

Case No.

Application

Transcripts

Small Exhibits

ETC



INDEX

HAL FREEDMAN

SALLY W. BOYD, C.S.R. C Rt. 1 Box 193-B Santa Fc, New Mexico 87501 Phone (505) 455-7409 Direct Examination by Mr. Kellahin Cross Examination by Mr. Stamets

E XHIBITS

Applicant	Exhibit	One, Plat
Applicant	Exhibit	Two, Plat
Applicant	Exhibit	Three, Document
Applicant	Exhibit	Four, Tabulation 12
Applicant	Exhibit	Five, Schematic
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Applicant	Exhibit	Nìne, Well Log

(1) A start of the second sec second second sec		n en
	1.	MR. STAMETS: We'll call Case 6979.
	2	MR. PADILLA: Application of Wolfson Oil
	3	Company for salt water disposal, Roosevelt County, New Mexico
	4	MR. KELLAHIN: Tom Kellahin, appearing
	5	on behalf of the applicant and I have one witness to be
	6	sworn.
	7	
	8	(Witness sworn,)
	9	
8	10	HAL FREEDMAN
SallY W. BOYD, C.S.R. Rt. 1 Box 193-B Santa Fe, New Merico 87501 Phone (505) 455-7409	11	being called as a witness and having been duly sworn upon his
N. BO	12	oath, testified as follows, to-wit:
LLLY V Santa Fe Phon	13	
. 8	14	DIRECT EXAMINATION
	15	BY MR. KELLAHIN;
	16	Q. Mr. Freedman, would you please state your
	17	name and by whom you're employed?
	18	A. My name is Hal Freedman, I'm employed
	19 I	y Wolfson Oil Company.
	20	
	21	
	22	A, I'm a petroleum engineer.
	23	Q. As a petroleum engineer have you made a
Jan State	24 S	tudy of the facts surrounding this particular application?
	25	A. Yes I have,
		Q. And have you previously testified before
	an an Araba ta B	

the Oil Conservation Division as a petroleum engineer?

A. Yes, I have.

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SALLY W. BOYD, C.S.R.

MR. KELLAHIN: Tender Mr. Freedman as an expert petroleum engineer.

MR. STAMETS: The witness is considered qualified.

Mr. Freedman, would you refer to what
 we've marked as Exhibit Number One and identify that for us?
 A. Exhibit Number One shows our lease, the
 Mountain-Federal No. 1 outlined in red. It also shows the
 proposed injection well, our Mountain-Federal No. 1 Well, and
 in blue it shows the approved Sundance Oil Company salt water
 disposal well, the Cone Federal No. 8 south of our lease.
 Q. What are you seeking to accomplish, Mr.

A. We hope to dispose of our produced water in our No, 1 Well,

Q What have you been doing with that produced water up till now?

A Well, previously Sundance has been taking it, until the 12th of June, and they informed us that they could no longer dispose of our water because of their volumes. So we had to find other means and currently we are trucking the water.

What does it cost you to truck the water?

A. It costs us approximately \$1.00 per barrel
 Q. How many barrels of water a day are you
 trucking?

Well, the lease will produce approximately
 400 but because of the excessive cost we're only producing
 one to two wells daily; rotating the wells,

Q. How many wells do you operate on this lease?

There are six wells.

How are they identified on the plat? You mean where or --

Yes.

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SALLY W. BOYD, C.S.

A. They are in the northeast corner of Section
 30 and the east half of the northwest corner of Section 30,
 Q. From what formations do those wells pro duce?

A. They produce from the San Andres,

Q. Do you have any cumulative oil production figures?

A. As of July 1st our Mountain-Federal lease
 produced approximately 113,000 barrels.

Q And do you have an estimate of what the cumulative production is now for all six of the wells, on a daily basis?

Belaine and the straight show a

Approximately 80 barrels per day,

			Page6				
		Q.	Divided among the six wells?				
	2	A.	Among the five wells.				
	3		Among the five				
	4	A	One is shut-in.				
	5	Q	The proposed salt water disposal well is				
	6	shut-in?					
	7		na sente da la companya de la compa Na companya de la comp Na companya de la com				
	8	n shergen i shergen ti Timur ti shergen ti shergen ti Timur ti shergen ti shergen ti shergen ti	It's an old producer?				
	9	$ \begin{array}{c} \mathbf{A}_{\mathbf{A}} = \left\{ \mathbf{A}_{\mathbf{A}} = \left$	Yes, and it makes excessive volume.				
C.S.R.	o 10	Q	In your opinion, Mr. Freedman, is it econ-				
ALLY W. BOYD, C.S. Rt. 1 Box 193-B Serik Fe, New Mexico 87301 Phone (309) 455-7409	11	omic for Mr. Wolfson to continue to truck the produced salt					
N. BO . 1 Box . New N . (505) -	12						
SALLY W. BOYD, Rt. 1 Box 193-B Sente Fe, New Merico Phone (303) 455-74	13		No, it is not.				
0	14	Q.	What will happen to the production from				
	15	this lease if the	application is not approved?				
	16	A	It will result in premature abandonment				
	17	and loss of oil,					
	18	Ç	Will you refer to Exhibit Number Two and				
	19	identify that?					
	20	A.	This is a copy of Sundance's disposal				
	21	system showing line	es going to their Cone Federal No. 8.				
	22	Ç	All right, sir, and would you identify				
	23	Exhibit Number Thre	ee for us?				
	24	angen en Namer an eine seine eine seine	Number Three is the approval by the Con-				
	25	servation Commissio	on of Sundance's application to utilize				

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n se Fright Stadyther their No. 8 Well, Cone Federal No. 8, as an injection well. Q. Have you reviewed the various provisions found in the Sundance order?

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A. Yes, I have.

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W. BOYD, C.

Q. Are any of those provisions -- or compliant with any of those provisions, or requirements, a problem for you?

A We would prefer not to plastic-line our tubing at this time. We can monitor the injection through pressure gauges and open annulus and we have not had any tubing corrosion problems in this -- on this lease, nor have we had any in the San Andres in a lease east of there, in the Cato Field, which is producing quite a great length of time,

Q. Would you describe for me why it's a problem for you to plastic-line the tubing in these wells?

Well ---

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an meriodered and an exclusion in the second sec

This well?

A -- it's an expense and the costs have been so prohibitive out there we prefer not to do it at this time. Should it become necessary at a later date, of course, we would.

Q. How long have your wells been shut in?
 A. Since we were notified by Sundance appro ximately June 13th.

Are you aware of any problems, Mr. Freedu

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W. BOYD, C.S

0. Do you have an estimate of the additional time involved in order to plastic line the disposal well?
 A. It would take approximately a full, I would say, ten days.

Q. How -- what's your alternative to the plastic lined disposal well? What's your alternative? How would you monitor that well?

A. We would have pressure gauges at the -on the injection and also the annulus, and we could leave the annulus open to see if there are any leaks, also.

Q. What do you anticipate to be the total volume of water to be disposed of in this well?

Me anticipate approximately 400 barrels per day.

And will the disposal well take that
 water on vacuum or will it have to be injected under pressure?
 A We believe it will take it on vacuum for
 a short period of time,

Are you aware of the Director's guidelines

concerning the injection surface pressure in disposal wells?
 A Yes, sir, yes, I am.
 Q 0.2 psi per foot of depth?
 A Right.
 Q And in your opinion, will this well take

that --

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W. BOYD, C.S.

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A. I feel sure that it would; however, at a later date we would appreciate the same courtesy that the Commission has allowed Sundance for a higher injection pressure, but I really don't believe it's necessary because our volume will be quite a bit less than Sundance's.

Q. What kind of volume does Sundance dispose of in their well?

A I don't know that to my knowledge, but I would approximate 2000 barrels a day, probably 2400 with ours.

Q. Will you refer to Exhibit Number Four and identify that?

A Number Four is our application to the Commission to inject water in our No. 1 Well.

Q And would you identify Exhibit Number Five for us?

