CASE 6259: Y-F PETROLEUM INC. FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO

## CASE NO.

6259

APPlication, Transcripts, Small Exhibits,

ETC.

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STATE OF NEW ME ENERGY AND MINERALS OIL CONSERVATION State Land Office Santa Fe, New M 21 June 197	DEPARTMENT DIVISION Building exico		<del>-</del>
EXAMINER HEAR	ING		•
		-	
IN THE MATTER OF:		) )	
Application of V-F Petro for salt water disposal New Mexico.		•	SE 59
BEFORE: Richard L. Stamets			
TRANSCRIPT OF H	EARING	•	
<u>APPEARAN</u>	<u>C</u> <u>E</u> <u>S</u>	*	
For the Oil Conservation Division:	Lynn Tescher Legal Counso State Land ( Santa Fe, No	el for t Office B	he Divisi uilding

W. Thomas Kellahin, Esq.

Santa Fe, New Mexico 87501

KELLAHIN & FOX

500 Don Gaspar

For V-F Petroleum, Inc.:

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#### VICTOR F. VASICEK

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MR. STAMETS: Call Case 6259, which is in the matter of the application of V-F Petroleum, Inc., for salt water disposal, Lea County, New Mexico.

Call for appearances in this case.

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

MR. STAMETS: Stand and be sworn, please.
(Witness sworn.)

#### VICTOR F. VASICEK

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

#### DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, your occupation, and by whom you are employed?

A. Victor F. Vasicek, employed by V-F Petroleum, Inc., actually I'm the President of the company, and I'm a petroleum engineer.

Q. Would you spell your last name for the court reporter?

A. V-A-S-I-C-E-K.

Mr. Vasicek, have you previously testified

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before the Oil Conservation Division and had your qualifications as an expert witness -- petroleum engineer accepted and made a matter of record?

- A Yes, I have.
- Q. Have you made a study of and are you familiar with the facts surrounding this particular application?
  - A. Yes, I have.

MR. KELLAHIN: We tender Mr. Vasicek as an expert.

MR. STAMETS: The witness is considered qualified.

Q (Mr. Kellahin continuing.) Would you please turn to the plat outlining the particular area in question. I have marked that as Exhibit Number Seven. If you'll commence your testimony with that exhibit, Mr. Vasicek, and identify and explain to the Examiner what you're seeking to accomplish.

A. The well in the southeast quarter encircled in green, southeast quarter of Section 15, is a V-F Petroleum State 15-1, which produces salt water.

We wish to convert the well in Section 14, which is the V-F Petroleum State 14-1, we wish to convert it to salt water disposal. Both wells are Devonian or have been completed as Devonian. The State 15 is a producer; the State 14 was completed right at the water-oil

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and the second

contact and we did not make it; never did produce oil in any special quantities.

Q What's the current status of the proposed injection well?

A. It's shut in with -- still has a cobe (sic) and tubing in the hole, just shut in waiting on -- pending this order.

- Q. Has it been a Devonian producer in the past?
- A. It never was productive, no.
- Q. The source of the water to be disposed of in the disposal well is to be the well in Section 15?
  - A. That is correct.
- Q Are there any other Devonian producers that currently produce Devonian water that you wish to dispose of in the subject well?
  - A. Not at this time.
- Q. Please refer to what I have marked as Exhibit
  Number One, which is your application to the Division,
  and describe the exact location of the subject disposal
  well.
- A. Okay. It's in Unit L of Section 14, Township
  9 South, Range 32 East.
  - Q What pool are you in?
  - A It's shown as the SRR Devonian.
  - Q. Please refer to Exhibit Number Two and identify

it.

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Okay, this is our application for disposal of salt water by injection into a porous formation that is productive of oil and gas.

MR. KELLAHIN: If the Examiner please, I believe in the original C-108 that we tendered with the application there may have been a correction in the length of the tubing?

We made two corrections. One of them was approximate pressure as to which we request it be a maximum, and I think we'll have good pressure on this well, but we do request point 2 psi per foot of depth.

The calculation of the 0.2 psi per foot of depth based upon a well of this depth is 2200 psi.

Yes, that's very close.

All right. Now, what was the second change?

The second change was the depth as to which we're going to set the tubing. We changed it to where it would be 100 feet above the perforations in which we intend to inject.

All right.

And it's correct in this exhibit that we just I made all the corrections. marked.

All right. Please refer to Exhibit Number Three and identify it.

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A. This is a plat -- I mean this is a salt water analysis which shows that --

MR. STAMETS: Excuse me, on the 108 here, it shows 2-3/8ths at 10085 and the top perforation is 11085.

That's a thousand feet.

A. Typographical error. Can you change it?

MR. STAMETS: Yeah, it's going to be 11085

feet of tubing?

A. 11085.

MR. STAMETS: Okay.

A. The preforations are 11085 -- that should be 985.

MR. STAMETS: 10985.

A. That should have been a 9 instead of a zero.

MR. STAMETS: Okay.

A. Okay. I don't think I subtracted very well.

Q. Please refer to Exhibit Number Three and identify it.

A. This is an analysis of salt water disposal, of the salt water, analysis of the Devonian formation in the State 14. In addition, there are two analyses there. We're currently disposing of this water into another well and the company that we're disposing of required this analysis, so we got analysis of the other well, which is —they call it No Pit Pete, Cleary Petroleum No Pit Pete,

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so don't be confused by the two analyses.

MR. STAMETS: So the only one we're concerned with is No. 2?

- A. No. 2, right.
- Q Please refer to Exhibit Number Four and identify it.
- A. This is a schematic diagram of our proposed installation both on the surface and the sub-surface.

  And the casing and the whole diagram of everything that's in the well.
- Q Will you fill the annular space between the tubing and casing with an inert fluid?
  - A. Yes.
  - Q And how will you monitor the surface?
  - A. By a pressure gauge on the casing.
  - Q. Will you use internally plastic-coated tubing?
  - A. Yes.
  - Q In the well?
  - A. Yes.
- Q. Please refer to Exhibit Number Five and identify it.
- A. This is a tabulation of all the wells that were drilled within a half mile radius of our proposed injection well. It shows the names of the operators, well name, and locations, depths they were drilled, the casing

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programand how they were cemented, whatever perforated and wnatever produced.

- Q Are there any fresh water sources within a half mile of the subject well?
  - A. Not to my knowledge.
- Q Have you made a study of all the casing programs and cementing programs with regards to the offsetting wells within a half mile?
  - A. Yes.
- Q. And in your opinion, Mr. Vasicek, will the disposal of the Devonian water into the subject well remain confined to the Devonian formation?
  - A. Yes, it should.
- Q Please refer to Exhibit Number Six and identify it.
- A. This is the production data of our producing well, the well that's making the water that we wish to dispose of, State 15-1. It's just the production history of the well from inception.
- Q. For the month of April, 1978, the producing well made a total of 2723 barrels of water?
  - A. That's correct.
- Q. And it is that water production you intend to dispose of in the subject well?
  - A. That is correct.

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Would you identify what I have marked as Exhibit Number Eight?

This is a gamma ray - neutron correlation log of the proposed salt water disposal well, State 14-1.

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

Yes.

Were Exhibits One through Eight prepared by Q. you directly or compiled under your direction and supervision?

A. Yes.

MR. KELLAHIN: We move the introduction of Exhibits One through Eight.

> MR. STAMETS: These exhibits will be admitted. MR. KELLAHIN: That concludes our examination.

#### CROSS EXAMINATION

BY MR. STAMETS:

Mr. Vasicek, do you expect to have to utilize pressure on this well or do you think it will take the water on vacuum?

I figure it will take the water on a vacuum. The 2200 pounds is simply as time goes on, oftentimes the SALLY WALTON BOYD
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well gets carbonated up and you have to treat them, you have to put acid down to get them to take the water, but this can happen down the road two or three years from now or ten years from now, and that's the reason for the pressure.

- Q. Will the gauge that you put on the annulus be capable of reading both positive and negative pressure?
- A. No, I wasn't intending to put a vacuum gauge on there, but I guess we could if you require it.
  - Q That would show --

- A. If it's on a vacuum.
- Q -- either way, if it's on a vacuum --
- A. Yeah, we could leave -- we could leave a -- leave the gauge screwed on there real loosely to where anybody wanted to come in there they could shut the needle valve and then put their thumb over it and they'll see whether it's sucking or not.

Because those vacuum gauge, I don't know, I think they're pretty expensive, and they always go haywire. So that's the only comment on that.

Q. Now, referring to Exhibit Number Five, there's some wells on that where there's not a great deal of information on. Maybe I should say not complete information on them. Like the Ernest Hanson SRR State A-1, the second well on there. I would judge that that well is only 4209

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feet deep, is that right?

A. Yes, sir. That was a shallow well drilled by Hanson.

- Q. And then was not drilled to the Devonian?
- A. That's correct.
- Q. Okay. Now, the next well, the Amerada well, apparently was drilled to the Devonian, but you don't indicate that it was cemented.
- Q The production string -- no, I'm not sure what happened there. I'm not sure -- I'm not sure why I don't have that on there. It should have been available.

