

CASE NO.

6210

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,

ETC.

BEFORE THE
NEW MEXICO OIL CONSERVATION DIVISION
SANTA FE, NEW MEXICO
APRIL 19, 1978

EXAMINER HEARING

-----)
)
IN THE MATTER OF:)

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

) Case 6210
)
-----)

BEFORE: Richard L. Stamets, Examiner

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the New Mexico Oil Conservation Division:

Lynn Teschendorf, Esq.
Legal Counsel for the Division

For the Applicant:

Tom Kellahin, Esq.
Attorney at Law
Kellahin and Fox
500 Don Gaspar
Santa Fe, New Mexico

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P. O. BOX 449
58 SOUTH FEDERAL PLACE
SANTA FE, NEW MEXICO 87501

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MR. STAMETS: Call next Case 6210.

MS. TESCHENDORF: Case 6210. Application of Orla Petco, Inc., for salt water disposal, Eddy County, New Mexico.

MR. STAMETS: Call for appearances.

MR. KELLAHIN: Tom Kellahin of Kellahin and Fox, Santa Fe, New Mexico, appearing on behalf of the Applicant and I have one witness.

A. H. HEDDEN

the witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you please state your name, by whom you're employed and in what capacity?

A My name is A. H. Hedden, I am Vice-President of Orla Petco, Incorporated, based in Midland, Texas.

Q Do you hold a professional degree in either geology or petroleum engineering?

A Yes. I have a degree in geology.

Q Have you previously testified before this Commission and had your qualifications as an expert geologist accepted and made a matter of record?

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A No, I have not.

Q When and where did you obtain your degree,
Mr. Hedden?

A From California Institute of Technology,
1948.

Q Subsequent to graduation would you
summarize briefly where you have been employed and in what
capacity?

A I worked for Humble Oil and Refining
Company for eight years, for C and K Petroleum as chief
geologist for fourteen years and as a consultant for five
or six years and I have been with Orla Petco for the last
four years as a vice president.

MR. KELLAHIN: Mr. Stamets, we tender
Mr. Hedden as an expert witness.

MR. STAMETS: The witness is considered
qualified.

Q (By Mr. Kellahin) Would you refer to
Exhibit No. 1, identify it and state what Orla Petco
is seeking to accomplish?

A Exhibit No. 1 is a map to the scale of
one inch to 2,000 feet, an area approximately five miles
southeast of Carlsbad in Eddy County, New Mexico. The site

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of recently discovered Herradura Bend Delaware oil field. Orla Petco currently has four producing wells in this field and has drilled several dry holes as step outs, the closest being the Orla Petco No. 1 Sanders located in the southwest quarter of the northeast quarter of Section 6, Township 23 south, Range 28 east.

We are requesting permission to reenter this dry hole and deepen it and convert it to a salt water disposal well for our own use. In other words, to dispose of the water that's being produced from the four wells that we currently have on production.

Q Would you identify for me again the four Orla Petco wells that would be producing salt water that will be disposed of in the subject pump.

A The Orla Petco No. 1 Pardue in the northwest quarter of the northeast quarter of Section 6, a direct north offset to the proposed salt water disposal well was the discovery well of the field and completed in August of last year.

The Orla Petco No. 1 Guitar in the northeast, northeast of Section 6, diagonal offset, to the proposed salt water disposal well, would be the second producer.

Orla Petco No. 2 Sanders, a direct east

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offset to our proposed salt water disposal well and finally the Orla Petco No. 1 Gurley Federal, approximately one mile north of the proposed salt water disposal well in the southeast quarter of the northeast quarter of Section 31 of township 22 south, range 23 east--28 east.

Q Would you refer to what we've marked as Exhibit No. 2, identify it and explain what information it contains?

A Exhibit No. 2 is a borehole compensated sonic log, run by Schlumberger on the Orla Petco No. 1 Sanders, the proposed salt water disposal well. This log was run October 21, 1977 to a depth of 2554 feet.

Q Will you indicate for us the interval in which you intend to dispose?

A It's our intention to reenter this well and drill it to approximately 2700 feet, run four and a half inch casing to that depth, perforate the interval 2560 to 2690 and use that as the zone for disposal of salt water.

Q Would you refer to Exhibit No. 3 and identify it?

A Exhibit No. 3 is schematic showing the proposed casing program hole sizes, et cetera for the

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No. 1 Sanders proposed salt water disposal well.

Q Mr. Hedden, are you aware of any fresh water zones in this area?

A Yes, we are in an area that where fresh water to approximately 300 feet below the surface. There are a number of irrigation wells and the main fresh water zone is actually at about 100 feet. We have drilled almost all of these wells with cable tools and we're well aware of where the water zones are. The principal zone is approximately 100 feet below the surface.

Q Is it your opinion, Mr. Hedden, your proposed method of completion insure that there will be no contamination of the fresh water zone?

A There will be no contamination.

Q What surface installation will you have on the disposal well?

A We propose to have a pump capable initially of maximum of 200 barrels of water a day, 500 barrel storage tank.

Q It's your intent to inject this water under pressure, is it not, sir?

A Yes, sir.

Q What is the maximum anticipated injection

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pressure that you can foresee?

A Well, of course, we don't know but we have made some calculations from instant shutin pressures. Am I getting into the area you're talking about?

Q Yes, sir.

A Which is shown as exhibit 6.

Q We'll get to that shortly then. This will be injected under pressure?

A Yes, sir.

Q How will you monitor the angular space in the disposal well?

A Well, the angular space will be filled with some inert fluid so that we will be able to tell whether there is any failure of the packing or the casing.

Q Please refer to Exhibit 4 and identify it.

