# CASE NO.

7483

APPlication, Transcripts, Small Exhibits,

ETC.

1 2 STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT 3 OIL CONSERVATION DIVISION STATE LAND OFFICE BLDG. SANTA FE, NEW MEXICO 17 February 1982 5 EXAMINER HEARING 6 7 IN THE MATTER OF: 8 Application of Adams Exploration CASE Company for salt water disposal, 7483 Chaves County, New Mexico. 9 10 11 12 13 BEFORE: Richard L. Stamets 14 15 TRANSCRIPT OF HEARING 16 17 APPEARANCES 18 19 For the Oil Conservation W. Perry Pearce, Esq. Legal-Counsel to the Division Division: 20 State Land Office Bldg. Santa Fe, New Mexico 87501 21 22 For the Applicant: Owen Lopez, Esq. 23 MONTGOMERY AND ADREWS Paseo de Peralta 24 Santa Fe, New Mexico 87501 25

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5	EXAMINER HEARING	÷
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7	IN THE MATTER OF:	· •
	Application of Adams Exploration Company for salt water disposal, Chaves County, New Mexico.	CASE 7483
	BEFORE: Richard L. Stamets	
	T'RANSCRIPT OF HEARING	
		••
	APPEARANCES	
	For the Oil Conservation W. Perry Pearce, Es Division: Legal-Counsel to the	e Division
	State Land Office E Santa Fe, New Mexic	
	For the Applicant:  Owen Lopez, Esq.  MONTGOMERY AND ADREW	S

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Paseo de Peralta . Santa Fe, New Mexico 87501

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JOHN MALLOY	
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Applicant Exhibit Five, Letters	8
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	Direct Examination by Mr. Lopez  E X H I B I T S  Applicant Exhibit One, Map  Applicant Exhibit Two, Schematic  Applicant Exhibit Three, Data Sheet  Applicant Exhibit Four, Water Analysis

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MR. STAMETS: We'll call next Case 7483. MR. PEARCE: Application of Adams Exploration Company for salt water disposal, Chaves County, New Mexico. MR. LOPEZ: Mr. Examiner, my name is Owen Lopez with the law firm of Montgomery and Andrews, Santa Fe, New Mexico, appearing on behalf of the applicant. I have one witness to be sworn. 10 (Witness sworn.) 11 12 JOHN MALLOY 13 being called as a witness and being duly sworn upon his oath, 14 testified as follows, to-wit: 15 16 DIRECT EXAMINATION 17 BY MR. LOPEZ: 18 19 Would you please state your name, by 20 whom you're employed, and in what capacity? 21 My name is John Malloy. I am employed 22 by Loy Boyd and Associates and represent Adams Exploration 23 as a consulting engineer. 24 Are you familiar with this application 25 in Casa Number 7483?

1	
2	λ. Yes, I am.
3	Q. Have you previously testified before
4	this Commission and had your qualifications accepted as a
5	matter of record?
6	A. Yes, I have.
7	Q. What does Adams Exploration Company
8	seek in this case?
9	A. The authority to dispose of produced
10	water into the San Andres formation in the perforated inter-
11	val from 4176 feet to 4293 feet in its Griffin Well No. 4,
12	located in Unit A, Section 10, Township 8 South, Range 32
13	East, in the Chaveroo San Andres Pool.
14	MR. LOPEZ: Are the witness' qualifica-
15	tions acceptable?
16	MR. STAMETS: They are.
17	Q. Would you please now turn to Exhibit
18	Number One and identify it?
19	A. Exhibit Number One is a map showing a
20	half mile radius, indicating all of the producing all of
21	the wells within that within that radius, and also indi-
22	cating the 2-mile radius and the wells located in the 2-mile
23	radius.
24	Also attached are the well records of
25	each well located in the one-half mile radius and all of the

2 pertinent data that pertains to each one of those wells. 3 These are all the wells within a half mile of the proposed injection well. 5 Yes, they are. 6 Now I would ask you to turn to --7 MR. STAMETS: Could you hold it just a 8 second while I take a quick look through those? 9 Okay, my examination indicates that each 10 one of the wells within the half mile radius is -- has 11 casing set through and cemented well above the proposed 12 injection interval, is that correct? 13 A. That is true. It might also be added 14 that -- that surface casing is set to the vicinity of 17 to 15 1800 feet and each well has cement circulated to the surface. 16 MR. STANETS: Thank you very much. 17 Q. Now I'd ask you to turn to Exhibit 18 Number Two and identify it. 19 Exhibit Number Two is a schematic 20 showing the distance to the nearest and only fresh water well, 21 located within this one-half mile radius. This water is --22 this fresh water well is used for stock water and is produced 23 by a windmill. Now if you would turn to Exhibit Number

24

25

Three and identify it.

A. Exhibit Number Three is the injection well data sheet. It shows the casing, the casing, the perforation, and the schematic of the proposed completion of the salt water disposal injection well.

It also includes, on page two of that sheet, the name of the formation; it indicates the date at which the permit was issued for the original well; that the well has never been perforated in any zone other than the San Andres; and also points out the geologic, or the producing pays that exist below the proposed injection zone.

What is the geological data with respect to the proposed injection zone?

The injection zone in the proposed well is the San Andres formation. It is composed of a dolomite. Gross thickness of this injection zone is 117 feet. The top of the San Andres formation in the proposed injection well is 3449 feet and the well was still in the San Andres at a total depth of 4315 feet.

The depth to the bottom of the underground source of drinking water would be at 380 feet, which is the base of the Tertiary formation in this well.

Q. Okay, and what is the nature of the proposed operation of the well?

A Adams Exploration proposed to utilize

this injection well to dispose of produced water from its Hooper Lease Wells Nos. 1 and 2, and the Griffin Lease Wells No. 1 and 2.

Present water production from the Hooper Lease is 70 barrels per day and from the Griffin Lease is 90 barrels per day. The proposed average volume of water to be injected is 160 barrels per day. Maximum anticipated water volume to be injected would be 200 barrels per day. The average anticipated injection rate is 1/2 barrel per minute at an average pressure of 50 psi. Maximum anticipated rate is one barrel per minute at a maximum pressure of 200 psi.

This proposal is to re-inject water produced from the San Andres formation back into the San Andres formation.

Q. And how had the well been stimulated?

A. The San Andres formation, perforations

4176 to 4293, have been stimulated with 5500 gallons of acid.

The well was produced -- the well has produced an average of 140 barrels of water per day and no oil during the testing period.

The only additional stimulation anticipated would be an occasional acid job after the well is being utilized for injection.

2 Q. And how would you p	
y. And now would you p	propose to monitor
3 casing leaks?	
A. The casing will be	monitored by casing
5 leakage test. Also there will be packer	s in the well and
6 fresh water analysis from on the fresh	sh water well and
7 water analysis in the producers, and the	producing wells
8 will be continually monitored.	
9 Q. Would you now turn	to Exhibit Number
10 Four and identify it?	en e
11 A. Exhibit Number Four	is a series of
water analysis taken from each one of th	e producing wells
and a water analysis by Tretolite taken	from the fresh water
	from the fresh water
14 well.	respect to Exhibit
14 well.  15 Q Okay. And now with	
<pre>14 well. 15</pre>	respect to Exhibit
well.  Q Okay. And now with  Number Five, would you identify it?  A Exhibit Number Five	respect to Exhibit is a series of
well.  Okay. And now with  Number Five, would you identify it?  A. Exhibit Number Five  letters with certified mail certificates	respect to Exhibit is a series of notifying all the
well.  Okay. And now with  Number Five, would you identify it?  A. Exhibit Number Five  letters with certified mail certificates  offset operators, of which there were the	respect to Exhibit  is a series of  notifying all the  ree.
well.  Q Okay. And now with  Number Five, would you identify it?  A Exhibit Number Five  letters with certified mail certificates  offset operators, of which there were the  Q In your opinion will	respect to Exhibit is a series of notifying all the ree. l the granting of
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well.  Q Okay. And now with  Number Five, would you identify it?  A. Exhibit Number Five  letters with certified mail certificates  offset operators, of which there were the  Q In your opinion will  this application be in the interest of the  waste and the protection of correlative	respect to Exhibit  is a series of  notifying all the  ree.  l the granting of  he prevention of
14 well.  15 Q. Okay. And now with  16 Number Five, would you identify it?  17 A. Exhibit Number Five  18 letters with certified mail certificates  19 offset operators, of which there were the  20 Q. In your opinion will  21 this application be in the interest of the  22 waste and the protection of correlative in the interest of the correlative in	respect to Exhibit  is a series of  notifying all the  ree.  l the granting of  he prevention of

to their accuracy?

Yes, I can. A.

MR. LOPEZ: I'd offer at this time Exhibits One through Five.

MR. STAMETS: These exhibits will be admitted.

I believe you identified Exhibit Five as only going to offset operators, but it would appear that the top letter to Tom Gainer is the --

I stand corrected. You're right. I believe that is the -- that is the land owner, surface owner. MR. STAMETS: Are there any questions of this witness? He may be excused.

> Anything further in this case? The case will be taken under advisement.

(Hearing concluded.)

# 

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

# CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREBY 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.

Sorly W. Boyd CSE)

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2483.

Examiner Oil Conservation Division

# BRUCE KING GOVERNOR LARRY KEHOE SECRETARY

# ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

March 3, 1982

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

Mr. Owen Lopez Montgomery & Andrews	Re: CASE NO. 7483 ORDER NO. R-6910
Attorneys at Law Post Office Box 2307 Santa Fe, New Mexico	Applicant:
	Adams Exploration Compan
Dear Sir:	
Enclosed herewith are two co Division order recently ente	opies of the above-referenced ered in the subject case.
Yours very truly,  JOE D. RAMEY Director	
JDR/fd	
Copy of order also sent to:	
Hobbs OCD x Artesia OCD x Aztec OCD	・
Other	

#### ODIVEC MEM SO TEATR PERCENTAGE STATEMEN JUA VOTUME POLSTVEG MOTEAVLISUOD (FO

IN THE MATTER OF THE PRABETIC CALLED BY THE OIL CONSERVATION DIVISION FOR THE PUPPOSE OF CONSIDERING:

CASP NO. 7483 Order No. F-6910

APPLICACION OF ADALS EXPLORATION COMPANY FOR SALT WATER DISPOSAL, CUAVES COUNTY, BUT MEXICO.

#### OPDER OF THE DIVISION

#### BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 17, 1982, at Santa Fo, New Mexico, before Examiner Pichard L. Stamets.

NOW, on this <u>2nd</u> day of March, 1982, the Division Director, having considered the testimory, the record, and the recommendations of the Fxaminer, 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, Adams Exploration Company, is the owner and operator of the Criffin Well No. 4, located in Unit A of Section 10, Township & South, Range 32 East, NMPM, Chaves 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 4176 feet to 4293 feet.
  - (4) That the injection should be accomplished through 2 3/8-inch epoxy lined tubing installed in a packer set at approximately 4100 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.
  - (5) That the injection well or system should be equipped with a pressure limiting switch or other acceptable device which

Cane No. 3453 Oxacr Do. 2-6910

will limit the wellness presence on the injection well to recove that fill pri-

- (6) Then the Director of the Dividion should be authorized to administratively approve an increase in the injection procesure 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.
- (7) That the operator should notify the supervicer of the Police district officer of the Birlian of the date and time of the installation of disposal equipment so that the same may be inspected.
- (8) That the operator should take all steps necessary to easure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or enterthe surface.
- (9) That approved of the subject application will prevent the drilling of unnecessary wells and otherwise prevent wacte and protect correlative rights.