I didn't bring my notes along on that.

SRB No. 1, they used -- well, I don't show any cement or anything. That's probably just a omission either by -- I just overlooked it.

- Q Okay. Then going on to the next well, it shows total depth 11,315 feet, but no production casing.
  - A It's a dry hole.
- Q Okay, but also there's no indication how the well was plugged.

What sort of a plug has been set above the production interval for the salt water disposal?

- A. Plug and --
- Q Same thing would be true of the next well.
- A. All right.

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A American

Q. And then the last one I have a question on is the V-F Petroleum State 15 No. 1 shows 4-1/2, 11,056, 350 sacks but no calculated cement at the top.

A. Okay, I didn't calculate at the top. Okay.

Q. I'm sure that's enough to come well above the injection interval.

A. Oh, sure.

Q. I'm not too concerned about it.

A. I can furnish these with you -- for you. I can go ahead and redo that. Let's see, there's one, two, three, there's one more thing. Oh, the Amerada well, the top of the cement on that well.

Q. Yes, that's right. As a matter of fact, all the questionable wells are located right in the --

A. I think I know what happened. I think the secretary forgot to pick it up and I overlooked it, because I had it on another sheet. Can we send you that by letter?

Q Yes, if you will. You've already testified. Everything looks all right as long as what you submit verifies that, we'll be in good shape.

A. Okay.

MR. STAMETS: Any other questions of the witness? He may be excused.

Anything further in this case? We'll take

the case under advisement.

Who do I send this to? Do I just send it the regular way?

MR. STAMETS: Send it to me, put my name on it.

(Hearing concluded.)

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#### REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, A Court Reporter, DO HEREBY
CERTIFY that the attached and foregoing 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.

Sidney F. Morrish, C.S.R.

Les Mexico Oil Conservation Commission

## STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

JERRY APODACA

NICK FRANKLIN SECRETARY August 25, 1978

POST OFFICE BOX 2008 STATE LAND OFFICE BUILDING BANTA FE, NEW MEXICO 07501 (505) 827-2434

Re: Mr. Tom Kellahin Kellahin & Fox Attorneys at Law Post Office Box 1769 Santa Fe, New Mexico	CASE NO. 6259 ORDER NO. R-5792 Applicant:
	V-F Petroleum, Inc.
Dear Sir:	
	copies of the above-referenced teres.
Yours very truly,  JOE D. RAMEY  Director	
JDR/fd	
Copy of order also sent to	): 
Hobbs OCC x Artesia OCC x Aztec OCC	
Other	A 4.1.15

#### 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. 6259 Order No. R-5792

APPLICATION OF V-F PETROLEUM INC. FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

#### ORDER OF THE DIVISION

#### BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 21, 1978, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 25th day of August, 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, V-F Petroleum, Inc., is the owner and operator of the State 14 Well No. 1, located in Unit L of Section 14, Township 9 South, Range 32 East, NMPM, SRR-Devonian Pool, Lea County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the Devonian formation, with injection into the perforated interval from approximately 11,085 feet to 11,102 feet.
- (4) That the injection should be accomplished through 2 3/8-inch plastic lined tubing installed in a packer set at approximately 10,985 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

Case No. 6259 Order No. R-5792

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 which will limit the wellhead pressure on the injection well to no more than 2200 psi.
- (6) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (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, V-F Petroleum, Inc., is hereby authorized to utilize its State 14 Well No. 1, located in Unit L of Section 14, Township 9 South, Range 32 East, NMPM, SRR-Devonian Pool, Lea County, New Mexico, to dispose of produced salt water into the Devonian formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 10,985 feet, with injection into the perforated interval from approximately 11,085 feet to 11,102 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 acceptable substitute which will limit the wellhead pressure on the injection well to no more than 2200 psi.
- (3) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.

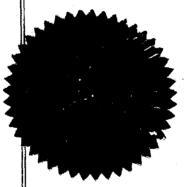
-3-Case No. 6259 Order No. R-5792

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



#### V-F Petroleum Inc.

oll & gas operations

901 vaughn building

midland, texas 79701

915 683-3344

June 30, 1978

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

V-F Petroleum Inc. Application to Convert its State 14-1, T-9-S, R-32-E SRR Devonian Field Lea County, New Mexico to Salt Water Disposal

#### Gentlemen:

Pursuant to your instructions at the hearing held July 23, 1978, please find the amended data sheet for wells located within a one-half mile radius regarding the subject application.

Hopefully, you have not been inconvenienced in any way.

Very truly yours,

// 4 //aver V. F. Vasicek

President

VFV:lcp Enclosure

WELLS LOCATED WITHIN 1/2 MILE RADIUS SRR Devonian Field Area, Lea County, New Mexico

	Amerada	Amerada	V-F Pet Inc	Major, et al	Amerada	Amerada	Ernest Hanson	Amerada	OPERATOR
	Chartier #2	Fed E-1	nc State 15-1	al Gulf St #1	SRR B-2	SRR B-1	SRR State A-l	SRR A-1	WELL
	D23-9-32	A22-9-32	1 P15-9-32	H15-9-32	J15-9-32	P15-9-32	L14-9-32	M14-9-32	LOCATION
*Plug #1 35 sx Plug #2 35 sx Plug #3 35 sx Plug #4 50 sx Plug #4 50 sx Shot off 8-5/ Plug #5 70 sx Plug #6 10 sx	10,577	11,150	11,087	11,490	11,315	11,125	4,311	11,177	TOTAL DEPTH DRILLED
11,181 10,287 3,490 2,250 /8 @ 385 316 Surfac	13-3/8	13-3/8	12-3/4	11-3/4	13-3/8	13-3/8	8-5/8	13-3/8	SIZE
- 11,294 - 10,400 - 3,600 - 2,380 and pulled - 417	340	340	361	<b>3</b> 55	338	338	1659	340	SURFACE CASING DEPTH SX SET CMT
4 0 0 0 1 1 ed	275	275	415	350	275	275	200	250	SX CMT
	circ	circ	circ	circ	circ	circ	Į052	clrc	TOP
	8-5/8	8-5/8	8-5/8	8-5/8	8-5/8	8-5/8		8-5/8	SIZE
Plug #1 Plug #3 Plug #3 Plug #4 Plug #5 Plug #6 Cut of: Plug #7 Plug #8 Plug #9	3522	7945	3551	3575	3535	3550		3516	INTERMEDIATE DEPTH S SET C
#1 25 sx #2 25 sx #3 25 sx #4 25 sx #5 25 sx #6 25 sx #6 25 sx #6 25 sx #7 25 sx #8 25 sx #9 10 sx	1500	1500	400	400	1500	1450		1500	TE CASING SX
<pre>     11,490</pre>	circ	5145	2351 (calc)	2375 (calc)	650 (calc)	644 (t sfc)	e.	684 (t sfc)	TOP
and pulled	5-1/2	5-1/2	4-1/2			5-1/2	5-1/2	5-1/2	SIZE
<b>1ed</b>	10,170	11,125	11,056	*	N O N	11,085	4,209	11,165	PRODUCTION CASING DEPTH SX SET CMT
	600	900	350	plugging record	plugging record	900	150	900	CASING SX CMT
	7516 (temp)	7133 (temp)	8000 (calc)	ing	ing	7145 (temp)	(calc)	7927 (temp)	TOP
9202 - 9214	10,170 - 10,436 он	9208 - 9218 11,125 - 11,150 он	11,057 - 11,087 он	ы О м В	N O N E			11,103	PERFORATED INTERVAL

WELLS LOCATED WITHIN 1/2 MILE RADIUS SRR Devonian Field Area, Lea County, New Mexico

