

Case No.

6562

Large

Exhibits

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. 6562
Order No. R-6057

APPLICATION OF ORLA PETCO, INC.
FOR SALT WATER DISPOSAL, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 13, 1979, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 30th day of July, 1979, 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, Orla Petco, Inc., is the owner and operator of the Gourley-Federal Well No. 4, located in Unit J of Section 31, Township 22 South, Range 28 East, NMPM, Herradura Bend-Delaware Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Ramsey Sand of the Bell Canyon formation, with injection into the open hole interval from approximately 2486 feet to 2508 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic lined tubing installed in a packer set at approximately 2450 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.

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and operator of the Gourley-Federal Well No. 4, located in Unit
J of Section 31, Township 22 South, Range 28 East, NMPM,
Herradura Bend-Delaware Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the Ramsey Sand of the Bell
Canyon formation, with injection into the open hole interval
from approximately 2486 feet to 2506 feet.

(4) That the injection should be accomplished through
2 3/8-inch plastic lined tubing installed in a packer set at
approximately 2450 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.

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Case No. 6562
Order No. R-6057

(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 900 psi.

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

(7) 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.

(8) 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, Orla Petco, Inc., is hereby authorized to utilize its Gourley-Federal Well No. 4, located in Unit J of Section 31, Township 22 South, Range 28 East, NMPM, Herradura Bend-Delaware Pool, Eddy County, New Mexico, to dispose of produced salt water into the Ramsey Sand of the Bell Canyon formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 2450 feet, with injection into the open hole interval from approximately 2486 feet to 2508 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 900 psi.

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

-3-

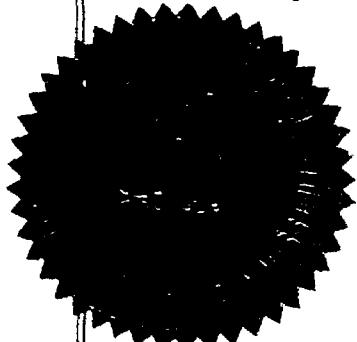
Case No. 6562
Order No. R-6057

(4) That the operator shall immediately notify the supervisor of the Division's Artesia 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.

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

(6) 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.



S E A L

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Joe D. Ramey
JOE D. RAMEY
Director

fd/

Dockets Nos. 24-79 and 25-79 are tentatively set for hearing on June 27 and July 11, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: COMMISSION HEARING - WEDNESDAY - JUNE 6, 1979

OIL CONSERVATION COMMISSION - 9 A.M. - ROOM 205
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

CASE 6495: (DE NOVO)

Application of Amax Chemical Corporation for the amendment of Order No. R-111-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-111-A to extend the boundaries of the Potash-Oil Area by the inclusion of certain lands in Sections 23 and 24, Township 19 South, Range 29 East, Sections 1, 4, 5, 6, 7, 11, 12, 13, 14, 19, 20, 23, 24, and 29, Township 19 South, Range 30 East, and Sections 7, 8, 17, 18, and 19, Township 19 South, Range 31 East, all in Eddy County, New Mexico.

Upon application of Amax Chemical Corporation this case will be heard De Novo pursuant to the provisions of Rule 1220.

Docket No. 23-79

DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 13, 1979

9 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Daniel S. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

ALLOWABLE: (1) Consideration of the allowable production of gas for July, 1979, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.

(2) Consideration of the allowable production of gas for July, 1979, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

CASE 6560: Application of Exxon Corporation for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (combination) of its "AB" State Well No. 4 located in Unit A of Section 16, Township 24 South, Range 37 East, to produce gas from the Langlie Mattix Pool and oil from the Fowler-Upper Yeso Pool, through parallel strings of casing cemented in a common well bore.

CASE 6561: Application of Amoco Production Company for directional drilling, Lea County, New Mexico. Applicant, in the above-styled cause, proposes to directionally drill its State "HC" Well No. 1 located 1980 feet from the South and West lines of Section 21, Township 16 South, Range 35 East, Townsend Field, to a bottom hole location within 100 feet of a point 990 feet from the South line and 2310 feet from the East line of said Section 21, the S/2 of said Section 21 to be dedicated to the well.

CASE 6562: Application of Orla Petco, Inc. for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Ramsey Sand of the Bell Canyon formation through the open hole interval from 2498 feet to 2508 feet in its Courley-Federal Well No. 4 located in Unit J of Section 31, Township 22 South, Range 28 East, Herradura Bend-Delaware Pool.

CASE 6563: Application of Roy L. McKay for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for his North Woolworth Ranch Unit Area, comprising 1,280 acres, more or less, of State lands in Township 23 South, Range 35 East.

CASE 6564: Application of Herndon Oil & Gas Co. for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its O. A. Woody Well No. 1 in the center of Unit E, Section 35, Township 16 South, Range 38 East, Knowles-Devonian Pool.

CASE 6565: Application of Lewis B. Burleson, Inc. for compulsory pooling, a non-standard gas proration unit, and an unorthodox well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalnat Gas Pool underlying the W/2 SE/4 of Section 20, Township 25 South, Range 37 East, to form an 80-acre non-standard gas proration unit to be dedicated to a well to be drilled at an unorthodox location 1650 feet from the South and East lines of said Section 20. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

- CASE 6566: Application of Lewis B. Burleson, Inc. for an unorthodox well location and a non-standard proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 160-acre non-standard gas proration unit comprising the SW/4 of Section 10, Township 24 South, Range 36 East, Jalmat Gas Pool, to be dedicated to a well to be drilled 2310 feet from the South and West lines of said Section 10.
- CASE 6567: Application of Mewbourne Oil Company for an unorthodox well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its State 25 Com Well No. 1 660 feet from the South line and 1650 feet from the West line of Section 25, Township 14 South, Range 27 East, Buffalo Valley-Pennsylvanian Gas Pool, the S/2 of said Section 25 to be dedicated to the well.
- CASE 6568: Application of Dallas McCasland for approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well spacing requirements and a finding that the drilling of his Woolworth Well No. 5 located in Unit P of Section 28, Township 24 South, Range 37 East, Jalmat Gas Pool, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.
- CASE 6569: Application of Continental Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Lockhart A-17 Well No. 2 located in Unit I of Section 17, Township 21 South, Range 37 East, to produce gas from the Eumont Gas Pool through the casing-tubing annulus and oil from the Blinberry Oil and Gas Pool through tubing.
- CASE 6570: Application of Continental Oil Company for a non-standard gas proration unit and simultaneous dedication, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 228-acre non-standard gas proration unit comprising the SW/4 and S/2 SE/4 of Section 18, Township 21 South, Range 36 East, Eumont Gas Pool, to be simultaneously dedicated to applicant's Lockhart A-18 Wells Nos. 2, 3, and 4, located in Units O, K, and M, respectively, of said Section 18.
- CASE 6571: Application of Continental Oil Company for vertical pool limit redefinition, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order extending the vertical limits of the Langlie Mattix Pool to include the lowermost 165 feet of the Seven Rivers formation and the concomitant contraction of the vertical limits of the Jalmat Gas Pool underlying the following described lands: SW/4 W/2 SE/4 and SE/4 SE/4 of Section 35, Township 23 South, Range 36 East; and NW/4, W/2 NE/4, and SE/4 NE/4 of Section 1, Township 24 South, Range 36 East.
- CASE 6537: (Continued from May 9, 1979, Examiner Hearing)
- Application of Harper Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for its West Ranger Lake Unit Area, comprising 1,120 acres, more or less, of State lands in Township 12 South, Range 34 East, Lea County, New Mexico.
- CASE 6553: (Continued from May 23, 1979, Examiner Hearing)
- Application of The Atlantic Richfield Company for approval of infill drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the Division waived existing well-spacing requirements and found that the drilling of additional wells was necessary to effectively and efficiently drain those portions of the proration units in the Empire Abo Unit located in Townships 17 and 18 South, Ranges 27, 28 and 29 East, which could not be so drained by the existing wells.
- CASE 6572: Application of ARCO Oil and Gas Company to drill a horizontal drainhole, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval to drill and complete its Empire Abo Unit Well No. K-142, located in Unit K of Section 2, Township 18 South, Range 27 East, Empire-Abo Pool, with a single horizontal drainhole of about 200 feet in length in the Abo formation.
- CASE 6573: Application of Mesa Petroleum Company for directional drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the directional drilling of its Well No. 7 in the Nash Unit, the surface location of which would be 685 feet from the North line and 1295 feet from the West line of Section 18, to be vertically drilled to approximately 7,000 feet, and then directionally drilled to a bottom hole location in the Morrow formation within 400 feet of a point 1315 feet from the South line and 1320 feet from the West line of Section 7, all in Township 23 South, Range 30 East.
- CASE 6574: Application of Texas Oil & Gas Corp. for an unorthodox gas well location and compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp through Morrow formations underlying the E/2 of Section 6, Township 17 South, Range 35 East, to be dedicated to a well to be drilled at an unorthodox location 660 feet from the South and East lines of said Section 6. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

CASE 6535: (Continued from May 23, 1979, Examiner Hearing)

Application of Torreon Oil Company for a waterflood project, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the San Luis-Mesaverde Pool by the injection of water into the Menefee formation through two wells located in Section 21, Township 18 North, Range 3 West, Sandoval County, New Mexico.

CASE 6575: In the matter of the hearing called by the Oil Conservation Division on its own motion for an order creating, contracting the vertical limits, and extending the horizontal limits of certain pools in Eddy, Lea, and Roosevelt Counties, New Mexico:

(a) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Wolfcamp production and designated as the Cass Draw-Wolfcamp Gas Pool. The discovery well is Black River Corporation Miller Com Well No. 1 located in Unit C of Section 10, Township 23 South, Range 27 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 27 EAST, NMPM
Section 10: N/2

(b) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Abo production and designated as the Runyan Ranch-Abo Gas Pool. The discovery well is Mesa Petroleum Company Runyan Federal Com Well No. 1 located in Unit E of Section 17, Township 19 South, Range 23 East, NMPM. Said pool would comprise:

TOWNSHIP 19 SOUTH, RANGE 23 EAST, NMPM
Section 17: NW/4

(c) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Morrow production and designated as the Runyan Ranch-Morrow Gas Pool. The discovery well is Mesa Petroleum Company Gardner State Well No. 1 located in Unit K of Section 8, Township 19 South, Range 23 East, NMPM. Said pool would comprise:

TOWNSHIP 19 SOUTH, RANGE 23 EAST, NMPM
Section 8: W/2

(d) EXTEND the Austin-Mississippian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 14 SOUTH, RANGE 36 EAST, NMPM
Section 16: SE/4
Section 17: NE/4

(e) EXTEND the Avalon-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
Section 28: N/2

(f) EXTEND the Avalon-Wolfcamp Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM
Section 21: SW/4
Section 28: N/2

(g) EXTEND the Buffalo-Pennsylvanian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 33 EAST, NMPM
Section 6: N/2

(h) EXTEND the Burton Flat-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 27 EAST, NMPM
Section 12: S/2
Section 13: N/2

(i) EXTEND the Chavero-San Andres Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 32 EAST, NMPM
Section 34: SW/4

(j) EXTEND the South Culebra Bluff-Atoka Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM
Section 22: N/2
Section 35: N/2

- (k) EXTEND the Diamond Mound-Atoka Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 27 EAST, NMPM
Section 12: N/2

- (l) EXTEND the Dublin Ranch-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 28 EAST, NMPM
Section 21: E/2

- (m) EXTEND the East Eagle Creek Atoka-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 25 EAST, NMPM
Section 13: S/2

- (n) EXTEND the South Empire-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM
Section 19: S/2

- (o) EXTEND the Eumont Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 36 EAST, NMPM
Section 32: W/2

- (p) EXTEND the Hardy-Blinbry Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 36 EAST, NMPM
Section 2: E/2 SE/4 and SW/4 SE/4

- (q) EXTEND the Herradura Bend-Delaware Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM
Section 5: E/2 NW/4

- (r) EXTEND the Indian Flats-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 21 SOUTH, RANGE 28 EAST, NMPM
Section 25: S/2
Section 36: W/2

- (s) EXTEND the Kennedy Farms-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 26 EAST, NMPM
Section 10: S/2
Section 11: S/2
Section 16: E/2

- (t) EXTEND the East Lake-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 27 EAST, NMPM
Section 32: W/2

- (u) EXTEND the Logan Draw-Cisco Canyon Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 27 EAST, NMPM
Section 28: W/2

- (v) EXTEND the West Malaga-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 24 SOUTH, RANGE 28 EAST, NMPM
Section 16: N/2

- (w) EXTEND the Penasco Draw-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 18 SOUTH, RANGE 24 EAST, NMPM
Section 25: N/2

- (x) EXTEND the South Peterson-Fusselman Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 5 SOUTH, RANGE 33 EAST, NMPM
Section 31: NW/4

(y) CONTRACT the vertical limits of the Shoe Bar-Pennsylvanian Gas Pool in Lea County, New Mexico, to the Atoka formation only and redesignate said pool as the Shoe Bar-Atoka Gas Pool, and extend the horizontal limits of said pool to include therein:

TOWNSHIP 16 SOUTH, RANGE 35 EAST, NMPM
Section 34: SW/4

TOWNSHIP 17 SOUTH, RANGE 35 EAST, NMPM
Section 3: N/2

(z) EXTEND the Teague-Abo Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 37 EAST, NMPM
Section 22: S/2
Section 27: NE/4

(aa) EXTEND the Todd-Wolfcamp Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 35 EAST, NMPM
Section 22: NE/4

(bb) EXTEND the Tomahawk-San Andres Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 32 EAST, NMPM
Section 30: W/2

(cc) EXTEND the West Tonto-Pennsylvanian Gas Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 33 EAST, NMPM
Section 7: NW/4

(dd) EXTEND the Turkey Track-Morrow Gas Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 19 SOUTH, RANGE 29 EAST, NMPM
Section 14: W/2
Section 15: E/2
Section 23: All
Section 24: W/2

(ee) EXTEND the Wantz-Granite Wash Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM
Section 3: SE/4
Section 10: NE/4

83/162
 48
 20 15 25

200-300

EXHIBIT 1

ORLA PETCO, INC.

HERRADURA ROAD
 (DELMAR) FIELD AREA
 EDDY COUNTY, NEW MEXICO

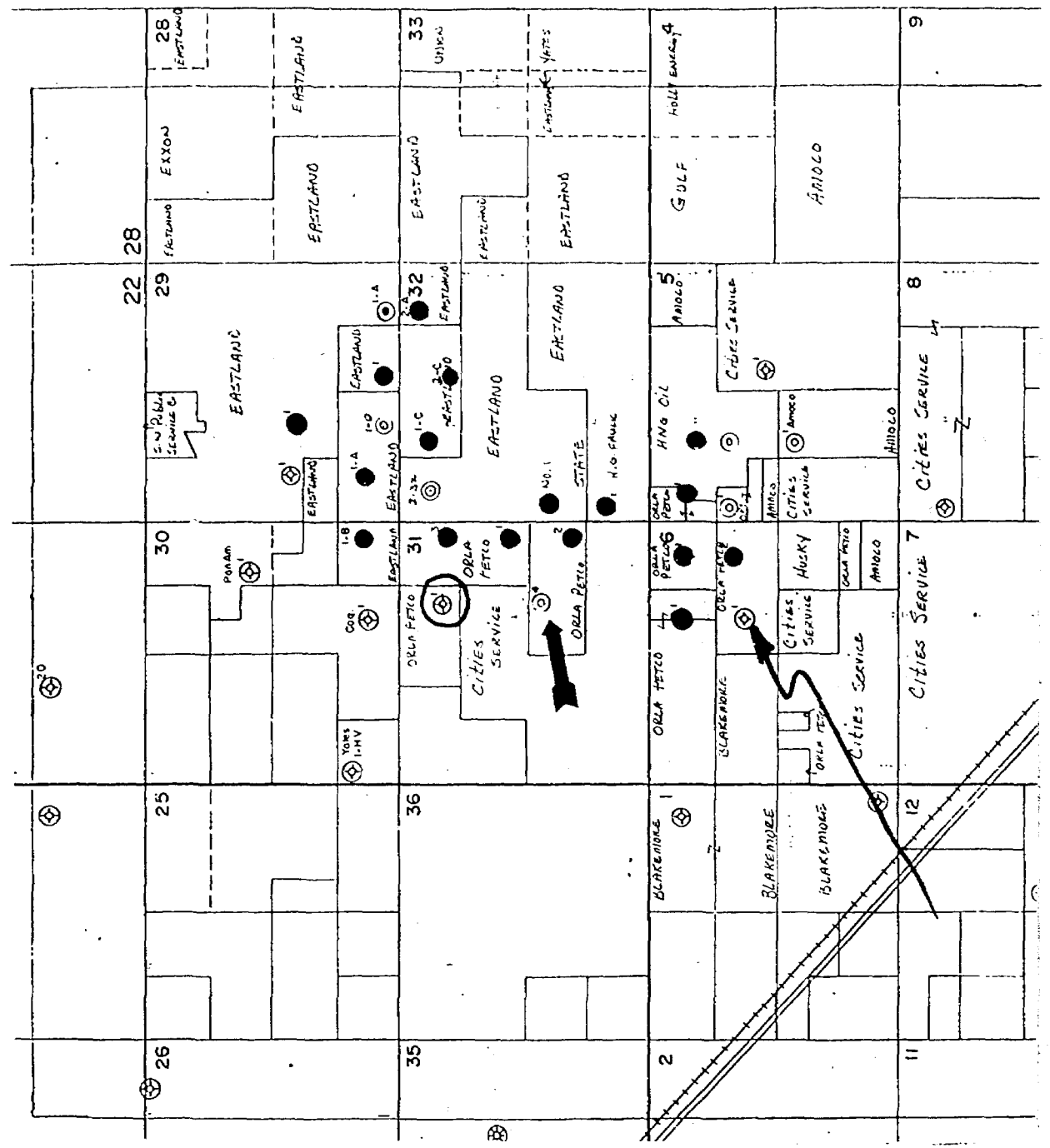
PROPOSED WATER
 DISPOSAL WELL

(Ramsey Sand) & the
 DELMAR SAND OIL WELL

CHERRY CANYON SAND OIL WELL
 also DELMAR SAND

4-10-79

Appl Ex 1
 CA 6562-





Gamma-Ray Log

Peabody Varn

Engineered Oil and Gas Well Completions

EXHIBIT # 2

COMPANY ORLA PETCO, INC.

WELL GOURLEY FEDERAL #4

FIELD HERRADURA BEND

COUNTY EDDY

STATE NEW MEXICO

OTHER SERVICES: NONE

LOCATION: 2310' FSL & 1650' FEL

SEC 31 TWP 22-S RGE 28-E

PERMANENT DATUM: G L ELEV. 3068'
LOG MEASURED FROM D F 2 FT. ABOVE PERM. DATUM
HILLING MEASURED FROM D F

ELEV. K.B. 3070'
D.F. 3070'
G.L. 3068'

DATE 1/12/79

LOG ONE (2")

TYPE LOG GAMMA RAY CALI

DEPTH-DRILLER

DEPTH-LOGGER 2508'

DEPTH LOGGED INTERVAL 2507'

DEPTH LOGGED INTERVAL 2350'

TYPE FLUID IN HOLE DRY

SALINITY, PPM CL

DENSITY

LEVEL

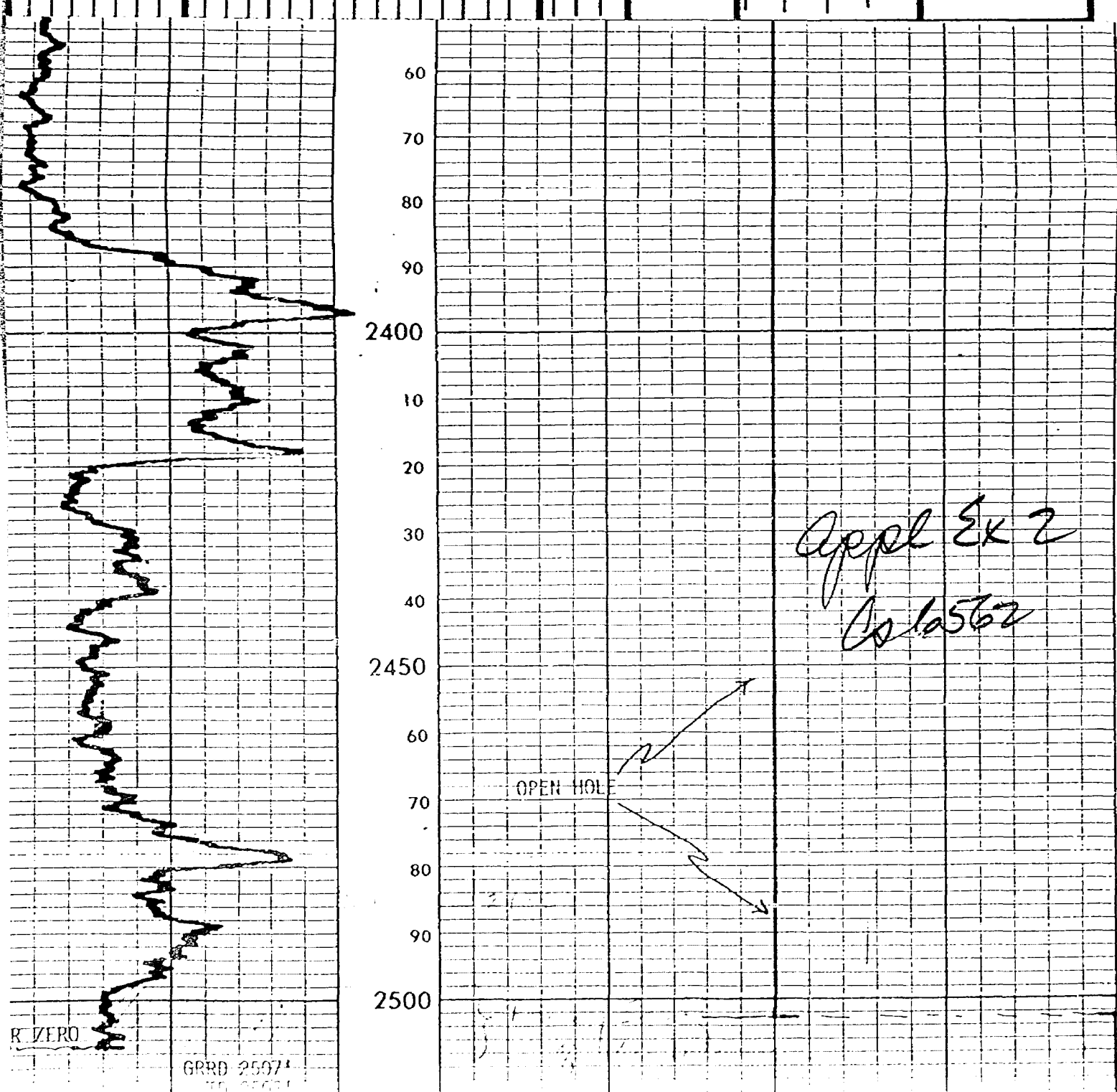
MAX. REC. TEMP. DEG. F.

PERFORMING RIG TIME

RECORDED BY K. WHITMIRE

WITNESSED BY MR. KENNEDY

BORE-HOLE RECORD				CASING RECORD			
RUN	BIT	FROM	TO	SIZE	WGT.	FROM	TO
	8 5/8"	SURF.	352'	8 5/8"		SURF.	352'
	8"	352'					



ORLA PETCO, INC.

