CASE 4540: Appli. of MOUNTAIN STATES PETROLEUM CORP. FOR REDELINEATION OF CERTAIN POOLS.

Material Manager Manager Control of the Control of

Case Number 45040

Application
Trascripts

Small Exhibits

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BEFORE THE NEW MEXICO OIL CONSERVATION COMMISSION Santa Fe, New Mexico May 19, 1971

EXAMINER HEARING

IN THE MATTER OF:

Application of Mountain States Petroleum) Case No. 4540 Corporation for redelineation of certain) pools, Eddy County, New Mexico.

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

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		MR.	NUTTER	We'll cal	l Case No. 4	540.
		MR.	HATCH:	Case 4540,	application	of Mountain
4.	Stat	tes Petrol	eum Corp	oration for	redelineati	on of certain
	pool	ls, Eddy C	ounty, N	lew Mexico.		

MR. STEVENS: Mr. Examiner, I am Don Stevens of McDermott, Connolly and Stevens, Attorneys for the applicant, Mountain States Petroleum. We have one witness to be sworn.

(Witness sworn.)

(Whereupon, Applicant's Exhibits A through D were marked for identification.)

CONRAD APPLEDORN,

having been first duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. STEVENS:

- Would you give your name, the company by whom you are employed and your position and capacity with that company?
- My name is Conrad R. Appledorn and I am petroleum engineer with Mountain States Petroleum Corporation.
- Q Have you testified before the Commission before and did you make your qualifications a matter of record before the Commission?
- Yes, I have, '61.

MR. STEVENS: Mr. Examiner, are the witness' qualifications acceptable?

MR. NUTTER: They are.

- Q (By Mr. Stevens) Mr. Appledorn, would you state briefly what the applicant seeks in this application before the Commission?
- McCall Gas Calm No. 1 in the northwest quarter of Section 19, Range 26 East, Township 18 Sotuh, be removed from the Atoka-Penn Gas Pool and placed in the West Atoka-Penn Gas Pool. We believe that we have sufficient data now to justify this reclassification. In order to do this, the west half of Section 19 and the west half of Section 18 will be placed in the West Atoka Pool.
- Q If this application is approved?
- A If this application is approved.
- You expressed a desire to introduce Exhibits A, B and C at the same time, and I understand you would like to discuss them all together, is that correct?
- A Yes.
- Q Would you explain to the Commission the significance of these exhibits?
- A All three of these exhibits are more or less related.

 Exhibit A is a cross section illustrating the continuity of the various producing sands in the area across the area in question and B and C are isopach maps which show the area distribution in the sands.

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B and C do not show the total area distribution. They are more or less a configuration of what we consider to be produceable sands or sands that have economic gas concentrations very roughly, and the cross section illustrates that both the A sand and the B sand are continuous throughout this area. Excuse me. Could you explain exactly what sands you are referring to in the stratographic column? This is the Morrow Formation, Pennsylvanian and H and in the Morrow there are three sands, the A, the B and the C, at successfully deeper, and the A and B sands are the ones with which we are concerned here. These two sands are separated by about a hundred feet of shale and shaley sand. Cross section A shows the Pennzoil Vandenburg No. 1 in Section 13, Range 25 East; all of this is in Township 18 South.

The Mountain States Petroleum Corporation McCall Gas in the northwest quarter of Section 19, 18 South, 26 East, and the Reed and Stevens which was formerly the Lynn Meyer, Irene Brainard No. 1 in the northwest quarter of Section 20, 18 South, 26 east.

The Pennzoil Well is presently shutin. Its economics in question at this time. It had a calculated absolute open flow of about 960,000 cubic feet of gas per day. is perforated in the A sand but at this location in the t

northwest quarter of Section 13, the A sand actually present in three relatively thin zones. Each of these zones is separated by shale.

As we turn southeast into the west half of Section 19, we see that the A sands thicken and the shale decreases in thickness. The A sand also cleans up and the McCall Gas Calm in the northwest quarter of Section 19 was potentialed on the 15th of May, just last Saturday, for 8,600,000 cubic feet of gas per day.

The Lynn Meyer Well or the Reed and Stevens Irene
Brainard No. 1 was completed in June of 1967 as a B
sand well. In this well, the A sand was drilled; it
did not have sufficient shows nor porosity and permeability to warrant testing nor was it completed in any
way. It was drilled through; there is A sand present;
it is shaley; it's very tight and the very small portion
of relatively clean sand that appears on the log is
highly cemented and has no porosity or permeability.

MR. NUTTER: What kind of potential does that well have in the B sand?

THE WITNESS: In the B sand, that well potentials at 15,000,000.

The B sand in the Pennzoil Well is very thin, very tight; it seems to be clean sand on the log. However, it has no porosity at all. There was no attempt made to

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complete it.

In the Mountain States Well, we had about nine feet of porosity. I ended up perforating ten feet total. We feel that nine feet of this does have sufficient porosity and permeability to produce and it is perforated. It was not tested separately.

In the Irene Brainard No. 1, again, in the B sand, as stated, was potentialed for 15,000,000 and had pressures comparable to the remainder of the Atoka Pool.

Now, if we can go to the isopachs, these illustrate on an area basis roughly our conception of the distribution of the very thick sands in this area.

There is some question on the Fascan Well. Fascan has -- this well is also in the Atoka Pool. Fascan has told us that they consider the sands in that well to be B; however, on our correlations indicate to us that it is A sand and we don't care to contest it in any way. There is no need to. However --(By Mr. Stevens) Excuse me. Could you give the location of the Fascan Well?

Of the Fascan Well? In the southeast quarter of Section A 24, 18 South, 25 East.

Changing that, whether it is A or B, would not change the basic request that we have made nor the distribution of the producing zones in the Atoka Pool

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itself.