#### IT IS THURTHORF ORDERT.

(3) That the applicant, Adams Exploration Company, is hereby authorized to utilize its Griffin Wall No. 4, located in Unit A of Scotion 10, Township & South, Range 32 East, HMPM, Chaves County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 3 3/8-inch tubing installed in a packer set at approximately 4100 feet, with injection into the perforated interval from approximately 4176 feet to 4793 feet;

PROVIDED FOREVER, that the bubing shall be epoxy-lined; that the wasing-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 look detection device in order to determine lookage in the casing, tubing, or packer.

- (2) That the injection well or system shall be equipped with a pressure limiting switch or other acceptable device which will limit the wellhead pressure on the injection well to no more than 835 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

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- (4) That the operator shall notify the supervisor of the vehic district office of the Division of the date and time of the installation of disposal equipment we that the cure can be inspected.
- (5) Four the operator shall immediately notify the supervisor of the Division's Robbs district office of the feilure of the subject casing, or weaker, in said well or the inskage of yeter from or around said well and chall take such stops as may be timely and necessary to connect such feilure or lookage.
- (6) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 702, 703, 704, 705, 706, 708, and 1120 of the Division Eules and Regulations.
- (7) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

. DOUB at Banka Do. How Pexico, c. he day and year hereighted designated.

OIL CONSCEVATION DIVISION

JOE D. PARTY

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POTENTIAL TEST:

DATE

### WELLS WITHIN AREA OF REVIEW ( 1/2 MILE RADIUS)

OPERATOR: Adams Exploration Company WELL NO.: 1 LEASE NAME: Griffin FIELD NAME: Chaveroo San Andres LOCATION OF WELL: Unit Letter B, 330' FNL & 1980' FEL, Sec. 10, T-8-5, R-32-E, Chaves County, New Mexico... TYPE OF LEASE: Fee ..... WELL STATUS: Pumping oil well PRODUCING FORMATION: San Andres SPUD DATE: 11-9-80 COMPLETION DATE: 12-21-80 TOTAL DEPTH: 4400' PLUG BACK DEPTH: 4355' AN CONTRACTOR OF THE PROPERTY CASING RECORD: SIZE WEIGHT DEPTH CEMENTING RECORD 4 TOP OF CEMENT 85/8" 24 # 1842' 450 sx. "LW" + 200 sx. Class"C" Top of cement at surface 4½" 10.5# 4400' 300 sx. Class "C" Top of cement at 2660' TUBING RECORD: SIZE DEPTH - PACKER DEPTH 2<sup>3</sup>/8" 4180' None PERFORATIONS AND TREATMENT: INTERVAL TREATMENT 4176'-4199' (4 holes) Acidized w/ 250 gals. 20% HC1 4242'-4313' (7 holes) Acidized w/ 1250 gals. 20% HCI

PRODUCTION

12-23-80 Pumped 55 BBLS. OIL + 10 BBLS. WATER

in 24 hours

#### VI.

## WELLS WITHIN AREA OF REVIEW ( 1/2 MILE RADIUS)

OPERATOR: Adams Exploration Company LEASE NAME: Hooper WELL NO.: 1 FIELD NAME: Chaveroo San Andres LOCATION OF WELL: Unit Letter G, 1650' FNL & 2310' FEL, Sec. 10, T-8-5, R-32-E, Chaves County, New Mexico TYPE OF LEASE: Fee entropy of the second s WELL STATUS: Pumping oil well PRODUCING FORMATION: San Andres SPUD DATE: 3-27-81 COMPLETION DATE: 5-14-81 TOTAL DEPTH: 4338' PLUG BACK DEPTH: 4330' CASING RECORD: SIZE WEIGHT DEPTH CEMENTING RECORD & TOP OF CEMENT 85/8" 24# 1810' 600 sx. "LW" + 200 sx. Class "C" Top of cement at surface. 4½" 10.5# 4338' 400 sx. 50:50 Pozmix Top of cement at 2500' -----. . \_\_\_\_ TUBING RECORD: SIZE DEPTH PACKER DEPTH 2<sup>3</sup>/8" 4283' None PERFORATIONS AND TREATMENT: INTERVAL TREATMENT' 4175'-4195' (8 holes) Acidized w/ 4300 gals. 15% HCI

POTENTIAL TEST:

DATE

PRODUCTION

8-24-81

Pumped 8 BBLS. OIL + 30 BBLS. WATER

+ 2.6 MCF in 24 hours

4234'-4248' (10 holes) Acidized w/ 4300 gals. 15% HCI

#### WELLS WITHIN AREA OF REVIEW ( 1/2 MILE RADIUS)

OPERATOR: Adams Exploration Company

LEASE NAME: Hooper WELL No.: 2

FIELD NAME: Chaveroo San Andres

LOCATION OF WELL: Unit Letter H, 1980' FNL + 660' FEL,

Sec. 10, T-8-S, R-32-E, Chaves County, New Mexico

TYPE OF LEASE: Fee

WELL STATUS: Pumping oil well

PRODUCING FORMATION: San Andres

SPUD DATE: 7-26-81 COMPLETION DATE: 9-2-81

TOTAL DEPTH: 4294' PLUG BACK DEPTH: 4290'

\_\_CASING RECORD:

SIZE WEIGHT DEPTH CEMENTING RECORD & TOP OF CEMENT 85/8" 24# 1861' 500 sx. "LW" + 200 sx. Class "C"

Top of cement at surface 41/2" 10.5# 4294' 300 sx. Class "H"

Top of cement at 2700'

TUBING RECORD:

SIZE DEPTH PACKER DEPTH

2<sup>3</sup>/8" 4239' None

PERFORATIONS AND TREATMENT:

INTERVAL

4180'-4206' (10 holes) Acidized w/300 gals. 15% HC1

4232'-4278' (18 holes) Acidized w/ 500 gals. 15% HC1

POTENTIAL TEST:

DATE PRODUCTION

9-27-81 Pumped 5 BBLS. OIL + 70 BBLS. WATER

+ 1.2 MCF in 24 hours

#### VI.

## WELLS WITHIN AREA OF REVIEW ( MILE RADIUS)

OPERATOR: El Ron, Inc.

LEASE NAME: Sarah

WELL NO .: 1

FIELD NAME: Chaveron

LOCATION OF WELL: Unit Letter 0, 990' FSL + 2200' FEL,

Sec. 3, T85, R32E, Choves County, New Mexico

TYPE OF LEASE: Fee

WELL STATUS: Pumping oil well ...

PRODUCING FORMATION: San Andres

SPUD DATE: 4-8-80 COMPLETION DATE: 4-23-80

TOTAL DEPTH: 4390' PLUG BACK DEPTH: 4387'

CASING RECORD:

SIZE WEIGHT DEPTH CEMENTING RECORD 4 TOP OF CEMENT

1682' 550 sx. Circulated

The second secon

4389' 175 sx. Top of cement 3620'

by calculation

SIZE DEPTH PACKER DEPTH

...2<sup>3</sup>/8" ...4285'....

PERFORATIONS AND TREATMENT:

INTERVAL TREATMENT

4172'-4284' Acidize W/ 6000 gals. 20% HC1

POTENTIAL TEST:

DATE

PRODUCTION

Pumped 82 BBLS. OIL + 10 BBLS. WATER in 24 hours. GOR TSTM

WELLS WITHIN AREA OF REVIEW ( 1/2 MILE RADIUS)

OPERATOR: El Ran, Inc.

LEASE NAME: Carroll

WELL No.: 2

FIELD NAME: Chaveroo

LOCATION OF WELL: Unit Letter P, 990' FSL4 990' FEL,

Sec. 3, T85, R32E, Chaves County, New Mexico

TYPE OF LEASE: Fee

WELL STATUS: Flowing oil Well

PRODUCING FORMATION: San Andres

SPUD DATE: 10-17-80 COMPLETION DATE: 10-31-80

TOTAL DEPTH: 4313' PLUG BACK DEPTH: 4312'

CASING RECORD:

SIZE WEIGHT DEPTH CEMENTING RECORD & TOP OF CEMENT 1665 575 sx. Circulated 4312' 175 sx. Top of cement 3545! by Calculation

TUBING RECORD:

SIZE DEPTH PACKER DEPTH 2<sup>3</sup>/8" 4263' None

PERFORATIONS AND TREATMENT:

TREATMENT INTERVAL

4193'-4281' Acidize w/ 6000 gals. 20% HC1

#### POTENTIAL TEST:

#### DATE

#### PRODUCTION

Flowed 45 BBLS. OIL + O BBLS. WATER +28.8 MCF in 24 hours through 1" choke. Tubing press. 135 psi. Cosing press. 385 psi.

# VI. WELLS WITHIN AREA OF REVIEW ( 1/2 MILE RADIUS)

OPERATOR: MWJ Producing Co.

LEASE NAME: Chayeroo State WELL NO.: 8

FIELD NAME: Chaveroo

LOCATION OF WELL: Unit Letter M, 990' FSL & 330' FWL,

Sec. 2, T85, R32E, Chaves County, New Mexico ....

TYPE OF LEASE: State

WELL STATUS: Pumping oil well

PRODUCING FORMATION: San Andres

SPUD DATE: 4-2-81 COMPLETION DATE: 7-23-81

TOTAL DEPTH: 4330' PLUG BACK DEPTH: 4322'

\_\_\_CASING RECORD:

SIZE WEIGHT DEPTH CEMENTING RECORD & TOP OF CEMENT

85%" 1785' 625 sx. Circulated

41/2" 4330' 325 sx. Top of cement 2900'

by calculation

TUBING RECORD:

SIZE DEPTH PACKER DEPTH

2<sup>3</sup>/8" 4219' None

PERFORATIONS AND TREATMENT:

INTERVAL TREATMENT

4202'-4318' Acidize W/ 1500 gals.

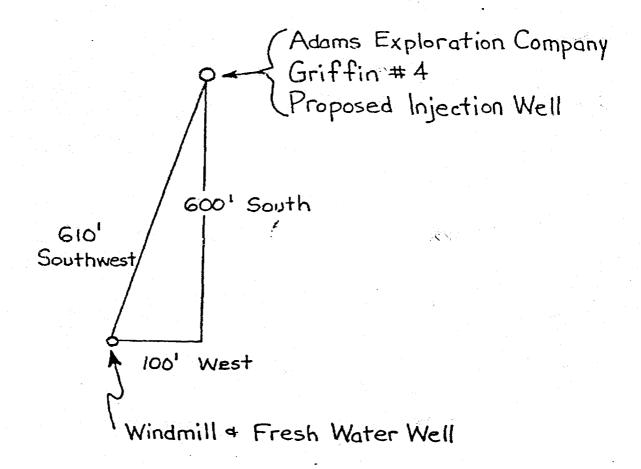
POTENTIAL TEST:

DATE

PRODUCTION

Pumped 31 BBLS. OIL + 55 BBLS. WATER + 41 MCF in 24 hours

There is only one fresh water well within a one mile radius of this proposed injection well. The location of the well is shown below. The water well is pumped by a windmill and the water is used for livestock consumption.



BEFORE EXAMINER STAMETS OIL CONSE. WATERS DIVISION AND EXHILL LICE.
CASE NO. 1483
Submitted by J. Malley
Hearing Daie 2-17-82

BEFORE EMANUELLA AMETS
OIL COETA AMETA AMETS
Adams
CASTRIGO 7/83
Substituting J. Malley
Hearing 2-17-82

Schematic	Tubular Data
85/8" @ 1808' ]  23/8" tubing 2  Pkr @ 4100'	Surface Casing  85/8", 24 #, K-55, ST+C. Set at 1808'.  Cemented with 550 sx. Lightweight followed by 200 sx. Class "C".  Cement circulated to surface. Hole size 12 1/4".  Long String.  41/2", 10.5 #, K-55, ST+C. Set at 4314'.  Cemented with 300 sx. 50:50 Pozmix Top of cement is 2500' determined by calculation. Hole size 71/8".  Total Depth 4315!.
Perforations	Injection interval through perforations 4176'-4293' (24 holes)

Tubing size is  $2^{3/8}$ " which will be lined with a powered epoxy coating (Tuboscope TK-75 coating). Tubing will be set in a Baker AD-1 tension packer set at approximately 4100'.