GOURLEY-FEDERAL #4

EXHIBIT # 3

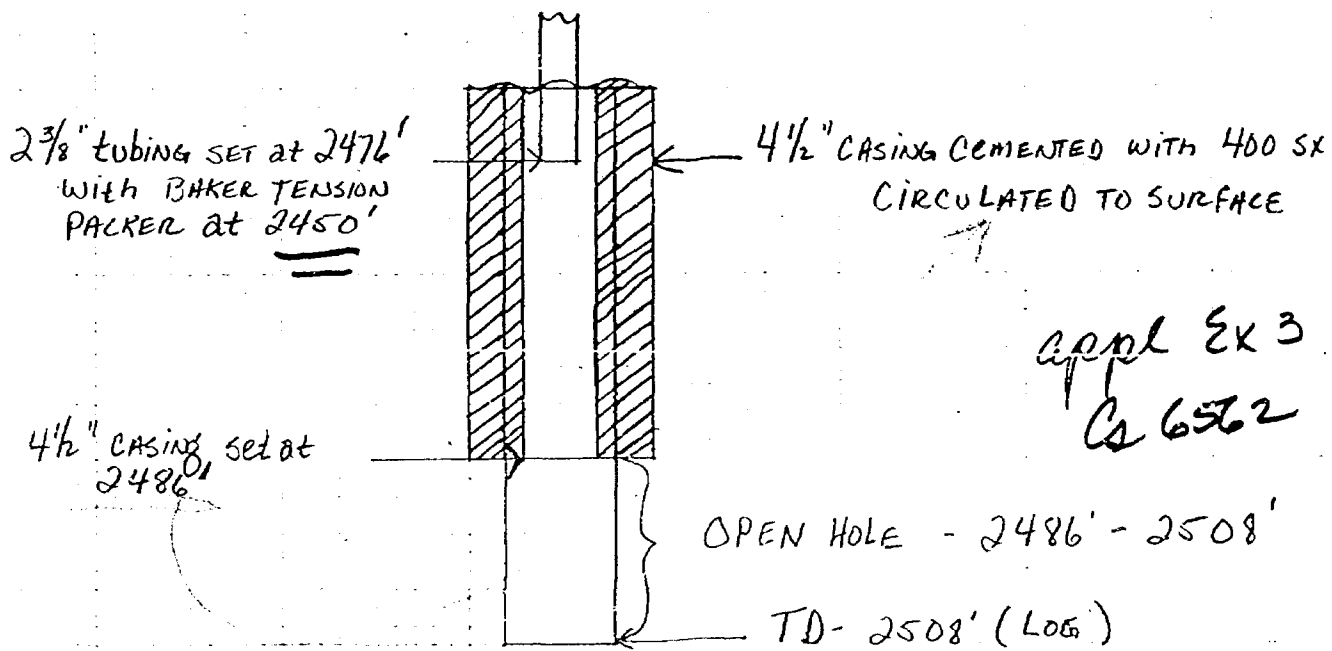
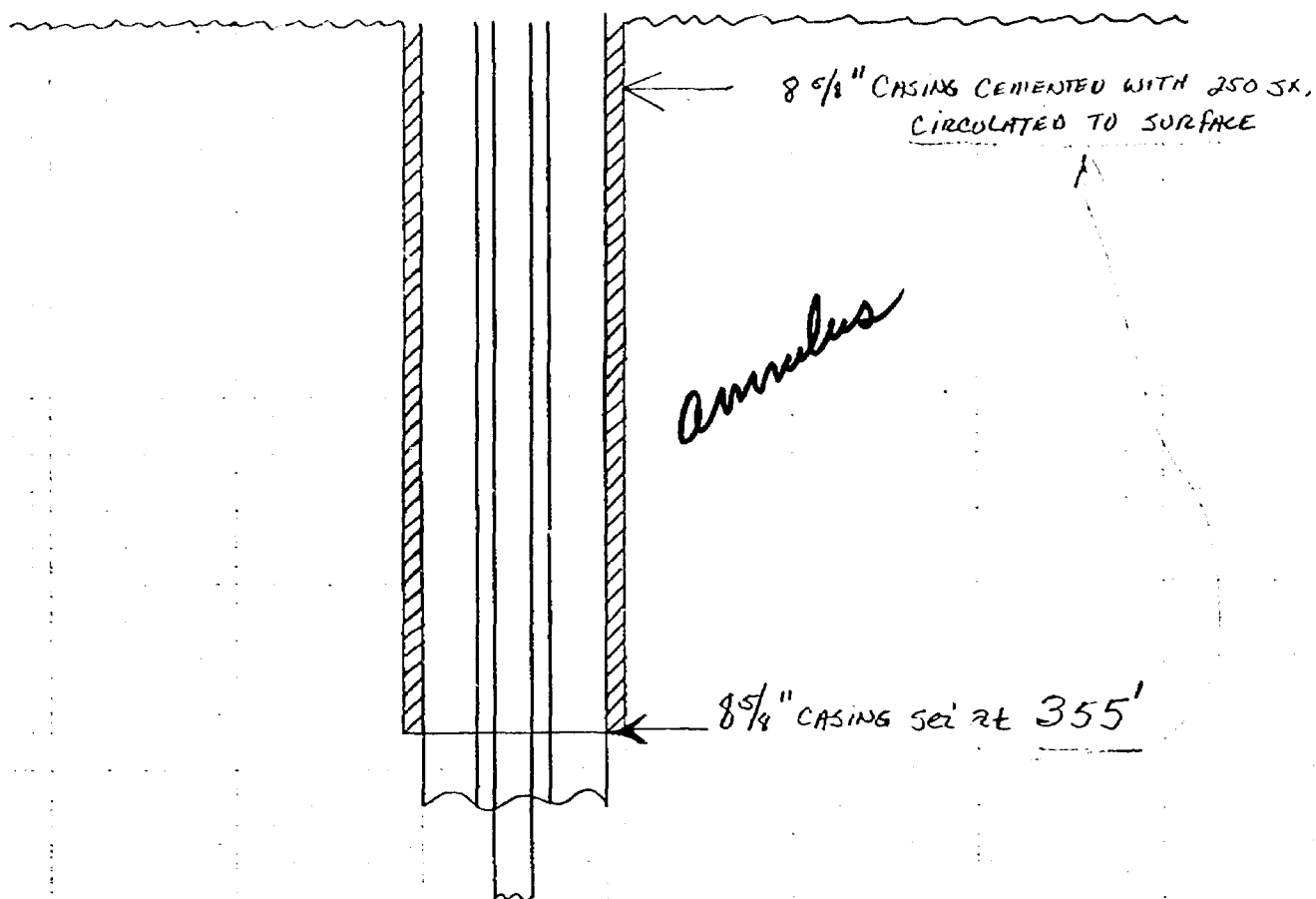


EXHIBIT 4

	<u>Orla Petco, Inc.</u> <u>#1 Gourley-Federal</u>	<u>Orla Petco, Inc.</u> <u>#2 Gourley-Federal</u>	<u>Orla Petco, Inc.</u> <u>#3 Gourley-Federal</u>	<u>Eastland Oil Co.</u> <u>State No. 1</u>
<u>Casing strings:</u>	8 5/8"	8 5/8"	8 5/8"	8 5/8"
	4 1/2"	4 1/2"	4 1/2"	4 1/2"
<u>Setting Depth:</u>	8 5/8"-365'	8 5/8" @ 369'	8 5/8" @ 370'	8 5/8" @ 379'
	4 1/2"-2442'	4 1/2" @ 2436'	4 1/2" @ 2494'	4 1/2" @ 2512'
<u>Sacks of Cement:</u>	8 5/8" - 250	8 5/8" - 250	8 5/8" - 250	8 5/8" - 250
	4 1/2" - 125	4 1/2" - 500	4 1/2" - 500	4 1/2" - 300
<u>Cement Tops:</u>	8 5/8" - circ. to surface.	8 5/8"- c.t.s.*	8 5/8"- c.t.s.*	8 5/8"- c.t.s.*
	4 1/2" - 1700' (calc.)	4 1/2"- c.t.s.*	4 1/2"- c.t.s.*	4 1/2"- c.t.s.*
<u>Total Depth:</u>	2449'(Log)	2456' (Log)	2507'(Log)	2512" (Log)
<u>Producing Interval:</u>	2446'-2449' Open Hole	2437'-2456' Open Hole	2494'- 2504' Open Hole	2469'- 2479' perforations
<u>Location:</u>	2310' FNL & 330' FEL of Sec. 31, T-22S, R-28E, Eddy Co.	1650' FSL & 330' FEL of Sec. 31, T-22S, R-28E, Eddy Co.	990' FNL & 330' FEL of Sec. 31, T-22S, R-28E, Eddy Co.	2160' FSL & 330' FWL of Sec. 32, T-22S, R-28E, Eddy Co.

* Circulated to Surface

*Appl Ex 4
Cs 6562*

EXHIBIT 4 (continued)

Eastland Oil Company
H.G. Faulk No. 1

Casing strings: 8 5/8"
4 1/2"

Setting Depth: 8 5/8" @ 376'
4 1/2" @ 2491'

Sacks of Cement: 8 5/8" w/ 250 sx
4 1/2" w/ 200 sx

Cement Top: 8 5/8" - c.t.s.
4 1/2" - 1350' (Calc.)

Total Depth: 2504' (Log)

Producing Interval: 2491'-2504'
Open Hole

Location: 990' FSL & 330' FWL
of Sec. 32, T-22S, R-28E,
Eddy County, N.M.

EXHIBIT 5

Case 6562

PERTINENT INFORMATION PERTAINING TO

ORLA PETCO # 4 GOURLEY-FEDERAL

PROPOSED SALT WATER DISPOSAL WELL

- 1) Fluid to be injected into the Ramsey Sand from 2486'-2508'.
- 2) Type of fluid to be injected-- Salt Water.
- 3) Volume to be injected-- Approximately 500-600 barrels per day.
- 4) Source of injected fluid-- Salt water produced along with oil from operators nearby wells which produce from this same Ramsey Sand, the uppermost member of the Bell Canyon formation of the Delaware Mountain Group of the Permian Age.

EXHIBIT 6
Case 6562

SUPPORTING DATA FOR REQUESTED

SURFACE INJECTION PRESSURE

* * * *

Fracture pressure of the Ramsey Sand, based on instant shut-in pressures for the wells listed below, was calculated to be 1175 psi.

Orla Petco, Inc. No. 1 Gourley-Federal - 1150#
Orla Petco, Inc. No. 2 Gourley-Federal - 1150#
Orla Petco, Inc. No. 3 Gourley-Federal - 1250#

All of these wells are offsets to the proposed water disposal well and were completed as oil producers from the Ramsey Sand.

Gradient of the fracture fluid was .35#/ft., whereas gradient of the formation water we will dispose is .45#/ft.

The calculated difference between these gradients, at injection level (2500') would be 250#.

1175# (fracture pressure of this formation) less 250# (calculated difference between gradients) leaves 925# as the maximum surface injection pressure in order to stay below the fracture pressure of the injection formation.

We would like to be allowed, if necessary, to inject at surface pressures up to 900#.

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
Oil Conservation Division
State Land Office Building
Santa Fe, New Mexico
13 June 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Orla Petco, Inc. for) CASE
salt water disposal, Eddy County,) 6562
New Mexico.)

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation Division: Ernest L. Padilla, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87503

For the Applicant:

SALLY WALTON BOYD
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I N D E X

JAMES RITCHIE, JR.

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1 MR. NUTTER: We'll call now Case Number
2 6562.

3 MR. PADILLA: Application of Orla Petco,
4 Inc. for salt water disposal in Eddy County, New Mexico.

5 MR. RITCHIE: My name is James Ritchie.
6 I'm president of Orla Petco, Inc. I'm a resident of Santa
7 Fe and my son, James Ritchie, Junior, is a field superin-
8 tendent, vice president, and has done most of the completion
9 on these wells, and so he'll be our principal witness.

10 MR. NUTTER: I think, Mr. Ritchie, this
11 is a corporation?

12 MR. RITCHIE: Yes, sir.

13 MR. NUTTER: I think you're under State
14 law going to have to have an appearance made for you on
15 behalf -- on behalf of you by a licensed attorney in the
16 State of New Mexico.

17 MR. RITCHIE: Oh, I didn't know that.
18 I'm sorry, sir.

19 MR. NUTTER: Yeah.

20 MR. RITCHIE: We'll just have to come
21 back again, then.

22 MR. NUTTER: The lawyers' union got that
23 one in, so we'll call the case a little later and you can
24 get an attorney.

25 MR. RITCHIE: You mean today or --

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MR. NUTTER: Yes, sir.

MR. RITCHIE: Okay. Thank you.

(Thereupon the hearing was recessed until
later in the day.)

(Thereafter at a later hour in the day
the hearing was continued as follows,
to-wit:)

MR. NUTTER: Okay, I think we'll resume
Case Number 6562 at this time.

Call for appearances in this case at this
time.

MR. DALY: My name is Joseph Daly. I'm
with the law firm of Mitchell, Alley, and Rubin in Santa
Fe. We represent Orla Petco, Incorporated, of Midland,
Texas, in this case.

I have two witnesses to be sworn, Mr.
James Ritchie and Mr. James Ritchie, Junior.

(Witnesses sworn.)

MR. DALY: For your information, most of
our questions will be directed to Mr. James Ritchie, Junior,

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1 who goes by the name of Bucky. Mr. James Ritchie is here
2 primarily to avail himself to the Examiner in case questions
3 come up in addition to the direct testimony that we propose
4 to introduce.

5 I'll proceed by discussing first of all Mr.
6 James Ritchie, Junior's qualifications, then Mr. Ritchie's,
7 and then we'll proceed through our exhibits.

8 MR. NUTTER: That's fine.

9 MR. DALY: If that's acceptable.

10
11 JAMES RITCHIE, JR.

12 being called as a witness and having been duly sworn upon
13 his oath, testified as follows, to-wit:

14
15 DIRECT EXAMINATION

16 BY MR. DALY:

17 Q All right, directing my questions now to
18 Mr. James Ritchie, Junior, will you state your name for
19 the record, please?

20 A My name is James Ritchie, Junior.

21 Q And what is your occupation?

22 A I am a field superintendent of Orla Petco,
23 Incorporated, Midland, Texas.

24 Q And as a field superintendent for Orla
25 Petco, what are your day-to-day responsibilities?

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1 A. I complete wells; do all field duties in-
2 volved in drilling and completing wells.

3 Q Can you be a little bit more specific
4 about what you mean by completing wells?

5 A. I start -- I set up the drilling location
6 from beginning to -- from beginning of well to end of well.
7 I make location, get rig, drilling rig lined up, set casing
8 strings when needed at the end of the drilling, when com-
9 pletion is needed I call for completion companies to come
10 out and fracture the well, log the well, and then call for
11 completion equipment, for example, pumping unit, tank
12 battery, et cetera.

13 Q All right, and how long have you held this
14 position with Orla Petco?

15 A. For two and a half years.

16 Q Two and a half years.

17 Can you describe your other experience in
18 the field of oil production or management of oil wells
19 prior to that two and a half year period with Orla Petco?

20 A. I was a roughneck for a number of drilling
21 companies for two years and then afterwards I worked for
22 Western Company, a fracturing company, for a year, at which
23 time I went to work for Orla Petco.

24 Q That's fine. Now, do we have some exhibits
25 to give to the Examiners today?

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1 A. Yes, we do.

2 Q Do you have extra sets of those that I

3 can pass up to the front?

4 A. Sure do.

5 Q Mr. Ritchie, did you prepare or cause to

6 be prepared the documents contained in these exhibits?

7 A. I do.

8 Q And do these -- do these exhibits have to

9 do with the request, the application or Orla Petco to the

10 Oil and Gas Commission?

11 A. They are.

12 Q Have you ever testified before the Com-

13 mission before, Mr. Ritchie?

14 A. No, I haven't.

15 MR. DALY: I move that this witness be

16 qualified as an expert for the purpose of a discussion

17 regarding the application.

18 MR. NUTTER: Mr. Ritchie is qualified.

19 Q (Mr. Daly continuing.) All right. I'd

20 like now to move to a brief interrogatory of Mr. James

21 Ritchie, Senior.

22

23 JAMES RITCHIE, SR.

24 being called as a witness and having been duly sworn upon

25 his oath, testified as follows, to-wit:

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DIRECT EXAMINATION

BY MR. DALY:

Q Will you state your name for the record, please?

A My name is James Ritchie. I -- excuse me.

Q And what is your occupation?

A I'm President of Orla Petco.

Q How long have you been President of Orla Petco?

A Well, the company has existed since 1968 when I formed it. I've been president of it since that time.

Q And will you briefly describe to the Examiners your experience in the field of oil and gas production and management?

A I have been a -- well, I've been in the oil industry since 1948. I have been an independent, drilling in the Delaware Basin and particularly to these shallow Delaware Sands since 1953.

I've operated producing properties in Texas and southeast New Mexico since 1958.

Q And have you ever, with respect to the exhibits that we will be introducing later in this hearing, have you had a chance to review those exhibits and are you

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1 familiar with their contents?

2 A. Yes, I have.

3 Q Have you ever testified before this Com-
4 mission before?

5 A. No, I have not.

6 MR. DALY: I move at this time to admit
7 Mr. Ritchie, Mr. James Ritchie, as an expert for the pur-
8 pose of testifying with regard to this application.

9 MR. NUTTER: Mr. Ritchie is qualified.

10 Q (Mr. Daly continuing.) Fine.

11 These questions now will be directed to
12 Mr. James E. Ritchie, Junior.

13 Mr. Ritchie, can you state basically what
14 it is you're requesting of the Commission?

15 JR. We're requesting an application to dispose
16 of salt water into a porous formation, mainly our No. 4
17 Gourley-Federal Well, in the northwest quarter of the
18 southeast quarter, Section 31, Township 22 South, Range 28
19 East, in Eddy County.

20 Q And can you briefly describe the problem
21 or the conditions that have caused you to make this appli-
22 cation to the Commission?

23 SR: Maybe I could answer that.

24 Q Fine.

25 SR: It's strictly economic necessity. We're

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1 producing from those wells 500 or 600 barrels of water a
2 day and a couple hundred barrels of oil.

3 It costs eighty-three cents a barrel to
4 haul the water commercially and -- and we would like to
5 create a facility in the reservoir for our own disposal,
6 which would be a good deal cheaper and would permit us to
7 produce those wells a good deal longer.

8 MR. NUTTER: Mr. Ritchie, Senior, are you
9 at the present time hauling the water away?

10 SR: Yes, sir, we are.

11 MR. NUTTER: At a cost of eighty-three
12 cents a barrel.

13 SR: At eighty-three cents a barrel, yes, sir.

14 MR. NUTTER: And your wells alone are
15 making 500 or 600 barrels of water per day?

16 SR: Is that right?

17 JR: No, our wells alone in the field are
18 producing --

19 SR: 200 or 300 barrels, aren't they?

20 JR: -- about 300 barrels a day.

21 SR: Eastland Oil Company has all the other
22 production in the reservoir, sir.

23 MR. NUTTER: Okay. Now that's the next
24 question I was going to ask. You'll probably cover it in
25 your direct, but while we're here, will you be disposing of

1 water for the other operator in the pool, also?

2 SR: We might be. We haven't talked to them
3 about it, sir.

4 MR. NUTTER: I see. Okay.

5 SR: They're hauling their water, too.

6 Q (Mr. Daly continuing.) Let's move on
7 then to the various exhibits.

8 Mr. Ritchie, I'm handing you what we have
9 identified as Orla Petco's Exhibit One. Do you recognize
10 that document?

11 JR: Yes, I do.

12 Q Did you prepare that or have that -- or
13 cause that to be prepared?

14 JR: I did.

15 Q Can you identify the document and basi-
16 cally describe its purpose to the Examiners?

17 JR: It's a plat showing the location of pro-
18 posed -- of the proposed injection well, and the location
19 of all other wells within a radius of two miles from it,
20 and showing the formation from which said well is producing.

21 The plat also shows the names of all
22 lessees within said two-mile radius.

23 Q Now you've indicated certain wells with
24 a green -- a green mark.

25 A. Yes, I have.

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1 Q On each well. Can you tell the Examiners
2 what that green mark indicates?

3 JR: The wells colored in green are wells which
4 are producing from the said Ramsey Sand, which is the
5 uppermost member of the Delaware Sand formation.

6 Q And there's one well colored with an orange
7 mark. Can you describe what that well is, please?

8 JR: Yes, I can. That's a Cherry Canyon well,
9 which is a little bit deeper, 1000 foot deeper than our
10 Ramsey Sand wells.

11 Q All right. Have you indicated on that
12 document the location of all wells located within two miles
13 of the proposed injection well?

14 JR: Yes, I have.

15 Q Fine. Let's go now to Exhibit Number
16 Two. Do you recognize what has been marked as Exhibit
17 Number Two, Mr. Ritchie?

18 JR: Yes, I do.

19 Q Did you cause this -- did you prepare this
20 exhibit or did you cause it to be prepared?

21 JR: Yes, I did.

22 Q When was it prepared?

23 JR: The log was run at the time the well was
24 completed, if that's the answer to that question, in
25 January of 1979.

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1 Q All right.

2 JR: It's a standard gamma ray log run typically
3 in these reservoirs.

4 Q All right, can you indicate or do the log --
5 does the exhibit indicate on the logs the zone which is
6 now producing and the zone in which you propose to inject
7 the water?

8 JR: Yes, sir, the log indicates the -- beyond
9 what you've asked -- the point where the 4-1/2 inch production
10 casing is set at 2486, and that there is an open hole section
11 between that point and total depth, which is 2508. The
12 bottom 10 feet of that open hole section is a porous sand
13 called the Ramsey from which we are now producing and into
14 which we respectfully request to inject produced water.

15 Q And are the areas indicated by a red
16 hash mark on the --

17 JR: Yes, they are.

18 Q -- log map?

19 JR: That's the porous zone. Same zone from
20 which all of the other green circled wells are producing
21 from.

22 Q Fine. All right, let's move on to Exhibit
23 Number Three, then.

24 Mr. Ritchie, Junior, do you recognize what
25 has been marked as Exhibit Number Three?

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JR: Yes, I do.

Q Did you cause or did you prepare, or cause to be prepared, Exhibit Number Three?

JR: I did.

Q Can you describe briefly what it is that is shown on Exhibit Number Three?

JR: It's a copy of a diagrammatic sketch of the proposed injection well, showing two different casing strings which were used and cemented into the said well.

Q You've identified two casing strings. Can you specifically describe the two casing strings you're referring to?

JR: Yes, I can. The first casing string run was our 8-5/8ths inch casing, run to a depth of 355 feet and cemented with 250 sacks of cement, which was circulated to surface.

Q Fine. What is the other string to which you referred?

JR: Our other string is our 4-1/2 inch production casing, which was run to a total depth of 2486 feet and cemented with 400 sacks of cement, which was also circulated to surface.

Q Fine. There's also reference on Exhibit Number Three toward the bottom to the Baker tension packer at 2450 feet. Can you describe to the Examiners what that

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1 reference means?

2 JR: Yes. That is a proposed packer which we
3 plan to run if our -- if the well's turned into a disposal
4 well.

5 Q That is not yet in place, though.

6 JR: No, it's not.

7 Q Let's move on to Exhibit Number Four.

8 Mr. Ritchie, do you recognize Exhibit Number Four?

9 JR: Yes, I do.

10 Q Did you prepare or cause to be prepared
11 the Exhibit Number Four?

12 JR: Yes, I did.

13 Q Can you describe to the Examiners what
14 Exhibit Number Four purports to show?

15 JR: Yes, I can. It's a tabular summary of
16 all wells within one-half mile of the injection well which
17 penetrate the injection zone.

