

CASE 3944: Application of SUN OIL
COMPANY FOR PRESSURE MAINTENANCE
PROJECT, ROOSEVELT COUNTY.

Case Number

3944

Application

Transcripts.

Small Exhibits

ETC.

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BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

November 12, 1968

EXAMINER HEARING

IN THE MATTER OF:)
)

Application of Sun Oil)
Company for a pressure)
maintenance project,)
Roosevelt County, New)
Mexico.)
)

Case No. 3944

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

MR. NUTTER: We'll call Case 3944.

MR. HATCH: Case 3944, application of Sun Oil Company for a pressure maintenance project, Roosevelt County, New Mexico.

MR. KELLAHIN: If the Examiner please, Jason Kellahin of Kellahin and Fox, Santa Fe, appearing for the applicant. We have one witness I'd like to have sworn.

(Witness sworn.)

MR. KELLAHIN: If the Examiner please, we have a brochure containing the exhibits to be presented in this case. We might suggest that we merely have it marked as an exhibit and make reference to the contents by page number.

MR. NUTTER: That will be satisfactory. Label it Exhibit 1.

MR. KELLAHIN: We have only one copy.

(Whereupon, Applicant's Exhibit Number 1, being a brochure, was marked for identification.)

FRITZ BRANDES

called as a witness, and having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Would you state your name, please?

A Fritz Brandes.

Q Would you spell that, please?

A B-r-a-n-d-e-s.

Q By whom are you employed and in what position,
Mr. Brandes?

A Sun Oil Company in the Odessa district as petroleum
engineer.

Q Have you ever testified before the Oil Conservation
Commission of New Mexico?

A No, sir.

Q For the benefit of the Examiner, would you briefly
outline your education and experience as a petroleum engineer?

A I have a B.S. degree in chemistry from Lamar State
College of Technology. I have been in the gas department of
Sun Oil as research engineer-corrosion engineer, and for the
past three years have been a petroleum engineer in the Odessa
district.

Q In connection with your duties in the Odessa district,
do you have anything to do with the operations of Sun Oil
Company in the State of New Mexico?

A Yes, sir.

Q And does the Chaveroo-San Andres Pool come within
your jurisdiction?

A Yes, sir.

MR. KELLAHIN: Are the witness's qualifications acceptable?

MR. NUTTER: Yes, they are.

Q Mr. Brandes, are you familiar with the application of Sun Oil Company in Case Number 3944?

A Yes, sir.

Q Briefly, what is proposed by Sun Oil Company in this case?

A We propose to initiate a pressure maintenance project on our James McFarland Lease by injection of water into the San Andres formation through the James McFarland Well No. 4.

Now, this well is located in the NW/4 SW/4 of Section 20, Township 7 South, Range 33 East, of the Chaveroo-San Andres Pool in Roosevelt County.

Q Now, have you prepared a brochure containing pertinent information relating to the Chaveroo-San Andres Pool and the particular lease involved in this application?

A Yes, sir. It's all compiled in this book.

Q Which has been marked as Exhibit Number 1?

A Yes, sir.

Q Now, referring to the individual pages of material

contained in this book, would you discuss the information that's set out there?

A I'd like to refer you to page number 6, Mr. Examiner, where the proposed injection well, Well No. 4 with triangle indicated around it, this is the lease plat, the combination of two leases, the James McFarland A being on the left, SW/4, and the James McFarland Lease in the SE/4.

Present condition of the well that we propose to inject water into is shown on page 4. Eight and five-eighths inch casing set at 305 feet with cement circulated to the surface. Four-and-a-half inch casing set at 4340 feet, the top of cement at 3520 by temperature survey. This well is presently completed as a pumping oil well.

Q And is it producing from the Chaveroo-San Andres Pool as an oil well at the present time?

A Yes, sir. Our proposed injection well on page 5 of the exhibit which we propose to inject water down, two and three-eighths inch cement lined tubing under a tension packer set at approximately 4100 feet. The interval of injection would be the same as the producing interval now, 4174 to 4279.

Q Will the casing tubing annulus be filled with an inert fluid?

A Yes, sir, it will be an inhibited packer fluid.

Q And will you have a pressure gauge at the surface or

leave it open?

A There will be a pressure gauge at the surface.

Q Now, do you have any information on the productive history on this pool?

A Yes, sir. If you'll refer to pages one and two, this is the data, cumulative production data, of each lease, the James McFarland Lease on page one and the James McFarland Lease on page two.

Q What is the present production of the lease?

A Approximately, the two leases combined, approximately 175 barrels of oil per day with a combined water production of approximately 100 barrels per day.