# INJECTION WELL DATA SHEET PAGE 2.

The name of	the injection forms	ition is SanA	Indres.							
2. The name of the field is Chaveroo San Andres.										
well was originally drilled as a San Andres oil well.										
The original permit to drill is dated 7-7-81.										
	s never been perfo		•							
	the San Andres for	<b>.</b>								
	ng oil or gas pools in									
	are apparently no or									
this area.	are apparently the of	ici iying pools	(II)							
	A D		D							
	Average Producing Depth	•	J							
Sqyers Penn		7.S	32 E_							
Flying M. Abo		95	33 E_							
Bar U Penn		95	_32E							
Tobac Penn		8s	33 E							
	·									
	do despuis anti-france sur a success resultints do do supplies a management of the community, and the supplies are successful.		ر . التحاليباليوسين بديار بار بار الا الدرا ي							
		<u> </u>	7							



RECEIVED

SEP 18 1981

ADAMS EXPLORATION COMPANY

WATER ANALYSIS REPORT

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COMPANY					**	
Adams Explorati	on			فالمهامية كو وارجي ووردون والمستعد والسويدي ويواري والمتاريخ		1018 DATE
					•	8/27/81
Midland, Texas		المانية		COUNTY OR PAHI	5H	STATE
				Roosevel	<b>.</b>	N.M.
Chaverdo	] We	ELLIS) NAME	OR NO.	WATER SOURCE I		
Griffin '		#1		San Andre	es	
DEPTH FT. BHY. CF	SAMPLE SOUNG		EMP, CF	WATER, BBL/DAY	OIL. BBL DAY	GAS, MMCF/DAY
<b> </b>	į	1			1	
DATE SAMPLED	TYPE OF WATE	ER				
8/20/81	PRODUC	CED [	SUPPLY	WATERF	LOOD SAL	T WATER DISPOSAL
		WA	TER ANALYSIS	PATTERN		
	INUMB	ER BESIDE	ON SYMBOL INC	ICATES me/I SCA		
000 Na+ 20 15	10	<del></del>		=1315555 <u>5</u>	<del></del>	15 20 a-10
		335.34				
100 ca++	J-1-1-15	而推广	3000年12月2日	\$18789 F 1878		———— нсо <sub>3</sub> -
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DISSOLVED SOLIDS				DISSOLVE	D GASES	
CATIONS		me/l*	<u>mg/l</u> *	Hydrogen :	Sulfide, H2S	mg/1°
Total Hardness		1780		Carbon Did	oxide, CO2	mg/1*
Calcium. Ca ++		1440	28800	Oxygen, O	2	mg/l*
Magnesium, Mg++		340	4148			
Iron (Total) Fe+++		0.03	0.6	PHYSICAL	PROPERTIES	1
Barium, Ba <sup>++</sup>		2548,42	58613.	7		6.
Sodium, Na*(calc.)	en 1942 en en 19 <del>17 e</del>	2340.42	20013.	pH . Specific Gr	auits.	1
	Angelow gracumbings				olved Solids (calc.)	245580 mg/1
ANIONS					ndex @C	
Chloride, CI		1309.9	153000		<u> </u>	+2.11
Sulfate, SO4"		8.75	420	CaSO a Solu	bility @C	me/l*
Carbonate, CO3		0	0		<u> </u>	6.29 me/1.
Bicarbonate, HCO3		9.8	597_8		Possible (calc.)	me/l*
Hydroxyl. OHT	<del></del>	0	0_		Possible (calc.)	8.75 me/1"
Sulfide, S"				Residual Hy	ydrocarbons	ppm(Vol
				Residual H	ýdrocarbons	ppm(Vo
TOTAL SOLIOS (QUANTI	TATIVEL		245580.	1		
, · ·				-	NOTE me	/I and mg/I are com
REMARKS AND RECOMM	ENDATIONS					hangeably for epm and
@ 20 C Carbona	te scali	ng is in	dicated.		respectivel	y. Where epm and pp
Sulfate	e scaling	is like	ly.			ections should be made
	,	•	-		specific gra	avity.
e existence	N		Seq.			
MAGNA REPRESENTATIVE	<u></u>	AUDRESS			TILLPHO	NE (
W.H. Fort					OFF	HES
** ** * * * * * * * * * * * * * * * *			12.22			



COMPANY					But demands there are being the second			ANALYSIS	NUMBER
	kploration	n			-			1019	
COMPANY ADDE	PESS		ATTACA PORTAGE		Par	•		DATE	
Midland,	Texas						·	8/28/8	<u> 31 </u>
FIELO					COUNTY OR P		•	STATE	
Chaveroo			TELLIST NAME	4 40 40	ROOSEVE			N.M.	
LEASE OR UNIT	τ	1		, OR NO.	San And		304+	•	
Griffin	1 BHT. 9F	I SAMPLE SOUR	#2	TEMP, OF	WATER, BOLIO		BBL DAY	GAS MMCF	YNAY
DLPIN. 71.	Bhi	SAMPLE TOTAL	1	Tem.,		-	50 <b>.</b>		/ <b>V</b>
DATE SAMPLED	<del>,</del>	TYPE OF WAT	TER						
8/20/81		PRODU		SUPPLY	O WAT	TERFLOOD	C) SALT	WATER DISPO	SAL
<u> </u>			W£	ATER ANALYSI	C PATTERN				
to a second of the second of t	•	MUM)	BER BESIDE	ION SYMBOL IN	IS PATTERN IDICATES mell' :	SCALE UNI	is)		_
000 Na+ 20	15	10	5	24-01-02-0	5 1	-10	<u>,                                    </u>	15	20a-1
				不是是				1	
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		<del></del>	<del></del>						
DISSOLVED S	SOLID\$				DISSOI	LVED GAS	SES		
			<del>-</del>		100 miles (100 miles (			× .	
CATIONS			me/l*	<u>mg/l</u> *	Hydrog	gen Sulfide.	. H2S	<u> </u>	mg/l*
Total Hardness	ct	<u> 16</u>	600		_	Dioxide, (			mg/l*
Calcium, Ca +	++	13	300	26000	Oxygen,				mg/l*
Magnesium, Mo	1g <sup>++</sup> g1		300	3660	<u> </u>	,			1,34
Iron (Total) F	Fe <sup>++,+</sup>		0.06		2 PHYSIC	CAL PROP	PERTIES		
Barium, Ba++		·				· **			
Sodium, Na+(c		24	119.5	55648.	.5 рн			<u>5.95</u>	* * .
		<u> </u>			Specific	c Gravitý			
		<u></u> -			Total D	Dissolved S	olids (calc.)	228384	mg/i*
ANIONS						ly Index @	ee		
Chloride, CI		40	000	142000	<del></del>		<u>e_20</u> •c	+1.54	
Sulfate, SO4			9.17	440	CaSO4 ?	Solubility @			me/i*
Carbonate, CO			0	- 0			<u> 20</u> ∙c		me/l*
Bicarbonate, H			10.4	634.		SO4 Possibl		O 17	me/l*
Hydroxyl, OH	<b>1</b>			0_		aSO a Possibl		9.17	me/l*
Sulfide, S		·> <del></del>			Residua	al Hydrocarl	bons	f	ppm{Vo
					<del></del> :				*- 4
					Residuz	al Hydrocar	bons		ppm(Va
=				228384.	1				
TOTAL SOLI	IDS (QUANTIT	ATIVE		220007	<u>.                                    </u>			e i kalendari ka	
REMARKS A	ND RECOMM	ENDATIONS:		•				l and ing/l a	
		e scaling		instad.				argeably for e Where epm	
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•	Saliace.	scaling i	'S TIVET	у.			specific grav		
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MAGNA REPRE	ESENTATIVE		AUDRESS				TILLPHONE		
W.H. For	ct			e e	· •		OFF	ncs	
AMALYZEU BY			DATE	DISTRIBUTION					
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				11. 4					



1	BAKEK
	OIL TREATING
	A Eaker Oil Tools Conspany

COMPANY ANALYSIS NUMBER Adams Exploration 1017 COMPANY ADDRESS DATE Midland, Texas 8/27/81 FIELD COUNTY OR PARISH STATE Chaveroo Roosevelt N.M. WATER SOURCE IFORMATION! LEASE OR UNIT WELLIST NAME OR NO. 井1 Hooper S.A. SAMPLE SOURCE TEMP, OF WATER, BBL/DAY DEPTH. FT. OIL. BBL DAY GAS, MMCF/DAY DATE SAMPLED TYPE OF WATER 8/20/81 X SUPPLY PRODUCEO В WATERFLOOD U SALT WATER DISPOSAL П WATER ANALYSIS PATTERN
DE ION SYMBOL INDICATES me/l\* SCALE UNIT 100 No+ 20 20 ci - 1000 100 c. 100 Mg+ 0.1<sub>Fe\*\*</sub> CO3 DISSOLVED SOLIDS DISSOLVED GASES CATIONS me/l' mg/1° Hydrogen Sulfide, H2S \_ mg/1° 2220 Total Hardness Carbon Dioxide, CO2 \_\_\_\_ mg/l\* 1560 31200 \_\_\_\_ mg/i\* Calcium, Ca ++ Oxygen, O2 Magnesium, Mg<sup>++</sup> 660 8052 iron (Total) Fe+++ 0.7 13 PHYSICAL PROPERTIES Barium, Ba++ 1147.5 26392.5 Sodium, Na+(calc.) 5.55 Specific Gravity Total Dissolved Solids (calc.) 185500 mg/1\* ANIONS ·Stability Index 20\_-c 119,000 +0.67 3352.1 Chloride, CIT Sulfate, SO4" 10.9 525 CaSO4 Solubility @ me/l\* 20 ·c 6.42 Carbonate, CO3" 0 0 മ me/t\* 5. 317 Bicarbonate, HCO3 Max. CaSO4 Possible (calc.) me/l\* 10.9 Max. CaSO4 Possible (calc.) Hydroxyl, OHT 0 Ω me/l\* Sulfide, S" Residual Hydrocarbons pom(Vol/Vols Residual Hydrocarbons ppm(Vol/Vol 185499.7 TOTAL SOLIDS (QUANTITATIVE) \*NOTE: me/1 and mg/1 are common REMARKS AND RECOMMENDATIONS used interchangeably for cpm and ppm @ 20 C Carbonate scaling is indicated. respectively. Where epm and ppm are Sulfate scaling is indicated. used, corrections should be made for specific gravity.