A Exhibit No. 4 summarizes in a tabular form the casing program producing interval and location of the three offsetting producing wells, the Delaware sand oil wells, No. 1 Pardue, No. 1 Guitar and No. 2 Sanders, all located within a half of a mile of the proposed injection well.

Q In your opinion, Mr. Hedden, is the method of completion for each of those wells such that

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there will be possibility of contamination of any fresh water zones through the casing or otherwise in the soft set well?

A There will be no contamination.

Q Would you refer to Exhibit No. 5 and identify it?

A Exhibit No. 5 is styled pertinent information pertaining to the No. 1 Sanders and is an attempt to answer questions that were stated in the Oil Conservation Commission's rules and regulations. First of all the fluid to be injected in to the Delaware sand would be in the interval 2560 to 2690 feet below the surface. Type of fluid would be salt water, volume to be injected, approximately 200 barrels per day and the source of the injected fluid would be salt water currently being produced along with oil in the operating nearby wells.

Q Do you anticipate using plastic lined tubing in your disposal well?

A Yes, we do.

Q Would you refer to Exhibit No. 6 and identify it.

A Exhibit No. 6 is supporting data request that surface injection pressure be greater than the

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designated pressure referred to in the Oil Conversation Commission's memo No. 3-77, in which, under subparagraph 1, no surface injection pressure greater than two tenths a pound to the top of the injection zone will be permitted unless there is strong evidence this data has a fracture grading which supports a higher pressure. We submit from the information derived from fracture treatment of the three offset wells, the No. L Pardue, No. 1 Guitar, No. 2 Sanders that the average fracture pressure of the Delaware sand in this immediate area approximately 1250 pounds. That is based on the instant shutin pressure, after frac treatment of these three wells.

In as much as the formation water has a slightly higher gradient than the fractured fluid that we used during these above noted treatments, more specifically a tenth of a pound per foot of depth of 2700 feet, it would therefore be approximate 270 pounds additional differential. So if we can take the average fracture pressure of the Delaware sand as determined from these three offset wells is 1250 pounds and subtract this 270 pound gradient we would come up with a calculated 980 pounds as the maximum surface injection pressure advisable to stay below the fractured pressure of the

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Delaware sands.

So we would like to be allowed, if necessary, to inject at surface pressure up to 900 pounds.

Q Would you please refer to what I have marked as Exhibit No. 7. That's your C 108 and identify the information contained on it?

A C 108 is, which is Exhibit No. 7, is Orla Petco's application to dispose of salt water by injection into a porous formation and summarizes the information that's the Commission is requesting on this form.

Q What is the current volumes of salt water produced from the four producing wells?

A Currently we are producing in the order of approximately 100 barrels of salt water per day from those four wells and incidentally we are drilling a fifth well which is shown on the plat in the northwest quarter of the northwest quarter of Section 5 and it is total depth and we're running a production string on it. So it appears we will have a fifth producer.

Q Is that also intended as a Delaware producer?

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A Yes, sir.

Q In your opinion, Mr. Hedden, will approval of this application be in the best interest of conservation, the prevention of waste and the protection of correlative rights?

A Yes, sir.

Q Were Exhibits 1 through 7 prepared by you directly or compiled by you or under your direction and supervision?

A Yes, they were.

MR. KELLAHIN: We move the introduction of Exhibits 1 through 7.

MR. STAMETS: These exhibits will be admitted.

(WHEREUPON, Applicant's Exhibit No. 1 through 7 admitted into evidence.)

MR. KELLAHIN: That concludes our direct examination.

MR. STAMETS: Mr. Hedden, on Exhibit No. 3, with four and a half inch casing you calculate the top cement at 600 feet?

MR. HEDDEN: Yes.

MR. STAMETS: Then on Exhibit No. 4, again

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with four and a half inch casing and only 25 dacks less there's considerably less fill. I don't have my Halliburton book available. Is there a difference in the figure you used to calculate these two?

MR. HEDDEN: Well, Exhibit 3 was calculated by Halliburton by telephone request by me. Exhibit 4 was calculated by an engineer consultant that we used. I didn't notice that discrepancy so I don't have an answer for that.

MR. STAMETS: Are the hole sizes the same in all of these?

MR. HEDDEN: Approximately, yes, they are drilled with eight inch hole and reduced to six inch at the top of the pad or just a short distance above it. We could certainly recalculate those and get Halliburton to do it.

MR. STAMETS: You are going to load the annulus with input fluid and what would you propose to do then, either leave it open at the surface or put a gauge on there to determine the leakage, if any?

MR. HEDDEN: That would be left up to the consultant that we have. If you have a preference we will do that.

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MR. STAMETS: You would use one of those two acceptable methods?

MR. HEDDEN: Yes.

MR. STAMETS: On EXhibit 6, the range of instantaneous shutin is from a low of 1150 to a high of 1350. If for safety sake it appeared that we needed to utilize the lowest of these, my rough calculations indicate that would give you a injection pressure of up to 800 pounds. That's with a 10 percent safety factor on there.

MR. HEDDEN: Yes.

MR. STAMETS: Do you feel that 800 pounds would get you by?

MR. HEDDEN: I frankly don't know. We would just have to go ahead and try it and see what happens. We don't have any model to use in the immediate area.

MR. STAMETS: No experience in the area?

MR. HEDDEN: No.

MR. STAMETS: Is the injection interval lower than the pay?

MR. HEDDEN: Yes, sir. It's, as a matter of fact I brought along a copy of the log on the discovery well which is the north offset that penetrates the proposed

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injection interval and that would--

MR. STAMETS: On your Exhibit 2, which is the log, where is the pay interval?

MR. HEDDEN: It's a dry hole but the pay, if we had been fortunate enough the pay zone would have been approximately 24--well, 2455.