18 There is one plugged and abandoned well
19 within the said one-half mile radius.

20 Q Which is not shown on there?

21 JR: Which is not shown on Exhibit Four but is
22 shown on your plat, Exhibit One.

23 Q So Exhibit Four shows the --

24 JR: Producing wells.

25 Q -- producing wells. There is one other

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1 non-producing well that is not shown on Exhibit Four but
2 is shown on Exhibit Number One.

3 JR: One, yes, within the one-half mile radius
4 of the proposed well.

5 Q And what information regarding each of the
6 producing wells is contained in Exhibit Number Four?

7 JR: It contains the two casing strings, the
8 setting depth of casings, the sacks of cement used, cement
9 tops, total depth of the well, producing interval, and loca-
10 tion of the wells.

11 MR. NUTTER: Now you mentioned there was
12 one P&Ad well that was not shown on this Exhibit Number
13 Four, Mr. Ritchie. Which one was that?

14 JR: It's Orla Petco. It's right north of our
15 proposed well, proposed injection well.

16 SR: It's not very well identified. I'm sorry,
17 sir. It's --

18 JR: It's called our Eastland Brantley.

19 SR: It's called Eastland Prantley. It should
20 have been named that on the map, but it's in the southeast
21 of the northwest of the northeast.

22 MR. NUTTER: It's that well right there.

23 SR: Right.

24 MR. NUTTER: Okay, now it's -- does any
25 other exhibit show the condition of that hole?

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1 SR: No, sir. No.

2 MR. NUTTER: Do you have that information

3 with you?

4 SR: On that one well?

5 MR. NUTTER: Yes, sir.

6 JR: No, sir, I don't.

7 SR: It's been plugged, sir.

8 MR. NUTTER: Well, we'll have to have the

9 information on the casing that was in it and what was done

10 when the well was plugged. So you can furnish that to us

11 after you get home.

12 SR: Okay.

13 JR: Okay.

14 MR. NUTTER: If you would.

15 SR: That was just drilled this year, early

16 this year, also.

17 MR. NUTTER: Yeah.

18 MR. DALY: And you'll need, just so we're

19 clear on this, sir, --

20 MR. NUTTER: The similar information

21 that's on Exhibit Four.

22 JR: Okay. Okay.

23 MR. NUTTER: For the other wells, we'll

24 need on that one well.

25 JR: All right. Should have had that, sorry.

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1 MR. DALY: Is there a particular person
2 to whom we should submit that?

3 MR. NUTTER: You can send it to me.

4 Q (Mr. Daly continuing.) All right, let's
5 then move on to Exhibit Number Five.

6 Mr. Ritchie, do you recognize Exhibit
7 Number Five?

8 JR: I do.

9 Q Did you prepare that exhibit or cause it
10 to be prepared?

11 JR: I did.

12 Q Can you describe to the Examiners what
13 information is shown on Exhibit Number Five?

14 JR: The information shown on Exhibit Five is
15 our proposed action which we plan to take in preparing to
16 change this well to a disposal well.

17 Q Is this basically a summary of information
18 contained in other exhibits and a summary of what your
19 request is to the Commission?

20 JR: Yes, it is.

21 Q All right. Let's move on to Exhibit
22 Number Six, please.

23 I'll direct this question to Mr. Ritchie,
24 Senior.

25 Mr. Ritchie, do you recognize this Exhibit

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1 Number Six?

2 SR: Yes, sir, I do.

3 Q Did you prepare this exhibit or cause it
4 to be prepared?

5 SR: I did.

6 Q Can you describe briefly to the Examiners
7 what information is contained on Exhibit Number Six?

8 SR: It's the supporting data request for
9 requested injection pressure. The -- realizing that the
10 Commission is very concerned about the allowed pressure of
11 injection, surface pressure of injection, we have included
12 data that we have in our files with regard to fracture
13 pressure of three nearby wells listed, and the gradient of
14 the fracture fluid calculated by our petroleum engineer,
15 and the gradient of the formation water which we plan to
16 dispose of, the difference between those two, which would
17 give us a difference of injection pressure, a difference of
18 injection pressure of 250 pounds subtracted from the --
19 what we calculate the fracture pressure to be, would
20 allow us, we think, a pressure of approximately 925 pounds
21 as a maximum surface injection pressure when employing --
22 when injecting produced water, disposed water.

23 Q Mr. Ritchie --

24 SR: Therefore, we seek -- excuse me.

25 Q Excuse me, go ahead.

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1 SR: To be permitted to -- to employ a surface
2 pressure not exceeding 900 pounds.
3 Q Mr. Ritchie, can you tell the Examiners
4 the source of the fracture pressure calculated on Orla
5 Petco Nos. 1, 2, and 3, which fracture pressure is identified
6 as 1175 pounds per square inch?
7 SR: Well, those fracture pressures were deter-
8 mined from Dowell Treating Company's machine, gauges.
9 Q Fine.
10 SR: We have that information if the Commission
11 would like to have it submitted.
12 MR. NUTTER: Those were the instantaneous
13 shut-in pressures --
14 SR: Yes, sir.
15 MR. NUTTER: -- on the frac jobs that
16 Dowell --
17 SR: Yes, sir, exactly.
18 MR. NUTTER: -- constructed on the wells.
19 SR: Yes, sir, exactly.
20 MR. NUTTER: Okay.
21 Q And can you tell the ExaMiners who it was
22 that calculated the various gradient pressures that are
23 listed?
24 SR: The consulting petroleum engineer in Mid-
25 land, Lamar Eschberger (sic), who does all of our engineering

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1 work for us.

2 Q Fine. Now then, as a portion of Exhibit
3 Six, though not separately indicated, there is a laboratory
4 water analysis from the Halliburton Division Laboratory.

5 Do you recognize that?

6 SR: Yes, I do.

7 Q Did you prepare that or cause that to be
8 prepared?

9 SR: Well, it was prepared by Halliburton, ac-
10 tually, sir; submitted by us.

11 Q Prepared at your request?

12 SR: Yes.

13 Q Can you briefly describe to the Examiners
14 what information is contained on that water analysis?

15 SR: Yes. This water analysis was done on the
16 discovery well for the Herradura Bend Field, which is ap-
17 proximately one-half mile south of the -- of the intended
18 injection well. It's the Orla Petco No. 1 Pardue, located
19 in the center of the northwest quarter of the northeast
20 quarter of Section 6, Township 23 South, 28 East.

21 It's the only well we had an analysis on.
22 We think that it is an average analysis for the --

23 MR. NUTTER: And it shows chlorides to
24 be --

25 SR: 69 --

1 MR. NUTTER: -- almost 70,000.

2 SR: Yes, almost 70,000, which I might add, sir,
3 is typical of our other experience with chlorides in the
4 Delaware Sand. Seems to be average.

5 MR. DALY: At this time I move to admit
6 Orla Petco's Exhibits One through Six, including the pre-
7 viously described laboratory water analysis.

8 MR. NUTTER: That is a part of Exhibit
9 Six, is that it?

10 MR. DALY: Yes, sir, I believe. I just
11 wanted to be sure.

12 MR. NUTTER: All right. Okay, Applicant's
13 Exhibits One through Six, including the Halliburton water
14 analysis, will be admitted in evidence.

15 Did you have anything further, Mr. Daly?

16 MR. DALY: Simply this question.

17 Q Mr. Ritchie, in your opinion is this ap-
18 plication designed to promote conservation, to prevent
19 waste, and to protect correlative rights?

20 SR: Yes, it is.

21 MR. DALY: I believe that's all we have.
22 We're prepared to answer any questions that the Examiners
23 have.

24 MR. NUTTER: Okay.
25

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CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Ritchie, either one can answer the question, now you're going to go into the Bell Canyon.

SR: Yes, sir.

Q Down in the Ramsey Sand.

SR: Yes, sir.

Q And there's only one well in this field that's producing from that point on.

SR: No, sir. No, sir, I'm sorry. The wells in green are all producing from the Upper Bell Canyon, which we've identified as the Ramsey Sand.

The only well that's producing in the reservoir within two miles that doesn't produce from that zone is the Cherry Canyon Well of Eastland's up there.

Q Okay, I had it backwards, then.

SR: I'm sorry, yes.

Q All right.

SR: What we intend to do is inject produced water from this zone back in this zone.

Q And you don't have any fear of watering out your producing zone by the disposal of this water into it?

SR: Well, we hope not. We don't think we will.

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1 It should, in fact, should benefit the production from those
2 wells by reducing the void places in the reservoir.

3 Q How about the structural position of Well
4 No. 4, is it lower strutureally?

5 SR: It's very low, yes, sir. It's actually a
6 structural point of, if my memory is correct, of plus 589
7 datum. The No. 2 Well, for reference, nearest it to the
8 southeast, is a plus 642. It's 56, 7, 8, 60 some odd feet
9 lower.

10 Q Lower than the No. 2.

11 SR: Yes, sir. It's -- we have one other well
12 producing at that same data, the No. 3. I think that's
13 about the lowest. I think the rest of them are all higher.

14 Q Okay, what is the status of No. 4 Well at
15 the present time?

16 SR: It's producing, sir, about approximately
17 100 barrels of oil a month and 1300 barrels of water.

18 Q So it's your biggest water producer?

19 SR: Yes, sir. It was -- we drilled it in
20 with a cable tool and it had a good show naturally; it
21 produced about 55 gallons of oil an hour and very little
22 water, but was so low we were worried about it, but we --
23 we nevertheless fraced it. We feel like now it probably
24 was a mistake to frac it. We probably could have made a
25 small natural well out of it, and we're considering, if the

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1 Commission will permit us to inject in that well, then we
2 have to go to Cities Service to see if we can make a deal
3 with them to retain the oil rights on that 40 acres and
4 possibly drill another oil well in the southeast corner of
5 that 40 acres, which we feel would be some 15 or 20 feet
6 higher.

7 But we are, from our other experience in
8 similar reservoirs in Texas, the injection, we don't feel
9 the injection would in any way damage the oil recovery from
10 those wells, from the producing wells. In fact, it probably
11 will aid it slightly.

12 And it should be compatible water, of
13 course.

14 Q Where is this water at the present time
15 being hauled to?

16 SR: I don't know. Do you know where the water
17 is being hauled now?

18 JR: It's being hauled to Loving, New Mexico,
19 which is -- and they have their own disposal well, a com-
20 pany called -- I'm not sure what --

21 SR: Roland, Roland.

22 JR: Roland Trucking Company has their own
23 disposal well in Loving.

24 Q And they're disposing of the water as a
25 commercial service to you?

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1 SR: Yes.

2 JR: At their own system.

3 Q Okay.

4 MR. NUTTER: Are there any further ques-
5 tions of the witnesses?

6 MR. DALY: One moment, please.

7 SR: One other thing we'd like to mention, sir,
8 is that your file probably shows it, it might come up and
9 I might as well answer right now.

10 You had previously given us permission to
11 inject water, the same water into another well in this re-
12 servoir last year, wasn't it?

13 JR: Yes, last year.

14 SR: We were not able to make an arrangement
15 with a landowner to do that.

16 MR. NUTTER: Which well was that?

17 SR: It was the No. 1 Sanders. It's also not
18 identified on here but it is the southwest quarter of the
19 northeast quarter of that same Section 6.

20 MR. NUTTER: Okay.

21 SR: Township 23 South.

22 MR. NUTTER: Okay. Do you happen to know
23 the order number that authorized that?

24 SR: No. We could certainly get it for you,
25 yeah.

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1 MR. NUTTER: You might just include that
2 information along with the --

3 SR: Be happy to.

4 MR. NUTTER: -- other information you're
5 going to send me.

6 SR: Okay. We've tried to get several wells
7 around there, I might say, one a plugged well of Amoco's,
8 and two or three others, and the one or two that we've
9 drilled, and --

10 MR. NUTTER: I suppose we might as well
11 rescind that old order, then.

12 SR: That would be fine.

13 MR. NUTTER: You won't be using it.

14 SR: I don't think we will.

15 MR. NUTTER: Are there any further ques-
16 tions of the witnesses? They may be excused.

17 Do you have anything further, Mr. Daly?
18 Does anyone have anything they wish to offer in Case Number
19 6562?

20 We'll take the case under advisement.

21
22 (Hearing concluded.)
23
24
25

REPORTER'S CERTIFICATE

I, SALLY WALTON BOYD, a Court Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

Sally W. Boyd C.S.R.
Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6563 heard by me on 6/13 1979.

[Signature], Examiner
Oil Conservation Division

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MITCHELL, ALLEY & RUBIN

ATTORNEYS AT LAW

July 1, 1979

STEPHEN A. MITCHELL (1903-1974)

JOHN A. MITCHELL
JAMES B. ALLEY, JR.
JAMES S. RUBIN

JOSEPH K. DALY

FIRST NORTHERN PLAZA
POST OFFICE BOX 1932

SANTA FE, NEW MEXICO 87501
TELEPHONE (505) 982-3512

Oil Conservation Division
State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

Attention: Daniel S. Nutter

Re: Orla Petco, Inc.
#4 Gourley-Federal
Injection Well
Section 31, T-22S, R-28E
Eddy County, New Mexico:

Application to dispose of
salt water by injection
into a porous formation:

Case 6562

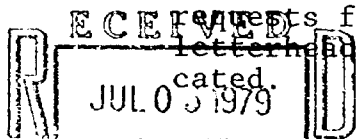
Dear Mr. Nutter:

Enclosed please find the following documents which
are submitted pursuant to your request made at the hearing
in the above-referenced matter on June 13, 1979:

- a. Order of the Division: Case No. 6210,
Order No. R-5618;
- b. Supplement to Exhibit 4, setting forth information
regarding Eastland-Brantley No. 1 (plugged and
abandoned).

With this submission, the record should be complete.

If it is not, or if you have additional questions or
requests for information, kindly refer them to me at the
letterhead address. Your cooperation is sincerely appre-



OIL CONSERVATION DIVISION
SANTA FE

Very truly yours,

Joseph K. Daly

JKD:st
Enclosures

cc: Orla Peco, Inc.

EXHIBIT 4

EASTLAND-BRANTLEY (Plugged and Abandoned)
NO. 1

CASING STRINGS: 8 5/8"
No 4 1/2" casing run because of dry hole.

SETTING DEPTHS: 345'

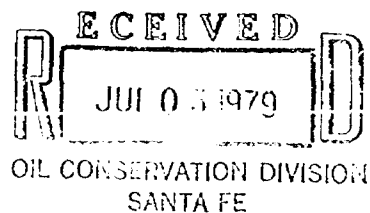
SACKS OF CEMENT: 300 sx

CEMENT TOPS: circulated to surface

TOTAL DEPTH: 3246' (Log)

PRODUCING INTERVAL: NONE -- Dry Hole (Plugged and Abandoned)

LOCATION: 900' FNL & 1650' FEL of Section 31,
T-22-S, R-28-E, Eddy County, New Mexico



*no notice of intent to plug
or report of plugging
in well file*

W. J. Brantley 7/19/79

3000	"	"	2400-2500
350	"	"	2010-2110
350	"	"	3000-4000
10	"	"	at 2000 ft

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. 6210
Order No. R-5718

APPLICATION OF ORLA PETCO, INC., FOR
SALT WATER DISPOSAL, EDDY COUNTY,
NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on April 19, 1978,
at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 28th day of April, 1978, the Division
Director, having considered the testimony, the record, and the
recommendations of the Examiner, and being fully advised in the
premises,

FINDS:

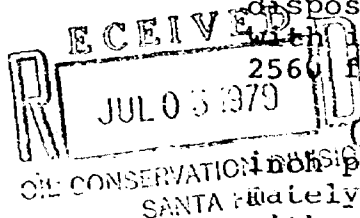
(1) That due public notice having been given as required by
law, the Division has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Orla Petco, Inc., is the owner and
operator of the Sanders Well No. 1, located in Unit G of Section
6, Township 23 South, Range 28 East, NMPM, Herradura Bend-Delaware
Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the Upper Delaware formation,
with injection into the perforated interval from approximately
2560 feet to 2690 feet.

(4) That the injection should be accomplished through 2 3/8-
inch plastic lined tubing installed in a packer set at approxi-
mately 2500 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 or the annulus
be allowed to remain open in order to determine leakage in the
casing, tubing, or packer.

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



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

(7) 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.

(8) 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, Orla Petco, Inc., is hereby authorized to utilize its Sanders Well No. 1, located in Unit G of Section 6, Township 23 South, Range 28 East, NMPM, Herradura Bend-Delaware Pool, Eddy County, New Mexico, to dispose of produced salt water into the Upper Delaware formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 2500 feet, with injection into the perforated interval from approximately 2560 feet to 2690 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 be allowed to remain open or otherwise 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 pressure limiting switch or acceptable device which will limit the wellhead pressure on the injection well to no more than 800 psi.

RECEIVED (3) That the operator shall notify the supervisor of the Artesia district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

OIL CONSERVATION DIVISION
SANTA FE

(4) That the operator shall immediately notify the supervisor of the Division's Artesia 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.

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

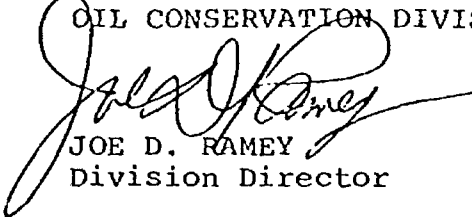
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Case No. 6210
Order No. R-5718

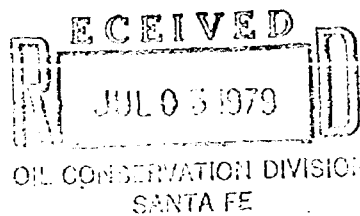
(6) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

DONE at Santa Fe, New Mexico, on the day and year herein-
above designated.

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY
Division Director

S E A L



jr/

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
Oil Conservation Division
State Land Office Building
Santa Fe, New Mexico
13 June 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Orla Petco, Inc. for
salt water disposal, Eddy County,
New Mexico.

CASE
6562

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation
Division:

Ernest L. Padilla, Esq.
Legal Counsel for the Division
State Land Office Bldg.
Santa Fe, New Mexico 87503

For the Applicant:

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I N D E X

JAMES RITCHIE, JR.

Direct Examination by Mr. Daly 4

JAMES RITCHIE, SR.

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Cross Examination by Mr. Nutter 22

E X H I B I T S

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Applicant Exhibit Two, Log 11

Applicant Exhibit Three, Diagram 12

Applicant Exhibit Four, Tabulation 14

Applicant Exhibit Five, Summary 17

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1 MR. NUTTER: We'll call now Case Number
2 6562.

3 MR. PADILLA: Application of Orla Petco,
4 Inc. for salt water disposal in Eddy County, New Mexico.

5 MR. RITCHIE: My name is James Ritchie.
6 I'm president of Orla Petco, Inc. I'm a resident of Santa
7 Fe and my son, James Ritchie, Junior, is a field superin-
8 tendent, vice president, and has done most of the completion
9 on these wells, and so he'll be our principal witness.

10 MR. NUTTER: I think, Mr. Ritchie, this
11 is a corporation?

12 MR. RITCHIE: Yes, sir.

13 MR. NUTTER: I think you're under State
14 law going to have to have an appearance made for you on
15 behalf -- on behalf of you by a licensed attorney in the
16 State of New Mexico.

17 MR. RITCHIE: Oh, I didn't know that.
18 I'm sorry, sir.

19 MR. NUTTER: Yeah.

20 MR. RITCHIE: We'll just have to come
21 back again, then.

22 MR. NUTTER: The lawyers' union got that
23 one in, so we'll call the case a little later and you can
24 get an attorney.

25 MR. RITCHIE: You mean today or ---

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1 MR. NUTTER: Yes, sir.

2 MR. RITCHIE: Okay. Thank you.

3 (Thereupon the hearing was recessed until
4 later in the day.)
5
6
7

8 (Thereafter at a later hour in the day
9 the hearing was continued as follows,
10 to-wit:)

11
12 MR. NUTTER: Okay, I think we'll resume
13 Case Number 6562 at this time.

14 Call for appearances in this case at this
15 time.

16 MR. DALY: My name is Joseph Daly. I'm
17 with the law firm of Mitchell, Alley, and Rubin in Santa
18 Fe. We represent Orla Petco, Incorporated, of Midland,
19 Texas, in this case.

20 I have two witnesses to be sworn, Mr.
21 James Ritchie and Mr. James Ritchie, Junior.

22
23 (Witnesses sworn.)

24 MR. DALY: For your information, most of
25 our questions will be directed to Mr. James Ritchie, Junior.

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1 who goes by the name of Bucky. Mr. James Ritchie is here
2 primarily to avail himself to the Examiner in case questions
3 come up in addition to the direct testimony that we propose
4 to introduce.

5 I'll proceed by discussing first of all Mr.
6 James Ritchie, Junior's qualifications, then Mr. Ritchie's,
7 and then we'll proceed through our exhibits.

8 MR. NUTTER: That's fine.

9 MR. DALY: If that's acceptable.

10
11 JAMES RITCHIE, JR.
12 being called as a witness and having been duly sworn upon
13 his oath, testified as follows, to-wit:

14
15 DIRECT EXAMINATION

16 BY MR. DALY:

17 Q All right, directing my questions now to
18 Mr. James Ritchie, Junior, will you state your name for
19 the record, please?

20 A My name is James Ritchie, Junior.

21 Q And what is your occupation?

22 A I am a field superintendent of Orla Petco,
23 Incorporated, Midland, Texas.

24 Q And as a field superintendent for Orla
25 Petco, what are your day-to-day responsibilities?

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1 A I complete wells; do all field duties in-
2 volved in drilling and completing wells.

3 Q Can you be a little bit more specific
4 about what you mean by completing wells?

5 A I start -- I set up the drilling location
6 from beginning to -- from beginning of well to end of well.
7 I make location, get rig, drilling rig lined up, set casing
8 strings when needed at the end of the drilling, when com-
9 pletion is needed I call for completion companies to come
10 out and fracture the well, log the well, and then call for
11 completion equipment, for example, pumping unit, tank
12 battery, et cetera.

13 Q All right, and how long have you held this
14 position with Orla Petco?

15 A For two and a half years.

16 Q Two and a half years.

17 Can you describe your other experience in
18 the field of oil production or management of oil wells
19 prior to that two and a half year period with Orla Petco?

20 A I was a roughneck for a number of drilling
21 companies for two years and then afterwards I worked for
22 Western Company, a fracturing company, for a year, at which
23 time I went to work for Orla Petco.

24 Q That's fine. Now, do we have some exhibits
25 to give to the Examiners today?

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A. Yes, we do.

Q. Do you have extra sets of those that I can pass up to the front?

A. Sure do.

Q. Mr. Ritchie, did you prepare or cause to be prepared the documents contained in these exhibits?

A. I do.

Q. And do these -- do these exhibits have to do with the request, the application or Orla Petco to the Oil and Gas Commission?

A. They are.

Q. Have you ever testified before the Commission before, Mr. Ritchie?

A. No, I haven't.

MR. DALY: I move that this witness be qualified as an expert for the purpose of a discussion regarding the application.

MR. NUTTER: Mr. Ritchie is qualified.

Q. (Mr. Daly continuing.) All right. I'd like now to move to a brief interrogatory of Mr. James Ritchie, Senior.

JAMES RITCHIE, SR.

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

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DIRECT EXAMINATION

BY MR. DALY:

Q Will you state your name for the record, please?

A My name is James Ritchie. I -- excuse me.

Q And what is your occupation?

A I'm President of Orla Petco.

Q How long have you been President of Orla Petco?