A. Number Five is a list of wells located within 1/2 mile of our No. 1 Mountain-Federal Well. MR. PADILLA: It's Number Four,

MR. KELLAH Q The tabula man. Man. MR. KELLAH Man.	A: Yes, it's Number Four.
2 MR. KELLAH 3 MR. PADILI 3 MR. KELLAH 4 Q 4 Q 5 man. 5 man. 6 A 7 Q 7 Q 8 A 9 Q Q Tell me wh	A: Yes, it's Number Four, IIN: Okay.
3 MR. FADILA 4 Q. The tabula 5 man. 6 A. Just move 7 Q. This one r 5 A. Yes. 9 Q. Tell me wh	IIN; Okay.
4 Q. The tabula 5 man. 6 A. Just move 7 Q. This one r 8 A. Yes. 9 Q. Tell me wh	
5 man. 6 A Just move 7 Q This one r 8 A Yes. 9 Q Tell me wh	tion is Number Four, Mr. Freed
6 A Just move 7 Q This one r 8 A Yes. 9 Q Tell me wh	
7 Q. This one r C. A. Yes. 9 Q. Tell me wh	
7 Q. This one r B. B. Yes. 9 Q. Tell me wh	ìt, okay.
9 Q Tell me wh	ight here?
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A That is a S S S S T S S S S S S S T S S S S S S S T S S S S S S S S T S S S S S S S S S T S S S S S S S S S S S S S S S S S S S	at that is again.
C Are there	compilation of all wells locate
$ \begin{array}{cccccccccccccccccccccccccccccccccccc$	n-Federal No. 1.
	any 👓
A In that	
Q. Excuse me,	are there any plugged and abar
doned wells within a half mile	of your proposed well?
[1] [2] 김 사람이 집에 가지 않는 것 같은 것 같	nere is not.
Q All right.	
	vs the producing interval and
19 the size casing, where the casi	ing is set, and the sacks of
cement utilized, and a calculat	ed top of the cement behind
the long string.	
22 Q Are there a 23	ny fresh water sands in the
23 area? 24	A. A. 전화 이 이 전 18 이가 이 가격 수 있는 것 수 있는 것 이가 가져서 가지 않는 것 같이 가 하는 것 같이 하는 것 않아. 것 같이 하는 것 않아. 이 하는 것 같이 하는 것 않 않아. 것 같이 하는 것 같이 않아. 것 같이 하는 것 같이 하는 것 않아. 것 않아. 것 같이 하는 것 않아. 것 않아. 것 같이 하는 것 않아. 않아. 것 같이 않아. 것 않아. 않아. 것 않아. 것 않아.
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At what depth do you encounter fresh water

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W. BOYD, C.S.

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I believe it's higher than 300 feet. What will be the disposal interval? 4108 to 64.

Q. Have you examined the casing and cementing program in all the offsetting wells within a half mile radius of the disposal well?

Yes, I have.

Q In your opinion as a petroleum engineer, are you satisfied that the disposal of produced salt water in the disposal well will not migrate and contaminate fresh water sands?

A Yes, I am. Surface casing in this area
 is set at approximately 1750 feet because of drilling condi tions, which is far below the fresh water sands, and all sur face casing, to my knowledge, has been cemented and circulated
 Q All right, sir, Would you refer to the
 schematic of the disposal well? I believe that's Exhibit
 Number Six.

Yes, this is ---

MR. STAMETS: Exhibit Number Five, All right, that's Number Five,

Number Five.

Tell me about your schematic, Mr. Freed-

 Not the second program of our wells and if granted, how we intend to dispose of salt water. It shows it to be disposed of below a packer with treated water in the annulus. A All right, sir. I'll ask you to identify the laboratory water analysis, which I think is Exhibit Number Seven. MR. STAMETS: Eight. A All right, tell me about the water analysis seven. MR. STAMETS: Eight. A The water analysis was performed by Halliburton on our No. I Well which we are utilizing for injection, and I believe it is similar to all water injected that will be injected. A All right, sir. And you have attached as 'one of your exhibits, the notice filled out on a form provided by the USOS for approval? A Yes, sir. And what exhibit is that? MR. STAMETS: Are you talking about this one? Okay, that's Seven. C Tell me about Exhibit Seven. E Xhibit Seven is an application to the 				
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 Seven. NR. STAMETS: Eight, A The water analysis was performed by Halliburton on our No. 1 Well which we are utilizing for injection, and I believe it is similar to all water injected that will be injected. A All right, sir. A All right, sir. A And you have attached as one of your ex- hibits, the notice filled out on a form provided by the USGS for approval? A Yes, sir. A Yes, sir. A Alk what exhibit is that? C And What is Seven. C C And What is Seven. C C And What is Seven. C C And What is Seven. 		6	Q.	All right, sir. I'll ask you to identify
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Y O O O O O O O O O 		8	Seven.	
O constraint11AThe water analysis was performed by12Halliburton on our No. 1 Well which we are utilizing for in- jection, and I believe it is similar to all water injected that will be injected.13jection, and I believe it is similar to all water injected that will be injected.14Market analysis was performed by15Q16All right, sir.16And you have attached as "one of your ex- hibits, the notice filled out on a form provided by the USGS16A17Yes, sir.18Q19A20Q21MR. STAMETS: Are you talking about this one?23Okay, that's Seven.24Q25Tell me about Exhibit Seven.	a Maria Indonesia (Maria) Maria Maria Maria Maria	9		MR, STAMETS: Eight,
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 that will be injected, 15 Q All right, sir. 16 17 18 18 19 A Yes, sir. 20 Q And what exhibit is that? 21 21 22 31 32 34 35 35 		13	jection, and I bel	ieve it is similar to all water injected
 All right, sir. And you have attached as 'one of your ex- hibits, the notice filled out on a form provided by the USGS for approval? A Yes, sir. Q And what exhibit is that? 20 Q And what exhibit is that? 21 MR, STAMETS: Are you talking about this 22 one? 23 Okay, that's Seven. 24 Q Tell me about Exhibit Seven, 	.	14	that will be injec	ted.
And you have attached as 'one of your ex- 17 hibits, the notice filled out on a form provided by the USCS 18 for approval? 19 A Yes, sir. 20 Q And what exhibit is that? 21 MR. STAMETS: Are you talking about this 22 one? 23 Okay, that's Seven. 24 Q Tell me about Exhibit Seven. 25		15	Q	All right, sir.
 17 hibits, the notice filled out on a form provided by the USGS 18 for approval? 19 A Yes, sir. 20 Q And what exhibit is that? 21 MR. STAMETS: Are you talking about this 22 one? 23 Okay, that's Seven. 24 Q Tell me about Exhibit Seven. 		16		And you have attached as "one of your ex-
<pre>18 19 19 A Yes, sir, 20 Q And what exhibit is that? 21 MR, STAMETS: Are you talking about this 22 one? 23 Okay, that's Seven. 24 Q Tell me about Exhibit Seven, 25</pre>		17	hibits, the notice	
19 A. Yes, sir. 20 Q And what exhibit is that? 21 MR. STAMETS: Are you talking about this 22 one? 23 Okay, that's Seven. 24 Q Tell me about Exhibit Seven. 25 0				
 20 Q And what exhibit is that? 21 MR. STAMETS: Are you talking about this 22 one? 23 Okay, that's Seven. 24 Q. Tell me about Exhibit Seven. 25 		19	A ,	Yes, sir.
 21 MR. STAMETS: Are you talking about this 22 one? 23 Okay, that's Seven. 24 Q Tell me about Exhibit Seven. 25 		20	Q	
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 23 24 Q. Tell me about Exhibit Seven. 25 		22	one?	
24 Q. Tell me about Exhibit Seven, 25		23		t's Seven.
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U.S. Department of Interior to utilize the No. 1 Well for injection. It also indicates that all our disposal facilities have been and are located at the No. 1 Well, so there will be no new surface disturbance, and they have indicated that that will be acceptable.

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Q That application is approved, subject to receiving the order of this Division? Or pending approval subject to that order?

A. Yes, they said they have to wait on the Conservation Commission.

Q All right, sir. And the last exhibit, which I believe is Number Nine, is a copy of the log for the disposal well?

Rìght,

Q All right, sir. Were Exhibits One through Nine prepared by you or compiled under your direction and supervision?

A Yes, sir, they were,

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

Yes, sir, it will.

MR. KELLAHIN: That concludes our examin-

Minutes Manuel Contraction of the Contraction of th

ation of Mr, Freedman.

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SALLY W. BOYD, C.S

CROSS EXAMINATION

BY MR. STAMETS:

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SALLY W. BOYD, C.S

Q Mr. Freedman, the only thing that concerns me immediately is that tubing which is not plastic lined and chlorides at 137,000 in here. That's pretty -- pretty raunchy water.

A Yes, it is, We have a well located in Cato Field, which is west of here, that's been producing approximately five years, and the well has never been pulled for any reason. And it's San Andres, also, and none of our wells -- we've had no tubing problems in our wells to date on this lease.

And should it become necessary at a later date, then we would coat the tubing.

Q Aren't the conditions related to production different from conditions related to injection? You have the water exposed to atmosphere --

A This will be a closed system. This will be a closed system. There will be oil on top of our water tanks with pressure switches, high and low shutoffs, that will maintain a closed system.

Q. And the water will move to this well by a flow line and is not exposed to atmosphere?

		n an
	1	A That is correct. It's about 60 feet to
	2	the well from the tank.
$(G_{1}) = \begin{pmatrix} M_{1} & M_{2} \\ M_{1} & M_{2} \\ M_{2} & M_{2} \end{pmatrix} \begin{pmatrix} M_{1} & M_{2} \\ M_{2} & M_{2} \\ M_{2} & M_{2} \end{pmatrix}$	3	Q. Okay.
		MR, STAMETS: Any other questions of this
	5	witness? He may be excused,
	аларана 1997 — Саларана 1997 — Параларана 1997	MR. KELLAHIN: We would offer Exhibits One
	7	through Nine into evidence.
		MR. STAMETS: These exhibits will be ad-
	9	mitted.
	и И Б	If there is nothing further, the case will
	YD, C 193-B 155-7409 873 155-7409 873	be taken under advisement.
	New W (100) 12	
	SALLY W. BOYD, C.S.R Ru. 1 Box 193-B Santa Ft, New Mexico 87901 Phone (503) 455-7409 1 1 01	(Hearing concluded.)
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SALLY W. BOYD, C.S.I Rt. 1 Box 193-B

I, SALLY W. BOYD, C.S.R., DO HEREPY CERTIFY that the foregoing Transcript of Hearing before the Oil Conserva tion Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Jooly W. Boyd C.S.E.