MR. STAMETS: That would be a rather thin--

MR. HEDDEN: There's a very thing stringer there, 2451 or 2, very thin zone there and then the zone below it gave up salt water which is five or six feet thick, which is 2454 to 60.

MR. STAMETS: So you should be well below producing?

MR. HEDDEN: We would be 100 feet below that, yes.

MR. STAMETS: Any other questions of the witness. You may be excused. Anything further in this case. The case will be taken under advisement.

If there is nothing the hearing will be adjourned.

(WHEREUPON, hearing was concluded.)

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REPORTER'S CERTIFICATE

I, BETTY J. LANPHERE, CSR-RPR with offices in Santa Fe, New Mexico, do hereby certify that the foregoing transcript is a complete and accurate record of said proceedings as the same were recorded by me stenographically and reduced to typewritten transcript by me or under my supervision.

DATED at Santa Fe, New Mexico, this eleventh day of May, 1978.

Betty J. Lanphere, Court Reporter

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 6210
heard by me on 4-19-78
Richard K. [Signature] Examiner
New Mexico Oil Conservation Commission

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

CASE NO. 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 approximately 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.

(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.

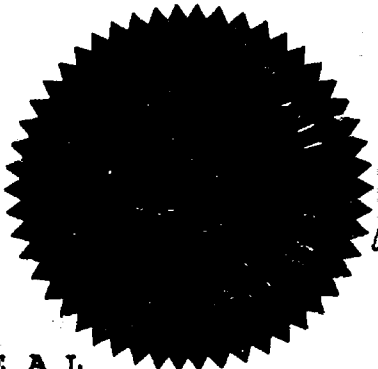
(5) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.

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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 hereinabove designated.



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

Joe D. Ramey
JOE D. RAMEY
Division Director

S E A L

jx/

COMPANY			ORLA PETCO INC.		
WELL			SANDERS #1		
FIELD			WILDCAT		
COUNTY			EDDY		
STATE			NEW MEXICO		
LOCATION					
1980' FNL & 1980' FEL					
Other Services:					
API SERIAL NO		SEC	TWP		RANGE
6			23-S		28-E

Permanent Datum: <u>G.L.</u> ; Elev.: <u>3023</u>						Elev.: K.B. <u>3025</u>
Log Measured From <u>TOP OF 8 5/8"</u> 2 ft. Above Perm. Datum						D.F. _____
Drilling Measured From <u>TOP OF 8 3/31"</u>						G.L. <u>3023</u>
Date	<u>10-21-77</u>					
Run No.	<u>UNE</u>					
Depth—Driller	<u>2555</u>					
Depth—Logger (Schl.)	<u>2554</u>					
Bm. Log Interval	<u>2552</u>					
Top Log Interval	<u>SURF</u>					
Casing—Driller	<u>8 5/8@ 366</u>		<u>@</u>		<u>@</u>	
Casing—Logger						
Bit Size	<u>6 3/4 (2555-2+35)</u>	<u>8"</u>	<u>(2435-366)</u>			
Type Fluid in Hole	<u>WATER</u>					
Dens.	Visc.					
pH	Fluid Loss		ml		ml	ml
Source of Sample						
Rm @ Meas. Temp.	<u>@</u>	<u>°F</u>	<u>@</u>	<u>°F</u>	<u>@</u>	<u>°F</u>
Rmf @ Meas. Temp.	<u>@</u>	<u>°F</u>	<u>@</u>	<u>°F</u>	<u>@</u>	<u>°F</u>
Rmc @ Meas. Temp.	<u>@</u>	<u>°F</u>	<u>@</u>	<u>°F</u>	<u>@</u>	<u>°F</u>
Source: Rmf Rmc						
Rm @ BHT	<u>@</u>	<u>°F</u>	<u>@</u>	<u>°F</u>	<u>@</u>	<u>°F</u>
Circulation Stopped						
TIME Logger on Bottom	<u>90</u>	<u>"F</u>		<u>"F</u>		<u>"F</u>
Max. Rec. Temp.						