MAGNA REPRESENTATIVE ADDRESS TELEPHONE COMPANY OF RES



TRETOLITE DIVISION
369 Marehall Avenue / Saint Louis, Missouri 63119
13141 WO 1-3500/TWX 910-760-1660/Telex 44-2417

### WATER ANALYSIS REPORT

COMPANY Adams Exploration	ADDRESS Tatum	, NM	DATE: 1-29-82		
Griffin ¼4 SOURCE Gains Fresh Water Well ∯1	DATE SAMPLED	1-29-82	NALYSIS		
Analysis		Mg/L	- NO *Meq/L		
1. pH7.4	•				
2. H <sub>2</sub> S (Qualitative) Neg.					
3. Specific Gravity 1.000			N.		
4. Dissolved Solids	914			<i>(</i>	
5. Suspended Solids					
6. Phenolphtholein Alkolinity (CoCO.)					
7. Methyl Orange Alkalinity (CoCO <sub>3</sub> )	200			£	
8. Bicarbonate (HCO <sub>3</sub> )	HCO;244	÷61 _	4	HCO <sub>3</sub>	
9. Chlorides (CI)	CI	÷35.5 _	4	_ CI	
10. Sulfates (SO <sub>4</sub> )	so <sub>4</sub> 300	÷48 _	6	_ SO <sub>4</sub>	
11. Calcium (Ca)	Ca 40		2	_ Co	
12. Magnesium (Mg)	Mg97	÷12.2 _	7	. Мд	
13. Total Hardness (CaCO <sub>3</sub> )	500				
14. Total Iron (Fe)	0.1			Walter Control	
15. Barium (Qualitative)		200			
16. Strontium					
*Milli equivalents per liter	RAL COMPOSITIO	N.			
1 ROBAGE MINE		· ·			
2 Ca + HCO <sub>3</sub> 4	Compound	Equiv. Wt. X	Meq/1 ==	Mg/L	
	Ca (HCO <sub>3</sub> ) <sub>2</sub>	81.04		-0-	
7 M <sub>3</sub> SO <sub>4</sub> 6	Ca SO4	68.07 _	<u>-0-</u> -0-	-0-	
5 Na	Ca Cl <sub>2</sub>	55.50		· · · · · · · · · · · · · · · · · · ·	
Saturation Values Distilled Water 20°C	Mg (HCO <sub>3</sub> ) <sub>2</sub>	73.17		146	
Ce CO <sub>3</sub> 13 Mg/L	Mg SO4	60.19 _		301	
Ca SO, • 2H <sub>2</sub> O 2,090 Mg/L	Mg Cl <sub>2</sub>	47.62 _	<u>-0-</u> -0-	-0-	
Mg CO <sub>3</sub> 103 Mg/L	Na HCO3	84.00			
	No2 \$04	71.03 _	4	234	
	Na Cl	58.46 _	<del></del>	234	
REMARKS cc: D. Sooter			·)	,,	

#### HALLIBURTON DIVISION LABORATORY

XI. CHEMICAL ANALYSIS OF FRESH WATER FROM LABORATORY WATER ANALYSIS

#### HALLIBURTON SERVICES MIDLAND DIVISION

No	W81-966
	No

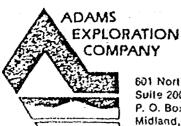
To Adams Explor	ation		Date	11-2-81
P.O. Box 105	85	· · · · · · · · · · · · · · · · · · ·	This report is the property	of Halliburton Company and neither or a copy thereof is to be published
Midland ,Tx			or disclosed without first of laboratory managemen	securing the express written approval t; it may however, be used in the
			and employees thereof re Company.	operations by any person or concern ceiving such report from Halliburton
Submitted by	y Sooter	·	Date Rec	10-27-81
	Depth			
	Field			
Resistivity	14 @ 72°F			
	1,000			
5 2 3	8.3	•		
Calcium (Ca)	Nil			*MPL
Magnesium (Mg)	Nil		(	
Chlorides (Cl)	. Nil		· · · · · · · · · · · · · · · · · · ·	
Sulfates (SO <sub>4</sub> )			<u> </u>	
Bicarbonates (HCO <sub>3</sub> )	Nil		···.	
Soluble Iron (Fe)	N/3.1			
	Sample ap	peared to	be fresh water	
*****				
Remarks:				*Milligrams per liter
	Respectf	ully submitte	d,	
Analyst: R. K. C	Grimes		HALLIBURTON	COMPANY
<b>cc:</b>	and the second s	Bv	1 MIL	11111

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.

BEFORE EXAMPLES STANGETS OIL CONDICTION OF THE PROPERTY OF T

CASE 1:10. 1/83
Submitted by J. Ihallay
Hearing, Date 2-17-82



601 North Loraine Street Suite 200 P. O. Box 10585 Midland, Texas 79702 (915) 683-3303

CERTIFIED MAIL NO. P238386043
RETURN RECEIPT REQUESTED

November 24, 1981

Mrs. Tom Gainer
P. O. Box 65
Kenna, New Mexico 88122

RE: Griffin Well No. 4

NE/4 NE/4 Sec. 10, T-8-S, R-32-E, NMPM, CHAVES COUNTY, NEW MEXICO

Dear Mrs. Gainer:

We are in the process of making application to convert the above well into a salt water disposal well. The New Mexico Oil Conservation Division requires that we give official notice of such conversion to the surface owner of the land on which the above well is located. Enclosed with this letter is a copy of our application to the New Mexico Oil Conservation Division. Should you have any questions, please do not hesitate to contact us.

Yours truly,

ADAMS EXPLORATION COMPANY

Rν

Steve Douglas Division Engineer

SD/jpk

BEFORE EXAMINER STAMETS

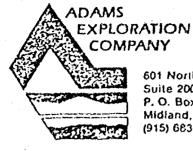
Alams EXHIBIT OF STATE

CASE NO. 7483

Submitted by J. Malley

Hearing Date 2 - 17-82

. PS	SENDER: Complete tions 1, 2, and 3, Add your address in the "RETURN TO" space on	
om H	RVGP.	
3811	1. The following service is requested (check one.)  Show to whom and date delivered	
5	D Show to whom, date and address of delivery	1.0
878	Show to whom and date delivered	
	O RESTRICTED DELIVERY.	• !
	Show to whom, date, and address of delivery.\$	
	(CONSULT POSTWASTER FOR FEES)	
>	MAD. John Salve	•
170	en 1000	
NETURN RECEIPT.	Kenna MM 88122	
£05	3. ARTICLE DESCRIPTION: REGISTERED NO.   CERTIFIED NO.   PRIMED NO.	
	P282860112	
REGISTERED, INSURED	(Always obtain signature of addresses or agent)	
1876	I have received the article described above.	
RED	SIGNATURE DAddresser Dauthorized agent	
2	Man Jon Gament	
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IATI	(5%)	
ONIALL	E. UNLIELE TO DELIVER SECAUSE: CLERICS MITTIALS	
E		



601 North Loraine Street Suite 200 P. O. Box 10585 Midland, Texas 79702 (915) 683-3303

CERTIFIED MAIL NO. P238386044 RETURN RECEIPT REQUESTED

November 24, 1981

El Ran, Inc. P. O. Box 911 Lubbock, Texas 79408

RE: Our Griffin Well No. 4
NE/4 NE/4 Sec. 10, T-8-5, R-32-E,
NMPM, CHAVES COUNTY, NEW MEXICO

Gentlemen:

We are in the process of making application to convert the above well into a salt water disposal well. The New Mexico Oil Conservation Division requires that we give notice to all offsetting leasehold operators of the above well. Enclosed with this letter is a copy of our application to the New Mexico Oil Conservation Division. Should you have any questions, please contact us at the above address or phone number.

Yours truly,

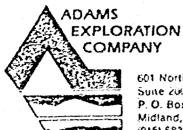
ADAMS EXPLORATION COMPANY

Steve Douglas Division Engineer

SD/jpk

gr,	SENDER.	LOW DRIE IV	ernet 1, 2, acod 3.	•
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**☆GPO: 1879-3** 



601 North Loraine Street Suite 200 P. O. Box 10585 Midland, Texas 79702 (915) 683-3303 CERTIFIED MAIL NO. P238386045 RETURN RECEIPT REQUESTED

November 24, 1981

MWJ Producing Company 1804 First National Bank Bldg. Midland, Texas 79701

> RE: Our Griffin Well No. 4 NE/4 NE/4 Sec. 10, T-8-S, R-32-E, NMPM, CHAVES COUNTY, NEW MEXICO

Gentlemen:

We are in the process of making application to convert the above well into a salt water disposal well. The New Mexico Oil Conservation Division requires that we give notice to all offsetting leasehold operators of the above well. Enclosed with this letter is a copy of our application to the New Mexico Oil Conservation Division. Should you have any questions, please contact us at the above address or phone number

Yours truly,

ADAMS EXPLORATION COMPANY

Steve Douglas

Division Engineer

SD/jpk

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Dockets Nos. 7-82 and 8-82 are tentatively set for March 3 and March 17, 1982. Applications for hearing must be filed at least 22 days in advance of hearing date.

#### DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 17, 1982

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

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

- ALLOWABLE: (1) Consideration of the allowable production of gas for March, 1982, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.
  - (2) Consideration of the allowable production of gas for March, 1982, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.
  - (3) Consideration of purchaser's nominations for the one year period beginning April 1, 1982, for both of the above areas.
- CASE 7445: (Continued from December 16, 1981, Examiner Hearing)
  (THIS CASE WILL BE CONTINUED TO THE EXAMINER HEARING ON MARCH 17, 1982)

Application of Harvey E. Yates Company for an NGPA determination, Eddy County, New Mexico.

Applicant, in the above-styled cause, seeks a new onshore reservoir determination in the San Andres formation for its Fulton Collier Well No. 1 in Unit G of Section 1, Township 18 South, Pange 28 East.

CASE 7479: Application of Northwest Pipeline Corporation for amendment of Order No. R-2046, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the Amendment of Division Order No. R-2046, which authorized approval of six non-standard proration units, Basin-Dakota Gas Pool.

The amendment sought is for the creation of the following non-standard proration units to be drilled at standard locations thereon: Township 31 North, Range 6 West, Section 25: 11/2 (272.16 acres) and S/2 (273.3 acres); Section 36: 11/2 (272.56 acres) and S/2 (272.88 acres); Township 30 North, Range 6 West; Section 1: 11/2 (272.81 acres) and S/2 (273.49 acres).

- CASE 7480: Application of Arco Oil & Gas Company for pool creation, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks the creation of a new Upper Devonian gas pool for its

  Custer Well No. 1 located 1810 feet from the North line and 2164 feet from the West line of Section
  6, Township 25 South, Range 37 East, Custer Field.
- CASE 7481: Application of Arco Oil & Gas Company for amendment of Order No. R-6792, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks the amendment of Division Order No. R-6792, which authorized the directional drilling of applicant's Custer Wells Well No. 1 to an unorthodox location in the Devonian and Ellenburger formations and imposed a penalty in the Devonian. By stipulation applicant and the offset operator have agreed that the subject well is not affecting the offsetting property and applicant herein seeks removal of the penalty imposed for so long as the well produces only from the present perforated interval in the Upper Devonian.
- CASE 7459: (Continued from January 20, 1982, Examiner Hearing)

Application of Red Mountain Associates for the Amendment of Order No. R-6538, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-6538, which authorized applicant to conduct waterflood operations in the Chaco Wash-Mesa Verde Oil Pool. Applicant seeks approval for the injection of water through various other wells than those originally approved, seeks deletion of the requirement for packers in injection wells, and seeks an increase in the previously authorized 68-pound limitation on injection pressure.

CASE 7410: (Continued from January 20, 1982, Examiner Hearing)

Application of B.O.A. Oil & Gas Company for two unorthodox cil well locations, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 2035 feet from the South line and 2455 feet from the East line and one to be drilled 2455 feet from the Morth line and 1944 feet from the East line, both in Section 31, Township 31 North, Range 15 West, Verde-Gallup Oil Pool, the NM/4 SE/4 and SM/4 NE/4, respectively, of said Section 31 to be dedicated to said wells.

CASE 7457: (Continued from January 20, 1982, Examiner Hearing)

Application of E. T. Ross for nine non-standard gas proration units, Harding County, New Mexico. Applicant, in the above-styled cause, seeks approval for nine 40-acre non-standard gas proration units in the Bravo Dave Carbon Diskile Area. In Township 10 North, Ronge 30 East: Section 12, the NW/4 NW/4 and NE/4 NW/4: Section 14, the NW/1 NE/1, SM/4 NM/4, and SE/4 NK/4. In Township 20 North, Range 30 East: Section 11, the NE/4 SW/4, SW/4 SE/4, SE/4 SW/4, and NW/4 SE/4.

