 550 2 550 cu. ft. Transporter taking Oil or Gas: Texas-New Mexico Pipe Line Company |
| 7" 8380 550 7 550 cu. ft. perlite Transporter taking Oil or Gas: <u>Texas-New Mexico</u> Pipe Line Company |
| 7" 8380 550 2 550 cu. ft. Transporter taking Oil or Gas: Texas-New Mexico Pipe Line Company |
| 7" 8380 550 7 550 cu. ft. perlite Transporter taking Oil or Gas: <u>Texas-New Mexico</u> Pipe Line Company |
| 7" 8380 550 7 550 cu. ft. perlite Transporter taking Oil or Gas: <u>Texas-New Mexico</u> Pipe Line Company |
| 7" 8380 550 4 550 cu. ft. Transporter taking Oil or Gas: Texas-New Mexico Pipe Line Company perlite Remarks: GOR 338; corrected gravity 41.1 API Actrance 37.58 Request top allowable 120 BOPD effective 11-14-53 I hereby certify that the information given above is true and complete to the best of my knowledge. |
| 7" 8380 550 4 550 cu. ft. perlite Transporter taking Oil or Gas: Texas-New Mexico Pipe Line Company Remarks: GOR 338; corrected gravity 41.1 API Actrance 37.58 Request top allowable 120 BOPD effective 11-14-53 I hereby certify that the information given above is true and complete to the best of my knowledge. Approved November 19.53 |
| 7" 8380 550 250 Cu. ft. Derlite Transporter taking Oil or Gas: Texas-New Mexico Pipe Line Company Remarks: GOR 338; corrected gravity 41.1 API ACYCARA 37.58 Request top allowable 120 BOPD effective 11=14=53 I hereby certify that the information given above is true and complete to the best of my knowledge. Approved November |
| 7" 8380 550 4 550 cu. ft. perlite Transporter taking Oil or Gas: Texas-New Mexico Pipe Line Company Remarks: GOR 338; corrected gravity 41.1 API Actrance 37.58 Request top allowable 120 BOPD effective 11-14-53 I hereby certify that the information given above is true and complete to the best of my knowledge. Approved November 19.53 Stanolind Oil and Gas Company |
| 7" 8380 550 750 cu. ft. perlite Transporter taking Oil or Gas: Texas-New Mexico Pipe Line Company Remarks: GOR 338; corrected gravity 41.1 API ACYCARA 37.58 Request top allowable 120 BOPD effective 11-14-53 I hereby certify that the information given above is true and complete to the best of my knowledge. Approved November .19.53 Stanolind Oil and Gas Company OIL CONSERVATION COMMISSION By: |
| 7" 8380 550 550 cu. ft. perlite Transporter taking Oil or Gas: Texas-New Mexico Pipe Line Company Remarks: GOR 338; corrected gravity 41.1 API ACYCAn-39.58 Request top allowable 120 BOPD effective 11=14=53 I hereby certify that the information given above is true and complete to the best of my knowledge. Approved November .19.53 Stanolind Oil and Gas Company OIL CONSERVATION COMMISSION By: Mith, Signature) |

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AddressBox 68, Hobbs, New Mexico

| | (Form C-110) |
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| | DECENVER |
| | New Mexico |
| LINDINAL | 10/ 10/ 10/ |
| It is necessary that Form C-104 be approved before this form can be well. Submit this form | approved an an initial allowable HLASHWAIDAN MISSION Gas in QUADRUPLICATE. <u>MOEBS-OFFICE</u> |
| CERTIFICATE OF COMPLL | ANCE AND AUTHORIZATION |
| | L AND NATURAL GAS |
| Company or Operator. Stanolind. Oil and Gango | Canpany3. Lease State E. Tr. 18 |
| Address Box 68, Hobbs, N. M. | |
| Unit. B., Well(s) No | T. 17-S., R. 36-E., Pool Loyington - Abo |
| County Lea | Patented |
| If Oil well Location of Tanks NW/4of Se | ction 2 T-17-S; R-36-E |
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| Authorized Transporter. Texas-New Mexico, Pipe. | Line Company Address of Transporter |
| Authorized Transporter. Texas-New. Mexico. Pipe. | Line Company Address of Transporter |
| Eunice, New Mexico (Local or Field Office) | , Box 1510, Midland, Texas (Principal Place of Business) |
| Eunice, New Mexico (Local or Field Office) Per cent of Oil or Natural Gas to be Transported 100% | Box 1510, Midland, Texas (Principal Place of Business) Other Transporters authorized to transport Oil or Natural Gas |
| Eunice, New Mexico (Local or Field Office) Per cent of Oil or Natural Gas to be Transported 100% | Box 1510, Midland, Texas (Principal Place of Business) Other Transporters authorized to transport Oil or Natural Gas |
| Eunice, New Mexico (Local or Field Office) | Box 1510, Midland, Texas (Principal Place of Business) Other Transporters authorized to transport Oil or Natural Gas |
| Eunice, New Mexico (Local or Field Office) Per cent of Oil or Natural Gas to be Transported 100% from this unit are | Box 1510, Midland, Texas (Principal Place of Business) Other Transporters authorized to transport Oil or Natural Gas |
| Eunice, New Mexico (Local or Field Office) Per cent of Oil or Natural Gas to be Transported 100% from this unit areNone REASON FOR FILING: (Please check proper box) | Box 1510, Midland, Texas (Principal Place of Business) Other Transporters authorized to transport Oil or Natural Gas |
| Eunice, New Mexico (Local or Field Office) Per cent of Oil or Natural Gas to be Transported 100% from this unit are | Box 1510, Midland, Texas (Principal Place of Business) Other Transporters authorized to transport Oil or Natural Gas |
| Eunice, New Mexico (Local or Field Office) Per cent of Oil or Natural Gas to be Transported 100% from this unit areNone REASON FOR FILING: (Please check proper box) NEW WELL. | Box 1510, Midland, Texas (Principal Place of Business) Other Transporters authorized to transport Oil or Natural Gas CHANGE IN OWNERSHIP |
| Eunice, New Mexico (Local or Field Office) Per cent of Oil or Natural Gas to be Transported 100% from this unit areNone REASON FOR FILING: (Please check proper box) NEW WELL | Box 1510, Midland, Texas (Principal Place of Business) Other Transporters authorized to transport Oil or Natural Gas % CHANGE IN OWNERSHIP |
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| Eunice, New Mexico (Local or Field Office) Per cent of Oil or Natural Gas to be Transported. 100% from this unit are. None REASON FOR FILING: (Please check proper box) NEW WELL. CHANGE IN TRANSPORTER. | Box 1510, Midland, Texas (Principal Place of Business) Other Transporters authorized to transport Oil or Natural Gas % CHANGE IN OWNERSHIP |

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| The undersigned certifies that the Rules and Regulations | s of the Oil Conservation Commission have been complied with. |
|----------------------------------------------------------|---------------------------------------------------------------|
| Executed this the 16th day of | November |
| Approved | Stanolind Oil and Gas Company |
| By Styrineer District 1 Title | Title Production Foreman |
| little | |

(See Instructions on Reverse Side)

NEW MEXICO OIL CONSERVATION COMMISSION NOV 18 1953 Santa Fe, New Mexico **DIL CONSERVATION COMMISSION** HOBBS-OFFICE JEOUS REPORTS ON W Submit this report in TRIPLICATE to the District Office, Oil Conservation Commission, within 10 days after the work specified is completed. It should be signed and filed as a report on Beginning Drilling Operations, Results of test of casing shut-off, result of plugging of well, result of well repair, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission. Indicate Nature of Report by Checking Below REPORT ON BEGINNING **REPORT ON RESULT OF TEST** REPORT ON OF CASING SHUT-OFF X **REPAIRING WELL** DRILLING OPERATIONS **REPORT ON RECOMPLETION** REPORT ON REPORT ON RESULT OF PLUGGING WELL **OPERATION** (Other) Hobbs, New Mexico November 16. (Date) nv 3 0 1953

| Following is a report on the work done and the results obtained | ed under the headin | ng noted above at the | |
|-------------------------------------------------------------------------------------------------|---------------------|----------------------------|------------------|
| Following is a report on the work done and the results obtaine Stanolind Oil and Gas Company | | State E Tract | , 18 |
| (Company or Operator) | | (Lease) | |
| Lee Drilling Company | , Well No | in the NW 14 | NE 1/4 of Sec. 2 |
| (Contractor) | | · · | |
| T17-S, R. 36-E, NMPM, Lovington-Abo | | Lea | County. |
| The Dates of this work were as follows: November 10, | 1953 to Nov | ember 13, 1953 | Inclusive. |
| | · · · · · · | | |
| Notice of intention to do the work (var) (was not) submitted on For | m C-102 on | | |
| ·//···· | | (Cross out incorrect words | 0 |
| and approval of the proposed plan (val) (was not) obtained. | | | |
| | | | |

DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED

On November 11, 1953 ran 8380' of 7" casing and set at 8391' with 550 sacks neat cement w/4% gel and 550 cu. ft. perlite. After 30 hours W.O.C. tested casing before and after drilling plug with 1050 psi for 30 minutes and as there was no loss in pressure, completion operations were resumed.

Stanolind Oil and Gas Company Head Roustabout Witnessed by A.C. Blackburn (Company) I hereby certify that the information given above is true and complete Approved : OIL CONSERVATION COMMISSION to the best of my knowledge. Ľц Name Production Foreman Position Stanolind Oil and Gas Company or District] 18 1953 NOV

(Date)

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(Title)

Representin Box 68, Hobbs, New Mexico

| | - 63 | 1 |
|----------------------------------------|------|----|
| | - 7 | 12 |
| NEW MEXICO OIL CONSERVATION COMMISSION | - (1 | |

Santa Fe, New Mexico

OCT 9 1953

MISCELLANEOUS REPORTS ON WELLS

Submit this report in TRIPLICATE to the District Office, Oil Conservation Commission, within 10 days after the Work Specificates completed. It should be signed and filed as a report on Beginning Drilling Operations, Results of test of casing shut-off, result of plugging of well, result of well repair, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Report by Checking Below

| REPORT ON BEGINNING DRILLING OPERATIONS | REPORT ON RESULT OF TEST OF CASING SHUT-OFF | x | REPORT ON REPAIRING WELL | |
|--------------------------------------------|------------------------------------------------|---|-----------------------------|--|
| REPORT ON RESULT OF PLUGGING WELL | REPORT ON RECOMPLETION OPERATION | | REPORT ON (Other) | |

.October 7, 1953. Hobbs, New Mex

Following is a report on the work done and the results obtained under the heading noted above at the

| Stanclind Oil and Gas Company | | Sta | ate E | Tract | 18 | * . | | : |
|---------------------------------------------------|-----------|-----------|--------|---------|---------|----------|--------|---------|
| (Company or Operator) | | | -, - | | (Lease) | | | •••• |
| Lee Drilling Company | | Well No | 21 | in the | NW 14 | NE 1/4 0 | of Sec | 2 |
| (Contractor) | | | 7. · · | * | | | | |
| T. 17-S. R. 36-E. NMPM. Lovington | n – Abo 🕴 | Poo | J | Lea | | | | County. |
| | | | | | | | t i | |
| The Dates of this work were as folows: October 3, | 1953 to C | october 5 | , 1953 |] Inclu | ısive | | | |
| | | | • | ÷ | | • | | • • |
| | | - | | ·. | • | | | |

Notice of intention to do the work (was not) submitted on Form C-102 on ...

and approval of the proposed plan (was not) obtained.

ORIGINAL

DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED

On October 3, 1953 ran 3286' of 9-5/8" landed at 3300 with DV tool set at 2037. Cemented 1st stage with 150 sx neat cement. Circulated 6 hours and cemented second stage with 150 sacks neat cement. After 36 hours W. O. C. tested casing with 1100 psi for 30 minutes with no drop in pressure. Drilled DV tool and tested casing with 1000 psi for 30 minutes with no drop in pressure. Drilled firm cement and shoe and tested casing water 120 psi for 30 minutes with no utes, and as there was no drop in pressure drilling operations were responded.

QCT 2 6 1953

| Witnessed by. A. C. Blackburn (Name) | Stanolin | d Oil and Gas Company | Head Roustabout |
|-----------------------------------------|-------------|-----------------------------------------------------------------------|------------------------------------|
| Approved: | MISSION | I hereby certify that the information to the best of my knowledge. | a given above is true and complete |
| J. Hanley | ····· | Name Dept Heuun Position Field Superinten | dent |
| Engineer District 1 | DCT 13 1953 | Representing Stanolind Oil Address Box 68, Hob | and Cas Company |

| | | | | | (Form C-103) (Revised 7/1/52) |
|-------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------|--------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------|----------------------------------|
| A NEW | MEXICO OIL CON | | COMMISSION | محمد منابعة المحمد القلق والمراجع مستعمل المحمد المستورين | 7 |
| TRUMANSO | Santa Fe, ELLANEOUS I | New Mexico | ON WELL | SELVED. | |
| Submit this report in TRIPLICATE to | | | | | |
| pleted. It should be signed and filed as a rep result of well repair, and other important of instructions in the Rules and Regulations of | operations, even though th | ne work was withe | essed Byush Utility | -of the Commission. OBBS-OFFICE | See additional |
| misticcions in the Rules and Regulations of | Indicate Nature of Re | port by Checking | State Stat | | |
| REPORT ON BEGINNING DRILLING OPERATIONS | REPORT ON RES OF CASING SHU | | X REPOR REPAIR | T ON VING WELL | |
| REPORT ON RESULT OF PLUCGING WELL | REPORT ON REC OPERATION | OMPLETION | REPOR (Other) | | |
| | | ber 29, 1953 | 3 | Hobbs, New Me | xico |
| Following is a report on the work do | | | ng noted above at | the | |
| Stanolind Oil and Gas Co | · · · · · · · · · · · · · · · · · · · | | State E Tra | | |
| (Company or Operato | | 21 | (La 1 | ase) NE | 2 Provention |
| (Contractor) | | | | · . | Sec, |
| T. 17-S , R 36-E , NMPM, Lovi | ngton-Abo | Pool,`. | | ea. | County. |
| The Dates of this work were as folows: Sep | tember 27, 1953 t | o September | 28, 1953 Ir | clusive | |
| Notice of intention to do the work (444) (v | vas not) submitted on For | m C-102 on | | P | , 19, |
| and approval of the proposed plan (has) (v | e - | | (Cross out incom | rect words) | |
| DETAILE | D ACCOUNT OF WORK | OONE AND RE | SULTS OBTAIN | ED | |
| | | | | | 007 |
| On September 27, 1953 ran 25 cement circulated to surface 400 psi for 30 minutes with | • After 24 hours no drop in pressu | s W. O. C., H ure. Drilled | tested casir d 40' of fir | m cement to sh | ing plug with noe and tested |
| casing with 400 psi for 30 m were resumed. | inutes and as the | | rob tu brose | ure, uring | obergerene |
| Spudded 7-26-53. | t an | | on concentation | N COMMONCO | |
| • | *1 | | CONCERVATION | Entra III | X |
| | | · · · · | OIL SANT TR | 5 1950 JE | |
| | | | [[]]: OC | [5] ¹⁵² | · · · |
| | | | | · · · · | |
| Witnessed by A. C. Blackburn (Name) | Stanolind | d Oil and Gas (Company) | s Company | Head | Roustabout |
| | | • | | | · · · |
| Approved: SIL-CONSERVATION CON | IMISSION | I hereby certify to the best of r | | ion given above is truc | and complete |

Name.

L/ tanley OCT 2- 1953

Engineer District 1

Position Production Representing. Stanolind. Oil and Gas Company. Address Box 63, Hobbs, New Mexico

Foreman

Mitue.

| | | | _ | | | | | |
|-----------------------|-------------|----------------|----------------------------------------|-----------------------------------------|----------------------------------------------------|------------------------------|--------------------------------------|------------------------------------------------------------------------------------------|
| | . 1 | A | | | | | | (Form C-101) (Revised 7/1/52) |
| - 3 | ~1A | \ [\ | N N | EW | EXICO OIL CON | | I SION | |
| mill | | | 16 | | Santa Fe, | New Mexico | | |
| IK | 111 | 8 1 | | | | | | TRI TRI |
| UIV | | NOI | FICE C | JF 1 | NTENTION 7 | O DRILL O | × 的File 图目 | WE III |
| Notice | must be g | given to | o the Distr | ict Off | ice of the Oil Conserva | tion Commission and a | pproval obtained bef | ore drilling pr recompletion I be returned to the sender. Handin Rules and Regula- |
| Submit thi | s notice in | QUIN | TUPLICA | TE. O | ne copy will be returne | d following approval. | ee addition Pin 250 | terain Rules and Regula- |
| | e Commissie | | | | • | | Lon ooserbyatiga | INTERMALISION |
| •••• | Hobbs, | New | (Place) | | | Septer | Date) | |
| OIL CON | SERVATI | ON CO | ,_ , | | | | House-0 | |
| SANTA F | E, NEW M | IEXIC | 0 | • | ·. | | | . · · · |
| Gentlemen | : | | | | · · · | | 4 | |
| You a | re hereby : | notified | that it is | our in | tention to commence th | e (Drilling) (Reforme | hips of a well to be | known as |
| 5.5 | noting | UII - | and Gas | VOII | tention to commence th D any (Company | or Operator) | ····· | ······ |
| Sta | te E Tr | act | 18 | | · · · · · · · · · · · · · · · · · · · | , Well No | in | B (Unit) The well is |
| located | 660 | | (Lease) | | North | | 1650 | (Unit) |
| located | East | | leet from t | .ne | line of Section. | 2 _T 17-5 | 36 - 36 | E NMPM |
| (CIVE LC | CATION | | | | | | | LeaCounty |
| (010220 | | | | | If State Land the Oil a | nd Gas Lease is No. | B-1553 | ······································ |
| [| | | |] | If patented land the on | wner is | | |
| D | С | ₿ [×] | A | | | - معرب ا معرب ا | • • • | |
| · . | | | | | We propose to drill we | ll with drilling equipmen | t as follows: | ary tools to |
| E | F | G | н | · . | | | | |
| L | r | G | | | The status of plugging | bond is Blanket 1 | ond on file w | ith Commission |
| | | · | · | | | T | | |
| L | К | J | I | | Drilling Contractor | | | |
| | | · | | | ****** | Philtower Bldg. | . | |
| М | N | ο | Р | | ****** | Tulsa, Oklahoma | A | |
| | | | | | | this well in the | | |
| | | | | ; | | | 852V | feet. |
| We pr | opose to us | e the fe | ollowing st | ings of | Casing and to cement t | PROGRAM hem as indicated: | | |
| | of Hole | | Size of Casi | | Weight per Foot | New or Second Hand | ·* Depth | Sacks Cement |
| 17-1/ | | 12 | -3/8" | | 36# | New | 250' | 275 sx. circulated |
| | | | -5/8# | | | | | |
| 12-1/ | | | | | <u>32.3# - 36#</u> | New | 33001 | |
| &=3/ | + | | 7" | | 23# = 26# | New | 8550' | 450sx 4% gel / |
| If cha | nges in the | above | plans beco | me adv | visable we will notify yo | u immediately. | | 450 cu, ft. perlite |
| ADDI | TIONAL | INFOF | RMATION | (If re | completion give full de | tails of proposed plan c | of work. LouisEDVATIO | N. MALXICO TA |
| *To be t | wo star | e cer | nented · | to is | solate the salt | section. | OII SANTA FR | |
| lst Stag | e - 150 | sach | (3 | •• | | | GIFTIN | 0 1053 |
| 2nd Stag | | | | | : | | IL' GEP 2 | 8 1953 |
| | | | CED 95 | 1953 | 3 | Sincerely yours, | In. | |
| Approved Except as | follows: | | DEF.AU | 100 | , 19 | | · /// | |
| | | | | | · , | Stanolina Un | 1 and Cas. Com (Contrany or Opera | pany for |
| | | | | | | By Hath | Muli | |
| | 1 | 7 | | | | Position Produ | ction Foreman | |
| | OIL CO | NSER | VATION | COMM | IISSION | Send | Communications rega | arding well to |
| By Q | S) | tar | duf | | | | Hendrickson | |
| Title | Engine | er Di | strict 1 | | | AddressDOXÓE | Hobbs,New | MGX1.CO |
| A (LIC | ••••••••••• | •••••• | ······································ | • • • • • • • • • • • • • • • • • • • • | •••••• | •••••• | | |