				3	ยน	10 sx	Plug #9					¢.				
· · · · ·			Led	and pulled	4,878 3,600 @ 1,159 @ 1,160 355	25 sx 25 sx 25 sx 25 sx	Plug #5 Plug #6 Plug #6 Cut off Plug #7 Plug #8			led 7	- 2,380 and pulled - 417 ce	2,250 /8@385 316 Surfa	Shot off 8-5, Plug #5 70 sx Plug #6 10 sx	יטיטי יט		,
9202 - 9214	A.S.				101	2 2 2 2		*		4000	- 11,294 - 10,400 - 3,600	سو سو	# # # 1 35 35 35	* סיטיטי		
10,170 - 10,436 он	7516 (temp)	600	10,170	5-1/2	circ	1500	3522	8-5/8	circ	275	340	13-3/8	10,577	D23-9-32	Chartier #2	Amerada
9208 - 921 11,125 - 11,150 он	7133 (temp)	900	11,125	5-1/2	5145	1500	7945	8-5/8	circ	275	340	13-3/8	11,150	A22-9-32	Fed E-1	Amerada
11,057 - 11,087 он	8000 (calc)	350	11,056	4-1/2	2351 (calc)	400	3551	8-5/8	circ	415	361	12-3/4	11,087	P15-9-32	State i5-1	V-F Pet Inc
<b>z</b> 0	ugging record	plugging record	*		2375 (calc)	400	3575	8-5/8	circ	350	355	11-3/4	11,490	н15-9-32	Gulf St #1	Major, et al
Z 0 2	ugging record	Σď	*NONE		650 (calc)	1500	3535	8-5/8	circ	275	338	13-3/8	11,315	J15-9-32	SRR B-2	Amerada
	7145 (temp)	900	11,085	5-1/2	644 (t sfc)	1450	3550	8-5/8	circ	275	338	13-3/8	11,125	P15-9-32	SRR B-1	Amerada
	(calc)	150	4,209	5-1/2					1052	200	1659	8-5/8	4,311	L14-9-32	SRR State A-1	Ernest Hanson
11,103	7927 (temp)	900	11,165	5-1/2	684 (t sfc)	1500	3516	8-5/8	circ	250	340	13-3/8	11,177	M14-9-32	SRR A-1	Amerada
PERFORATED INTERVAL	TOP	CASING SX CMT	DEPTH SX SET CMT	SIZE	CMI	SX CMT	INTERMEDIATE CASING DEPTH SX SET CMT	SIZE	TOP	CASING CMT	DEPTH SET	SIZE	DEPTH DRILLED	LOCATION	WELL	OPERATOR
	,			,			1.7									-

### OIL CONSERVATION COMMISSION Hobbs DISTRICT

OIL CONSERVATION COMMISSI	ION	DATE May 25, 1978
BOX 2088 SANTA FE, NEW MEXICO	1. Al 29 1911	RE: Proposed MC Proposed DHC Proposed NSL Proposed SWD X Proposed WFX Proposed PMX
		11000000 1111
Gentlemen:		
I have examined the	application dated	
for the V-F Petroleum		#1-L 14-9-32
Operator	Lease and Wel	1 No. Unit, S-T-R
and my recommendations and 0.KJ.S.	re as follows:	
		X + '
	<	
		Yours very truly,
		O. Sel

#### V-F Petroleum Inc.

oil & gas operations 901 voughn building

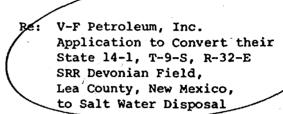
midland, texas 79701

915 683 3344

lile

May 23, 1978

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



Attention Joe D. Ramey, State Petroleum Engineer and Secretary - Director

Gentlemen:

We respectfully request permission to convert the subject well to salt water disposal. We propose to inject water into the Devonian formation and since this formation is productive of oil and gas from the Devonian in the offset well, a hearing is necessary if our interpretation of rule 701-A is correct.

In accordance with rule 701-B, please find enclosed the following documents relating to this application:

- 1. A plat showing the proposed injection well and other wells within 2 miles fulfilling requirements in item #1.
- 2. An electric log of the proposed disposal well.
- 3. A diagrammatic sketch of the proposed disposal well giving all pertinent information regarding the down hole equipment and condition.
- 4. Form C-108 giving all pertinent information relative to the disposal well and proposed operation.

In addition we are sending a water analysis of the fluid to be injected and a tabulation of all wells drilled, completed and/or plugged within one-half mile of the proposed disposal well.

We thank you for your consideration.

Very truly y	ours,
	BEFORE EXAMINER STAMETS  k OIL CONSERVATION COMMISSION
President	V-F EXHIBIT NO.
	CASE NO. 6259
	Submitted by
	Hearing Date 21 Jun 28

VFV/gn **Enclosures**  V-F Petroleum, Inc. Page 2

Copies of letter, Form C-108, and plat to:

Kellahin and Kellahin 500 Don Gaspar Santa Fe, New Mexico 87501

Mrs. Lewis Cooper Portales, New Mexico

Amoco P. O. Drawer A Levelland, TX 79336

Yates Petroleum 207 South 4th Yates Building Artesia, New Mexico 88210

R. B. Stallworth
P. O. Box 3310
Midland, TX 79701

Phillips
Phillips Building
4th Street & Washington, Rm B-2
Odessa, TX 79760

New Mexico Oil Conservation Commission P. O. Box 1980 Hobbs, New Mexico 88240

Commissioner of Public Lands P. O. Box 1148 Santa Fe, New Mexico 87501

#### NEW MEXICO OIL CONSERVATION COMMISSION

#### APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

CPERATOR					ADDAE		<del></del>		<del></del>	<del></del>		
V-F Petrole	um, Inc.	,			90	l Vai	aghn B	uilding				
-EASE NAME			<del></del>	WELL HO.	FIELD					٦	OUNTY	
State 14				1	SRI	R Dev	vonian				Lea	
-DEATION				L	<del></del>					<del></del> .	<del></del>	
UHLT	LETTER		ELL 18 1	LOCATED 16	50	ET FRO	M THE	South ,	INE AND_	330	,	EET PROM THE
	-							<del></del>	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,			
West LINE.	SECTION 14	101	WHEHIP	98	RANGE	2E	N I	4PM,				
					AND TUBING		<del></del>					
NAME OF STRI	ING	SIZE	SETT	ING DEPTH	SACKS	EMEN	T	TOP OF CEME	NT	TOP	MABLEC	INED BY
F	١,	0.0441	١ ,	051	450			_	j			5 <b>4</b>
40#J		2-3/4"	3	851	450	SX		surface		<u>C11</u>	culat	ea
24# - 28# J-	-55	8-5/8"	35	04'	400			1425'		cal	culat	ions
-DNG STRING												
17# - N-80	1	5-1/2"	11,	117'	200		1 :	95951		cal	culat	ions
TUBING					HAME, MODEL	AND DE	PTH OF TU	BING PACKER		<del></del>		
4.70# N-80	<u></u>	2-3/8"	Į į ų	85'	Baker N	<u>lo</u> del	Rsi	ngle-grip			-	
MAME OF PROPOSED INJEC	TION FORMATION		-		TOP OF	FORMA	TION		BOTTOM	OF FORM	TION	
Devonian				£		1,08			11	,102'		
THEOLEN THEOLEN THE	PRING, CASING, OR	ANNULUS?		_		1		ERVAL(8) OF INJE				
tubing	LED ZOS	I LE ANSWER 10	NO 50	perfora			11,08	5' - 11,10				PAYED 14 AP-
IS THIS A NEW WELL DRIE DISPOSAL?		i					LET DRIEE	107	ZONE OT	4É 7		DRATED IN ANY DSED INJEC-
NO LIST ALL SUCH PERFORAT	ED INTERVALS A			Devoniar					<u> </u>	No	<u> </u>	
not applicab	ماد					•						3-
SEPTH OF BOTTOM OF DEL	EPEST		DEPTH	OF BOTTOM OF	MEXT HIGHER			DEPTH OF TOP	- OF MEXT	LOWER	<del></del>	
THESE WATER ZONE IN TH		•		GAS ZONE IN T O' (Penns				None	DHE IN TH	IŞ AREA		
ANTICIPATED DAILY MIN		T MAXIMUM			ED TYPE SYSTE		IS INJECT	ON TO BE BY GRAY	VITY OR '	APPROX	. PRESSU	E (P810 )
issis.)	150	7000	·	close	ed s			essure		<b>*</b> 2		
ANSWER YES OR NO WHET! ERALIZED TO BUCH A DEG!	HER THE FOLLOW REE AS TO BE UN	ING WATERS ARI	E MIN-	WATER	TO BE DISPOSE		HATURAL I	VATER IN DISPO-	ARE WAT	ER AHALY	BES ATTA	HEOT
STOCK, IRRIGATION, OR O'		yes			onian		Deve	nian	y€	es		
MAME AND ADDRESS OF SU	. 1	e450Y									•	-
State Land (	(surface o	wwer - Mi						Mexico)				
			_	_		WELL.						
Amoco, P. O.	. Drawer A	, Levell	and,	Texas	79336		<del></del>		<del></del>	<del></del>	<u> </u>	
Yates Petrol		Couth At	. v.	atoc Puil	ding Av	toci	a MM	n rege				
Tates rector	.eum, 207	SOUCH 4C	11, 10	aces bull	Luling, Al	LESI	a, IMM	88210				
R. B. Scallw	orth P.	O. Box 3.	310.	Midland	. TX 797	01			. •			
Phillips, Ph	nillips Bu	ilding,	4th	Street &	Washingt	on,	Rm B-	2, Odessa,	Texas	s 797	60	
*This well w		water on		um.	17.40.40			***			•	
SENT TO EACH OF THE FOL		· SURFACE DWN	LM		EACH OF	WELL	WITHIN C	HE-HALF MILE				i
Yes	S ATTACHED TO	Yes	5	<u> </u>	ELECTRI	·	Yes	·	MAERAN	MATIC SKI	754 65 4	er ( )
THE APPLICATION (SEE RI	ULE 701-B)	! !			.				~			
Yes	tariat est	Yes					Yes			Yes	<del></del>	
I	nereby certify	that the info	ermatio	on above is t	rue and com	olete t	o the bei	st of my knowle	edge and	belief.		
				Pre	sident				5-1	18-78		
(S	ignature)	<del></del>			(Ti	le)	<del></del> -				Date)	
			-JJ								·	ion the New
NOTE: Should waivers Mexico Oil Con		•									_	# *
at the end of the										4.6	19.0	
the application u	will be set for h	earing, if the	ipplico	nt so réquests	. SEE RULE	701.						