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I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6972, 7-23 heard by me on Examiner Oil Conservation Division

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	2	ENERGY AND OIL CONSE STATE LA SANTA F	OF NEW MEXICO MINERALS DEPARTMENT ERVATION DIVISION AND OFFICE BLDG. TE, NEW MEXICO 3 July 1980
	4. 	EXAMIN	ER HEARING
	6	IN THE MATTER OF:	
	8	Application of Wolf for salt water disp County, New Mexico.	osal, Roosevelt) CASE
	BOYD, C.S.R. Box 193-B Witchics 87501 103) 455-7409 103) 455-7409 103	BEFORE: Richard L. Stamets	
	VI (12 anotal 13	TRANSCRIP	T OF HEARING
	0, 14 15 18	APPEA	RANCES
	17 18 19	For the Oil Conservation Division:	Ernest L. Padilla, Esq. Legal Counsel to the Division State Land Office Bldg. Santa Fe, New Mexico 87501
	20 21 22	For the Applicant:	W. Thomas Kellahin, Esq. KELLAHIN & KELLAHIN 500 Don Gaspar Santa Fe, New Mexico 87501
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HAL FREEDMAN

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SALLY W. BOYD, C.S.R. Rt. 1 Box 193-B Santa Fe, New Mexico 87301 Phone (303) 435-7409

Direct Examination by Mr. Kellahin Cross Examination by Mr. Stamets

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EXHIBITS

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MR. STAMETS: We'll call Case 6979. 2 MR. PADILLA: Application of Wolfson Oil 3 Company for salt water disposal, Roosevelt County, New Mexico. MR. KELLAHIN: Tom Kellahin, appearing 5 on behalf of the applicant and I have one witness to be 6 sworn. 7 8 (Witness sworn.) g SALLY W. BOYD, C.S.R 10 HAL FREEDMAN 11 being called as a witness and having been duly sworn upon his 12 oath, testified as follows, to-wit: 13 14 DIRECT EXAMINATION 15 BY MR. KELLAHIN: 16 Mr. Freedman, would you please state your Q. 17 name and by whom you're employed? 18 My name is Hal Freedman. I'm employed **A**: 19 by Wolfson Oil Company. 20 In what capacity are you employed? Q. 21 I'm a petroleum engineer. Δ. 22 As a petroleum engineer have you made a Q 23 study of the facts surrounding this particular application? 24 Yes I have. A. 25 And have you previously testified before **î**

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the Oil Conservation Division as a petroleum engineer?

Yes, I have.

A.

MR. KELLAHIN: Tender Mr. Freedman as an expert petroleum engineer.

MR. STAMETS: The witness is considered qualified.

Mr. Freedman, would you refer to what
 we've marked as Exhibit Number One and identify that for us?
 A. Exhibit Number One shows our lease, the
 Mountain-Federal No. 1 outlined in red. It also shows the
 proposed injection well, our Mountain-Federal No. 1 Well, and
 in blue it shows the approved Sundance Oil Company salt water
 disposal well, the Cone Federal No. 8 south of our lease.
 What are you seeking to accomplish, Mr.

Freedman?

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SALLY W. BOYD, C.S.

Me hope to dispose of our produced water
 in our No. 1 Well.

Q What have you been doing with that produced water up till now?

A Well, previously Sundance has been taking it, until the 12th of June, and they informed us that they could no longer dispose of our water because of their volumes. So we had to find other means and currently we are trucking the water.

What does it cost you to truck the water?

1 It costs us approximately \$1.00 per barrel A. 2 How many barrels of water a day are you Q. 3 trucking? 4 Well, the lease will produce approximately A 400 but because of the excessive cost we're only producing 5 6 one to two wells daily; rotating the wells. 7 How many wells do you operate on this Ω 8 lease? 9 A. There are six wells. 10 How are they identified on the plat? SALLY W. BOYD, C.S. Rt. I Box 193-B Q. New Mexico 8 (505) 455-740 11 A. You mean where or 12 Q. Yes. 13 . They are in the northeast corner of Section A. 14 30 and the east half of the northwest corner of Section 30. 15 From what formations do those wells pro-۵ 16 duce? 17 A. They produce from the San Andres. 18 Q. Do you have any cumulative oil production 19 figures? 20 As of July 1st our Mountain-Federal lease A. 21 produced approximately 113,000 barrels. 22 Q And do you have an estimate of what the 23 cumulative production is now for all six of the wells, on a 24 daily basis? 26 A. Approximately 80 barrels per day.

Contraction and the second second

Divided among the six wells? Among the five wells. Among the five --One is shut-in.

The proposed salt water disposal well is

shut-in?

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SALLY W. BOYD, C.S.

Yes.

It's an old producer?

Yes, and it makes excessive volume.

Q. In your opinion, Mr. Freedman, is it economic for Mr. Wolfson to continue to truck the produced salt

water off the lease?

A.

Q

A.

Q.

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No, it is not.

Q. What will happen to the production from this lease if the application is not approved?

A. It will result in premature abandonment and loss of oil.

Q. Will you refer to Exhibit Number Two and identify that?

A. This is a copy of Sundance's disposal system showing lines going to their Cone Federal No. 8.

All right, sir, and would you identify Exhibit Number Three for us?

A. Number Three is the approval by the Conservation Commission of Sundance's application to utilize their No. 8 Well, Cone Federal No. 8, as an injection well. Q Have you reviewed the various provisions found in the Sundance order?

A. Yes, I have.

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SALLY W. BOYD, C.S

O. Are any of those provisions -- or complian with any of those provisions, or requirements, a problem for you?

A We would prefer not to plastic-line our tubing at this time. We can monitor the injection through pressure gauges and open annulus and we have not had any tubing corrosion problems in this -- on this lease, nor have we had any in the San Andres in a lease east of there, in the Cato Field, which is producing quite a great length of time.

Would you describe for me why it's a problem for you to plastic-line the tubing in these wells?

> Well --This well?

A.

A.

Q

-- it's an expense and the costs have been

so prohibitive out there we prefer not to do it at this time. Should it become necessary at a later date, of course, we would.

Q. How long have your wells been shut in?
 A. Since we were notified by Sundance appro ximately June 13th.

Are you aware of any problems, Mr. Freedmy

with the continuing process of keeping these wells shut in?
A. Wells out there, when they're shut in,
seldom come back to their original production, and some of
these wells are high volume water wells and take several days
to pump the water off to get the cil, and there is no doubt
that we have been harmed by this shutdown.

0.

SALLY W. BOYD,

0. Do you have an estimate of the additional time involved in order to plastic line the disposal well?
 A. It would take approximately a full, I would say, ten days.

Q. How -- what's your alternative to the plastic lined disposal well? What's your alternative? How would you monitor that well?

A. We would have pressure gauges at the -on the injection and also the annulus, and we could leave the annulus open to see if there are any leaks, also.

Q What do you anticipate to be the total volume of water to be disposed of in this well?

N. We anticipate approximately 400 barrels per day.

And will the disposal well take that
 water on vacuum or will it have to be injected under pressure?
 A. We believe it will take it on vacuum for
 a short period of time.

Are you aware of the Director's guideline

concerning the injection surface pressure in disposal wells?

Yes, sir, yes, I am.

0.2 psi per foot of depth?

Right.

And in your opinion, will this well take

A. I feel sure that it would; however, at a later date we would appreciate the same courtesy that the Commission has allowed Sundance for a higher injection pressure, but I really don't believe it's necessary because our volume will be quite a bit less than Sundance's.

Q. What kind of volume does Sundance dispose of in their well?

A. I don't know that to my knowledge, but I would approximate 2000 barrels a day, probably 2400 with ours.

Q Will you refer to Exhibit Number Four and identify that?

A. Number Four is our application to the Commission to inject water in our No. 1 Well.

Q. And would you identify Exhibit Number Five for us?

A. Number Five is a list of wells located
 within 1/2 mile of our No. 1 Mountain-Federal Well.
 MR. PADILLA: It's Number Four.

SALLY W. BOYD, C.S.R. Rt. 1 Box 193-B Santa Fe, New Mexico 87501 Phone (305) 455-7409 1

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that --

MR.	KELLAHIN:	This tabulation?

MR. PADILLA: Yes, it's Number Four. MR. KELLAHIM: Okay.

The tabulation is Number Four, Mr. Freed-

man.

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Just move it, okay.

This one right here?

Yes.

Tell me what that is again.

A. That is a compilation of all wells located within 1/2 mile of our Mountain-Federal No. 1.

Are there any ---

In that --

Q. Excuse me, are there any plugged and aban-

No, sir, there is not.

All right.

A. That's shows the producing interval and the size casing, where the casing is set, and the sacks of cement utilized, and a calculated top of the cement behind the long string.

Q Are there any fresh water sands in the area?

A. There might be some. I know there's a water well about a mile and a half away.

ALL ASSALLES

SALLY W. BOYD, C.S. Rt. I Box 193-B

At what depth do you encounter fresh water

sand?