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| Form C-110 |
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| Revised 7/1/55 |
| |
| NEW MEXICO OIL CONSERVATION COMMISSION |
| THE SANTA FE, NEW MEXICO HOBES OFFICE OCC |
| (File the original and 4 copies with the appropriate district office) |
| 1955 SEP 1 AM 10:38 |
| CERTIFICATE OF COMPLIANCE AND AUTHORIZATION |
| TO TRANSPORT OIL AND NATURAL GAS |
| |
| Company or Operator <u>Stanolind Oil and Gas Company</u> Lease <u>State E Tract 18</u> |
| Well No. 21 Unit Letter B S 2 T 17-SR 36-Pool Lovington Abo |
| County Lea Kind of Lease (State, Fed. or Patented) State Land |
| |
| If well produces oil or condensate, give location of tanks:UnitSTR |
| Authorized Transporter of Oil or Condensate |
| |
| Address(Give address to which approved copy of this form is to be sent) |
| Authorized Transporter of Gas Skelly Oil Company |
| |
| Address <u>Box 1135, Eunice, New Mexico</u> (Give address to which approved copy of this form is to be sent) |
| If Gas is not being sold, give reasons and also explain its present disposition: |
| |
| |
| |
| |
| |
| Reasons for Filing: (Please check proper box) New Well () |
| |
| Change in Transporter of (Check One): Oil () Dry Gas () C'head () Condensate () |
| Change in Ownership () Other (X) |
| Remarks: (Give explanation below) |
| |
| a 110 being filed to outhonize transporter of casinghead gas only. |
| C-110 being filed to authorize transporter of casinghead gas only, effective September 1, 1955. |
| effective September 1, 1955. |
| effective September 1, 1955. |
| effective September 1, 1955. |
| effective September 1, 1955. |
| effective September 1, 1955. The undersigned certifies that the Rules and Regulations of the Oil Conservation Com- |
| effective September 1, 1955. |
| effective September 1, 1955. The undersigned certifies that the Rules and Regulations of the Oil Conservation Com- mission have been complied with. |
| effective September 1, 1955. The undersigned certifies that the Rules and Regulations of the Oil Conservation Com- |
| effective September 1, 1955. The undersigned certifies that the Rules and Regulations of the Oil Conservation Com- mission have been complied with. Executed this the <u>31st</u> day of <u>August</u> 1955 |
| The undersigned certifies that the Rules and Regulations of the Oil Conservation Com- mission have been complied with. Executed this the <u>31st</u> day of <u>August</u> 1955 But 2004 U. |
| effective September 1, 1955. The undersigned certifies that the Rules and Regulations of the Oil Conservation Com- mission have been complied with. Executed this the <u>31st</u> day of <u>August</u> 1955 |
| effective September 1, 1955. The undersigned certifies that the Rules and Regulations of the Oil Conservation Commission have been complied with. Executed this the <u>31st day of August</u> 1955 By CopArticutor Approved 19 Title Field Superintendent |
| effective September 1, 1955. The undersigned certifies that the Rules and Regulations of the Oil Conservation Com- mission have been complied with. Executed this the <u>31st</u> day of <u>August</u> 1955 By <u>August</u> By <u>August</u> |
| effective September 1, 1955. The undersigned certifies that the Rules and Regulations of the Oil Conservation Com- mission have been complied with. Executed this the <u>31st</u> day of <u>August</u> 1955 By <u>By But Aleuductor</u> Approved19 Title <u>Field Superintendent</u> OIL CONSERVATION COMMISSION Company <u>Stanolind Oil and Gas Company</u> |
| effective September 1, 1955. The undersigned certifies that the Rules and Regulations of the Oil Conservation Commission have been complied with. Executed this the <u>31st day of August</u> 1955 By CopArticutor Approved 19 Title Field Superintendent |

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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:

CASE NO. 7009 Order No. R-6461

APPLICATION OF AMOCO PRODUCTION COMPANY FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on August 20, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 10th day of September, 1980, 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, Amoco Production Company, is the owner and operator of the State "E" Tract 18 <u>Well No. 22</u>, located in Unit G of Section 2, Township 17 South, Range 36 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Abo formation, with injection into the open hole interval from approximately 8330 feet to 9000 feet.

(4) That the injection should be accomplished through 3 1/2-inch plastic lined tubing installed in a packer set at approximately 8300 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer. -2-Case No. 7009 Order No. R-6461

(5) That prior to injection the applicant should recement the 5 1/2-inch casing in said well from a depth of approximately 5400 feet to 5000 feet, obtain a formation water analysis at the injection interval, and file such analysis with the Director of the Division.

(6) That the injection well or system should be equipped with a pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 1650 psi.

(7) That the Director of the Division should be authorized to administratively approve an increase in the injection pressure upon a proper showing by the operator that such higher pressure will not result in migration of the injected waters from the Abo formation.

(8) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(9) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.

(10) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Amoco Production Company, is hereby authorized to utilize its State "E" Tract 18 Well No. 22, located in Unit G of Section 2, Township 17 South, Range 36 East, NMPM, Lovington-Abo Pool, Lea County, New Mexico, to dispose of produced salt water into the Abo formation, injection to be accomplished through 3 1/2-inch tubing installed in a packer set at approximately 8300 feet, with injection into the open hole interval from approximately 8330 feet to 9000 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer. -3-Case No. 7009 Order No. R-6461

<u>PROVIDED FURTHER</u>, that prior to injection the applicant shall recement the 5 1/2-inch casing in said well from a depth of approximately 5400 feet to 5000 feet, obtain a formation water analysis at the injection interval, and file such analysis with the Director of the Division.

(2) That the injection well or system shall be equipped with a pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 1650 psi.

(3) That the Director of the Division may authorize an increase in injection pressure upon a proper showing by the operator of said well that such higher pressure will not result in migration of the injected fluid from the Abo formation.

(4) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

(5) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

(6) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.

(7) 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 101 JOE D. RAMEY Director

SEAL fd/

| 2 | L. Consent de Grand | P. O. HC SANTA FI, NEW REQUEST FO AUTHORIZATION TO TRAVIS AUTHORIZATION TO TRAVIS APOILO OIL BOX 1737, H TIUM CHUNSION TA FEON Costinghead Case Costinghead Case Conder | obbs, N.M. 88240 01her (Please captor) Effectiv | Form C-104 Reviewd 10-1-70 |
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| . 1 | If well produces oil or liquids, give location of tanks. | Unii Sec. Twp. Kge. | is has actually connected? | Plug Back Some Reviv. 1010, Res P.B.T.D. Tubing Depth |
| | HOLE SIZE | <u> </u> | CEMENTING RECORD | Depth Caxin; Shoe |
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| ţ | V. TEST DATA AND REQUEST F | Date of Teet | pth or be for full 24 hours) Producing kiethod (Flow, pump, sas | lifi, etc.) |
| ; | Longth of Test Actual Frod, During Test | Tubing Pressure Oll-Bbis. | Casing Pressure Water-Bbls. | Choke Size Gas-MCF |
| | GAS WELL Actual Flad. Tool-MCF/D Tooling Mothed (pilot, back pr.) | Length of Test Tubing Presswe (Shut-in) | Bble. Condensate/ABACI Coeing Pressure (Bhut-in) | Gravity of Condeneate Choke Size |
| V. | 1. CERTIFICATE OF COMPLIANO 1 hereby certify that the rules and r Division have been complied with above is true and complete to the | egulations of the Oil Conservation and that the information given | APPROVED APP | ATION DIVISION 3.1 5 1986 |
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| ENERGY AND MINERALS DEPARTMENT | |
| OIL CONSERVATION DIVISION | Form C-133 - |
| SANTA FE, NEW MEXICO 87501 | Revised 10-1-7 |
| FILE | Su. Indicate Type of Louise |
| LAND OFFICE | State X Fee |
| 0269.4703 | 5. State Oil & Gus Lease No. |
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| SUNDRY NOTICES AND REPORTS ON WELLS | |
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| Amoco Production Company | d. Farm or Lease Nume State "E" Tract 18 |
| AMOCO Production Company J. Address of Cperator P. O. Box 68, Hobbs, New Mexico 88240 O'L CONSERVATION DIVISION J. Location of Well | 9, Well No. 22 |
| 4. Location of Well UNIT LETTER <u>G - 1650</u> FEET FROM THE NORth LINE AND 1650 FEET FROM | Lovington ABO |
| THE East LINE, SECTION 2 TOWNSHIP 17-S RANGE 36-E NMPM | |
| 3852' RDB | 12. County Lea |
| Check Appropriate Box To Indicate Nature of Notice, Report or Ot | |
| | T REPORT OF: |
| PERFORM REMEDIAL WORK | ALTERING CASING |
| TEMPORARILY ABANDON | PLUG AND ABANDONMENT |
| PULL CR ALTER CASING L | _ |
| OTHER | |
| OTHER | |
| 17. Describe Processi or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including work; SEE AULE 1103. | s estimated date of starting any proposed |
| Moved in service unit 3-10-82. Pulled tubing and packer. Ran a ret packer and tubing. Set bridge plug at 8235' and packer at 8225'. It to 1000 psi and tested okay. Tested casing and packer to 2500 psi a Pulled tubing and packer. Ran a casing inspection log 8150' to surf bond log 8150-3600'. Perforated 3700' with 2 SPF. Ran packer and t 14' of sand on bridge plug. Pulled tubing and packer. Circulated 9 280 bbl. water and dye. Cement squeezed casing with 1500 sacks class out cement 3624'-3745'. Pressure tested casing to 1000 psi and test and tools. Ran a retrieving tool and tubing. Washed sand off retri Pulled tubing and retrievable bridge plug. Ran packer and 2-7/8" to 8239'. Moved out service unit 3-21-82. Returned well to injection. | Tested bridge plug and tested okay. Face. Ran a casing tubing and spotted 9-5/8" casing with as C cement. Drilled ted okay. Pulled tubing ievable bridge plug. Ubing. Set packer at |
| 0+4-NMOCD, H 1-Hou 1-Susp 1-CLF | |
| 13. I hereby certify that the information above is true and complete to the best of my knowledge and belief. | |
| Assist. Admin. Analyst | <u>3-29-82</u> |
| CONDITIONS OF APPROVAL IF ANYI | MAR 31 1982 |