Martin Water Laboratories, Inc ( G. 14-1
SULT OF WATER

RESULT OF WATER ANALYSES

406 W, ILLINOIS MIDLAND, TEXAS 78701 PHONE 683-4821

		LABORÁTORY NO	777154	
ro: Mr. Vic Vasicek		SAMPLE RECEIVED	7-20-77	
901 Vaughn Building, Midla	nd, TX	RESULTS REPORTE	7-21-77	
W - P Dotwoloum		Chaho 14.1	•	
COMPANY V - F Petroleum	CDD (Des	E State 14-1		
FIELD OR POOL	SKK (Dev	onian)		
SECTION BLOCK SURVEY	COUNTY	s	TATE NM	
SOURCE OF SAMPLE AND DATE TAKEN:				
No. 1 Disposal water - taken fro				
No. 2 Recovered water - taken fr	om State 14	<del>-1. 7-20-77</del>		<del></del>
HO. 3		<del></del>		
RO. 4	<del></del>		<del>,</del>	
REMARKS:	/	<u> </u>	<u> </u>	
CHEMICAL	AND PHYSICA	L PROPERTIES		
	NO. 1/	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F.	1.0885	1.0502		
pH When Sampled	<del>                                     </del>	1/		
pH When Received	6/9	4.9		
Bicarbonate as HCO3	\215	34		
Supersaturation as CaCO3	<del>                                     </del>			
Undersaturation as CaCO3	<del>                                     </del>			1
Total Hardness as CaCO3	30.750	8,100		<u> </u>
Calcium as Ca	10/160	2.240		<del></del>
Magnesium as Mg	1/.300	608		<u> </u>
Sodium and/or Potassium	44.060	24,052		
Sulfate as SO4	176	1,229		7
Chloride as CI	89.484	41,901	<u> </u>	
Iron as Fe	10.1	189		
Barium as Ba	/			
Turbidity, Electric	<del></del>			
Color as Pt	1.15 004	11		<del> </del>
Total Solids, Calculated Temperature °F.	145,395	70,064		
Carbon Dioxide, Calculated	<del> </del>	<u> </u>		<del> </del>
Dissolved Oxygen, Winkler	1	<del>                                     </del>		<u> </u>
Hydrogen Sulfide		<del>                                     </del>	<del></del>	
Resistivity, ohms/m at 77° F.	0\0			
Suspended Oil	0.07	0.121	<del>/</del>	
Filtrable Solids as mg/1	<del> </del>		<del>/</del>	<del> </del>
Volume Filtered, ml	<del> </del> -	<del></del>	<del>/</del>	<b>-</b>
		<b>-\</b>	<del></del>	<del>                                     </del>
		<b>\</b>		
N. Control of the Con			···	
Results (	Reported As Millig	rams Per Liter	· · · · · · · · · · · · · · · · · · ·	<del></del>
Additional Determinations And Remarks The above			ce of any in	compatibilit
between these two waters that would	d result in	any precipitat	ion, scaling	or other
detrimental influence on injection	quality.			Žį.
			4	
			,,	

cc: Cleary Petroleum Company Attn. Mr. Rice

P. O. BOX 1468 MONAHANS, YEXAS 79756 PHONE 943-3234 OR 363-1040

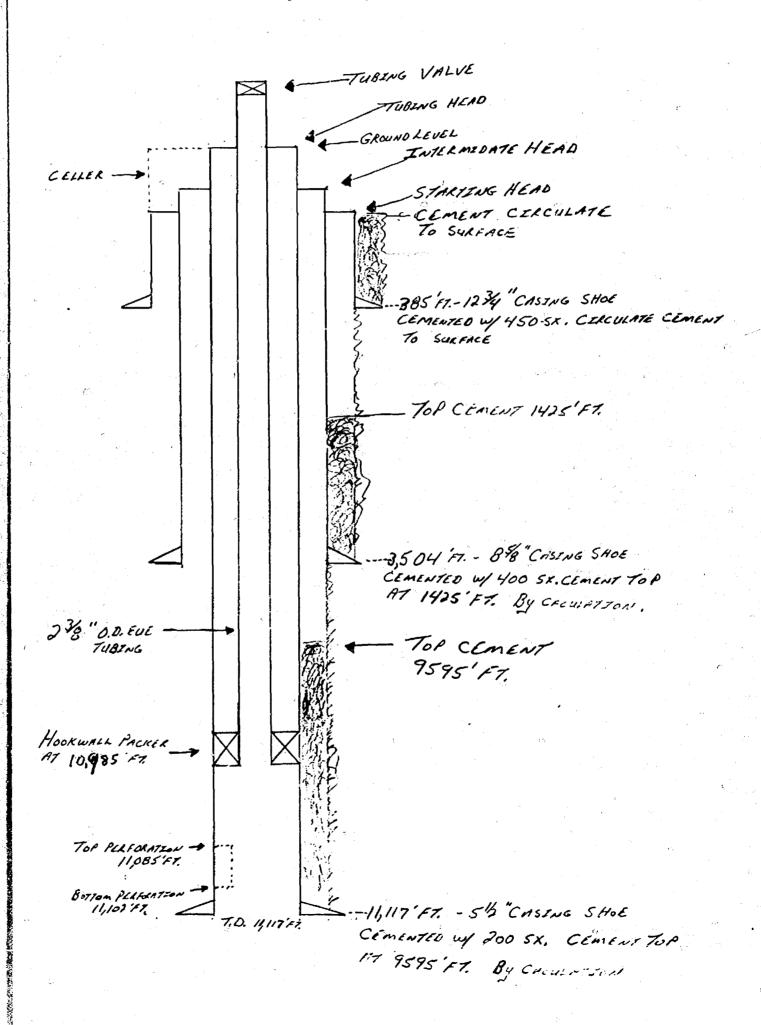
Waylan C. Martin, M. A.

SCHEMATIC DIAGRAM

V-F Petroleum, Inc.
State 14-1
Sec. 14 T9S R32E
Lea County, New Mexico

BEFOR	E EXAMINER STAMETS	
OIL CON	SERVATION COMMISSIO	N
V-F	EXHIBIT NO.	
CASE NO.	6259	
Submitted	by	
Hearing D	ate 12/ Jun 28	

(diagram is not drawn to scale)



WELLS LOCATED WITHIN 1/2 MILE RADIUS
SRR Devonian Field Area, Lea County, New Mexico

												* * *	\$			6259	CASE NO.
8	ž.		₹ <i>T</i> -						<i>7</i> 7						Nission	U-F EXHIBIT NO. T	V-F EX
5 OH 9214	10,170 - 10,436 он 9202 - 9214	7516 (temp)	600	10,170	5-1/2	circ	1500	3522	8-5/8	circ	275	340	13-3/8	10,577	D23-9-32 METS	Chartier D23 BEFORE EXAMINER STAMETS	Amerada BEFORE E
9218 OH	9208 - 9218 11,125 - 11,150 OH	7133 (temp)	900	11,125	5-1/2	5145	1500	7945	8-5/8	circ	275	340	13-3/8	11,150	A22-9-32	Fed E-1	Amerada
OH .	11,057 - 11,087 он		350	11,056	4-1/2	2351 (calc)	400	3551	8-5/8	circ	415	361	12-3/4	11,087	P15-9-32	State 15-1	V-F Pet Inc
es ·	z O z					2375 (calc)	400	3575	8-5/8	circ	350	355	11-3/4	11,490	н15-9-32	Gulf St #1	Major, et al
	NONE	,	. છ	N O N E		650 (calc)	1500	35 35 35	8-5/8	circ	275	3 3 8	13-3/8	11,315	J15-9-32	SRR B-2	Amerada
	<b>~</b> .		•	11,085	5-1/2	644 (t sfc)	1450	3550	8-5/8	circ	275	338	13-3/8	11,125	P15-9-32	SRR B-1	Amerada
		(calc)	150	4,209	5-1/2	•				1052	200	1659	8-5/8	4,311	L14-9-32	SRR State A-1	Ernest Hanson
e de la companya de l	11,103	7927 (temp)	900	11,165	5-1/2	684 (t sfc)	1500	3516	8-5/8	circ	250	340	13-3/8	11,177	M14-9-32	SRR A-1	Amerada
	PERFORATED INTERVAL	TOP	CASING SX CMT	PRODUCTION CASING DEPTH SX SET CMT	SIZE	TOP	ATE CASI	INTERMEDIATE CASING DEPTH SX SET CMT	SIZE	TOP	SX CMT	SURFACE CASING DEPTH SX SET CMT	SIZE	TOTAL DEPTH DRILLED	LOCATION	WELL	OPERATOR
									pr	,							•