Q Could you discuss the wells to the east of your proposed area and give us their results and their current producing capacity?

- All of the wells shown on the Exhibits B and C to the east of the McCall Gas Calm, the Fundamental Oil Corporation's Thorpe Sears Calm No. 1 dry whole in the southeast quarter of Section 18 had approximately seventeen feet of B sand. It was a non-commercial well. On the drill stem test the well produced some gas; it decreased very rapidly. It had a 3300 shutin bottomhole pressure but at the end of the test, this had decreased very markedly and the well was plugged as a dry hole.
- Did that drill stem test include the A sand?
 - As far as I know, it did not include the A. It had no sand of any kind. The Hondo LFE in the southeast quarter of Section 19, which is the diagonally offsetting well to the Mountain States Well, is the B sand well; it has a very thick, very clean B sand producing interval. It has an A section that is very similar to the Reed Well. In fact, the entire producing section of the LFE Well is similar to the Reed Well. At the time of completion, pressures were very similar and the wells are comparable, quite comparable in all respects.

Marathon Oil Company Well in Section 30, northeast

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quarter, was drilled as a nonstandard proration unit well. It has been a poor well since completion. It has very thin B section, relatively tight and it has produced relatively small amounts of gas.

The Reed and Stevens Well in the northwest quarter of Section 20, as I stated, is comparable to the Hondo LFE. It has a very good B section and it has produced it's a very good well in the Atoka Pool and pressures are quite comparable to the remainder of the Atoka Pool.

The Arnquist State Well of Marathon Oil Company in the northwest quarter of Section 29 was the initial well in this area of the pool. It had a calculated absolute open flow of 545,000,000, sixty-eight feet of pay; it's completed in the B sand only. It has been the prime well in the Atoka Pool. It's direct southeast, offsets the Nix, is a comparable well.

- The wells prorated in the Atoka Pool, other than the Fascan Well you mentioned in Section 24, of those shown on your map, do any of them produce out of the A sand or have any of them had any shifts out of the A sand of any consequence, to your knowledge?
- A Not in the map area. Now, the Atoka Pool itself has A sand production in the northeast segment of the pool some five miles east of this map area. Within this map area and to the direct southeast, it has B sand production

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only. In a few of the wells, one and two miles to the southeast, A sand is open but there has been no evidence that it's ever produce. It hasn't been tested separately.

One dry hole was drilled in Section 33 of the northeast quarter of 33, the Lynn Meyer Costa Plenty No 1 was completed as in the A sand and was non-commercial and plugged. To my knowledge, that's the only well in the area that's been treated separately in the A sand. Comparing the Fundamental Well in the southeast quarter of Section 18 and the Reed and Stevens Well in the northwest quarter of Section 20, in your opinion is there a porosity pinchout between those two wells?

In the B sand there is a degradation in quality in the B sand. In the A sand the McCall Well thickens, of course, quite a bit in the A and also develops clean

- In the B sand there is a degradation in the B sand. In the A sand the McCall Well thickens, of course, quite a bit in the A and also develops clean producing sections. The Fundamental Well illustrates the degradation quality as you go towards the limits of the pool in all of these sands. This is particularly true in the B sand.
- Q Referring to what has been marked as Applicant's Exhibit letter D, could you explain its significance to the Commission?
 - A I've listed the initial and recent tubing pressures in this field. I've done this in preference to using bottomhole pressures because these pressures are available

in the record.

The Hondo LFE Well in the southeast quarter of Section 19 had an initial pressure in February of 1962, of 2685 pounds. This pressure — at that time, at the time of the well completion — was comparable to the shutin tubing pressures of the surrounding well. It illustrated the very good continuity in pressures between wells in the Atoka Pool.

In 1969, in July, it had 1298 pounds shutin tubing pressure. In 1970, that pressure was down to 1077. The total production from this well is on the order of five to six billion MCF.

The Marathon Oil Company Arnquist State, which is third well listed, was, as I stated, the inital well in this area of the pool. It had a shutin tubing pressure in 1960 of 2843. In July of '69, 1307. In July of '70, 1073.

The Reed and Stevens Incorporated Well was completed in June of '67 and its initial tubing pressure was 1902 pounds. And, at that time, that tubing pressure was very comparable to the shutin tubing pressures of all of the offsetting wells. It again illustrated the excellent continuity in pressures between all of these wells in the Atoka Pool.

Its pressure, again, in July of '69, was 1292 and in

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May of '70, was 1109. And if you will note in those wells that are in the Atoka Pool, the pressures are very, very close, within very few pounds of each other and this has been characteristic of this B sand product on in this part of the Atoka Pool.

Mountain States Well was completed last October.

We had 141 on our shutin tubing pressure of 2839. I

cleaned the well up after this and had another pressure

which was only a gauge pressure of 2850. This pressure

that I have given you is a dead weight pressure 1022.

We show this initial pressure of 2839 on May 15, 1971,

last Saturday, I had a twenty-five and a half hour shutin

tubing pressure of 2826.

Now, this well was put on the pipe line on March 16th of this year and as of May 14th, when it was shutin for buildup, it had 259,000,000 cubic feet of gas produced in two months. And we have shown only a thirteen pound drop in our shutin tubing pressures in that length of time.

- Q What conclusions do you draw from the pressures that you just enunciated to the Commission?
- A The pressures indicate to me that we are in a separate reservoir. The geology at the time we drilled the well and completed it, it was our feeling that we were in a separate field. We had A sand. We did open up that

little bit of B sand, but opened that up with the full feeling that it was really too thin to have a total connection with the Atoka Pool and we have, since completion, I have gotten two full buildup pressure tests on this well, including the one last Friday and Saturday and I show no well interference at all. No indication whatever that was connected in any way with the Atoka Pool on the basis of pressures. These pressures to me indicate very clearly that we do have a totally separate source of supply.