- CASE 7482: Application of Miser Gil Company for an unorthodox oil well location, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks approval of an unorthodox location 1295 feet from the South line and 1345 feet from the Mest line of Section 32, Township 21 South, Runge 37 East, Penrose-Skelly Pool.
- CASE 7483: Application of Adams Exploration Company for salt water disposal, Chaves County, New Mexico.
  Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the San Andres formation in the perforated interval from 4176 feet to 4293 feet in its Griffin Well No. 4 located in Unit A, of Section 10, Township 8 South, Range 32 East, Chaveroo-San Andres Pool.
  - CASE 7462: (Continued from February 3, 1982, Examiner Hearing)

Application of Marathon Oil Company for downhole commingling, Lea County, New Mexico.

Applicant, in the above-styled cause, seeks approval for the downhole commingling of the Drinkard and Blinebry production in the wellbore of its C. J. Saunders Well No. 3, located in Unit C of Section 1, Township 22 South, Range 36 East.

CASE 7474: (Continued from February 3, 1982, Examiner Hearing)

Application of Union Oil Company of California for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Strawn, Atoka and Morrow formations underlying the E/2 of Section 25, Township 19 South, Range 33 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 well, and a charge for risk involved in drilling said well.

- CASE 7484: Application of Anadarko Production Company for compulsory pooling, Eddy County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Atoka and Morrow formations underlying the E/2 of Section 1, Township 19 South, Range 25 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 the well, and a charge for risk involved in drilling said well.
- CASE 7485: Application of Berge Exploration for compulsory pooling, Chaves County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Abo
  formation underlying two 160-acre proration units, the first being the NW/4 and the second being
  the SW/4 of Section 27, Township 7 South, Range 26 East, each 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 wells and the allocation of the cost thereof as well as actual operating costs
  and charges for supervision, designation of applicant as operator of the wells and a charge for
  risk involved in drilling said wells.
- CASE 7486: Application of MGF Oil Corporation for compulsory pooling, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests down through and including the Abo formation underlying the NE/4 NE/4 of Section 6, Township 20 South, Range 39 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 well and a charge for risk involved in drilling said well.
- CASE 7487: Application of MCF Oil Corporation for corpulsory pooling, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests down through and including the Abo formation underlying the SE/4 SE/4 of Section 31, Township 19 South, Range 39 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 well and a charge for risk involved in drilling said well.

- CASE 7483: Application of Burkhart Petroleum Company for compulsory pooling, Roosevelt County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all miceral interests in the San Andres formation underlying the SW/4 NM/4 of Section 13, Township 8 South, Range 37 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 well and a charge for risk involved in drilling said well.
- CASE 7073: (Reopened and Readvertised)

In the matter of Case 7073 being reopened pursuant to the provisions of Order No. R-6558, which order promulgated special rules for the South Elkins-Fusselman Pool in Chaves County including provisions for 80-acre spacing units and a limiting gas-oil ratio of 3000 to one. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units with a limiting gas-oil ratio of 2000 to one.

CASE 7074: (Reopened and Readvertised)

In the matter of Case 7074 being reopened pursuant to the provisions of Orders Nos. R-6565 and R-6565-B, which created the South Elkins-Fusselman Gas Pool in Chaves County. All interested parties may appear and present evidence as to the exact nature of the reservoir, and more particularly, as to the proper rate of withdrawal from the reservoir if it is determined that said pool is producing from a retrograde gas condensate reservoir.

CASE 6373: (Reopened and Readvertised)

In the matter of Case 6373 being reopened pursuant to the provisions of Orders Nos. R-5875 and R-5875-A, which created the East High Hope - Abo Gas pool in Eddy County, and promulgated special rules therefor, including a provision for 320-acre spacing units. All interested parties may appear and show cause why said pool should not be developed on 160-acre spacing units.

- Application of Curtis J. Little for designation of a tight formation, Rio Arriba County, New Mexico.

  Applicant, in the above-styled cause, seeks the designation of the Chacra formation underlying portions of Township 25 North, Range 6 West, containing 6,720 acres, more or less, as a tight formation pursuant to Section 107 of the Natural Gas Policy Act and 18 CFR Section 271.701-705.
- Application of Narvey E. Yates Company for compulsory pooling, Chaves County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests down through and including the Atoka-Morrow formation, underlying the N/2 of Section 19, Township 8 South, Range 30 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 well and a charge for risk involved in drilling said well.
- CASE 7491: Application of Harvey E. Yates Company for designation of a tight formation, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks the designation of the Atoka formation underlying portions of Townships 12, 13, and 14 South, Ranges 35 and 36 East, containing 46,720 acres, more or less, as a tight formation pursuant to Section 107 of the Natural Gas Policy Act and 18 CFR Section 271.

  701-705, said area being an eastward and westward extension of previously approved tight formation area.
- CASE 7492: Application of Harvey E. Yates Company for designation of a tight formation, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the designation of the Atoka-Morrow formation underlying all or portions of Townships 7, 8, and 9 South, Ranges 29,30, and 31 East, containing 115,200 acres, more or less, as a tight formation pursuant to Section 107 of the Natural Gas Policy Act and 18 CFR Section 271.701-705.
- CASE 7493: In the matter of the hearing called by the Oil Conservation Division on its own motion for an order creating and extending certain pools in Chaves, Eddy, Lea, and Roosevelt Counties, New Mexico.
  - (a) CREATE a new pool in Lea County, New Mexico, classified as a gas pool for Morrow production and designated as the East Bootleg Ridge-Morrow Gas Pool. The discovery well is Getty Oil Company Getty 15 Federal Well No. 1 located in Unit J of Section 15, Township 22 South, Range 33 East, NMPM. Said Pool would comprise:

TOWNSHIP 22 SOUTH, RANGE 33 EAST, NMPM Section 15: S/2

CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Devonian production and designated as the North King-Devonian Pool. The discovery well is Samedan Oil Corporation Speight Well No. 1 located in Unit B of Section 3, Township 13 South, Range 37 East, NMPM. Said pool would comprise:

YOWNSHIP 13 SOUTH, RANGE 37 EAST, NMPM Section 3:

(c) CREATE a new pool in Eddy County, New Mexico, classified as a gas pool for Atoka production and designated as the North Loving-Atoka Gas Pool. The discovery well is Gulf Oil Corporation Eddy GR State Well No. 1 located in Unit E of Section 16, Township 23 South, Range 28 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 27 EAST, NMPM Section 12: N/2

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM

Section 4: S/2 Section 7: All Section 8: All Section 9: All

Section 16: All Section 17: All

Section 18. E/2

(d) CREATE a new pool in Lea County, New Mexico, classified as an oil pool for Drinkard production and designated as the Teague - Drinkard Pool. The discovery well is Alpha Twenty-One Production Company Lea Well No. 1 located in Unit B of Section 17, Township 23 South, Range 37 East, NMPM. Said pool would comprise:

TOWNSHIP 23 SOUTH, RANGE 37 EAST, NMPM Section 17: NE/4

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

> TOWNSHIP 18 SOUTH, RANGE 25 EAST, NMPM Section 23: All Section 24: W/2

(f) EXTEND the Atoka-Pennsylvanian Gas Pool in Eddy County, New Mexico, to include

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM Section 16: W/2

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

TOWNSHIP 21 SOUTH, RANGE 26 EAST, NMPM Section 2: Lots 1 through 8

(h) EXTEND the Brunson-Fusselman Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, NMPM Section 5: SE/4

(i) EXTEND the Brushy Draw-Delaware Pool in Eddy County, New Mexico, to include therein:

> TOWNSHIP 26 SOUTH, RANGE 29 EAST, NMPM Section 26:

EXTEND the Buffalo Valley-Pennsylvanian Gas Pool in Chaves County, New Mexico, (j) to include therein:

TOWNSHIP 15 SOUTH, RANGE 27 EAST, NMPM

Section 23: All

Section 26: All

EXAMINER HEARING - WEDNESDAY - FEBRUARY 17, 1982

(k) EXTEND the Cary-Montoya Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 22 SOUTH, RANGE 37 EAST, HMPM

Section 4: W/2 SW/4 Section 5: SE/4

Section 9: W/2 W/2

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

TOWNSHIP 16 SOUTH, RANGE 27 EAST, NHPH

Section 35: E/2 Section 36: W/2

EXTEND the South Culebra Bluff-Bone Spring Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 23 SOUTH, RANGE 28 EAST, NMPM Section 25: S/2 SW/4 Section 27: SW/4

(n) EXTEND the Elkins-San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 7 SOUTH, RANGE 28 EAST, NMPM Section 21: NE/4

(o) EXTEND the Empire-Abo Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM Section 19: 8/2 SH/4

(p) EXTEND the Henshaw-Queen Grayburg-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 16 SOUTH, RANGE 31 EAST, NMPM Section 19: NE/4 NW/4

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

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

(r) EXTEND the West Nadine-Blinebry Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 20 SOUTH, RANGE 38 EAST, NMPM Section 8: NW/4

(s) EXTEND the Peterson-Mississippian Pool in Roosevelt County, New Mexico, to include therein:

TOWNSHIP 4 SOUTH, RANGE 33 EAST, NMPM Section 28: NW/4

(t) EXTEND the Race Track-San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 10 SOUTH, RANGE 28 EAST, NMPM
Section 7: S/2 SW/4
Section 18: NW/4 and N/2 SW/4 and SW/4 SW/4

PAGE 6
EXAMINER HEARING - WEDNESDAY - FEBRUARY 17, 1982

(u) EXTEND the Railroad Mountain-San Andres Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 8 SOUTH, RANGE 28 EAST, NMPM Section 2: NE/4 and E/2 NW/4

(v) EXTEND the Red Lake-Queen-Grayburg-San Andres Pool in Eddy County, New Mexico, to include therein:

TOWNSHIP 17 SOUTH, RANGE 28 EAST, NMPM Section 7: S/2
Section 8: SW/4
Section 18: E/2 NW/4

(w) EXTEND THE West Sawyer-San Andres Pool in Lea County, New Mexico, to include therein:

TOWNSHIP 10 SOUTH, RANGE 37 EAST, NMPM Section 5: SW/4

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

TOWNSHIP 19 SOUTH, RANGE 29 EAST, NMPM Section 15: All

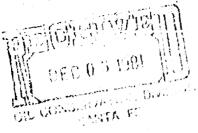
(y) EXTEND the Twin Lakes-San Andres Associated Pool in Chaves County, New Mexico, to include therein:

TOWNSHIP 8 SOUTH, RANGE 28 EAST, NMPM Section 13: SE/4 Section 24: NE/4

TOWNSHIP 9 SOUTH, RANGE 28 EAST, NMPM Section 12: S/2 NE/4

TOWNSHIP 9 SOUTH, RANGE 29 EAST, NMPM Section 7: S/2 Section 8: NW/4

## OIL CONSERVATION DIVISION DISTRICT 1

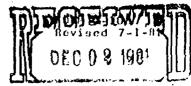


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## STATE OF NEW MEXICO ENERGY AND HINERALS DEPARTMENT

#### OIL CONSERVATION DIVISION

BART, KUB JUHO 1708 DAGDERI E KERB DAAF JAFF TOU'R OOK DA WHA JERFRAR



VERFICA	ATION FOR AUTHORIZATION TO INJECT
1.	Purpose: Secondary Recovery Pressure Haintenance Disposal SAPE SEgrage Application qualifies for administrative approval?
11.	Operator: Adams Exploration Company
	Address: P.O. Box 10585 Midland, Texas 79702
	Contact party: Steve A. Douglas Phone: 915-683-3303
111.	Well data: Complete the data required on the reverse side of this form for each well proposed for injection. Additional sheets may be attached if necessary.
IV.	Is this an expansion of an existing project? ☐ yes ☒ no If yes, give the Division order number authorizing the project
٧	Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
• VI.	Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
VII.	Attach data on the proposed operation, including:
	<ol> <li>Proposed average and maximum daily rate and volume of fluids to be injected;</li> <li>Whether the system is open or closed;</li> <li>Proposed average and maximum injection pressure;</li> <li>Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and</li> <li>If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).</li> </ol>
*VIII.	Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness, and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such source known to be immediately underlying the injection interval.
IX.	Describe the proposed stimulation program, if any.
* `X.	Attach appropriate logging and test data on the well. (If well logs have been filed with the Division they need not be resubmitted.)
* XI.	Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
XII.	Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
XIII.	Applicants must complete the "Proof of Notice" section on the reverse side of this form.
XIV.	Certification
1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.  Name: Steve A. Douglas Title Division Engineer
•	Signature: Steve a Douglas Date: 11-24-81
limdua	information required under Sections VI, VIII, X, and XI above has been previously ted, it need not be duplicated and resubmitted. Please show the date and circumstance carlier submittal.