A Well, the company has existed since 1968 when I formed it. I've been president of it since that time.

Q And will you briefly describe to the Examiners your experience in the field of oil and gas production and management?

A I have been a -- well, I've been in the oil industry since 1948. I have been an independent, drilling in the Delaware Basin and particularly to these shallow Delaware Sands since 1953.

I've operated producing properties in Texas and southeast New Mexico since 1958.

Q And have you ever, with respect to the exhibits that we will be introducing later in this hearing, ve you had a chance to review those exhibits and are you

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1 familiar with their contents?

2 A Yes, I have.

3 Q Have you ever testified before this Com-
4 mission before?

5 A No, I have not.

6 MR. DALY: I move at this time to admit
7 Mr. Ritchie, Mr. James Ritchie, as an expert for the pur-
8 pose of testifying with regard to this application.

9 MR. NUTTER: Mr. Ritchie is qualified.

10 Q (Mr. Daly continuing.) Fine.

11 These questions now will be directed to
12 Mr. James E. Ritchie, Junior.

13 Mr. Ritchie, can you state basically what
14 it is you're requesting of the Commission?

15 JR. We're requesting an application to dispose
16 of salt water into a porous formation, mainly our No. 4
17 Gourley-Federal Well, in the northwest quarter of the
18 southeast quarter, Section 31, Township 22 South, Range 28
19 East, in Eddy County.

20 Q And can you briefly describe the problem
21 or the conditions that have caused you to make this appli-
22 cation to the Commission?

23 SR: Maybe I could answer that.

24 Q Fine.

25 SR: It's strictly economic necessity. We're

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1 producing from those wells 500 or 600 barrels of water a
2 day and a couple hundred barrels of oil.

3 It costs eighty-three cents a barrel to
4 haul the water commercially and -- and we would like to
5 create a facility in the reservoir for our own disposal,
6 which would be a good deal cheaper and would permit us to
7 produce those wells a good deal longer.

8 MR. NUTTER: Mr. Ritchie, Senior, are you
9 at the present time hauling the water away?

10 SR: Yes, sir, we are.

11 MR. NUTTER: At a cost of eighty-three
12 cents a barrel.

13 SR: At eighty-three cents a barrel, yes, sir.

14 MR. NUTTER: And your wells alone are
15 making 500 or 600 barrels of water per day?

16 SR: Is that right?

17 JR: No, our wells alone in the field are
18 producing --

19 SR: 200 or 300 barrels, aren't they?

20 JR: -- about 300 barrels a day.

21 SR: Eastland Oil Company has all the other
22 production in the reservoir, sir.

23 MR. NUTTER: Okay. Now that's the next
24 question I was going to ask. You'll probably cover it in
25 your direct, but while we're here, will you be disposing of

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1 water for the other operator in the pool, also?

2 SR: We might be. We haven't talked to them
3 about it, sir.

4 MR. NUTTER: I see. Okay.

5 SR: They're hauling their water, too.

6 Q (Mr. Daly continuing.) Let's move on
7 then to the various exhibits.

8 Mr. Ritchie, I'm handing you what we have
9 identified as Orla Petco's Exhibit One. Do you recognize
10 that document?

11 JR: Yes, I do.

12 Q Did you prepare that or have that -- or
13 cause that to be prepared?

14 JR: I did.

15 Q Can you identify the document and basi-
16 cally describe its purpose to the Examiners?

17 JR: It's a plat showing the location of pro-
18 posed -- of the proposed injection well, and the location
19 of all other wells within a radius of two miles from it,
20 and showing the formation from which said well is producing.

21 The plat also shows the names of all
22 lessees within said two-mile radius.

23 Q Now you've indicated certain wells with
24 a green -- a green mark.

25 A. Yes, I have.

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1 Q On each well. Can you tell the Examiners
2 what that green mark indicates?

3 JR: The wells colored in green are wells which
4 are producing from the said Ramsey Sand, which is the
5 uppermost member of the Delaware Sand formation.

6 Q And there's one well colored with an orange
7 mark. Can you describe what that well is, please?

8 JR: Yes, I can. That's a Cherry Canyon well,
9 which is a little bit deeper, 1000 foot deeper than our
10 Ramsey Sand wells.

11 Q All right. Have you indicated on that
12 document the location of all wells located within two miles
13 of the proposed injection well?

14 JR: Yes, I have.

15 Q Fine. Let's go now to Exhibit Number
16 Two. Do you recognize what has been marked as Exhibit
17 Number Two, Mr. Ritchie?

18 JR: Yes, I do.

19 Q Did you cause this -- did you prepare this
20 exhibit or did you cause it to be prepared?

21 JR: Yes, I did.

22 Q When was it prepared?

23 JR: The log was run at the time the well was
24 completed, if that's the answer to that question, in
25 January of 1979.

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1 Q All right.

2 JR: It's a standard gamma ray log run typically
3 in these reservoirs.

4 Q All right, can you indicate or do the log --
5 does the exhibit indicate on the logs the zone which is
6 now producing and the zone in which you propose to inject
7 the water?

8 JR: Yes, sir, the log indicates the -- beyond
9 what you've asked -- the point where the 4-1/2 inch production
10 casing is set at 2486, and that there is an open hole section
11 between that point and total depth, which is 2508. The
12 bottom 10 feet of that open hole section is a porous sand
13 called the Ramsey from which we are now producing and into
14 which we respectfully request to inject produced water.

15 Q And are the areas indicated by a red
16 hash mark on the --

17 JR: Yes, they are.

18 Q -- log map?

19 JR: That's the porous zone. Same zone from
20 which all of the other green circled wells are producing
21 from.

22 Q Fine. All right, let's move on to Exhibit
23 Number Three, then.

24 Mr. Ritchie, Junior, do you recognize what
25 has been marked as Exhibit Number Three?

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1 JR: Yes, I do.

2 Q Did you cause or did you prepare, or cause

3 to be prepared, Exhibit Number Three?

4 JR: I did.

5 Q Can you describe briefly what it is that

6 is shown on Exhibit Number Three?

7 JR: It's a copy of a diagrammatic sketch of

8 the proposed injection well, showing two different casing

9 strings which were used and cemented into the said well.

10 Q You've identified two casing strings. Can

11 you specifically describe the two casing strings you're

12 referring to?

13 JR: Yes, I can. The first casing string run

14 was our 8-5/8ths inch casing, run to a depth of 355 feet

15 and cemented with 250 sacks of cement, which was circulated

16 to surface.

17 Q Fine. What is the other string to which

18 you referred?

19 JR: Our other string is our 4-1/2 inch pro-

20 duction casing, which was run to a total depth of 2486 feet

21 and cemented with 400 sacks of cement, which was also cir-

22 culated to surface.

23 Q Fine. There's also reference on Exhibit

24 Number Three toward the bottom to the Baker tension packer

25 at 2450 feet. Can you describe to the Examiners what that

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1 reference means?

2 JR: Yes. That is a proposed packer which we
3 plan to run if our -- if the well's turned into a disposal
4 well.

5 Q That is not yet in place, though.

6 JR: No, it's not.

7 Q Let's move on to Exhibit Number Four.

8 Mr. Ritchie, do you recognize Exhibit Number Four?

9 JR: Yes, I do.

10 Q Did you prepare or cause to be prepared
11 the Exhibit Number Four?

12 JR: Yes, I did.

13 Q Can you describe to the Examiners what
14 Exhibit Number Four purports to show?

15 JR: Yes, I can. It's a tabular summary of
16 all wells within one-half mile of the injection well which
17 penetrate the injection zone.

18 There is one plugged and abandoned well
19 within the said one-half mile radius.

20 Q Which is not shown on there?

21 JR: Which is not shown on Exhibit Four but is
22 shown on your plat, Exhibit One.

23 Q So Exhibit Four shows the --

24 JR: Producing wells.

25 Q -- producing wells. There is one other

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1 non-producing well that is not shown on Exhibit Four but
2 is shown on Exhibit Number One.

3 JR: One, yes, within the one-half mile radius
4 of the proposed well.

5 Q And what information regarding each of the
6 producing wells is contained in Exhibit Number Four?

7 JR: It contains the two casing strings, the
8 setting depth of casings, the sacks of cement used, cement
9 tops, total depth of the well, producing interval, and loca-
10 tion of the wells.

11 MR. NUTTER: Now you mentioned there was
12 one P&Ad well that was not shown on this Exhibit Number
13 Four, Mr. Ritchie. Which one was that?

14 JR: It's Orla Petco. It's right north of our
15 proposed well, proposed injection well.

16 SR: It's not very well identified. I'm sorry.
17 sir. It's --

18 JR: It's called our Eastland Brantley.

19 SR: It's called Eastland Brantley. It should
20 have been named that on the map, but it's in the southeast
21 of the northwest of the northeast.

22 MR. NUTTER: It's that well right there.

23 SR: Right.

24 MR. NUTTER: Okay, now it's -- does any
25 other exhibit show the condition of that hole?

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1 SR: No, sir. No.

2 MR. NUTTER: Do you have that information

3 with you?

4 SR: On that one well?

5 MR. NUTTER: Yes, sir.

6 JR: No, sir, I don't.

7 SR: It's been plugged, sir.

8 MR. NUTTER: Well, we'll have to have the

9 information on the casing that was in it and what was done

10 when the well was plugged. So you can furnish that to us

11 after you get home.

12 SR: Okay.

13 JR: Okay.

14 MR. NUTTER: If you would.

15 SR: That was just drilled this year, early

16 this year, also.

17 MR. NUTTER: Yeah.

18 MR. DALY: And you'll need, just so we're

19 clear on this, sir, --

20 MR. NUTTER: The similar information

21 that's on Exhibit Four.

22 JR: Okay. Okay.

23 MR. NUTTER: For the other wells, we'll

24 need on that one well.

25 JR: All right. Should have had that; sorry.

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1 MR. DALY: Is there a particular person
2 to whom we should submit that?

3 MR. NUTTER: You can send it to me.

4 Q (Mr. Daly continuing.) All right, let's
5 then move on to Exhibit Number Five.

6 Mr. Ritchie, do you recognize Exhibit
7 Number Five?

8 JR: I do.

9 Q Did you prepare that exhibit or cause it
10 to be prepared?

11 JR: I did.

12 Q Can you describe to the Examiners what
13 information is shown on Exhibit Number Five?

14 JR: The information shown on Exhibit Five is
15 our proposed action which we plan to take in preparing to
16 change this well to a disposal well.

17 Q Is this basically a summary of information
18 contained in other exhibits and a summary of what your
19 request is to the Commission?

20 JR: Yes, it is.

21 Q All right. Let's move on to Exhibit
22 Number Six, please.

23 I'll direct this question to Mr. Ritchie,
24 Senior.

25 Mr. Ritchie, do you recognize this Exhibit

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1 Number Six?

2 SR: Yes, sir, I do.

3 Q Did you prepare this exhibit or cause it
4 to be prepared?

5 SR: I did.

6 Q Can you describe briefly to the Examiners
7 what information is contained on Exhibit Number Six?

8 SR: It's the supporting data request for
9 requested injection pressure. The -- realizing that the
10 Commission is very concerned about the allowed pressure of
11 injection, surface pressure of injection, we have included
12 data that we have in our files with regard to fracture
13 pressure of three nearby wells listed, and the gradient of
14 the fracture fluid calculated by our petroleum engineer,
15 and the gradient of the formation water which we plan to
16 dispose of, the difference between those two, which would
17 give us a difference of injection pressure, a difference of
18 injection pressure of 250 pounds subtracted from the --
19 what we calculate the fracture pressure to be, would
20 allow us, we think, a pressure of approximately 925 pounds
21 as a maximum surface injection pressure when employing --
22 when injecting produced water, disposed water.

23 Q Mr. Ritchie --

24 SR: Therefore, we seek -- excuse me.

25 Q Excuse me, go ahead.

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1 SR: To be permitted to -- to employ a surface
2 pressure not exceeding 900 pounds.

3 Q Mr. Ritchie, can you tell the Examiners
4 the source of the fracture pressure calculated on Orla
5 Petco Nos. 1, 2, and 3, which fracture pressure is identified
6 as 1175 pounds per square inch?

7 SR: Well, those fracture pressures were deter-
8 mined from Dowell Treating Company's machine, gauges.

9 Q Fine.

10 SR: We have that information if the Commission
11 would like to have it submitted.

12 MR. NUTTER: Those were the instantaneous
13 shut-in pressures --

14 SR: Yes, sir.

15 MR. NUTTER: -- on the frac jobs that
16 Dowell --

17 SR: Yes, sir, exactly.

18 MR. NUTTER: -- constructed on the wells.

19 SR: Yes, sir, exactly.

20 MR. NUTTER: Okay.

21 Q And can you tell the Examiners who it was
22 that calculated the various gradient pressures that are
23 listed?

24 SR: The consulting petroleum engineer in Mid-
25 land, Lamar Eschberger (sic), who does all of our engineering

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1 work for us.

2 Q Fine. Now then, as a portion of Exhibit
3 Six, though not separately indicated, there is a laboratory
4 water analysis from the Halliburton Division Laboratory.

5 Do you recognize that?

6 SR: Yes, I do.

7 Q Did you prepare that or cause that to be
8 prepared?

9 SR: Well, it was prepared by Halliburton, ac-
10 tually, sir; submitted by us.

11 Q Prepared at your request?

12 SR: Yes.

13 Q Can you briefly describe to the Examiners
14 what information is contained on that water analysis?

15 SR: Yes. This water analysis was done on the
16 discovery well for the Herradura Bend Field, which is ap-
17 proximately one-half mile south of the -- of the intended
18 injection well. It's the Orla Petco No. 1 Pardue, located
19 in the center of the northwest quarter of the northeast
20 quarter of Section 6, Township 23 South, 28 East.

21 It's the only well we had an analysis on.
22 We think that it is an average analysis for the --

23 MR. NUTTER: And it shows chlorides to
24 be --

25 SR: 69 --

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1 MR. NUTTER: -- almost 70,000.

2 SR: Yes, almost 70,000, which I might add, sir,
3 is typical of our other experience with chlorides in the
4 Delaware Sand. Seems to be average.

5 MR. DALY: At this time I move to admit
6 Orla Petco's Exhibits One through Six, including the pre-
7 viously described laboratory water analysis.

8 MR. NUTTER: That is a part of Exhibit
9 Six, is that it?

10 MR. DALY: Yes, sir, I believe. I just
11 wanted to be sure.

12 MR. NUTTER: All right. Okay, Applicant's
13 Exhibits One through Six, including the Halliburton water
14 analysis, will be admitted in evidence.

15 Did you have anything further, Mr. Daly?

16 MR. DALY: Simply this question.

17 Q Mr. Ritchie, in your opinion is this ap-
18 plication designed to promote conservation, to prevent
19 waste, and to protect correlative rights?

20 SR: Yes, it is.

21 MR. DALY: I believe that's all we have.
22 We're prepared to answer any questions that the Examiners
23 have.

24 MR. NUTTER: Okay.
25

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CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Ritchie, either one can answer the question, now you're going to go into the Bell Canyon.

SR: Yes, sir.

Q Down in the Ramsey Sand.

SR: Yes, sir.

Q And there's only one well in this field that's producing from that point on.

SR: No, sir. No, sir, I'm sorry. The wells in green are all producing from the Upper Bell Canyon, which we've identified as the Ramsey Sand.

The only well that's producing in the reservoir within two miles that doesn't produce from that zone is the Cherry Canyon Well of Eastland's up there.

Q Okay, I had it backwards, then.

SR: I'm sorry, yes.

Q All right.

SR: What we intend to do is inject produced water from this zone back in this zone.

Q And you don't have any fear of watering out your producing zone by the disposal of this water into it?

SR: Well, we hope not. We don't think we will.

1 It should, in fact, should benefit the production from those
2 wells by reducing the void places in the reservoir.

3 Q How about the structural position of Well
4 No. 4, is it lower strutrurally?

5 SR: It's very low, yes, sir. It's actually a
6 structural point of, if my memory is correct, of plus 589
7 datum. The No. 2 Well, for reference, nearest it to the
8 southeast, is a plus 642. It's 56, 7, 8, 60 some odd feet
9 lower.

10 Q Lower than the No. 2.

11 SR: Yes, sir. It's -- we have one other well
12 producing at that same data, the No. 3. I think that's
13 about the lowest. I think the rest of them are all higher.

14 Q Okay, what is the status of No. 4 Well at
15 the present time?

16 SR: It's producing, sir, about approximately
17 100 barrels of oil a month and 1300 barrels of water.

18 Q So it's your biggest water producer?

19 SR: Yes, sir. It was -- we drilled it in
20 with a cable tool and it had a good show naturally; it
21 produced about 55 gallons of oil an hour and very little
22 water, but was so low we were worried about it, but we --
23 we nevertheless fraced it. We feel like now it probably
24 was a mistake to frac it. We probably could have made a
25 small natural well out of it, and we're considering, if the

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1 Commission will permit us to inject in that well, then we
2 have to go to Cities Service to see if we can make a deal
3 with them to retain the oil rights on that 40 acres and
4 possibly drill another oil well in the southeast corner of
5 that 40 acres, which we feel would be some 15 or 20 feet
6 higher.

7 But we are, from our other experience in
8 similar reservoirs in Texas, the injection, we don't feel
9 the injection would in any way damage the oil recovery from
10 those wells, from the producing wells. In fact, it probably
11 will aid it slightly.

12 And it should be compatible water, of
13 course.

14 Q Where is this water at the present time
15 being hauled to?

16 SR: I don't know. Do you know where the water
17 is being hauled now?

18 JR: It's being hauled to Loving, New Mexico,
19 which is -- and they have their own disposal well, a com-
20 pany called -- I'm not sure what --

21 SR: Roland, Roland.

22 JR: Roland Trucking Company has their own
23 disposal well in Loving.

24 Q And they're disposing of the water as a
25 commercial service to you?

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1 SR: Yes.

2 JR: At their own system.

3 Q. Okay.

4 MR. NUTTER: Are there any further ques-

5 tions of the witnesses?

6 MR. DALY: One moment, please.

7 SR: One other thing we'd like to mention, sir,

8 is that your file probably shows it, it might come up and

9 I might as well answer right now.

10 You had previously given us permission to

11 inject water, the same water into another well in this re-

12 servoir last year, wasn't it?

13 JR: Yes, last year.

14 SR: We were not able to make an arrangement

15 with a landowner to do that.

16 MR. NUTTER: Which well was that?

17 SR: It was the No. 1 Sanders. It's also not

18 identified on here but it is the southwest quarter of the

19 northeast quarter of that same Section 6.

20 MR. NUTTER: Okay.

21 SR: Township 23 South.

22 MR. NUTTER: Okay. Do you happen to know

23 the order number that authorized that?

24 SR: No. We could certainly get it for you,

25 yeah.

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1 MR. NUTTER: You might just include that
2 information along with the ---

3 SR: Be happy to.

4 MR. NUTTER: -- other information you're
5 going to send me.

6 SR: Okay. We've tried to get several wells
7 around there, I might say, one a plugged well of Amoco's,
8 and two or three others, and the one or two that we've
9 drilled, and --

10 MR. NUTTER: I suppose we might as well
11 rescind that old order, then.

12 SR: That would be fine.

13 MR. NUTTER: You won't be using it.

14 SR: I don't think we will.

15 MR. NUTTER: Are there any further ques-
16 tions of the witnesses? They may be excused.

17 Do you have anything further, Mr. Daly?
18 Does anyone have anything they wish to offer in Case Number
19 6562?

20 We'll take the case under advisement.

21
22 (Hearing concluded.)
23
24
25

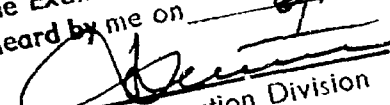
REPORTER'S CERTIFICATE

I, SALLY WALTON BOYD, a Court Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

Sally W. Boyd, C.S.R.

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
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Santa Fe, New Mexico 87501

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 6562
heard by me on 6/13 1979.


Oil Conservation Division Examiner



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

October 24, 1979

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

J. M. C. Ritchie, President
Orla Petco Inc.
P. O. Box 1383
Midland, Texas 79702

Re: Gourley-Federal Well
No. 4-J, Section 31
T22S-R28E, Eddy County,
New Mexico

Dear Mr. Ritchie:

Your letter of September 26 requesting a change in the injection interval in the subject well has been reviewed.

It is my understanding that this well was approved for open-hole injection into the Delaware formation at a depth of from 2486 feet to 2508 feet by Division Order No. R-6057. It is further my understanding that the well has been drilled deeper to 2618 feet, that a liner has been set from 2434 feet to 2604 feet, that the liner has been perforated from 2556 feet to 2566 feet, and that waivers of objection to the change in injection interval have been obtained from the other operators in the pool.

As the new injection interval (2556 feet to 2566 feet) is within the same general zone of the Delaware formation and as the other owners in the pool have waived objection, this change in injection interval is approved.

Yours very truly,

JOE D. RAMEY
Director

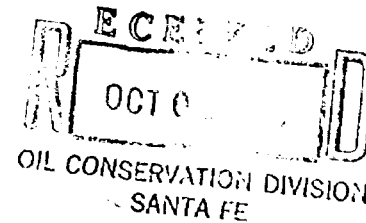
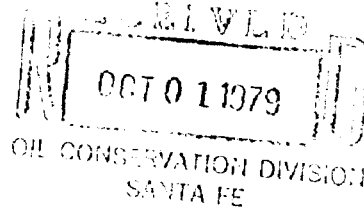
JDR/RLS/fd

cc: Bill Gressett

ORLA PETCO, INC.

P. O. BOX 1383, MIDLAND, TEXAS 79702
TELEPHONE 915 684-4762

September 26, 1979



Mr. R. L. Stamets
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: Application for administrative
approval of a change in the plan
to convert Orla Petco No. 4
Gourley-Federal producing well
to a water disposal facility.

Dear Mr. Stamets:

We requested and were granted on July 30, 1979
(Case No. 6562, Order No. R-6057) the right to convert the above
oil producing well in the Herradura Bend-Delaware Pool, Eddy County,
New Mexico, into a water disposal well.

The Order of that date by the Commission gave us
permission to inject the water into the Ramsey Sand in the open
hole section between the bottom of the 4½" casing at 2486 ft. and
the then total depth at 2508 ft.

After receiving this Order, we determined that it
would be possible to secure a 2 7/8" flush collared liner inside the
4½" casing. Therefore, we altered our original plan and drilled 110 ft.
deeper into this Ramsey Sand section to 2618 ft., hung the 2 7/8" liner
at 2434 ft. with bottom at 2605 ft. and using 20 sacks of 50/50 pozmix
cement circulated it to the top of the liner.

We perforated the liner 2556 to 2566 ft. with 2 shots
per foot, acidized these perforations with 500 gallons of 15% DS-30.

Herewith we include a schematic diagram of the bottom
of the well as it is now, a copy of the Welex Acoustic-Velocity log
run after cutting the new hole, a copy of the Western Company Treat-
ment Report, West Texas Oil Reports' Workover Report of August 27,
1979, and a copy of the Order of the Division-Case No. 6562, Order R-6057.

Herewith are copies of letters sent to Cities Service and
Eastland Oil Company requesting their concurrence with these changed plans.
Also, I include a plat of the reservoir.

Orla Petco, Inc.
September 26, 1979
Page 2

We hereby request an administrative ruling that this amended action taken by Orla Petco to convert this well into a facility with which to inject water into the 2556 to 2566 ft. section of the Ramsey Sand be approved by the Oil Conservation Commission.

Respectfully submitted,
Orla Petco, Inc.