Now, this particular well, we have a more recent test than the one that's indicated on our GOR test on page 7 and which it was shown it was producing 6 barrels of oil and 3 barrels of water. This most recent test indicates 3 barrels of oil, 3 barrels of water.

Q Three barrels of oil and three barrels of water?

A Yes, sir.

Q Then, the well, has it reached its economic limit, in your opinion?

A Yes, sir, we feel it has.

Q Now, do you have any pressure information on this

reservoir?

A No, sir, we don't. We did have, at one time, two years ago, have a flowing well on this lease and the Oil and Gas Engineering Committee ran a bottom hole pressure throughout this field on the flowing wells. Oh, I have this. I see what you mean. Over on page 3, yes, sir, we have calculated --

Q You have calculated pressures?

A Yes.

Q Actually, these wells have all been pumping wells, have they not?

A All except two. We originally had two flowing wells on this, one on each lease.

Q But their present status, I mean they are all pumping?

A They're all pumping wells, yes, sir.

Q And you haven't taken any pressure?

A No, sir, we haven't.

Q Now, what is the source of water you propose to inject into your injection well?

A It's the produced water from both leases.

Q And what volumes of water will you inject?

A Approximately 100 barrels a day.

Q Do you anticipate that the injection of this water will maintain or at least help to maintain pressures in the Chaveroo-San Andres Reservoir?

A Yes, sir.

Q The application is for a pressure maintenance project. Are you familiar with the rules of the Oil Commission on the assignment of allowables to such projects?

A Vaguely, I am, yes, sir.

Q You understand that they are handled in each individual case on their own merits. Do you have any recommendations to make to the Commission as to pool rules in regard to allowables to be assigned in this particular project?

A Well, as I understand it, since this is classified as -- we're asking for it to be classified as a pressure maintenance, we'll have to have some indication of response. Is this not right?

Q Not necessarily.

MR. KELLAHIN: As I understand the rule, Mr. Examiner, it provides that the allowable to be assigned to a pressure maintenance project will be handled on an individual basis rather than a project.

MR. NUTTER: That's right.

MR. KELLAHIN: At this time, it would be our position, as I understand it, we are not able to make a recommendation because we do not yet know what kind of a response we might anticipate. Is this a correct statement?

THE WITNESS: This is right.

MR. KELLAHIN: So our position would be, we make no present recommendation but we would like it to be held open in the event we do get a response and we can apply to the Commission for assignment of allowables in accordance with the actual operation of the reservoir.

MR. NUTTER: As I recall the last case that we had for Sun was a pressure maintenance over in the Cato Field, and we didn't prescribe any specific rules for the pressure maintenance project there. They can always be adopted later on, if necessary.

You don't have any gas-oil ratio problem here, do you?

THE WITNESS: No, sir. The last gas-oil ratio we had on this well was 1750.

MR. NUTTER: How about the other wells?

THE WITNESS: We have one well that would be McFarland Number 3 that is 2064 to 1 ratio and I think the limit in the field is 2000 to 1.

MR. NUTTER: That allowable is not penalized, however, is it, because of the low productivity of the well?

THE WITNESS: Right.

MR. NUTTER: So if you don't have any gas-oil ratio problem on any of these wells, there's no necessity at this time

to get into the Z factors and all the other complicated pressure maintenance rules for gas credit on high GOR's and so forth.

Q (By Mr. Kellahin) Mr. Brandes, in your opinion, will the injection of water into this producing formation result in the recovery of oil that would not otherwise be recovered?

A Yes, sir.

Q Will it cause any damage to the reservoir, in your opinion?

A No, sir.

Q Will the correlative rights of any offset operators be protected?

A Will it be what?

Q Will the correlative rights of offset operators in any way be impaired?

A No, sir.

Q Was Exhibit Number 1, a brochure consisting of 8 pages, prepared by you or under your supervision?

A Yes, sir.

Q And also contained in the exhibit, is there a log of the well?

A Yes, sir, it's in the attachment on the back.

Q Do you have any comments to make about the log?

A No, sir, it's just a densilog of the formation run by Lang Wells. It does show our perforations.

MR. KELLAHIN: At this time, I offer in evidence Exhibit Number 1.

MR. NUTTER: Applicant's Exhibit 1 will be admitted in evidence.

(Whereupon Applicant's Exhibit Number 1 was admitted into evidence.)

MR. KELLAHIN: That's all I have under direct examination. Do you have anything to add, Mr. Brandes?

THE WITNESS: No.

MR. KELLAHIN: That completes the direct examination of the witness.

MR. NUTTER: Are there any questions of Mr. Brandes?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Brandes, now, referring to your page 7 there, you show that this test on July the 23rd of the McFarland No. 4 was 6 barrels of oil. You stated that you think it now makes about 3 barrels?