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SALLY W. BOYD, C.S.

I believe it's higher than 300 feet. What will be the disposal interval? 4108 to 64.

⁶ A Have you examined the casing and cementing
⁷ program in all the offsetting wells within a half mile radius
⁸ of the disposal well?

Yes, I have.

A In your opinion as a petroleum engineer, are you satisfied that the disposal of produced salt water in the disposal well will not migrate and contaminate fresh water sands?

A Yes, I am. Surface casing in this area is set at approximately 1750 feet because of drilling conditions, which is far below the fresh water sands, and all surface casing, to my knowledge, has been cemented and circulated.

All right, sir. Would you refer to the schematic of the disposal well? I believe that's Exhibit Number Six.

> Yes, this is --MR. STAMETS: Exhibit Number Five. All right, that's Number Five. Number Five.

Tell me about your schematic, Mr. Freed-

man.

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W. BOYD, C.S.

SALLY

tt. 1 Box 193-B

hone (505) 455-7405

e,

A. It shows the casing program of our wells and if granted, how we intend to dispose of salt water.

It shows it to be disposed of below a packer with treated water in the annulus.

Q. All right, sir. I'll ask you to identify the laboratory water analysis, which I think is Exhibit Number Seven.

MR. STAMETS: Eight.

 All right, tell me about the water analysis
 A The water analysis was performed by
 Halliburton on our No. 1 Well which we are utilizing for injection, and I believe it is similar to all water injected -- that will be injected.

All right, sir.

And you have attached as one of your exhibits, the notice filled out on a form provided by the UESS for approval?

Yes, sir.

And what exhibit is that?

MR. STAMETS: Are you talking about this

one?

Q.

Q

A.

Okay, that's Seven.

Tell me about Exhibit Seven.

Exhibit Seven is an application to the

U.S. Department of Interior to utilize the No. 1 Well for injection. It also indicates that all our disposal facilities have been and are located at the No. 1 Well, so there will be no new surface disturbance, and they have indicated that that will be acceptable.

13

Q That application is approved, subject to receiving the order of this Division? Or pending approval subject to that order?

A Yes, they said they have to wait on the Conservation Commission.

Q All right, sir. And the last exhibit, which I believe is Number Nine, is a copy of the log for the disposal well?

Right.

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SALLY W. BOYD, C.S.R.

Q All right, sir. Were Exhibits One through Nine prepared by you or compiled under your direction and supervision?

Yes, sir, they were.

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

Yes, sir, it will.

MR. KELLAHIN: That concludes our examination of Mr. Freedman.

CROSS EXAMINATION

BY MR. STAMETS:

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SALLY W. BOYD, C.S.

Q. Mr. Freedman, the only thing that concerns me immediately is that tubing which is not plastic lined and chlorides at 137,000 in here. That's pretty -- pretty raunchy water.

A. Yes, it is. We have a well located in Cato Field, which is west of here, that's been producing approximately five years, and the well has never been pulled for any reason. And it's San Andres, also, and none of our wells -- we've had no tubing problems in our wells to date on this lease.

And should it become necessary at a later date, then we would coat the tubing.

Q. Aren't the conditions related to production different from conditions related to injection? You have the water exposed to atmosphere --

A. This will be a closed system. This will be a closed system. There will be oil on top of our water tanks with pressure switches, high and low shutoffs, that will maintain a closed system.

Q And the water will move to this well by a flow line and is not exposed to atmosphere?

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		3	Q Okay.	n († 1997) 1997 - Alexandria Status, francés († 1997) 1997 - Alexandria Status, francés († 1997)	1 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1
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			MR. S	STAMETS: Any other of	uestions of thi
		5 witness	? He may be excus	æd.	
		8 8			
			MR. K	ELLAHIN: We would c	offer Exhibits O
		7 through	Nine into evidenc	e.	
			MR. S	TAMETS: These exhib	its will be ad-
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	SALLY W. BOYD, C.S.R. Rt. J Box 193-B Smater, New Mection 9701	be take	n under advisement	•. · · · · · · · · · · · · · · · · · · ·	,我们就是我的人们。 1995年———————————————————————————————————
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CERTIFICATE

SOYD, C.S.F

SALLY W.

I, SALLY W. BOYD, C.S.R., DO HEREPY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

> > , Examiner

OII Conservation Division



STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

BRUCE KING GOVERNOR

August 14, 1980

POST OFFICE BOX 2008 STATE LAND OFFICE BLALDING SANTA FE, NEW MEDICO 27201 (505) 827-9434

Re: CASE NO. 6979 ORDER NO. <u>R-6440</u>

Mr. Thomas Kellahin Kellahin & Kellahin Attornoys at Law Post Office Box 1769 Santa Fe, New Mexico

Applicant:

Wolfson Gil Company

Dear Sir:

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

Yours very truly, JOE D. RAMEY CLIN Director

JDR/fd

Copy of order also sent to:

Hobbs OCD	X	
Artesia OCD_	X	
Aztec OCD		

Other

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. 6979 Urder No. R-6440

和自己的研究的复数问题

APPLICATION OF WOLFSON OIL Company for Salt Water Disposal, Roosevelt county, New Mexico.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on July 23, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this <u>13th</u> day of August, 1980, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

Ê.

(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, Wolfson Oil Company, is the owner and operator of the Hountain-Federal Well No. 1, located in Unit G of Section 30, Township 7 South, Range 32 East, NMPM, Tomahawk-San Andres Pool, Roosevelt County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres formation, with injection into the perforated interval from approximately \$108 feet to 4164 feet.

(4) That the injection should be accomplished through 2-inch tubing installed in a packer set at approximately 3980 Test; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.
-2-Case No. 6979 Order No. R-6440

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(5) That the injection well or system should be equipped with a pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 825 psi.

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

(7) That within 30 days after the date of first injection into said Mountain-Federal Well No. 1 and semi-annually thereafter the applicant should conduct appropriate tests to assure the integrity of the injection tubing and packer.

(8) That the applicant should contact the supervisor of the Division's district office at Hobbs to establish an appropriate test procedure and an inspection schedule in order that the Division may witness such tests.

(9). That the results of such tests should be filed with the Division not later than 30 days following the conclusion thereof.

(10) That the operator should take all other 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.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Wolfson Oil Company, is hereby authorized to utilize its Mountain-Federal Well No. 1, located in Unit G of Section 30, Township 7 South, Range 32 East, NHPM, Tomahawk-San Andres Pool, Roosevelt County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2-inch tubing installed in a packer set at approximately 3980 feet, with injection into the perforated interval from approximately 4108 feet to 4164 feet. -3-Case No. 6979 Order No. R-6440

REALTER CONTRACTOR CONTRACTOR

<u>PROVIDED HOWEVER</u>, 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 pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 825 psi.

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

(4) That within 30 days after the date of first injection into said Mountain-Federal Well No. 1 and semi-annually thereafter the applicant shall conduct appropriate tests to assure the integrity of the injection tubing and packer.

(5) That the applicant shall contact the supervisor of the Division's district office at Hobbs to establish an appropriate test procedure and an inspection schedule in order that the Division may witness such tests.

(6) That the results of such tests shall be filed with the Division not later than 30 days following the conclusion thereof.

(7) 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 sround said well and shall take such steps as may be timely and necessary to correct such failure or leakage.

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

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

Case No. 6979 Order No. R-6440 DONE at Santa Fe, New Mexico, on the day and year hereindesignated. above STATE OF NEW MEXICO OIL CONSERVATION DIVISION chub, JOE D. RAMEY Director SEAL fd/ Friday and the state of - [] 1.2.82.62

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and a second 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:

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION

Wolfson_EXHIBIT NO. 3 CASE NO. 6979

CASE NO. 6503 Order No. R-5977

APPLICATION OF SUNDANCE OIL COMPANY FOR SALT WATER DISPOSAL, ROOSEVELT COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 28, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 9th day of April, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Sundance Oil Company, is the owner and operator of the Cone Federal Well No. 8, located in Unit P of Section 31, Township 7 South, Range 32 East, NMPM, Tomahawk-San Andres Pool, Roosevelt County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres formation, with injection into the perforated interval from approximately 4207 feet to 4228 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic lined tubing i.stalled in a packer set at approximately 4107 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 left open in order to determine leakage in the casing, tubing, or packer. Case No. 6503 Order No. R-5977

-2-

(5) That the injection well or system should be equipped with a pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 1700 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, Sundance Oil Company, is hereby authorized to utilize its Cone Federal Well No. 8 located in Unit P of Section 31, Township 7 South, Range 32 East, NMPM, Tomahawk-San Andres Pool, Roosevelt County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4107 feet, with injection into the perforated interval from approximately 4207 feet to 4228 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 or be left open 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 substitute which will limit the wellhead pressure on the injection well to no more than 1700 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. 6503 Order No. R-5977