By: 

J. M. C. Ritchie
President

JMCR/br

Enclosures

EXHIBIT 1

ORLA PETRO, INC.

HERRADURA CENO
(OELMUNKE) FIELD AREA

ESSEL COUNTY, NEW MEXICO

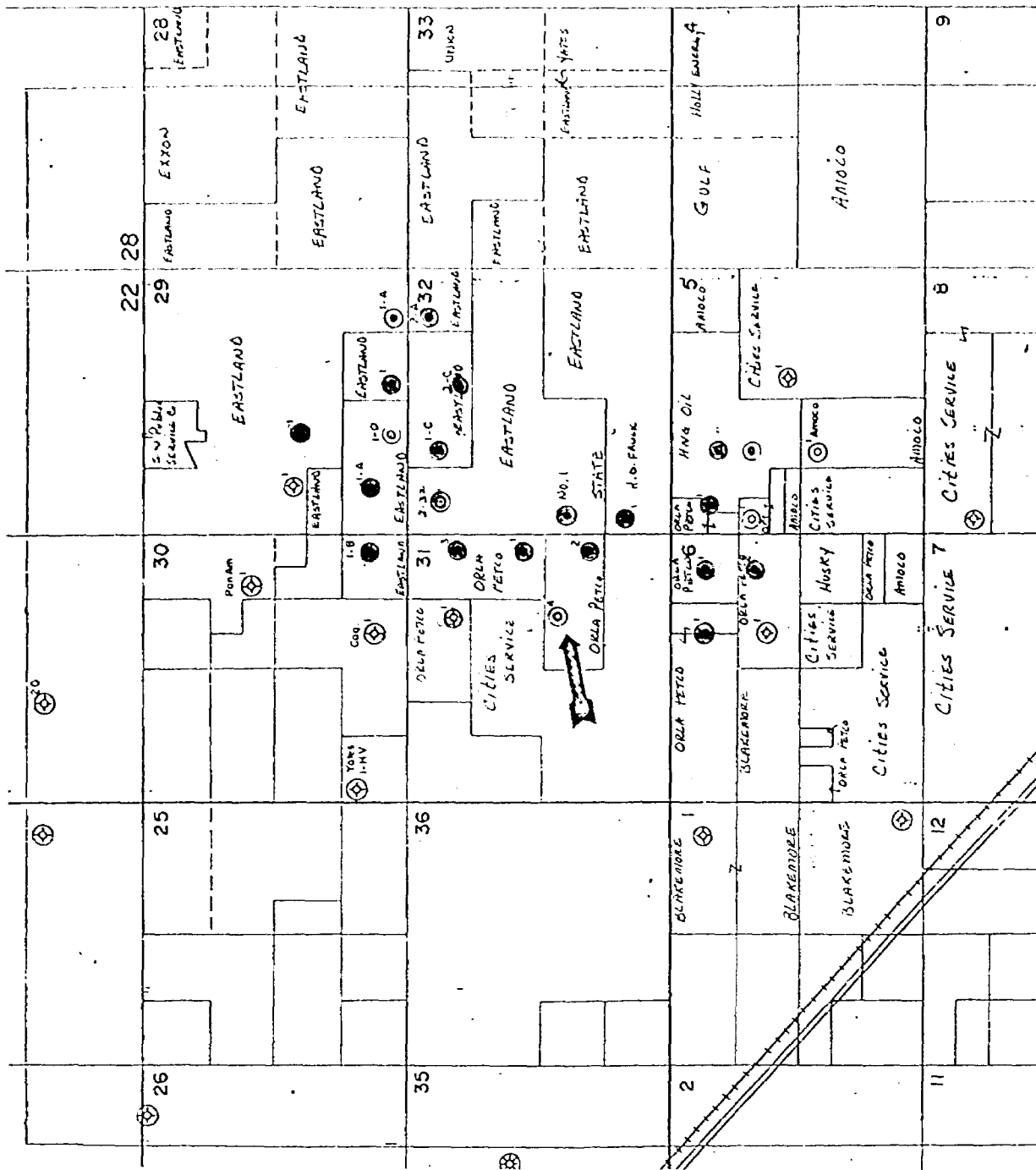
PROPOSED WATER
DISPOSAL WELL

DELTA SAND OIL WELL

CHERRY CANYON SAND OIL WELL

SCALE 1" = 2000'

4-10-79





RAILROAD COMMISSION REPORTS PREPARED
PROPERTY MANAGEMENT
EVALUATIONS
WELL COMPLETIONS

West Texas Oil Reports

AND ENGINEERING SERVICE

P. O. Box 953
MIDLAND, TEXAS 79702

LAMAR ESCHBERGER
REGISTERED PROFESSIONAL ENGINEER

August 27, 1979

684-6381
403 OIL & GAS BLDG.

Orla Petco, Inc.
Box 1383
Midland, Texas 79702

Re: Workover Report
Gourley Federal Lease
Well #4

Gentlemen:

The following is the workover report for your Gourley Federal Lease, Well #4, conversion to disposal well.

8-23-79: Pulling unit rigged up and rods and tubing pulled from well (rods warehoused). Reverse circulating unit rigged up. Tubing, four (4) drill collars and a 3 7/8" bit run in well in preparation for deepening. Well shut-in overnight.

8-24-79: Well drilled out to a total depth of 2612'. Drilling time and samples indicated a porous zone from 2556' - 2566'. This zone was separated from the upper producing zone by a hard shale streak at approximately 2548'. Bit and tubing pulled from well. A well log was run by Welex, with a sonic log, from total depth of 2612' to 2300'. Well shut-in overnight.

8-25-79: 2 7/8" Hydrill, 6.4# tubing run in well with Brown Oil Tool liner hanger and setting tool. Liner hung at 2430' with bottom of liner at 2606'. Liner cemented by Halliburton with 20 sx, Class C cement. Tubing and setting tool pulled from well. Well shut-in.

8-27-79: Welex rigged up and well perforated, 2 shots/ft. in the interval 2556' - 2566'. Rigged down Welex. 2 3/8" tubing with Baker Tension packer run in well to a depth of 2340' and set with 10,000# tension. Well acidized by Western Company with 500 gallons, 15% NE acid (see treating report attached). Treatment indicated well would take water at the rate of 2.5 bbls/minute with 900# wellhead pressure. Pulling unit released and well shut-in.

Yours truly,

Lamar Eschberger
Lamar Eschberger
Petroleum Engineer

LE/aer
Attachment

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:

OIL CONSERVATION DIVISION
SANTA FE

CASE NO. 6562
Order No. R-6057

APPLICATION OF ORLA PETCO, INC.
FOR SALT WATER DISPOSAL, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 13, 1979,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 30th day of July, 1979, 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, Orla Petco, Inc., is the owner
and operator of the Gourley-Federal Well No. 4, located in Unit
J of Section 31, Township 22 South, Range 28 East, NMPM,
Herradura Bend-Delaware Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the Ramsey Sand of the Bell
Canyon formation, with injection into the open hole interval
from approximately 2486 feet to 2508 feet.

(4) That the injection should be accomplished through
2 3/8-inch plastic lined tubing installed in a packer set at
approximately 2450 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.

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(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 900 psi.

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

(7) 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.

(8) 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, Orla Petco, Inc., is hereby authorized to utilize its Gourley-Federal Well No. 4, located in Unit J of Section 31, Township 22 South, Range 28 East, NMPM, Herradura Bend-Delaware Pool, Eddy County, New Mexico, to dispose of produced salt water into the Ramsey Sand of the Bell Canyon formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 2450 feet, with injection into the open hole interval from approximately 2486 feet to 2508 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 900 psi.

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

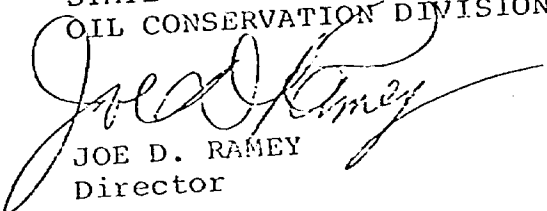
(4) That the operator shall immediately notify the supervisor of the Division's Artesia district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

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

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION


JOE D. RAMEY
Director

S E A L

fd/

RECEIVED AUG 10 1973

ORLA PETCO, INC.

P. O. BOX 1383, MIDLAND, TEXAS 79702
TELEPHONE 915 684-4762

September 27, 1979

Cities Service Company
P. O. Box 1919
Midland, Texas 79702

RE: Application of Orla Petco to
convert its Gourley-Federal No. 4
to a water disposal well.
Herradura Bend-Delaware Pool
Eddy County, New Mexico

Gentlemen:

Orla Petco has altered it's approved plan to dispose of water into the above well. Instead of disposing into the open hole section from 2486 to 2508 ft., the producing zone in the field, we drilled 110 ft. deeper, set a 2 7/8" liner with 20 sacks of cement, and perforated the liner approximately 50 feet below the old total depth (see log attached) at 2556 to 2566 feet.

We hereby request that your Company waive any objection to this amended plan to dispose of water approximately 50 feet below the originally intended section, and return one copy of this letter in the envelope herewith.

Herewith are copies of the Acoustic-Velocity log run after drilling the additional 110 ft., Treatment Report from Western Company, Workover Report dated August 27, 1979 from West

Orla Petco, Inc.
September 27, 1979
Page 2

Texas Oil Reports, and Order No. R-6057 from the Conservation
Commission permitting us to dispose water into the old open hole.

Very truly yours,

ORLA PETCO, INC.

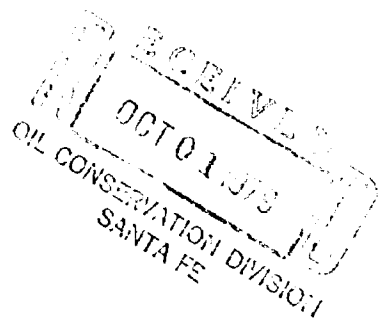
By: _____
J. M. C. Ritchie
President

Cities Service Company has no objection
to the above described change in the
water disposal plan for this Gourley-
Federal No. 4 well.

ORLA PETCO, INC.

P. O. BOX 1383, MIDLAND, TEXAS 79702
TELEPHONE 915 684-4762

September 27, 1979



Eastland Oil Company
P. O. Drawer 3488
Midland, Texas 79702

RE: Application of Orla Petco to
convert its Gourley-Federal No. 4
to a water disposal well.
Herradura Bend-Delaware Pool
Eddy County, New Mexico

Gentlemen:

Orla Petco has altered it's approved plan to dispose of water into the above well. Instead of disposing into the open hole section from 2486 to 2508 ft., the producing zone in the field, we drilled 110 ft. deeper, set a 2 7/8" liner with 20 sacks of cement, and perforated the liner approximately 50 feet below the old total depth (see log attached) at 2556 to 2566 feet.

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Orla Petco, Inc.
September 27, 1979
Page 2

Texas Oil Reports, and Order No. R-6057 from the Conservation
Commission permitting us to dispose water into the old open hole.

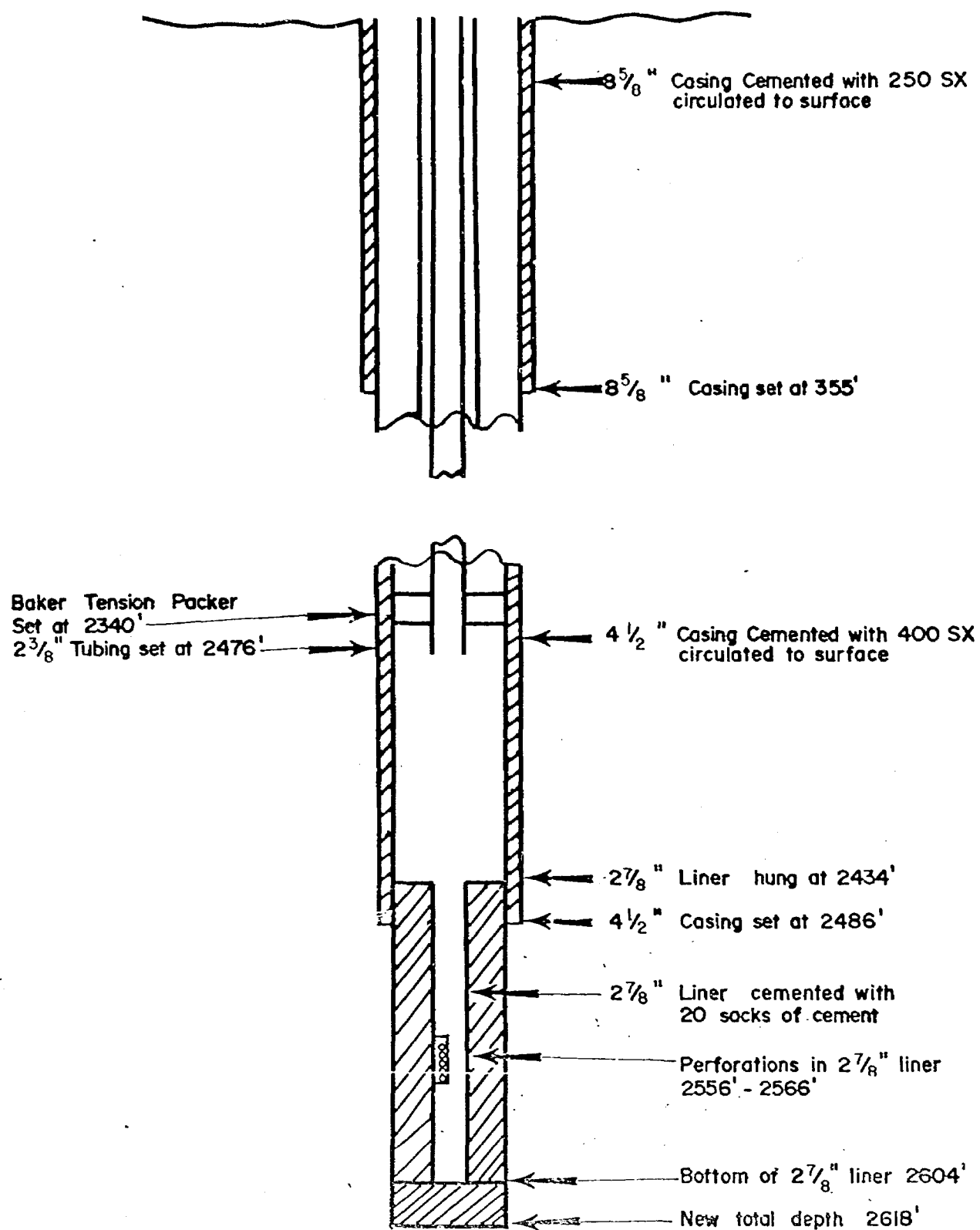
Very truly yours,

ORLA PETCO, INC.

By: _____
J. M. C. Ritchie
President

Eastland Oil Company has no objection
to the above described change in the
water disposal plan for this Gourley-
Federal No. 4 well.

Orla Petco, Inc. *No. 4 Gourley-Federal*
 Schematic Presentation of Casing and Liner

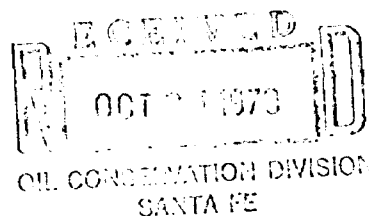


ORLA PETCO, INC.

P. O. BOX 1383, MIDLAND, TEXAS 79702
TELEPHONE 915 684-4762

October 22, 1979

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



Attention: Mr. R.L. Stamets

Re: Gourley-Federal No. 4, Disposal Well, NM-26684, Sec. 31, T-22S, R-28E,
Eddy County, New Mexico

Dear Mr. Stamets,

I am enclosing herewith two (2) copies of approvals from our offset operators,
Cities Service Oil Company and Eastland Oil Company.

The BLM needs to have an approval from the State before it will grant us an
approval to utilize the above captioned well.

If there is anything else we can help you with, please let us know.

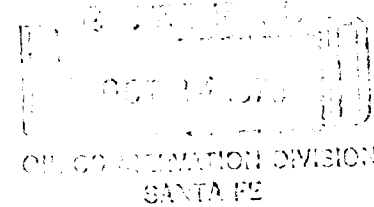
Very truly yours,

James M.C. Ritchie Jr.
James M.C. Ritchie, Jr.
Enclosures

ORLA PETCO, INC.

P. O. BOX 1363, MIDLAND, TEXAS 79702
TELEPHONE DIS 684-4762

September 27, 1979



Eastland Oil Company
P. O. Drawer 3488
Midland, Texas 79702

RE: Application of Orla Petco to
convert its Gourley-Federal No. 4
to a water disposal well.
Herradura Bend-Delaware Pool
Eddy County, New Mexico

Gentlemen:

Orla Petco has altered its approved plan to dispose of water into the above well. Instead of disposing into the open hole section from 2486 to 2508 ft., the producing zone in the field, we drilled 110 ft. deeper, set a 2 7/8" liner with 20 sacks of cement, and perforated the liner approximately 50 feet below the old total depth (see log attached) at 2556 to 2566 feet.

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Orla Petco, Inc.
September 27, 1979
Page 2

Texas Oil Reports, and Order No. R-6057 from the Conservation
Commission permitting us to dispose water into the old open hole.

Very truly yours,

ORIA PETCO, INC.

By: _____
J. M. C. Ritchie
President

Eastland Oil Company has no objection
to the above described change in the
water disposal plan for this Courley-
Federal No. 4 well.

ORLA PETCO, INC.

P. O. BOX 1363, MIDLAND, TEXAS 79702
TELEPHONE 935-654-4762

September 27, 1979



Cities Service Company
P. O. Box 1919
Midland, Texas 79702

RE: Application of Orla Petco to
convert its Gourley-Federal No. 4
to a water disposal well.
Herradura Bend-Delaware Pool
Eddy County, New Mexico

Gentlemen:

Orla Petco has altered it's approved plan to dispose of water into the above well. Instead of disposing into the open hole section from 2486 to 2508 ft., the producing zone in the field, we drilled 110 ft. deeper, set a 2 7/8" liner with 20 sacks of cement, and perforated the liner approximately 50 feet below the old total depth (see log attached) at 2556 to 2566 feet.

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Orla Petco, Inc.
September 27, 1979
Page 2

Texas Oil Reports, and Order No. R-6057 from the Conservation
Commission permitting us to dispose water into the old open hole.

Very truly yours,

ORLA PETCO, INC.

By: J. M. C. Ritchie

J. M. C. Ritchie
President

Cities Service Company has no objection
to the above described change in the
water disposal plan for this Courley-
Federal No. 4 well.

W. Van Horn

10/12/79

MANAGER PRODUCTION
SOUTHWEST REGION



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

POST OFFICE BOX 2008
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-2434

July 31, 1979

Mr. Joseph Daly
Mitchell, Alley & Rubin
Attorneys at Law
Box 1932
Santa Fe, New Mexico

Re: CASE NO. 6562
ORDER NO. R-6057

Applicant:

Orla Petco, Inc.

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Hobbs OCD	x
Artesia OCD	x
Aztec OCD	

Other _____

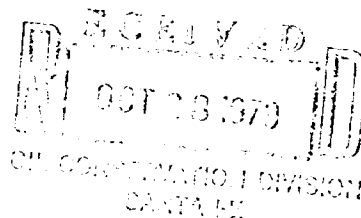
Re: Columbia No. 4 Gouge Federal
conversion to water disposal well,
Hemlock Bend Field, Eddy Co. N.M.

Dear Dick -

Herewith is the copy of the
approval from Earlwood I said I'd
send you. My son, Bud, is
mailing you a copy of Citicorp Service's
approval from Midland.

Thank you

Jim Austin



ORLA PETCO, INC.

P. O. BOX 1383, MIDLAND, TEXAS 79702
TELEPHONE 915 684-4762

September 27, 1979

Eastland Oil Company
P. O. Drawer 3488
Midland, Texas 79702

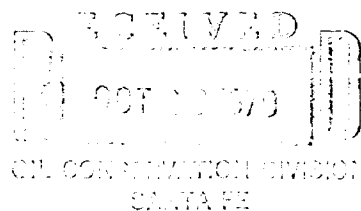
RE: Application of Orla Petco to
convert its Gourley-Federal No. 4
to a water disposal well.
Herradura Bend-Delaware Pool
Eddy County, New Mexico

Gentlemen:

Orla Petco has altered it's approved plan to dispose of water into the above well. Instead of disposing into the open hole section from 2486 to 2508 ft., the producing zone in the field, we drilled 110 ft. deeper, set a 2 7/8" liner with 20 sacks of cement, and perforated the liner approximately 50 feet below the old total depth (see log attached) at 2556 to 2566 feet.

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Orla Petco, Inc.
September 27, 1979
Page 2

Texas Oil Reports, and Order No. R-6057 from the Conservation
Commission permitting us to dispose water into the old open hole.

Very truly yours,

ORLA PETCO, INC.

By: *J. M. C. Ritchie*
J. M. C. Ritchie
President

Eastland Oil Company has no objection
to the above described change in the
water disposal plan for this Gourley-
Federal No. 4 well.

The Eastland Oil Co

George D. Neal
Vice-President

ORLA PETCO, INC.

P. O. BOX 1383, MIDLAND, TEXAS 79702
TELEPHONE 915 684-4762

April 16, 1979

Case 6562

Oil Conservation Division
State of New Mexico
State Land Office Bldg.
Santa Fe, New Mexico 87501

Re: Application to dispose of salt water
by injection into a porous formation.

Orla Petco, Inc. #4 Gourley-Federal,
NW/4 SE/4 Sec. 31, T-22S, R-28E,
Eddy County, New Mexico

Gentlemen:

Attached, in triplicate, is Commission Form C-108 which we hereby submit and ask to be put on the docket for the next applicable Commission hearing.

We also include herewith copies of the following which we propose to use as exhibits at the hearing:

- 1) A plat showing the location of the proposed injection well and the location of all other wells within a radius of two miles from it and showing the formations from which said wells are producing. The plat shows also the names of all lessees within said two mile radius.
- 2) A copy of the electric log of the Orla Petco No. 4 Gourley-Federal (the proposed injection well).
- 3) A copy of a diagrammatic sketch of the proposed injection well.
- 4) A tabular summary of all wells within one-half mile of the injection well which penetrate the injection zone. There is one plugged and abandoned well within the said one-half mile radius.
- 5) A copy of a list of other pertinent information.
- 6) A copy of supporting data for surface injection pressure.

Please advise us of the date set for this requested hearing.

Enclosures
JMCRjr/mn

RECEIVED
MAY 1 1979
OIL CONSERVATION DIVISION
SANTA FE

Very truly yours,

James M.C. Ritchie, Jr.
James M.C. Ritchie, Jr.
Orla Petco, Inc.