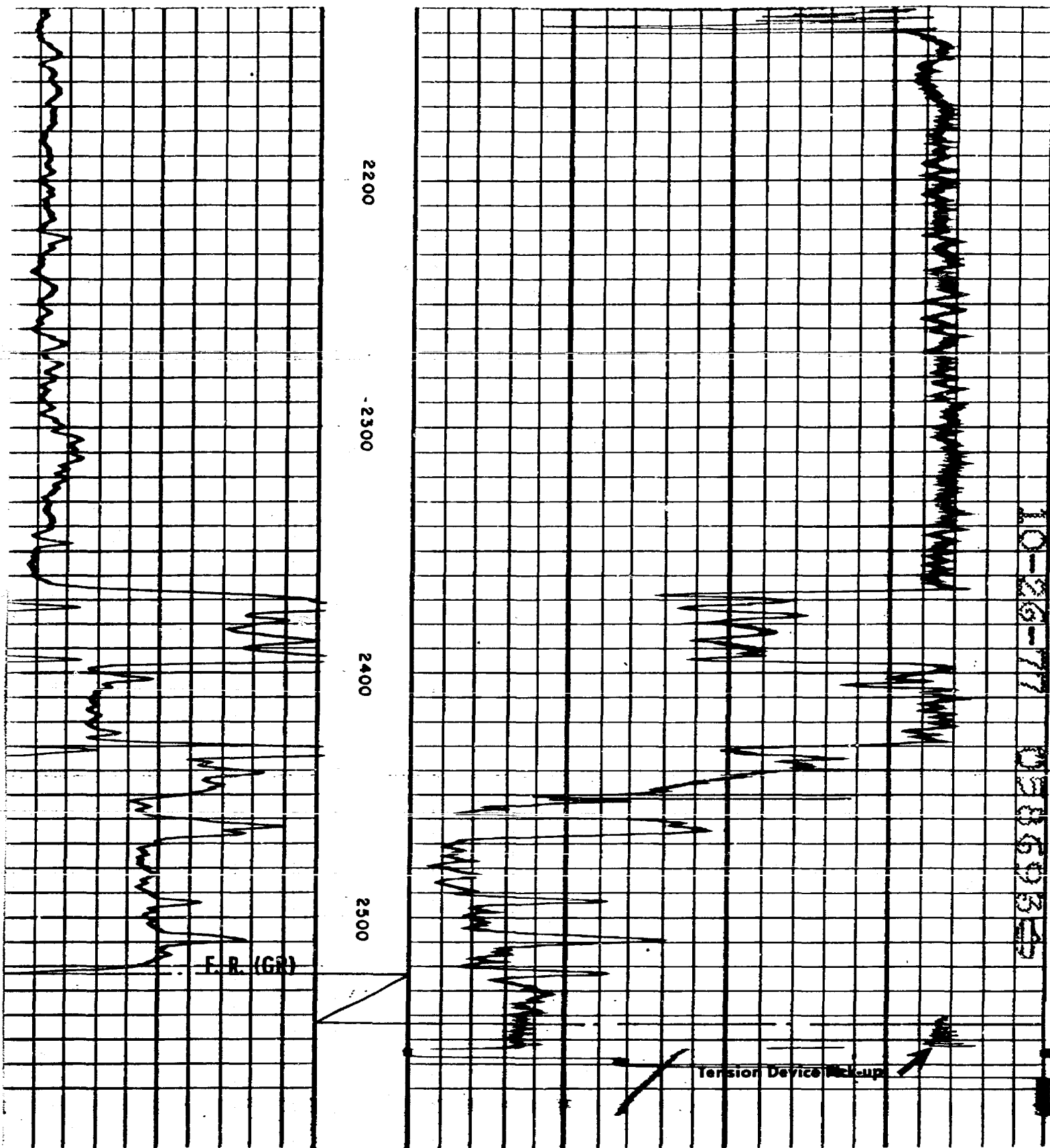
RE The well name, location and borehole reference data were furnished by the customer.

Order No.		58693		Type Log		Depth		Scale Up Hole		Scale Down Hole	
Tel		1750'									
MENT DATA											
Panel No.		546									
Part No.		23									
Pond No.		491									
Panel No.		573									
Tri. No.		663									
Panel No.		1037									
No.		837									
Zers: No.		1									
Type		CME-AF									
fs: No.											
Type											
Const.-Sec.		2									
F.P.M.		30-40									
LOGGING DATA											
				Porosity Selectors				Depth			
				Δt_m	Δt_f	Cp	ϕ Scale	From		To	
REMARKS											
				CALIPER QUIT WORKING GOING INTO HOLE							
				Velocity (ft/sec) = $\frac{1,000,000}{\text{Interval Transit Time (microseconds per foot)}}$							
RATION DATA											
BKG. CPS		90									
Source CPS		600									
Tc Sec		6									

interpretations are opinions based on inferences from electrical or other measurements and we cannot, and do not guarantee the accuracy or correctness of any interpretations, and we shall not, except in the case of gross or willful negligence on our part, be liable or responsible for any loss, costs, damages or expenses incurred or obtained by anyone resulting from any interpretation made by any of our officers, agents or employees. These interpretations are also subject to Clause 4 of our General Terms and Conditions as set out in our current Price Schedule.

		INTERVAL TRANSIT TIME		
		MICROSECONDS PER FOOT	T. <u>3</u>	R. <u>2</u> R. <u>2</u>
100		70		40
160		130		100

GAMMA RAY API UNITS	
0	100
100	200



GAMMA RAY API UNITS	
0	100
100	200

INTERVAL TRANSIT TIME		MICROSECONDS PER FOOT		T ₃	R ₁	2	R ₂
100	70	40					
160	130	100					

COMPANY	ORLA PETCO INC.			SCHL. FR	2552
WELL	SANDERS #1			SCHL. TD	2554
FIELD	WILDCAT			DRLR. TD	2555
COUNTY	EDDY	STATE	NEW MEXICO	Elev. KB	3025
				DF	
				GL	3023

BEFORE EXAMINER STAMETS
OIL CONSERVATION COMMISSION
EXHIBIT NO. 3
CASE NO. 6210
Submitted by Orla Petco, Inc.
Hearing Date 19/8/28

4 1/2" casing set at 2700'

Perforations 2500'-2600'

4 1/2" casing cemented with 150 sx,
top of 600' x (collar) 2500'

2 3/8" tubing set at 2500'
with Baker-Norris Baker of 2500'

8 5/8" casing set at 375'

8 5/8" casing cemented with 150 sx,
circulated to surface

Orla Petco, Inc.
#1 Sinter

EXHIBIT 3

EXHIBIT 4

	<u>Orla Petco</u> <u>#1 Pardue</u>	<u>Orla Petco</u> <u>#1 Guitar</u>	<u>Orla Petco</u> <u>#2 Sanders</u>
<u>Casing strings:</u>	8 5/8"	8 5/8"	8 5/8"
	4 1/2"	4 1/2"	4 1/2"
<u>Setting depth:</u>	375'	402'	372'
	3,445'	2,438'	2,420'
<u>Sacks of cement:</u>	275	250	250
	330	125	125
<u>Cement top:</u>	circ. to sfc.	circ. to sfc.	circ. to sfc.
	1533' (calc.)	1714' (calc.)	1696' (calc.)
<u>Total depth:</u>	4,099'	2,443'	2,435'
 <u>Producing interval:</u>			
	2,466-74' perforations	2,438-43' open hole	2,420-35' open hole
 <u>Location:</u>			
	660' FNL & 1900' FEL Section 6, T-23-S, R-28-E	660' FN&EL Section 6 T-23-S, R-28-E	1650' FNL & 660' FEL Section 6 T-23-S, R-28-E

8" hole
6" at top
P.Y.