- Q What kind of pressures would you expect if this were connected with the Atoka-Penn Pool?
- A If we had been connected with the Atoka Pool in the beginning, I would have expected a shutin pressure and a bottomhole pressure somewhat less, probably anywhere from 150 to 300 pounds less than what we had.

Our shutin pressure at the time of completion was the same as the initial pressure in 1957 that was taken in the Atoka Pool. We were at 3670 pounds which, on the PSI standard reporting, would be about 3690 was our initial pressures in this pool. And our pressures in the McCall were very comparable to this.

Additionally, if we had been completed in a reservoir connected to the Atoka Reservoir, with even a limited connection, producing as much gas as we have produced,

1		we should have shown a much greater pressure drop,
2		dropping very rapidly.
3	Q	What was the amount of pressure drop in that quarter
4		section?
5	A	We show thirteen pounds in tubing pressure. We show
6		our bottomhole pressure shows no drop at all but this
7	eriore Hillonia Johannia	is due to the cleaning up of the well after the completion
8	Q	Were Exhibits A through D prepared by you or under your
9		direction?
10	A	Yes.
11-		MR. STEVENS: We'd like to introduce Exhibits A
12	thr	ough D, of the Applicant, as evidence.
13		MR. NUTTER: Applicant's Exhibits A through D will
14	be	admitted in evidence.
15		MR. STEVENS: That concludes our testimony.
16		CROSS EXAMINATION
17	BY N	IR. NUTTER:
l 8	Q	Mr. Appledorn, you gave us the accumulated production on
9		this Hondo LFE. What's accumulated on the Reed and
:0		Stevens and Marathon Well?
21	A	The Marathon Well, I am not absolutely sure, I think
2		it's around seven and a half billion cubic feet of gas.
23		The Reed and Stevens Well has just exceeded four billion
4	orinali era G	this year.
5	Q	And yours today has made a quarter of a billion?

1	. А	Yes, a quarter of a billion in two months. Now, we
2		had six million of that was rig fuel. We produced 253.
3		I have the tabulations, 259,000,000 cubic feet in two
4		months, plus six million rig fuel.
5	Q	Although you maintain that you're producing from the A
6		sand, you do have the B sand open, the B sand is the
7		sand that is the principal producer in the Atoka Pool?
8	A	Yes.
9	Q	Actually, if we permitted your application to be
10		approved here and designated you as a separate pool, you
11		in effect, would be commingling between two pools in
12		the well bore, wouldn't you?
13	A	The Atoka Pool itself has all three sands open within
14		the pool limits. And the our contention is that our
15		B is not connected to the Atoka Pool. If it had, we
16	i Pi	would show well interference.
17	Q	It would be connected but you could still be getting
18		all your high pressure and so forth but indicate pressure
19		conditions out of the A sands.
20	A	Well, we would show well intereference on the bottomhole
21		pressure tests that I've taken which we have not shown.
22		I mean we would show zone interflow between zones.
23	Q	You don't have separate pressure readings on your two
)4		sands though, do you?
5	A	No, we don't have. At the time of completion we weren't

1	able to get separate tests and I felt that that ten			
2	feet wasn't economic thickness.			
3	Q No drill stem tests were made or anything, separately?			
4	A Not separately, no. I think this is illustrated by the			
5	offsetting wells which have thin sections of B sand that			
6	have been definitely tested alone. Where these sections			
7	are thin, the wells are essentially uneconomical.			
8	Q Is there any means by which the B sand can be separated			
9	off from the A sands in this well and isolated?			
10	A Well, it wouldn't pay to isolate it. It would be plugged			
11	off and we'd have to work on a well that's already			
12	completed. This Morrow is ticklish enough without going			
13	into. We would, without question, hurt the A sand in an			
14	attempt to close off the B.			
15	Q No means by which you could isolate without killing the			
16	well?			
17	A I've completed this well with tubing guns and the tubing			
18	guns are still in the hole.			
19	MR. STEVENS: Was your reason for this to avoid			
20	formation damage?			
21	THE WITNESS: Avoid formation damage, complete			
22	below the packer. I've completed more wells typically with			
23	packing the hole and get everything flanged and try not to			
24	work on it after completion to prevent formation damage. On			
25	this particular well, we used a new recently patented			

perforated method. In fact this
perforated method. In fact, this was the first well in which this method was used and the guns are still
(By Mr. Nutter) Where do you put your guns on your tubing

- tubing --Yes, we just hang the guns right on the end of the A tubing.
- I've heard of that method. Q

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- This was more or less the experimental well. revise the firing mechanism, change the tubing hangers.
- Did you have to swab the well any? Q
- No, not at all. I had tubing completely dry. A

My basis for believing that the -- that we are totally separated from the Atoka Pool, is based on experience, of course, in that in the past where we have had zone interflow, particularly where a high pressure zone such as our A sand is in continuity in the well bore with the low pressure sand, particularly when that sand is as low pressure as it now in the Atoka Pool. You get a very definite flattening on all the buildup tests. You show very strong well interference. been no indication of that at all. I don't have those buildup pressure tests with me but I'd be very happy to

provide them. Is it your contention, then, you are not only producing Q from a separate sand here in the A sands from the

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offsetting wells in the Atoka, but also that your B sands, which is also open, is isolated from the B sand and the offsetting wells?

- Yes, because of thickness. It's very thin and relatively low permeability and the presence of the Fundamental Well and the Nix Well indicate degradation of quality very sharply in a very short distance from producing wells and I think that we've experienced the same degradation of quality in the B sand between our well and the Hondo Well.
- I ventured that the sand is continuous; it may deteriorate Q quality but I think it's a continuous sand.
- Yes, I'll agree. That's the reason I built that cross A section, was to indicate that the sands are continuous but that you have a very marked degradation of quality in a very distance.
- And poor communication?
- Very poor communication between the two. The Hondo LFE has shown no effect of our well at all. If there was zone interflow, it should have had very rapid -- our well sat there shutin from 10-22 to 3-16 of this year, five months. And Hondo LFE has shown no effects at all from that high pressure. And if we had been connected, it certainly would flow that way.