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Orla Petco, Inc.		ADDRESS P.O. Box 1383, Midland, Texas 79702			
LEASE NAME Gourley-Federal	WELL NO. 4	FIELD Herradura Bend (Delaware)	COUNTY Eddy		
LOCATION UNIT LETTER J ; WELL IS LOCATED 2310 FEET FROM THE South LINE AND 1650 FEET FROM THE East LINE, SECTION 31 TOWNSHIP 22S RANGE 28E NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8 5/8"	355'	250 sx	surface	circulated
INTERMEDIATE					
LONG STRING	4 1/2"	2486'	400 sx	surface	circulated
TUBING	2 3/8"	2476'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Packer @ 2450'		
NAME OF PROPOSED INJECTION FORMATION Ramsey Sand of the Bell Canyon Formation		TOP OF FORMATION 2498'		BOTTOM OF FORMATION 2508' TD	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES Open Hole		PROPOSED INTERVAL(S) OF INJECTION 2498'-2508'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Drilled for oil, not economically feasible to		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None operate.					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 200'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 3297'	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 250	MINIMUM 600	MAXIMUM Open	OPEN OR CLOSED TYPE SYSTEM Open	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSIG) 800 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes		WATER TO BE DISPOSED OF Yes		NATURAL WATER IN DISPOSAL ZONE Yes	ARE WATER ANALYSES ATTACHED? No-Not available
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Bureau of Land Management - 1717 West Second Street, P.O. Box 1397, Roswell, New Mexico 88201					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Eastland Oil Company- Drawer 560, Midland, Texas 79702					
Cities Service Oil Company- P.O. Box 1919, Midland, Texas 79702					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes					
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes		PLAT OF AREA Yes		ELECTRICAL LOG Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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

James M. C. Ritchie Jr. (Signature) **Field Superintendent** (Title) **April 16, 1979** (Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Orla Petco, Inc.		ADDRESS P.O. Box 1383, Midland, Texas 79702			
LEASE NAME Gourley-Federal	WELL NO. 4	FIELD Herradura Bend (Delaware)	COUNTY Eddy		
LOCATION UNIT LETTER J ; WELL IS LOCATED 2310 FEET FROM THE South LINE AND 1650 FEET FROM THE East LINE, SECTION 31 TOWNSHIP 22S RANGE 28E NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8 5/8"	355'	250 sx	surface	circulated
INTERMEDIATE					
LONG STRING	4 1/2"	2486'	400 sx	surface	circulated
TUBING	Proposed	2 3/8"	2476'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Packer @ 2450'	
NAME OF PROPOSED INJECTION FORMATION Ramsey Sand of the Bell Canyon Formation		TOP OF FORMATION 2498'		BOTTOM OF FORMATION 2508' TD	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Open Hole		PROPOSED INTERVAL(S) OF INJECTION 2498'-2508'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Drilled for oil, not economically feasible to		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None operate.					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 200'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA	
ANTICIPATED DAILY INJECTION VOLUME (BBL/S.)	MINIMUM 250	MAXIMUM 600	OPEN OR CLOSED TYPE SYSTEM Open	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSIG) 800 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes	ARE WATER ANALYSES ATTACHED? No-Not available
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Bureau of Land Management - 1717 West Second Street, P.O. Box 1397, Roswell, New Mexico 88201					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Eastland Oil Company- Drawer 560, Midland, Texas 79702					
Cities Service Oil Company- P.O. Box 1919, Midland, Texas 79702					
COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes					
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		FLAT OF AREA Yes	ELECTRICAL LOG Yes	DIAGRAMMATIC SKETCH OF WELL Yes	

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

James M. C. Ritchie, Jr. Field Superintendent April 16, 1979
(Signature) (Title) (Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Orla Petco, Inc.		ADDRESS P.O. Box 1383, Midland, Texas 79702	
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NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
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INTERMEDIATE			
LONG STRING	4 1/2"	2486'	400 sx
TUBING	2 3/8"	2476'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Packer @ 2450'
NAME OF PROPOSED INJECTION FORMATION Ramsey Sand of the Bell Canyon Formation		TOP OF FORMATION 2498'	BOTTOM OF FORMATION 2508' TD
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Open Hole	PROPOSED INTERVAL(S) OF INJECTION 2498'-2508'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Drilled for oil, not economically feasible to operate.		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
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DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 200'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA
ANTICIPATED DAILY INJECTION VOLUME (BBL/S.) 250	MINIMUM 600	MAXIMUM Open	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes		WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Bureau of Land Management - 1717 West Second Street, P.O. Box 1397, Roswell, New Mexico 88201		APPROX. PRESSURE (PSIG) 800 psi	
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Eastland Oil Company- Drawer 560, Midland, Texas 79702			
Cities Service Oil Company- P.O. Box 1919, Midland, Texas 79702			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes		SURFACE OWNER Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
PLAT OF AREA Yes		ELECTRICAL LOG Yes	
		DIAGRAMMATIC SKETCH OF WELL Yes	

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

James M. C. Ritchie, Jr. Field Superintendent April 16, 1979
(Signature) (Title) (Date)

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EXHIBIT 1

ORLA PETCO, INC.

HERRADURA BEND
(DELAWARE) FIELD AREA
EDDY COUNTY, NEW MEXICO



PROPOSED WATER
DISPOSAL WELL



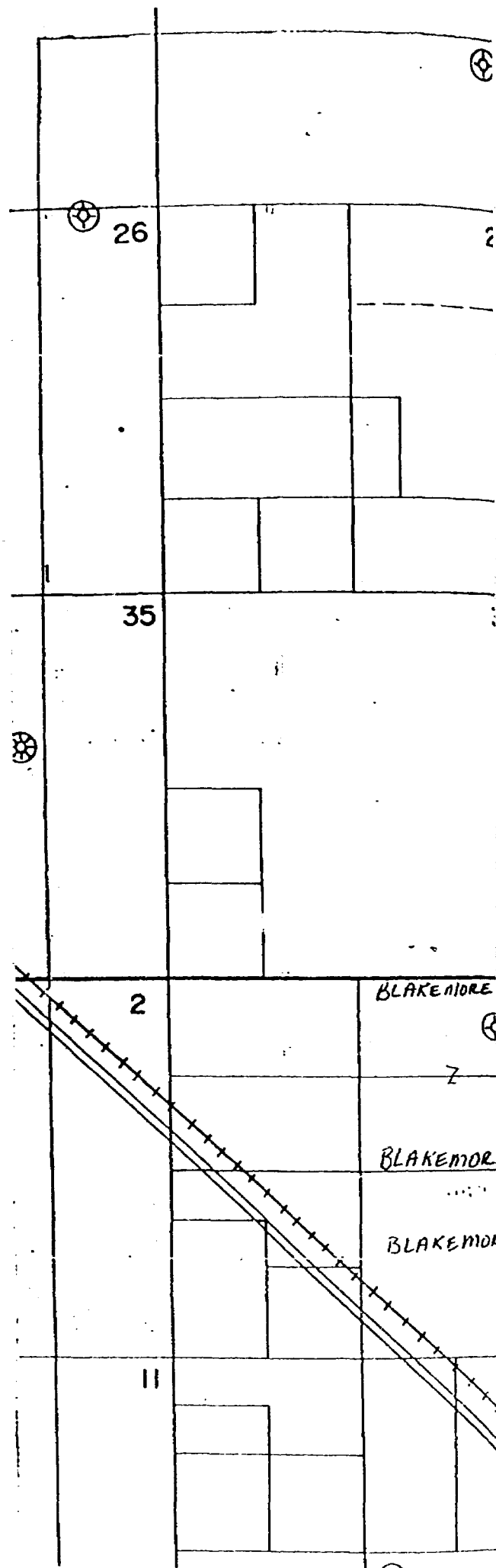
DELAWARE SAND OIL WELL

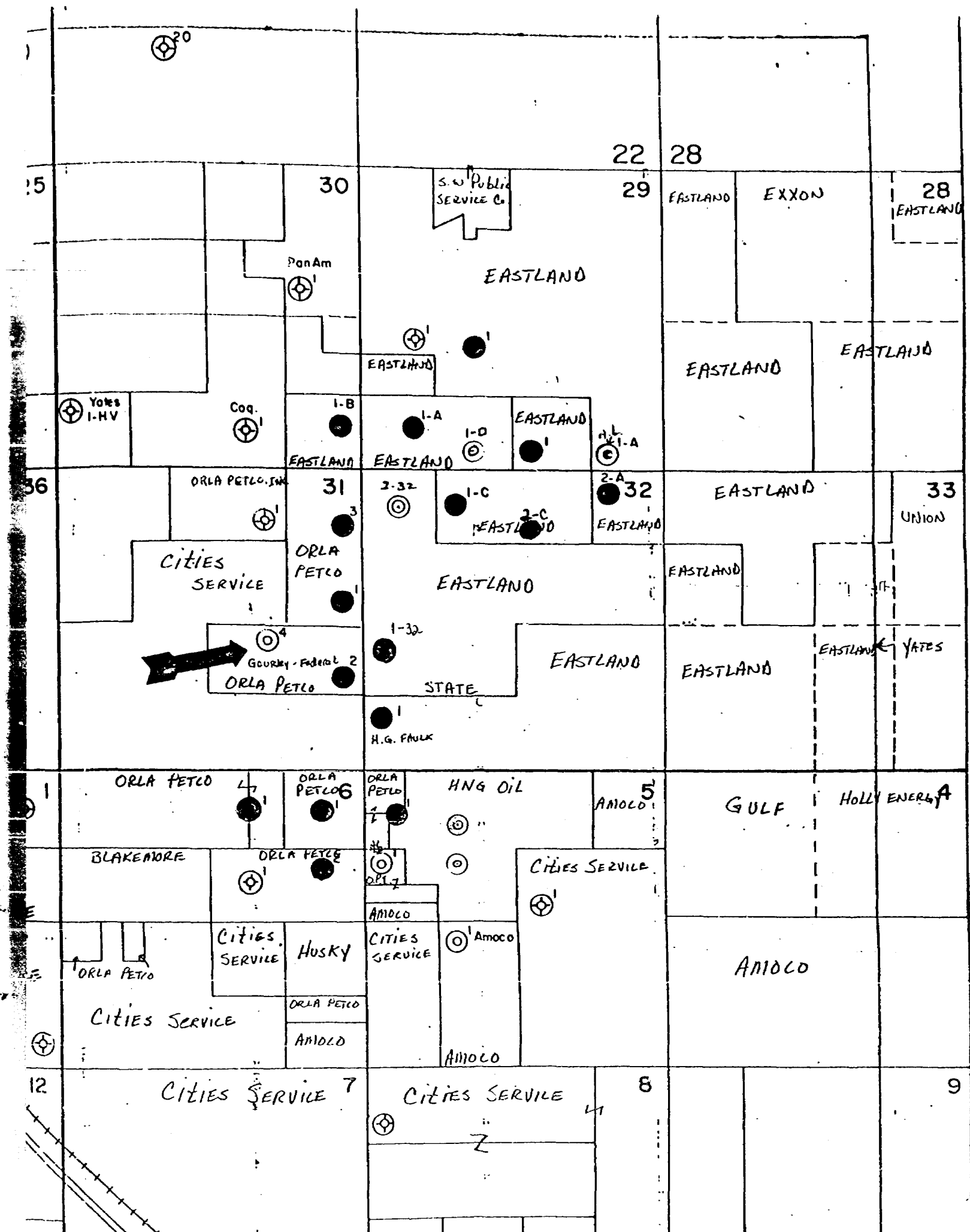


CHERRY CANYON SAND OIL WELL

SCALE 1" = 2000'

11-10-79







Engineered Oil and Gas Well Completions

Exhibit #2

FILING NO.

COMPANY ORLA PETCO, INC.

GOURLEY FEDERAL #4
WELL

FIELD HERRADURA BEND

COUNTY EDDY STATE NEW MEXICO

LOCATION: 2310' FSL & 1650' FEL

NOME

SEC 31 TWP 22-S RGE 28-E

ELEV. 3068'

ELEV.: K.B. _____

PERMANENT DATUM: GL ELEV. 3008
LOG MEASURED FROM D F 2 FT. ABOVE PERM. DATUM
DRILLING MEASURED FROM D F

$$\begin{array}{r} \text{D.F.} \quad 30/0 \\ \hline \text{G.L.} \quad 3068 \end{array}$$

DATE _____

RUN

TYPE

DEPT

DEPT

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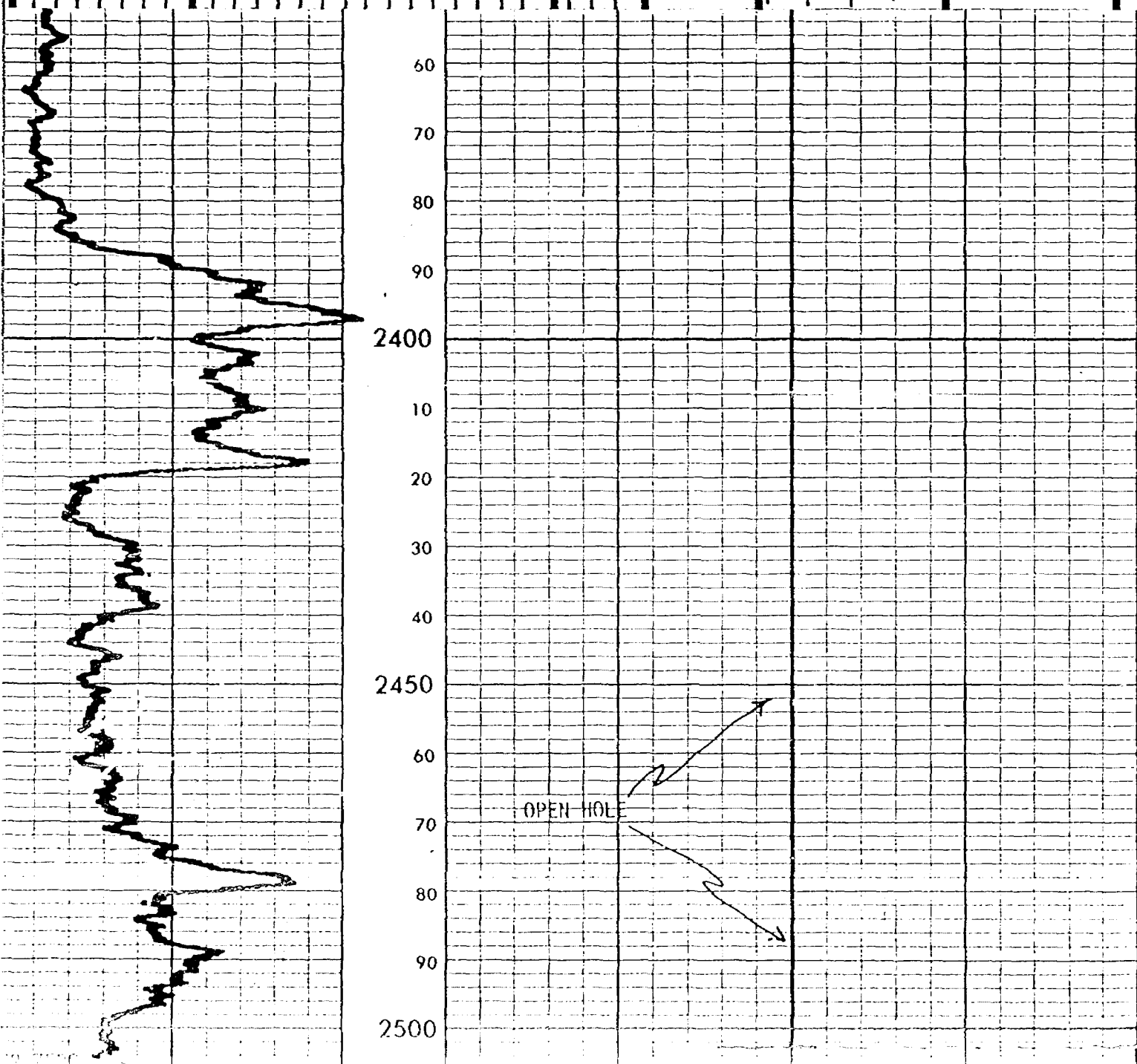
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ORLA PETCO, INC.
GOURLEY-FEDERAL #4
EXHIBIT #3

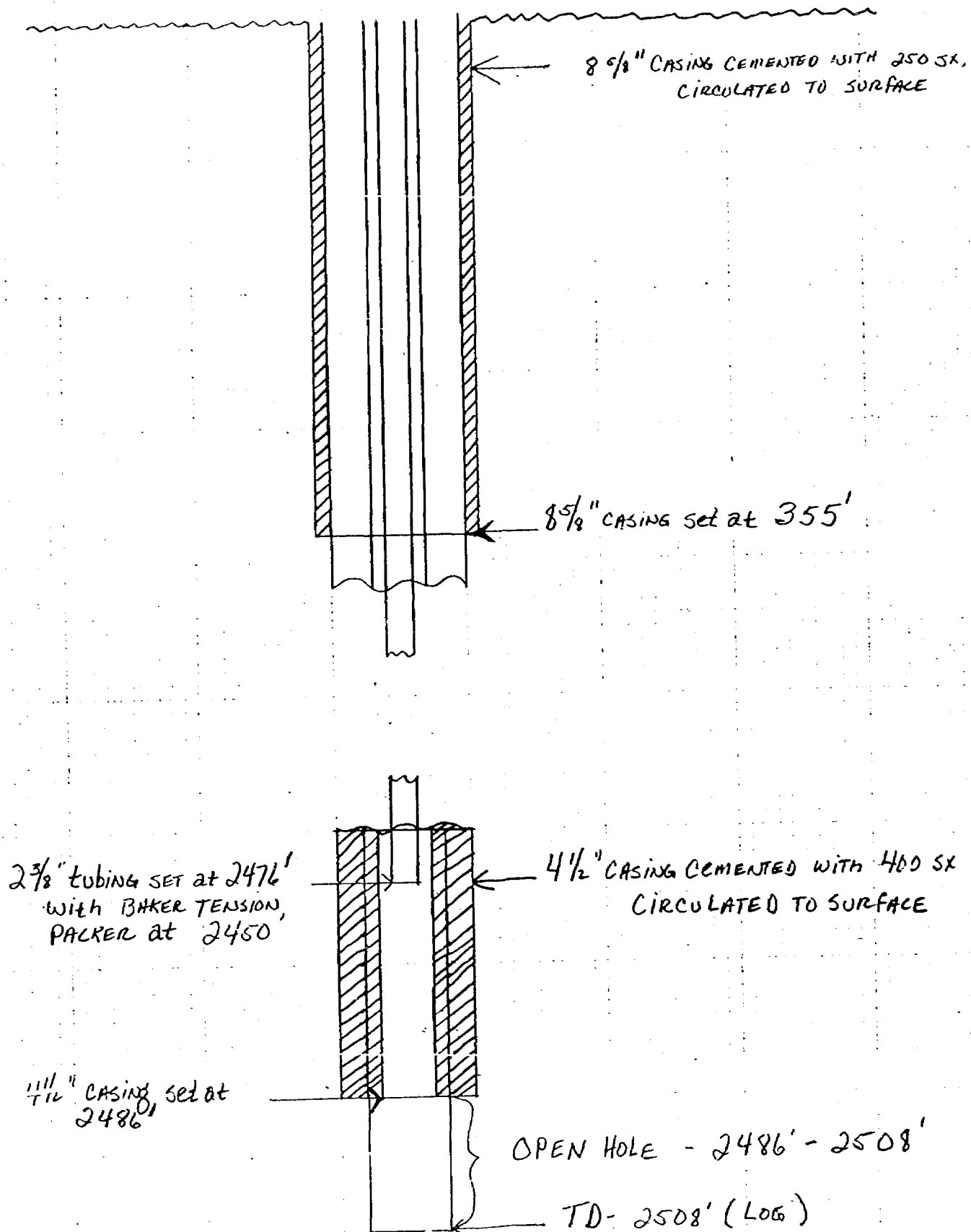


EXHIBIT 4

	<u>Orla Petco, Inc. #1 Gourley-Federal</u>	<u>Orla Petco, Inc. #2 Gourley-Federal</u>	<u>Orla Petco, Inc. #3 Gourley-Federal</u>	<u>Eastland Oil Co. State No. 1</u>
<u>Casing strings:</u>	8 5/8" 4 1/2"	8 5/8" 4 1/2"	8 5/8" 4 1/2"	8 5/8" 4 1/2"
<u>Setting Depth:</u>	8 5/8"-365' 4 1/2"-2442'	8 5/8" @ 369' 4 1/2" @ 2436'	8 5/8" @ 370' 4 1/2" @ 2494'	8 5/8" @ 379' 4 1/2" @ 2512'
<u>Sacks of Cement:</u>	8 5/8" - 250 4 1/2" - 125	8 5/8" - 250 4 1/2" - 500	8 5/8" - 250 4 1/2" - 500	8 5/8" - 250 4 1/2" - 300
<u>Cement Tops:</u>	8 5/8" - circ. to surface. 4 1/2" - 1700' (calc.)	8 5/8"- c.t.s.* 4 1/2"- c.t.s.*	8 5/8"- c.t.s.* 4 1/2"- c.t.s.*	8 5/8"- c.t.s.* 4 1/2"- c.t.s.*
<u>Total Depth:</u>	2449' (Log)	2456' (Log)	2507' (Log)	2512" (Log)
<u>Producing Interval:</u>	2446'-2449' Open Hole	2437'-2456' Open Hole	2494' 2504' Open Hole	2469' - 2479' perforations
<u>Location:</u>	2310' FNL & 330' FEL of Sec. 31, T-22S, R-28E, Eddy Co.	1650' FSL & 330' FEL of Sec. 31, T-22S, R-28E, Eddy Co.	990' FNL & 330' FEL of Sec. 31, T-22S, R-28E, Eddy Co.	2160' FSL & 330' FEL of Sec. 32, T-22S, R-28E, Eddy Co.

* Circulated to Surface

EXHIBIT 4 (continued)

	Eastland Oil Company
	<u>H.G. Faulk No. 1</u>
<u>Casing strings:</u>	8 5/8"
	4 1/2"
<u>Setting Depth:</u>	8 5/8" @ 376'
	4 1/2" @ 2491'
<u>Sacks of Cement:</u>	8 5/8" w/ 250 sx
	4 1/2" w/ 200 sx
<u>Cement Top:</u>	8 5/8" - c.t.s.
	4 1/2" - 1350' (Calc.)
<u>Total Depth:</u>	2504' (Log)
<u>Producing Interval:</u>	2491'-2504'
	Open Hole
<u>Location:</u>	990' FSL & 330' FWL
	of Sec. 32, T-22S, R-28E,
	Eddy County, N.M.

EXHIBIT 5

PERTINENT INFORMATION PERTAINING TO

ORLA PETCO # 4 GOURLEY-FEDERAL

PROPOSED SALT WATER DISPOSAL WELL

- 1) Fluid to be injected into the Ramsey Sand from 2486'-2508'.
- 2) Type of fluid to be injected-- Salt Water.
- 3) Volume to be injected-- Approximately 500-600 barrels per day.
- 4) Source of injected fluid-- Salt water produced along with oil from operators nearby wells which produce from this same Ramsey Sand, the uppermost member of the Bell Canyon formation of the Delaware Mountain Group of the Permian Age.

EXHIBIT 6

SUPPORTING DATA FOR REQUESTED

SURFACE INJECTION PRESSURE

* * * *

Fracture pressure of the Ramsey Sand, based on instant shut-in pressures for the wells listed below, was calculated to be 1175 psi.

Orla Petco, Inc. No. 1 Gourley-Federal - 1150#
Orla Petco, Inc. No. 2 Gourley-Federal - 1150#
Orla Petco, Inc. No. 3 Gourley-Federal - 1250#

All of these wells are offsets to the proposed water disposal well and were completed as oil producers from the Ramsey Sand.

Gradient of the fracture fluid was .35#/ft., whereas gradient of the formation water we will dispose is .45#/ft.

The calculated difference between these gradients, at injection level (2500') would be 250#.

1175# (fracture pressure of this formation) less 250# (calculated difference between gradients) leaves 925# as the maximum surface injection pressure in order to stay below the fracture pressure of the injection formation.

We would like to be allowed, if necessary, to inject at surface pressures up to 900#.