A We tested the well in the month of October, Mr. Examiner, and it did test 3 barrels of oil.

Q Was that a 24-hour test?

A Yes, sir.

Q Because I note that this was a 12-hour test here in July.

A Well, that was on a pump cycle. We have a surveillance program where we determine the capacity. We're producing at capacity on these ~~stripper~~ wells and this was determined at this time.

Q In other words, it's a 24-hour test, but it only produced half the time?

A On this 6-hour test, yes, sir, but we did put it on a 24-hour basis prior to this hearing.

MR. NUTTER: Are there any further questions of Mr. Brandes? He may be excused. Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: That's all, Mr. Nutter.

MR. NUTTER: Does anyone have anything they wish to offer in Case 3944? We'll take the case under advisement.

I N D E X

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<u>EXHIBITS</u>	<u>MARKED</u>	<u>OFFERED AND ADMITTED</u>
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STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

I, CHARLOTTE MACIAS, Court Reporter and Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Hearing before the New Mexico Oil Conservation Commission was reported by me, and that the same is a true and correct record of the said proceedings, to the best of my knowledge, skill, and ability.

Charlotte Macias
 COURT REPORTER

I do hereby certify that the foregoing is a complete record of the proceedings in the hearing of Case No. 3944, heard by me on 11/2, 1968.

[Signature]
 Chairman
 New Mexico Oil Conservation Commission

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 2088
SANTA FE

November 19, 1968

Mr. Jason Kellahin
Kellahin & Fox
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: Case No. 3942
3944 ✓
Order No. R-3570 & R-3571
Applicant:
Cities Service & Sun Oil Co.

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC _____

Aztec OCC _____

Other State Engineer Office

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3944
Order No. R-3571

APPLICATION OF SUN OIL COMPANY
FOR A PRESSURE MAINTENANCE
PROJECT, ROOSEVELT COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 12, 1968, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 19th day of November, 1968, the Commission, a quorum being present, 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 Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Sun Oil Company, seeks authority to institute a pressure maintenance project in the Chaveroo-San Andres Pool on its James McFarland Lease located in Section 20, Township 7 South, Range 33 East, NMPM, Roosevelt County, New Mexico, by the injection of water into the San Andres formation initially through its James McFarland Well No. 4 located in the NW/4 SW/4 of said Section 20.

(3) That the applicant further seeks the promulgation of special rules and regulations governing said project.

(4) That the proposed pressure maintenance project is in the interest of conservation and should result in greater ultimate recovery of oil, thereby preventing waste.

CASE No. 3944

Order No. R-3571

(5) That the application to institute a pressure maintenance project should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(6) That there appears to be no necessity for the promulgation of special rules and regulations governing said project at this time.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sun Oil Company, is hereby authorized to institute a pressure maintenance project in the Chaveroo-San Andres Pool on its James McFarland Lease, Roosevelt County, New Mexico, by the injection of water into the San Andres formation through its James McFarland Well No. 4 located in the NW/4 SW/4 of Section 20, Township 7 South, Range 33 East, NMPM, Roosevelt County, New Mexico.

(2) That said injection shall be accomplished through 2 3/8-inch cement-lined tubing installed in a packer set at approximately 4100 feet, and into the perforated interval from approximately 4174 feet to 4279 feet;

PROVIDED HOWEVER, that the casing-tubing annulus shall be loaded with an inert fluid and equipped with a pressure gauge at the surface in order to detect leakage in the tubing, casing, or packer.

(3) That the subject pressure maintenance project is hereby designated the Sun Chaveroo McFarland Pressure Maintenance Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(4) That monthly progress reports of the pressure maintenance project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