#### V-F PETROLEUM, INC.

#### Production Data State 15-1

#### SRR Devonian Field Lea County, New Mexico

Month	Year	ВО	BW	MCF Gas
Dec.	1976	1206	0	Nil
Year Total		1206	0	, 11
Cummulative		1206		H
Jan. Feb. Mar. Apr. May June July Aug. Sep. Oct. Nov. Dec.	1977	2798 2227 2732 2461 2142 1985 1838 1842 709 1532 1105 1168	0 0 0 0 0 0 0	11 11 11 11 11 11 11 11
Year Total		22,539	0	n
Cummulative		23,745	0	
Jan.	19	958	0	63 - 81
Feb.	10	2465	0	
Mar.	10	2223	512	
Apr.	10	2650	2723	
Year to Date		8,296	3235	H H
Cummulative		32,041	3235	

BEFO	RE EXAMINER STA	METS
OIL CON	ISERVATION COM	MISSION
U-F	EXHIBIT NO.	2
	6259	
Submitted	by	
Hearing !	Date	

### PLAT SHOWING ALL WELLS WITHIN A TWO MILE RADIUS

	produce tw		BEFORE EXAMINER STAMETS OIL CONSERVATION COMMISSION  W-F EXHIBIT NO. 1  CASE NO. 6259  Submitted by	
		Dro Kin	Hearing Date	
	(	, W.		
		\		
	3	1		
^				
	Harding	Phillips		
		÷	er	
7	Enserch	" Gulf	HBC -	
<b>†</b>		<b>♦</b>		
Amoco	P.R.Bass		Cleary Apache Injection Well	
// Amoco	Yates 💠	Amoco Duncan Miller	Stallworth	
Inexco	V-F	V-F Stall-worth	Silver Phillips	
21	Phillips	V-F Phillips	Phillips	
	Phillips	o phillips	Phillips 0	
S.F. Jensen	27 Mary Davis	Phillips	Shell Phillips	
Annemar Duncan	ie	Phillips	Phillips	

- - Denotes Devonian Producer
- - Denotes Bough "C" Producer
- Denotes Mississippian
  Producer

V-F Petroleum, Inc. SRR DEVONIAN FIELD AREA T-9-S R-32-E Lea County, New Mexico

> Scale 1" = 4000'

CASE 6256: Application of Texaco Inc. for amendment of Commission Order No. R-5530, non-standard locations, and an administrative procedure, Lea County, New Mexico. Applicant, in the above-styled cause, seeks to amend paragraph (14) on Page 7 of Commission Order No. R-5530 by removing or amending the allowable restriction therein subject to lease line agreements.

> Applicant also seeks approval of nine injection wells at non-standard locations not closer than 10 feet to the Central Vacuum Unit boundary in the following units: Unit B of Section 12, Township 18 South, Range 34 East; Units D, E, L, and M of Section 6, Township 18 South, Range 35 East; Unit M of Section 31, Township 17 South, Range 35 East; and Units N, O, and P of Section 36, Township 17 South, Range 34 East, Vacuum Grayburg-San Andres Pool, Lea County, New Mexico.

> Applicant further seeks an administrative procedure for approval of additional producing and injection wells at orthodox and unorthodox locations.

CASE 6257:

Application of Benchmark Oil Company, Ltd., for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Wright Well No. 1 to be located 1980 feet from the South line and 660 feet from the East line of Section 30, Township 9 South, Range 33 East, Flying M-San Andres Pool, Lea County, New Mexico, the E/2 SE/4 to be dedicated to the well.

CASE 6258:

Application of Atlantic Richfield Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Devonian, McKee, and Ellenburger formations underlying the S/2 of Section 21, Township 22 South, Range 36 East, Lea 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 5911: (Reopened and Readvertised)

In the matter of Case 5911 being reopened pursuant to the provisions of Order No. R-5353-B which order established temporary special pool rules for the Chacon-Dakota Associated Pool, Rio Arriba and Sandoval Counties, New Mexico. All interested parties may appear and show cause why said pool should not be reclassified as an oil pool to be governed by statewide rules.

CASE 6259:

Application of V-F Petroleum, Inc., for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Devonian formation through the perforated interval from 11,085 feet to 11,102 feet in its State 14 Well No. 1 located in Unit L of Section 14, Township 9 South, Range 32 East, SRR-Devonian Pool, Lea County, New Mexico.

CASE 6260:

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 480-acre non-standard gas proration unit comprising the N/2 and SE/4 of Section 2, Township 22 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to applicant's State J-2 Wells Nos. 7, 9 and 12 located in Units J, G and D, respectively, of said Section 2.

CASE 6261:

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 320-acre non-standard gas proration unit comprising the W/2 of Section 20, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be simultaneously dedicated to applicant's State C-20 Wells Nos. 5 and 6, located in Units M and C, respectively, of said Section 20.

CASE 6262:

Application of Adobe Oil & Gas Corporation for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Mississippian formation underlying the SE/4 of Section 17, Township 14 South, Range 36 East, Austin Field, Lea 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.

Application of Adobe Oil & Gas Corporation for compulsory pooling, Lea County, New Mexico. in the above-styled cause, seeks an order pooling all mineral interests in the Mississippian formation underlying the NE/4 of Section 17, Township 14 South, Range 36 East, Austin Field, Lea 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.

#### V-F Petroleum Inc.

oil&gasoperations

901 vaughn building

midland, texas 79701

915 683-3344

May 23, 1978

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

V-F Petroleum, Inc. Application to Convert their State 14-1, T-9-S, R-32-E SRR Devonian Field, Lea County, New Mexico, to Salt Water Disposal

Attention Joe D. Ramey, State Petroleum Engineer and Secretary - Director

#### Gentlemen:

We respectfully request permission to convert the subject well to salt water disposal. We propose to inject water into the Devonian formation and since this formation is productive of oil and gas from the Devonian in the offset well, a hearing is necessary if our interpretation of rule 701-A is correct.

In accordance with rule 701-B, please find enclosed the following documents relating to this application:

- 1. A plat showing the proposed injection well and other wells within 2 miles fulfilling requirements in item #1.
- 2. An electric log of the proposed disposal well.
- 3. A diagrammatic sketch of the proposed disposal well giving all pertinent information regarding the down hole equipment and condition.
- 4. Form C-108 giving all pertinent information relative to the disposal well and proposed operation.

In addition we are sending a water analysis of the fluid to be injected and a tabulation of all wells drilled, completed and/or plugged within one-half mile of the proposed disposal well.

We thank you for your consideration.

President

Charles the company of the company o

VFV/gn Enclosures V-F Petroleum, Inc. Page 2

Copies of letter, Form C-108, and plat to:

Kellahin and Kellahin 500 Don Gaspar Santa Fe, New Mexico 87501

Mrs. Lewis Cooper Portales, New Mexico

Amoco
P. O. Drawer A
Levelland, TX 79336

Yates Petroleum 207 South 4th Yates Building Artesia, New Mexico 88210

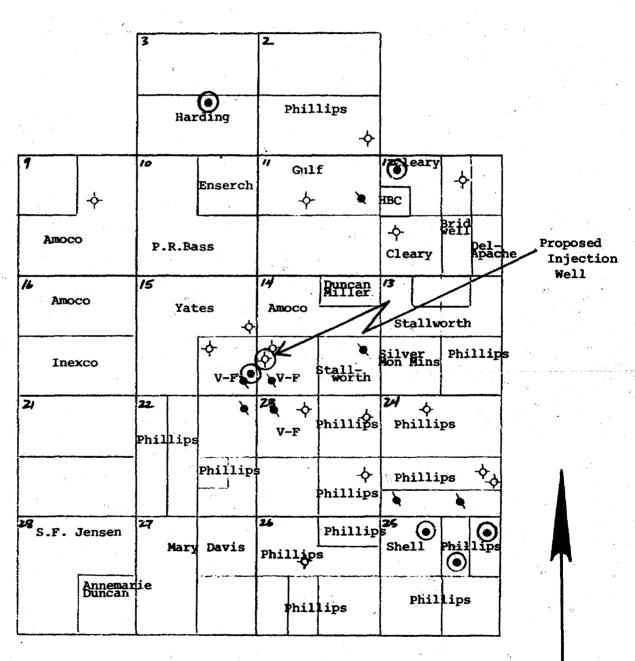
R. B. Stallworth P. O. Box 3310 Midland, TX 79701

