# CASE NO.

6548

APPlication,
Transcripts,
Small Exhibits,

ETC.

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STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT Oil Conservation Division State Land Office Building Santa Fe, New Mexico 27 June 1979

# **EXAMINER HEARING**

# IN THE MATTER OF:

Application of John F. Staver for salt ) water disposal, San Juan County, New Mexico.

CASE 6548

BEFOR: Daniel S. Nutter

# TRANSCRIPT OF HEARING

# APPEARANCES

For the Oil Conservation Division:

Ernest L. Padilla, Esq. Legal Counsel for the Division State Land Office Bldg. Santa Fe, New Mexico 87503

For the Applicant:

W. Thomas Kellahin, Esq. KELLAHIN & KELLAHIN 500 Don Gaspar Santa Fe, New Mexico 87501

# I N D E X

HANK PULLMAN

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SALLY WALTON BOYD
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MR. NUTTER: And now we'll call Case Number

MR. PADILLA: Application of John F. Staver for salt water disposal, San Juan County, New Mexico. MR. KELLAHIN: Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of the applicant, and I have one witness.

MR. NUTTER: Stand and be sworn, please.

(Witness sworn.)

# HANK PULLMAN

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

# DIRECT EXAMINATION

# BY MR. KELLAHIN:

6548.

Would you please state your name and occupation?

My name is Hank Pullman. I'm a petroleum engineer and geologist consultant.

Have you previously testified before the Oil Conservation Division?

Yes, when I worked for the Navajo Tribe during Jack Campbell's time. That's been some years ago.

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Q. When did you obtain your degree and from what institution?

A. I got an AA in engineering from East Los
Angeles City College in '47. I got a Bachelor's degree
in geology from Occidental College in '49. I have about
40 units of graduate work in petroleum engineering from
SC, UCLA, Cal Tech, and Penn State.

A Have you been employed by the applicant,

John F. Staver, to make a study of the two wells involved

with regards to this application for salt water disposal?

A. Yes. This, plus the other Staver problems in the Four Corners area.

Q. And have you made such a study and prepared certain exhibits?

A. I have.

Q. Where -- what's your principal place of business?

A. At Farmington, New Mexico.

 $$\operatorname{MR}.$$  KELLAHIN: We tender Mr. Pullman as an expert witness.

MR. NUTTER: Mr. Pullman is qualified.

Q. (Mr. Kellahin continuing.) Would you please refer to Exhibit Number One and identify that?

A. That's a map, four inches to a mile. It is prepared to illustrate the general layout, the lease

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lines are shown. The two injection wells, No. 22 and 23 are shown with the arrows. There are only two producing wells, the dark spots, No. 20 and No. 5.

Q All right. Let's relocate the two disposal wells. They're in the south end of Section 34 and indicated by the arrows?

- A That's correct.
- Q And they are Wells 22 and 23?
- A. That's correct.
- Q What's indicated by the dashed line on the plat?
  - A. That's the lease line.
  - Q And who owns the lease?
  - A. Staver, John Staver.
- Q. And all the wells on the lease are plugged and abandoned except for two wells in Section 3.
- A. That's correct. Some would fall under the category of temporary abandonment. Two, that I know of, and there's probably a few more.
  - Q. What is Mr. Staver seeking to accomplish?
- A. Well, Mr. Staver was tied into this oil company that recently disintegrated and he is now attempting to clean up his leases, giving all the notices that were missing, and generally get everything on line, and that's what we're doing here, repairing lines, cleaning up the

# SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER 10:10 Place Blance (608) 471-244 Santa Pa. Now Market Free

lease, and attending this hearing.

Q. What will be the source of the water to be disposed of in the two disposal wells?

A. It's Dakota water from the producing wells Nos. 20 and 5.

Q Can you tell me what the volumes of the produced water are?

A. I can't give you a good number on that now.

We're testing them; this week, in fact, we're testing the

wells. I can furnish that at a little later date.

Q Are there any other wells that produce water that will be disposed of in these two wells?

A. No, just these two, 20 and No. 5.

Q Let's look at Exhibit Number Two and have you identify that.

A. Number Two is a diagram of the -- of the injection wells. There are two diagrams.

Q. Exhibit Number Two is the diagram for disposal Well No. 22. If you'll look at that and summarize what that shows.

A. Well, it's -- this shows that the casing is cemented at the top of the Dakota and it's a straight-forward, simple completion. He has 2-7/8ths inch tubing on a packer and it's barefoot completion and no -- nothing special about it.

	Q.	Would you look at the second page attach	ied
to that	exhibit	and indicate for us when this well was or	i-
ginally	drilled?		
	Α.	It was spudded in on 11-13-61.	

- Q Do you know when it last produced?
- A. I don't know the answer to that, no.
- Q Do you know if that well is currently capable of producing either oil or gas in paying quantities?
  - A. I'm almost certain that it's not.
- Q Do you propose to dispose of the water in this disposal well under pressure or will it take it under gravity?

A. Well, we already checked that and we found that we can put away, in this particular case, a fairly high volume of water at 115 pound surface pressure. We don't know exactly how much the volume was, but we will do some additional testing with that.

It's our guess that we can put away all the water we can produce at something less than 150 pounds in both of these wells.

MR. NUTTER: You said that initial test was 115 or 150 pounds?

A. 115 pounds.

MR. NUTTER: But you don't have a definitive number as to the barrels at the present time.