The Atoka Well, all of the four wells shown on this

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map that are producing in Transwestern's line are at this time, they're floating on the line; they are -meaning that their producing pressures as such that it's controlled by the pipe line pressure and Transwestern, of course, is prorating on this basis also. The Arnquist is producing about two million cubic feet a day, two to two and a half. The Brainard and the LFE are producing on the order of one and a half to two, at tubing pressures which are at pipe line pressures.

The Guy Nixon has been a poor well since completion.

Our well, of course, is sitting there. Well, our maximum production rate during April, we made 135 million cubic feet of gas, four and a half million cubic feet a day at 2100 pounds.

- Q What do you have dedicated to this well, the north half or the west half?
- A The west half of the section.
- Q What does our West Atoka Pool comprise at the present time?
 - A Present time it's the north half of thirteen.
 - So, you have proposed that this be extended to include the north half of thirteen, the west half of eighteen and the west half of nineteen.
 - A Yes. If the Commission prefers it to be the south half of thirteen, it would be -- well, that would be concerning

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continuity.

Q Well, if we would get a telegram from Mr. Fascan's representative and he would also propose that the east half of 24 be in there; what's your feeling on that?

- A As I stated in my testimony, we are on correlations. We think the Fascan Well is A sand. We contoured it at B sand. They --
- Q He calls it B and you call it A.
- A They called it B when it was completed and they called it B two weeks ago. We chose not to argue on it. There is the geology in there, it does get a little confusing.

 MR. NUTTER: Why don't you read that telegram into

the record, George?

MR. HATCH: This is a telegram addressed to the New Mexico Oil Conservation Commission, dated May 18th, 1971.

"Case No. 4540, application of Mountain States Petroleum Corporation regarding redelineation of certain gas pools,"

Eddy County, New Mexico. On behalf of my client, David Fascan, please be advised that he has no objections to the placement of the west half of Section 18 and the west half of Section 19, Township 18 South, Range 26 East, in the Atoka West

Morrow Gas Pool, providing that the east half of Section 24, Township 18 South, Range 25 East, also be placed in the same Atoka West Morrow Gas Pool. This 320-acre communitized unit is signed to David Fascan Brown-Yates Calm No. 1 shutin gas

well currently undesignated. Said well had a bottomhole pressure of 3,631 PSIA on 2-11-71, and a surfaced tubing pressure, STP, of 2,820 PSIG pressures. Pressures equals to original pressure in the Atoka-Penn Gas Pool and approximately 1700 PSI above current pressure in the Atoka-Penn Gas Pool. James B. Henry, technical engineer, agent for David Fascan.

THE WITNESS: I have talked to James Henry about this and he was going on -- of course, he is a geologist, and I believe they were talking to Yates and Artesia at the same time and we knew that Dick Norman, he hadn't studied this area particularly, but he did just state offhand that he thought it was B. Our own correlation didn't fit his A. I think if you note on the map here that we can contour this B in here and it would change the A map considerably. The pressure is thus indicated.

- Q (By Mr. Nutter) You show forty-eight feet in the B sand on your isopach map, don't you?
- A On the David Fascan, yes.
- Q And less than ten feet on the A sand on that well?
- A Well, if you look at the cross section here, there are sands -- I would have to build a cross section on the Fascan Well to indicate what I am speaking of. If you'll note the map datum line that I have drawn across, in the Pennzoil Well is a very short distance between that

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map datum line and the top of the A. As we come into our well, the McCall Well, Mountain States Petroleum, we notice that distance is increased apparently because of dip. We get the same feature in the Fascan Well, only we have a stray sand or very thin sand that appears directly below this datum line.

When we go structurally from our well to the Fascan Well to make their well B, we have to have a very strong structural rise to get up to the level of the Fascan Well. To make that sand A, this less than ten feet would become a stray and similar to those that we see in the Reed Well, for instance, above what we classified as A.

And that forty-eight feet, we make that a thick A section. They do have what we consider to be very weak B sand below their thick A sand. This is our correlation. You apparently got the log on the Fascan Well from which you do your contour map here?

- A Yes.
- Q Could you duplicate that log and mark on it your interpretation of the A and B sand and send it to us --
- A Yes.
- Q -- so we can correlate it with your cross section here?
- A Yes.

MR. NUTTER: Any questions of Mr. Appledorn?

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MR. STAMETS: I'd like to clarify this particular point, Dan.

CROSS EXAMINATION

BY MR. STAMETS:

- Q Conrad, if you had your choice, would you have drawn that forty-eight feet as A sand?
- A Yes.
- Q And the only reason you drew it as B is because that's what the operator of that well calls it?
- A Yes.
- Q So, if you actually consider that as A sand, that would make this A sand feature much larger?
- A It would make it very much larger.
- Q But still to the west of the Atoka?
- A Yes, all lines all to the west. The producing A sands slide to the west of Atoka. It would form a very large A sand; it would become more of a bar instead of a channel that we pictured it as. Quite a typical Morrow development, I might say. This type of sand, of course is common both in the Morrow and the Atoka.

The changes in the B map in Exhibit No. C would be much less, of course. We could just wipe off that much of that map right there.