Phillips
Phillips Building
4th Street & Washington, Rm B-2
Odessa, TX 79760

New Mexico Oil Conservation Commission P. O. Box 1980
Hobbs, New Mexico 88240

Commissioner of Public Lands P. O. Box 1148 Santa Fe, New Mexico 87501

## PLAT SHOWING ALL WELLS WITHIN A TWO MILE RADIUS



- Denotes Devonian Producer

- Denotes Bough "C" Producer

- Denotes Mississippian
Producer

V-F Petroleum, Inc. SRR DEVONIAN FIELD AREA T-9-S R-32-E Lea County, New Mexico

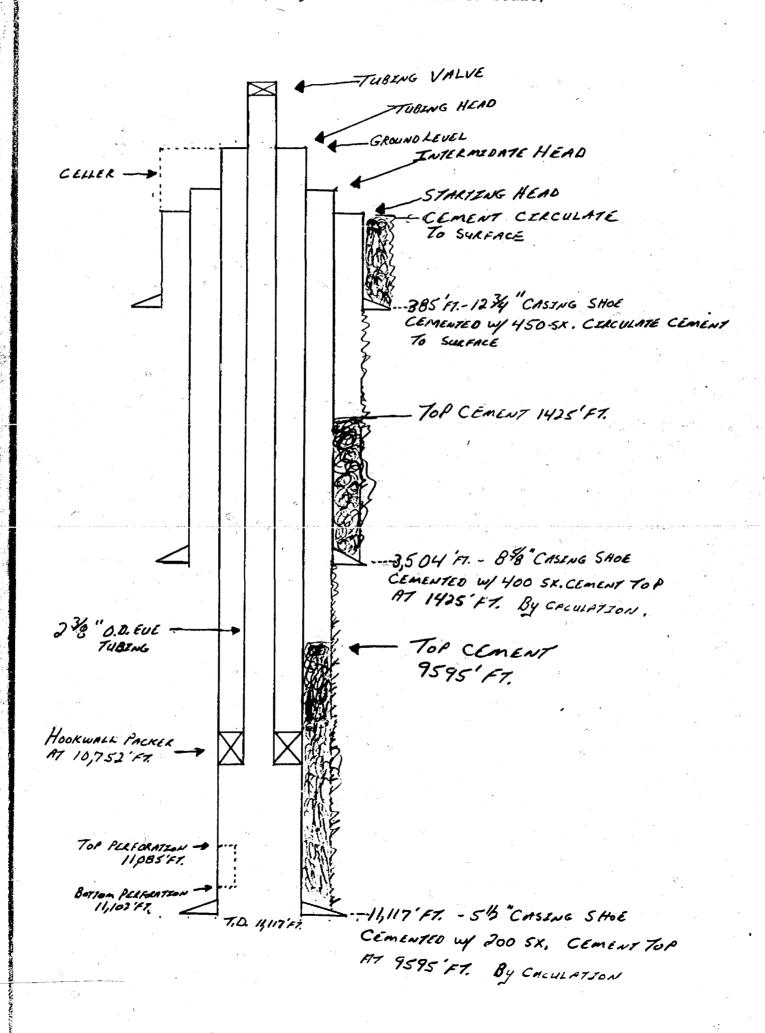
> Scale 1" = 4000'

#### SCHEMATIC DIAGRAM

V-F Petroleum, Inc.

State 14-1 Sec. 14 T9S R32E Lea County, New Mexico

(diagram is not drawn to scale)



#### NEW MEXICO OIL CONSERVATION COMMISSION

#### APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

CARRAGA									
V-F Petroleum, Inc					901 V	aughn	Building		
LEASE NAME	· ·		WELL NO.		FIELD				COUNTY
State 14			1		SRR D	evonia	an ·		Lea
LOCATION			L		1			<del></del>	
UNIT LETTER	L ; WE	LL IS I	LOCATED 165	50	FEET P	ROM THE	South	INE AND	330 FEET FROM THE
West LINE, SECTION	14 TOW	NSHIP	9S	RA	NGE 32E	<del></del>	NMPM.		
			·	AND	TUBING DA	TA			
NAME OF STRING	SIZE	SETT	ING DEPTH	s	ACKS CEME	ENT	TOP OF CEME	NT	TOP DETERMINED BY
40#J	12-3/4"	3	85'		450 sx		surface		circulated
24# - 28# J-55	8-5/8"	35	04'		400		1425'		calculations
LONG STRING				<del></del>		~			
17# - N-80	5-1/2"	11,	117'	NAME.	200	DEPTH OF	9595 TUBING PACKER		calculations
4.70# N-80	2-3/8"	10,	752'				single grip		
NAME OF PROPOSED INJECTION FORMA	TION		<del></del>		TOP OF FOR	MATION	<del></del>	SOTTOM C	F FORMATION
Devonian			•			0851		11,	102'
IS INJECTION THROUGH TUBING, CASIN	GOR ANNULUS?		PERFORATIONS	OR OF	EN HOLE!	ROPOSED	INTERVAL(S) OF INJE	CTION	
tubing			perfora				085' - 11,10		
IS THIS A NEW WELL DRILLED FOR DISPOSAL?			R WHAT PURPOS				ILLED?	HAS WELL ZONE OTH TION ZON	EVER BEEN PERFORATED IN ANY ER THAN THE PROPOSED INJEC- ET
NO LIST ALL SUCH PERFORATED INTERVAL			Devoniar						No
not applicable					JANEELE EN	-n			
PRESH WATER ZONE IN THIS AREA		OIF OF	of BOTTOM OF R GAS ZONE IN T O' (Penns	THIS A	REA		DEPTH OF TO OIL OR EAS 2 None		LOWER 5 AREA
ANTICIPATED DAILY   MINIMUM   INJECTION VOLUME   (BBLS.)	MAXIMUM		OPEN OR CLOS			IS INJ	ECTION TO BE BY GRA	VITY OR "	APPROX. PRESSURE (PSIO
1 100	7000		close			1	*pressure		*2500
ANSWER YES OR NO WHETHER THE FOL ERALIZED TO SUCH A DEGREE AS TO B STOCK, IRRIGATION, OR OTHER GENER.	LOWING WATERS AR E UNFIT FOR DOMES AL USE _	E MIN-	WATER		DISPOSÉD O	SALZ	ONE	1	TOBHOATTA BEBYLAKA RI
yes Devonian Devonian yes					S				
State Land (surface owner - Mrs. Lewis Cooper, Portales, New Mexico)									
LIST NAMES AND ADDRESSES OF ALL	OPERATORS WITHIN	NE-HA	LF (1) MILE OF	THIS	INJECTION WE	LL			·
Amoco, P. O. Drawe	r A. Levell	and.	Texas	7933	86				
					<del></del>		<del></del>	<del>,,</del>	€°
Yates Petroleum, 2	07 South 4t	h, Y	ates Bui	ldin	ng, Arte	sia,	NM 88210		
	, i i i i i i i i i i i i i i i i i i i						•	-	
R. B. Stallworth,	P. O. Box 3	310,	Midland	, TX	79701		·		
Phillips, Phillips	Building,	4th	Street &	Was	hington	, Rui	B-2, Odessa,	Texas	79760
								1	v.
*This well will ta HAVE COPIES OF THIS APPLICATION B SENT TO EACH OF THE FOLLOWING	ke water on	Vac	uum.		EACH OPEN	TOR WITE	IIN ONE-HALF MILE		
					OP THIS WE	LL			
Yes	Ye.				ELECTRICAL		Yes	DIAGRAMS	MATE SKETCH OF WELL
THE APPLICATION (SEE RULE 701-B)	Ye	e .			1		Yes	1	Yes
Yes Oheathy of			on above in	•m= -	ad complet			ladae and	
The by certify that the information above is true and complete to the best of my knowledge and belief.									
11.41/16	inle		Pro	esid	lent			5-1	8-78
1/7/1/1/19	<del></del>	-							

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.