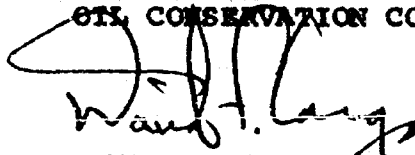
-3-

CASE No. 3944

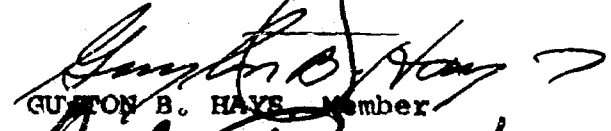
Order No. R-3571

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION



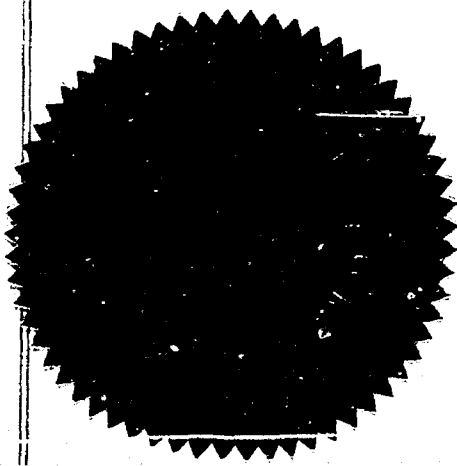
DAVID F. CARGO, Chairman



GUSTON B. HAYS, Member



A. L. PORTER, Jr., Member & Secretary



esr/

CASE 3943: Application of Continental Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dually complete its Lynn A-28 Well No. 5, located in Unit A of Section 28, Township 23 South, Range 36 East, Lea County, New Mexico, in such a manner as to produce gas from the Yates formation of the Jalmat Gas Pool through the casing-tubing annulus and to dispose of produced salt water through tubing into the Seven Rivers formation of said pool in the interval from 3340 to 3374 feet.

CASE 3944: Application of Sun Oil Company for a pressure maintenance project, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project in its James McFarland Lease by the injection of water into the San Andres formation through its James McFarland Well No. 4 located in the NW/4 SW/4 of Section 20, Township 7 South, Range 33 East, Chaveroo-San Andres Pool, Roosevelt County, New Mexico. Applicant further seeks the promulgation of special rules to govern operation of said pressure maintenance project.

CASE 3945: Application of Mobil Oil Corporation for lease commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Vacuum Grayburg-San Andres production from its State "G" lease comprising the W/2 NE/4 and SE/4 NE/4 of Section 24, Township 17 South, Range 34 East, Lea County, New Mexico, with Vacuum Grayburg-San Andres production from that portion of its Bridges State lease comprising the W/2 of said Section 24, allocating the production to each lease on the basis of monthly well tests.

SUN OIL COMPANY
JAMES McFARLAND AND JAMES McFARLAND "A" LEASES
CHAVEROO (SAN ANDRES) FIELD
ROOSEVELT COUNTY, NEW MEXICO

EXHIBIT FOR WATER INJECTION
FOR
PARTIAL PRESSURE MAINTENANCE

BEFORE EXAMINER NUTTER
OIL CONSERVATION COMMISSION
<i>11/4</i> EXHIBIT NO. _____
CASE NO. <i>3944</i>

SUN OIL COMPANY
SOUTHWEST DIVISION

NOVEMBER 4, 1968

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SUN OIL COMPANY

PRODUCTION DATA

JAMES McFARLAND "A" LEASE

		<u>No.</u> <u>Wells</u>	<u>Oil,</u> <u>BBLS</u>	<u>Gas,</u> <u>MCF</u>	<u>Water,</u> <u>BBLS</u>
1966	Feb.	1	757	1794	0
	Mar.	2	2072	566	499
	Apr.	4	2981	728	1098
	May	4	5254	2088	1778
	June	4	4840	1300	2636
	July	4	4797	2703	1945
	Aug.	4	5663	3130	1475
	Sept.	4	4600	3219	1890
	Oct.	4	6012	2531	2115
	Nov.	4	6177	1768	1539
	Dec.	4	6512	2463	2736
1967	Jan.	4	7045	3547	3941
	Feb.	4	5997	2790	4732
	Mar.	4	6333	2749	4393
	Apr.	4	5776	3851	3738
	May	4	5580	2450	4550
	June	4	5664	2701	3262
	July	4	6003	4485	3672
	Aug.	4	6710	3379	3788
	Sept.	4	7001	2255	3750
	Oct.	4	6586	3234	2239
	Nov.	4	6149	4720	4170
	Dec.	4	4189	4269	2187
1968	Jan.	4	3600	3558	1730
	Feb.	4	3184	3718	2190
	Mar.	4	3344	3258	2387
	Apr.	4	3967	6824	2737
	May	4	3627	4109	3344
	June	4	<u>3179</u>	<u>2446</u>	<u>2668</u>
Cum. 7-1-68			<u>143599</u>	<u>86633</u>	<u>77189</u>