So, we would have a tendency to show the B sand more or less cutting off --

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Yes, it would show the B sand as cutting off with the Nixon and the Fundamental between the last two contour lines. That's all I have. 3 MR. STAMETS: MR. NUTTER: Are there any further questions of Mr. Appledorn? You may be excused. 5 6 (Witness excused.) MR. NUTTER: Do you have anything further in this 7 8 case, Mr. Stevens? 9 MR. STEVENS: None. MR. NUTTER: Does anyone have anything further 10 they wish to offer in Case 4540? We will take the case under 11 12 advisement. 13 14 15 16 17 18 19 20 21 22 23 24

dearnley-meier reporting service,

STATE OF NEW MEXICO COUNTY OF BERNALILLO

I, SYLVIA AMARO, Court Reporter 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.



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO P. O. BOX 2088 - SANTA FE 87501

July 7, 1971

GOVERNOR BRUCE KING CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

Re:	Case No. 4540
Mr. Donald S. Stevens McDermott, Connelly & Stevens Attorneys at Law	Order No. R-4162 Applicant:
Post Office Box 1904 Santa Fe, New Mexico	Mountain States Petroleum Corp.

Commission order recently entered in the subject case.

Enclosed herewith are two copies of the above-referenced

A. I. PORTER, Jr. Secretary-Director

Very truly yours,

ALP/ir			
Copy of order also	sent to:		
Hobbs OCC			
Artesia OCC x		The state of the s	
Aztec OCC			
Other			

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. 4540 Order No. R-4162

NOMENCLATURE

APPLICATION OF MOUNTAIN STATES PETROLEUM CORPORATION FOR RE-DELIMEATION OF CERTAIN POOLS, EDDY COUNTY, MEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 19, 1971, at Santa Pe, New Mexico, before Examiner Daniel S. Nutter.

MOW, on this 7th day of July, 1971, 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, Mountain States Petroleum Corporation, seeks the deletion of the W/2 of Section 19, Township 18 South, Range 26 East, MMPM, from the Atoka-Pennsylvanian Gas Pool and the extension of the West Atoka-Morrow Gas Pool to include the W/2 of Sections 18 and 19, Township 18 South, Range 26 East, MMPM, Eddy County, New Mexico.
- (3) That the W/2 of said Section 19 should be deleted from the Atoka-Pennsylvanian Gas Pool.

-2-CASE NO. 4540 Order No. R-4162

- (4) That the West Atoka-Morrow Gas Pool should be extended to include the S/2 of Section 13 and the W/2 of Section 24, Township 18 South, Range 25 East, EMPM, and the W/2 of Section 19, Township 18 South, Range 26 East, EMPM.
- (5) That the deletion and extensions as described in Findings (3) and (4) above will not violate correlative rights nor cause waste.

IT IS THEREFORE ORDERED:

(1) That the horizontal limits of the Atoka-Pennsylvanian Gas Pool, Eddy County, New Mexico, are hereby contracted by the deletion therefrom of the following-described area:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, HMPN Section 19: W/2

(2) That the horizontal limits of the West Atoka-Morrow Gas Pool, Eddy County, New Mexico, are hereby extended to include therein the following-described area:

EDDY COUNTY

TOWNSHIP 18 SOUTH, RANGE 25 EAST, HMPM Section 13: 8/2 Section 24: W/2

TOWNSHIP 18 SOUTH, RANGE 26 EAST, MMPM Section 19: W/2

- (3) That the location of any well which, by virtue of this extension, is presently drilling to or completed in the West Atoka-Morrow Gas Pool or in the Morrow formation within one mile thereof is hereby approved; that the operator of any such well having an unorthodox location shall notify the Artesia District Office of the Commission in writing of the name and location of the well on or before August 1, 1971.
- (4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

-3-CASE NO. 4540 Order No. R-4162

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

> STATE OF NEW MEXICO OIL COMBERVATION COMMISSION

BRUCE KING, Chairman

ALEX J. ARMIJO, Member

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

SEAL

dr/

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

CASE NO. 4540 Order No. R-4162-A

NOMENCLATURE

APPLICATION OF MOUNTAIN STATES PETROLEUM CORPORATION FOR RE-DELINEATION OF CERTAIN POOLS, EDDY COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to error and omission, Order No. R-4162, dated July 7, 1971, does not correctly state the intended order of the Commission,

IT IS THEREFORE ORDERED:

- (1) That Finding (4) on page 2 of Order No. R-4162, dated July 7, 1971, is hereby corrected to read in its entirety as follows:
 - "(4) That the West Atoka-Morrow Gas Pool should be extended to include the S/2 of Section 13 and the E/2 of Section 24, Township 18 South, Range 25 East, NMPM, and the W/2 of Section 19, Township 18 South, Range 26 East, NMPM."
- (2) That Order (2) on page 2 of Order No. R-4162, dated July 7, 1971, is hereby corrected to read in its entirety as follows:

BDDY COUNTY

TOWNSHIP 18 SOUTH, RANGE 25 EAST, MMPM Section 13: 5/2 Section 24: E/2

TOWNSHIP 18 SOUTH, RANGE 26 BAST, MMPM Section 19: W/2

-2-CASE NO. 4540 Order No. R-4162-A

(3) That this order shall be effective nunc pro tunc as of July 7, 1971.

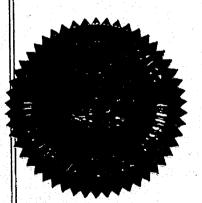
STATE OF NEW MEXICO OIL CONSERVATION COMMISSION

BRUCE KING. Chairman

ALEX J ARMIJO, Member

A T. PORTER, Jr., Member & Secretary

SEAL



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Dutu Steel Coly Coule un to Beach & Yac W/2 Sec 19 185 26 E mc Caw Mar Com ho 1 1650 N & W of 19 185 26 E W/2 See , 19

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SANTA FE NMEX=

de

REFERENCE NEW MEXICO OIL CONSERVATION COMMISSION HEARING MAY 19, 1971.