To: Mr. Vic Vasicek 901 Yaughn Building, Mid  COMPANY V - F Petroleum  FIELD OR POOL  SECTION BLOCK SURVEY:  SOURCE OF SAMPLE AND DATE TAKEN:  NO. 1 Disposal water - taken fi  NO. 2 Recovered water - taken i  NO. 3  NO. 4  REMARKS:	SRR (Devon COUNTY TOM No Pit Pete	ABORATORY NO AMPLE RECEIVED _ ESULTS REPORTED.  State 14-1 ian) Lea st 7-20-77 7-20-77	777154 7-20-77 7-21-77	406 W. ILLINOIS MIDLAND, TEXAS 797 PHONE \$83-4521
TO: Mr. Vic Vasicek  901 Vaughn Building, Mid  COMPANY V - F Petroleum  FIELD OR POOL  SECTION BLOCK SURVEY  SOURCE OF SAMPLE AND DATE TAKEN:  NO. 1 Disposal water - taken f;  NO. 2 Recovered water - taken f;  NO. 3  NO. 4  REMARKS:  CHEMICAI  Specific Gravity at 60° F.  pH When Sampled  pH When Received	LAND PHYSICAL P NO. 1 1.0885	State 14-1 ian) Lea st . 7-20-77 . 7-20-77	777154 7-20-77 7-21-77	MIDLAND, TEXAS 797 PHONE 693-4521
TO: Mr. Vic Vasicek  901 Vaughn Building, Mid  COMPANY V - F Petroleum  FIELD OR POOL  SECTION BLOCK SURVEY  SOURCE OF SAMPLE AND DATE TAKEN:  NO. 1 Disposal water - taken f;  NO. 2 Recovered water - taken f;  NO. 3  NO. 4  REMARKS:  CHEMICAI  Specific Gravity at 60° F.  pH When Sampled  pH When Received	LAND PHYSICAL P NO. 1 1.0885	State 14-1 ian) Lea st . 7-20-77 . 7-20-77	777154 7-20-77 7-21-77	MIDLAND, TEXAS 797 PHONE 693-4521
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Specific Gravity at 60° F. pH When Sampled pH When Received	No. 1 1.0885	NO. 2	NO. 3	NO. 4
Specific Gravity at 60° F. pH When Sampled pH When Received	No. 1 1.0885	NO. 2	NO. 3	NO. 4
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pH When Sampled pH When Received		1.0302		
pH When Received	6.9		····	
		4.9		<del></del>
	215	34	·· <del>···································</del>	
Supersaturation as CaCO3				
Undersaturation as CaCO3			<del></del>	<del></del>
Total Hardness as CaCO3	30,750	8,100		r.
Calcium as Ca	10.160	2,240		
Magnesium as Mg	1,300	608		
Sodium and/or Potassium	44.060	24,052		
Sulfate as SQ4	176	1,229		
Chloride as C1	89.484	41.901		<del></del>
Iron as Fe Barium as Ba	10.1	189		
Turbidity, Electric	<del>,   , </del>	<del> </del>		
Color as Pt			:	
Total Solids, Calculated	145,395	70,064		
Temperature °F.				
Carbon Dioxide, Calculated				
Dissolved Oxygen, Winkler				
Hydrogen Sulfide	0.0	0.0		
Resistivity, ohms/m at 77° F.	0.071	0.121	<del> </del>	
Suspended Oil Filtrable Solids as mg/1		<u>-</u>		
Volume Filtered, mi		<del></del>		+
		10 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		
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	s Reported As Milligrams			
Additional Determinations And Remarks The abo	ve results reve	eal no evidenc	e of any i	ncompatibility
between these two waters that wou	ıld result in ar	ny precipitatio	on, scalin	g, or other
detrimental influence on injection	on quality.			
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cc: Cleary Petroleum Company Attn. Mr. Rice

Waylan C. Martin, M. A.

WELLS LOCATED WITHIN 1/2 MILE RADIUS
SRR Devonian Field Area, Lea County, New Mexico

Amerada	Amerada	V-F Pet Inc	Major, et al	Amerada	Amerada	Ernest Hanson	Amerada	OPERATOR
Chartier #2	Fed E-1	State 15-1	Gulf St #1	SRR B-2	SRR B-1	SRR State A-1	SRR A-1	WELL
D23-9-32	<b>A22-9-32</b>	P15-9-32	H15-9-32	J15-9-32	P15-9-32	L14-9-32	M14-9-32	LOCATION
10,577	11,150	11,087	11,490	11,315	11,125	4,311	11,177	TOTAL DEPTH DRILLED
13-3/8	13-3/8	12-3/4	11-3/4	13-3/8	13-3/8	8-5/8	13-3/8	SIZE
340	340	361	3 5 5	338 8	338	1659	340	SURFACE CASING DEPTH SX SET CMT
275	275	415	350	275	275	200	250	AS ING SX CMT
circ	circ	circ	circ	210	circ	1052	circ	TOP
8-5/8	8-5/8	8-5/8	8-5/8	8-5/8	8-5/8	·	8-5/8	SIZE
3522	7945	3551	3575	3535	3550		3516	DEPTH SET
1500	1500	400	400	1500	1450	-	1500	INTERMEDIATE CASING DEPTH SX SET CMT
circ	5145	2351 (calc)	2375 (calc)	650 (calc)	644 (t sfc)	the second second	684 (t sfc)	CMI
5-1/2	5-1/2	4-1/2			5-1/2	5-1/2	5-1/2	SIZE
10,170	11,125	11,056		ы О 2	11,085	4,209	11,165	PRODUCTION CASING DEPTH SX SET CMT
600	900	350				150	900	CASING SX CMT
7516 (temp)	7133 (temp)	*. *. ********************************				(calc)	7927 (temp)	CHI
10,170 - 10,436 OH 9202 - 9214	9208 - 9218 11,125 - 11,150 OH	11,057 - 11,087 OH	N C N	N O N E			11,103	PERFORATED INTERVAL

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1	STATE OF NEW M ENERGY AND MINERALS		
2	OIL CONSERVATION	DIVISION	
3	State Land Offic Santa Fe, New 21 June 19	Mexico	
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6	our pay fed ine date one oth time and are not feel that the last the field day any one date top any and use was also	00 HT 40 40 HT 14 TH 10 DO 44 DO 10 TH	) )
7	IN THE MATTER OF:		) }
8	Application of V-F Pet	•	) CASE
	for salt water disposa New Mexico.	1, Lea County,	) 6259 )
9	man ann 1880 1880 1880 1880 1880 1880 1880 18		)
10			
11	BEFORE: Richard L. Stamets		
12			
	TRANSCRIPT OF	HEARING	
13			
14			
15	APPEARA	NCES	
16		Tanan sa	en e
17	For the Oil Conservation Division:		l for the Divisio
18			ffice Building w Mexico 87501
19			الم المنطق المنطقة الم المنطقة المنطقة
20	For V-F Petroleum, Inc.:	W. Thomas Ke KELLAHIN & P	OX
21		500 Don Gasp	ar w Mexico 87501
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### INDEX

#### VICTOR F. VASICEK

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Cross Examination by Mr. Stamets	10

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EXHIBITS

Applicant	Exhibit	One, Letter			10
Applicant	Exhibit	Two, C-108	18	,	10
Applicant	Exhibit	Three, Water Analysis			10
Applicant	Exhibit	Four, Schematic			10
Applicant	Exhibit	Five, Tabulation		-	10
Applicant	Exhibit	Six, Production data			10
Applicant	Exhibit	Seven, Map	. ••		10
Applicant	Exhibit	Eight, Log		5	10

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MR. STAMETS: Call Case 6259, which is in the matter of the application of V-F Petroleum, Inc., for salt water disposal, Lea County, New Mexico.

Call for appearances in this case.

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

MR. STAMETS: Stand and be sworn, please.
(Witness sworn.)

#### VICTOR F. VASICEK

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

#### DIRECT EXAMINATION

#### BY MR. KELLAHIN:

- Q Would you state your name, your occupation, and by whom you are employed?
- A. Victor F. Vasicek, employed by V-F Petroleum, Inc., actually I'm the President of the company, and I'm a petroleum engineer.
- Q Would you spell your last name for the court reporter?
  - A V-A-S-I-C-E-K.
  - Mr. Vasicek, have you previously testified

before the Oil Conservation Division and had your qualifications as an expert witness -- petroleum engineer accepted and made a matter of record?

- Yes, I have.
- Have you made a study of and are you familiar with the facts surrounding this particular application?
  - Yes, I have.

MR. KELLAHIN: We tender Mr. Vasicek as an expert.

MR. STAMETS: The witness is considered qualified.

- Q (Mr. Kellahin continuing.) Would you please turn to the plat outlining the particular area in question. I have marked that as Exhibit Number Seven. If you'll commence your testimony with that exhibit, Mr. Vasicek, and identify and explain to the Examiner what you're seeking to accomplish.

The well in the southeast quarter encircled in green, southeast quarter of Section 15, is a V-F Petroleum State 15-1, which produces salt water.

We wish to convert the well in Section 14, which is the V-F Petroleum State 14-1, we wish to convert it to salt water disposal. Both wells are Devonian or have been completed as Devonian. The State 15 is a producer; the State 14 was completed right at the water-oil

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contact and we did not make it; never did produce oil in any special quantities.

- Q What's the current status of the proposed injection well?
- A It's shut in with -- still has a cobe (sic) and tubing in the hole, just shut in waiting on -- pending this order.
  - Q Has it been a Devonian producer in the past?
  - A It never was productive, no.
- Q The source of the water to be disposed of in the disposal well is to be the well in Section 15?
  - A That is correct.
- Are there any other Devonian producers that currently produce Devonian water that you wish to dispose of in the subject well?
  - A Not at this time.
- Q Please refer to what I have marked as Exhibit
  Number One, which is your application to the Division,
  and describe the exact location of the subject disposal
  well.
- A. Okay. It's in Unit L of Section 14, Township 9 South, Range 32 East.
  - Q What pool are you in?
  - A It's shown as the SRR Devonian.
  - Q Please refer to Exhibit Number Two and identify

it.

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Okay, this is our application for disposal of salt water by injection into a porous formation that is productive of oil and gas.

MR. KELIAHIN: If the Examiner please, I believe in the original C-108 that we tendered with the application there may have been a correction in the length of the tubing?