| OIL CONSERVATION DIVISION | |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------|
| DISTRIBUTION P. O. BOX 2038 | Form C-103 - Revised 19-1-70 |
| SANTA FE, NEW MEXICO 87501 | |
| U.3.G.3. | Sa. Indicate Type of Lease |
| LAND OFFICE | State X Foo |
| 07En A7 CA | 5. State Oil & Gas Leaso No. |
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| (DO NOT USE THIS PORM FOR PROPOSALS TO GAILL OR TO DEEPEN OR PLUG SACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT -" (FOR): C-101) FOR AUCH PROPOSALS.) | 7. Unit Agreement Name |
| | , Onit Agreement Hame |
| 2. Name of Operator | 8, Farm or Lease Name |
| Amoco Production Company | State "E" Tract 18 |
| Address of Operator | 9, Well No. |
| P. O. Box 68, Hobbs, New Mexico 88240 | 10. Field and Pool, or Wildcat |
| G 1650 North 1650 | Lovington Abo |
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| THEEast LINE, SECTION 2 TOWNSHIP 17-S RANGE 36-E | AHHHHHHHHHA. |
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| 15. Elevation (Show whether DF, RT, GR, etc.) - 3852' RDB | 12. County Lea |
| Check Appropriate Box To Indicate Nature of Notice, Report or O | |
| | T REPORT OF: |
| PERFORM REMEDIAL WORK X PLUG AND ABANDON REMEDIAL WORK | |
| PERFORM REMEDIAL WORK | ALTERING CASING |
| PULL OR ALTER CASING CASING CASING TEST AND CEMENT JOB | |
| OTHER | · · · · |
| OTHER | |
| 17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give portinent dates, includin | g estimated date of starting any proposed |
| work) SEE RULE 1103. | · · · |
| Propose to evaluate well prior to repairing casing as follows: | |
| Bleed pressure from tubing- casing annulus and 5-1/2"- 9-5/8" annu | lus. Pull tubing |
| and packer. Run a retrievable bridge plug, tubing, and packer. S | et bridge plug |
| at 8235'. Locate casing damage by moving packer up hole and press | ure testing casing. |
| Pull tubing and packer, and cap bridge plug with 25' of sand. Run | cement bond log |
| and casing inspection log form 8150' to surface. Supplemental bri | |
| outline repair procedure pending evaluation of logs and test data. approval by Les Clements on 2-15-82 | (Verbal |
| approval by Les cremencs on 2-13-027. | |
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| SANTA FE | |
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| 0+4-NMOCD, H 1-Hou 1-Susp 1-CLF | |
| | |
| 13. I hereby certify that the information above is true and complete to the best of my knowledge and belief. | |
| Cathy & Sorman_ Assist. Admin. Analyst | 2-15-82 |
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| SUPERVISOR DISTRICT I | OATE FEBLO 1902 |
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| ENERGY AND MINEPALS DEPART | | | | | |
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| LAND OFFICE | | | | Stote 2 | Foo |
| OPERATOR | | | | 5. State Oil 6 | Gas Lease No. |
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| 2. Name of Operator | | | | 8. Farm or Le | use flame |
| Amoco Production Con | npany | | | State E | Tr. 18 |
| 3. Address of Operator | | | | 9. Well No. | |
| | s, NM 8824 | 10 | | | 22 |
| 4. Location of Well | | | | 10. Field and | Posi, or Wildcar |
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| <u>Amoco Production Con</u> | npany | | · | State E Tr. 18 |
| 4. Alliess of Operator | | | | 9. Well Ro. |
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| 17. Describe Proposed or Completed O | perations (Clearly state all pertin- | ent details, and give pertinent of | lates, including e | stimuted date of starting any propos |
| work) SEE RULE 1103. | | | | |
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| Sovered and service uni | t 10-28-80. Pulled r | ods and tubing. Set | t retainer a | at 8240'. |
| squeezed perts 8292 | -8316' with 150 sacks | Class "C" cement wi | ith water lo | oss control |
| additive. Perfed 43 | 60' w/4 DPJSPF. Set | cement retainer at 4 | 1558'. Ceme | ented perfs |
| 4030 WITH 450 SACKS | Class H cement. Dri | lled Fill from 8400' | '-8484', Pi | ulled 120 |
| joints 2-3/8" tubing | • | | | |
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| SANTA FE, NEW MEXICO 87501 | Sa. Indicate Type of Leuse |
| CANDON CONTRACT | State X Fee 5. State Off & Cas Lease No. |
| | B-1553 |
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| OTHER- | 7. Unit Agreement Name |
| 2. Name of operator Amoco Production Company | 8. Farm or Lease Name State E Tr. 18 |
| P. O. Box 68 Hobbs, NM 88240 | 9. Well No. 22 |
| 1. Location of Well | 10. Field and Pool, or Wildcat |
| UNIT LETTER G, 1650 FEET FROM THE North LINE AND 1650 FEET FROM | Lovington Abo |
| THE East LINE, SECTION 2 TOWNSHIP 17-S RANGE 36-E NUPM. | |
| 15. Elevation (Shaw whether DF, RT, GR, etc.) 3852' RDB | 12. County |
| Check Appropriate Box To Indicate Nature of Notice, Report or Oth | |
| NOTICE OF INTENTION TO: SUBSEQUENT | |
| PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK PLUG AND ABANDON COMMENCE DRILLING OPHS. | ALTERING CASING |
| OTHER | |
| 17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including | estimated date of storting any proposed |
| Propose to convert well to an injection well by the following method: | |
| Run tubing and cement retainer. Set retainer at 8250'. Top of Abo pe Cement squeeze perforations 8292'-8316' with 150 sacks Class H cement loss controladditive followed by 150 sacks Class H neat. Pull retainer a one foot interval at 5000' with 4 JSPF. Run tubing and cement reta- 100' above top of perfs, approximately 4900'. Cement 5-1/2" casing w Pull retainer and run bit. Drill out cement and retainers to 9000'. 8310'. Acidize with 5000 gallons NEFE acid in four stages. Pump 500 salt in gelled_brine after first 3 stages. Test injectivity and turn SEP 2 8 1830 GL CCLS IDVATION DIVISION SENTA FE | with a water er and perforate iner and set ith 450 sacks Class C. Run packer and set at lbs. of rock |
| 18. I happy critic that the lator flog above is true and complete to the best of my knowledge and belief. | |
| Assist. Admin. Analyst | DATE 6-10-80 |
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| | FILE U.S.G.S. LAND OFFICE | AUTHORIZATION TO TRA | AND ANSPORT OIL AND NATURAL GA | Effective 1-1-65 |
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| | GAS OPERATOR | - | · · · · · | |
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| | Autorean BOX 68, HOBBS, N. M | , 88240 | | |
| 1 | Reason(s) for filing (Check proper b | ox) , | Other (Please explain) FFF | ECTIVE 10-1.71 |
| | New Well Recompletion Change in Cwncrship | Change in Transporter of: Oil Dry Ge Casinghead Gas 🔀 Conder | | |
| - | If change of ownership give name | | Insure I PORMERLY. JE | ELLY UN CO |
| 11. | end address of previous owner | D LEASE | | ······································ |
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| m. | Neme of Authorized Transporter of | RTER OF OIL AND NATURAL GA | AS Address (Give address to which approved | l copy of this from is to be sent) |
| - | TEXAS-NEW III | EXICO PLCO | Box 1510, MIDU | ND /EXIS |
| | Dululune Ler | Casinghead and or Dry Gas | BIPTES VILLE 0 | copy of this form is to be sent) |
| ļ | if well produces oil or liquids, | Unit Sec. Twp. P.ce. | Is gas actually connected? When | |
| | give location of tanks. | <u>C / 17:36</u> | YES | |
| IV. | If this production is commingled COMPLETION DATA | with that from any other lease or pool, | give commingling order number: | |
| | Designate Type of Comple | tion -'(X) | New Well Workover Deepen | Plug Back Same Res'v. Diff. Res |
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| 1 | TEST DATA AND REQUEST | FOR ALLOWABLE (Test must be a | after recovery of total volume of load oil an | d must be equal to or exceed top all |
| V . | | | | |
| V. | OIL WELL | | lepth or be for full 24 hours) | 410 1 |
| v . | OIL WELL Date First New Oil Run To Tanks | Date of Test | Producing Method (Flow, pump, gas lift, | elc.) |
| • • | | | Producing Method (Flow, pump, gas lift, | etc.) Choke Size |
| v . | Date First New Oil Run To Tanks - | Date of Test | Producing Method (Flow, pump, gas lift, Casing Pressure | - |
| v . | Date First New Oil Run To Tanke Length of Teet | . Date of Test: بر ¹ Tubing Pressure | Producing Method (Flow, pump, gas lift, Casing Pressure | Choke Size |
| v . | Date First New Oil Run To Tanke Length of Teet | . Date of Test: بر ¹ Tubing Pressure | Producing Method (Flow, pump, gas lift, Casing Pressure | Choke Size |
| v . | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet | . Date of Test: بر ¹ Tubing Pressure | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. | Choke Size |
| | Date First New Oil Run To Tanks Length of Test Actual Prod. During Test GAS WELL | Date of Test i Tubing Pressure Oil-Bbis. | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF | Choke Size Gas-MCF |
| v . | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Teet-MCF/D | Date of Test. i Tubing Pressure OII-Bbis. Length of Test | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF | Choke Size Gas-MCF Gravity of Condensate |
| | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Teet-MCF/D | Date of Test i Tubing Pressure Oil-Bbis. Length of Test Tubing Pressure (Shut-in) NCE | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF | Choke Size Gas-MCF Gravity of Condensate |
| | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Teet-MCF/D Teeting Method (pirot, back pr.) CERTIFICATE OF COMPLIA | Date of Test i Tubing Pressure Oil-Bble, Length of Test Tubing Pressure (Shut-in) NCE | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF Casing Pressure (Shut-in) OIL CONSERVAT | Choke Size Gas-MCF Gravity of Condensate Choke Size |
| | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Teet-MCF/D Testing Matheat (pirot, back pr.) CERTIFICATE OF COMPLIA I hereby certify that the rules or Commission have been complied | Date of Test Tubing Pressure Oil-Bble. Length of Test Tubing Pressure (Shut-in) | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF Casing Pressure (Shut-in) OIL CONSERVAT | Choke Size Gas-MCF Gravity of Condensate Choke Size |
| | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Teet-MCF/D Testing Matheat (pirot, back pr.) CERTIFICATE OF COMPLIA I hereby certify that the rules or Commission have been complied | Date of Test t Tubing Pressure Oil-Bbis. Length of Test Tubing Pressure (Shut-in) NCE ; sd regulations of the Oil Conservation d with and that the information given | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF Casing Pressure (Shut-in) OIL CONSERVA DCT 19 BY CIIDEBVISCOB | Choke Size Gas-MCF Gravity of Condensate Choke Size |
| | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Test-MCF/D Testing Method (pirot, back pr.) CERTIFICATE OF COMPLIA I hereby certify that the rules of Commission have been complies above is true end complete to | Date of Test t Tubing Pressure Oil-Bbis. Length of Test Tubing Pressure (Shut-in) NCE ; sd regulations of the Oil Conservation d with and that the information given | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF Casing Pressure (Shut-in) Casing Pressure (Shut-in) OIL CONSERVAT DCT 19 BY BY TITLE SUPERVISOR | Choke Size Gravity of Condensate Choke Size STAN COMMISSION COMMISSION COMMISSION COMMISSION COMMISSION |
| VI | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Test-MCF/D Testing Matheat (pirot, back pr.) CERTIFICATE OF COMPLIA I hereby certify that the rules or Commission have been complies above is true and complete to | Date of Test Tubing Pressure Oil-Bbis. Length of Test Tubing Pressure (Shut-in) INCE id regulations of the Oil Conservation d with and that the information given the best of my knowledge and belief. | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF Casing Pressure (Shut-in) OIL CONSERVAT DCT 19 BY TITLE SUPERVISOR This form is to be filled in con- Ut this to a request for allown | Choke Size Gravity of Condensate Choke Size Choke S |
| VI | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Test-MCF/D Testing Matheat (pirot, back pr.) CERTIFICATE OF COMPLIA I hereby certify that the rules or Commission have been complies above is true and complete to | Date of Test Tubing Pressure Oil-Bbis. Length of Test Tubing Pressure (Shut-in) INCE id regulations of the Oil Conservation d with and that the information given the best of my knowledge and belief. | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF Casing Pressure (Shut-in) Casing Pressure (Shut-in) OIL CONSERVA DCT 19 BY TITLE SUPERVISOR TITLE This form is to be filed in co- If this is a request for allowal well, this form number accompany texts taken on the well in accompany | Choke Size Gas-MCF Gravity of Condensate Choke Size Choke Size Choke Size DISPRICT 1 mpliance with RULE 1104. ble for a newly drilled or deeper ed by a tabulation of the deviation made with RULE 111. |
| VI | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Teet-MCF/D Testing Mathics (pirot, back pr.) CERTIFICATE OF COMPLIA I hereby certify that the rules or Commission have been complete to above is true and complete to GMM-MINOCC-II I-ACJY (5 1-ACJY (5) | Date of Test i Tubing Pressure Oil-Bbls. Length of Test Tubing Pressure (Shut-in) INCE i d with and that the Information given the best of my knowledge and belief. EXERA SUPERINTENDENT (Truther) | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF Casing Pressure (Shut-in) OIL CONSERVAT DCT 19 BY TITLE SUPERVISOR THIS form is to be filled in con If this is a request for silowal well, thin form much be accompany texts taken on the well to accompany | Choke Size Gas-MCF Gravity of Condensate Choke Size Choke Size Choke Size DISPRICT I mpliance with RULE 1104. ble for a newly drilled or deeper ed by a tabulation of the deviation more with RULE 111. be filled out completely for allo |
| VI | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Teet-MCF/D Testing Mathics (pirot, back pr.) CERTIFICATE OF COMPLIA I hereby certify that the rules or Commission have been complete to above is true and complete to GMM-MINOCC-II I-ACJY (5 1-ACJY (5) | Date of Test t Tubing Pressure Oil-Bbis. Length of Test Tubing Pressure (Shut-in) INCE is of regulations of the Oil Conservation the beat of my knowledge and belief. SREA SUPERINTENDENT | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbls. Bbls. Condensate/MMCF Casing Pressure (Shut-in) Casing Pressure (Shut-in) OIL CONSERVAT DCT 19 BY TITLE SUPERVISOR THIS form is to be filed in co- If this is a request for allowal well, thin form must be accompany tests taken on the well in accou- All sections of this form must still out only Sociales I. II | Choke Size Gas-MCF Gravity of Condensate Choke Size Choke Size Choke Size DISTRICT 1 mpliance with RULE 1104. ble for a newly drilled or despected by a tabulation of the deviation ince with RULE 111. be filled out completely for allo is. |
| VI | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Teet-MCF/D Testing Method (pirot, back pr.) CERTIFICATE OF COMPLIA I hereby certify that the rules or Complete to above is true and complete to CU-1./fileCoc.ll I. ACLY Actual Prod. Testing Method (pirot, back pr.) | Date of Test i Tubing Pressure Oil-Bbls. Length of Test Tubing Pressure (Shut-in) INCE i d with and that the Information given the best of my knowledge and belief. EXERA SUPERINTENDENT (Truther) | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF Casing Pressure (Shut-in) OIL CONSERVAT OCT 19 BY BY TITLE This form is to be filed in con If this is a request for silowal well, this form much be accompany tests taken on the well in accoun- able on new and recompany well, this form much be account able on new and recompany tests taken on the well in account able on new and recompany Fill out only Sections I, II. well major or number, or transported well Fill out only Sections I, II. | Choke Size Gas-MCF Gravity of Condensate Choke Size Choke Size Choke Size Choke Size DISPRICT 1 mpliance with RULE 1104, ble for a newly drilled or deeper ed by a tabulation of the deviation mode with RULE 1104, ble filled out completely for allo is. III, and VI for changes of own out other nuch change of conditional conditio |
| VI | Date First New Oil Run To Tanks Length of Teet Actual Prod. During Teet GAS WELL Actual Prod. Teet-MCF/D Testing Method (pirot, back pr.) CERTIFICATE OF COMPLIA I hereby certify that the rules or Complete to above is true and complete to CU-1./fileCoc.ll I. ACLY Actual Prod. Testing Method (pirot, back pr.) | Date of Test Tubing Pressure Oil-Bbie. Unce Tubing Pressure (Shut-in) UNCE In the best of the Oil Conservation d with and that the information given the best of my knowledge and belief. CREA SUPERINTENDENT (Tuile) OCT 1 4 1971 | Producing Method (Flow, pump, gas lift, Casing Pressure Water-Bbis. Bbis. Condensate/MMCF Casing Pressure (Shut-in) OIL CONSERVAT OCT 19 BY BY TITLE This form is to be filed in con If this is a request for silowal well, this form much be accompany tests taken on the well in accoun- able on new and recompany well, this form much be account able on new and recompany tests taken on the well in account able on new and recompany Fill out only Sections I, II. well major or number, or transported well Fill out only Sections I, II. | Choke Size Gas-MCF Gravity of Condensate Choke Size Choke Size Choke Size DISTRICT 1 mpliance with RULE 1104. ble for a newly drilled or despected by a tabulation of the deviation ince with RULE 111. be filled out completely for allo is. |

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.. IF CUPIES RECEIVED Form C -103 Supersedes Old ROITUBIETTON C+102 and C+103 SANT 5 FE NEW MEXICO OIL CONSERVATION COMMISSION Effective 1-1-65 FILE 5a. Indicate Type of Lease U.S.G.S. State 🗙 Fee LAND OFFICE 5. State Oil & Gas Lease No. OPERATOR **B-**1553 FERENT RESERVOIR. 1. 7. Unit Agreement Name REC NELL X GAS Since of Sperator Farm or Lease Name Amoco Production Company 3. Address of Operator BOX 63, HOBBS, N. M. 88240 22 4. Location of Well Field and Pool, of Wi 1650 YORTHLINE AND 1650 UNGTON 36-E ŁAST 15. Elevation (Show whether DF, RT, GR, etc.) 3852 Check Appropriate Box To Indicate Nature of Notice, Report or Other Data SUBSEQUENT REPORT OF: NOTICE OF INTENTION TO: PERFORM REMEDIAL WORK PLUG AND ABANDON REMEDIAL WORK ALTERING CASING COMMENCE DRILLING OPNS. TEMPORARILY ABANDON PLUG AND ABANDONMENT PULL OR ALTER CASING CHANGE PLANS CASING TEST AND CEMENT JOB OTHER 17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed upper SEE RULE 1903. In an effort to ingrease productivity acidized perfs 8292-8316 W/ 1000 gal 15% CRA speacheaded W/ 500 gal water sensitive diverter. Evaluated and restored to production. - pmp. 16 BO + 46 BW 24 hrs. " 24 " 98 " " TD- 8477 00- 9-29-71. COMP- 10-11-71. PBD-8326 41/2" CSA 8330' DERFS: 8292-8316 is I hereby certify that the information above is true and complete to the best of my knowledge and belief. AREA SUPERINTENDENT DATE OCT 1 2 1971 71. 5 Stalle TITLE SIGNED D+2-NMOCC SUPERVISOR DISTRICT I DATE - OCT - 1-4-1974 1- SUSP

| ************************************** | | | | | | | | | inter a Charlester d | - 434-55-55-65-65-65-65-65-65-65-65-65-65-65- |
|----------------------------------------|-----------------------------------------------------------------|------------------|------------------------------------------------------------------------------------------------------------------|-----------------------|------------------|--------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|----------------------|-----------------------------------------------|
| ~~. | NEW MEXICO OIL CONSERVATION COMMISSION FORM C-103 (R++ 3-55) | | | | | | | | | |
| . • • | | * * * | MISCELL | ANEOUS | REPO | IO STS | 4 WELLS | os os H | CE 00 | 0 |
| | | (1 | Submit to appropri- | ate District C | fice as | per Com | mission Ru | le 1106) | ·1 • | 50 |
| Name of Com Pan An | nerican Pe | trol | eum Corporatio | on | Addre B | | Hobbs, 1 | New Mexi | .co | |
| Lease State | E Tract 1 | 8 | V | | Letter G | Section 2 | Township 17- | <u> </u> | Rac | age 36 − E |
| Date Work P.e | | | Pool Lovington | | | | County Eddy | / | | |
| | | <u> </u> | and the second | A REPORT OF | : (Cbeck | ألنوي ويواجع فاجعه | and the second se | 0 | | |
| 🔲 Beginni | ing Drilling Op | eration | s Casi | ing Test and C | ement Job | > (| Other (E | xplain): | | |
| Pluggin | | • | | edial Work | | | | | | · |
| 1 | | | ture and quantity of | | | | | | | |
| Work a | approved o | n Fo | rm C-102 date | d April 5, | 1960. | Work | done as | follows | : | |
| l. (| Cast Iron | reta | iner set at 8 | 3261 and s | queeze | d open | hole 83 | 30 '- 8350 | W/ | 75 Sx. Cement. |
| 2. 1 | Perforated | 829 | 21a83161 w/ 2 | JSPF. | | ۰۰ . ۱ | ~ | | | |
| 3. | Acidized p | erfo | rations w/ 10 | 00 gallons | regul | ar aci | d. | | • | |
| 4. 1 | Would not | flow | , ran rods & | pump and p | out on | produc | tion. | | | |
| Unable | e to obtai | n to | o allowable. | Test 4-21 | 60 pu | mped 7 | 7 BO, 42 | BW, 11. | 17 MC | FGPD, GOR 146. |
| | | | | | • | | | | | |
| | | | | | | | | | | |
| | | | · | | | | | · · · · | | |
| Witnessed by M. R. | Frazier | | | Position Field For | reman | | Company Pan Amer | ican Pet | roleu | m Corporation |
| | | | FILL IN BELO | OW FOR REM | | | PORTS ON | ILY | | |
| DFElev. | RDB | T D | | PBTD | | | Producing | Interval | | Completion Date |
| 385 Tubing Diam | | L | 8477 Tubing Depth | 832 | | ng Diame | 8292- | | ring De | 4-21-60 |
| 2 3/3 | " OD | | 82771 | | | ./2" OD | | | 3301 | P |
| Perforated In 829: | terval(s) 2 1– 83161 | | | | | | | | | |
| Open Hole In | terval | | | <u></u> | | ing Forma | tion(s) | | | |
| | ······ | | | RESULTS | | bo Kover | | | | |
| Test | Date of Test | | Oil Production BPD | Gas Prod MCFI | | | roduction PD | GO Cubic fee | | Gas Vell Potential MCFPD |
| Beiore Workover | 4-11-6 | 0 | 71 | | | | 12 | | | |
| After Workover | 4-21-6 | 0 | 77 | 42 | | | | | | |
| | OIL CONS | ERVA | TION COMMISSION | | I here to the | eby certif | y that the in my knowledg | formation gi | ven abo | ve is true and complete |
| Approved by | / | | 10/1/2/ | - // | Name | A | Re | ۹ | | |
| Title | | <u> </u> | 1 | | Positi | | uperinte | ndent | | |
| Date | · , | ε. | , · · · | | Compe | any | erican P | | n Corp | poration |
| • • • • • • • • • • • • • • • • • • • | | فالنفن التثاريطي | | | | 1. | -27-60 | | | |

(Form C-102) (Revised 7/1/52)

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

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MISCELLANEOUS NOTICES

Submit this notice in TRIPLICATE to the District Office, Oil Conservation Commission, before the work specified is to begin. A copy will be returned to the sender on which will be given the approval, with any modifications considered advisable, or the rejection by the Commission or agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Notice by Checking Below

| Notice of Intention to Change Plans | | Notice of Intention 7 Temporarily Abandon | | | Notice of Intention to Drill Deeper | | |
|------------------------------------------------|--------------------------|----------------------------------------------|--------------------------------|---------------------|-----------------------------------------------------------------------------------------------------------------------------|-------------|----------|
| NOTICE OF INTENTION TO PLUG WELL | | Notice of Intention to Plug Back | | | Notice of Intention to Set Liner | | |
| Notice of Intention to Squeeze | x. | Notice of Intention to Acidize | | X | Notice of Intention to Shoot (Nitro) | | |
| Notice of Intention to Gun Perforate - | x | Notice of Intention (Other) | | | Notice of Intention (Other) | | |
| OIL CONSERVATION COMMI SANTA FE, NEW MEXICO | SSION | Hobbs, New Me | XiCO | •••••• | April 5, 1960 | .te) | |
| Gentlemen: | • | | | | | | |
| Following is a Notice of Inter | tion to d | o certain work as described | d below at t | he | Pan American Petro | | |
| (Сопреду | or Operato | State E Trac | t 18 | | Well No | | G (Unit) |
| SE 1/4 NE 1/4 of Sec | 2 | | 36-Е | NMPM | Lovington Abo | | Pool |
| (40-acre Subdivision) Lea | | | | | | | |
| cement leaving 2. Perforate 8292 | retain l' of -8316 | | gueeze (retain) per foo | open h er. t. | ole with 100 Sx. S | Slo Se | et |
| 4. Restore well t | o prod | uction. | | | | | |
| Cn production test | 1-20- | 60 well pumped 81 | 4 BO, 29 | BW in | 1 24 hours. | | |
| Approved APR & 1 Except as follows: | 960 | , 19 | By | rea Su | Petroleum Corporat Company or Operator Company or Operator Montheader Iperintendent Communications regarding | | |
| OIL CONSERVATION COMMIS | SION | | NameJ.e. | | | | |
| Title | 4 4. | | Address Bo | x 68, | Hobbs, New Mexico | | |
| | | | | | | | |

| | Epim ¢1103A |
|-------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| NEW MEXICO OIL CONSEI MISCELLANEOUS RE | EPORTS ON WELLS |
| (Submit to appropriate District Office | e as per Commission Rule (1196) All 10:20 |
| COMPANY Pan American Petroleum Corporat | |
| Pan American Petroleum Corporation (Add | ress) |
| LEASE State HEN Tract 18 WELL NO. | 22 UNIT G S 2 T 17 R 36 |
| | |
| DATE WORK PERFORMED 11-20-27 11-29-57 | POOLIovington_Abo |
| This is a Report of: (Check appropriate b | lock) Results of Test of Casing Shut-off |
| Beginning Drilling Operations | X Remedial Work |
| Plugging | Other |
| Detailed account of work done nature and | quantity of materials used and results obtained. |
| nd results obtained: Set retainer at 8312, f slo set cament, drilled plug to 8350, per | per 17, 1957 the following work was performed , squeezed from 8312 to 8404 with 170 sacks forated open hole formation 8338 - 8340 with with 500 gallons regular acid. On retest well purs on 20/64" choke. GOR 503. |
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| · · · · · · · | |
| FILL IN BELOW FOR REMEDIAL WORK | REPORTS ONLY |
| Original Well Data: | 8330 |
| DF Elev. 385 TD 8477 PBD 8350 | Prod. IntCompi Date5-9-54 |
| | il String Dia <u>5-1/2</u> Oil String Depth <u>8330</u> |
| Perf Interval (s) | |
| Open Hole Interval <u>8330 - 8350</u> Produc | ing Formation (s) Abo |
| RESULTS OF WORKOVER: | BEFORE AFTER |
| Date of Test | 9-27-57 12-5-57 |
| Oil Production, bbls: per day | |
| Gas Production, Mcf per day | |
| Water Production, bbls, per day | <u> </u> |
| Gas-Oil Ratio, cu. ft. per bbl. | |
| Gas Well Potential, Mcf per day | |
| Witnessed by D. C. Peurifoy, Jr. | Pan American Petroleum Corporation (Company) |
| OIL CONSERVATION COMMISSION | I hereby certify that the information given |
| i conti | above is true and complete to the best of my knowledge. |
| | |
| Name CALischer | Name Angoh Henduskon |
| Name Chrischer Title | North A A A A A A |