CASE NUMBER 4540 APPLICATION OF MOUNTAIN STATES
PETROLEUM CORPORATION REGARDING RE-DELINATION OF CERTAIN
GAS POOLS EDDY COUNTY: ON BEHALF OF MY CLIENT DAVID
FASKEN, PLEASE BE ADVISED THAT HE HAS NO OBJECTIONS TO
THE PLACEMENT, OF THE WEST HALF OF SECTION EIGHTEEN
AND THE WEST HALF OF SECTION NINETEEN TOWNSHIP
EIGHTEEN SOUTH RANGE 26 EAST IN THE ATOKA WEST MORROW

WU 1201 (R 5-69)



Telegram

GAS POOL PROVIDED THAT EAST HALF OF SECTION 24
TOWNSHIP EIGHTEEN SOUTH RANGE 25 EAST ALSO BE PLACED IN
THE SAME ATOKA WEST MORROW GAS ROOL THIS 320 ACRE
COMMUNITIZED UNIT IS SIGNED TO DAVID FASKEN'S BROWN
YATES COMM NO. 1, SHUT IN GAS WELL CURRENTLY IN
UNDESTIGNATED STATUS SAID WELL HAD A BHP OF 3631 PSIA
ON 2-11-71 AND A SURFACED TP OF 2820PSIG PRESSURES
EQUALS TO ORIGINAL PRESSURE IN ATOKA PENN GAS POOL AND
APPROXIMATELY 1700 PSI ABOVE CURRENT PRESSURE IN ATJOKA
PENN GAS POOL =

JAMES B HENRY, HENRY ENGINEERING AGENT FOR

WU 1201 (R 5-69)

DOCKET: EXAMINER HEARING - WEDNESDAY - MAY 19, 1973

9 A.M. - OIL CONSERVATION COMMISSION CONFERENCE RCOM,
STATE LAND OFFICE BUILDING - SANTA FE, NEW MEXICO
The following cases will be heard before Daniel S. Nutter, Examiner of Elvis A. Utz, Alternate Examiner:

- ALLOWABLE: (1) Consideration of the allowable production of gas for June, 1971, from fifteen provated pools in Lea, Eddy, Roosevelt and Chaves Counties, New Mexico; also presentation of purchaser's nominations for said pools for the six-month period beginning July 1, 1971;
 - (2) Consideration of the allowable production of gas from nine prorated pools in San Juan, Rio Arriba and Sandoval Counties, New Mexico, for June, 1971.
- CASE 4352 (Reopened): (Continued from April 14 and April 28, 1971 Examiner Hearings)

In the matter of Case 4352 being respend by the Oil Conservation Commission upon its own motion to give all interested persons an opportunity to appear and present evidence to whether the Double L-Queen and Suble-Queen Pools, Chaves County, New Mexico, are in fact separate reservoirs or one common reservoir. Further, in the event it is found that the two pools comprise one common reservoir, the Commission will consider the adoption of special rules and regulations to provide for the classification of oil and gas wells, spacing and well location requirements for oil and gas wells, and an allocation formula for withdrawals from the gas wells and oil wells.

- CASE 4535:

 (Continued from the April 28, 1971 Examiner Hearing)
 Application of Continental Oil Company for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Monument-Tubb and Weir Drinkard oil production in the well-bore of its SEMU Well No. 70, located in Unit I of Section 15, Township 20 South, Range 37 East, Lea County, New Mexico.
- CASE 4536:

 Application of Eastland Oil Company for an exception to Order No. R-3221, as amended, Eddy County, New Mexico.

 Applicant, in the above-styled cause, seeks an exception to Order No. R-3221, as amended, to dispose into unlined surface pits water produced by three wells in the Power Grayburg-San Andres Pool, Eddy County, New Mexico, as follows:

(Case 4536 continued)

TOWNSHIP 17 SOUTH, RANGE 31 EAST
Allied State Well No. 1 - SW/4 SW/4
Section 32

TOWNSHIP 18 SOUTH, RANGE 31 FAST
Kenwood Federal Well No. 1 - NE74 NW/4
Section 6
Kenwood Federal Well No. 3 - NW/4 NW/4
Section 6

- CASE 4537: Application of Union Oil Company of California for salt water disposal, Lea County, New Mexico. Applicant, in the abovestyled cause, seeks authority to dispose of produced salt into the Devonian formation in the perforated interval from 11,680 feet to 11,690 feet in its South Vacuum Unit Well No. 2-35 located in Unit I of Section 35, Township 18 South, Range 35 East, South Vacuum-Devonian Pool, Lea County, New Mexico.
- CASE 4538: Application of Jack F. Grimm Oil Company for an unorthodox oil well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 104 C I of the Commission Rules and Regulations to drill a well at an unorthodox location 880 feet from the South line and 1500 feet from the West line of Section 20, Township 11 South, Range 29 East, White Ranch Siluro-Devonian Pool, Chaves County, New Mexico.
- CASE 4539: In the matter of the hearing called by the Oil Conservation Commission on its own motion to permit Doanbuy Lease & Company, Inc., and all other interested persons to appear and show cause why its following described wells in Section 27, Township 14 South, Range 33 East, Saunders Pool, Lea County, New Mexico, should not be plugged and abandoned in accordance with a Commission-approved plugging program:

Atlantic	State	AC - 1	Well No. 1	
Atlantic	State	AC - 2	7100 7	7.1.4 C 11
Atlantic	State	AC - 2		0377 6 14
Atlantic	State	AC - 3	Well No. 3 Well No. 4	011111
Atlantic	State	AC - 3	Well No. 5	Unit L
Atlantic	State	AC·- 4	Well No. 6	Unit J
Atlantic	State	AC - 4	7 110° O	Unit p
			Well No. 7	Unit I

CASE 4540:

Application of Mountain States Petroleum Corporation for redelineation of certain f is, Eddy County, New Mexico.