# SALLY WALTON BOY CERTIFIED SHORTHAND REPORTS 802 0 Plaza Blanca (806) 471-24 Santa Fe, New Mexico 8750

A. Right, we don't have that. We're just getting all that junk in high gear and trying to pump as much as we could and we had 115 pounds.

MR. KELLAHIN: If the Examiner please, we'd like to submit that to you by letter subsequent to the hearing once the tests are completed on the well.

MR. NUTTER: That will be fine.

Q If you'll look at Exhibit Number Three,
Mr. Pullman, and indicate to us if there are any differences between the way the two wells are completed.

A. It's basically the same type of thing.

In this case, once again an unknown volume, we put water away with 110 pounds of surface pressure.

No problem. We feel if there is a problem these wells probably haven't been cleaned out for a long time and I think we can acidize and probably treat them and even reduce that pressure, I suspect.

Q No. 23 well was originally drilled back in 1961, also, I assume.

A. Same date, yes, 11-16-61.

Q And what's its current status now? Is it a producing well?

A. No, it's just -- it's just an injection well; it's just a disposal well.

Q. Would you look at Exhibit Number Four,

identify that and summarize the information contained on that exhibit?

A. Okay. This is a -- this exhibit is a summary by Bob Law, who's worked this area, and this just happens to be a paper that will be in the Four Corners geologic publication coming out in a couple months.

It's basically a history of what's happened there. It includes a contour map. It includes some production information, a portion of electric logs, and it's included here for general information.

Q Do you have any current production information on either the -- either of the two producing wells in Section 3, the No. 20 Well or the No. 5 Well?

A. No, we're testing them now.

Q All right.

A And this man has had some problem.

They've been shut-in for some time and because of notices and things of that sort, and we're just getting everything going again, but we can furnish that at a later date, too, if that's all right with this group here.

Q. All right, let's look at Exhibit Number Five and have you tell me what that is.

A. Five is one of the requirements you gave me, a tabular summary of all wells within 1/2 mile of the disposal wells.

Q.	And	did	you	prepare	that	tabulation?
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- A. I did.
- Q And how did you prepare it?
- A By using USGS records and any other information I could get. We do not have company records from this area as yet. They're being acquired but, as I say, this come from a pretty good source, USGS records.
- Q. And the wells on this tabulation are all wells within a half mile of the disposal wells?
  - A. That's correct.

There is one thing that's missing here
I think I should point out, and I think we can furnish it
too.

On the Well No. 318, the only notice I could find in the file on the plugging was the proposed plugging. I never found the final definition of the plugs. I will dig that up perhaps in the State office.

Q. Based upon your examination of those records and the tabulation, this summary, do you have an opinion with regards to whether or not the methods of cementing and plugging of these particular wells will insure that the water disposed of in the two disposal wells will remain confined in the disposal interval?

- A. I think that's a true statement.
- Q You're not aware of any of the wells

within a half mile of the disposal wells in which there could be problems of injected waters migrating up through the casing and tubing of any of the wells?

A. I know of no such problems.

Q All right. Look at Exhibit Number Six and identify that.

A. That's another one of the requirements. The wells within a half mile -- abandoned wells within a half mile. In this case I have shown the plugs. Once again this information was obtained from USGS records.

should be commented on. Well No. 21, the one that's 660 from the north line, second one from the left, and also No. 25, which is the last one on the right, are as of this date yet, are temporary abandoned. There are no plugs in these things, but looked like a solid string of casing down to the top of the Dakota, and I see no problem.

MR. NUTTER: And again it looks like No. 318, you don't have the plugs shown here. You only have the proposed plugging program rather than the final plugging program.

A. I think that's correct. Let me check something, just a second.

Well, I have the plug on top. You see the plug at top of the hole from 75 to surface, and this

once again, though, I think points out that this has to be better checked one way or another.

The proposed plugging only shows the next plug down, starting at 2700 feet. If you'll look at this little summary here.

MR. NUTTER: It would be below this diagram.

A Right, yeah, below the diagram.

That one has to be investigated some more.

Q. Do you have any logs of the -- either of the two proposed disposal wells?

A. No. There is one log on the No. 22. I don't have it with me but it -- they didn't get it down into the disposal zone. It stopped at around 1080 feet. I don't have a log on the other one.

Q What is the source of any fresh water in this area?

A. I know of no fresh water in this area; some water a little better than this, but I know of no good water in the area.

Q Would you look at Exhibit Number Seven and identify that, please?

A. That's just a short summary of -- actually definition of what's been included in this package.

I think the only thing new here would be

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a definition of John Staver and his address, phone number.

The other thing is a chemical analysis of the Dakota formation water. I don't see where this is all that important either. We're taking water out of the same zone and putting it back into that zone, so that there's no interreaction.

Q You've indicated in your testimony a request that the wells he allowed to dispose of water in either or both of the disposal wells up to a maximum of 150 psi at the surface, is that correct?

A. That's correct.

Q In your opinion will the injection up to 150 psi at the surface cause any fracture of the confining strata within the zone of disposal?

A. No way.

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

A. I think it will.

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

A. Mostly prepared by me.

MR. KELLAHIN: Move the introduction of

Exhibits One through Seven.

MR. NUTTER: Applicant's Exhibits One through Seven will be admitted in evidence.

#### CROSS EXAMINATION

BY MR. NUTTER:

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Q Mr. Pullman, are there any fresh shallow waters in this area?

A. There may be some very, very shallow water, a stream or two. I don't know for sure.

Q I mean ground waters in the vicinity of the field.