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| | | era : | | | C-103 | |
|-----------------------------|-------------------------------|-----------|------------|--------------|-------------|---------|
| MAINTW NEVIC | O OUL CONSERV | ATTON COM | ANJECION | (Revis | ed 3-55) | |
| 1957 OF MESTER | O OIL CONSERV LLANEOUS REP | ORTS ON W | ELLS | EOCC | | |
| (Submit /to appropriate | District Office a | s per اma | mission B | ule 1106) | | |
| Alt 8:2 | 0 | | | 10:23 | | |
| COMPANY Pan American Pe | troleum Corporatio | on | Box 68, H | lobbs, New M | lexico | |
| | (Addres | ss) | | | | |
| LEASE State "E" Tract 18 | WELL NO. 22 | UNIT G | 5 2 | <u>T 17</u> | R 36 | - |
| DATE WORK PERFORMED | 8-19-57 | POOL | Lovingto | a Abo | | • |
| This is a Report of: (Check | appropriate blo | zk) | lesults of | Test of Ca | sing Shut-o | = ff |
| Beginning Drilling | Operations | x. | Remedial | Work | | |
| Plugging | • • • | | Other | | | |

Detailed account of work done, nature and quantity of materials used and results obtained. In accordance with Form C-102 filed 7-31-56 the following work was performed and results obtained: Plugged well back from 8432 - 8404 with hydromite. The work was unsuccessful in shutting off the water, and we propose additional work as follows: Set retrievable retainer at approximately 8230 and squeeze open hole interval 8330 - 8404 with 150 sacks slo set cement. Displace cement below retainer with water, WOC 48 hours, retrieve retainer and drill out to approximately 8350 with bit and reamer, run correlation log from 8100 to Total Depth of **8350** perforate 8328 to 8330 with 12 shots, set packer at approximately 8300 and acidize with 5000 gallons acid. Test well and return to production.

| FILL IN BELOW FOR REMEDIAL WORK | REPORTS ONL | Y | | |
|----------------------------------------------------------------------------------------------------------------------|----------------------|--------------------------|-------------------|--|
| Original Well Data: | | | | |
| DF Elev. 3852 TD 8477 PBD 8404 | Prod. Int8 | 3330 3404 Comp | Date 5-9-54 | |
| Tong. Dia 21 Tong Depth 8359 Oil String Dia 5-1/2 Oil String Depth 8330 | | | | |
| Perf Interval (s) | | | | |
| Open Hole Interval 8330 - 8404 Produci | ng Formation (| s) Abo | | |
| RESULTS OF WORKOVER: | et : | BEFORE | AFTER | |
| Date of Test | • | 5-11-57 | | |
| Oil Production, bbls. per day | · · · | 62 | 0 | |
| Gas Production, Mcf per, day | | | | |
| Water Production, bbls. per day | · . | 166 | 222 | |
| Gas-Oil Ratio, cu. ft. per bbl. | | - | | |
| Gas Well Potential, Mcf per day | · . | | | |
| Witnessed by <u>M. R. Frazier</u> | Pan American) | Petroleum Corpo (Comj | | |
| OIL CONSERVATION COMMISSION I hereby certify that the information given above is true and complete to the best of | | | | |
| Name Angle | my knowledge Name | Kort. | \mathcal{O} | |
| Title | Position Pr | oduction Forema | n | |
| Date <u>007 17 1077</u> | Commence | | oleum Corporation | |

MAIN OFFICE Office Fe, New Mexico

1957 AUG MISCELLANEOUS

Submit this notice in TRIPLICATE to the District Office, Oil Conservation Commission, before the work specified is to begin. A copy will be returned to the sender on which will be given the approval, with any modifications considered advisable, or the rejection by the Commission or agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Notice by Checking Below

| Notice of Intention | Notice of Intention to | Notice of Intention | |
|-----------------------------------|-----------------------------------|-----------------------------------------|--------------------|
| to Change Plans | Temporarily Abandon Well | to Drill Deeper | |
| Notice of Intention | Notice of Intention | Notice of Intention | |
| to Plug Well | to Plug Back | to Set Liner | |
| Notice of Intention to Squeeze | NOTICE OF INTENTION TO ACIDIZE | Notice of Intention to Shoot (Nitro) | 2 75 - 16 16 |
| Notice of Intention | Notice of Intention | NOTICE OF INTENTION | X |
| to Gun Perforate | (Other) | (OTHER) Shut off water | |

OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO

Hobbs. New Mexi

Gentlemen:

Following is a Notice of Intention to do certain work as described below at the ... Pan American Petroleum Corporation.

| | | ·· · · · | · · · | Sec. 1 |
|-----------------------|-----------------|----------------------------------------|----------------|---------------------------------------|
| | State | "E" Tract 18 | Well No 2 | 2 in G |
| (Compa | ny or Operator) | Less | | (Unit) |
| SW 14 NE 14 of | Sec. 2 T. 17- | S <u>R</u> 36-E | NMPM Lovington | Abo |
| (40-acre Subdivision) | | ······································ | | · · · · · · · · · · · · · · · · · · · |

دصT County.

FULL DETAILS OF PROPOSED PLAN OF WORK (FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS)

In order to shut off water production we propose the following: Run Caliper survey over open hole from 8425 to bottom of casing set at 8332. Plug back with Hydromite from 8425 to approximately 8400. Test well and return to production.

| AUG 5 | 1957 | |
|-------|------|----|
| | | 10 |

| Approved | Pan American PetroLeum Corporation |
|-----------------------------|----------------------------------------|
| Except as follows: | Company or Operator |
| | By Repfleuduckson |
| | |
| · · | Position Field Superintendent |
| Approved | Send Communications regarding well to: |
| OIL CONSERVATION COMMISSION | |
| By ME Meller | Name R. L. Hendrickson |
| | |
| Tille Ce dinter District I | Address Box 68 Hobbs, New Mexico |

Address.....

| SIGIALAL STREET | Form C-103 (Revised 3-55) |
|----------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | RVATION COMMISSION |
| MISCELLANEOUS RE | EPORTS ON WELLES OFFICE OCC |
| (Submit to appropriate District Office | |
| COMPANY Pan American Petroleum Corp. | 1957 MAR 4 MM 8:15 Box 68 Hobbs, New Mexico |
| | ress) |
| | |
| LEASE State E Tract 18 WELL NO. | كمتكسب مستطلتين بسيستشب جمتهم مستق |
| DATE WORK PERFORMED 2-6-57 to 2-18 | 3-57 POOL Lovington Abo |
| This is a Report of: (Check appropriate b | block) Results of Test of Casing Shut- |
| This is a Report of Concer appropriate of | |
| Beginning Drilling Operations | X Remedial Work |
| Plugging | Other |
| | |
| Detailed account of work done, nature and | d quantity of materials used and results obtain |
| · · · · · · · · · · · · · · · · · · · | |
| In accordance with Form C-102 filed 1-28-5 obtained: | 57 the following work was performed and result |
| oblatika. | · · · · |
| Lowered tubing to 8330' and squeezed with 2 | 2000 gallons Visqueez and 100 sacks Incor ceme |
| flushed with 100 barrels oil. On retest, Unsuccessful workover. | well pumped 3/ 50, 14/ 5W in 24 nours. |
| | |
| | |
| 1 | |
| | |
| ¢ 1 , | |
| | |
| FILL IN BELOW FOR REMEDIAL WORK | REPORTS ONLY |
| Original Well Data: | 8330 |
| DF Elev. 3852 TD 8477 PBD 8423 | and a second sec |
| | Dil String Dia <u>5-1/2</u> Oil String Depth <u>8330</u> |
| Perf Interval (s) | |
| Open Hole Interval 8330-8477 Produc | ing Formation (s) Abo |
| RESULTS OF WORKOVER: | BEFORE AFTER |
| • | |
| Date of Test | <u>1-15-57</u> <u>2-18-57</u> |
| Oil Production, bbls. per day | <u> </u> |
| Gas Production, Mcf per day | |
| | אַנ פָבנ |
| Water Production, bbls. per day | |
| Water Production, bbls. per day Gas-Oil Ratio, cu. ft. per bbl. | |
| | |
| Gas-Oil Ratio, cu. ft. per bbl. Gas Well Potential, Mcf per day | Pan American Petroleum Corporation |
| Gas-Oil Ratio, cu. ft. per bbl. | Pan American Petroleum Corporation (Company) |
| Gas-Oil Ratio, cu. ft. per bbl. Gas Well Potential, Mcf per day | (Company) I hereby certify that the information given |
| Gas-Oil Ratio, cu. ft. per bbl. Gas Well Potential, Mcf per day Witnessed by <u>M. R. Frazier</u> | (Company) I hereby certify that the information given above is true and complete to the best of |
| Gas-Oil Ratio, cu. ft. per bbl. Gas Well Potential, Mcf per day Witnessed by <u>M. R. Frazier</u> | (Company) I hereby certify that the information given |
| Gas Oil Ratio, cu. ft. per bbl. Gas Well Potential, Mcf per day Witnessed by <u>M. R. Frazler</u> OIL CONSERVATION COMMISSION | (Company) I hereby certify that the information given above is true and complete to the best of my knowledge. |

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| ORGANAEXICO OIL CONSERVA SANTA FE, NEW I | |
| (File the original and 4 copies with the | appropriate district office) |
| CERTIFICATE OF COMPLIANCE | |
| CERTIFICATE OF COMPLIANCE TO TRANSPORT OIL AND | |
| Company or Operator Pan American Petroleum | Corporation Lease State "E" Tr. 18 |
| Well No. 22 Unit Letter G S 2 T 1 | 7 R 36 Pool Lovington Abo |
| County Lea Kind of Lease (St | ate, Fed. or Patented) <u>State</u> |
| If well produces oil or condensate, give location | |
| Authorized Transporter of Oil or fordereater | |
| - · · · · · | |
| Address(Give address to which approved co | Box 1510, Midland, Texas |
| - | |
| Authorized Transporter of Gas Address | - |
| (Give address to which approved co | Box 1135, Funice, New Mexico |
| If Gas is not being sold, give reasons and also e | |
| | TO: AMOCO PRODUCTION CO. EFFECTIVE: 2.1.71 |
| | |
| Reasons for Filing: (Please check proper box) | New Well () |
| Change in Transporter of (Check One): Oil () | |
| Change in Ownership () (| Other (x) |
| Remarks: | (Give explanation below) |
| | |
| Change of operating name from "Stanolind. "Pan American Petroleum Corporation" effe | Oil and Gas Company" to active February 1, 1957. |
| | |
| s and the second se | |
| The undersigned certifies that the Rules and Reg mission have been complied with. | gulations of the Oil Conservation Com- |
| | |
| Executed this the 28th day of January 19 | <u>57</u> |
| JAN ST | By Aulich Huduakow |
| Approved19 | Title Field Superintendent |
| OIL CONSERVATION COMMISSION | Pan American Company Petroleum Corporation |
| By E.J. Fischer | Address Bcx 68 |
| Title Insineer Diener I | Hobbs, New Mexico |
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| · · · | • • • | | Fo | rm C-103 |
|-------|--------------------------------------------------------------------|----------------------------------|---------------------------------------|-----------------------|
| х | NEW MEXICO OIL CONSE | PVATION COMM | (Re | vised 3-55) |
| • . | MISCELLANEOUS RI | EPÓRTS ON WEL | LS CFFIC | E Orr |
| | (Stoppit to appropriate District Offic | e as per Commis | alon Rule 1106) | |
| | | 9 | 13 AM | 10:58 |
| | COMPANY <u>Stanolind Oil and Gas Comp</u> (Add | any, Box 68, ress) | Hobbs, New 1 | Mexico |
| | | , | | |
| | LEASE State "E" Tr. 18 WELL NO. | | | |
| | DATE WORK PERFORMED -5-55 to 10- | 10-55 POOL | Lovington Ab | 0 |
| | This is a Report of: (Check appropriate b | lock) Res | ults of Test of | Casing Shut-off |
| • | Beginning Drilling Operations | XRen | nedial Work | |
| | Plugging | Oth | er | |
| | Detailed account of work done, nature and | l quantity of mate | rials used and | results obtained. |
| | | , | | |
| • | On 9-5-55 we attempted to shut of poured pea gravel to PB to 8453. | water on above Ran Calseal pl | well. Pull ug from 8443 | ed tubing to 8436. |
| | Ran Hydromite plug from 8436 to 84 BW in 16 hours. | 25. On retest | pumped 184 | BO and 131 |
| | BW III IO HOURS. | • | • . | |
| | | | | |
| | | • | | |
| • | | | • | |
| | e e e e e e e e e e e e e e e e e e e | | | |
| | 1 | | | |
| | FILL IN BELOW FOR REMEDIAL WORK | REPORTS ONLY | · · · · · · · · · · · · · · · · · · · | |
| | Original Well Data: | • | _ | |
| | DF Elev. <u>3852</u> TD <u>8477 PBD 8423</u> | | | Date 5-9-54 |
| | Tbng, Dia 2¹¹ Tbng Depth O Perf Interval (s) | il String Dia <u>5-</u> | 1/2 Ou String | g Depth 8330 |
| 1 | | ing Formation (s) | Abo | ····· |
| | | | AUU | |
| | RESULTS OF WORKOVER: | * | BEFORE | AFTER |
| , | Date of Test | , | 9-5-55 | 10-10-55 |
| | Oil Production, bbls. per day | • | 125 | |
| | Gas Production, Mcf per day | · . | | |
| ; | Water Production, bbls', per day | | 62 | 131 |
| | Gas-Oil Ratio, cu. ft. per bbl. | · - | 755 | 328 |
| | Gas Well Potential, Mcf per day | | | |
| . · | Witnessed by <u>Ray Frazier</u> | Stanolind Oi | <u>l and Gas Co</u> (Compa | |
| | OIL CONSERVATION COMMISSION | I hereby certify | | |
| | | above is true a my knowledge. | na complete to | the best of |
| , | Name (. M. Kuly | Name Mark | P. Klud | rickspiels 12 |
| | Title Engineer District 1 | | Superintend | |
| | Date | Company Stand | lind Oil and | Gas Company |
| | | | | |
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NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico MUBLS CEFICE CCC

PM -

FFICE OCC **MISCELLANEOUS NOTICES**

2:23 Submit this notice in TRIPLICATE to the District Office, Oil Conservation Commission, before the work specified is to begin. A copy will be returned to the sender on which will be given the approval, with any modifications considered advisable, or the rejection by the Commission or agent, of the plan submitted. The plan as approved should be followed, and work should not begin until approval is obtained. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Notice by Checking Below

| Notice of Intention to Change Plans | | Notice of Intention to Temporarily Abandon Well | Notice of Intention to Drill Deeper | |
|-----------------------------------------|---|----------------------------------------------------|-----------------------------------------------|-------|
| NOTICE OF INTENTION TO PLUG WELL | | Notice of Intention to Plug Back | Notice of Intention to Set Liner | ••••• |
| Notice of Intention to Squeeze | | NOTICE OF INTENTION TO ACIDIZE | Notice of Intention to Shoot (Nitro) | |
| Notice of Intention to Gun Perforate | - | NOTICE OF INTENTION (Other) | NOTICE OF INTENTION (OTHER) Shut off water | X |

OIL CONSERVATION COMMISSION 1957 January 28, lobbs, New Me SANTA FE, NEW MEXICO (Date) (Place)

Gentlemen:

| Following is a Notice of Intentio | n to do certain | a work as described | i below at the St | anolind Oil an | d Gas Company |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------|-------------------|---------------------------------------|--------------------|
| State "E" Tract 18 | • | | - | Well No 22 | in G |
| (Company or Company or | | - 17-S - | 36-E NMPM | Lovington | (Unit) Abo Pool |
| (40-acre Subdivision) Lea | | · ····· | | • • • • • • • • • • • • • • • • • • • | F 001 |

FULL DETAILS OF PROPOSED PLAN OF WORK (FOLLOW INSTRUCTIONS IN THE RULES AND REGULATIONS)

In order to shut off water in the above well we propose the following work:

Lower tubing to approximately 8330' and spot 24 barrels oil containing 10 gallons CPN in tubing, follow with 2000 gallons Visqueez material (Jelled Kerosene and chemicals) containing 100 sacks of Incor cement and flush with two barrels of oil. Shut well in over night, test and return to production.

| JAN 31 1957 | Stanolind Oil and Gas Company |
|-----------------------------------------|-------------------------------------------------------------------------|
| Except as follows: | By Raco Alpheulluckda |
| Approved OIL CONSERVATION COMMISSION | Position Field Superintendent Send Communications regarding well to: |
| By E. I. Fincher | Name R. L. Hendrickson |
| Title | Address Box 68 Hobbs, New Mexico |

| , , | | | - · | | | C-110 ⁻ |
|-----------------------|-----------------------------------------|----------------------------------------|--------------------|-----------------------------|-------------------------|--------------------|
| | | CICO OIL CONS | | COMMISSION D HOL | Revised 7/ BS CFFICE | |
| ί. (Ε | file the original a | nd 4 copies wit | th the approp | | office) | |
| | | TE OF COMPLIANSPORT OIL | | | 1 AM 1. ION | 0:38 |
| Company o | or Operator Stan | nolind Oil an | d Gas Compa | ny Lease | State E T | ract 18 |
| Well No. | Unit Let | tter <u>GS2</u> | T <u>17-S</u> R 36 | _EPool_Lovin | gton Abo | |
| County If well pro | Lea duces oil or cond | | | ed. or Patente ks:UnitS_ | d) <u>State</u> T | Land R |
| Authorized | l Transporter of (| Oil or Condens | ate | | | |
| Address | (Give address t | o which approv | red copy of th | is form is to b | e sent) | |
| Authorized | l Transporter of (| | ly Oil Comp | - | | |
| Address | | Box | 1135. Eunic | e. New Mexic | 0 | |
| If Gas is n | (Give address to ot being sold, giv | · • • | | | • | |
| <u></u> | | | | | · · · · | |
| | | | | | | |
| Reasons fo | or Filing:(Please | check proper b | ox) New | Well | • • • | () |
| Change in | Transporter of (C | heck One): Oil | l() Dry Ga | s () C'head (|) Condens | ate () |
| Change in | Ownership | | () Other | | · · · · · | (X) |
| Remarks: | | ······································ | | Give explan | ation below | /) |
| | ing filed to au e September 1, | | sporter of | casinghead g | as only, | |
| | | | | | | |
| | signed certifies th ve been complied | | nd Regulation | s of the Oil Co | onservation | Com- |
| Executed t | his the <u>31st</u> day | of <u>August</u> | | 2.1 | | |
| | SEP 2 195 | 5 | ByZa | lphtlend | uaktor | |
| Approved_ | | 19 | Title | Field Super: | intendent | |
| OIL | CONSERVATION | COMMISSION | Compa | ny Stanolind | Oil and (| Gas Comp |
| By (| 14 Area | det | Addres | ss Box 68 | | |
| Title Engin | neer District 1 | | | Hobbs, N | ew Mexico | |

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(Form C-119) (Revised 7/1/52)

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

HOBBS OFFICE OCC

It is necessary that Form C-104 be approved before this form can be approved an an *initial* allowable be assigned to any completed Oil or Gas well. Submit this form in QUADRUPLICATE.