HALLIBURTON DIVISION LABORATORY
 HALLIBURTON SERVICES
 MIDLAND DIVISION
 HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W78-342

To Orla Petro Inc.Date 4-8-78P.O. Box 1383Midland, Tx 79702

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Bucky RitchieDate Rec. 4-7-78Well No. Fardue #1

Depth _____

Formation _____

County _____

Field _____

Source _____

Resistivity	<u>.076 @ 74°F</u>		
Specific Gravity	<u>1.074</u>		
pH	<u>6.5</u>		
Calcium (Ca)	<u>8100</u>		<u>*MPL</u>
Magnesium (Mg)	<u>Low</u>		
Chlorides (Cl)	<u>69590</u>		
Sulfates (SO ₄)	<u>Low</u>		
Bicarbonates (HCO ₃)	<u>220</u>		
Soluble Iron (Fe)	<u>Nil</u>		

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Paul Ragsdale

HALLIBURTON COMPANY

CC:

By _____

CHEMIST

NOTICE

THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLE TESTED. ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.

ORLA PETCO, INC.

P. O. BOX 1383, MIDLAND, TEXAS 79702
TELEPHONE 915 684-4762

April 16, 1979

Oil Conservation Division
State of New Mexico
State Land Office Bldg.
Santa Fe, New Mexico 87501

Re: Application to dispose of salt water
by injection into a porous formation.

Orla Petco, Inc. #4 Gourley-Federal,
NW/4 SE/4 Sec. 31, T-22S, R-28E,
Eddy County, New Mexico

Gentlemen:

Attached, in triplicate, is Commission Form C-108 which we hereby submit and ask to be put on the docket for the next applicable Commission hearing.

We also include herewith copies of the following which we propose to use as exhibits at the hearing:

- 1) A plat showing the location of the proposed injection well and the location of all other wells within a radius of two miles from it and showing the formations from which said wells are producing. The plat shows also the names of all lessees within said two mile radius.
- 2) A copy of the electric log of the Orla Petco No. 4 Gourley-Federal (the proposed injection well).
- 3) A copy of a diagrammatic sketch of the proposed injection well.
- 4) A tabular summary of all wells within one-half mile of the injection well which penetrate the injection zone. There is one plugged and abandoned well within the said one-half mile radius.
- 5) A copy of a list of other pertinent information.
- 6) A copy of supporting data for surface injection pressure.

Please advise us of the date set for this requested hearing.

Very truly yours,

James M.C. Ritchie, Jr.
James M.C. Ritchie, Jr.
Orla Petco, Inc.

Enclosures
JMCRjr/mm

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Orla Petco, Inc.		ADDRESS P.O. Box 1383, Midland, Texas 79702			
LEASE NAME Gourley-Federal	WELL NO. 4	FIELD Herradura Bend (Delaware)	COUNTY Eddy		
LOCATION UNIT LETTER J ; WELL IS LOCATED 2310 FEET FROM THE South LINE AND 1650 FEET FROM THE East LINE. SECTION 31 TOWNSHIP 22S RANGE 28E NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8 5/8"	355'	250 sx	surface	circulated
INTERMEDIATE					
LONG STRING	4 1/2"	2486'	400 sx	surface	circulated
TUBING	Proposed	2 3/8"	2476'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Packer @ 2450'	
NAME OF PROPOSED INJECTION FORMATION Ramsey Sand of the Bell Canyon Formation			TOP OF FORMATION 2498'		BOTTOM OF FORMATION 2508' TD
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Open Hole		PROPOSED INTERVAL(S) OF INJECTION 2498'-2508'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Drilled for oil, not economically feasible			HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None operate.					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 200'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 3287'	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 250	MINIMUM 250	MAXIMUM 600	OPEN OR CLOSED TYPE SYSTEM Open	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSIG) 800 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes			WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes	ARE WATER ANALYSES ATTACHED? No-Not available
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Bureau of Land Management - 1717 West Second Street, P.O. Box 1397, Roswell, New Mexico 88201					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Eastland Oil Company- Drawer 560, Midland, Texas 79702					
Cities Service Oil Company- P.O. Box 1919, Midland, Texas 79702					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes					
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-D)		PLAT OF AREA Yes	ELECTRICAL LOG Yes	DIAGRAMMATIC SKETCH OF WELL Yes	

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

James M. C. Ritchie, Jr. Field Superintendent April 16, 1979
(Signature) (Title) (Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

ORLA PETCO, INC.

OP1 File
P. O. BOX 1383, MIDLAND, TEXAS 79702
TELEPHONE 915 684-4762

April 16, 1979

Oil Conservation Division
State of New Mexico
State Land Office Bldg.
Santa Fe, New Mexico 87501

Re: Application to dispose of salt water
by injection into a porous formation.

* * * * *

Orla Petco, Inc. #4 Gourley-Federal,
NW/4 SE/4 Sec. 31, T-22S, R-28E,
Eddy County, New Mexico

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- 5) A copy of a list of other pertinent information.
- 6) A copy of supporting data for surface injection pressure.

Please advise us of the date set for this requested hearing.

Very truly yours,
James M.C. Ritchie, Jr.
James M.C. Ritchie, Jr.
Orla Petco, Inc.

Enclosures
JMCRjr/mn

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Orla Petco, Inc.		ADDRESS P.O. Box 1383, Midland, Texas 79702			
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LOCATION UNIT LETTER J WELL IS LOCATED 2310 FEET FROM THE South LINE AND 1650 FEET FROM THE East LINE, SECTION 31 TOWNSHIP 22S RANGE 28E NMPM.					
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NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8 5/8"	355'	250 sx	surface	circulated
INTERMEDIATE					
LONG STRING	4 1/2"	2486'	400 sx	surface	circulated
TUBING	Proposed	2 3/8"	2476'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Packer @ 2450'	
NAME OF PROPOSED INJECTION FORMATION Ramsey Sand of the Bell Canyon Formation			TOP OF FORMATION 2498'		BOTTOM OF FORMATION 2508' TD
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Open Hole		PROPOSED INTERVAL(S) OF INJECTION 2498'-2508'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Drilled for oil, not economically feasible			HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None operate.					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 200'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 3287'	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.)	MINIMUM 250	MAXIMUM 600	OPEN OR CLOSED TYPE SYSTEM Open	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSI) 800 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes	ARE WATER ANALYSES ATTACHED? No-Not available
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Bureau of Land Management - 1717 West Second Street, P.O. Box 1397, Roswell, New Mexico 88201					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Eastland Oil Company- Drawer 560, Midland, Texas 79702 Cities Service Oil Company- P.O. Box 1919, Midland, Texas 79702					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? SURFACE OWNER Yes EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes					
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)? PLAT OF AREA Yes ELECTRICAL LOG Yes DIAGRAMMATIC SKETCH OF WELL Yes					

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

James M. C. Rethel
(Signature)Field Superintendent
(Title)April 16, 1979
(Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

EXHIBIT 1

ORLA PETCO, INC.

HERNDON DEN
(BURNING, FIELD RICH)
ECL COUNTY, NEW MEXICO

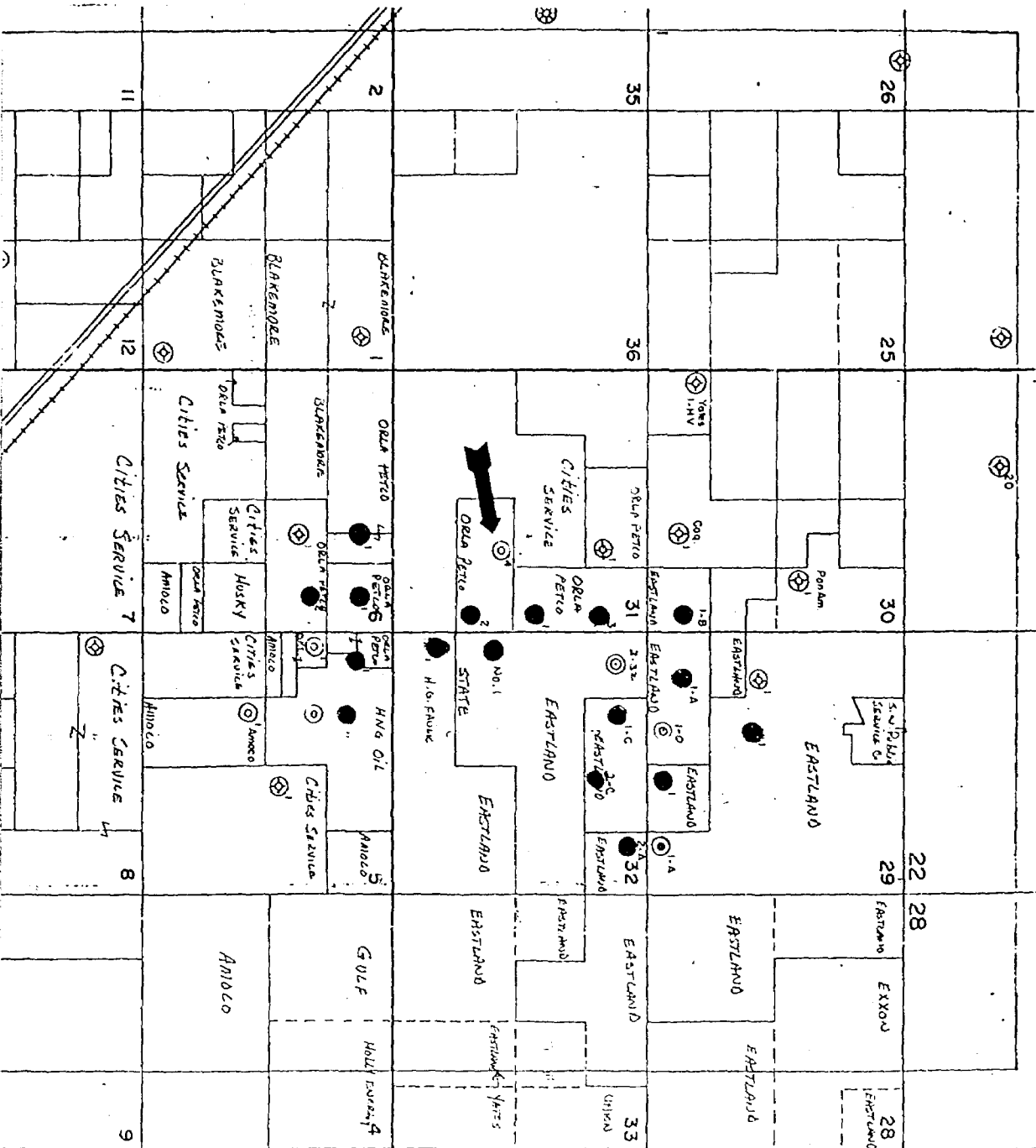
PROCESSED WATER
DISPOSED WELL

DEBRIS SAND OIL WELL

CHEERY CHRYN SAND OIL WELL

SCALE 1" = 2000'

4-10-79





Gamma-Ray Log

Peabody Vann

Engineered Oil and Gas Well Completions

EXHIBIT #2

FLING NO.

COMPANY ORLA PETCO, INC.

WELL GOURLEY FEDERAL #4

FIELD HERRADURA BEND

COUNTY EDDY STATE NEW MEXICO

LOCATION: 2310' FSL & 1650' FEL

OTHER SERVICES: NONE

SEC 31 TWP 22-S RGE 28-E

PERMANENT DATUM: G L ELEV. 3068'

LOG MEASURED FROM D F 2 FT. ABOVE PERM. DATUM

LOGGING MEASURED FROM D F

ELEV. K B. 3070'

O.F. 3068'

G.L. 3068'

DATE 1/12/79

LOG NO. ONE (2")

LOG TYPE LOG

DEPTH-DRILLER

DEPTH-LOGGER

BOTTOM LOGGED INTERVAL

TOP LOGGED INTERVAL

TYPE FLUID IN HOLE

SALINITY. PPM CL

DENSITY

LEVEL

AX. REC. TEMP. DEG. F.

OPERATING RIG TIME

RECORDED BY

WITNESSED BY

1/12/79

ONE (5")

GAMMA RAY CALI.

(CASED & OPEN HOLE)

2508'

2507'

2507'

2350'

DRY

DRY

EMPTY

EMPTY

2 HRS.

K. WHITMIRE

K. WHITMIRE

MR. KENNEDY

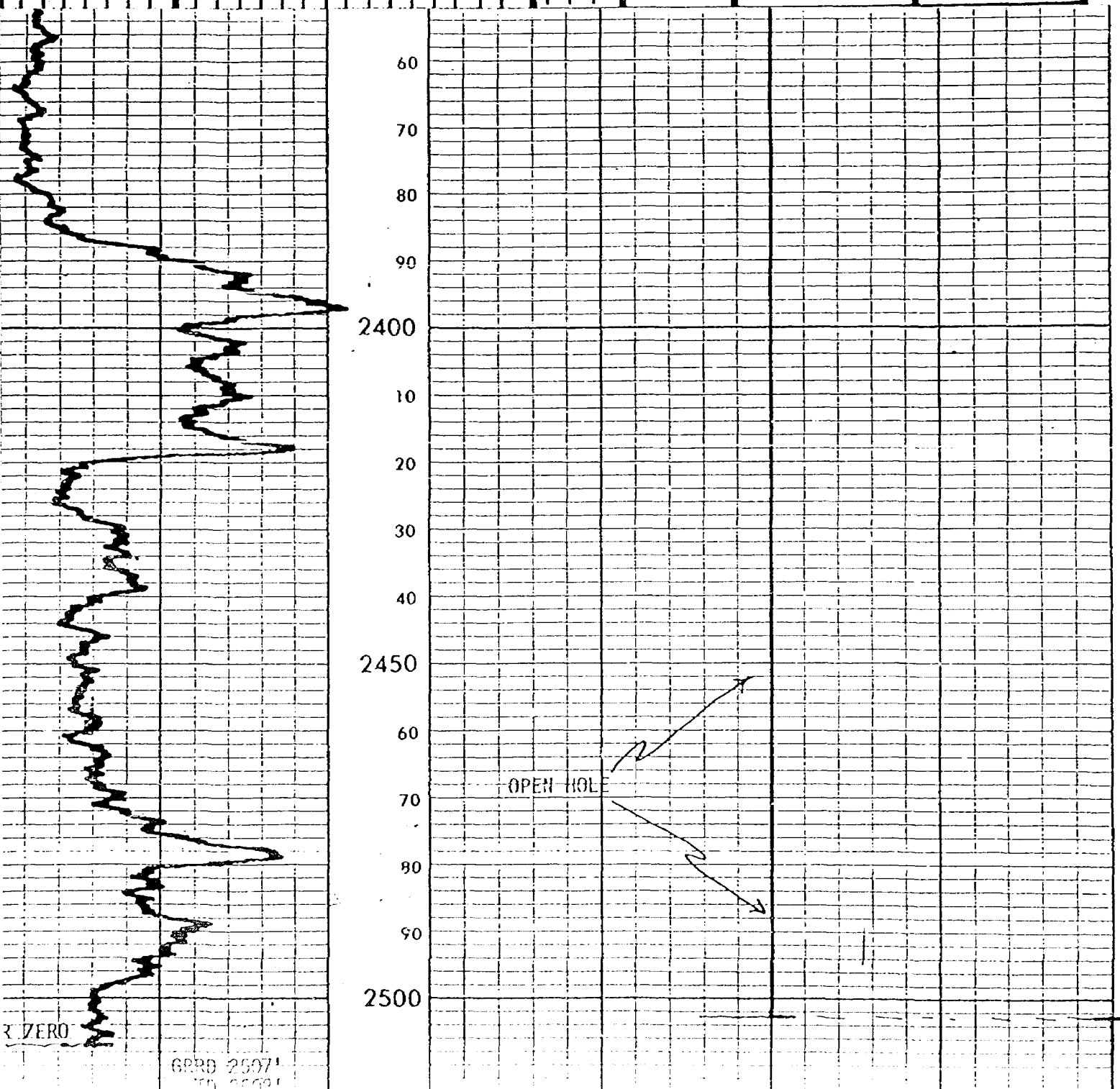
MR. KENNEDY

BORE-HOLE RECORD

CASINO RECORD

BIT 8 5/8" SURF. 352' TD

SIZE 8 5/8" WGT. SURF. 352'



GRD 2507'

ORLA PETCO, INC.
GOURLEY-FEDERAL #4
EXHIBIT # 3

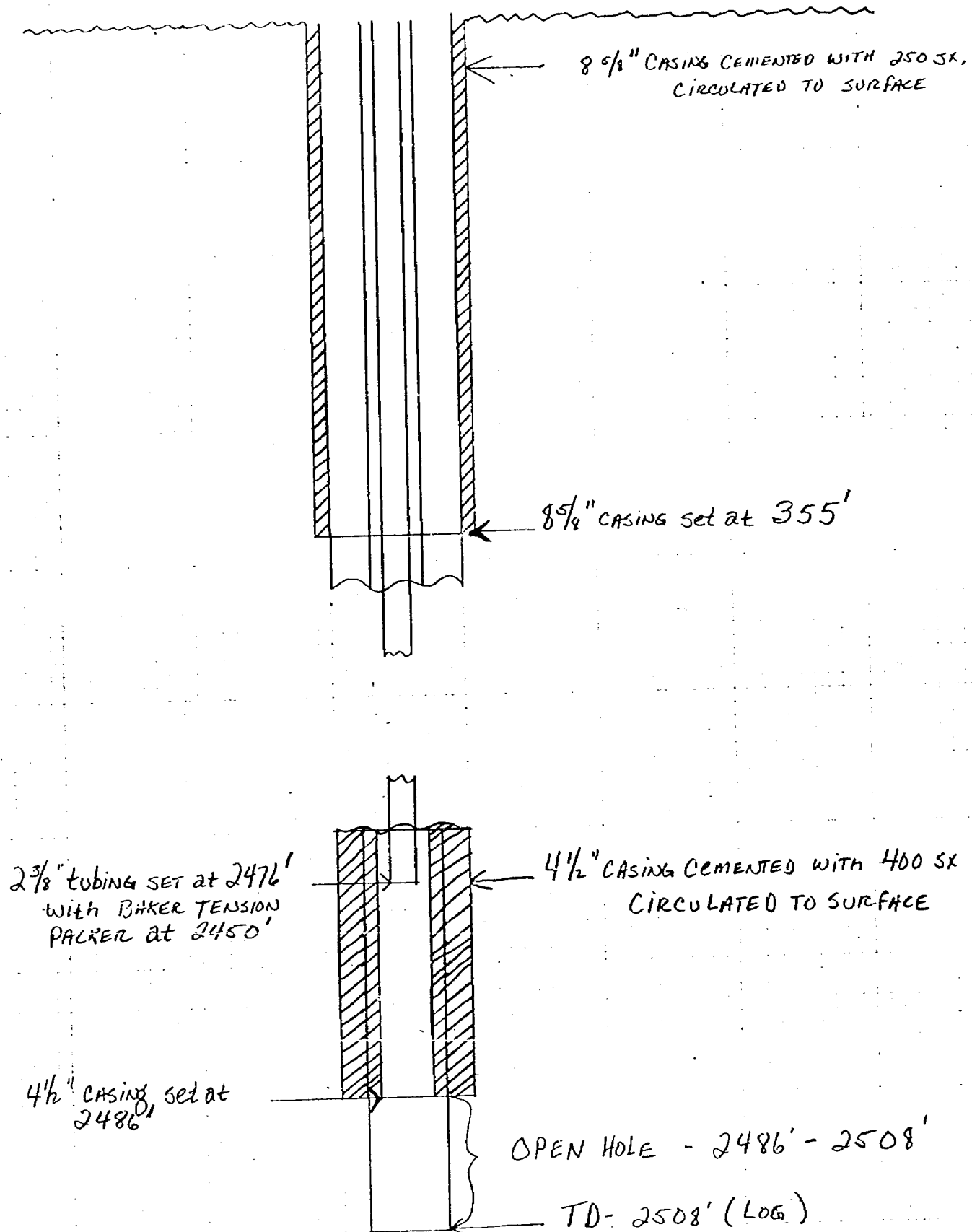


EXHIBIT 4

	<u>Orla Petco, Inc. #1 Gourley-Federal</u>	<u>Orla Petco, Inc. #2 Gourley-Federal</u>	<u>Orla Petco, Inc. #3 Gourley-Federal</u>	<u>Eastland Oil Co. State No. 1</u>
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<u>Sacks of Cement:</u>	8 5/8" - 250	8 5/8" - 250	8 5/8" - 250	8 5/8" - 250
	4 1/2" - 125	4 1/2" - 500	4 1/2" - 500	4 1/2" - 300
<u>Cement Tops:</u>	8 5/8" - circ. to surface.	8 5/8"- c.t.s.*	8 5/8"- c.t.s.*	8 5/8"- c.t.s.*
	4 1/2" - 1700' (calc.)	4 1/2"- c.t.s.*	4 1/2"- c.t.s.*	4 1/2"- c.t.s.*
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* Circulated to Surface

EXHIBIT 4 (continued)

	<u>Eastland Oil Company</u> <u>H.G. Faulk No. 1</u>
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<u>Setting Depth:</u>	8 5/8" @ 376' 4 1/2" @ 2491'
<u>Sacks of Cement:</u>	8 5/8" w/ 250 sx 4 1/2" w/ 200 sx
<u>Cement Top:</u>	8 5/8" - c.t.s. 4 1/2" - 1350' (Calc.)
<u>Total Depth:</u>	2504' (Log)
<u>Producing Interval:</u>	2491'-2504' Open Hole
<u>Location:</u>	990' FSL & 330' FWL of Sec. 32, T-22S, R-28E, Eddy County, N.M.

EXHIBIT 5

PERTINENT INFORMATION PERTAINING TO
ORLA PETCO # 4 GOURLEY-FEDERAL
PROPOSED SALT WATER DISPOSAL WELL

- 1) Fluid to be injected into the Ramsey Sand from 2486'-2508'.
- 2) Type of fluid to be injected-- Salt Water.
- 3) Volume to be injected-- Approximately 500-600 barrels per day.
- 4) Source of injected fluid-- Salt water produced along with oil from operators nearby wells which produce from this same Ramsey Sand, the uppermost member of the Bell Canyon formation of the Delaware Mountain Group of the Permian Age.

EXHIBIT 6

SUPPORTING DATA FOR REQUESTED

SURFACE INJECTION PRESSURE

* * * *

Fracture pressure of the Ramsey Sand, based on instant shut-in pressures for the wells listed below, was calculated to be 1175 psi.

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We would like to be allowed, if necessary, to inject at surface pressures up to 900#.

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W78-342To Orla Fetros Inc.Date 4-8-78P.O. Box 1383Midland, Tx 79702

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Bucky RitchieDate Rec. 4-7-78Well No. Pardue #1

Depth _____

Formation _____

County _____

Field _____

Source _____

Resistivity	<u>.076 @ 74°F</u>	
Specific Gravity	<u>1.074</u>	
pH	<u>6.5</u>	
Calcium (Ca)	<u>8100</u>	<u>*MPL</u>
Magnesium (Mg)	<u>Low</u>	
Chlorides (Cl)	<u>69590</u>	
Sulfates (SO ₄)	<u>Low</u>	
Bicarbonates (HCO ₃)	<u>220</u>	
Soluble Iron (Fe)	<u>Nil</u>	

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst:

cc:

Paul Ragsdale

HALLIBURTON COMPANY

By _____

CHEMIST

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ORLA PETCO, INC.