-)

#### III. HELL DATA

- A. The following well data must be submitted for each injection well covered by this application. The data must be both in tabular and schematic form and shall include:
  - (1) Lease name; Well No.; location by Section, Township, and Range; and Contage location within the section.
  - (2) Each casing string used with its size, setting depth, sacks of cement used, hole size, top of cement, and how such top was determined.
  - (3) A description of the tubing to be used including its size, lining material, and setting depth.
  - (4) The name, model, and setting depth of the packer used or a description of any other seal system or assembly used.

Division District offices have supplies of Well Data Sheets which may be used or which may be used as models for this purpose. Applicants for several identical wells may submit a "typical data sheet" rather than submitting the data for each well.

- B. The following must be submitted for each injection well covered by this application. All items must be addressed for the initial well. Responses for additional wells need he shown only when different. Information shown on schematics need not be repeated.
  - (1) The name of the injection formation and, if applicable, the field or pool name.
  - (2) The injection interval and whether it is perforated or open-hole.
  - (3) State if the well was drilled for injection or, if not, the original purpose of the well.
  - (4) Give the depths of any other perforated intervals and detail on the sacks of cement or bridge plugs used to seal off such perforations.
  - (5) Give the depth to and name of the next higher and next lower oil or gas zone in the area of the well, if any.

#### XIV. PROOF OF NOTICE

All applicants must furnish proof that a copy of the application has been furnished, by certified or registered mail, to the owner of the surface of the land on which the well is to be located and to each leasehold operator within one-half mile of the well location.

Where an application is subject to administrative approval, a proof of publication must be submitted. Such proof shall consist of a copy of the legal advertisement which was published in the county in which the well is located. The contents of such advertisement must include:

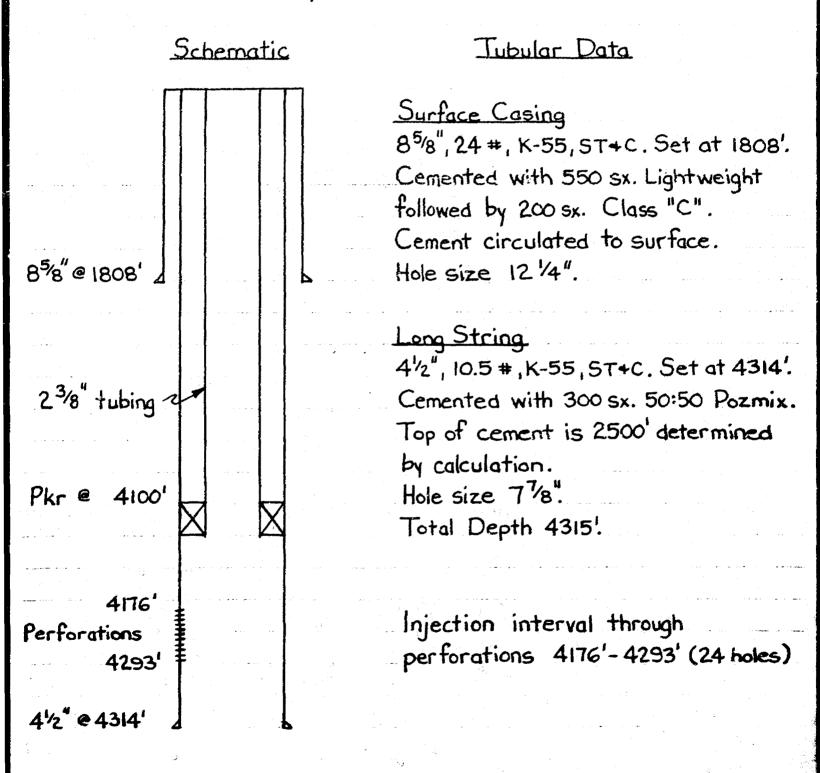
- (1) The name, address, phone number, and contact party for the applicant;
- (2) the intended purpose of the injection well; with the exact location of single wells or the section, township, and range location of multiple wells;
- (3) the formation name and depth with expected maximum injection rates and pressures; and
- (4) a notation that interested parties must file objections or requests for hearing with the Oil Conservation Division, P. D. Box 2088, Santa Fe, New Hexico 87501 within 15 days.

NO ACTION WILL BE TAKEN ON THE APPLICATION UNTIL PROPER PROOF OF NOTICE HAS BEEN SUBHITTED.

NOTICE: Surface owners or offset operators must file any objections or requests for hearing of administrative applications within 15 days from the date this application was mailed to them.

## III. INJECTION WELL DATA SHEET

Adams Exploration Company Griffin Well No. 4 660' FNL +660' FEL, Section 10, T-8-5, R-32-E Chaves County, New Mexico



Tubing size is  $2^{3/8}$ " which will be lined with a powered epoxy coating (Tuboscope TK-75 coating). Tubing will be set in a Baker AD-1 tension packer set at approximately 4100'.

## INJECTION WELL DATA SHEET PAGE 2

- 1. The name of the injection formation is San Andres.
- 2. The name of the field is Chaveroo San Andres.
- 3. This is not a new well drilled for injection. This well was originally drilled as a San Andres oil well. The original permit to drill is dated 7-7-81.
- 4. This well has never been perforated in any zone other than the San Andres formation 4176'-4293'.
- 5. The underlying oil or gas pools in this area are listed below. There are apparently no overlying pools in this area.

Pool	Average Producing Depth	Township	Range
Sqyers Penn	8380'	7 S	32 E
Flying M Abo	86031	95	33 E
Bar U Penn	92101	95	32E
Tobac Penn	9061	85	33 E

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#### VI.

## WELLS WITHIN AREA OF REVIEW ( 1/2 MILE RADIUS)

OPERATOR: Adams Exploration Company

LEASE NAME: Griffin

WELL NO. : 1

FIELD NAME: Chaveroo San Andres

LOCATION OF WELL: Unit Letter B, 330' FNL & 1980' FEL,

Sec. 10, T-8-5, R-32-E, Chaves County, New Mexico

TYPE OF LEASE: Fee

WELL STATUS: Pumping oil well

PRODUCING FORMATION: San Andres

SPUD DATE: 11-9-80

COMPLETION DATE: 12-21-80

TOTAL DEPTH: 4400'

PLUG BACK DEPTH: 4355'

#### CASING RECORD:

SIZE	WEIGHT	DEPTH	CEMENTING RECORD & TOP OF CEMENT
85/8"	24 #	1842'	450 sx. "LW" + 200 sx. Class"C"
	. No september 1991	e Santana (	Top of cement at Surface
41/2"	10.5#	4400'	300 sx. Class "C"
· ·	· <u>-</u>	er eggs	Top of cement at 2660'

### TUBING RECORD:

SIZE	DEPTH	PACKER DEPTH
23/8"	4180'	None

## PERFORATIONS AND TREATMENT:

INTERVAL TREATMENT

4176'-4199' (4 holes) Acidized w/ 250 gals. 20% HC1

4242'-4313' (7 holes) Acidized w/ 1250 gals. 20% HC1

## POTENTIAL TEST:

DATE

PLD TION

12-23-80

Pumped 55 BBLS. OIL + 10 BBLS. WATER in 24 hours

## VI. WELLS WITHIN AREA OF REVIEW ( MILE RADIUS)

OPERATOR: Adams Exploration Company

LEASE NAME: Hooper

WELL NO. : 1

FIELD NAME: Chaveroo San Andres

LOCATION OF WELL: Unit Letter G, 1650' FNL & 2310' FEL,

Sec. 10, T-8-S, R-32-E, Chaves County, New Mexico

TYPE OF LEASE: Fee

WELL STATUS: Pumping oil well

PRODUCING FORMATION: San Andres

SPUD DATE: 3-27-81

COMPLETION DATE: 5-14-81

TOTAL DEPTH: 4338' PLUG BACK DEPTH: 4330'

#### CASING RECORD:

SIZE WEIGHT DEPTH CEMENTING RECORD & TOP OF CEMENT 85%" 600 sx. "LW" + 200 sx. Class "C" 24# 1810' Top of cement at surface

400 sx. 50:50 Pozmix

Top of cement at 2500'

#### TUBING RECORD:

SIZE DEPTH PACKER DEPTH

23/8" 4283 None

## PERFORATIONS AND TREATMENT:

INTERVAL TREATMENT

4175'-4195' (8 holes) Acidized w/ 4300 gals. 15% HCI 4234'-4248' (10 holes) Acidized w/ 4300 gals. 15% HCI

## POTENTIAL TEST:

DATE PRODUCTION

8-24-81 Pumped 8 BBLS. OIL + 30 BBLS. WATER +2.6 MCF in 24 hours

#### VI.

## WELLS WITHIN AREA OF REVIEW ( MILE RADIUS)

OPERATOR: Adams Exploration Company

LEASE NAME: Hooper

WELL No.: 2

FIELD NAME: Chaveroo San Andres

LOCATION OF WELL: Unit Letter H, 1980' FNL + 660' FEL,

Sec. 10, T-8-S, R-32-E, Chaves County, New Mexico

TYPE OF LEASE: Fee

WELL STATUS: Pumping oil well

PRODUCING FORMATION: San Andres

SPUD DATE: 7-26-81

COMPLETION DATE: 9-2-81

TOTAL DEPTH: 4294'

PLUG BACK DEPTH: 4290'

### CASING RECORD:

SIZE	WEIGHT	DEPTH	CEMENTING RECORD & TOP OF CEMENT
85/8"	24#	1861	500 sx. "LW" + 200 sx. Class"C"
		·	Top of cement at surface
41/2"	10.5#	4294'	300 sx. Class "H"
			Top of cement at 2700'

### TUBING RECORD:

SIZE	DEPTH	PACKER	DEPTH
23/8"	4239'	None	

## PERFORATIONS AND TREATMENT:

INTERVAL	TREATMENT			
4180'-4206' (10 holes)	Acidized w/300 gals. 15% HCI			
4232'-4278' (18 holes)	Acidized w/ 500 gals. 15% HCP			

## POTENTIAL TEST:

DATE

PRODUCTION

9-27-81

Pumped 5 BBLS. OIL + 70 BBLS. WATER + 1.2 MCF in 24 hours

VI.

## WELLS WITHIN AREA OF REVIEW ( 1/2 MILE RADIUS)

OPERATOR: El Ran, Inc.