1954 MAY 13 AM 9:51

CERTIFICATE OF COMPLIANCE AND AUTHORIZATION TO TRANSPORT OIL AND NATURAL GAS

Company or Operator Stanolind Oil and Gas Company Lease State "E" Tract #18 Address Box 68, Hobbs, New Mexico Box 1410, Fort Worth, Texas (Local or Field Office) (Principal Place of Business) Unit G, Well(s) No. 22, Sec. 2, T. 17-S, R. 36-E, Pool Lovington-Abo Kind of Lease: State County....Lea If Oil well Location of Tanks W/2 of the SW/4 NW/4. Sec. 1 Authorized Transporter Texas-New Mexico Pipe Line Company Address of Transporter Box 1510, Midland, Texas (Principal Place of Business) Sunice, New Mexico (Local or Field Office) from this unit are.....None REASON FOR FILING: (Please check proper box) . . : CHANGE IN OWNERSHIP. _____ **__**___ NEW WELL. OTHER (Explain under Remarks) CHANGE IN TRANSPORTER..... **REMARKS:** Completed as Oil Well 5-9-54.

The undersigned certifies that the Rules and Regulations of the Oil Conservation Commission have been complied with. Executed this the llth day of May 19.54 MAY 13 1954 Approved MAY 13 1954 Approved 19.54 Stanolind Oil and Gas Company MAY 13 1954 By May 19.54 By May 19.55

(See Instructions on Roverse Side)

NEW EXICO OIL CONSERVATION COMP SION

(Form C-104) (Revised 7/1/52)

| WE ARE | be assigned e completion tock tanks. G HEREBY I | entited in ffective 7:0 or recompl- as must be REQUESTI and Gas | O A.ME etion. T reported | Santa Fe, I FOR (OIL MAIN OFFICE perator before an fin CUPLICATE to the con date of completi he completion date on 15.025 psia at 6 ALLOWABLE FC itate E Tract 1 (Lease | same Distri on or, recom shall be tha 0° Fahrenhe <u>Hobbs</u> (Plac DR A WEL 8, We | ct Office to which pletion, provide it date in the cas it. 3. New Mexic e) L KNOWN AS | e of an oil well | was segt. 12 filed during when oil is c 5–11–4 (Dat | calendar delivered 54 e) |
|---------------|----------------------------------------------------------|--------------------------------------------------------------------------------|--------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------|---------------------------------------|-----------------------------------------------------------------|----------------------------------------------|
| | | c 2 | , T | 17-S , R 36-F | , NMPI | A., Loving | ton-Abo | | Pool |
| (Ur | | • | Cou | nty. Date Spudded | 3-24-54 | Date | Completed | 5-9-54 | |
| Ple | ease indicate | · • | | | | , D ate | Completed | | |
| | | | | Elevation | To | tal Depth | 77, P | B | |
| | K. | · · · · | | Casing Perforations | · | | | | or |
| | | | | Depth to Casing sho | • | · · · · | * | | |
| | | | | Natural Prod. Test | | n | | | а. — А. • — • |
| •••••• | | · . | - | Test after acid or sh | | • | and the second | · | |
| Casir Size | ng and Cemen Feet | ting Record Sax | | lest after acid or sh Based on 12 7 | | | · · · · · · · · · · · · · · · · · · · | | |
| | | |] (| Gas Well Potential. | | | - | · . | |
| | | | | Size choke in inches | μ | ./64 inch | | | |
| | | , |] | Date first oil run to | tanks är gax | ta denconcian | 30331EX2C | 3-54 | |
| 1 | | · . | | Transporter taking (| Dil or Gas: | Texas-New M | exico Pipe | Line Co. | |
| Remarks: | Comple | ted as O | il Wel | 1 5-9-54 | | | | | ••••• |
| | · · · · · · · · · · · · · · · · · · · | | - | · | | | | | |
| I her | reby certify th | nat the info | rmation | given above is tru | e and compl | ete to the best of | my knowledge | • | |
| Approved | MAY | 13 954 | | | Star | olind Oil a | nd Gas Components or Operator | | 7 |
| (| OIL CONSE | RVATION | СОММ | IISSION | By: | Talph T. | (Signature) | Auchs | 3/11 |
| By: | N-Y.C | Atanle | y | | Title] | Field Superi Send Communi | | ng well to: | <u>`````````````````````````````````````</u> |
| Title? | nger Di | strict 1 / | | · | Name | Stanolind 0 | - | - | |
| | | | | | Address | Box 68, Hob | bs. New Me: | cico | |

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| | | | | | | W WI | ELL RI | ecord | 51 | W.C.A. | • • Fa 4 - |
| | | | <u> </u> | | 1 mg | | | | | | |
| | | | | Mail to D | District Office, twenty days af | Oil Conserv | ation Comr | nission, to w | hich For | m C-101 | was sent no |
| · | 104 | . 184 - 1 | | of the Cor | nmission. Subm | it in QUIN | TUPLICAT | E. | ictions m | Kuits a | nd Regulation |
| LOCAT | REA 640 ACI | res Rreçtly | r | ka seti. P | | u iste de | tr trans | •••••••••••••••••••••••••••••••••••••• | : | •••• | |
| St | anolin | d 01] | L and | Gas Com | pany | Ste | te "E" | Tract | 18 | | |
| ell No | 22 | (Compan) | y or Operato SW | ar) E ¹ evila ME ¹ e | | 2 | un (. 17 | (Lease) | | 5E | ; • • |
| | ord not | , 10) 07 | × | 74 OI | | | , 1744 Togʻ | z se le sy de | , K | 6.77.44 | , NMPM |
| | | | | | | | | | | | |
| ell is | | | | | l and Gas Lease | | | | | JCLO W | lin |
| Section | | 6 | 11 5(a) | ie Land the Ui | and Gas Lease | • No. is | U | nknown. | | | و مو |
| rilling Com | menced | | + | | , 19 | Filling was C | Completed | | 05 | £G | , 19. 24 . |
| ume of Dri | lling Contrac | ctor.,,. | hée ni | TITIDE" | Company Tulsa, O | 1- 7 • | | | | | |
| Idress | U Phi | LTON | er Buj | uding, | Tulsa, O | Klahome | L | ····· | Ċ,Ę | <u>, </u> , , , , , , , , , , , , , , , , , , | |
| evation abo | ve sea level | at Top o | f Tubing | Head | 38401 | <u>ייי די אין אין אין אין אין אין אין אין א</u> ראפא אין געראפא | The info | mation giver | is to be | kept co | nfidential unt |
| | C COLL | ruau | ant di | ., 19 | | ્ર ન્યુન-ઉત્ | • • • | · · · · · | | | |
| | | | | , | OIL SANDS (| | | • ••• | | | • |
| . 1, from | | . etd | i'c(†)' to | | , | No. 4, from. | • | | 55 | G4; | • |
| . 2, from | | · | | · · · · · · · · · · · · · · · · · · · | | No. 5, from | ، | | to. č, | | 1 |
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| o. 1, from | | | low and e | levation to whi | | in hole. | • | ect | | MAY 24 | MAIN OFF |
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| o. 1, from o. 2, from o. 3, from | ······································ | | low and e | levation to whi | ich water rose i | in hole. | | eet | 1706 | 15° | MAIN OFFICE OCC |
| o. 1, from o. 2, from o. 3, from | ······································ | | low and e | levation to whi | ich water rose i | in hole. | | eet. | 1702 | 15° | MAIN OFFICE OCO |
| o. 1, from o. 2, from o. 3, from | ······································ | | low and e | levation to whi | ich water rose i | brook | | eet. | 1702 | 15° | MAIN OFFICE OCCUL |
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| F. Abo.: F. Pene. F. Miss. From 0 307 1410 1910 2056 2300 2635 3165 4518 4816 4995 5785 | 307 1410 2056 2300 2635 3160 3315 4518 4816 4995 5785 6020 | Thickness in Feet 307 1103 500 - 146 244 335 555 1203 298 179 790 235 2457 | Red B Red B Red B Sand Anhy. Salt Anhy. Lime Sand Sand Lime Lime Lime | Formati Formati ed and ed and and S and L and L and Sa | FORM FORM on Sand Anhy. and alt ime ime | Salt shi bh sh J S S S S S S S S S S S S S S S S S S | RECO From Prom C L 2 V 0 V 0 V 0 V 0 V 0 V 0 V 0 V 0 V 0 V | RD 'To 'To 'S' (Сор 'S' (Сор 'S' (Сор 'S' (Сор 'S' (Сор 'S' (Сор 'S' (Сор 'S' (Сор 'S' (Сор 'S' (Сор 'S' (Сор 'S' (Сор 'S' (Сор 'S') (Сор 'S' (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор 'S') (Сор ') (Сор ') (Сор ') (Сор 'С) (Сор ') (Сор 'S') (Сор ') (Сор ') (Сор (| T. T. T. T. T. T. Thickness in Feet | | Fo Fo C(E2 CTION MC INNISH STOCK | ormation | |

I hereby swear or affirm that the information given herewith is a complete and correct record of the well and all work done on it so far as can be determined from available records.

or Operator Stanolihd Oil and Gas Co. Address Box 68 - Hobbs, New Mexico alph Appendication or Title Field Superintendent Con ala Nair

May 17, 1954

(Date)

NEW MEXICO OIL CONSERVATION COMMISSION MAIN OFFICE OFFICE OCC

MASSAELIJANEOUS REPORTS ON WEELSMAY 11 AN 10:37

Submit this report in TRIPLICATE to the District Office, Oil Conservation Commission, within 10 days after the work specified is completed. It should be signed and filed as a report on Beginning Drilling Operations, Results of test of casing shut-off, result of plugging of well, result of well repair, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

Indicate Nature of Report by Checking Below

| REPORT ON BEGINNING DRILLING OPERATIONS | REPORT ON RESULT OF TEST OF CASING SHUT-OFF | x | REPORT ON REPAIRING WELL | |
|--------------------------------------------|------------------------------------------------|---|-----------------------------|--|
| REPORT ON RESULT OF PLUGGING WELL | REPORT ON RECOMPLETION OPERATION | | REPORT ON (Other) | |

May **6**, 1954 Hobbs, New Mexico (Place)

Following is a report on the work done and the results obtained under the heading noted above at the

| Stanolind Oil and Gas Company (Company or Operator) | State "E" Tract 18 | | | | | | | |
|-----------------------------------------------------------------|--------------------|-------|------|-----------|-----------|--------|------------------------|--------------|
| Lee Drilling Company | Well No | | 22 | in the. | SW | 1/4 NE | ¹ /4 of Sec | 2 |
| T-17-SR-36-E, NMPM, Lovington-Abo | | Pool, | | | | Lea | . | County. |
| The Dates of this work were as follows: May 5, 1954 to | May | 7, | 1954 | | | | | |
| Notice of intention to do the work (mass not) submitted on Form | C-102 or | n | | Tross out | incorrect | words) | · | , 19, |

and approval of the proposed plan **DEASE** (was not) obtained.

DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED

On May 5, 1954, 831 8° of $5\frac{1}{2}$ " casing was run in an 8-5/8" hole and commented at 8330' with 835 sacks cement mixed 4% gel and 835 cu. ft. perlite. After 30 hours WOC tested casing before and after drilling plug with 1050 psi for 30 minutes. Test OK. Completion operations resumed.

| Witnessed byA. Blackburn | d. Oil and Gas Company Head Roustabout |
|------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------|
| Approved: OIL CONSERVATION COMMISSION | I hereby certify that the information given above is true and complete to the best of my knowledge. Name ACLPA PACULINGKS on |
| (Name) MAY 22 1954 | Position_Field_Superintendent |
| AND ALCONCOCT MAY 0.2 1954 | RepresentingStanolind Oil and Gas Company Address Box 68 - Hobbs, New Mexico |

(Form C-103) (Revised 7/1/52)

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

AISCELLANEOUS REPORTBOODS WEICESOCC

Submit this report in TRIPLICATE to the District Office, Oil Conservation Commission, within 10 days after the work specified is com-pleted. It should be signed and filed as a report on Beginning Drilling Operations, StauAPD tesofor casing shut-of, result of plugging of well, result of well repair, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

| April 2, 1954 Hobbs, New Mexic. (Place.) Following is a report on the work done and the results obtained under the heading noted above at the Stanolind Oil and Cas Company State "E" Tract 18 (Company or Operator) Lee Drilling Company State "E" Tract 18 (Company or Operator) (Company or Operator) T-17-S. R=36-E, NMPM. Lovington-Abo Pool, Lea The Dates of this work were as follows: March 30, 1954 to April 1, 1954, inclusive Notice of intention to do the work (May (was not) submitted on Form C-102 on (Cross out incorrect words) and approval of the proposed plan (MfM (was not) obtained. DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED On March 30, 1954, 3275' of new and used 9-5/8" casing was run in a 1: hole and two stage cemented. (DV tool set at 2106') at 3287' with 150 neat cement the first stage and 150 sx neat cement the second stage. After W.O.C. for 30 hours tested casing above DV tool and before and after drilling plug with a minimum of 950 FSI for 30 minutes, and as there was no loss in pressure, drilling operations were resumed. witnessed by A. C. Blackburn Stanolind Oil and Gas Co. (True) | | Indicate Nature of Rep | ort by Checking B | elow | |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------|-----------------------------------------------------|---------------------------------------------------------|----------------------------------------------------------------------------|-----------|
| OF PLUGGING WELL OPERATION (Other) April 2, 1954 Hobbs, New Mexic (Date: (Date: (Place) Following is a report on the work done and the results obtained under ine heading noted above at the Stanolind Oil and Cas Company State "E" Tract 18 (Compary or Operator) Lee Drilling Company State "E" Tract 18 (Compary or Operator) | | | | | |
| Following is a report on the work done and the results obtained under the heading noted above at the Stanolind Oil and Gas Company State "E" Tract 18 (Company or Operator) (Lease) Lee Drilling Company , NE , NE , of Sec. T-17-S. R=36-E. NMPM. Lovington-Abo Pool The Dates of this work were as follows: March 30, 1954 to April 1, 1954, inclusive Notice of intention to do the work //// (was not) submitted on Form C-102 on | | | MPLETION | | |
| Stanolind Oil and Gas Company State "E" Tract 18 (Company or Operator) (Company or Operator) Lee Drilling Company Well No. 22 r-17-S. R=36-E. NMPM. Lovington-Abo Pool Lea The Dates of this work were as follows: March 30, 1954 to April 1, 1954, inclusive Notice of intention to do the work for work of the proposed plan for (was not) obtained. (Cross out incorrect words) DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED On March 30, 1954, 3275' of new and used 9-5/8" casing was run in a 1: hole and two stage cemented. (DV tool set at 2106') at 3287' with 150 neat cement the first stage and 150 sx neat cement the second stage. After W.O.C. for 30 hours tested casing above DV tool and before and after drilling plug with a minimum of 950 PSI for 30 minutes, and as there was no loss in pressure, drilling operations were resumed. Witnessed by A. C. Blackburn Stanolind Oil and Gas Co. Head Roustal (Title) | | | • | | <u>co</u> |
| Lee Drilling Company or Operator) Lee Drilling Company (Contractor) T-17-S. R-36-E. NMPM. Lovington-Abo The Dates of this work were as folows: March 30, 1954 to April 1, 1954, inclusive Notice of intention to do the work (April (was not) submitted on Form C-102 on and approval of the proposed plan (April (was not) obtained. DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED On March 30, 1954, 3275' of new and used 9-5/8" casing was run in a 1: hole and two stage comented. (DV tool set at 2106') at 3287' with 150 neat cement the first stage and 150 sx neat cement the second stage. After W.O.C. for 30 hours tested casing above DV tool and before and after drilling plug with a minimum of 950 PSI for 30 minutes, and as there was no loss in pressure, drilling operations were resumed. Witnessed by A. C. Blackburn Stanolind Oil and Gas Co. Head Roustal (Name) (Name) | Following is a report on the work do | ne and the results obtained | under the heading | noted above at the | |
| T-17-S. R-36-E. NMPM. Lovington-Abo Pool, Lea The Dates of this work were as follows: March 30, 1954 to April 1, 1954, inclusive Notice of intention to do the work (refs) (was not) submitted on Form C-102 on (Cross out incorrect words) and approval of the proposed plan (refs) (was not) obtained. DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED On March 30, 1954, 3275' of new and used 9-5/8" casing was run in a 1: hole and two stage cemented. (DV tool set at 2106') at 3287' with 150 neat cement the first stage and 150 sx neat cement the second stage. After W.O.C. for 30 hours tested casing above DV tool and before and after drilling plug with a minimum of 950 PSI for 30 minutes, and as there was no loss in pressure, drilling operations were resumed. Witnessed by A. C. Blackburn Stanolind Oil and Gas Co. Head Roustal (Title) | Stanolind Oil and Gas ((Company or Operate | Company ^m | State | e "E" Tract 18 (Lease) | |
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| Notice of intention to do the work [w[s] (was not) submitted on Form C-102 on | | | | | |
| and approval of the proposed plan (M/s/ (was not) obtained. DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED On March 30, 1954, 3275' of new and used 9-5/8" casing was run in a 1: hole and two stage cemented. (DV tool set at 2106') at 3287' with 150 neat cement the first stage and 150 sx neat cement the second stage. After W.O.C. for 30 hours tested casing above DV tool and before and after drilling plug with a minimum of 950 PSI for 30 minutes, and as there was no loss in pressure, drilling operations were resumed. Witnessed by A. C. Blackburn Stanolind Oil and Gas Co. Head Roustal (Name) (Company) | The Dates of this work were as folows: Mal | rch 30, 1954 to | April 1, | 1954, inclusive | ····· |
| and approval of the proposed plan (M/s/ (was not) obtained. DETAILED ACCOUNT OF WORK DONE AND RESULTS OBTAINED On March 30, 1954, 3275' of new and used 9-5/8" casing was run in a 1: hole and two stage cemented. (DV tool set at 2106') at 3287' with 150 neat cement the first stage and 150 sx neat cement the second stage. After W.O.C. for 30 hours tested casing above DV tool and before and after drilling plug with a minimum of 950 PSI for 30 minutes, and as there was no loss in pressure, drilling operations were resumed. Witnessed by A. C. Blackburn Stanolind Oil and Gas Co. Head Roustal (Name) (Company) | Notice of intention to do the work (Julys) (| was not) submitted on Form | а С-102 оп | (Cross out incorrect words) | ., 19, |
| On March 30, 1954, 3275' of new and used 9-5/8" casing was run in a linche and two stage cemented. (DV tool set at 2106') at 3287' with 150 neat cement the first stage and 150 sx neat cement the second stage. After W.O.C. for 30 hours tested casing above DV tool and before and after drilling plug with a minimum of 950 PSI for 30 minutes, and as there was no loss in pressure, drilling operations were resumed. | | | | - - | |
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| (Name) (Company) (Title) | neat cement the first After W.O.C. for 30 he after drilling plug w | stage and 150 ours tested cas ith a minimum c | sx neat cer sing above 1 of 950 PSI 1 | nent the second stage. DV tool and before and for 30 minutes, and as | |
| (Name) (Company) (Title) | | | | | |
| (Name) (Company) (Title) | | | | | |
| | | | (Company) | | about |
| Approved: OIL CONSERVATION COMMISSION I hereby certify that the information given above is true and o to the best of my knowledge Name Lalph Lulublo | | AMISSION | I hereby certify the to the best of my Name Ralps | hat the information given above is true and knowledge Rependent | complete |
| (This of) APE (192) (This of) APE (192) (This of) (Date) Position Field Superintendent Representing Stanolind Oil and Gas Con Address Box 68 - Hobbs, New Yexi | (Naite) | PR & max | RepresentingSt | anolind Oil and Gas C | |

NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

HOBBS OFFICE OCC

AM 10:50

(Form C-103-(Revised 7/1/52)

MISCELLANEOUS REPORTS ON WELLS 1954 APR 2

Submit this report in TRIPLICATE to the District Office, Oil Conservation Commission, within 10 days after the work specified is completed. It should be signed and filed as a report on Beginning Drilling Operations, Results of test of casing shut-off, result of plugging of well, result of well repair, and other important operations, even though the work was witnessed by an agent of the Commission. See additional instructions in the Rules and Regulations of the Commission.

| | Indicate Nature of | Report by Check | ing Below | 7 | | |
|---------------------------------------------------------------------------------------------------------------------|---------------------------------------|----------------------------------------|-----------|---------------------------------------|------------------|----------|
| REPORT ON BEGINNING DRILLING OPERATIONS | REPORT ON F OF CASING SI | RESULT OF TEST HUT-OFF | x | REPORT ON REPAIRING WE | LL . | |
| REPORT ON RESULT OF PLUGGING WELL | REPORT ON F OPERATION | RECOMPLETION | | REPORT ON (Other) | | |
| | · · · | ······································ | | | | |
| | · ····· | 3-29-54 (Date) | | Hobbs, | N. M. (Place) | ••••• |
| | | | | | | |
| Following is a report on the work | - | | | | • | |
| Stanolind Oil and Gas Co | mpany | | - Stat | e E Tract 18 | | |
| (Company or Oper | | | . •** | (196486) | | |
| Lee Drilling Company (Contractor) | | , Well No | 22 | in the | NE 1/4 of Sec. | 2., |
| | | | | • | | |
| Т17-5, R36-Е, NMPM.,LOV | · - | | | | | County. |
| The Dates of this work were as folows: | March | 25, 1954 to 1 | March 2 | 7, 1954 Inclu | sive | •••• |
| · · · · · · · · · · · · · · · · · · · | | | | | | |
| Notice of intention to do the work (why) | (was not) submitted on | Form C-102 on | (Cr | oss out incorrect words) | | ., 19, |
| and approval of the proposed plan (was) | (was not) obtained. | | | | | |
| DETAIL | ED ACCOUNT OF WO | ORK DONE AND | RESULTS | S OBTAINED | | |
| | · · · · · · · · · · · · · · · · · · · | | | · · · · · · · · · · · · · · · · · · · | | |
| Spudled 17 ¹ / ₂ " hole 9:00 PM | 3-24-54 | | | | | |
| On March 25, 1954 252' of with 275 sx. reg. cement. with 500 psi for 30 minute pressure drilling operation | Cement circula es before and af | ted to surfater drilling | ce. Af | ter 30 hours | WOC tested | casing |
| · · · · | ·. | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| | | | | | | |
| Witnessed byA. C. Blackburr | 1Stanol | ind Oil and ((Company) | Gas Com | | Head Roust. | about |
| Approved: OIL CONSERVATION CO | OMMISSION | I hereby cer to the best | | he information given : wletige. | bove is true and | complete |
| St- Atanley | | Name A.A. | PAR | penancio | ~ | |
| (Namé) | | Position | Field | Superintenden | t | |
| and the second district if any | APO 0 det | Representin | s Stan | olind Oil and | Gas Compa | ny |

Address Box 68, Hobbs, New Newico

AP?

(Title)

-17 f

(Date)

| | must be g | iven to | the District | Santa Fe, INTENTION ' | ation Commission and ap | ABECOMI oproval obtained b | efore drilling or recompletion |
|-----------------------------|------------------------|---------------|---------------------------------------|----------------------------------------------|---------------------------------------|-------------------------------|--------------------------------|
| Submit this tions of the | notice in Commissio | QUINT | UPLICATE | One copy will be return | ed following approval. S | ee additional instr | ni or retained to ine school. |
| no | CDS, N | ew rie: | (Place) | | * | (M (Date) | |
| | SERVATIO | ON CON | MISSION | . · | · · · · · · · · · · · · · · · · · · · | | 1 5 1954 |
| Gentlemen: | | | | | · | IAM I | |
| You an Stanc | e hereby : lind O | notified (| that it is our d Gas Cor | intention to commence t npany (Company | he (Drilling)/(Ryc/ohnolog | tipy of a well to b | e known as |
| | | | | | | | G mi iii |
| | | | (Lease) * | · | | | G The well is |
| located](| 550! est | fe | et from the | North | 2 т 17 - 5 | line and | 1650 feet from the |
| | | • | SECTION L | INE) Lovington- | Abo Pool | Lea | County |
| , | | | | | | B-1553 | · |
| D | с | В | Α | If patented land the o | wner is | ····· | |
| | | | | We propose to drill we | ll with drilling equipment | t as follows:Rota | ary Tools to Total Depth |
| E | F | 0 G | н | The status of plugging | , bond is Blanket bo | ond on file w | vith Commission |
| | <u> </u> | | | The status of progenie | 5 UOMU 15 | | |
| L | к | J | I | Drilling Contractor | Lee Drilling | Company, 51 |) Philtower Bldg. |
| | | | | | UKLANC | | |
| М | N | 0 | P | | | Abo | |
| I <u></u> | | | · · · · · · · · · · · · · · · · · · · | formation at an appro | ximate depth of | 85501 | fcet. |
| We pro | pose to us | e the fol | lowing string | casing and to cement | PROGRAM them as indicated: | | |
| | of Hole | 1 | Size of Casing | Weight per Foot | New or Second Hand | * Depth | Sacks Cement |
| 17-1/ | /2" | 13 | -3/8" | 36# | New | 250 | 275 Circulated |
| 12-1/ | / <u>1</u> ,u | | -5/8 ^µ | 32.3, 36# | New | 3300 | * |
| 7_/ | / <u>8</u> " | | -1/2" | 15.5, 17# | New | 8330 | 675 4% gel / |
| - | | | | | | | 675 cu. ft. perlite |

If changes in the above plans become advisable we will notify you immediately.

ADDITIONAL INFORMATION (If recompletion give full details of proposed plan of work.)

*To be two stage cemented to isolate salt section. Staging tool to be set at approximately 2050'.

lst Stage - 150 sx. neat. 2nd Stage - 150 sx. neat.

Approved. Except as follows: MAR 1.0 1954

HE CONSERVATION COMMISSION litte

Sincerely yours,

anolind Oil and Gas Company Field Superintendent Position.....

 Position
 Field Superintendent

 Send Communications regarding well to

 Name

 Stanolind Oil and Gas Company

 Address

 Box. 68, Hobbs, New Mexico

(P1) Petroleum Information. COUNTY Hub Lovington STATE NM LEA NPI MN 03858 OPR AMOCO PRODUCTION CO. WI-22 UN State "E" Tr. 18 NO MAP Sec 2, T17S, R36E CO-ORD 1-4-78 NM 1650 FNL, 1650 FEL of Sec Re SPD 4-5-60Re CMP 2-15-81 45 mi S/Lovington WELL CLASS: INIT IWDEIN IW LSE. CODE CSG. 13 3/8-266-376 sx FORMATION DATUM FORMATION DATUM 9 5/8-3287-300 sx 5 1/2-8330-835 sx 9000 (ABO) PBD TD. (Abo) Perfs & OH 8292-900 WATER INJECTION WELL

F.R.C. 1-23-82 OWDD PD 9000 RT (Abo) WATER INJECTION WELL (Orig. Stanoland Oil & Gas, #22 State "E" Tr-18, cmp 5-9-54 from (Abo) CH 8330-8477, OTD 8477; OWWO & re-cmp 10-10-55 from (Abo) OH 8330-8425, OTD 8477, OPB 8425; OWWO by Pan American Petroleum Corp. & re-cmp 9-27-57 from (Abo) OH 8330-8404, CTD 8477, OPB 8404; OWWO & re-cmp 12-5-57 from (Abo) OH 8330-50, OTD 8477, OPE 8350) TD 9000; Complete cmt ret @ 8326 Sqzd GH (8330-50) 75 sx Perf (Abo) 8292-8316 w/2 SPF Actd (8292-8316) 1000 gals TPP (+ 21-50) 77 BO + 42 BW + 11 MCFGPG in 24 hrs

385

DF

sub-s

(8290-2016)

1-4-78 NM

1-18-82

CONTR

LEA Lovington NM WI-22 State "E" Tr. 18 Sec 2, T17S, R36E AMOCO PRODUCTION CO. Page #2 1-18-82 Continued DO Ret @ 8326 (2-5-81) Deepened 8477 to 9000 Acid (8292-9000) 5000 gals COMPLETION ISSUED 1-23-82 1-4-78 NM IC 30-025-70020-82

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| 1 | STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT |
| 2 3 | OIL CONSERVATION DIVISION STATE LAND OFFICE BLDG. SANTA FE, NEW MEXICO |
| \$ | 20 August 1980 |
| 5 | Examiner Hearing |
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| ๖ | IN THE MATTER OF:) |
| 0 | Application of Amoco Production Company) for salt water disposal, Laa County,) CASE |
| 0 | New Maxleo.) 7009 |
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| งง | Exposes Richard L. Standts |
| 12 12 | TRANSCRIPT OF BEARING |
| 27 27 27 | APPEARANCES |
| G | |
| 17 | For the Oil Conservation Ernest L. Padilla, Esq. Division: Legal Counsel to the Division |
| ଅ | State Land Office Bldg. Santa Fe, New Mexico 87501 |
| Q | |
| Ð | For the Applicant: Clyde A. Mote, Ecq. |
| 21 | Amoco Production Company |
| 22 | Houston, Toxas 77001 |
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ป MR. STAPETS: At this time we will call, 2 then, Case 7009. I MR. PAPILLA: Application of Amoco Pro-4 duction Company for salt water disposal, Lea County, New 6 Maxico. 0 MR. MOTE: Mr. Examiner, I'm Clyde Mote, T attorney, representing Amoco Production Company, in associa-0 tion with Atwood and Malone. 0 I have one witness. CC 11 (Witness sworn.) 12 IJŊ W. MIKE BROWN 3 boing called as a vitness and having been duly sworn upon 13 his oath, tostified as follows, iv-wit: Û 17 DIRECT EMAPINATION 3 BY MR. MOTE: 6 Nould you please state your name, by when Q, Ð caployed, in what capacity, and what location? 21 My name is H. Michael Brown. I'm Д. Yes. Ð amployed by Amoco Production Company in the Houston Regional 23 Office as a Staff Potroleum Engineer, Senior Grade. 20 Have you previously testified before the Q. ැති Oil Conservation Division and your qualifications as an ex-

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part petroleum engineer been accepted?

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Yes.

Q. You'll be asked to testify concerning several exhibits. Were all of these exhibits either prepared by you or under your supervision and direction?

Pago .

Yes, they ware.

Please turn to your first exhibit and,
If you would, please explain to the Examiner the reason for
the two circles drawn on this map.

A The -- first of all, I'd like to note that the woll in question, our State "E" Tract 18 Well No. 22 is designated by the rod arrow and is the center of both the circles. The inner circle has a half mile radius; the outer circle is a 2-mile radius.

We've tried to show by this map all pro-

0. Mor many producing horizona are within

A There are a total of six. The three main horizons are the San Andres, the Paddock, and the Abo. There is one Queen well, one Yates well, and three Devonian producers.

9. How many existing salt water disposal Walls in the Abo?

A

At present there are four. There are

Seven, if you would. I believe this is the completion and casing data of all wells within half a mile of the injection

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POGO .

Well, is that correct, the proposed injection well?A. Yes, it gives the completion data on all

wells within a half mile radius of the subject well, and shown that mine wells have penetrated the Abo formation within this area. Of that mine, two are currently Paddock water injection wells; time are Abo salt water disposal wells; and four are Abo producers.

Q Does it list the completion and casing data for all the valls?

Yes, it does.

A

(And what is the current status of all these wells?

A Well, our State "E" Tract 18 Wells Nos. 18, 19, 20, and 23 are currently Abo producors.

State "E" Tract 12 Well No. 21 is a Abo Calt water disposal well.

The Araho, Incorporated, State "WD" No. 2 is an Abo salt water disposal well.

Getty Lovington-Paddock Unit Water Injection Well No. 2 is a Paddock water injection well, as is the Phillips Lovington No. 2.

The Rice Engineering State "WD" No. 1

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ATTACH SEPARATE SHEET IF ADDITIONAL SPACE IS NEEDED as can be determined from available records. ••••

Hobbs, New Mexico March 10, 1954 (Date) · ; · · 017 0 The Oht 17 Company

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| จ | STATE OF NEW MEXICO | |
| 2 | ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION | |
| 3 | State Land Office Building Santa Fe, New Mexico | |
| 4 | 25 October 1978 | |
| ଌ | EXAMINER HEARING | |
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| 7 | IN THE MATTER OF: |) |
| 0 | Application of Amoco Production Company for salt water disposal, |) case) 6356 |
| ୭ | Lea County, New Mexico. | |
| £@ | | - <i>c</i> } |
| จจ | BEFORE: Daniel S. Nutter | |
| 12 | | |
| 13 | TRANSCRIPT OF HEARING | |
| 20 | | |
| ୀତ | APPEARANCES | |
| า© | For the Oil Conservation Lynn Teschendorf, Es Division: Legal Counsel for th | |
| 07 | State Land Office Bi Santa Fe, New Mexico | • |
| 10 | | |
| 10 | For the Applicant: Guy Buell, Esq. Amoco Production Com | DENY |
| 20 | P. O. Box 3092 Houston, Texas 77991 | . |
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MR. NUTTEP: Call Case Number 6356.

MS. TESCHENDOPF: Case 6356. Application of Amoco Production Company for salt water disposal, Lea County, New Mexico.

MR. BUELL: May it please the Examiner, for Amoco Production Company, my name is Guy Buell.

Ve have one witness, Mr. Examiner, Mr. Pease, who was previously sworn in Case Number 6355.

MR. NUTTER: Mr. Pease is still under oath.

MR. BUELL: And he was also qualified as a petroleum engineer in that same case, Mr. Mutter. Would you waive the necessity of going through the qualifications?

MR. MMTTER: Mr. Pease is qualified under Oath.

J. E. PEASE

boing callod as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMILATION

BY MR. BUELL:

2. Mr. Pease, in connection with your testimony in this particular case, Number 5356, I want you to look first at what has been identified as Amoco's Exhibit Number One. What is that exhibit?

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significance of that circle?

This represents the two mile radius around A. the proposed injection well.

All right, sir, and again in conformance with 2 rule 701, you've identified the operators and the wells that are producing within this two mile circle?

A And also the zone in which the wells are producing.

And speaking of zones, let me ask you this. Q In the Lovington-Abo Area, is it a multi-pay area?

> Yes, it is. 瓜

We have production from more than the Abo? 0 That's correct. R

Do you have a legend at the bottom of your A Exhibit Number One that through a color method identifies the producing interval of all of the walls on Exhibit One, which are within your two mile circle?

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Yes, sir.

SO All right, sir, since we propose to use the Q Ð Noo as the disposal interval in Well No. 21, rather than ack you to go through all of those color legends, since Ø they're colf-emplanatory, I'll just ask you how have you 23 idantified the Abo producers on Exhibit Number One?

> These are shown with a small purple dot. B Ail right, sir. Looking immediately to the Ø,

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west of the location of our Well No. 21, I see two well; that are highlighted by thick, short, blue arrows. What's the significance of those wells and why did you highlight them?

ළුදු.

Y

A. These are existing salt water disposal wells where the disposal zone is the Abo. One of them is operated by Rice Engineering: the other one is by Arahoe.

Q. All right, sir, and both those wells are located in the northwest quarter of Section 2 and our proposed well is in the northeast quarter of Section 2.

A That's correct.

Q. They're immediate offsets to our well to the west, is that correct?

Yes, sir.

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Q All right, sir, with respect to those two existing disposal wells, do you have any idea of the volumes that the -- those two operators said they might be injecting

A The records for the hearings on the Rice Engincering disposal, they listed 5000 to 3500 barrels of water por day.

The epplication for Araboa listed 8090 barrols of water per day initially.

All right, sir, let me ask you this. With respact to the Rice well, are they disposing through perforations or open hole?

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be arranged after approval and the well equipped for salt water disposal.

The cast iron bridge plug -- well, first we'll squeeze off the current perforations that are 8330to-40, and then the well will be cleaned out by drilling up the cast iron bridge plug, and a new hole will be made from 8470-to-9100 feet.

3-1/2 inch internally coated tubing will be run and set on a packer at 8350 feet.

And then the disposal will be through that plastic coated tubing set in this packer through an open hole interval \$350 feet to total depth of \$100 feet?

A Well, the open hole interval would be 8391 to 9100 feet.

Q I see, the packer is going to be set at \$350.
A That's correct.

0. All right, sir. Do you have any other commente on Exhibit Number Four?

A No, sir.

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WALTON DOVO

0. Turn then, if you would, to what has been identified as our Exhibit Number Five. What is that exhibit?

A Exhibit Five is a gamma ray log which was run on the well which we are asking approval for the salt water disposal, this being State "E" Tract 18 Well No. 21.