*Combined prod (both leases)
175 BOPD
100 BWPD*

JAMES McFARLAND LEASE

		<u>No. Wells</u>	<u>Oil, BBLs</u>	<u>Gas, MCF</u>	<u>Water, BBLs</u>	
1966	Mar.	1	1452	488	115	
	Apr.	2	2245	450	517	
	May	3	3470	1373	400	
	June	3	4173	1941	681	
	July	3	4060	5366	450	
	Aug.	4	4454	3831	2420	
	Sept.	4	5017	4353	2385	
	Oct.	4	5991	4032	2388	
	Nov.	4	5064	5619	2195	
	Dec.	4	5346	4852	3795	
	1967	Jan.	4	5504	6472	4770
		Feb.	4	4859	6281	4982
Mar.		4	4368	5385	4845	
Apr.		4	4244	6210	3295	
May		4	4674	3289	3456	
June		4	4602	4000	1923	
July		4	4880	7757	1638	
Aug.		4	5335	7509	2340	
Sept.		4	5020	4181	2218	
Oct.		4	4860	6160	980	
Nov.		4	4171	8595	1033	
Dec.		4	3744	8525	1631	
1968	Jan.	4	3205	6961	1194	
	Feb.	4	2353	6190	629	
	Mar.	4	2667	5259	676	
	Apr.	4	2372	4928	420	
	May	4	2166	4325	764	
	June	4	<u>1763</u>	<u>2737</u>	<u>1706</u>	
Cum. 7-1-68			<u>112,079</u>	<u>136,969</u>	<u>53,846</u>	

SUN OIL COMPANY

McFARLAND AND McFARLAND "A" LEASES

ROOSEVELT COUNTY, NEW MEXICO

Estimated Reservoir Pressure = 1000 psi ✓
Oil Gravity = 25° API
Gas Gravity = .7 (estimated)
Reservoir Temperature = 110° F
From Correlation Charts:
Solution GOR at present = 140
Formation Volume Factor at present = 1.066

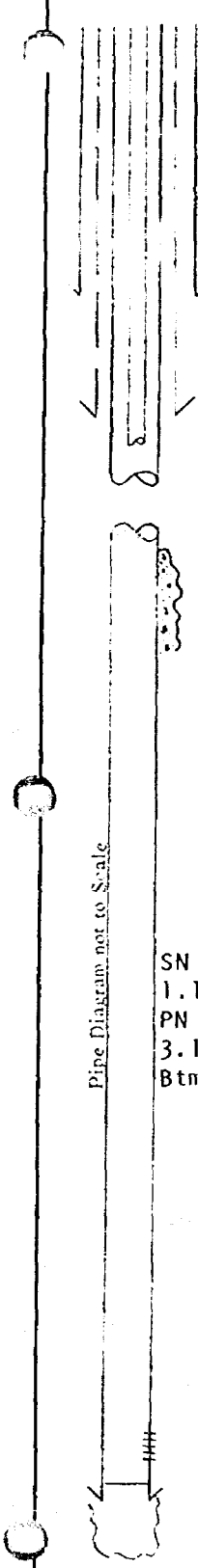
Reservoir Voidage Based on June, 1968 Production from McFarland and
McFarland "A" Leases:

Oil Produced = 4942 Barrels X 1.066 = 5268 Res. Bbls
Gas Produced = [5083 MCF - (4942 X .140 MCF)] 2.45 = 10758 Res. Bbls
Water Produced = 4374 Barrels = 4374 Res. Bbls

Estimated Total Reservoir Voidage = 20,400 Res. Bbls

WELL NAME: James McFarland #4

DOWN HOLE SUMMARY



(MILNESAND - SAN ANDRES, TOP @ 4133', BTM @ ?)

PERFS #1 @ 4151', 56', 74', 77', 86', 4221', 26 $\frac{1}{2}$ ', 45', 54', 60', 72', 79', & 4284 $\frac{1}{2}$ ' w/ 1 JS @ ea. Int. 5/18/66.

Csg. Seat (No Cond)
 Size _____

Acid Trtmt #1, Pfs. #1 w/ 2000 gals 15% acid w/ ball sealers.

Test: 5 hrs. Swbd 10 BLW, FL @ 3850'.

Frac Trtmt #1: w/ 40,000 gals galled forma. wtr., 40,000# sd, BDP 2200#, FP 3000#. 5/21/66.

Csg. Seat 375'
 Size 8-5/8", 5/5/66

Test: Unsuccessfully, 5/22 thru 7/26/66

Sqzd Perfs #1 @ 4151 & 56 in 2 stages w/ 250 sks lcor, FP 4000#.

Top of Cement behind Oil String

Plug: 4314 cmt., 8/2/66

Actual 3520 (Temp Surv)
 Calc. _____

Perfs #2 @ 4174', 77', 86', 4221', 26 $\frac{1}{2}$ ', 45', 54', 4266 $\frac{1}{2}$ ', 72', & 79' w/ 1 JSPF.

Acid Trtmt #2: Pfs #2 @ 4174/4279 @ Int., Pfs #1 @ 4284 $\frac{1}{2}$, w/ 2000 gals, w/ ball sealers, 8/5/66.

Tbg. Btm. 4172'
 Size 2"

Test: 11 $\frac{1}{2}$ hrs. Swbd 3 B0, 19 BW, FL @ 3000'.