BEFORE EXAMINER STAMETS OIL CONSERVATION COMMISSION	
Orla Petco	EXHIBIT NO. <u>4</u>
CASE NO.	<u>6210</u>
Submitted by	_____
Hearing Date	<u>19 Apr 78</u>

PERTINENT INFORMATION PERTAINING TO
ORLA PETCO #1 SANDERS
PROPOSED SALT WATER DISPOSAL WELL

- 1) Fluid is to be injected into Delaware sand from 2560' to 2690'.
- 2) Type of fluid injected - Salt Water
- 3) Volume to be injected - Approximately 200 barrels per day.
- 4) Source of injected fluid - Salt water produced along with oil from Operator's nearby wells which produce from the uppermost Delaware (Bell Canyon) sand.

BEFORE EXAMINER STAMETS	
OIL CONSERVATION COMMISSION	
ORLA PETCO	EXHIBIT NO. 5
CASE NO.	6210
Submitted by	
Hearing Date	19 APR 78

EXHIBIT 6

SUPPORTING DATA FOR REQUESTED
SURFACE INJECTION PRESSURE

Fracture pressure of the Delaware sand, based on instant shut-in pressures for the wells listed below, was calculated to be 1250 psi.

Orla Petco No. 1 Pardue	1350 psi
Orla Petco No. 1 Guitar	1150 psi
Orla Petco No. 2 Sanders	1300 psi

All of these wells are offsets to the proposed water disposal well and were completed as oil producers from the Delaware sand within the past year.

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

The calculated difference between these gradients, at injection level (2700') would be 270#.

1250# (fracture pressure of the Delaware sand) less 270# (calculated difference between gradients) leaves 980# as the maximum surface injection pressure advisable to stay below the fracture pressure of the Delaware sand.

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

BEFORE EXAMINER STAMETS	
OIL CONSERVATION COMMISSION	
ORLA PETCO	EXHIBIT NO. 6
CASE NO.	6210
Submitted by	
Hearing Date	12/8/78

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 953, Midland, TX 79702				
LEASE NAME Sanders	WELL NO. 1	FIELD Herradura Bend (Delaware)	COUNTY Eddy			
LOCATION UNIT LETTER G WELL IS LOCATED 1980 FEET FROM THE North LINE AND 1980 FEET FROM THE East LINE, SECTION 6 TOWNSHIP 23-S RANGE 28-E NMPM.						
CASING AND TUBING DATA						
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY	
SURFACE CASING	8 5/8"	375'	250 sx	Surface	circulated	
INTERMEDIATE						
LONG STRING	Proposed	4 1/2"	2675'	150 sx	600' plus	calculated
TUBING	Proposed	2 3/8"	2500'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Packer @ 2500'		
NAME OF PROPOSED INJECTION FORMATION Upper Delaware (Bell Canyon) 2nd sh.		TOP OF FORMATION 2550'		BOTTOM OF FORMATION 2690'		
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perforations		PROPOSED INTERVAL(S) OF INJECTION 2560' - 2690'		
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Drilled for oil, dry hole			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 as of now						
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 300'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 2458'		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA none known		
ANTICIPATED DAILY INJECTION VOLUME (BBL/S.) 38	MINIMUM 38	MAXIMUM 500	OPEN OR CLOSED TYPE SYSTEM open	IS INJECTION TO BE BY GRAVITY OR PRESSURE? pressure	APPROX. PRESSURE (PSI) 900 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			
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) Julius Roberson, Rte 1, Box 181, Carlsbad, New Mexico 88220			NATURAL WATER IN DISPOSAL ZONE Yes			
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Cities Service Company, Box 1919, Midland, Texas 79702			ARE WATER ANALYSES ATTACHED? Yes			
Husky Oil Company, 600 South Cherry Street, Denver, Colo. 80220						
Amoco Production Company, Box 3092, Houston, Texas 77001						
HNG Oil Company, First Savings Bldg., Midland, Texas 79701						
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.

C. H. Hedder
(Signature)Vice-President
(Title)*April 19, 1978*
(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.

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. 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:

Paul Regsdale

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.

- CASE 6206: Application of Cleary Petroleum Corporation for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a Morrow test well at a point 4650 feet from the South line and 1980 feet from the West line of Section 5, Township 21 South, Range 32 East, South Lake-Morrow Field, Lea County, New Mexico, Lots 11, 12, 13, and 14, and SW/4 of said Section 5 to be dedicated to the well.
- CASE 6207: Application of Belco Petroleum Corporation for an unorthodox location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Little et al Well No. 1 to be drilled 1290 feet from the South line and 1720 feet from the West line of Section 20, Township 22 South, Range 27 East, South Carlsbad-Cherry Canyon Pool, Eddy County, New Mexico, the SE/4 SW/4 of said Section 20 to be dedicated to the well.
- CASE 6208: Application of Layton Enterprises, Inc., for two non-standard oil proration units and two unorthodox locations, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks approval for two non-standard oil proration units in Township 8 South, Range 38 East, Bluit-San Andres Associated Pool, Roosevelt County, New Mexico, each to be dedicated to a well to be drilled at an unorthodox location thereon. The first unit would comprise 102.55 acres being the N/2 NW/4 and Lot 1 of Section 16 with the well located 800 feet from the North line and 450 feet from the East line of the section; the second unit would comprise 101.84 acres being the S/2 NW/4 and Lot 2 of Section 16 with the well located 2120 feet from the North line and 450 feet from the East line of the section.
- CASE 6209: Application of Southern Union Exploration Co., for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pictured Cliffs formation underlying the NW/4 of Section 18, Township 25 North, Range 13 West, San Juan County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon. 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 6210: 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 Upper Delaware formation through the perforated interval from 2560 feet to 2690 feet in its Sanders Well No. 1 located in Unit G of Section 6, Township 23 South, Range 28 East, Herradura Bend-Delaware Field, Eddy County, New Mexico.