- Yes. We made two corrections. One of them was approximate pressure as to which we request it be a maximum, and I think we'll have good pressure on this well, but we do request point 2 psi per foot of depth.
- The calculation of the 0.2 psi per foot of depth based upon a well of this depth is 2200 psi.
  - Yes, that's very close.
  - All right. Now, what was the second change?
- The second change was the depth as to which we're going to set the tubing. We changed it to where it would be 100 feet above the perforations in which we intend to inject.
  - All right.
- And it's correct in this exhibit that we just I made all the corrections.
- All right. Please refer to Exhibit Number Three and identify it.

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**/ 18** 

A. This is a plat -- I mean this is a salt water analysis which shows that --

MR. STAMETS: Excuse me, on the 108 here, it shows 2-3/8ths at 10085 and the top perforation is 11085. That's a thousand feet.

- A. Typographical error. Can you change it?

  MR. STAMETS: Yeah, it's going to be 11085

  feet of tubing?
  - A 11085.

MR. STAMETS: Okay.

A. The preforations are 11085 -- that should be 985.

MR. STAMETS: 10985.

- A. That should have been a 9 instead of a zero.

  MR. STAMETS: Okay.
- A. Okay. I don't think I subtracted very wall.
- Q Please refer to Exhibit Number Three and identify it.

A This is an analysis of salt water disposal, of the salt water, analysis of the Devonian formation in the State 14. In addition, there are two analyses there. We're currently disposing of this water into another well and the company that we're disposing of required this analysis, so we got analysis of the other well, which is — they call it No Pit Pete, Cleary Petroleum No Pit Pete,

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so don't be confused by the two analyses.

MR. STAMETS: So the only one we're concerned with is No. 2?

- A No. 2, right.
- Please refer to Exhibit Number Four and identify it.
- This is a schematic diagram of our proposed installation both on the surface and the sub-surface. And the casing and the whole diagram of everything that's in the well.
- Will you fill the annular space between the tubing and casing with an inert fluid?
  - Yes.
  - And how will you monitor the surface?
  - By a pressure gauge on the casing.
  - Will you use internally plastic-coated tubing?
  - Yes.
  - In the well?
  - Yes.
- Please refer to Exhibit Number Five and identify it.
- This is a tabulation of all the wells that were drilled within a half mile radius of our proposed injection well. It shows the names of the operators, well name, and locations, depths they were drilled, the casing

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program and how they were cemented, whatever perforated and whatever produced.

- Q Are there any fresh water sources within a half mile of the subject well?
  - A. Not to my knowledge.
- A Have you made a study of all the casing programs and cementing programs with regards to the offsetting wells within a half mile?
  - A. Yes.
- And in your opinion, Mr. Vasicek, will the disposal of the Devonian water into the subject well remain confined to the Devonian formation?
  - A Yes, it should.
- Q Please refer to Exhibit Number Six and identify it.
- A This is the production data of our producing well, the well that's making the water that we wish to dispose of, State 15-1. It's just the production history of the well from inception.
- Q For the month of April, 1978, the producing well made a total of 2723 barrels of water?
  - A That's correct.
- Q And it is that water production you intend to dispose of in the subject well?
  - A. That is correct.

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Would you identify what I have marked as Exhibit Number Eight?

This is a gamma ray - neutron correlation log of the proposed salt water disposal well, State 14-1.

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

Yes.

Were Exhibits One through Eight prepared by you directly or compiled under your direction and supervision?

MR. KELLAHIN: We move the introduction of Exhibits One through Eight.

> MR. STAMETS: These exhibits will be admitted. MR. KELLAHIN: That concludes our examination.

#### CROSS EXAMINATION

BY MR. STAMETS:

Mr. Vasicek, do you expect to have to utilize pressure on this well or do you think it will take the water on vacuum?

I figure it will take the water on a vacuum. The 2200 pounds is simply as time goes on, oftentimes the SALLY WALTON BOYD
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well gets carbonated up and you have to treat them, you have to put acid down to get them to take the water, but this can happen down the road two or three years from now or ten years from now, and that's the reason for the pressure.

- Q Will the gauge that you put on the annulus be capable of reading both positive and negative pressure?
- A. No, I wasn't intending to put a vacuum gauge on there, but I guess we could if you require it.
  - Q That would show --
  - A If it's on a vacuum.
  - Q -- either way, if it's on a vacuum --
- A Yeah, we could leave -- we could leave a -leave the gauge screwed on there real loosely to where
  anybody wanted to come in there they could shut the needle
  valve and then put their thumb over it and they'll see
  whether it's sucking or not.

Because those vacuum gauge, I don't know, I think they're pretty expensive, and they always go hay-wire. So that's the only comment on that.

Now, referring to Exhibit Number Five, there's some wells on that where there's not a great deal of information on. Maybe I should say not complete information on them. Like the Ernest Hanson SRR State A-1, the second well on there. I would judge that that well is only 4209

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feet deep, is that right?

A. Yes, sir. That was a shallow well drilled by Hanson.

- Q And then was not drilled to the Devonian?
- A. That's correct.
- Q Okay. Now, the next well, the Amerada well, apparently was drilled to the Devonian, but you don't indicate that it was cemented.
- The production string -- no, I'm not sure
   what happened there. I'm not sure -- I'm not sure why
  I don't have that on there. It should have been available.

I didn't bring my notes along on that.

SRB No. 1, they used -- well, I don't show any cement or anything. That's probably just a omission either by -- I just overlooked it.

- Q Okay. Then going on to the next well, it shows total depth 11,315 feet, but no production casing.
  - A It's a dry hole.
- Q Okay, but also there's no indication how the well was plugged.

What sort of a plug has been set above the production interval for the salt water disposal?

- A Plug and --
- Q. Same thing would be true of the next well.
- A. All right.

And then the last one I have a question on is the V-F Petroleum State 15 No. 1 shows 4-1/2, 11,056, 350 sacks but no calculated cement at the top.

- A Okay, I didn't calculate at the top. Okay.
- Q I'm sure that's enough to come well above the injection interval.
  - A Oh, sure.
  - O I'm not too concerned about it.
- A I can furnish these with you -- for you. I can go ahead and redo that. Let's see, there's one, two, three, there's one more thing. Oh, the Amerada well, the top of the cement on that well.
- Q Yes, that's right. As a matter of fact, all the questionable wells are located right in the --
- A. I think I know what happened. I think the secretary forgot to pick it up and I overlooked it, because I had it on another sheet. Can we send you that by letter?
- Q Yes, if you will. You've already testified. Everything looks all right as long as what you submit verifies that, we'll be in good shape.
  - A. Okay.

MR. STAMETS: Any other questions of the witness? He may be excused.

Anything further in this case? We'll take

the case under advisement.

A Who do I send this to? Do I just send it the regular way?

MR. STAMETS: Send it to me, put my name on it.

(Hearing concluded.)

SALLY WALTON BOYD
CERTIFED SHORTHAND REPORTER
Bishop's Lodge Road - Phone (505) 989-340
Santa Fe, New Marico 87601

730 Bishop's Lodge Road. Phone Santa Fe, New Mexico 81

#### REPORTER'S CERTIFICATE

I, SIDNEY F. MORRISH, A Court Reporter, DO HEREBY CERTIFY that the attached and foregoing 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.

Sidney F. Morrish, C.S.R.

I do nereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 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:

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Order No. R- 5792

APPLICATION OF V-F PETROLEUM, INC. FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

A A

#### ORDER OF THE DIVISION

19 78 , at Santa Fe, New Mexico, before Examiner Richard L. Stamets

This cause came on for hearing at 9 a.m. on June 21

#### BY 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, V-F Petroleum, Inc. is the owner and operator of the State 14 Well No. 1 located in Unit L of Section 14, Township 9 South , NMPM, SRR-Devonian Pool Range 32 East Lea County, New Mexico. (3) That the applicant proposes to utilize said well to dispose of produced salt water into the Devonian formation, with injection into the perforated interval from approximately 11,085 feet to 11,102 (4) That the injection should be accomplished through  $\lambda$ 

-inch plastic lined tubing installed in a packer set at approxi-

filled with an inert fluid; and that a pressure gauge or approved

leak detection device should be attached to the annulus in order

feet; that the casing-tubing annulus should be

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

- with a pop-off valve or acceptable substitute which will limit the wellhead pressure on the injection well to no more than  $\mu \nu^{0}$  psi.
- (6) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (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,	V-F Petroleum, Inc.
is hereby authorized to utilize	its State 14 Well No. 1
located in Unit L of Section	14 , Township 9 South
Range 32 East NMPM, SRR-	Devonian Pool
Lea County, New Mexico, to	dispose of produced salt water
into the Devonian	formation, injection to be
into the Devonian accomplished through 2 3/8	
	-inch tubing installed in a
accomplished through 2 3/8	-inch tubing installed in a 985 feet, with injection into

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 acceptable substitute which will limit the wellhead pressure on the injection well to no more than  $\mathcal{P}^{O}$  psi.
- (3) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (4) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.
- (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.