LEASE NAME: Sarah WELL NO. : 1

FIELD NAME: Chaveroo

LOCATION OF WELL: Unit Letter 0, 990' FSL + 2200' FEL,

Sec. 3, T85, R32E, Choves County, New Mexico

TYPE OF LEASE: Fee

WELL STATUS: Pumping oil well

PRODUCING FORMATION: San Andres

SPUD DATE: 4-8-80

COMPLETION DATE: 4-23-80

TOTAL DEPTH: 4390' PLUG BACK DEPTH: 4387'

### CASING RECORD:

SIZE	WEIGHT DEPTH	CEMENTING	RECORD 4	TOP OF CEMENT
8 <sup>5</sup> /8"	1682	550 sx.		
41/2"	4389'	175 sx.	e de la casa de la cas La casa de la casa de	

TUBING RECORD:

SIZE DEPTH PACKER DEPTH

23/8" 42851

PERFORATIONS AND TREATMENT:

INTERVAL TREATMENT

4172'- 4284' Acidize W/ 6000 gals. 20% HCI

POTENTIAL TEST':

DATE

PRODUCTION

Pumped 82 BBLS. OIL + 10 BBLS. WATER in 24 hours. GOR TSTM

V,τ,

WELLS WITHIN AREA OF REVIEW ( 1/2 MILE RADIUS)

OPERATOR: El Ran, Inc.

LEASE NAME: Carroll WELL NO.: 2

FIELD NAME: Chaveroo

LOCATION OF WELL: Unit Letter P, 990' FSL4 990' FEL,

Sec. 3, T85, R32E, Chaves County, New Mexico

TYPE OF LEASE: Fee

WELL STATUS: Flowing oil well

PRODUCING FORMATION: San Andres

SPUD DATE: 10-17-80 COMPLETION DATE: 10-31-80

TOTAL DEPTH: 4313' PLUG BACK DEPTH: 4312'

CASING RECORD:

SIZE WEIGHT DEPTH CEMENTING RECORD + TOP OF CEMENT 85/8 1665' 575 Sx.

4½" 4312' 175 sx.

TUBING RECORD:

SIZE DEPTH PACKER DEPTH

23/8" 4263' None

PERFORATIONS AND TREATMENT:

INTERVAL

4193'-4281' Acidize w/ 6000 gals. 20% HCI

POTENTIAL TEST:

DATE

PRODUCTION

Flowed 45 BBLS. OIL + O BBLS. WATER +28.8 MCF in 24 hours through 1" choke. Tubing press. 135 psi.
Casing press. 385 psi.

## VI. WELLS WITHIN AREA OF REVIEW ( 1/2 MILE RADIUS)

OPERATOR: MWJ Producing Co.

LEASE NAME: Chaveroo State WELL No.: 8

FIELD NAME: Chaveroo

LOCATION OF WELL: Unit Letter M, 990' FSL 4330' FWL,

Sec. 2, T85, R32E, Chaves County, New Mexico

TYPE OF LEASE: State

WELL STATUS: Pumping oil well

PRODUCING FORMATION: San Andres

SPUD DATE: 4-2-81

COMPLETION DATE: 7-23-81

TOTAL DEPTH: 4330'

PLUG BACK DEPTH: 4322'

### CASING RECORD:

	WEIGHT	DEPTH	CEMENTING	RECORD 4	TOP OF CEMENT
85%	-	1785	625 sx.		· · · · · · · · · · · · · · · · · · ·
41/2"		4330'	325 sx.		

TUBING RECORD:

SIZE DEPTH PACKER DEPTH

23/8" 4219' None

PERFORATIONS AND TREATMENT:

INTERVAL TREATMENT

4202'-4318' Acidize W/ 1500 gals.

POTENTIAL TEST:

DATE

PRODUCTION

Pumped 31 BBLS. OIL + 55 BBLS. WATER + 41 MCF in 24 hours

## Proposed Operation

Adams Exploration Company proposes to utilize this injection well to dispose of water produced from our Hooper Lease Well Nos. I and 2 and our Griffin Lease Well Nos. I and 2. Present water production from the Hooper Lease is 70 bbls. per day and from the Griffin Lease is 90 bbls. per day. The proposed average volume of water to be injected is 160 bbls. per day. Maximum anticipated volume of water to be injected is 200 bbls. per day. The average anticipated injection rate is 1/2 bbl. per minute at an average pressure of 50 psi. Maximum anticipated rate is 1 bbl. per minute at a maximum pressure of 200 psi. This proposal is to reinject water produced from the San Andres formation back into the San Andres formation.

## VIII. Geological Data

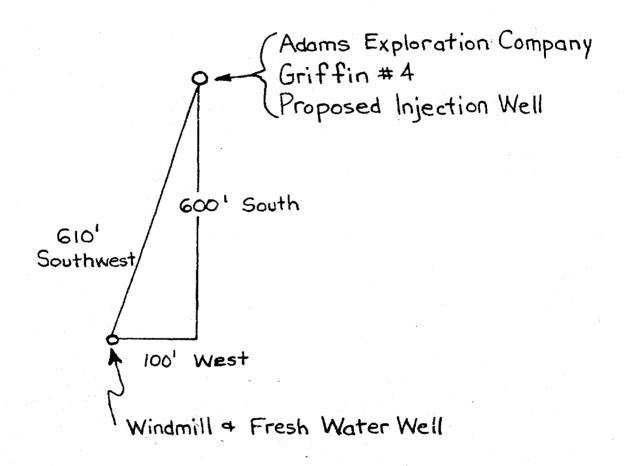
The injection zone in this proposed well is the San Andres formation which is composed of dolomite. The gross thickness of the injection zone is 117 feet with perforations from 4176' to 4293'. The top of the San Andres formation in the proposed injection well is 3449' and the well was still in the San Andres at 4315' total depth.

The depth to the bottom of the underground source of drinking water would be 380', which is the base of the Tertiary formations in this well. There is only one water well within a one mile radius of the proposed injection well. The water well is located approximately 610 feet southwest from the proposed injection well. It is pumped by a windmill and used for livestock water only.

## IX. Proposed Stimulation

The San Andres perforations (4176'-4293') in the Griffin #4 have been stimulated with 5500 gals. of acid. The well has produced an average of 140 bbls. of water per day with no oil during production testing. The only additional stimulation anticipated would be an occassional acid job after the well has been utilized for injection.

There is only one fresh water well within a one mile radius of this proposed injection well. The location of the well is shown below. The water well is pumped by a windmill and the water is used for livestock consumption.



#### 1342-A

#### HALLIBURTON DIVISION LABORATORY

## XI. CHEMICAL ANALYSIS

HALLIBURTON SERVICES MIDLAND DIVISION

OF FRESH WATER FROM LABORATORY WATER ANALYSIS

W81-966 No.

To Adams Explora	tion	and the state of t	Date 11-2-81					
Midland ,Tx	5 79702		This report is the property of Halliburton Company and neither it nor any part thereof nor a copy thereof is to be published or disclosed without first securing the express written approval of laboratory management; it may however, be used in the course of regular business operations by any person or concern and employees thereof receiving such report from Halliburton Company.					
Submitted byDanny	Sooter		Date Rec	10-27-81				
Well No. Water Well								
County Chaves								
Resistivity	14							
Specific Gravity	1.000							
pH	8.3							
Calcium (Ca)	Nil			*MPL				
Magnesium (Mg)	5							
Chlorides (CI)	Nil		· · · · · · · · · · · · · · · · · · ·					
Sulfates (SO <sub>4</sub> )	Nil	<u> </u>						
Bicarbonates (HCO <sub>3</sub> )	Man							
Soluble Iron (Fe)			<u> </u>					
		peared to	be fresh water					
Remarks:				*Milligrams per liter				
			\$ - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 - 1 -					
	Respectf	ully submitted	d, 8 2.44					
Analyst: R. K. Gr cc:	imes	Ву	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.

Adams Exploration Company geologic and engineering personell have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.

Steve A. Douglas

Steve A. Douglas Division Engineer Mark Schweinfurth

Exploration Manager



COMPANY Adams Exploration	·			ANALYSIS NUMBER
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COMPANY ADDRESS				8/27/81
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				1
Chaveroo	T were er	NAME OF NO	ROOSEVELT	N.M.
	#1	AME ON HE	S.A.	
Hooper	SAMPLE SOURCE	TEMP, "F	WATER, BBL/DAY ( OIL BBL D.	DAY GAS MMCF/DAY
DEPTH. FT.	SAMPLE SOUNCE	1600.	112	
DATE SAMPLED	TYPE OF WATER	(	1	1
8/20/81	X PRODUCED	SUPPLY	WATERFLOOD	SALT WATER DISPOSAL
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FF				
DISSOLVED SOLIDS			DISSOLVED GASES	
CATIONS	me/t*	mg/l*	Hydrogen Sulfide, H2S	mg/l*
Total Hardness	2220		Carbon Dioxide, CO2	mg/t*
Calcium. Ca ++	1560	31200	Oxygen, Oz	mg/t mg/l*
Magnesium, Mg <sup>++</sup>	660	8052	Uxyyen, Uz	
iron (Total) Fe+++	0.7	13	PHYSICAL PROPERTIE	FS
Barium, Ba <sup>++</sup>				
Sodium, Na <sup>+</sup> (calc.)	1147.5	26392.5	5 pH	5.55
			Specific Gravity	
			• Total Dissolved Solids	(calc.) 185500 mg/1.
ANIONS	2252.1		Stability Index @	°C
Chloride, Cl <sup></sup>	3352.1	119,000	<u></u>	0
Sulfate, SO4 =	10.9			°Cme/1°
Carbonate, CO3 <sup>™</sup>	0	0		<u>6.42</u> me/1*
Bicarbonate, HCO3	5.2	317.		c.) me/l*
Hydroxyl, OH	0		Max. CaSO4 Possible {calc	
Sulfide, S=			Residual Hydrocarbons	ppm(Vol/Vol)
		<u> </u>	Residual Hydrocarbons	ppm(Vol/Vol)
TOTAL SOLIDS IQUANTITA	TIVE)	185499.	.7	
REMARKS AND RECOMMEN	IDATIONS:			me/I and mg/I are commonly
			used i	interchangeably for epm and ppm
	scaling is i			ctively. Where epm and ppm are
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			specio	fic gravity.
				The second secon
MAGNA REPRESENTATIVE	ADDRESS	·s :	TEL	EPHONE

DATE DISTRIBUTION



COMPARY				ANALYSIS NUMBER
Adams Exploration	The state of the s			1019
Midland, Texas			<i>4.</i>	8/28/81
FIELD TOXALS	gen allegfer spiel ar de lage, sagging general skille first for en trage en en agen, sek en egen ble eller slage an de best	COUNTY OR PARISH	STATE	
Chaveroo		Roosevelt	N.M.	
LEASE OR UNIT	WELLIST NA	ME OR NO.	WATER SOURCE (FORMATION)	
Griffin	#2		San Andres	
DEPTH. FT. BHT. OF S	SAMPLE SOURCE	TEMP, "F	WATER BELIDAY OIL BEL DAY	GAS MMCF/DAY
DATE SAMPLED	TYPE OF WATER			
8/20/81	A PRODUCED	SUPPLY	WATERFLOOD C	SALT WATER DISPOSAL
		WATER ANALYSI	C DATTEDAL	
			DICATES me/l' SCALE UNIST	
1000 Na+ 20 15	<del></del>	5 0	5 10	15 20 ci - 100
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100 c · ·				нсо3- —
100 Mg**	++++++			
0.01fe***		A The second second		
DISSOLVED SOLIDS			DISSOLVED GASES	
CATIONS	me/l *	<u>mg/1</u> *	Hydrogen Sullide, H2S	mg/1*
Total Hardness	1600	26000	Carbon Dioxide, CO2	mg/1*
Calcium. Ca ++ Magnesium, Mg++	1300 300	26000 3660	Oxygen, O2	mg/1*
Iron (Total) Fe <sup>+++</sup>	0.06	1.	2 PHYSICAL PROPERTIES	
Barium, Ba <sup>++</sup>				
Sodium, Na <sup>+</sup> (catc.)	2419.5	55648.	. <u>5</u> pH	<u>5.9</u> 5
		· · · · · · · · · · · · · · · · · · ·	Specific Gravity	220204
ANIONIC		-	- Total Dissolved Solids (call	
ANIONS Chloride, CI	4000	142000	@_20c	+1.54
Sulfate, SO4	9.17	440	CaSO4 Solubility @*C	me/l*
Carbonate, CO3 =	0	0	<u> 20 •</u> c	
Bicarbonate, HCO3	10.4	634.		me/l*
Hydroxyl, OH	0	0	Max. CaSO4 Possible (calc.)	9.17 me/1°
Sullide, S			Residual Hydrocarbons	ppm(Vol/Vo
			Residual Hydrocarbons	ppm{Vol/Vo
TOTAL SOLIDS (QUANTITA)	ristes	228384.		
				e/L and ing/L are common
REMARKS AND RECOMMEN				rchangeably for epm and pp
the state of the s	scaling is in		respective	ly. Where epm and ppm a
Sulfate sc	aling is like	ly.	used, cor specific g	rections should be made f
			Arcting 9	
MAGNA REPRESENTATIVE	ADDRESS		TELEPH	ONE
W.H. Fort			OFF	<b>★</b>
ANALYZED BY.	DATE	DISTRIBUTION	1011	RES
M Pitts	8/27/	81		.*
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			the contract of the contract o	