A. Not that I know of.

Q It appears from your Exhibit Number Six that the wells that do have surface pipe in them have surface pipe at 50 feet or less.

A. Yes, some of them are very shallow, 25 feet, 49 feet, 17 feet.

Now, each of these two disposal wells will be equipped with tubing and a packer. I presume that the annulus of those wells will be loaded with some kind of inert fluid and some sort of leak detection device or the annulus left open so that failure of the tubing or packer could be detected.

A. True. I can't -- I can't precisely an-

swer that in the affirmative, but I can assure you I will answer it in the affirmative in the next week or so.

As I say, we're still putting the lease back together again.

Q I see.

MR. NUTTER: Are there any other questions of Mr. Pullman? He may be excused.

Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: No, sir, except that we'll supply the missing information by letter, if the Examiner will allow us to.

MR. NUTTER: All right.

Does anyone have anything they wish to offer in Case Number 6548?

We'll take the case under advisement.

(Hearing concluded.)

# REPORTER'S CERTIFICATE

time of the hearing.

I, SALLY W. BOYD, a court reporter, DO HEREBY

CERTIFY that the foregoing and attached 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, knowledge, and skill, from my notes taken at the

Sally W. Boyd C.S.R.

I do hereby certify that the foregoing is a complete regard of the proceedings in the Examiner hearing of Case No. 6548 heard by meyon 19.79.

Oil Conservation Division

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STATE OF NAM RESELCO
ENERGY AND MINERALS DEPARTMENT
Oil Conservation Division
State Land Office Building
Santa Fe, New Mexico
27 June 1979

# EXAMINER HEARING

IN THE MATTER OF:

Application of John F. Staver for salt ) water disposal, San Juan County, New ) Mexico.

CASE 6548

BEFOR: Daniel S. Nutter

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For the Applicant:

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# HANK PULLMAN

Direct	: Examination	ı by	Mr.	Kollahin	;
Cross	Examination	Ьy	Mr.	Mucter	1

# SALLY WALTON BOYD CENTIFIED SHORTHAND REPORTER 3020PLAR BRINGA (605) 471-3462 SARIA, FO. New Mexico 57501

# EXHIBITS

Applicant	Exhibit	One, Plat	4
Applicant	Exhibit	Two, Diagram	•
Applicant	Exhibit	Three, Diagram	8
Applicant	Exhibit	Four, Document	8
Applicant	Exhibit	Five, Tabulation	9
Applicant	Exhibit	Six, Logs	1:
Applicant	Exhibit	Seven, Summary	1:

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6548.

MR. NUTTER: And now we'll call Case Number

MR. PADILLA: Application of John F.

Staver for salt water disposal, San Juan County, New Mexico.

MR. KELLAHIN: Tom Kellahin of Santa Fe,

New Mexico, appearing on behalf of the applicant, and I
have one witness.

MR. NUTTER: Stand and be sworn, please.

# (Witness sworn.)

# HANK PULLMAN

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

### DIRECT EXAMINATION

# BY MR. KELLAHIN:

Q Would you please state your name and occupation?

A. My name is Hank Pullman. I'm a petroleum engineer and geologist consultant.

Q Have you previously testified before the Oil Conservation Division?

A. Yes, when I worked for the Navajo Tribe during Jack Campbell's time. That's been some years ago.

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	Q	When	did	you	obtain	your	degree	and	from
what	institution	?							

I got an AA in engineering from East Los Angeles City College in '47. I got a Bachelor's degree in geology from Occidental College in '49. I have about 40 units of graduate work in petroleum engineering from SC, UCLA, Cal Tech, and Penn State.

Have you been employed by the applicant, John F. Stayer, to make a study of the two wells involved with regards to this application for salt water disposal?

This, plus the other Staver problems Yes. in the Four Corners area.

And have you made such a study and pre-Q pared certain exhibits?

I have.

Where -- what's your principal place of business?

At Farmington, New Mexico.

MR. KELLAHIN: We tender Mr. Pullman as an expert witness.

MR. NUTTER: Mr. Pullman is qualified.

(Mr. Kellahin continuing.) Would you Q. please refer to Exhibit Number One and identify that?

A, That's a map, four inches to a mile. It is prepared to illustrate the general layout, the lease

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lines are shown. The two injection wells, No. 22 and 23 are shown with the arrows. There are only two producing wells, the dark spots, No. 20 and No. 5.

All right. Let's relocate the two disposal wells. They're in the south end of Section 34 and indicated by the arrows?

- A That's correct.
- Q. And they are Wells 22 and 23?
- A. That's correct.
- Q What's indicated by the dashed line on the plat?
  - A. That's the lease line.
  - And who owns the lease?
  - A Staver, John Staver.
- And all the wells on the lease are plugged and abandoned except for two wells in Section 3.
- A. That's correct. Some would fall under the category of temporary abandonment. Two, that I know of, and there's probably a few more.
  - what is Mr. Staver seeking to accomplish?
- Mell, Mr. Staver was tied into this oil company that recently disintegrated and he is now attempting to clean up his leases, giving all the notices that were missing, and generally get everything on line, and that's what we're doing here, repairing lines, cleaning up the

lease, and attending this hearing.

Q What will be the source of the water to be disposed of in the two disposal wells?

A. It's Dakota water from the producing wells
Nos. 20 and 5.

Q Can you tell me what the volumes of the produced water are?

A I can't give you a good number on that now.

We're testing them; this week, in fact, we're testing the

wells. I can furnish that at a little later date.