P. O. BOX 1383, MIDLAND, TEXAS 79702
TELEPHONE 915 684-4762

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- 1) A plat showing the location of the proposed injection well and the location of all other wells within a radius of two miles from it and showing the formations from which said wells are producing. The plat shows also the names of all lessees within said two mile radius.
- 2) A copy of the electric log of the Orla Petco No. 4 Gourley-Federal (the proposed injection well).
- 3) A copy of a diagrammatic sketch of the proposed injection well.
- 4) A tabular summary of all wells within one-half mile of the injection well which penetrate the injection zone. There is one plugged and abandoned well within the said one-half mile radius.
- 5) A copy of a list of other pertinent information.
- 6) A copy of supporting data for surface injection pressure.

Please advise us of the date set for this requested hearing.

Very truly yours,

James M.C. Ritchie, Jr.
James M.C. Ritchie, Jr.
Orla Petco, Inc.

Enclosures
JMCRjr/nn

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Orla Petco, Inc.		ADDRESS P.O. Box 1383, Midland, Texas 79702			
LEASE NAME Gourley-Federal	WELL NO. 4	FIELD Herradura Bend (Delaware)	COUNTY Eddy		
LOCATION UNIT LETTER J ; WELL IS LOCATED 2310 FEET FROM THE South LINE AND 1650 FEET FROM THE East LINE, SECTION 31 TOWNSHIP 22S RANGE 28E NMPM.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8 5/8"	355'	250 sx	surface	circulated
INTERMEDIATE					
LONG STRING	4 1/2"	2486'	400 sx	surface	circulated
TUBING	Proposed	2 3/8"	2476'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Packer @ 2450'	
NAME OF PROPOSED INJECTION FORMATION Ramsey Sand of the Bell Canyon Formation		TOP OF FORMATION 2498'		BOTTOM OF FORMATION 2508' TD	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Open Hole		PROPOSED INTERVAL(S) OF INJECTION 2498'-2508'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Drilled for oil, not economically feasible		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? No	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None operate.					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 200'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 3287'	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.)	MINIMUM 250	MAXIMUM 600	OPEN OR CLOSED TYPE SYSTEM Open	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure	APPROX. PRESSURE (PSIG) 800 psi
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF Yes	NATURAL WATER IN DISPOSAL ZONE Yes	ARE WATER ANALYSES ATTACHED? No-Not available
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Bureau of Land Management - 1717 West Second Street, P.O. Box 1397, Roswell, New Mexico 88201					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Eastland Oil Company- Drawer 560, Midland, Texas 79702					
Cities Service Oil Company- P.O. Box 1919, Midland, Texas 79702					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B)		PLAT OF AREA Yes		ELECTRICAL LOG Yes	
				DIAGRAMMATIC SKETCH OF WELL Yes	

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

James M. C. Ritchie, Jr. Field Superintendent April 16, 1979
(Signature) (Title) (Date)

NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

ORLH PETCO, INC.

Herndon Ben
(Uelmomae) Field Agent
Zuni County, New Mexico

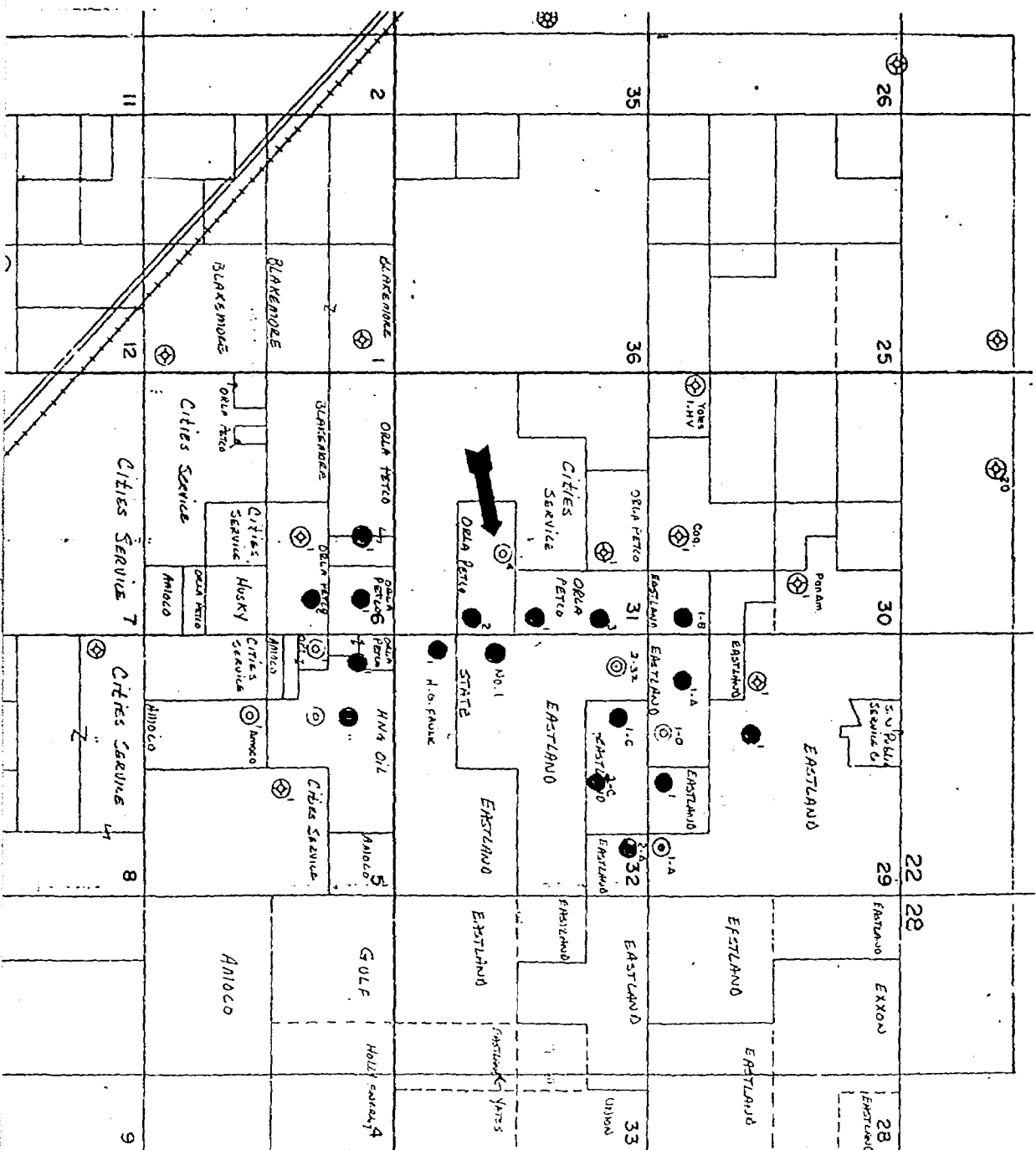
Proposed WATER
DISPOSAL

Delaware Sand Oil Well

CHERRY CRIPPER SAND OIL WELL

Scale 1' = 2000'

44-10-79





Gamma-Ray Log

Peabody Vann

Engineered Oil and Gas Well Completions

EXHIBIT #2

FILING NO.

COMPANY ORLA PETCO, INC.

WELL GOURLEY FEDERAL #4

FIELD HERRADURA BEND

COUNTY EDDY STATE NEW MEXICO

LOCATION: 2310' FSL & 1650' FEL

SEC 31 TWP 22-S RGE 28-E

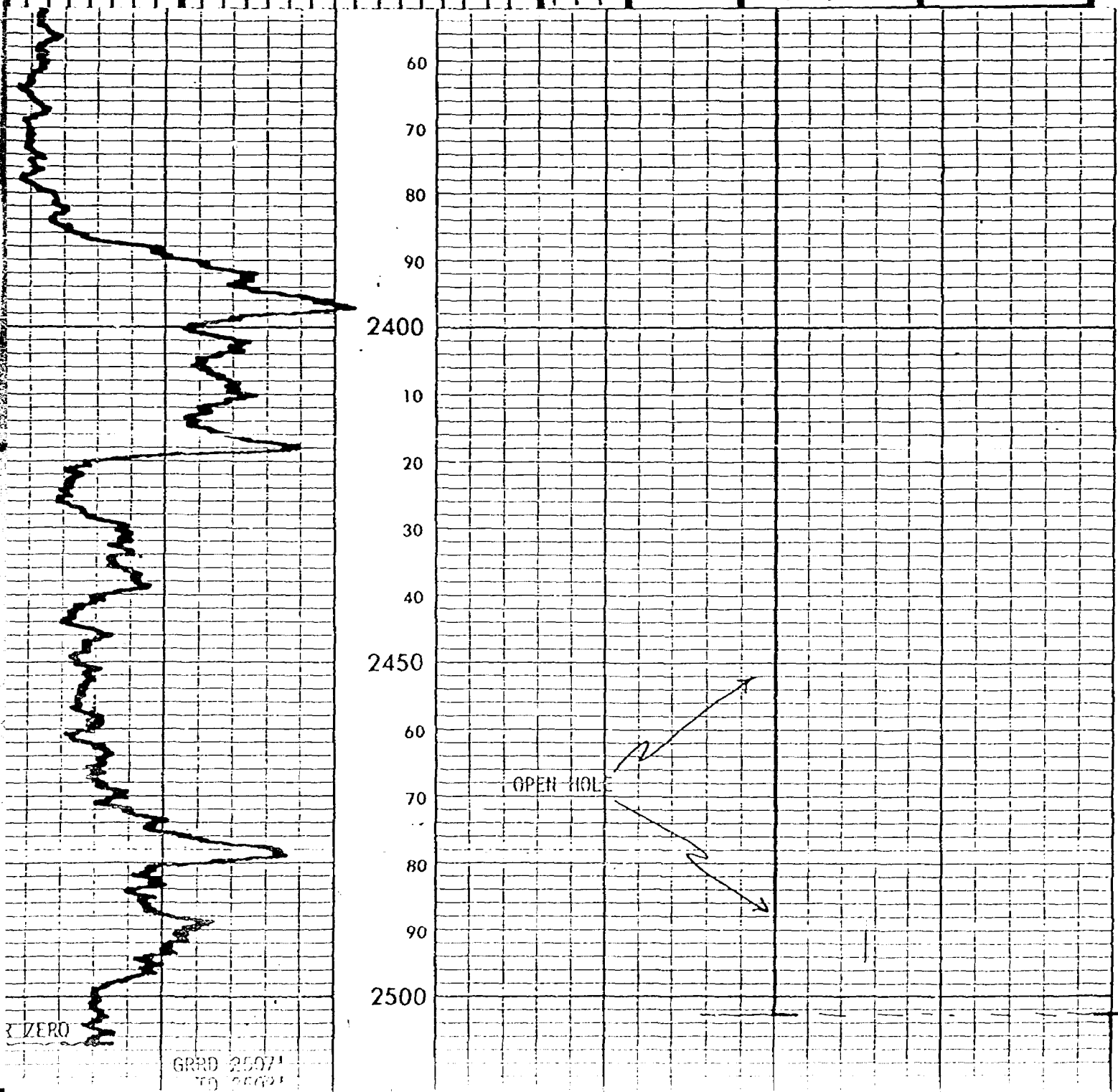
OTHER SERVICES: NONE

PERMANENT DATUM: G.L. ELEV. 3068'
LOG MEASURED FROM D.F. 2 FT. ABOVE PERM. DATUM
RILLING MEASURED FROM D.F.

ELEV.: K.B. 3070'
D.F. 3068'
G.L. 3068'

DATE	1/12/79	1/12/79	
UN NO.	ONE (2")	ONE (5")	
TYPE LOG	GAMMA RAY CALI	(CASED & OPEN HOLE)	
DEPTH-DRILLER	-	-	
DEPTH-LOGGER	2508'	2508'	
OTTOM LOGGED INTERVAL	2507'	2507'	
OP LOGGED INTERVAL	SURF.	2350'	
TYPE FLUID IN HOLE	DRY	DRY	
SALINITY, PPM CL	-	-	
DENSITY	-	-	
LEVEL	EMPTY	EMPTY	
MAX. REC. TEMP. DEG F.	-	-	
OPERATING RIG TIME	2 HRS.	1/2 HR.	
RECORDED BY	K. WHITMIRE	K. WHITMIRE	
WITNESSED BY	MR. KENNEDY	MR. KENNEDY	

BORE-HOLE RECORD				CASING RECORD			
RUN NO.	BIT	FROM	TO	SIZE	WGT.	FROM	TO
	8 5/8"	SURF.	352'	8 5/8"		SURF.	352'
	8"	352'	TD				



ORLA PETCO, INC.
GOURLEY-FEDERAL #4
EXHIBIT # 3

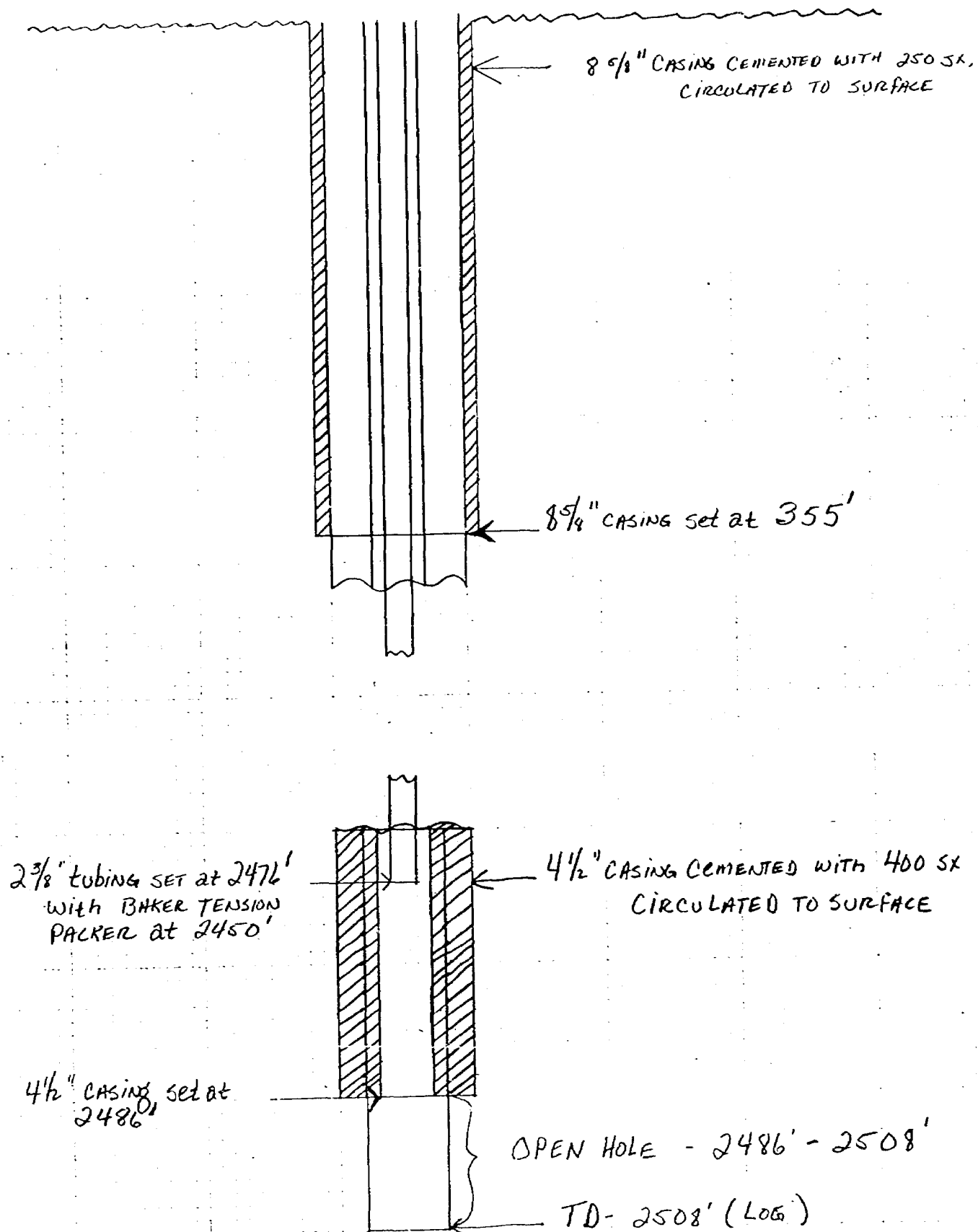


EXHIBIT 4

	<u>Orla Petco, Inc. #1 Gourley-Federal</u>	<u>Orla Petco, Inc. #2 Gourley-Federal</u>	<u>Orla Petco, Inc. #3 Gourley-Federal</u>	<u>Eastland Oil Co. State No. 1</u>
<u>Casing strings:</u>	8 5/8"	8 5/8"	8 5/8"	8 5/8"
	4 1/2"	4 1/2"	4 1/2"	4 1/2"
<u>Setting Depth:</u>	8 5/8"-365'	8 5/8" @ 369'	8 5/8" @ 370'	8 5/8" @ 379'
	4 1/2"-2442'	4 1/2" @ 2436'	4 1/2" @ 2494'	4 1/2" @ 2512'
<u>Sacks of Cement:</u>	8 5/8" - 250	8 5/8" - 250	8 5/8" - 250	8 5/8" - 250
	4 1/2" - 125	4 1/2" - 500	4 1/2" - 500	4 1/2" - 300
<u>Cement Tops:</u>	8 5/8" - circ. to surface.	8 5/8"- c.t.s.*	8 5/8"- c.t.s.*	8 5/8"- c.t.s.*
	4 1/2" - 1700' (calc.)	4 1/2"- c.t.s.*	4 1/2"- c.t.s.*	4 1/2"- c.t.s.*
<u>Total Depth:</u>	2449'(Log)	2456' (Log)	2507'(Log)	2512" (Log)
<u>Producing Interval:</u>	2446'-2449' Open Hole	2437'-2456' Open Hole	2494'- 2504' Open Hole	2469'- 2479' perforations
<u>Location:</u>	2310' FNL & 330' FEL of Sec. 31, T-22S, R-28E, Eddy Co.	1650' FSL & 330' FEL of Sec. 31, T-22S, R-28E, Eddy Co.	990' FNL & 330' FEL of Sec. 31, T-22S, R-28E, Eddy Co.	2160' FSL & 330' FWL of Sec. 32, T-22S, R-28E, Eddy Co.

* Circulated to Surface

EXHIBIT 4 (continued)

Eastland Oil Company
H.G. Faulk No. 1

Casing strings:

8 5/8"

4 1/2"

Setting Depth:

8 5/8" @ 376'

4 1/2" @ 2491'

Sacks of Cement:

8 5/8" w/ 250 sx

4 1/2" w/ 200 sx

Cement Top:

8 5/8" - c.t.s.

4 1/2" - 1350' (Calc.)

Total Depth:

2504' (Log)

Producing Interval: 2491'-2504'

Open Hole

Location:

990' FSL & 330' FWL
of Sec. 32, T-22S, R-28E,
Eddy County, N.M.

EXHIBIT 5

PERTINENT INFORMATION PERTAINING TO

ORLA PETCO # 4 GOURLEY-FEDERAL

PROPOSED SALT WATER DISPOSAL WELL

- 1) Fluid to be injected into the Ramsey Sand from 2486'-2508'.
- 2) Type of fluid to be injected-- Salt Water.
- 3) Volume to be injected-- Approximately 500-600 barrels per day.
- 4) Source of injected fluid-- Salt water produced along with oil from operators nearby wells which produce from this same Ramsey Sand, the uppermost member of the Bell Canyon formation of the Delaware Mountain Group of the Permian Age.

EXHIBIT 6

SUPPORTING DATA FOR REQUESTED

SURFACE INJECTION PRESSURE

* * * *

Fracture pressure of the Ramsey Sand, based on instant shut-in pressures for the wells listed below, was calculated to be 1175 psi.

Orla Petco, Inc. No. 1 Gourley-Federal - 1150#
Orla Petco, Inc. No. 2 Gourley-Federal - 1150#
Orla Petco, Inc. No. 3 Gourley-Federal - 1250#

All of these wells are offsets to the proposed water disposal well and were completed as oil producers from the Ramsey Sand.

Gradient of the fracture fluid was .35#/ft., whereas gradient of the formation water we will dispose is .45#/ft.

The calculated difference between these gradients, at injection level (2500') would be 250#.

1175# (fracture pressure of this formation) less 250# (calculated difference between gradients) leaves 925# as the maximum surface injection pressure in order to stay below the fracture pressure of the injection formation.

We would like to be allowed, if necessary, to inject at surface pressures up to 900#.

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES

MIDLAND DIVISION

HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W78-342

To Orla Petros Inc.

Date 4-8-78

P.O. Box 1383

Midland, Tx 79702

This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.

Submitted by Bucky Ritchie

Date Rec. 4-7-78

Well No. Pardue #1

Depth

Formation

County

Field

Source

Resistivity .076 @ 74°F

Specific Gravity 1.074

pH 6.5

Calcium (Ca) 8100

*MPL

Magnesium (Mg) Low

Chlorides (Cl) 69590

Sulfates (SO₄) LowBicarbonates (HCO₃) 220

Soluble Iron (Fe) Nil

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst:

cc:

HALLIBURTON COMPANY

By

CHEMIST

NOTICE

THIS REPORT IS LIMITED TO THE DESCRIBED SAMPLE TESTED. ANY USER OF THIS REPORT AGREES THAT HALLIBURTON SHALL NOT BE LIABLE FOR ANY LOSS OR DAMAGE, WHETHER IT BE TO ACT OR OMISSION, RESULTING FROM SUCH REPORT OR ITS USE.

HALLIBURTON DIVISION LABORATORY

HALLIBURTON SERVICES
MIDLAND DIVISION
HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

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Submitted by Bucky RitchieDate Rec. 4-7-78Well No. Pardue #1

Depth _____

Formation _____

County _____

Field _____

Source _____

Resistivity .076 @ 74°FSpecific Gravity 1.074pH 6.5Calcium (Ca) 8100

*MPL

Magnesium (Mg) LowChlorides (Cl) 69590Sulfates (SO₄) LowBicarbonates (HCO₃) 220Soluble Iron (Fe) Nil

Remarks:

*Milligrams per liter

Respectfully submitted,

Analyst: Paul Ragsdale

HALLIBURTON COMPANY

cc:

By _____

CHEMIST

NOTICE

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ROUGH

dr/

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. 6562

Order No. R-6057

APPLICATION OF ORLA PETCO, INC.
FOR SALT WATER DISPOSAL,
EDDY COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 13
19 79, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter
NOW, on this day of June, 1979, 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, Orla Petco, Inc., is the owner and operator of the Gourley-Federal Well No. 4, located in Unit J of Section 31, Township 22 South, Range 28 East, NMPM, Herradura Bend-Delaware Pool, Eddy County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the Ramsey Sand of the Bell Canyon formation, with injection into the open hole interval from approximately 2486 feet to 2508 feet.
- (4) That the injection should be accomplished through 2 3/8 -inch plastic lined tubing installed in a packer set at approximately 2450 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.

(5) That the injection well or system should be equipped with a pop-off valve or ^{other} acceptable ^{device} ~~substitute~~ which will limit the wellhead pressure on the injection well to no more than 900 psi.

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

(7) 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.

(8) 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, Orla Petco, Inc. is hereby authorized to utilize its Gourley-Federal Well No. 4 located in Unit J of Section 31, Township 22 South Range 28 East, NMPM, Herradura Bend-Delaware Pool Eddy County, New Mexico, to dispose of produced salt water ^{Canyon} into the Ramsey Sand of the Bell / formation, injection to be accomplished through 2 3/8 -inch tubing installed in a packer set at approximately 2450 feet, with injection into the open hole interval from approximately 2486 feet to 2508 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} ~~substitute~~ which will limit the wellhead pressure on the injection well to no more than **900** psi.

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

(4) That the operator shall immediately notify the supervisor of the Division's Artesia 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.

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

(6) 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.