Applicant, in the above-styled cause, seeks the contraction of the Atoka-Pennsylvanian Gas Pool by the deletion of the W/2 of Section 19, Township 18 South, Range 26 East, Eddy County, New Mexico, and the extension of the West Atoka-Morrow Gas Pool to include the W/2 of Sections 18 and 19, said Township and Range.

CASE 4541: Application of Tenneco Oil Company for gas injection, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks authority to inject casinghead gas produced by certain wells located in the Lone Pine-Dakota "D" Pool, McKinley County, New Mexico, into the Dakota A zone through perforations from 2547 feet to 2562 feet in its Santa Fe Pacific Railroad Well No. 2 located in the NW/4 SW/4 of Section 13, Township 17 North, Range 9 West, South Hospah Field. The gas is to be injected for storage purposes awaiting the institution of a pressure maintenance project in the Lone Pine-Dakota "D" Pool.

CASE 4542: In the matter of the application of the Oil Conservation Commission of New Mexico upon its own motion for an order for the creation of the following pool:

West Warren-Blinebry Pool in Township 20 South, Range 38 East, Lea County;

and for the extension of the following pools in Lea County;

South Corbin-Morrow Gas Pool
Maljamar Grayburg-San Andres Pool
Vacuum-Abo Reef Pool
Warren-Drinkard Pool
Vada-Pennsylvanian Pool

and for the extension of the following pools in Eddy County:

Atoka-San Andres Pool South Carlsbad-Morrow Gas Pool Eagle Creek-San Andres Pool

and for the extension of the Euffalo Valley-Pennsylvanian Gas Pool in Chaves County.



OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO P. O. BOX 2088 - SANTA FE ... 87501

July 20, 1971

GOVERNOR **BRUCE KING** CHAIRMAN LAND COMMISSIONER ALEX J. ARMIJO MEMBER STATE GEOLOGIST

A. L. PORTER, JR. SECRETARY - DIRECTOR

Re: Case No. 4540 Order No. R-4162-A McDermott, Connelly & Stevens Applicant: Mountain States Petroleum Corp.

Santa Fe, New Mexico

Dear Sir:

Mr. Donald S. Stevens

Attorneys at Law Post Office Box 1904

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				
Copy of order	also sent	to:		
Hobbs OCCArtesia OCC	×			
Aztec OCC		1 22/42 11 11 11 11 11 11 11 11 11 11 11 11 11		
Other				

Memo

Joseph Drom

Joseph D. S. NUTTER

Joseph D. S. NUTTER

CHIEF ENGINEER

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from Hoka Penn and

Aptend West Atoka

(prevently N/2 13) to ind.

5/2 13, W/2 24 (18-25)

and W/2 19 (18-26)

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W. A. GRESSETT SUPER.

& OIL & GAS INSP.

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noted in red.

-2-CASE NO. 4540 Order No. R-4162

E/2

- (4) That the West Atoka-Morrow Gas Pool should be extended to include the S/2 of Section 13 and the W/2 of Section 24, Township 18 South, Range 25 East, NMPM, and the W/2 of Section 19, Township 18 South, Range 26 East, NMPM.
- (5) That the deletion and extensions as described in 'Findings (3) and (4) above will not violate correlative rights nor cause waste.

IT IS THEREFORE ORDERED:

(1) That the horizontal limits of the Atoka-Pennsylvanian Gas Pool, Eddy County, New Mexico, are hereby contracted by the deletion therefrom of the following-described area:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM Section 19: W/2

(2) That the horizontal limits of the West Atoka-Morrow Gas Pool, Eddy County, New Mexico, are hereby extended to include therein the following-described area:

EDDY COUNTY

TOWNSHIP 18 SOUTH, RANGE 25 EAST, NMPM

Section 13: S/2
Section 24: W/2

Should be E/2

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM Section 19: W/2

- (3) That the location of any well which, by virtue of this extension, is presently drilling to or completed in the West Atoka-Morrow Gas Pool or in the Morrow formation within one mile thereof is hereby approved; that the operator of any such well having an unorthodox location shall notify the Artesia District Office of the Commission in writing of the name and location of the well on or before August 1, 1971.
- (4) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

McDERMOTT, CONNELLY & STEVENS

W. H. MCDERMOTT HARRY S. CONNELLY, JR. DONALD G. STEVENS

APR 3 9 1971

On Garage and a

P. O. BOX 1904 LINCOLN BUILDING IOI WEST MARCY SANTA FE, NEW MEXICO 87501 TELEPHONE 505 983-7301

April 29, 1971

Car 4540 DA

New Mexico Oil Conservation Commission State Land Office Building Santa Fe, New Mexico 87501

Attention: Mrs. Ida Rodriguez

Gentlemon:

Mountain States Petroleum Corporation has recently completed a well in the W/2 of Section 19, Township 18 South, Range 26 East, which has been placed in the Atoka Pennsylvanian Gas Pool by the New Mexico Oil Conservation Commission.

There is evidence that said well is not producing from the same common source of supply as is producing in the Atoka Penn Field but is, in fact, producing from the same common source of supply as is being produced in the West Atoka Morrow Gas Pool.

Therefore, Mountain States Petroleum Corporation requests that you place on the hearing docket of the Commission slated for May 19, 1971, its request that the Commission contract the Atoka Penn Gas Pool by deletion of the W/2 of Section 19, Township 18 South, Range 26 East, Eddy County, New Mexico, and extend the West Atoka Morrow Gas Pool to include the W/2 of Sections 18 and 19, above township and range.