Q Are there any other wells that produce water that will be disposed of in these two wells?

A No, just these two, 20 and No. 5.

Q Let's look at Exhibit Number Two and have you identify that.

A. Number Two is a diagram of the -- of the injection wells. There are two diagrams.

Q Exhibit Number Two is the diagram for disposal Well No. 22. If you'll look at that and summarize what that shows.

A. Well, it's -- this shows that the casing is cemented at the top of the Dakota and it's a straightforward, simple completion. He has 2-7/8ths inch tubing on a packer and it's barefoot completion and no -- nothing special about it.

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	Q	Wot	ıld y	zou .	Look	at	the	sec	ond	page	atta	iched
to that	exhibit	and	ind	lcate	e for	c us	who	en t	his	well	was	ori-
ginally	drilled?											
	λ.	It	was	spu	dded	in	(	on 1	11-13	3-61.		

- Do you know when it last produced?
- I don't know the answer to that, no.
- Do you know if that well is currently capable of producing either oil or gas in paying quantities?
  - I'm almost certain that it's not.
- Do you propose to dispose of the water in this disposal well under pressure or will it take it under gravity?

Well, we already checked that and we found that we can put away, in this particular case, a fairly high volume of water a: 115 pound surface pressure. We don't know exactly how much the volume was, but we will do some additional testing with that.

It's our guess that we can put away all the water we can produce at something less than 150 pounds in both of these wells.

MR. NUTTER: You said that initial test was 115 or 150 pounds?

115 pounds.

MR. NUTTER: But you don't have a definitive number as to the barrels at the present time.

A Right, we don't have that. We're just getting all that junk in high gear and trying to pump as much as we could and we had 115 pounds.

MR. KELLAHIN: If the Examiner please, we'd like to submit that to you by letter subsequent to the hearing once the tests are completed on the well.

MR. NUTTER: That will be fine.

Mr. Pullman, and indicate to us if there are any differences between the way the two wells are completed.

It's basically the same type of thing.

In this case, once again an unknown volume, we put water away with 110 pounds of surface pressure.

No problem. We feel if there is a problem these wells probably haven't been cleaned out for a long time and I think we can acidize and probably treat them and even reduce that pressure, I suspect.

No. 23 well was originally drilled back in 1961, also, I assume.

A same date, yes, 11-16-61.

And what's its current status now? Is it a producing well?

A No, it's just -- it's just an injection well; it's just a disposal well.

Q. Would you look at Exhibit Number Four,

identify that and summarize the information contained on that exhibit?

A. Okay. This is a -- this exhibit is a summary by Bob Law, who's worked this area, and this just happens to be a paper that will be in the Four Corners geologic publication coming out in a couple months.

It's basically a history of what's happened there. It includes a contour map. It includes some production information, a portion of electric logs, and it's included here for general information.

Q Do you have any current production information on either the -- either of the two producing wells in Section 3, the No. 20 Well or the No. 5 Well?

- A No, we're testing them now.
- Q All right.

A And this man has had some problem.

They've been shut-in for some time and because of notices and things of that sort, and we're just getting everything going again, but we can furnish that at a later date, too, if that's all right with this group here.

Q All right, let's look at Exhibit Number Five and have you tell me what that is.

A. Five is one of the requirements you gave me, a tabular summary of all wells within 1/2 mile of the disposal wells.

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Q.	And	bib	you	prepare	that	tabulation?
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- A I did.
- Q And how did you prepare it?

A By using USGS records and any other information I could get. We do not have company records from this area as yet. They're being acquired but, as I say, this come from a pretty good source. USGS records.

Q And the wells on this tabulation are all wells within a half mile of the disposal wells?

A That's correct.

There is one thing that's missing here
I think I should point out, and I think we can furnish it
too.

On the Well No. 318, the only notice I could find in the file on the plugging was the proposed plugging. I never found the final definition of the plugs. I will dig that up perhaps in the State office.

Q Based upon your examination of those records and the tabulation, this summary, Go you have an opinion with regards to whether or not the methods of cementing and plugging of these particular wells will insure that the water disposed of in the two disposal wells will remain confined in the disposal interval?

A. I think that's a true statement.

Q You're not aware of any of the wells

SALLY WALTON BOYD
ENTIFIED SHORTHAND REPORTER
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Santa Pe, New Mexico 5150;

within a half mile of the disposal wells in which there could be problems of injected waters migrating up through the casing and tubing of any of the wells?

A I know of no such problems.

Q All right. Look at Exhibit Number Six and identify that.

A That's another one of the requirements.

The wells within a half mile -- abandoned wells within a half mile. In this case I have shown the plugs. Once again this information was obtained from USGS records.

should be commented on. Well No. 21, the one that's 660 from the north line, second one from the left, and also No. 25, which is the last one on the right, are as of this date yet, are temporary abandoned. There are no plugs in these things, but looked like a solid string of casing down to the top of the Dakota, and I see no problem.

MR. NUTTER: And again it looks like No. 318, you don't have the plugs shown here. You only have the proposed plugging program rather than the final plugging program.

A. I think that's correct. Let me check something, just a second.

Well, I have the plug on top. You see the plug at top of the hole from 75 to surface, and this

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once again, though, I think points out that this has to be better checked one way or another.

The proposed plugging only shows the next plug down, starting at 2700 feet. If you'll look at this little summary here.

MR. NUTTER: It would be below this diagram.

- A Right, yeah, below the diagram.