Dockets Nos. 16-78 and 17-78 are tentatively set for hearing on May 3 and 17, 1978. Application for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 19, 1978

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

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

- ALLOWABLE: (1) Consideration of the allowable production of gas for May, 1978, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.
- (2) Consideration of the allowable production of gas for May, 1978, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

CASE 6151: (Continued from March 22, 1976, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Vega Petroleum Corporation, American Employers' Insurance Company, and all other interested parties to appear and show cause why the North Caprock Queen Unit No. 1 Well No. 5Y located in Unit E of Section 8, Township 13 South, Range 32 East, Lea County, New Mexico, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 6199: In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Marion B. Edmonds and O. A. Peters and all other interested parties to appear and show cause why the Edmonds & Peters Federal Well No. 1 located in Unit M of Section 3, Township 15 North, Range 33 East, Harding County, New Mexico, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 6200: In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Astro-Tex Oil Corp., American Employers' Insurance Co., and all other interested parties to appear and show cause why the Cain Well No. 2 located in Unit J of Section 22, Township 15 North, Range 33 East, Harding County, New Mexico, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 6201: In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Paul Haskins and all other interested parties to appear and show cause why the Federal "17" Well No. 1 located in Unit P of Section 17, Township 15 North, Range 33 East, Harding County, New Mexico, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 6202: Application of Amoco Production Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Teledyne Fed. Gas Com Well No. 1 to be located 660 feet from the South line and 1980 feet from the East line of Section 4, Township 23 South, Range 29 East, Eddy County, New Mexico, the E/2 of said Section 4 to be dedicated to the well.

CASE 6203: Application of Walter W. Krug DBA Wallen Production Co., for special casing-cementing rules in the Potash-Oil Area, Lea County, New Mexico. Applicant, in the above-styled cause, asks that the special cable tool casing-cementing rules for wells in the North Lynch Yates-Seven Rivers Pool, as promulgated by Order No. R-4253, be extended to encompass additional lands, including all or portions of Sections 20, 21, 27, 28, 33 and 34, Township 20 South, Range 34 East, Lea County, New Mexico.

CASE 6204: Application of Producing Royalties, Inc., for exemption from the Natural Gas Pricing Act, San Juan County, New Mexico. Applicant, in the above-styled cause, proposes to drill a replacement Pictured Cliffs gas well in the same proration unit as its Payne Well No. 2, that is, the NW/4 of Section 12, Township 29 North, Range 12 West, San Juan County, New Mexico, and seeks exemption from the Natural Gas Pricing Act pursuant to a finding that the new well is justified for reasons other than avoiding the application of said act.

CASE 6205: Application of Gifford, Mitchell & Wisenbaker for an unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Quana Parker Well No. 2-Y to be located 2770 feet from the South line and 2310 feet from the East line of Section 28, Township 26 South, Range 36 East, West Scarborough-Yates Pool, Lea County, New Mexico, the SW/4 NE/4 of said Section to be dedicated to the well.

Case 6210

Form C-108
Revised 3-1-68NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Orla Petco, Inc.		ADDRESS P.O. Box 953, Midland, Texas 79702	
LEASE NAME Sanders	WELL NO. 1	FIELD Herradura Bend- Delaware	DATE MAR 21 1978
LOCATION UNIT LETTER G ; WELL IS LOCATED 1980 FEET FROM THE North LINE AND 1980 FEET FROM THE East LINE, SECTION 6 TOWNSHIP 23-S RANGE 28-E NMPM.			

NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8 5/8"	375'	250 sx	Surface	circulated
INTERMEDIATE					
LONG STRING	Proposed 4 1/2"	2700'	150 sx	600' +	calculated
TUBING	Proposed 2 3/8"	2500'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Packer @ 2500'		
NAME OF PROPOSED INJECTION FORMATION Upper Delaware (Bell Canyon) 2nd Sand		TOP OF FORMATION 2550'		BOTTOM OF FORMATION 2690'	
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perforations		PROPOSED INTERVAL(S) OF INJECTION 2560' - 2690'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Drilled for oil, dry hole		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 as of yet.					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 300'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 2458'		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA none known	
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 38	MINIMUM 38	MAXIMUM 500	OPEN OR CLOSED TYPE SYSTEM open	IS INJECTION TO BE BY GRAVITY OR PRESSURE? pressures	APPROX. PRESSURE (PSI) 450 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) Julius Roberson, Rte. 1, Box 181, Carlsbad, New Mexico 88220					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
Cities Service Oil Company, Box 1919, Midland, Texas 79702					
Husky Oil Company, 600 South Cherry Street, Denver, Colo. 80220					
Amoco Production Company, Box 3092, Houston, Texas 77001					
HNG Oil Company, First Savings Bldg., Midland, Texas 79701					
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.

R. S. Hedden
(Signature)Vice-President
(Title)March 20, 1978
(Date)

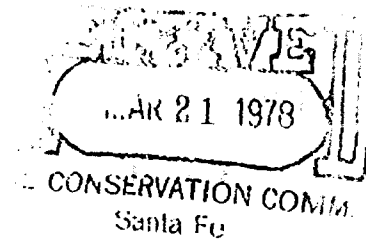
NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. 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.