(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

ner JOE D. RAMEY Director

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WELLS LOCATED WITHIN ONE-HALF MILE OF DISPOSAL WELL

COMPANY	LEASE	WELL NO.	UNIT NO.	LOCATION	PRODUCING INTERVAL(ft)	Ť.D.	CASING	SACKS CEMENT	CALCULATED TOP
lo1fson	Mountain-Fed.	1	G	30,7-S,32-E	4108-4164	4295	412 @ 4280	300	2270
	n	2	H	11	4112-4178	4300	4½ @ 4300	300	2190
H	38	3	F		4097-4158	4280	41/2 @ 4272	325	2072
h	11	4	В	13	4120-4150	4185	5½ @ 4185	250	1790
11	0	5	C	ii	4100-4142	4270	5½ @ 4255	300	1596
9	Ir an	6	A	n an	4119-4172	4278	5½ @ 4200	275	1965
lag-Redfern	Westfall-Fed.	1	E	29,7-S,32-E	4112-4117	4330	4 ¹ / ₂ @ 4330	250	1790
xxon	Smith-Fed.	1	0	19,7-S,32-E	4036-4265	4308	5 ¹ 2 @ 4288	1860	Surf.
undance	Langley	1	J	30,7-S,32-E	4121-4128	4290	4 ¹ 2 @ 4290	300	2280
0	Chambers-Fed.	3	I	11	4151-4270	4350	4 ¹ ₂ @ 4350	300	2340
10 10	Cone-Fed.	9	K	z ^a H	4112-4180	4290	4 ¹ ₂ @ 4290	300	2280
ų II	0	18	Ε	0	4090-4128	4260	4½ @ 4260	300	2250
0		17	L	u	4100-4132	4285	4½ 0 4285	300	2275
H		10	N	B . 48	4107-4151	4325	4½ @ 4325	300	2315
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WOLFSON OIL COMPANY OIL PRODUCERS 3206 REPUBLIC NATIONAL BANK TOWER DALLAS, TEXAS 78201 GII MIDLAND NATIONAL BANK BUILDING MIDLAND, TERAS PROPOSED DISPOSAL WELL Mountain Federal No. 1 To pump 2" gate value 2" value 1 ay1" x 2" Tubingheak 8 Bull plug - 855" x 412" Broken hood 8%". 23" @ 1778 w/600 52. , circulated to 5x Treated Water 4 4 1/2"- 9.50" csg comointer 75 sx. How co Lite - 225 sx 50-50 Rozmix " Cless C" 2" Gel K-2" tubing @ 3986 w Guikerson Packer Perforations 4108-64' PB.D. 4260' 4108-64' 4 Y2" c 5 9. 42 80 T.D. 4295

Form C-108 Revised 3-1-68

NEW MEXICO OIL	CONSERVATION	COMMISSION
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			POROUS FORMATION

WOLFSON OIL	COMPANY	WELL NO.	3206 6	Republic Bank To	wer, Dallas, Texas
MOUNTAIN-FED	ERAL	1	Tomaha	IWK	Roosevelt
TION					
UNIT LETTER	; ,	WELL IS LOCATED	310 FEET FROM TH	E North LINE A	ND 1980 PEET FROM
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ERMEDIATE	8-5/8"	1788'	600	Surface	Circ. 45 sx
None					
G STRING					
9.5#	4-1/2"	4280'	300	2512	Calculation
ING			NAME, MODEL AND DEPTH O	F TUBING PACKER	
4.70# V-55	2"	4050'	Guiberson KVL-		
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Freedman(Signature)		<u> </u>	duction Enginee	<u>r</u>	June 13, 1980 (Date)

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 hus 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.

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第二次的社会

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

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Sulfates (SO ₄)	450			· · · · · · · · · · · · · · · · · · ·		
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	U.S. Marilyn Reberis		Superior Superior Transfer Taper	US. Stole Phillips O'yild	J. C. J.M. K.		32 State to	
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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. 6503 Order No. R-5977

APPLICATION OF SUNDANCE OIL COMPANY FOR SALT WATER DISPOSAL, ROOSEVELT COUNTY, NEW MEXICO.

Ex4: bi+ 3 Case 6979

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on March 28, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this <u>9th</u> day of April, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

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

(2) That the applicant, Sundance Oil Company, is the owner and operator of the Cone Federal Well No. 8, located in Unit P of Section 31, Township 7 South, Range 32 East, NMPM, Tomahawk-San Andres Pool, Roosevelt County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres formation, with injection into the perforated interval from approximately 4207 feet to 4228 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic lined tubing i..stalled in a packer set at approximately 4107 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 left open in order to determine leakage in the casing, tubing, or packer. Case No. 6503 Order No. R-5977

-2-

(5) That the injection well or system should be equipped with a pressure limiting switch or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 1700 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, Sundance Oil Company, is hereby authorized to utilize its Cone Federal Well No. 8 located in Unit P of Section 31, Township 7 South, Range 32 East, NMPM, Tomahawk-San Andres Pool, Roosevelt County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 4107 feet, with injection into the perforated interval from approximately 4207 feet to 4228 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 or be left open 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 substitute which will limit the wellhead pressure on the injection well to no more than 1700 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. 6503 Order No. R-5977

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(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

WELLS LOCATED WITHIN ONE-HALF MILE OF DISPOSAL WELL

COMPANY	LEASE	WELL NO.	UNIT NO.	LOCATION	PRODUCING INTERVAL(ft)	Τ.D.	CASING	SACKS CEMENT	CALCULATED TOP
Wolfson	Mountain-Fed.	1	G	30,7-S,32-E	4108-4164	4295	4½ @ 4280	300	2270
11	li	2	Н	N ~	4112-4178	4300	4 ¹ 2 @ 4300	300	2190
10		3	F	n	4097-4158	4280	41/2 @ 4272	325	2072
1	44	4	В	£¢	4120-4150	4185	5½ @ 4185	250	1790
it.	۲i ۲i	5	C	11	4100-4142	4270	5½ @ 4255	300	1596
1	in the second	6	A	n	4119-4172	4278	5½ @ 4200	275	1965
Flag-Redfern	Westfall-Fed.	1	Ε	29,7-S,32-E	4112-4117	4330	4½ @ 4330	250	1790
Exxon	Smith-Fed.	1	0	19,7-S,32-E	4036-4265	4308	5½ @ 4288	1860	Surf.
Sundance	Langley	.,1	J	30,7-S,32-E	4121-4128	4290	4½ @ 4290	300	2280
h	Chambers-Fed.	3	I	11, 12, 12, 12, 12, 12, 12, 12, 12, 12,	4151-4270	4350	4½ @ 4350	300	2340
and a second	Cone-Fed.	9	K	n Cy	4112-4180	4290	4½ @ 4290	300	2280
H	ii.	18	Ε	n	4090-4128	4260	4½ @ 4260	300	2250
H.	i di la constante di la consta	17	L	11	4100-4132	4285	4½ 0 4285	300	2275
1	i	10	N	11	4107-4151	4325	4½ @ 4325	300	2315
u .	H	1	Ρ	U .	4162-4174	4350	4 ¹ 2 @ 4350	450	1320
0	and the second	2	0		4127-4166	4310	4½ @ 4306	225	2796

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Ex 4: 6: 4 4 Case 69>9



Forn: C-108 Revised 3-1-68

NEW MEXICO OIL CONSERVATION COMMISSION

сці, 1955 23	APPLICATION	TO DISPOSE OF SA	ALT WATER BY	INJECTION	INTO A I	POROUS	FORMATION

WOLFSON OIL C	······································	WELL NO.	FIELD	······		Roosevelt		
	RAL	<u> </u>	Тол	Tomahawk				
	G	TELL IS LOCATED	310	North		1080		
UNIT LETTER				M THE	LINE ANI	D 1900 PEET PROM		
East LINE, SECTION	30 ,	WNSHIP 7-S	RANGE 32-E	NMPM.				
NAME OF STRING	SIZE	SETTING DEPTH	AND TUBING DATA		EMENT	TOP DETERMINED BY		
IRFACE CASING				1.2.2.1		· •		
23#	8-5/8"	1788'	600	Surtac	e	Circ. 45 sx		
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9.5#	4-1/2"	4280'	300	2512	·	Calculation		
4.70# V-55	2"	4050'	Guiberson K					
ME OF PROPOSED INJECTION FORMA		1 1000]	TOP OF FORMA	rion Letter	-	DM OF FORMATION		
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T ALL SUCH PERFORATED INTERVAL	S AND SACKS OF C	EMENT USED TO SEAL O	FF OR SQUEEZE EACH					
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ICIPATED DAILY MINIMUM	MAXIMUM			S INJECTION TO BE BY PRESSURE?				
250 200	400 LOWING WATERS AR	COS	TO BE LISPOSED OF	DTESSUTE	PO- ARE W	ATER ANALYSES ATTACHED?		
LIZED TO SUCH A DEGREE AS TO BE OCK, IRRIGATION, OR OTHER GENERA	LUSE - YES	Sa	lt water	salt water		yes		
AE AND ADDRESS OF SURFACE OWNE	Sector Classes Strategies	an a	>	•		<u></u>		
Tom Tucker, Elid			THIS INJECTION WELL			an a		
Sundance Oil Com	pany, 1776	Lincoln St	Denver, Colo	rado 80203				
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Flag-Redfern, Su	ite 1200 W	all Towers We	st, Midland,	<u>Texas 79701</u>	·····			
Exxon Oil Compan	v. Andrews	Texas						
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E COPIES OF THIS APPLICATION BEE T TO EACH OF THE FOLLOWING?	N SURFACE OWN	ER	EACH OPERATOR	WITHIN ONE-HALF MIL	<u> </u>			
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THE FOLLOWING ITEMS ATTACHED SAPPLICATION (SEE RULE 701-8)	· •		ELECTRICAL LOG	1. Sec. 1. Sec	1	MMATIC SKETCH OF WELL		
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K I freed	~	Pro	oduction Engi	neer		June 13, 1980		
G. Freedman(Signature)			(Title)			(Date)		
at the end of the 15-duy wai	ommission will ho ting period no pro	ld the application for	a period of 15 days f d by the Sunta Fe of	rom the date of receip	a by the Co	ompany this application, the Ne commission's Santa Fe office, cessed. If a protest is receive		