  That one has to be investigated some more.
- Q Do you have any logs of the -- either of the two proposed disposal wells?

A. No. There is one log on the No. 22. I don't have it with me but it -- they didn't get it down into the disposal zone. It stopped at around 1080 feet.

I don't have a log on the other one.

Q What is the source of any fresh water in this area?

A I know of no fresh water in this area; some water a little better than this, but I know of no good water in the area.

Q Would you look at Exhibit Number Seven and identify that, please?

A. That's just a short summary of -- actually definition of what's been included in this package.

I think the only thing new here would be

SALLY WALTON BOYC CERTIFIED SHORTHAND REPORTE 3030 Plaza Blanca (961) 471-446 Sante Pe, New Mexico 37163 2

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a definition of John Staver and his address, phone number.

The other thing is a chemical analysis of the Dakota formation water. I don't see where this is all that important either. We're taking water out of the same zone and putting it back into that zone, so that there's no interreaction.

Q. You've indicated in your testimony a request that the wells be allowed to dispose of water in either or both of the disposal wells up to a maximum of 150 psi at the surface, is that correct?

- A That's correct.
- Q In your opinion will the injection up to 150 psi at the surface cause any fracture of the confining strata within the zone of disposal?
  - A. No way.
- application be in the best interests of conservation, the prevention of waste, and the protection of correlative rights?
  - A I think it will.
- Q Were Exhibits One through Seven either prepared by you directly or compiled under your direction and supervision?
  - A. Mostly prepared by me.

MR. KELLAHIN: Move the introduction of

Exhibits One through Seven.

MR. NUTTER: Applicant's Exhibits One through Seven will be admitted in evidence.

#### CROSS EXAMINATION

BY MR. NUTTER:

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Q Mr. Pullman, are there any fresh shallow waters in this area?

A. There may be some very, very shallow water, a stream or two. I don't know for sure.

Q I mean ground waters in the vicinity of the field.

A. Not that I know of.

Q It appears from your Exhibit Number Six that the wells that do have surface pipe in them have surface pipe at 50 feet or less.

A Yes, some of them are very shallow, 25 feet, 49 feet, 17 feet.

Now, each of these two disposal wells will be equipped with tubing and a packer. I presume that the annulus of those wells will be loaded with some kind of inert fluid and some sort of leak detection device or the annulus left open so that failure of the tubing or packer could be detected.

A True. I can't -- I can't precisely an-

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER 2020 Plaza Blanca (565) 471-2462 Santa Fe, New Mexico 57501

swer that in the affirmative, but I can assure you I will answer it in the affirmative in the next week or so.

As I say, we're still putting the lease back together again.

Q I see.

MR. NUTTER: Are there any other questions of Mr. Pullman? He may be excused.

Do you have anything further, Mr. Kellahin?

MR. KELLAHIN: No, sir, except that we'll supply the missing information by letter, if the Examiner will allow us to.

MR. NUTTER: All right.

Does anyone have anything they wish to offer in Case Number 6548?

We'll take the case under advisement.

(Hearing concluded.)

# REPORTER'S CERTIFICATE

I, SALLY W. BOYD, a court reporter, DO HEREBY

CERTIFY that the foregoing and attached 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, knowledge, and skill, from my notes taken at the

time of the hearing.

Sally W. Boyd C.S.R.

Oil Conservation Division

SALLY W CERTFIED SH 3020Plaza Bla

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

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

CASE NO. 6548 Order No. R-6058

APPLICATION OF JOHN F. STAVER FOR SALT WATER DISPOSAL, SAN JUAN COUNTY, NEW MEXICO.

#### ORDER OF THE DIVISION

# BY THE DIVISION:

This cause came on for hearing at 9 a.m. on June 27, 1979, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 30th day of July, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

# FINDS:

- (1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, John F. Staver, is the owner and operator of the Table Mesa Well No. 22 in Unit N and the Table Mesa Well No. 23 in Unit O, both located in Section 34, Township 28 North, Range 17 West, NMPM, Table Mesa-Dakota Oil Pool, San Juan County, New Mexico.
- (3) That the applicant proposes to utilize said wells to dispose of produced Dakota water into the Dakota formation, with injection into the open hole interval from approximately 1410 feet to 1412 feet in the Table Mesa Well No. 22 and in the perforated and open hole interval from 1394 feet to 1402 feet in the Table Mesa Well No. 23.
- (4) That the injection into each of said wells should be accomplished through 2 7/8-inch tubing installed in a packer set at approximately 1365 feet in the No. 22 well and 1352 feet in the No. 23 well; that the casing-tubing annulus in each well should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be

-2-Case No. 6548 Order No. R-6058

attached to each annulus in order to determine leakage in the casing, tubing, or packer.