For the benefit of the record, have you identi-

| OIL COMSERVATION DIVISION | |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| C. S. SON 2058 TANTA V. SANTA V. NEW WEXALD B7501 | |
| PD_V +U.3.6.3. | Sec. Brather in TYR |
| | S. Lotte Sty S. C. a |
| | B-1553 |
| SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THE PERMIT APPENDIALS) DEVELOPED OF PLUE DATA TO A DIFFERENT APPENDIAL | |
| IL OIL AAA CAAA OTHER- | 7. Unit Agroement Herber 🦄 |
| 2. Nume of Coperator Amoco Production Company | S. Furm or Louise Nume State E Tr. 18 |
| P. O. Box 68 Hobbs, NM 88240 | 9. Well No. 22 |
| 1. Liceation of Well | 10. Field and Pool, or Wilden. |
| UNIT LYTNER G 1650 FEET FROM THE NORth LINE AND 1650 FEET FROM | |
| THE East LINE, SECTION 2 TOWNSHIP 17-S HANGE 36-E NMPM. | |
| 15. Elevation (Show whether DF, RT, GR, etc.) 3852' RDB | 12. County Lea |
| Check Appropriate Bol. 10 indicate Nature of Notice, Report or Oth | |
| NOTICE OF INTENTION TO: SUBSEQUENT | REPORT OF: |
| PERFORM REMEDIAL WORK PLUG A / JANDON REMEDIAL WORK | ALTERING CASING |
| PULL OR ALTER CASING CHANGE PLANS CASING TEST AND GEMENT JQ3 | |
| OTHER Deepen and convert to injection X | |
| 17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including work; see RULE 1703. | estimated date of storting any proposed |
| Propose to convert well to an injection well by the following method: | |
| Run tubing and cement retainer. Set retainer at 8250'. Top of Abo p Cement squeeze perforations 8292'-8316' with 150 sacks Class H cement loss controladditive followed by 150 sacks Class H neat. Pull retain a one foot interval at 5000' with 4 JSPF. Run tubing and cement reta 100' above top of perfs, approximately 4900'. Cement 5-1/2" casing w Pull retainer and run bit. Drill out cement and retainers to 9000'. 8310'. Acidize with 5000 gallons acid in four stages. Pump 500 salt in gelled brine after first 3 stages. Test injectivity and turn | with a water er and perforate iner and set ith 450 sacks Class C. Run packer and set at lbs. of rock |
| CIL OCHT LTYNTION LEWBON | · . |
| SANTA FE | |
| • | |
| 18. I hereby certify that the information above is true and complete to the best of my knowledge and belief. | |
| Assist. Admin. Analyst | DATE <u>6-10-80</u> |
| APPROVED BY SUPERVISOR DISTRIC | SEP 10 1945 |
| CONDITIONS OF APPROVAL, IF ANY: 0+4-NMOCD, H 1-Hou 1-Susp 1-MKE | 7 A), (B) |

| DISTRIBUTION | Long Co. |
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| OIL X GAS DTHER- | - |
| 2. Name of Operator | 6. Farm or Lease Hame |
| Amoco Production Company | State E Tr. 18 |
| 1. Address of Operator | 9. Well No. |
| P. O. Box 68 Hobbs, NM 88240 | - 22 |
| 4. Location of Well | 10. Field and Fool, or Wildcat |
| UNIT LETTER G 1650 FERT FROM THE NORth LINE AND 1650 FEET FROM | Lovington Abo |
| UNIT LETTER TOJU FERT FROM THE LINE AND FEET FROM | |
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| THE LINE, SECTION TOWNSHIP RANGE JD-E NMPM. | 4////////////////////////////////////// |
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| Check Appropriate Box To Indicate Nature of Notice, Report or Oth | |
| | REPORT OF: |
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| PERFORM REMEDIAL WORK | ALTERING CASING |
| TEMPORARILY ABANDON | PLUG AND ABANDONMENT |
| PULL OR ALTER CASING CHANGE PLANS CASING YEST AND CEMENT JOB | · · · · · · · · · · · · · · · · · · · |
| Deepen and demuest to initiation [79] | · L |
| Deepen and convert to injection Delution | |
| 17, Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including | estimated date of starting may proposed |
| work) SEE RULE 1103. | |
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| Moved in service unit 10-28-80. Pulled rods and tubing. Set retainer | |
| Moved in service unit 10-28-80. Pulled rods and tubing. Set retainer Squeezed perfs 8292'-8316' with 150 sacks Class "C" cement with water | |
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| 4630' with 450 sacks Class H cement. Drilled Fill from 8400'-8484'. | oss control |
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| Submit 3 Copies to Appropriate District Office | State of New Me Energy, Minerals and Natural R | | Form C-103 Revised 1-1-89 |
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| <u>DISTRICT I</u> P.Q. Box 1980, Hobbs, NM 88240 | OIL CONSERVATIC REP.O. Agy 201 Santa Fe, New Mexico | BNODIVISION | WELL API NO. |
| DISTRICT II P.O. Drawer DD, Artosia, NM 88210 | Santa Fe, New Mexico '91 FEB 19 AM 9 | 87504-2088 35 | 5. Indicate Type of Lease STATE FEE |
| DISTRICT III 1000 Rio Brazos Rd., Aztec, NM \$7410 | '91 FEB 19 mm 3 | | 6. State Oil & Gas Lesse No. $\beta = 1553$ |
| (DO NOT USE THIS FORM FOR PRO DIFFERENT RESER (FORM C- | CES AND REPORTS ON WEI POSALS TO DRILL OR TO DEEPEN IVOIR. USE "APPLICATION FOR PE 101) FOR SUCH PROPOSALS.) | OR PLUG BACK TO A | 7. Lease Name or Unit Agreement Name |
| 1. Type of Well: OE CAS WELL WELL | omen Disa | OSAL | STATE E TRACT 18 |
| 2 Name of Operator | VIL CORPORATION | | 8. Well No. 22 |
| 3. Address of Operator P. O. Box | 5970, Hosses, NA | 1 88241 | 9. Pool name or Wildcat Lovin GTON ABO |
| 4. Well Location | D Feet From The NORTH | | 50 Feet From The <u>EAST</u> Line |
| Section 2 | Township 175 Ra | uge 36E | NMPM LEA County |
| 11. Check A NOTICE OF INT | Appropriate Box to Indicate I ENTION TO: | | eport, or Other Data SEQUENT REPORT OF: |
| | | REMEDIAL WORK | |
| | CHANGE PLANS | COMMENCE DRILLING | |
| PULL OR ALTER CASING | _ | CASING TEST AND CEI | |
| OTHER: | | OTHER: | L |
| 12. Describe Proposed or Completed Operati work) SEE RULE 1103. | | | |
| 266' | ture log March | $\mathbf{r}_{2} = \mathbf{r}_{2}$ | (8324') OH: 8324'-8465' |
| | | | |
| Man to the up. | Pull pkr & Hag. or sunge to az | not + IL B.K | K. run RPB & test CD. |
| Renlace bad tu | bing & pkr if he | cessary fi | real of bole wit treated |
| water (packer f | luid) Bessure | test backsid | rculate hole withreated tegh 15 min. to 500". |
| Return well to | injection. | , | |
| | · · · · · · · · · · · · · · · · · · · | | |
| I bereby certify that the information above is true SIGNATURE | and complete to the best of my knowledge and the Ace of the the test of te | belief. President | DATE |
| TYPE OR PRINT NAME Mohamme | d umin Merchant | - | (505)397-3596 TELEPHONE NO. |
| (This space for State Use) | 0 / | | |
| APPROVED BY | Vertin m | DISTRUCT I | DATE FER 1 5 1001 |
| | / | | |

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|-------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------|---------------------------------------|-------------------------------------------------------|
| Submit 3 Copies to Appropriate District Office | State of New Me Energy, Hinerals and Natural Re | | Form C-103 Revised 1-1-89 |
| DISTRICT I P.O. Box 1980, Hobbs, NM 88240 | OIL CONSERVATIO P.O. Box 208 | R8 | WELL API NO. |
| DISTRICT II P.O. Drawer DD, Argesia, SIM SEETO DISTRICT III | ED | 87504-2088 | 5. Indicate Type of Lease STATE FEE |
| 1000 Rio Brazos Rd., Aztec, NM 87410 | nm 9 36 | | 6. State Oil & Gas Lesse No. B-155 3 |
| (DO NOT USE THIS FORM FOR PR DIFFERENT RESE (FORM (| ICES AND REPORTS ON WEL OPOSALS TO DRILL OR TO DEEPEN RVOIR. USE "APPLICATION FOR PEI C-101) FOR SUCH PROPOSALS.) | OR PLUG BACK TO A | 7. Lease Name or Unit Agreement Name |
| 1. Type of Well: OL CAS WELL WELL | | 'D | STATE E. TR. 18 |
| | OIL CORPORATIO | | 8. Well Na. ZZ |
| 3. Address of Operator P. O. Bo | × 5970, Новвз, N | M 88241 | 9. Pool name or Wildcat Loving TON ABO |
| 4. Well Location | 50 Feet From The NORTH | | 50 Feet From The Line |
| Section 2 | | | NMPM LEA County |
| | 10. Elevation (Show whether 3 | BSC' KB | |
| 11. Check NOTICE OF IN | Appropriate Box to Indicate N TENTION TO: | • | eport, or Other Data SEQUENT REPORT OF: |
| | | | |
| | CHANGE PLANS | COMMENCE DRILLING | |
| PULL OR ALTER CASING | | CASING TEST AND CE | bad it. of the trep. phy. |
| 12. Describe Proposed or Completed Open work) SEE RULE 1103. | ntions (Clearly state all pertinent details, an | d give persinent dates, includ | ling estimated date of starting any proposed |
| Rigsed up N | leenar Cuell Serv | ite 7.18.9 | 1. Safety meeting - |
| Unflanged a | sell head. Pulla | ed ZGIjts | of 21/2" PC tubing # |
| pto Dect of | hale Found to | wa Roles | in 1253rd jt. SDRN. |
| Picked up rep | paired ptr. & r | eplacement. | joint. Ran theg & pkr |
| to 4005' Set | L pkr & loaded | backside. | joint. Ran thag & pkr Tested O.K. to 500°. Release |
| | | $\sim 10 - 11$ | |

pkr. & ran remaining they in the hole. Set pkr @ 8241'. Acssam up backerde with pkr fleid using Is a pump tack. Held pressure (500"+) for 15 min -0. K. Chart atteched. RD.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. hi Nerclea + Mender F Loca 1 7/22/81 DATE (505) 397-359 (0 TELEPHONE NO. (merch) Merchant TYPE OR PRINT NAME (This space for State Use) DISTRICT 1 SUPERVISOR JUI 22 1991 DATE CONDITIONS OF APPROVAL, IF AR

| 11 sth First, 111 lo Brazos 1 IV | , Artesia, Ni Rd., Aztor | State of New Mexico State of New Mexico Minerals & Natural Resources Department Artesia, NM 88210 OIL CONSERVATION DIVISION Submit for 2040 South Pacheco Rd., Aztee, NM 87410 Santa Fe, NM 87505 | | | | | | In to Appropri AM | Form C-104 October 18, 1994 structions on back tate District Office 5 Copies ENDED REPORT | | | | |
|----------------------------------------------|--------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------|----------------------------|----------|------------|---------------------|-------------------------|----------------------------------------------------------------------------------------------------------|-------------------|-----------------------|-------------------------|-----------------------|
| | F | EQU | JEST | Operator nam | e and / | Address | | | | | ON TO TRA | OGRID Num | |
| SI | AGA P | ETRO | LEUN | 1 Limite | d Li | abili | ty Co d | of (| Colorado | ļ | 1489 | | |
| 4. 11. | 15 W. IDLAN | WA1 D, 7 | נע, צ 12, דע, דע | SUITE 9701 | 835 | | | | | | CH, EF | FECTIVE | 2 1-1-97 |
| · ^ ^ | PI Numbe | r | | | | | * Por | l Nat | ne | | | | Pool Cade |
| - | 25-0385 | | · | S1 | ID: A | bo | Prop | | | | | 96 | DQ\ Well Number |
| 30323 | | IE | | State | Ē | | rup | ay r | | | | 22 | Web Runaber |
| | Surface | | | | | | | | | | | | |
| r lot ne. G | Section 2 | | mship 17s | Range 36e | Lot.ld | | Feet from U 1650 | l¢ | North/South | | Feet from the 1650 | East/West line East | e County LEA |
| | Bottom | _ | | | L | I | | | | | | L | |
| or lot no. | | and the second se | wnship | Range | Lot 1 | idn | Feet from | he | North/Sout | h line | Feet from the | Eest/West lin | e County |
| Lse Code | U Produ | ucine M | ethod Co | de l ¹⁴ Gas | Conne | tion Date | " C-1 | 29 Pe | mit Number | | C-129 Effective 1 | Date 17 | C-129 Expiration Date |
| S | SWD | | | | | | | | | | | | |
| | and Ga | s Tra | | | | | | | | | | | |
| " Transp OGRIJ | orter D | | 14 | Transporter and Addre | | | · | | POD | ²¹ O/G | | POD ULSTR and Descri | |
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| | duced | Wate | r T | | | | | • POI | DULSTR Locat | ion and | Description | | |
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| | 1 Com | oletio | | | | r | | | 1 | | | | |
| - Sl | pud Date | | - | Ready Date | | | " TD | | * PB1 | סר | ¹⁹ Perfo | rations | » DHC, DC,MC |
| | ^{J1} Hole | Size | | ji ji | Casin | e Tubin | g Size | | 1 | Depth | Set | <u>×</u> | Sacks Cement |
| | | | | | | | | | | | | | |
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| | | | | | | | tt | <u> </u> | | | · | | |
| We | ll Test | Data | | 1 | | | | | ····· | | | L | |
| | a New Oil | | | Delivery Data | | 1 1 | est Date | Ţ | " Test Le | agth | · " Tbg. | Pressure | " Cag. Pressure |
| 4.0 | hoke Size | | | 41.00 | | | | | | | | | |
| Ci | noke Size | | | 4 Oil | | | Water | | 4 Ga | • | •7 | lof | " Test Method |
| reby o | certify that | the rules | of the O | I Conservation | n Divisi | on have be | en complied | ┢ | | | | · | |
| pdge a | and belief. | | | e is true and c $7 \sim 2$ | omplete | to the bes | I OI MY | | | | ONSERVA | TION DI | VISION |
| ire; | K. | Æ | La l | | Ter | en | | | pproved by: > | Va | 14.100 | Vink | 2 |
| i nan | 1/1 | <u>Cha</u> | rles | Farmer | > | | | | ile: | | GARY W. | NTATIV | E II |
| | | anage | | | | | | | pproval Date: F | | | M | AR 07 1997 |
| | | 14/9 | | Phone: | | | 4-4293 | | 6 Anno 19 | | | | |
| | loc | 2. | | 1-3 | Ē | | | | | NT, | PRESIDEN | IT | 2/7/27 |
| • | Prev | ious Op | erator Si | | 721 | 3 | PEN | IRO | Printed Name C OIL C | ORF | ORATION | TRI | e Date |

| • | | |
|-----------------------|-------------------------------------------------------------------|---------------------------------------|
| N OF COPIES RECEIVED | | Form C-102 |
| DISTRIBUTION | | Supersedes Dia |
| SANTA FE | NEW MEXICO OIL CONSERVATION COMMISSION | C-102 and C-103 Effective 1-1-65 |
| FILE | · · | |
| U.S.G.S. | | Sc. Indicate Type of Lease |
| LAND OFFICE | | State K Fee |
| OPERATOR | | 5. State Oil & Gas Lease No. |
| USL . | SUNDRY NOTICES AND REPORTS ON WELLS | 7. Unit Agreement Name |
| WELL N WELL | 0THER- | |
| Amp on Dup dup to | | 8. Farm of Lease Name |
| Amoco Productio | on company | State "E" Tract 18 |
| Address of Operator | | 9. Well No. |
| P.O. Drawer "A | ', Levelland, Texas 79336 | 21 |
| 4. Location of Well | | 10. Field and Pool, or Wildcat |
| UNIT LETTERB | 660 FEET FROM THE NOTTH LINE AND 1650 FEET FROM | Lovington |
| | | |
| THEEast | INE, SECTION TOWNSHIP RANGE 36-E NMPM. | ((((((((((((((((((((((((((((((((((((|
| MIIIIIIIII | 15. Elevation (Show whether DF, RT, GR, etc.) | 12. County |
| | 3853 RDB | Lea |
| 12. | Check Appropriate Box To Indicate Nature of Notice, Report or Oth | er Data |
| NOTIC | ••••• | REPORT OF: |
| | | |
| PERFORM REMEDIAL WORK | PLUG AND ABANDON | ALTERING CASING |
| TEMPORARILY ABANDON | COMMENCE DRILLING OPNS. | PLUG AND ABANDONMENT |
| PULL OR ALTER CASING | CHANGE PLANS CASING TEST AND CEMENT JOB | |
| Conv | ert to SWD | |
| OTHER | | |
| | | · · · · · · · · · · · · · · · · · · · |

7. 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.

Per NMOCD order No. R-5885 dated 10/25/78, propose to convert well to SWD by the following procedure. Pull rods, tubing and packer. Run tubing and cement retainer to 8275'. Squeeze Abo perfs 8330'-8340' with 100 sx Class H cement plug additives and 100 sx Class H cement plug 2% HR4. Pull out of retainer. Perf 7" casing w/4 shots/foot over 1 foot interval at approx. 4720'. Run tubing with cement retainer and set above perfs at 4670'. Cement 7" casing with 560 sx Class C Incor plus additives and 100 sx Class C Incor plus 9.5# fine grained salt/sx. to circulate to surface. Pull out of retainer. Run bit and drill pipe. Drill out cement retainers and CIBP set at 8380'. Deepen hole to 9100'. Pull drill pipe and bit. Run workstrin, treating packer and tailpipe. Acidize open hole with 5000 gal 15% HCL. Pull workstring, treating packer, and tailpipe. Run internally coated tubing and injection packer. Set packer at approx. 8370'. Place well on injection.

| I hereby certify that the information above is true and compl | ete to the best of my knowledge and belief. | |
|---------------------------------------------------------------|---------------------------------------------|------------------|
| IGNED Ray Of | Administrative Supervisor | February 1, 1979 |
| APPROVED BY | UPERVISOR DISTRICT | FEB 2 1979 |

| · · · · · · · · · · · · · · · · · · · | | |
|-----------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------|-----------------------------------------|
| N OF COPIES RECEIVED | | Form C+103 |
| ' DISTRIBUTION | | Supersedes Old |
| SANTA FE | NEW MEXICO OIL CONSERVATION COMMISSION | C-102 and C-103 Effective 1-1-65 |
| FILE | - | • |
| U.S.G.S. | | 54. Indicate Type of Lease |
| LAND OFFICE | | State K Fee |
| OPERATOR | 1 (1) | 5. State Oll & Gas Lease No. |
| ····· | | |
| DO NOT DE THIS FORM FOR PU | RY NOTICES AND REPORTS ON WELLS | 7. Unit Agreement Name |
| OIL GAS | other. Injection |), only ogeneral police |
| a l'ante de la criter | | 8, Farm or Lease Name |
| Amoco Production Co | ompany | State E Tract 18 |
| A times for enter | · · · · · · · · · · · · · · · · · · · | 9. Well No. |
| P.O. Drawer "A", Le | evelland, Texas 79336 | , 21 |
| . Location of Well | | 12. Field and Pool, or Wildcat |
| UNIT LETTERB | 660 FEET FROM THE North LINE AND 1650 FEET F | Lovington |
| · · · · · · · · · · · · · · · · · · · | | |
| East LINE, SEC | 17-S RANGE 36-E | |
| The Cive, Sec. | 10N HANGE NM | ···· ())))))))))))))))))))))))))))))))) |
| <u>ANNIN ANNIAN /u> | 15. Elevation (Show whether DF, RT, GR, etc.) | 12. County |
| HHHHHHHH | ////// 3853 RDB | Lea |
| | Appropriate Box To Indicate Nature of Notice, Report or INTENTION TO SUBSEQUE | Other Data ENT REPORT OF: |
| · · · · · · · · · · · · · · · · · · · | | |
| PERFORM REMEDIAL WORK | PLUG AND ABANDON REMEDIAL WORK | ALTERING CASING |
| TEMPORARILY ABANDON | SERVICE COMMENCE DRILLING OPNS. | PLUG AND ABANDONMENT |
| FULL OR ALTER CASING | SANTA DIVISIO | Convert to SWD |
| | SERVATION DIVISION | |
| OTHER | | |

work, see Rule 1103. Moved in service unit 1/20/70 Dulled mode tubing and not be builded by the service of the

Moved in service unit 1/29/79. Pulled rods, tubing, and packer. Ran tubing and cement retainer to 8275'. Squeezed perfs 8330'-40' with 100 sx Class H cement plus 6% Halad 9 followed by 100 sx Class H plus 2% HR4. Reversed out 60 sx. Pulled tubing and perforated interval 4722'-23' with 4 JSPF. Ran tubing and packer set at 4363'. Pumped 283 BW thru perfs and circulated out bradenhead. Ran tubing and set cement retainer at 4638'. Cement 7" casing with 560 sx Class C cement plus 3% NA Silicate plus 6# salt plus 1/4# Flocele/sx followed by 100 sx Class C cement plus 9# salt/sx. Reversed out 5 sx. Ran Temperature Survey and found top of cement at 3375'. Drilled out cement and retainer 4638'-4727'. Ran bit to 8257' and drilled cement and cast iron bridge plug to 8381'. Drilled fill from 8381'-8470'. Drilled formation 8470'-8987'. Pulled drill pipe and bit. Ran 2 1/2" tubing and set packer at 8367'. Acidized with 5000 gal 15% HCL acid. Ran injection packer and set at 8378'. Moved out service unit 2/28/79. Well is currently shut-in. Waiting on pipeline to place well on injection.