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Form 9-331 (May 1003)	DEPARI	UNITED STATES MENT OF THE INT GEOLOGICAL SURVEY		Form approved. Budget Bureau No. 42 8142 5. LEASE DESIGNATION (NO BERLA), NO NM1 18846	6.
	this form for prop	TICES AND REPORT	dust have to a different received.	6 II INIGIN, ALLOTTEE OR TRINE NAME	
 SAME OF OFERAT WOLFSON C ADDRESS OF OFE 3206 Reput DECATION OF MER Net also space to At surface 	on IL CO. MTOR blic Bank To blic Bank To	Salt Water Dispose ower, Dallas, Texas eleath and in accordance with 1980' FEL		7. UNIT AGREESSENT NAME N. FARM OR LEASE NAME Mountain-Federal 9. WELL NO. 1 10. FURD AND FOOL, OR WELLCAT Tomahawk (San Andres) 11. SPC. T. R. M., OR BLK. AND SURVEY OR AREA	
14. PERMIT NO.		15. FLEVATIONS (Phow wheth 4423 KB	r PF. 67, 68, efc.)	Sec. 30, T-7-S, R-32-E 12. COLSTY ON PARINUL 13. STATE Roosevelt New Mexi	ca
16. TEST WATER SH FRACTURE TREAT SHOOT OR ACIDIZ REPAIR WELL (Other) COL	NOTIVE OF INTE:	STION TO : PULL OR ALTER CASING MULTIPLE COMPLETE ARANDON® CHANGE PLANS	WATER SHUT-OFF FRACTURE TREATMENT SHOOTING OR ACTIVIZING (Other) (NOTE : Report results)	ENT REPORT OF:	
17. DESCRIBE PROPOSI proposed work nent to this work We wish	to convert o	BATHONS (Clearly state all port mally drilled, give subsurface i ur Nountain-Federa	neut details, and suce pertinent dates.	was die een de	

current San Andres producing zone. Our current disposal facilities, which have been utilized to inject our water into Sundance Cone No. 8, are located at the well and there will be no new surface disturbance. Instead of pumping to Sundance, we will pump into the flowline of our No. 1 well through 2" tubing set with a packer above the perforations with treated water behind the tubing. Injection will be ronitored by appropriate pressure gauges.

18. I hereby certify that the foregoing is true and correct TITLE Production Engineer DATE June 13, 1980 SIGNED (This space for Federal or State office use) and the second APPROVED BY CONDITIONS OF APPROVAL, IF ANY : TITLE DATE _

*See Instructions on Reverse Side

Exhibit 7 Case 6979

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

LABORATORY WATER ANALYSIS

To Wolfson Oil Conrar	y		Date	11-21-79	
<u>3206 Rerublic National Eank Tower</u> Dallas, Texas 75201		it not any or disclose of laborat course of and emplo	part thereof no d without first ory managemen regular business	is the property of Halliburton Compar- part thereof nor a copy thereof is to d without first securing the express wi ry management; it may however, be regular business operations by any pers gular business operations by any pers rees thereof receiving such report fro	
Submitted by		Company.	Date Rec	11-20-79	
Well No. Mountain ?ed.					
County	Field Tomahawk				
Resistivity					
Specific Gravity		- <u> </u>			
рН					
Calcium (Ca)					
Magnesiüm (Mg)	0 000				
Chlorides (Cl)					
Sulfates (SO ₄)	6.00			•	
Bicarbonates (HCO ₃)	Nil				
Soluble Iron (Fe)	100		······································		

Remarks:

342.4

*Milligrams per lite

No. W79-1042

Exhibit 8 Case 6979

Respectfully submitted,

Brewer Analyst: CC:

HALLIBURTON COMPANY \mathcal{U}^{i}

By.

N'OTICE 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.



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Form 9-331 (May 1963)	DEPAR	UNITED STATES TMENT OF THE IN	TERIOR wires sid	IN TRIPLICATE	5. LEASE DESIGNAT	1.11
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14. PERMIT NO.		15. ELEVATIONS (Show whe 4423 KB	ther pp, nr. on, etc.)	، ،	12 COUNTY OF PAR ROOSEVelt	
16.	Check A	Appropriate Box To Indic	ate Nature of Not		Other Data	99 14 - 14 - 14 - 19 14 - 14 - 14 - 14 - 14 - 14 - 14 - 14 -
17. DESCRIBE PROP	CONVERT Well	PTEL OR ALTER CASING MULTIPLE COMPLETE ABANDON* CHANGE PLANS to SWD FERATIONS (Clearly state all per tionally drilled, give subsurface	FRACTUR SHOOTIN (Other) (N Co rtiment defails, and g	ork: Report result impletion or Recomp give pertinent dates	RETAIRIN ALTERING ABANDON s of multiple completion plotion Report and Log s, including estimated cal depths for all mar)	CASING
current been ut well ar we will above i	: San Andres cilized to in dd there will pump into t che perforati	our Hountain-Feder producing zone. (ject our water inf be no new surface he flowline of our ons with treated w riate pressure gau	Our current d co Sundance Co e disturbance r No. Y well water behind	isposal fac one No. 8, . Instead through 2"	ilities, which are located a of pumping to tubing set wit	h have t the Sundance, th`a packer

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*See Instructions on Reverse Side

DA'

TITLE

Form C-108 Revised 3-1-68

NEW MEXICO OIL CONSERVATION COMMISSION

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

MOUNTAIN-FEDER	AL	WELL NO.	Pitto 1	omahawk		Roosevelt
CATION	G	9 ,	310		•+h	1980 reet ree
	, , ,	WELL IS LOCATED	ANGE 32-	FROM THE NOT	<u>41</u> LINE /	LND <u>1900</u> FEET FRO
		بنينية فيتحدد والمستحد والمستح	AND TUBING D	ATA		
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEN		POFCEMENT	TOP DETERMINED
23# ERMEDIATE	8-5/8"	1788'	600	S	urface	Circ. 45 sx
None string				<u> </u>		
9.5#	4-1/2"	4280'	300	DEPTH OF TUBING	2512 PAGNER	Calculation
4.70# V-55	2"	4050 '	Guiberson	1.1792-0-1		
E OF PROPOSED INJECTION FORMAT		••••••••••••••••••••••••••••••••••••••	TOP OF FO		80	TOM OF FORMATION
San Andres	OR ANNULUS?	PERFORATIONS	OR OPEN HOLE	4108 PROPOSED INTERV	LIST OF INJECTIO	4164'
Tubing	aliana ara	4108-		4108-6		na da anti-
HIS A NEW WELL DRILLED FOR	IF ANSWER I	NO, FOR WHAT PURPOS			HAS	WELL EVER BEEN PERFORATED IN IE OTHER THAN THE PROPOSED INJ N ZONE?
NO ALL SUCH PERFORATED INTERVALS	AND SACKS OF C	011	FF OR SOULEZE FA	CH		N ZONET NO
		• • • • • • • • • • • • • • • • • • •		an a		an a
TH OF BOTTOM OF DEEPEST SH WATER ZONE IN THIS AREA		DEPTH OF BOTTOM OF OIL OR GAS ZONE IN T	NEXT HIGHER		DEPTH OF TOP OF	NEXT LOWER N THIS AREA
Est. 200'	I MAXIMUM		ONE	IS INJECTION T	O BE BY GRAVITY	NONE
250 200	400	clos		PRESSURE?	ssure	250#
VER YES OR NO WHETHER THE FOLL Ized to such a degree as to be. K. Irrigation, or other general	OWING WATERS AP	E MIN- WATER	TO BE DISPOSED O			WATER ANALYSES ATTACHED?
R, IRRIGATION, OR OTHER GENERAL C AND ADDRESS OF SURFACE OWNER	J 🗸 J	25 Best Art 74	lt water	¦ salt	water	yes
Tom Tucker, Elida	s elemente de la constanción de la cons		n an			
NAMES AND ADDRESSES OF ALL OP						
Sundance 0il Comp	oany, 1776	Lincoln St.,	Denver, Co	olorado 80	203	
Flag-Redfern, Sui	te 1200 W	all Towers We	st. Midland	. Texas 7	9701	
an a				<u>, , , , , , , , , , , , , , , , , , , </u>		
Exxon Oil Company	, Andrews	, Texas	· · · · · · · · · · · · · · · · · · ·	- 1		
			an an tha an t			
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COPIES OF THIS APPLICATION BEE	N SURFACE OW	FB		TOR WITHIN ONE-H	ATE MPLE	
TO EACH OF THE FOLLOWING?	1 1 1 1 1 1 1 1 1	Yes	I OF THIS WE	Yes		ana ang kanalang kan Kanalang kanalang kana
ICD THE FOLLOWING ITEMS ATTACHED T APPLICATION (SEE RULE 701-B)	and the second		ELECTRICAL			RAMMATIC SKETCH OF WELL
3 ₁	1	Yes		Yes	<u> </u>	95
I hereby cert	ify that the inf	ormation above is t	rue and complet	e to the best of	my knowledge	and belief.
Scheelm		Pro	oduction Er	gineer		June 13, 1980
Freedman(Signature)			(Title)			(Date)
- パー・コート さんしょうかん あたみ ひょうかん しんしょう しょう	mmission will he	old the application for	a period of 15 da	ys from the date	of receipt by the	company this application, the Commission's Santa Fe offic processed, If a protest is recei