P. O. BOX 1383, MIDLAND, TEXAS 79701
TELEPHONE 915 684-4762

March 20, 1978

Oil Conservation Commission
State of New Mexico
State Land Office Bldg.
Santa Fe, N.M. 87501



Re: Application to Dispose of
Salt Water by Injection into
a Porous Formation

* * * * *

Orla Petco, Inc. #1 Sanders,
SE/4 NE/4 Sec. 6, T-23-S,
R-28-E, Eddy County, N.M.

Gentlemen:

Attached, in triplicate, is Commission Form C-108 which we submit to you in asking to be put on the docket for the next applicable Commission Hearing.

We also include copies of the following which will be used 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 the injection well and the formation from which said wells are producing. This plat also shows the names of all lessees within said two-mile radius.
- 2) A copy of the electric log of the Orla Petco No. 1 Sanders (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 are no plugged and abandoned wells within one-half mile.
- 5) A copy of a list of other pertinent information.

Please advise us as to the date of the requested hearing.

Very truly yours,

ORLA PETCO, INC.

A. H. Hedden
A. H. Hedden

AH/mm
enclosures

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 953, Midland, Texas 79702	
LEASE NAME Sanders	WELL NO. 1	FIELD Herradura Bend- Delaware	COUNTY Santa Fe
LOCATION UNIT LETTER G WELL IS LOCATED 1980 FEET FROM THE North LINE AND 1980 FEET FROM THE East LINE, SECTION 6 TOWNSHIP 23-S RANGE 28-E NMPM.			

CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8 5/8"	375'	250 sx	Surface	circulated
INTERMEDIATE					
LONG STRING	Proposed	4 1/2"	2700'	150 sx	600' +
TUBING	Proposed	2 3/8"	2500'	Baker Tension Packer @ 2500'	

NAME OF PROPOSED INJECTION FORMATION Upper Delaware (Bell Canyon) 2nd Sand		TOP OF FORMATION 2550'	BOTTOM OF FORMATION 2690'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLES Perforations	PROPOSED INTERVAL(S) OF INJECTION 2560' - 2690'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Drilled for oil, dry hole		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 as of yet.			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 300'		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 2458'	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA none known
ANTICIPATED DAILY INJECTION VOLUME (BBLs.) 38	MINIMUM 500	MAXIMUM open	IS INJECTION TO BE BY GRAVITY OR PRESSURE? pressures
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) Julius Roberson, Rte. 1, Box 181, Carlsbad, New Mexico 88220		APPROX. PRESSURE (PSI) 450 psi	
ARE WATER ANALYSES ATTACHED? No- not available			

LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL			
Cities Service Oil Company, Box 1919, Midland, Texas 79702			
Husky Oil Company, 600 South Cherry Street, Denver, Colo. 80220			
Amoco Production Company, Box 3092, Houston, Texas 77001			
HNG Oil Company, First Savings Bldg., Midland, Texas 79701			

HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes	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) 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.

CSS Hedder
(Signature)

Vice-President
(Title)

March 20, 1978
(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.

Case
6.210

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 953, Midland, Texas 79702	
LEASE NAME Sanders	WELL NO. 1	FIELD Herradura Bend- Delaware	COUNTY Santa Fe
LOCATION UNIT LETTER G ; WELL IS LOCATED 1980 FEET FROM THE North LINE AND 1980 FEET FROM THE East LINE, SECTION 6 TOWNSHIP 23-S RANGE 28-E NMPM.			

CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8 5/8"	375'	250 sx	Surface	circulated
INTERMEDIATE					
LONG STRING	Proposed 4 1/2"	2700'	150 sx	600' +	calculated
TUBING	Proposed 2 3/8"	2500'	NAME, MODEL AND DEPTH OF TUBING PACKER Baker Tension Packer @ 2500'		

NAME OF PROPOSED INJECTION FORMATION Upper Delaware (Bell Canyon) 2nd Sand		TOP OF FORMATION 2550'	BOTTOM OF FORMATION 2690'
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LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH None as of yet.			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA 300'	DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA 2458'	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA none known	
ANTICIPATED DAILY INJECTION VOLUME (BBLS.) 38	MINIMUM 38	MAXIMUM 500	OPEN OR CLOSED TYPE SYSTEM open
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		IS INJECTION TO BE BY GRAVITY OR PRESSURE? pressures	APPROX. PRESSURE (PSI) 450 psi
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) Julius Roberson, Rte. 1, Box 181, Carlsbad, New Mexico 88220			
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL			
Cities Service Oil Company, Box 1919, Midland, Texas 79702			
Husky Oil Company, 600 South Cherry Street, Denver, Colo. 80220			
Amoco Production Company, Box 3092, Houston, Texas 77001			
HNG Oil Company, First Savings Bldg., Midland, Texas 79701			
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)		ELECTRICAL LOG Yes	
PLAN OF AREA 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.