Yours very truly,

Stevens, Attorney for

Mountain States Petroleum Corporation

DGS:sj

Mountain States Petroleum Corporation

505 623-7184

MOUNTAIN STATES PETROLEUM CORPORATION

SUITE 1004, SECURITY NATIONAL BANK BUILDING ROSWELL, NEW MEXICO

May 24, 1971

Mr. D. S. Nutter, Chief Engineer Oil Conservation Commission P. O. Box 2088 Santa Fe, New Mexico 87501

Dear Mr. Nutter:

Re: Docket No. 4540 May 19, 1971

As you requested during the hearing on May 19, we enclose additional data, two copies each of a map and a cross-section, in support of our request to redelineate the Atoka Penn - West Atoka Penn gas pools.

The cross-section, which we have marked as Exhibit E, is a south to north section showing the relationship of the sands in the Fasken Brown-Yates No. 1 to those in our McCaw Gas Com No. 1 and the Fundamental Oil Co. Thorpe-Sears Com No. 1. As I testified during the hearing, we prefer to correlate the completion in the Fasken well as "A" sand rather than "B", and we feel that the cross-section supports this contention.

The isopach map, which we have marked as Exhibit B - Revised, shows the Fasken well as an "A" sand completion, in contrast to the map, Exhibit B, presented at the hearing which showed the completion as "B" sand. Lines of cross-sections, Exhibits A and E, are shown on the map.

If you wish to have any additional data on our completion of the McCaw Gas Com No. 1, please call.

McCaw Gas Com No. 1, please call.

C. R. Appledorn

TABULATION OF SHUT-IN TUBING PRESSURES

RECENT SHUT-IN TUBING PRESSURES 1970 1971

7-28-69 70 hr. 1298# 7-24-70 72 hr. 1077#

1969

MWJ Hondo LFE No. 1 1P: 76 hr. 2-15-62 2685#

Read & Stevens, Inc.
Irene Brainerd Gas Com. No. 1
1P: 6-8-67 72 1/2 hr. 1902#

WELL & INITIAL PRESSURE

7-28-69 74 hr. 1292# 5-14-70 336 hr. 1109#

7-14-69 96 hr. 1307# 7-27-70 75 hr. 1073#

Marathon Oil Co. Arnquist Tst. No. 1 1p: 5-10-60 45 hr. 2843#

McCaw Gas Com. No. 1 lp: 10-22-70 141 hr. 2839#

Mountain States Petroleum Corp.

10-22-70 (In.) 141 hr. 2839# 5-15-71 25 1/2 hr. 2826#

BEFORE EXAMINER NUTTE OIL CONSERVATION COMPUSED CASÉ NO. EXHIBIT NO.

Case 4540 Exhibit D

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

> CASE NO. 4540 Order No. R-4162- A

NOMENCLATURE

APPLICATION OF MOUNTAIN STATES PETROLEUM CORPORATION FOR RE-DELINEATION OF CERTAIN POOLS, EDDY COUNTY, NEW MEXICO.

NUNC PRO TUNC ORDER

BY THE COMMISSION:

It appearing to the Commission that due to error and omission, Order No. R-4162, dated July 7, 1971, does not correctly state the intended order of the Commission, .

IT IS THEREFORE ORDERED:

- (1) That the finding paragraph (4) on page 2 of Order No. R-4162, dated July 7, 1971, is hereby corrected to read in its entirety as follows:
- "(4) That the West Atoka-Morrow Gas Pool should be extended to include the S/2 of Section 13 and the E/2 of Section 24, Township 18 South, Range 25 East, NMPM, and the W/2 of Section 19, Township 18 South, Range 26 East, NMPM.
- (2) That the Order paragraph (2) on page 2 of Order No. R-4162, dated July 7, 1971, is hereby corrected to-reflect its entirety or follows:

EDDY COUNTY

TOWNSHIP 18 SOUTH, RANGE 25 EAST, NMPM Section 13: S/2

Section 24: E/2

Township 18 bouch Romp 26 bod wmpm

(3) That this order shall be effective nunc pro tunc as

of July 7, 1971.

DRAFT

GMH/dr

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:

Lecorda Center CASE NO. 4540

Order No. R-4/62

NOMENCLATURE

APPLICATION OF MOUNTAIN STATES PETROLEUM CORPORATION FOR RE-DELINEATION OF CERTAIN POOLS, EDDY COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on May 19 , 1971 at Santa Fe, New Mexico, before Examiner Daniel S. Nutter .

NOW, on this _____day of _July ____, 1971, 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, Mountain States Petroleum Corporation,

 The state of the W/2 of Section 19, from the Atoka
 Pennsylvanian Gas Pool and the extension of the West Atoka
 Morrow Gas Pool to include the W/2 of Sections 18 and 19, Township

 18 South, Range 26 East, NMPM, Eddy County, New Mexico.
- (3) That the W/2 of said Section 19 should be deleted from the Atoka-Pennsylvanian Gas Pool.

-2-CASE NO. 4540 Order No. R-46

(4) That the West Atoka-Morrow Gas Pool should be extended said—
to include the W/2 of/Sections 18 and 19. 5/2 glating 13 and 19. 15/2 glating 13 and 19. 5/2 gl

Findings (3) and (4) above will not violate correlative rights nor cause waste.

IT IS THEREFULE ORDERED:

(1) That the horizontal limits of the Atoka-Pennsylvanian Gas Pool, Eddy County, New Mexico, are hereby contracted by the deletion therefrom of the following-described area:

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM Section 19: W/2

(2) That the horizontal limits of the West Atoka-Morrow

Gas Pool, Eddy County, New Mexico, are hereby extended to include therein the following-described area:

EDDY COUNTY

TOWNSHIP 18 SOUTH, RANGE 26 EAST, NMPM

Section 19: W/2

Section 19: W/2

-3-CASE NO. 4540 Order No. R-

(4) 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 herein-above designated.

CASE 4541: Application of TENNECO OIL COMPANY FOR GAS INJECTION, MCKINLEY COUNTY, NEW MEXICO.

Soutement to grane and.

General 6-2-7