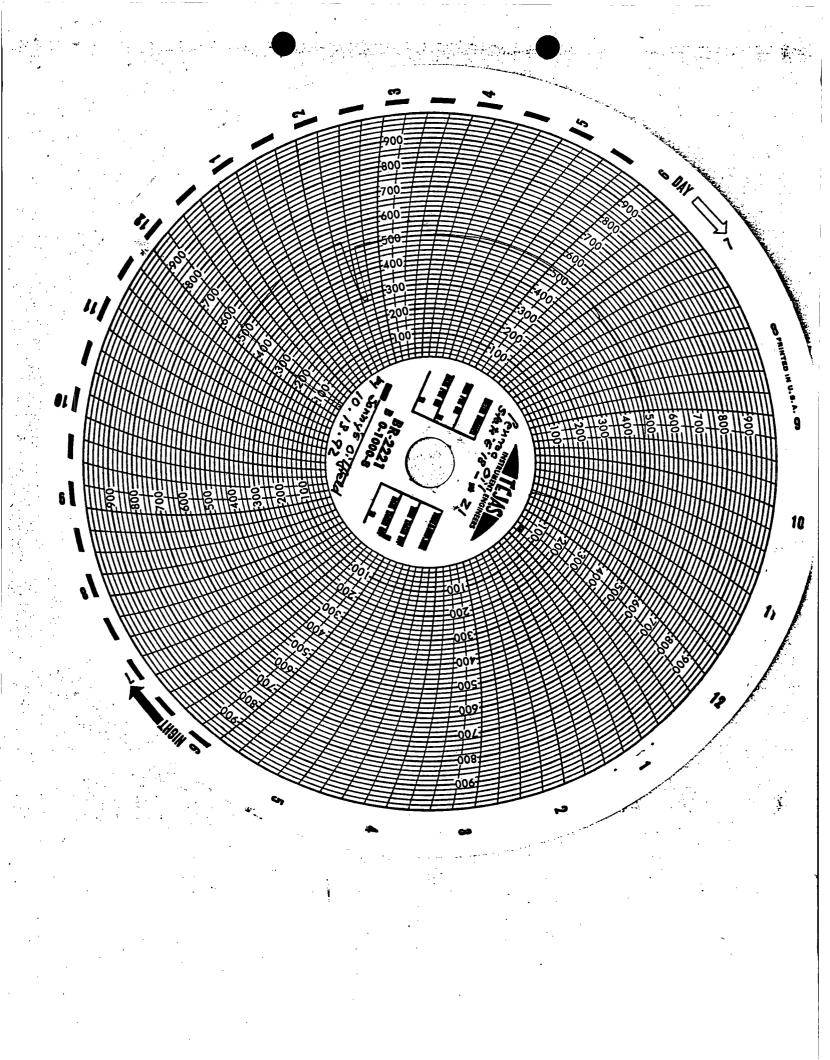
| in. Thereby certify that the | information above is | true and compl | ete to the best of my knowledge an | d belief. | | |
|------------------------------|----------------------|----------------|------------------------------------|------------|-------|---------------|
| NUNED Kay | lox | | Administrative | Supervisor | DATE_ | March 9, 1979 |
| | un Ser | ton - | SUPERVISOR | DISTRICT I | DATE | MAR 20 1979 |
| 0+4-NMOCD,H | 1-Houston | 1-RWA | 1-Susp | | | ' : |

| BTATE OF NEW MEXICO VERGY AND MINI HALS DEPARTMEN | | NCCOV | ATION DIVIS | | Form C Revise | -104 10-1-70 |
|-----------------------------------------------------------------------------------------------------------------|-----------------------------|--------------------------|---------------------------------------------------|-------------------------------|----------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------|
| DIST MINUTION | | | OX 2088 | | - | |
| IANIA FE | SANT | A FE, NE | W MEXICO 8750 | 01 | | |
| U 8.0.8. | . PA | | | | | |
| IMANSPUNTEN DIL. | KI KI | | DR ALLOWABLE | | | |
| CPERATUR FROMATION OFFICE Operator | | TO TRANS | SPORT-DIL AND NA | TURAL GAS | | |
| Address Address | Apollo | 0 0il C | ompany | | | |
| Reason(s) for lilips (Check proper | | 737, Но | bbs, N.M. 88 | 240 | | and the second secon |
| Ne- Well [- | Change in Transport | er of: | | | 1.00 | |
| Recompletion Change in Ownership X | Oil Casinghead Gas | Dry G Conde | * 님 | ective 4 | -1-80 | |
| If change of awnership give nar and address of previous owner_ | • Amoco Product | ion Co | mpany, Box 6 | 8, Hobbs | N.M. 88240 |) |
| DESCRIPTION OF WELL A | | | | | | |
| State E Tract 18 | 21 LOV | , Including f 7ington | | Kind of Leas State, Federa | • al or F•• State | B-1553 |
| Location Unit Letter B | 660 Feet From The NC | orth | 1650 | Feet From | The East | |
| Line of Section 2 | Township 17S | Ronge | 36E | - | Lea | County |
| · · · · · · · · · · · · · · · · · · · | | · | | SAL WELL | | County |
| DESIGNATION OF TRANSPO Name of Authorized Transporter of | | | 1.3 | | ved copy of this form i | s to be sentj |
| Name of Authorized Transporter of | Casinghead Gas or Dry | Gas | Address (Give addres | ss so which appro | ved copy of this form i | s to be sent) |
| If well produces oil or liquids, give location of tunks. | Unit Sec. Twp. | ¦Rge. | is gas octually conne | ected? ; Whi I | en | |
| If this production is commingled COMPLETION DATA | | | | ······ | | |
| Designate Type of Comple | tion $-(X)$ Oil Well | Gas Well 1 1 | New Well Workove | r i Deepen I I | Plug Back I Same R | esty Diff. Rea |
| Date Spudded | Date Compl. Ready to Pro | d. | Total Depth | ,, L,,,, | P.B.T.D. | · |
| Elevations (DF, RKB, RT, GR, etc. | ; Mame of Producing Format | tion | Top Oll/Gas Pay | | Tubing Depth | |
| Perforations | | | | <u> </u> | Depth Casing Shoe | |
| | TUBING, C | ASING, AND | CEMENTING RECO | DRD | | |
| HOLE SIZE | CASING & TUBING | G SIZE | DEPTH | SET | SACKS CE | MENT |
| | | | | | | ······································ |
| | | | | | | |
| TEST DATA AND REQUEST | | | l ier recovery of total vo | | ind must be equal to c | exceed top alle |
| OIL WELL Date Flist New Oil Run To Tanks | Date of Test | ie jor this ac | nth or be for full 24 hou Producing Method (Fl | | t, etc.) | ου ο το τ |
| Length of Tost | Tubing Freesure | | Casing Pressure | · · · | Choke Size | |
| Actual Prod. During Test | Oil-Bbis. | | Water-Bbls. | | Gas - MCF | <u>.</u> |
| 999 10 10 10 10 10 10 10 10 10 10 10 10 10 | I | · | L <u>.</u> | | <u>I</u> | |
| GAS WELL Actual Frod. Tost-MCF/D | Length of Test | | Bbls. Condensate/NM | CF | Cravity of Condensat | \$. |
| Teoling Molhod (pitor, back pr.) | Tubing Pressue (Shut-in | | Cosing Pressure (Shu | t-12) | Choke Size | |
| CERTIFICATE OF COMPLIA | |] | ווח | CONSERVAT | I ION DIVISION | |
| | | | APPROVED | APR 1.5 | 0 | . 19 |
| l hereby certify that the rules and Division have been complied wi above is true and complete to t | th end that the information | given | BY | | \square | |
| | - | | TITLE DISTR | ICT 1 SUPER | /ISOR | |
| Charles | Cit- | 91 41 | | | ompliance with not | |
| A due de la | nasare) | | well, this form mu | st be accompan | able for a newly dril ied by a tabulation lance with Bill F 11 | of the deviation |
| Owi | | | All sections e | f this form mus | lance with RULE 11 t be filled out comp | letoly for allow- |
| | (da), L-86 | | able on new and r Fill out only | Sections 1. 11. | 111, and VI for the | inges of owner. |
| ، المحمد المركز المحمد المحمد المحمد مع المركز المركز المركز المحمد المحمد المحمد المحمد المحمد المحمد المحمد ا | ute) | | wall name or numb | er, or tinnsporte | n or other such char | up of condition |

Forms C-104 must be filed for each pool in multiply Separate

| | | | | • | | | | | |
|---------------------|-------------------------------------------------------------------------------------|--------------------------------------------------------|---------------------------------------------------|---------------------------------------------|---------------------|--------------------|--|--|--|
| - | STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT | 1121 - 2 122" | en e | - | | • | | | |
| | | CHARLEN DIA | Form C-104 Revised 10-01-78 Format 05-01-83 | | | | | | |
| | BANTA FE | OIL CONSERVA P. O. BO | Page 1 | | | | | | |
| _ | U.S.G.B. | SANTA FE, NEW MEXICO 87501 | | | | | | | |
| | THANBPORTER OIL CAS | REQUEST FOR ALLOWABLE | | | | | | | |
| · | PRORATION OFFICE | ATURAL GAS | | | | | | | |
| | 1 · | Operation PENROC OIL CORPORATION | | | | | | | |
| | · · · · · · · · · · · · · · · · · · · | BBS, NEW MEXICO 8 | 8241 | | | | | | |
| 19996 · | Reason(s) for filing (Check proper box) | Change in Transporter of: | Other (P | lease explain) | | | | | |
| | Recompletion X Change in Ownership | | ry Gas OCT ondensate | OBER 1, 1988 | | | | | |
| | If change of ownership give name | DLLO OIL COMPANY, 1 | P:0. BOX 17 | 37 HOBBS NEW | J MEXICO | <u> </u> | | | |
| _ | | | | | | •••••••••••••••••• | | | |
| | II. DESCRIPTION OF WELL AND L | Well No. Pool Name, Including F | ormation | Kind of Lease | | Lease h | | | |
| | STATE E TRACT 18 | 21 LOVINGTON | ABO | State, Federal or Federal | STATE | B-1553 | | | |
| . . ' | Unit Letter B : 660 | Feet From The NORTH Lir | and <u>1650</u> | Feet From The | EAST | | | | |
| | Line of Section 2 Townshi | ip 17S Range | 36E .N | IMPM, LEA | ļ | Coun | | | |
| | IL DESIGNATION OF TRANSPOR | | LGAS SALT | WATER DISPOSE ress to which approved cop | L WELL | o be senti | | | |
| <u>1.37</u> . | Name of Authorized Transporter of OII | | | • | | | | | |
| ALLS - | Name of Authorized Transporter of Casingh | ead Gas 📋 of Dry Gas 📋 | Address (Give add | ess to which approved cop | y of this form is i | o be sent) | | | |
| 1224. 1744.5 | If well produces oil or liquids, give location of tanks. | IL Sec. Twp. Rge. | ls gas actually cor | when | · | | | | |
| | If this production is commingled with th | at from any other lease or pool, | give commingling | order number: | | | | | |
| 2 1 | NOTE: Complete Parts IV and V on | reverse side if necessary. | 14 | | | | | | |
| | VI. CERTIFICATE OF COMPLIANCE I hereby certify that the rules and regulations of | · · · · · · · · · · · · · · · · · · · | | L CONSERVATION | DIVISION | 10 | | | |
| | been complied with and that the information giv my knowledge and belief. | ven is true and complete to the best of | | Tally | Paul | | | | |
| | | Χ. | TITLE Geologist | | | | | | |
| | M. Y. Merchant | is to be filed in complia request for allowable for | | | | | | | |
| 10000-000 | (Signature) | or a tabulation of with AULE 11 | f the devis: | | | | | | |
| - | | liled out comple | 1 | | | | | | |
| | OCTOBER 1, 1 (Date) | and VI for char ther such chang | e of condit | | | | | | |
| | | | Separate F completed wells | orms C-104 must be fil · | led for each p | ool in mult! | | | |
| | · · · · | | | | | | | | |
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| Submit 3 Copies - to Appropriate District Office State of New Mexico OIL CO Energy, Minerals and Natural Resources Department RECLYED | Form C-103 Revised 1-1-89 | | | | |
|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------|--|--|--|--|
| DISTRICT I OIL CONSERVATION DIVISION | WELL API NO. | | | | |
| DISTRICT II P.O. Drawer DD, Artesia, NM 88210 Santa Fe, New Mexico 87504-2088 | 5. Indicate Type of Lease | | | | |
| DISTRICT III 1000 Rio Brazos Rd., Aziec, NM 87410 | 6. 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.) | 7. Lease Name or Unit Agreement Name | | | | |
| 1. Type of Well: OL GAS WELL GAS OTHER Injection | STATE "E" TR. 18 | | | | |
| 2. Name of Operator PENROC OIL CORPORATION | 8. Well Na. 21 | | | | |
| 3. Address of Operator P. O. BOX 5970, HOBBS, NM 88241-5970 | 9. Pool name or Wildcat Lovington Abo | | | | |
| 4. Well Location Unit Letter <u>B</u> : <u>660</u> Feet From The <u>NORTH</u> Line and <u>164</u> | | | | | |
| 10. Elevation (Show whether DF, RKB, RT, GR, etc.) 11. Check Appropriate Box to Indicate Nature of Notice, Repropriate Box to Indicate Nature of | SEQUENT REPORT OF: ALTERING CASING OPNS. PLUG AND ABANDONMENT | | | | |
| | | | | | |
| 12. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, includie work) SEE RULE 1103. Rigged UP 10/8/92 to Clean out fill-up. Clea | | | | | |
| 8950' to 9100' (O.H. T.D.). Replace 7" P | acker w/ a new | | | | |
| Baker Loc-set plastic coated. Circulal | | | | | |
| - | | | | | |
| 735666. of packer fluid. Load & + for 30 min. (Sommis Oilfield chart a | itta ched). Clean | | | | |
| location and octure well to injec | tion. | | | | |
| | | | | | |
| I hereby certify that the information above is true and complete to the best of my knowledge and belief. SIGNATURE | DATE _10/14/92 | | | | |
| TYPE OR FRINT NAME M. Y. (Merch) Merchant | (505)397-3594 TELEPHONE NO. | | | | |
| (This space for State Use) | SUPERVISOR DATE | | | | |
| CONDITIONS OF APPROVAL, IF ANY: | | | | | |



| ict I lox 1980, Hobbs, NM 88241-1980 rict II South First, Artesia, NM 88210 rict III Rio Brazos Rd., Aztec, NM 87410 | | | State of New Mexico Minerals & Natural Resources Departm OIL CONSERVATION DIVISI 2040 South Pacheco Santa Fe, NM 87505 | | | Department | 1 | Form C-104 Revised October 18, 1994 Instructions on back Submit to Appropriate District Office 5 Copies | | | | | |
|-------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|------------------------------|------------------------------------------------------------------------------------------------------------------------------------|----------|---------------------|---------------------|-----------------------------|---------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------|----------------------|---------------|----------------------------|-----------------|
| I AMENDED REPORT South Pacheco, Santa Fe, NM \$7505 REQUEST FOR ALLOWABLE AND AUTHORIZATION TO TRANSPORT | | | | | | | | | DED REPORT | | | | |
| Operator name and Address | | | | | | | | | | | ' OGRID ! | Number | |
| SAGA PETROLEUM Limited Liability Co of | | | | | | Co | lorado | Ļ | 148967 Reason for Filing Code | | | | |
| 415 W. WALL, SUITE 835 MIDLAND, TX 79701 | | | | | | | | | | CH, EFFECTIVE 1-1-97 | | | |
| * API Number * Pool 1 | | | | | | Name | | ł. | * Pool Code | | | | |
| | -03857 | · | SWD: Abo | | | v Nev | | | 96091 * Well Number | | | | |
| 'Property Code 30323 State | | | | | | tropers | ., | | | | | 21 | |
| | | Location | الألية الإرتباعية المتراجلية المترجل والمترجل والمترجب والمترجب والمترجب والمترجب والمتحاد والمتحاد والمتحد والمتحد والمتحد | | | | | ne Feet from the East/West line County | | | | | |
| l or lot no. B | Section 2 | Township 17s | Range 36e | LOL.10 | | 660 | e North/South Line north | | | 1650 | F -at | | LEA. |
| 11 | Bottom | Hole Loca | tion | | L_ | | | I | | | | | |
| UL or lot no. | Section | Township | Range | Lot I | du Fe | et from the | : | North/Sou | th line | Feet from the | East/Wes | Vest line County | |
| " Lse Code | de ¹³ Producing Method Code ¹⁴ Gas Connection Date ¹³ | | | | ¹⁹ C-129 | Perm | it Number | , | ³⁴ C-129 Effective Date ¹⁷ C-129 Expiration Date | | | | |
| S | SWD | | | | · | | | | | | | | |
| I. Oil a | | Transport | ETS Fransporter | Name | | | » PC | | ³¹ O/G | r | POD UL | STR Lo | cation |
| OGRIE | | | and Addre | | | | | | | · | and D | scriptio | n |
| | | | | | | - | | | | | | | |
| | | | | | | | | | | | <u></u> | | |
| | | | | | | | | et monte en en en en en la regio d'altra de la regio | | | | | |
| | | | | | | | <u>.</u> | | | | | | |
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| | | | | | | | | | | | | | |
| V. Pro | duced W | ater | | | | | 88 8 | | 10 A. | | | | l |
| | POD | | | | | м р | OD L | ILSTR Locat | ion and | Description | | | |
| Well | Comple | etion Data | | | | | | <u></u> | | <u></u> | | | J |
| | ud Date | | Ready Date | | ; | ' TD | T | # PB1 | D | ⁹ Perfo | rations | 1 | * DHC, DC.MC |
| JI Hole Size | | | | Code | & Tubing S | | - | | | | | ¹⁴ Sacks Cement | |
| | 11012 31 | | 1 | | | | ┼─ | | Depth | 24 | | - 58 | tki Cement |
| | | | | | | | \uparrow | | | | | | |
| | | | | | | · · · | | | | | | | |
| | | | | | | | | | | | | | |
| . Well Test Data | | | Delivery Date | · · | " Test Date | | " Test Length | | ngth | · " The. | Pressure | | * Cag. Pressure |
| | | and the second second second | | | | | | | Aug. Frankline | | Cig. Freisure | | |
| " Choke Size | | | ⁴ Oli | | ⁴³ Water | | | ⁴⁴ Ge | | | AOF | | * Test Method |
| hereby c | hereby certify that the rules of the Oil Conservation Division have been complied | | | | | <u></u> | | | | | | | |
| h and that the information given above is true and complete to the best of my wledge and belief. | | | | | | | 1 | IL C ↓ / | ONSERVA | TION | DIVI | SION | |
| ted name: | | | | | | | oved by: | Jai | ywh | Jink | 1 | | |
| J. Charles Farmer | | | | | | Title: GARY W. WINK | | | | | | | |
| Manager 2/14/97 Phone: (915) 684-4293 | | | | | | App | www.unec: F | FIELD REPRESENTATIVE II | | | | 2 0 7 1997 | |
| 'this is | | operator fill in | | (91 | | of the prev | | | | | | | |
| | 1/00 | A A | 1-5 | <u>t</u> | | <u>H. X</u> | | | NT, | PRESIDE | | | 217197 |
| | Previous Operator Signature Printed Name O17213 PENROC OIL CORPORATION The Date | | | | | | | | | | | | |