Wt. 4.70#
 Grade J-55 SS
 Thd. 8R EUE
 Date Run 8-10-66

Frac Trtmt #2 (Pfs #2 @ 4174/4279 @ Int. & Pfs #1 @ 4284 $\frac{1}{2}$) w/ 40,000 gals lse wtr, 40,000 sd, FP 4350#.

I. P.: 24 hrs. P 47 B0, 61 BLW, GOR 112/1, Grav of Oil 24.3. 8/24/66

SN @ 4136.02', (1-25/32" ID, 1.10' lg)
 PN @ 4137.12', (1.995" ID, 3.14' lg)
 Btm tbg bull plugged w/ collar

Fluid above _____
 Packer _____

Top of Plug in Csg. @ 4314'
 Pkr. Depth @ None
 Length _____
 Kind _____
 Tbg. Stop @ _____
 Kind _____

Csg. Seat 4340'
 Size 4-1/2", 5/15/66
 T.D. @ 4343', 5/13/66

PERFORATIONS

Proposed Inj. Well

Jang

4441' RDB
4429' GL

NO SCALE

375' 8-5/8" Csg. Seat (Cnt. Circ.)

Inhibited fluid

3520' TOC (Temp. Surv.)

Inhibited Pkr. Fluid

2-3/8" Cnt. Lined Tbg.

4100' Tension Pkr. (Plastic ctd.)

4174 Perfs #2, 11 holes
1 ft./interval

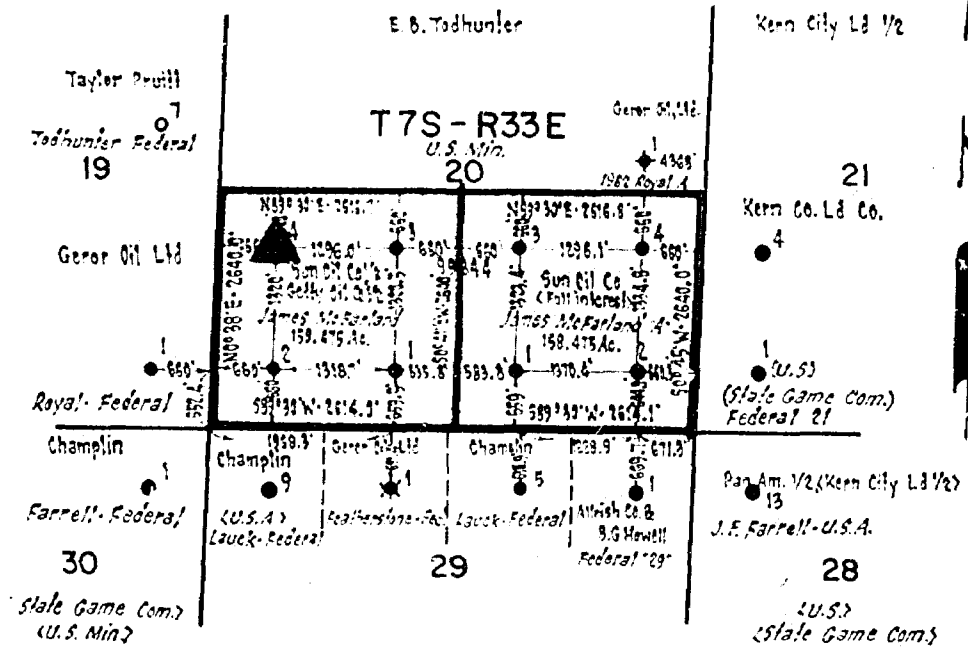
4151 Perfs #1, 14 holes
1 ft./interval

4279

4284 1/2 q. w/3 stages

4314' PBD

4340 4 1/2" Csg. Seat & TD



Sun Oil Co.		Pool Chaveroo San Andres				County Roosevelt										
ADDRESS P. O. Box 2792 Odessa, Texas 79760		TYPE OF TEST - (X)		Schedule <input checked="" type="checkbox"/> [X]		Duration <input type="checkbox"/> []		Period <input type="checkbox"/> []								
LEASE NAME	WELL NO.	LOCATION				DATE OF TEST	STATUS	CHOKER SIZE	TGS. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST	PROD. DURING TEST				GAS RATIO CU. FT.
		U	S	T	R							WATER GALS.	GRAV. OIL	OIL BBLs.	GAS M.C.F.	
James McFarland	1	N	20	7S	33E	7-15-68	P	2"	30	58	24	17	24.4	14	5.0	35
	2	M	20	7S	33E	7-22-68	P	2"	30	51	24	6	24.4	44	173.9	395
	3	K	20	7S	33E	7-22-68	P	2"	30	54	24	3	24.3	11	22.7	206
	4	L	20	7S	33E	7-23-68	P	2"	30	9	24	3	24.3	6	10.5	175
James McFarland "A"	1	O	20	7S	33E	7-23-68	P	2"	30	58 19	24	16	24.3	39	77.7	199
	2	P	20	7S	33E	7-24-68	P	2"	35	53	24	43	24.3	43	131.1	304
	3	J	20	7S	33E	7-25-68	P	2"	40	58	24	4	24.3	8	59.8	747
	4	I	20	7S	33E	7-26-68	P	2"	30	52	24	7	24.3	20	21.8	109