- (5) That the injection wells or system should be equipped with a pressure limiting device or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 275 psi.
- (6) That the operator should notify the supervisor of the Aztec district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (7) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.
- (8) That no injection into the subject wells should occur until applicant's Well No. 3-18 located in Unit F of Section 3, Township 27 North, Range 17 West, NMPM, has been reentered and a cement plug set across the Dakota formation in said well, from approximately 1360 feet to approximately 1560 feet.
- (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, John F. Staver, is hereby authorized to utilize his Table Mesa Well No. 22 in Unit N and his Table Mesa Well No. 23 in Unit O, both in Section 34, Township 28 North, Range 17 West, NMPM, Table Mesa-Dakota Oil Pool, San Juan County, New Mexico, to dispose of water produced from the Dakota formation back into the Dakota formation, injection to be accomplished through 2 7/8-inch tubing installed in packers set at approximately 1365 feat and 1352 feet, respectively, with injection into the open hole interval from approximately 1410 feet to 1412 feet in his Table Mesa Well No. 22 and in the perforated and open hole interval from 1394 feet to 1402 feet in his Table Mesa Well No. 23;

PROVIDED NOWEVER, that the casing-tubing annulus in each well shall be filled with an inert fluid; and that a pressure gauge shall be attached to such annulus or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

-3-Case No. 6548 Order No. R-6058

- (2) That the injection wells or system shall be equipped with a pressure limiting device or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 275 psi.
- (3) That the operator shall notify the supervisor of the Aztec district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (4) That the operator shall immediately notify the supervisor of the Division's Aztec district office of the failure of the tubing, casing, or packer, in said wells or the leakage of water from or around said wells and shall take such steps as may be timely and necessary to correct such failure or leakage.
- (5) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.

PROVIDED FURTHER, that no injection into the aforesaid wells shall occur until after applicant's Well No. 3-18 located in Unit F of Section 3, Township 27 North, Range 17 West, WMPM, has been reentered and a cement plug has been set across the bakota formation in said well, from approximately 1360 feet to approximately 1560 feet.

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

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JUE D. RAMEY

Director

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

July 31, 1979

POST OFFICE BOX 2088 6TATE LAND OFFICE BUILDING 6ANTA FE, NEW MEXICO 87501 (505) 827-2434

Mr. Thomas Kellahin Kellahin & Kellahin Attorneys at Law Post Office Box 1769	Re:	CASE NO. 6548 ORDER NO. R-6058
Santa Fe, New Mexico		Applicant:
	•	John F. Staver
Dear Sir:		
Enclosed herewith are two Division order recently er		
Yours very truly,  JOE D. RAMEY  Director		
JDR/fd		
JDR/fd Copy of order also sent to	):	
	<b>):</b>	

Dockets Nos. 25-79 and 26-79 are tentatively set for hearing on July 11 and 25, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

#### DOCKET: EXAMINER HEARING - WEDNESDAY - JUNE 27, 1979

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. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

CASE 6545: (Continued from May 23, 1979, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Corinne Grace, Travelers Indemnity Company, and all other interested parties to appear and show cause why the Kuklah Baby Well No. 1 located in Unit G of Section 24, Township 22 South, Range 26 East, Eddy County, New Mexico, should not be plugged and abandoned in accordance with a Division-approved plugging program.

CASE 6549: (Continued from May 23, 1979, Examiner Hearing)

Application of Gulf Oil Corporation for pool creation, discovery allowable, and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order creating a new Bone Springs oil pool for its Lea "YH" State Well No. 1 located in Unit O of Section 25, Township 18 South, Range 34 East. Applicant also seeks a discovery allowable and promulgation of special pool rules, including a provision for 80-acre spacing.

CASE 6563: (Continued from June 13, 1979, Examiner Hearing)

Application of Roy L. McKay for a unit agreement, Lea County, New Mexico. Applicant, in the abovestyled cause, seeks approval for his North Woolworth Ranch Unit Area, comprising 1,280 acres, more or less, of State lands in Township 23 South, Range 35 East.

CASE 6548: (Continued from May 23, 1979, Examiner Hearing)

Application of John F. Staver for salt water disposal, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Dakota formation through the open hole interval from 1408 feet to 1412 feet in his Table Mesa Well No. 22 located in Unit N and from 1394 feet to 1400 feet in his Table Mesa Well No. 23 located in Unit O, both in Section 34, Township 28 North, Range 17 West, Table Mesa-Dakota Oil Pool.

- CASE 6576: Application of Bass Enterprises Production Company for a unit agreement, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the Townsend Unit Area, comprising 320 acres, more or less, of State lands in Township 15 South, Range 34 East.
- CASE 6577: Application of Oil Processing for an oil treating plant permit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority for the construction and operation of an oil treating plant for the purpose of treating and reclaiming sediment oil at a site in the NE/4 SE/4 of Section 8, Township 20 South, Range 37 East.
- Application of Mesa Petroleum Company for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the E/2 of Section 28, Township 17 South, Range 27 East, to be dedicated to a well to be drilled in Unit G of said Section 28. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 6579: Application of R. N. Hillin for an unorthodox well location and approval of infill drilling, Eddy County, New Nexico. Applicant, in the above-styled cause, seeks a waiver of existing well spacing requirements and a finding that the drilling of a Morrow gas well at an unorthodox location 800 feet from the South line and 2000 feet from the East line of Section 34, Township 19 South, Range 28 East, is necessary to effectively and efficiently drain that portion of the E/2 of said Section 34 which cannot be so drained by the existing well.
- Application of Continental Oil Company for a carbon dioxide injection project, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks authority to initiate a pilot carbon dioxide injection project in the Grayburg-San Andres formation in Units II and I of Section 20, Township 17 South, Range 32 East, Maljanar Pool, for tertiary recovery purposes.
- CASE 6581: Application of Belco Petroleum Corporation for an unorthodox oil well location, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Warren-American State Well No. 2 660 feet from the South and West lines of Section 32, Township 9 South, Range 33 East, Flying "M"-San Andres Pool, the W/2 SW/4 of said Section 32 to be dedicated to the well.