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		HCCC	HELES EVENTED HIMM ONE-IMEE OF DISTORDANC HELE						4
COMPANY	LEASE	WELL NO.	UNIT NO.	LOCATION	PRODUCING INTERVAL(ft)	Ţ.Ď.	CASING	SACKS CEMENT	CALCULATED TOP
Wolfson	Mountain-Fed.	1	G	30,7-S,32-E	4108-4164	4295	4 ¹ ₂ @ 4280	300	2270
u S	U	2	Ĥ	11	4112-4178	4300	4 ¹ ₂ @ 4300	300	2190
le	II	3	۶	II	4097-4158	4280	41/2 @ 4272 >	325	2072
u	11	4	B	11	4120-4150	4185	5½ @ 4185	250	1790
P1	tt.	5	C	H	4100-4142	4270	5½ @ 4255	300	1596
1	n an	6	A	D	4119-4172	4278	5½ @ 4200	275	1965
Flag-Redfern	Westfall-Fed.	1	Ε	29,7-S,32-E	4112-4117	4330	4 ¹ ₂ @ 4330	250	1790
Exxon	Smith-Fed.	1	0	19,7-S,32-E	4036-4265	4308	5 ¹ 2 @ 4288	1860	Surf.
Sundance	Langley	1	J	30,7-S,32-E	4121-4128	4290	4 ¹ 2 @ 4290	300	2280
9 H A	Chambers-Fed.	3	I	u D	415:-4270	4350	4 ¹ ₂ @ 4350	300	2340
n A	Cone-Fed.	9	K		4112-4180	4290	4 ¹ 2 @ 4290	300	2280
ÎI.	II	18	E	B	4090-4128	4260	4½ @ 4260	300	2250
H	lt	17	L	11	4100-4132	4285	4½ @ 4285	300	2275
) 	II	10	N	11 11	4107-4151	4325	4½ @ 4325	300	2315
it .	Ú.	1	P	н	4162-4174	4350	4 ¹ / ₂ @ 4350	450	1320
II	IJ	2	0	U	4127-4166	4310	4 ¹ ₂ @ 4306	225	2796
							a and the second se	<u></u>	

WELLS LOCATED WITHIN ONE-HALF MILE OF DISPOSAL WELL



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

LABORATORY WATER ANALYSIS

To Wolfson Oil Conrany			Date	11-21-79		
3206 Rerublic National Bank Tower Dallas, Texas 75201			This report is the property of Halliburton Company and it nor any part thereof nor a copy thereof is to be put or disclosed without first securing the express written as of laboratory management; it may however, be used course of regular business operations by any person or or and employees thereof receiving such report from Hall Company.			
Submitted by			Dote Rec	11-20-79		
Well No. Mountain Fed. #1	Depth	ista Maria Maria	Formation_	San Andres		
County	Field Tomahawk		Source			
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Resistivity	1997 - 1997 -					
Specific Gravity	(a) A set of the se	1997 - 1997 -				
рН						
Calcium (Ca)						
Magnesium (Mg)			анан аларын алары 1999 - Солон Алариан 1999 - <u>Алариан Алар</u> ан <mark>А</mark> лар			
Chlorides (Cl)	137,000					
Sulfates (SO ₄)	450	<u></u>				
Bicarbongtes (HCO ₃)	N·l					
Soluble Iron (Fe)		·	· · · · · · · · · · · · · · · · · · ·			
	· · · · · · · · · · · · · · · · · · ·					

Remarks:

1342-7 भिष्

*Milligrams per lite

No. W79-1042

Respectfully submitted,

Analyst: Brewer cc:

HALLIBURTON COMPANY By CHEMIST

NOTICE

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

Page 2 of 9

Examiner Hearing - Wednesday - July 23, 1980

CASE 6975: Application of Jack Grynberg and Associates for a unit agreement, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the Rio Felix Unit Area, comprising-7,675 acres, more or less, of Federal, State, and fee lands in Township 14 South, Ranges 24 and 25 East.

CASE 6976: Application of R. N. Hillin for an NGPA determination, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the Wolfcamp formation for a well located 800 feet from the South line and 2000 feet from the East line of Section 34, Tounship 19 South, Range 28 East.

Application of Benson Mineral Group, Inc. for salt water disposal, Sandoval County, New Mexico. CASE 6977: Applicant, in the above-styled cause, seeks authority to discose of produced salt water into the Chacra formation in the interval from 1636 feet to 1743 feet in its Navajo Well No. 1 in Unit F of Section 9, Township 22 North, Range 7 West, Rusty-Chacra Pool.

CASE 6978: Application of Benson Mineral Group, Inc. for salt water disposal, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Pictured Cliffs formation in the interval from 800 feet to 963 feet in its Federal Well No. 1 in Unit I of Section 4, Township 21 North, Range 7 West.

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CASE 6979: Application of Wolfson Oil Company for salt water disposal, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the interval from 4108 feet to 4164 feet in its Mountain-Federal Well No. 1 in Unit G of Section 30, Township 7 South, Range 32 East, Tomahawk-San Andres Pool.

CASE 6940: (Continued from June 25, 1980, Examiner Hearing)

Application of Adobe Oil Company for compulsory pooling, Lea County, New Mexico. Applicant, in the sbove-styled cause, seeks an order pooling all mineral interests down through the Wolfcamp formation underlying the NW/4 SE/4 for oil and the SE/4 for gas, Section 23, Township 20 South, Range 38 East, 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, designation of appli-cant as operator of the well, and a charge for risk involved in drilling said well.

CASE 6961: (Continued from July 9, 1980, Examiner Hearing)

Application of Conoco Inc. for a dual completion and unorthodox well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Meyer A-29 Well No. 11 to be drilled at an unorthodox location 990 feet from the North line and 660 feet from the East line of Section 29, Township 22 South, Range 36 East, to produce gas from the Langley-Devonian and -Ellenburger Pools thru parallel strings of tubing, the E/2 of said Section 29 to be dedicated to the well.

CASE 6980: Application of Bass Enterprises Production Company for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion of its Palmillo State Well Mo. 1 located in Unit J of Section 1, Township 19 South, Range 28 East, to produce gas from the North Turkey Track-Morrow Pool and oil from an undesignated Wolfcamp pool thru the casing-tubing annulus and tubing, respectively.

CASE 6960: (Continued from July 9, 1980, Examiner Hearing)

Application of Bass Enterprises Production Company for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests down to and including the Strawn formation underlying the S/2 SE/4 of Section 13, Township 16 South, Range 36 East, 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, designation of applicant as operator of the

CASE 6950: (Continued from July 9, 1980, Examiner Hearing)

well, and a charge for risk involved in drilling said well.

Application of Bass Enterprises 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 a Morrow test well to be drilled 660 feet from the North line and 1980 feet from the East line of Section 4, Township 25 South, Range 31 East, the E/2 of said Section 4 to be dedicated to the well.

CASE 6981: Application of Bass Enterprises Production Company for a special gas-oil ratio limitation, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a special gas-oil ratio limitation of 8000 to one for the Palmillo-Bone Springs Pool.

OIL CONSERVATION DIVISION DISTRICT 1

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OIL CONSERVATION DIVISION P. 0. BCX 2088 SANTA FE, NEW MEXICO 87501

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RE	:	Proposed MC	÷.,
		Proposed DHC	
		Proposed USL	

DATE June 16, 1980

Proposed !!SP	2011 - L	
Proposed SHD	X	
Proposed WFX		
Proposed PMX		

Cuse 6979

Gentlemen:

I have examined the application for the:

Wolfson Oil Co. Mountain Federal No. 1-Ġ 30-7-32 Unit, S - T - R Operator Lease and Well No.

and my recommendations are as follows:

It appears that this will require a hearing. All copies of application .

are attached.---J.S.