## RECEIVED

SEP 18 1981

ADAMS EXPLORATION COMPANY

WATER ANALYSIS REPORT

COMPANY										ANALYSIS	NUMBER
Adams E	xplorat	ion						-		1018	
COMPANY ADDR	£\$5								×	DATE	
Midland	<u>, Texas</u>					COUNTY	OUNTY OR PARISH			8/27/81 STATE	
	1									i	
Chavero							ROOSEVELT N.M.				
Griffin	60	ŧ	#1			San	Andre	26			
	вит. ФР	SAMPLE SOUR		TEMP	F	WATER E			BL DAY	GAS MMCF	/DAY
DATE SAMPLED		TYPE OF WAT	TER								
8/20/81		PRODU	ICED	Cl	SUPPLY		WATERFO	LOOD	SALT	WATER DISPO	SAL
•			· w	ATER	ANALYSI	S PATTE	RN				
1000	.,		BER BESIDE	ION						• •	20 1000
1000 No. 50	15 	5 10 10 T	177	5			ش	10		بالمالية	<sup>20</sup> ci <sup>-</sup> 1 <u>000</u>
100	}										_
100 cs**		4							<del></del>	╂╼╂╼╂╼╂╼	HCO3-7
'				W.E.		1					1
100 Mg**			+++		1	-			<del></del>	<del></del>	SO4*1
1		, , , , ,	1 1 1 1	1 1				- 1	1 1 1 1	{ ' ' ' '	1
0.01		1	1 1 1 1	1.				i I	1-1-1-	1	$\int_{CO_3} \cdot 0$
DISSOLVED SO	LIDS					DI	SSOLVE	GASI	ES		
<b></b>				×							
CATIONS			me/l*		mg/l*	Hý	drogen S	ulfide,	H <sub>2</sub> S		ng/I*
Total Hardness			1780			Ca	rtion Dio:	xide, C	Oz :		ng/I*
Catcium. Ca ++								ng/l*			
Magnesium, Mg			340		4148				·		
Iron (Total) Fe	, TTT .		0.03		0.0	PHYSICAL PROPERTIES					
Barium, Ba <sup>++</sup> Sodium, Na <sup>+</sup> (ca	10.1		2548.42		58613.	7 pH			* .	6.1	
Journal, Wa (ca	,c.,					Specific Gravity					
		- Total Ossolved Solids (calc.) 245580 m				ng/t*					
ANIONS						• Sta	ability Inc				-
Chloride, CI			4309.9	]	53000				_ <u>20</u> _∘c	+2.11	*.
Sulfate, SO4 =			8.75 0		420	Ca	SO4 Solub		°C 20 ℃		te/l*
Carbonate, CO3			9.8		597.8	2 14.	x.CaSO4.F	_			ne/I*
Bicarbonate, HC Hydroxyl, OH	.03		0		0		ix. CaSO4 F			8.75 m	ne/1*
Sulfide, S=							sidual Hyd				pm(Val/Val)
							•				p( v di, v di,
		<del></del>	-		-	Re	sidual Hyd	drocarb	ons	p	pm(Val/Val)
TOTAL SOLIDS	(QUANTI	TATIVE)		2	45580.	<del></del>					
REMARKS AND	RECOMM	ENDATIONS						*N	OTE: me/I	and mg/l ar	e commonly
@ 20 C Carbonate scaling is indicated.  used interchangeably for epm and pm respectively. Where epm and ppm											
Sulfate scaling is likely.									ons should b		
			· · · · · · · · · · · · · · · · · · ·	- <u>,</u> •				st	pecific gravit	y.	
MAGNA REPRESE	ENTATIVE	<u> </u>	AUGRESS			<del></del>			TELEPHONE		
W.H. For			33							ا ا	
ANALYZED BY	· <del></del>		DATE	DIST	RIBUTION				OFF	RES	<del></del>
**, *** * *			0/0-1	1							

#### AFFIDAVIT OF PUBLICATION

County of Chaves
State of New Mexico,
I. R. M. Hisginbothan
manager
Of the Roswell Daily Record, a daily newspaper published at Roswell, New Mexico, do solemnly swear that the clipping hereto attached was published once a week in the regular and entire issue of said paper and not in a supplement thereof for a period
of One
day xxxx
beginning with the issue dated
November 18 , 1981
and ending with the issue dated
November 18, 19 81 Manager
Sworn and subscribed to before me
this 18th day of
November , 1981
Notary Public
My commission expires
(Seal) 19
OFFICIAL SEAL  Lien Polic Petic  Notice and Services of State  My Commission Expires of Table All Services  Notice and Services of State  Notice and Services of Services of State  Notice and Services of S

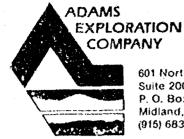
Publish November 18, 1981

ADAMS EXPLORATION COMPANY P. O. Box 10585 Midland, Texas 79702 915-683-3303 CONTACT: Stave A. Douglas

Adams Exploration Company Intends to convert the Griffin #4 Into a water dispose of water produced from the Sen Andres Formation in adjacent wells. Well location is 660 FNL & 660 FEL of Section 10, Township 8 South, Range 32 East, Chaves County, New Mexico.

The injection interval is in the San Andres Fornation into perforations from 476-4273. The maximum anticipated injection rate is one BPM at 200 psi. Maximum anticipated volume is 200 BPD.

Interested parties must file objections or requests for hearing with the Oil Conservation Division, P. O. Box 2008, Santa Fe, New Mexico 57501 within 15 days.



601 North Loraine Street Suite 200 P. O. Box 10585 Midland, Texas 79702 (915) 683-3303 CERTIFIED MAIL NO. P238386045 RETURN RECEIPT REQUESTED

November 24, 1981

MWJ Producing Company 1804 First National Bank Bldg. Midland, Texas 79701

RE: Our Griffin Well No. 4
NE/4 NE/4 Sec. 10, T-8-S, R-32-E,
NMPM, CHAVES COUNTY, NEW MEXICO

Gentlemen:

We are in the process of making application to convert the above well into a salt water disposal well. The New Mexico Oil Conservation Division requires that we give notice to all offsetting leasehold operators of the above well. Enclosed with this letter is a copy of our application to the New Mexico Oil Conservation Division. Should you have any questions, please contact us at the above address or phone number.

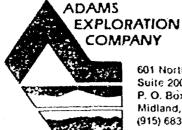
Yours truly,

ADAMS EXPLORATION COMPANY

Steve Douglas

Division Engineer

SD/jpk



601 North Loraine Street Suite 200 P. O. Box 10585 Midland, Texas 79702 (915) 683-3393 CERTIFIED MAIL NO. P238386044
RETURN RECEIPT REQUESTED

November 24, 1981

El Ran, Inc. P. O. Box 911 Lubbock, Texas 79408

RE: Our Griffin Well No. 4
NE/4 NE/4 Sec. 10, T-8-S, R-32-E,
NMPM, CHAVES COUNTY, NEW MEXICO

#### Gentlemen:

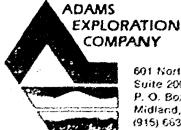
We are in the process of making application to convert the above well into a salt water disposal well. The New Mexico Oil Conservation Division requires that we give notice to all offsetting leasehold operators of the above well. Enclosed with this letter is a copy of our application to the New Mexico Oil Conservation Division. Should you have any questions, please contact us at the above address or phone number.

Yours truly,

ADAMS EXPLORATION COMPANY

Steve Douglas Division Engineer

SD/jpk



601 North Loraine Street Suite 200 P. O. Box 10585 Midland, Texas 79702 (915) 663-3303

CERTIFIED MAIL NO. P238386043 RETURN RECEIPT REQUESTED

Hovember 24, 1981

Mrs. Tom Gainer P. O. Box 65 Kenna, New Mexico 88122

RE: Griffin Well No. 4
NE/4 NE/4 Sec. 10, T-8-5, R-32-E,
NMPM, CHAYES COUNTY, NEW MEXICO

Dear Mrs. Gainer:

We are in the process of making application to convert the above well into a salt water disposal well. The New Mexico Oil Conservation Division requires that we give official notice of such conversion to the surface owner of the land on which the above well is located. Enclosed with this letter is a copy of our application to the New Mexico Oil Conservation Division. Should you have any questions, please do not hesitate to contact us.

Yours truly,

ADAMS EXPLORATION COMPANY

Steve Douglas Division Engineer

SD/jpk

1.3

Diene change your swo Model der Finding No (19)(5) and Order No (2) and (6) as shown

# STATE OF NEW MEXICO EUERGY AND MINEPALS DEPARTMENT

OIL CONSERVATION DIVISION

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

MS

Obu

CASE NO. 7483

Order No. R- 67/0

APPLICATION OF ADAMS EXPLORATION COMPANY FOR SALT WATER DISPOSAL, CHAVES COUNTY, NEW MEXICO.

#### ORDER OF THE DIVISION

#### BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 17, 1982, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this \_\_\_\_\_day of February, 1982, 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, Adams Exploration Company, is the owner and operator of the Griffin Well No. 4, located in Unit A of Section 10, Township 8 South, Range 32 East, NMPM, Chaves 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 4176 feet to 4293 feet.
- (4) That the injection should be accomposhed through

  2%-/nch plastic lined tubing installed in a packer

  set at approximately 4/00 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.
- with a pressure on the injection well to no more than 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 Andres formation.

- (7) 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.
- (8) 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.
- (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, Adams Exploration Company, is hereby authorized to utilize its Griffin Well No. 4, located in Unit A of Section 10, Township 8 South, Range 32 East, NMPM, Chaves County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2/8-/nch tubing installed in a packer set at approximately 4/0-0 feet, with injection into the perforated interval from approximately 4176 feet to 4293 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 physium limiting suitch or office. device with a per off value 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 San Andres formation.
- (4) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (5) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.
- (6) That the applicant shall submit monthly reports of 702,703,704,705 its disposal operations in accordance with Rules 704 and 1120 706,708, and 1/20 of the Division Rules and Regulations.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY,
Director

SEAL

CASE 7484: ANADARKO PRODUCTION COMPANY OCH-FOR COMPULSORY POOLING, EDDY COUNTY, NEW MEXICO

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Along the Share of the Hard of the State of