Application of Belco Petroleum Corporation for a non-standard proration unit and unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 40-acre non-standard proration unit comprising the NE/4 SW/4 of Section 31, Township 9 South, Range 33 East, Flying "M"-San Andres Pool, to be dedicated to its Federal 31 Well No. 2 to be drilled at an unorthodox location 1980 feet from the South and West lines of said section.

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Dockets Nos. 23-79 and 24-79 are tentatively set for hearing on June 13 and 27, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

### DOCKET: EXAMINER HEARING - WEDNISDAY - MAY 23, 1979

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. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

- CASE 6545: In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Corinne Grace, Travelers Indemnity Company, and all other interested parties to appear and show cause why the Kuklah Baby Well No. 1 located in Unit G of Section 24, Township 22 South, Range 26 East, Eddy County, New Mexico, should not be plugged and abandoned in accordance with a Division-approved plugging program.
- CASE 6422: (Continued from February 28, 1979, Examiner Hearing)

In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Helton Engineering & Geological Services, Inc., Travelers Indemnity Company, and all other interested parties to appear and show cause why the Brent Well No. 1 located in Unit M of Section 29 and the Brent Well No. 3 located in Unit G of Section 19, both in Township 13 North, Range 6 East, Sandoval County, New Mexico, should not be plugged and abandoned in accordance with a Division-approved plugging program.

- CASE 6546: Application of Black River Corporation for compulsory pooling and non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Jalmat Gas Pool underlying the SW/4 of Section 32, Township 23 South, Range 37 East, to form a 160-acre non-standard gas proration unit to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 6536: (Continued from May 9, 1979, Examiner Hearing)

Application of Black River Corporation for two non-standard gas proration units, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for two 80-acre non-standard gas proration units in the Jalmat Gas Pool as follows: the N/2 SE/4 of Section 22, Township 23 South, Range 36 East, to be dedicated to applicant's well to be drilled in Unit J of said Section 22; and the S/2 SE/4 of said Section 22 to be dedicated to El Paso Natural Gas Company's Shell State Well No. 3 located in Unit P.

CASE 6535: (Continued from May 9, 1979, Examiner Hearing)

Application of Torreon Oil Company for a waterflood project, Sandoval County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in the San Luis-Mesaverde Pool by the injection of water into the Menefee formation through two wells located in Section 21, Township 18 North, Range 3 West, Sandoval County, New Mexico.

- CASE 6547: Application of American Petrofina Company of Texas for the creation of a waterflood buffer zone,
  Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a waterflood
  buffer zone comprising the NE/4 SE/4 of Section 26, Township 17 South, Range 32 East, Maljamar
  Grayburg-San Andres Pool, to enable applicant to produce its Johns B Well No. 4 located thereon
  at an unrestricted rate.
- CASE 6548: Application of John F. Staver for salt water disposal, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Dakota formation through the open hole interval from 1408 feet to 1412 feet in his Table Mesa Well No. 22 located in Unit N and from 1394 feet to 1400 feet in his Table Mesa Well No. 23 located in Unit O, both in Section 34, Township 28 North, Range 17 West, Table Mesa-Dakota Oil Pool.
- CASE 6549: Application of Gulf Oil Corporation for pool creation, discovery allowable, and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order creating a new Bone Springs oil pool for its Lea "YH" State Well No. 1 located in Unit O of Section 25, Township 18 South, Range 34 East. Applicant also seeks a discovery allowable and promulgation of special pool rules, including a provision for 80-acre spacing.

- CASE 6550: Application of Vates Petroleum Corporation for an unorthodox gas well location and compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp through Mississippian formations underlying the 8/2 of Section 12, Township 19 South, Range 24 East, to be dedicated to its Allison Federal "CQ" Well No. 2 to be drilled at an unorthodox location 1980 feet from the South line and 660 feet from the West line of said Section 12. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- CASE 6492: (Continued from May 9, 1979, Examiner Hearing)

Application of Yates Petroleum Corporation for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the San Andres formation underlying the NE/4 NW/4 of Section 13, Township 17 South, Range 25 East, Eddy County, New Mexico, to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said well and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.

- CASE 6551: Application of Bass Enterprises Production Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox Lower Morrow gas well location 1980 feet from the North line and 660 feet from the East line of Section 1, Township 19 South, Range 28 East, the N/2 of said Section 1 to be dedicated to the well.
- CASE 6528: (Continued from April 25, 1979, Examiner Hearing)

Application of Bass Enterprises Production Co. for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for an unorthodox Morrow test well location to be drilled 660 feet from the North and West lines of Section 10, Township 21 South, Range 32 East, Lea County, New Mexico, the W/2 of said Section 10 to be dedicated to the well.

- Application of Maddox Energy Corporation for compulsory pooling, Eddy County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Pennsylvanian formation underlying the E/2 of Section 3, Township 24 South, Range 28 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. Also to be considered will be the designation of applicant as operator of the well and a charge for risk involved in drilling said well.
- Application of The Atlantic Richfield Company for approval of infill drilling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the Division waived existing well-spacing requirements and found that the drilling of additional wells was necessary to effectively and efficiently drain those portions of the provation units in the Empire Abo Unit located in Townships 17 and 18 South, Ranges 27, 28 and 29 East, which could not be so drained by the existing wells.
- Application of The Atlantic Richfield Company for compulsory pooling, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks an order pooling all royalty interests in the Devonian, McKee, and Ellenburger formations underlying the E/2 of Section 20, Township 22 South, Range 36 East, Langlie Field, to be dedicated to a well to be drilled at a standard location thereon.
- CASE 6555: Application of Jake L. Hamon for an unorthodox gas well location, Lea County, New Mexico.