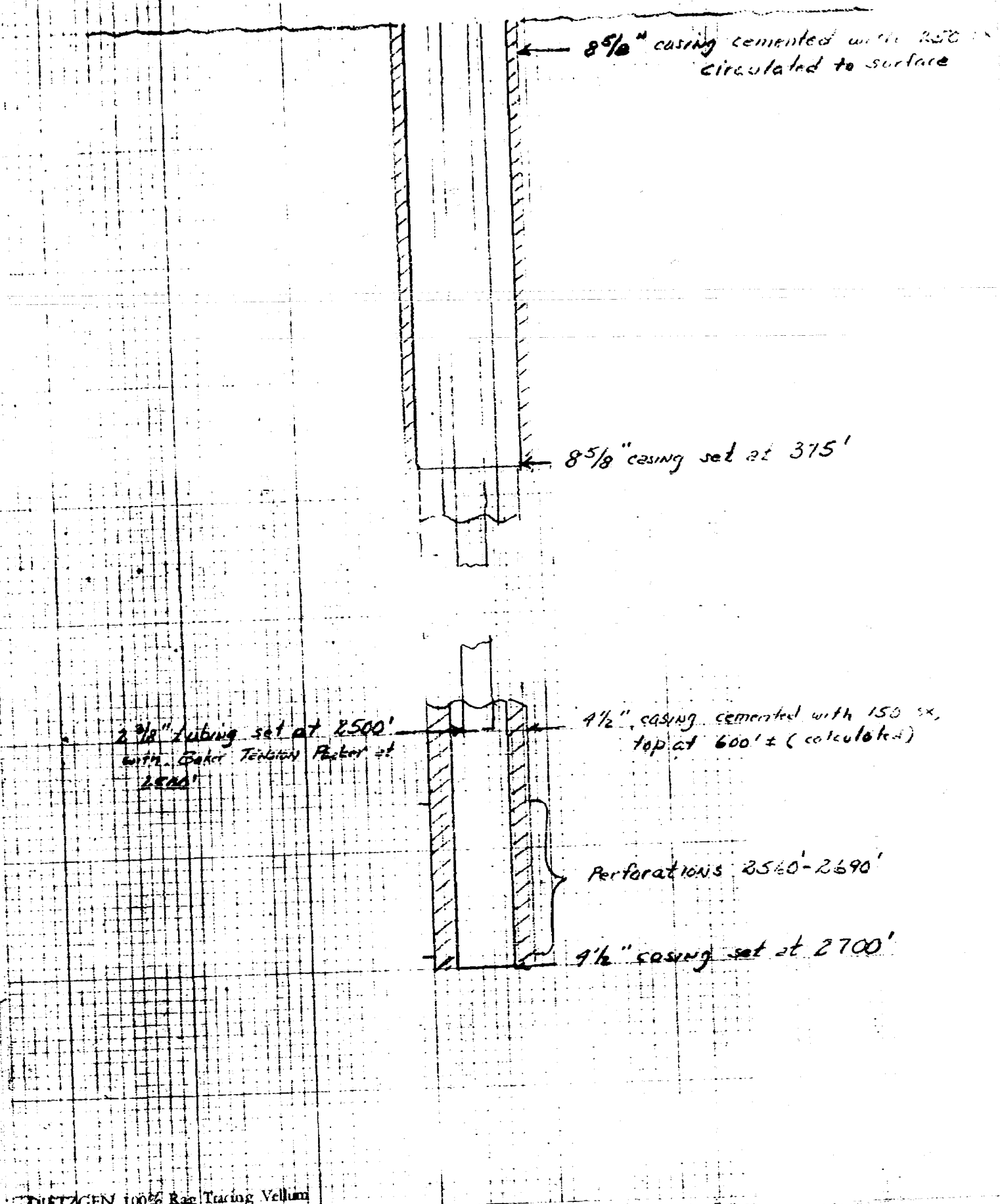
A. J. Hedden
(Signature)

Vice-President
(Title)

March 20, 1978
(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.
#1 Sander



Case 6210

EXHIBIT 4

	<u>Orla Petco #1 Pardue</u>	<u>Orla Petco #1 Guitar</u>	<u>Orla Petco #2 Sanders</u>
<u>Casing strings:</u>	8 5/8" 4 1/2"	8 5/8" 4 1/2"	8 5/8" 4 1/2"
<u>Setting depth:</u>	375' 3,445'	402' 2,438'	372' 2,420'
<u>Sacks of cement:</u>	275 330	250 125	250 125
<u>Cement top:</u>	circ. to sfc. 1533' (calc.)	circ. to sfc. 1714' (calc.)	circ. to sfc. 1696' (calc.)
<u>Total depth:</u>	4,099'	2,443'	2,435'
<u>Producing interval:</u>	2,466-74' perforations	2,438-43' open hole	2,420-35' open hole
<u>Location:</u>	660' FNL & 1900' FEL Section 6, T-23-S, R-28-E	660' FNL & EL Section 6 T-23-S, R-28-E	1650' FNL & 660' FEL Section 6 T-23-S, R-28-E

PERTINENT INFORMATION PERTAINING TO
OPLA PETCO #1 SANDERS
PROPOSED SALT WATER DISPOSAL WELL

- 1) Fluid is to be injected into Delaware sand from 2560' to 2690'.
- 2) Type of fluid injected - Salt Water
- 3) Volume to be injected - Approximately 200 barrels per day.
- 4) Source of injected fluid - Salt water produced along with oil from Operator's nearby wells which produce from the uppermost Delaware (Bell Canyon) sand.

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. 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
19 78, at Santa Fe, New Mexico, before Examiner Richard L. Stamets
NOW, on this _____ day of April, 1978, the Division
Director, having considered the testimony, the record, and the
recomendations 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 2560 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

or the annulus be
allowed to remain open

to determine leakage in the casing, tubing, or packer.

(5) That the injection well or system should be equipped with a ~~pop-off valve~~ ^{Pressure limiting switch} or acceptable ~~substitute~~ ^{device} which will limit the wellhead pressure on the injection well to no more than ~~700~~ 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

otherwise
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 *pressure limiting switch device* ~~pop-off valve~~ or acceptable ~~substitute~~ which will limit the wellhead pressure on the injection well to no more than ⁸⁰⁰~~700~~ 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.