bc: NMOCC - 2
Mr. L. R. Barineau
Mr. L. C. McColloch
Mr. E. L. Kownslar
File

Anticipate -213 BOPD decreased capacity.

(now) makes about 3

No well will be assigned an allowable greater than the amount of oil produced in the official test.
During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.
Gas volumes must be reported in MCF measured at a pressure base of 14.725 psia and a temperature of 60° F. Specific gravity base will be 0.60.
Report casing pressure in lieu of tubing pressure for any well producing through casing.
Well operator and one copy of this report to the district office of the New Mexico Oil Conservation Commission in accordance with Rule 121 and appropriate pool rules.

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

Charles C. Gray
(Signature)
Eng. Clerk

8-5-68

-7-



Case 3944

TOM F. HILL
Manager, Southwest Division
F. G. PRUTZMAN
Superintendent Operating Department

PRODUCTION DEPARTMENT **SUN OIL COMPANY** SOUTHLAND CENTER, P. O. BOX 2880, DALLAS, TEXAS 75221

October 16, 1968

Case 3944

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

Re: James McFarland No. 4 well,
Chaveroo (San Andres) Field,
Roosevelt County, New Mexico,
Injection Pressure Maintenance

Gentlemen:

Sun Oil Company operates 8 wells on the James McFarland and James McFarland "A" leases consisting of the S/2 of Sec. 20, T7S, R33E in the Chaveroo (San Andres) Field, Roosevelt County, New Mexico. We propose to dispose of salt water produced on these leases through the James McFarland No. 4 located in the NW/4 of the SW/4 of Sec. 20, T7S, R33E. It is our desire to inject this salt water into the San Andres reservoir of the Chaveroo Field as a partial pressure maintenance project.

Enclosed are a plat of the area, a log of McFarland No. 4 and a diagrammatic sketch of the well equipment. Injection will be into the San Andres through perforations at various intervals from 4151 to 4284½ feet at a rate of approximately 125 BWPD initially. The source of the salt water to be injected is produced water from the McFarland and McFarland "A" leases operated by Sun Oil Company.

It is requested that a hearing be set on our application for this injection as a pressure maintenance project at which hearing we will ask that the project area and the allowable formula be fixed.

Yours very truly,

SUN OIL COMPANY

A. R. Ballou

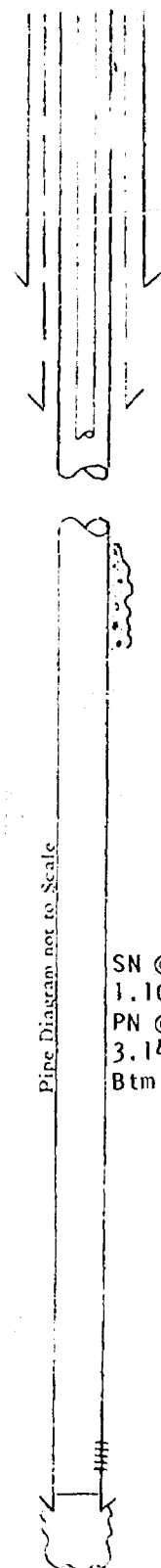
A. R. Ballou

ARB:ml
Enclosures

OCT 23 1968
DOCKET MAILED
Date 11-1-68

WELL NAME: James McFarland #4

DOWN HOLE SUMMARY



(MILNESAND - SAN ANDRES, TOP @ 4133', BTM @ ?)

PERFS #1 @ 4151', 56', 74', 77', 86', 4221', 26½', 45', 54', 60', 72', 79', & 4284½' w/ 1 JS @ ea. Int. 5/18/66.

Acid Trtmt #1, Pfs. #1 w/ 2000 gals 15% acid w/ ball sealers.

Test: 5 hrs. Swbd 10 BLW, FL @ 3850'.

Frac Trtmt #1: w/ 40,000 gals gelled forma. wtr., 40,000# sd, BDP 2200#, FP 3000#. 5/21/66.

Test: Unsuccessfully, 5/22 thru 7/26/66

Sqzd Perfs #1 @ 4151 & 56 in 2 stages w/ 250 sks lcor, FP 4000#.