Yours very truly,

ECEIVED **ILIN 1 9** RVATION DIVISION CIL CON SANTA FE

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APPLICATION TO	DISPOSE (OF SALT WAT	ER BY INJ	ECTION INTO A	POROUS FORMATION	1.1

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

LABORATORY WATER ANALYSIS

To <u>Wolfson Oil Comrany</u> <u>3206 Rerublic Nation</u> Dallas, Texas 75201	al Bank Tower	it nor any part there or disclosed without of laboratory manag course of regular bus	11-21-79 operty of Halliburton Company and of nor a copy thereof is to be put first securing the express written a ement; it may however, be used iness operations by any person or c of receiving such report from Hall
Submitted by		Date R	ec. 11-20-79
Well No. Mountain Fed. #1	Depth	Formati	on San Andres
County	Field_Tomahawk	Source_	
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Resistivity			
	1.150		
рН	4.5		
Calcium (Ca)	25,000		
Magnesium (Mg)	2,700		
Chlorides (Cl)	137.000		en versen sterre den ander en ere
Sulfates (SO4)	450		
Bicarbonates (HCO ₃)	Nil		
Soluble Iron (Fe)	400		
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Remarks:

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Respectfully submitted,

Brewer Analyst: cc:

HALLIBURTON COMPANY CHEM

By_

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.

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PROPOSED SALT WATER DISPOSAL WELL- MOUNTAIN-FEDERAL MO. 1

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23#	8-5/8"	1788'	600	Surface	Circ. 45 sx
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None					
9.5#	4-1/2"	4280'	300	2512	Calculation
4.70# V-55	2"	4050'	Guiberson Ki		(A) An and (A) and
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	under an all and from	an gifer den tek			
Flag-Redfern, S	<u>uite I200 Wa</u>	II lowers W	est, Midland,	Texas /9/01	
Exxon Oil Compa	iny, Andrews,	Texas			
VE COPIES OF THIS APPLICATION	BEEN SURFACE OWNE		TEACH OPERATOR	WITHIN ONE-MALF MILE	
NT TO EACH OF THE FOLLOWINGT	Ye		I OF THIS WELL	Yes	
E THE FOLLOWING ITEMS ATTACHE IS APPLICATION (SEE RULE 701-B	D TO PLAT OF AREA		ELECTRICAL LOG		DIAGRAMMATIC SKETCH OF WELL
	<u> </u> Ye			Yes	Yes
I hereby c	ering that the infor		true and complete to	an di s	
W Incod	n	P	roduction Engin	neer	June 13, 1980
G. Freedman(Signature)			(Tüle)		(Date)

NOTE: Should waivers from the surface owner and all operators within one-half m¹¹? 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.

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- HALLIBURTON DIVISION LABORATORY HALLIBURTON SERVICES MIDLAND DIVISION

HOBBS, NEW MEXICO 88240

LABORATORY WATER ANALYSIS

No. W79-1042

Wolfson Oil Conrany 11-21-79 To_ Date_ This report is the property of Halliburton Company and m it nor any part thereof nor a copy thereof is to be publi or disclosed without first securing the express written app of laboratory management; it may however, be used in course of regular business operations by any person or con and employees thereof receiving such report from Halliba Company. 3206 Rerublic National Bank Tower Dallas, Texas 75201 11-20-79 Submitted by_____ _____ Date Rec.___ Well No. Mountain Fed. #1 Depth_____ Formation_ San Andres Field Tomahawk ____ Source_ County___ •••••• -----Resistivity _____ 1.150 Specific Gravity 4.5 pH _____ 25,000 Calcium (Ca) *MPL 2,700 Magnesium (Mg) Chlorides (Cl) 137,000 450 Sulfates (SO₄) Nil Bicarbonates (HCO₃) 400 Soluble Iron (Fe) _____ 1.1.1 Ъċ *Milligrams per liter **Remarks**:

Respectfully submitted,

Analyst: Brewer

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HALLIBURTON COMPANY

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.

DIAGRAMMATIC SKETCH

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PROPOSED SALT WATER DISPOSAL WELL- MOUNTAIN-FEDERAL NO. 1

WOLFSON OIL COMPANY			3206	3206 Republic Bank Towe AND Las		
MOUNTAIN-FE	DERAL	WELL NO.	Tomahawk		Rooseve	
UNIT LETTER East Line, section NAME OF STRING BURFACE CASING	20	NNSHIP 7-S	RANGE 32-E G AND TUBING DATA	THE <u>NORTH</u>	INE AND 1980 PE	
23#	8-5/8"	1788'	600	Surface	Circ. 45 sx	
None						
9.5#	4-1/2"	4280'	300	2512	Calculation	
4.70# V-55	2"	4050'	Guiberson KVL			
NAME OF PROPOSED INJECTION FOR	MATION		TOP OF FORMATIC	ON .	SOTTOM OF FORMATION	
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Flag-Redfern,	Suite 1200 Wa	11 Towers We	est, Midland, T	<u>exas 79701</u>		
Exxon Oil Comp	any, Andrews,	Texas				
HAVE COPIES OF THIS APPLICATION SENT TO EACH OF THE FOLLOWING? Yes Are the following items attacy This application (see rule 701-	HED TO PLAT OF AREA	es	I OF THIS WELL	a da ser	DIAGRAMMATIC BRETCH OF WEL	
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. G. Freedman(Signosure)			(Title)		(Date)	

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A CONTRACTOR OF THE

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

LABORATORY WATER ANALYSIS

No.

W79-1042

<u>3206 Rerublic Navional Bank Tower</u> Dallas, Texas 75201			it nor any part thereof nor a copy thereof is to be publis or disclosed without first securing the express written appre of laboratory management; it may however, be used in course of regular business operations by any persion or cone and employees thersof receiving such report from Heilibur Company.			
Submitted by			_ Date Rec	11-20-79		
Well No. Mountain Fed. #1	Depth		_ Formation_	San Andres		
County	Field Tomahawk		Source			
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Resistivity						
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рН	4.5					
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Magnesium (Mg)	2,700	4				
Chlorides (Cl)	137,000	ta ta y	1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 - 1997 -			
Sulfates (SO,)	450					
Bicarbonates (HCO ₃)	Nil		· · · · · · · · · · · · · · · · · · ·			
Soluble Iron (Fe)	400					
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Remarks:

1342. ...

*Milligrams per liter

Respectfully submitted,

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Brewer Analyst: cc:

HALLIBURTON COMPANY Seu By. CHEMIS'

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.



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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.	6979	41
Order No.	R- (0440	

APPLICATION OF WOLFSON OIL COMPANY FOR SALT WATER DISPOSAL, ROOSEVELT COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on <u>July 23</u> 19<u>60</u>, at Santa Fe, New Mexico, before Examiner <u>Richard L. Stamets</u> NOW, on this <u>day of July k</u>, 19<u>80</u>, 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, <u>Wolfson Oil Company</u>
 is the owner and operator of the <u>Mountain-Federal Well No. 1</u>
 located in Unit <u>G</u> of Section <u>30</u>, Township <u>7 South</u>
 Range <u>32 East</u>, NMPM, <u>Tomahawk-San Andres Pool</u>
 <u>Roosevelt</u> County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into **Substantian** the San Andres formation, with injection into the <u>performated</u> interval from approximately 4108 feet to 4164 feet.

(4) That the injection should be accomplished through $\frac{2}{-inch}$ -inch poster Reco tubing installed in a packer set at approximately $\underline{3780}$ feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order

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

(5) That the injection well or system should be equipped pressure limiting scales with a popole or acceptable substitute which will limit the wellhead pressure on the injection well to no more than <u>825</u> psi.

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

from the <u>San Andres</u> formation. (T) That within 30 days after the date of first injection in to soid Mountain Federal Well No 1 and semi-annually Thereafter the applicant Should conclust appropriate tests to assure the contraction integrity of the Injution tubing and (8) that The opplicant should maker The supervisor of the Division's office at Hobbs person to establish tomulate an appropriate test procedu and an inspection schedule in order that the Division may witness sue tests

(9) That the results of such tests should be filed with the Divisor not later than 30 day stollowing the conclusion there of.

(10) (0) 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.

(1) (1) (9) 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, <u>Wolfson Dil Company</u>, is hereby authorized to utilize its <u>Mountain-Federal Well No. 1</u> located in Unit <u>G</u> of Section <u>30</u>, Township <u>7 South</u> Range <u>32 East</u>, NMPM, <u>Tomahawk-San Andres Pool</u>, <u>County, New Mexico, to dispose of produced salt</u> water into the <u>San Andres</u> formation, injection to be accomplished through <u>2</u>—inch tubing installed in a packer set at approximately <u>3780</u> feet, with injection into the <u>perforated</u> interval from approximately <u>4108</u>

PROVIDED HOWEVER, the the tabling shall be prastic fixed; 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 pressure / in this switch.
 with a pressure or acceptable substitute which will
 limit the wellhead pressure on the injection well to no more than ______ psi.

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

Will No 1 and semi-annually thereafter the opplicant Will No 1 and semi-annually thereafter the opplicant Will No 1 and semi-annually thereafter the opplicant assure the contracting of the injusion tubing and packer. (D) (5) Vhat The opplicant charle the The supervisor of the Division's district office at Hobbs perfected to tresholish Allet an appropriate tost procedute and an inspection schedule is order That The Division may witness such tests. (0)(6) That the results of such tests But be filed with the Divison not later than 30 day stollowing the conclusion there of. shall

(7) CS). That the operator shall immediately notify the supervisor of the Division's <u>Hobbs</u> 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.

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

(?) 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.