Plug: 4314 cmt., 8/2/66

Perfs #2 @ 4174', 77', 86', 4221', 26½', 45', 54', 4266½', 72', & 79' w/ 1 JSPF.

Acid Trtmt #2: Pfs #2 @ 4174/4279 @ Int., Pfs #1 @ 4284½, w/ 2000 gals, w/ ball sealers, 8/5/66.

Test: 11½ hrs. Swbd 3 B0, 19 BW, FL @ 3000'.

Frac Trtmt #2 (Pfs #2 @ 4174/4279 @ Int. & Pfs #1 @ 4284½) w/ 40,000 gals lse wtr, 40,000 sd, FP 4350#.

I. P.: 24 hrs. P 47 B0, 61 BLW, GOR 112/1, Grav of oil 24.3. 8/24/66

Csg. Seat (No Cond)
 Size _____

Csg. Seat 375'
 Size 8-5/8", 5/5/66

Top of Cement behind Oil String
 Actual 3520 (Temp Surv)
 Calc. _____

Tbg. Btm. 4172'
 Size 2"

Wt. 4.70#
 Grade J-55 SS
 Thd. 8R EUE
 Date Run 8-10-66

SN @ 4136.02', (1-25/32" ID, 1.10' lg)
 PN @ 4137.12', (1.995" ID, 3.14' lg)

Btm tbg bull plugged w/ collar

Fluid above _____
 Packer _____

Top of Plug in Csg. @ 4314'
 Pkr. Depth @ None
 Length _____
 Kind _____
 Tbg. Stop @ _____
 Kind _____

Csg. Seat 4340'
 Size 4-1/2", 5/15/66
 T.D. @ 4343', 5/13/66

PERFORATIONS

Case 3944

DRAFT

GMH/esr

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

9
SMA
IN THE MATTER OF THE HEARING
CALLED BY THE OIL CONSERVATION
COMMISSION OF NEW MEXICO FOR
THE PURPOSE OF CONSIDERING:

CASE No. 3944

Order No. R-3571

APP
APPLICATION OF SUN OIL COMPANY
FOR A PRESSURE MAINTENANCE
PROJECT, ROOSEVELT COUNTY, NEW
MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on November 12, 1968,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this _____ day of November, 1968, the Commission, a
quorum being present, 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 Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Sun Oil Company, seeks authority to
institute a pressure maintenance project in the Chaveroo-San Andres
Pool on its James McFarland Lease located in Section 20, Township
7 South, Range 33 East, NMPM, Roosevelt County, New Mexico, by
the injection of water into the San Andres formation initially
through its James McFarland Well No. 4 located in the NW/4 SW/4
of said Section 20.

(3) That the applicant further seeks the promulgation of
special rules and regulations governing said project.

(4) That the proposed pressure maintenance project is in
the interest of conservation and should result in greater ultimate
recovery of oil, thereby preventing waste.

(5) That the application to institute a pressure maintenance project should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(6) That there appears to be no necessity for the promulgation of special rules and regulations governing said project at this time.

IT IS THEREFORE ORDERED:

(1) That the applicant, Sun Oil Company, is hereby authorized to institute a pressure maintenance project in the Chaverco-San Andres Pool on its James McFarland Lease, Roosevelt County, New Mexico, by the injection of water into the San Andres formation through its James McFarland Well No. 4 located in the NW/4 SW/4 of Section 20, Township 7 South, Range 33 East, NMPM, Roosevelt County, New Mexico.

(2) That said injection shall be accomplished through 2 3/8-inch ^{cement lined} tubing installed in a packer set at approximately 4100 feet, and into the ^{*}perforated interval from approximately 4174 feet to 4279 feet; *that the casing-tubing annulus shall be loaded with an inert fluid*

(3) That the subject pressure maintenance project is hereby designated the Sun Chaverco McFarland Pressure Maintenance Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

(4) That monthly progress reports of the pressure maintenance project herein authorized shall be submitted to the Commission in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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

and equipped with a pressure gauge at the surface in order to detect leakage in the tubing, casing, or packer.

Ex Hearings -

Newspaper

Case _____

Application of Sun Oil Company for a pressure maintenance project, Roosevelt County, New Mexico.

via
telephone

Applicant, in the above-styled cause, seeks authority to institute a pressure maintenance project in its James Mc Farland Lease by the injection of water into the San Andrus formation through its James Mc Farland Well No. 4 located in the NW/4 SW/4 of Section 20, Township 7 South, Range 33 East, Chaveso-San Andrus Pool, Roosevelt County, New Mexico. Applicant further seeks the promulgation of special rules to govern operation of said pressure maintenance project.