  Applicant, in the above-styled cause, seeks approval for an unorthodox location 660 feet from the North line and 560 feet from the East line of Section 30, Township 20 South, Range 36 East, North Osudo-Morrow Gas Pool, all of said Section 30 to be dedicated to the well.
- CASE 6556: Application of Curtis Little for the amendment of Order No. R-5962, San Juan County, New Mexico.

  Applicant, in the above-styled cause, seeks the amendment of Order No. R-5962 to provide for the unorthodox location of a well to be drilled 1000 feet from the South line and 50 feet from the East line of Section 11, Township 28 North, Range 12 West, Basin-Dakota Pool, and for the extension of the date to commence drilling.
- CASE 6435: (Continued from February 28, 1979, Examiner Hearing)

Application of Amerada Hess Corporation for approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a finding that the drilling of its W. A. Weir "B" Well No. 3 located in Unit B of Section 26, Township 19 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well, and further seeks approval of a waiver of existing well-spacing requirements.

- CASE 6559: Application of Roy L. McKay for a unit agreement, Lee County, New Mexico. Applicant, in the above-styled cause, seeks approval for his Morton Solid State Unit Area, comprising 1,480 acres, more or less, of State lands in Township 15 South, Range 34 East.
- CASE 6487: (Continued from February 28, 1979, Examiner Hearing)

Application of El Paso Natural Gas Company for approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Shell E State Com Well No. 2 located in Unit N of Section 6, Township 21 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6471: (Continued from February 28, 1979, Examiner Hearing)

Application of Consolidated Oil & Gas, Inc. for approval of infill drilling, Sen Juan County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Freeman Well No. 1-A to be located in Unit C of Section 11, Township 31 North, Range 13 West, Basin-Dakota Pool, San Juan County, New Mexico, is necessary to effectively and efficiently drain that portion of the provation unit which cannot be so drained by the existing well.

CASE 6472: (Continued from February 28, 1979, Examiner Hearing)

Application of Consolidated Oil & Gas, Inc. for approval of infill drilling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Jenny Well No. 1-A to be located in Unit P of Section 13, Township 26 North, Range 4 West, Basin-Dakota Pool, Rio Arriba County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6473: (Continued from February 28, 1979, Examiner Hearing)

Application of Consolidated Oil & Gas, Inc. for approval of infill drilling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its McIntyre Well No. 1-A to be located in Unit K of Section 11, Township 26 North, Range 4 West, Basin-Dakota Pool, Rio Arriba County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6474: (Continued from February 28, 1979, Examiner Rearing)

Application of Consolidated Oil & Gas, Inc. for approval of infill drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Williams Well No. 1-A to be located in Unit C of Section 24, Township 31 North, Range 13 West, Basin-Dakota Pool, San Juan County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

CASE 6475: (Continued from February 28, 1979, Examiner Hearing)

Application of Consolidated Oil & Gas, Inc. for approval of infill drilling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks a waiver of existing well-spacing requirements and a finding that the drilling of its Montoya Well No. 1-A to be located in Unit I of Section 35, Township 32 North, Range 13 West, Basin-Dakota Pool, San Juan County, New Mexico, is necessary to effectively and efficiently drain that portion of the proration unit which cannot be so drained by the existing well.

#### DOCKET: COMMISSION MEARING - TUESDAY - MAY 29, 1979

OIL CONSERVATION COMMISSION - 9 A.M. - ROOM 205 STATE LAND OFFICE BUILDING, SANTA FE, NEW HEXICO

Application of Getty Oil Company for pool creation and special pool rules, Lea County, New Mexico.

Applicant, in the above-styled cause, seeks an order creating a new Morrow gas pool for its State
35 Well No. 1 located in Unit K of Section 35, Township 21 South, Range 34 East, and its Getty Two
State Well No. 1 located in Unit F of Section 2, Township 22 South, Range 34 East, and for promulgation of special pool rules, including provision for 640-acre gas well spacing.

CASE 6497: (DE NOVO)

Application of Mane, Inc. for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be located 1650 feet from the South line and 660 feet from the East line of Section 34, Township 21 South, Range 34 East, Grama Ridge-Morrow Gas Pool, the E/2 of said Section 34 to be dedicated to the well.

Upon application of Getty Oil Company this case will be heard De Novo pursuant to the provisions of Rule 1220.

CASE 6558: Application of Llano, Inc. for a non-standard gas proration unit, Lea County, New Mexico.

Applicant, in the above-styled cause, seeks approval for a 320-acre non-standard gas proration unit comprising the E/2 of Section 34, Township 21 South, Range 34 East, to be dedicated to its Llano 34 State Com Well No. 1 located in Unit I of said Section 34.

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION State Land Office Building Santa Fe, New Mexico 23 May 1979

### EXAMINER HEARING

IN THE MATTER OF:

Application of John F. Staver for salt water disposal, San Juan County, New Mexico.

CASE 6548

EEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

### APPEARANCES

For the Oil Conservation Division:

Ernest L. Padilla, Esq. Legal Counsel for the Division State Land Office Bldg. Santa Fe, New Mexico 87503

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 MR. STAMETS: Call next case 6548.

MR. PADILLA: Application of John F. Staver for salt water disposal, San Juan County, New Mexico.

MR. STAMETS: The Division has received a request that this case be continued to June 27th examiner hearing, and it will be so continued.

(Hearing concluded.)

### REPORTER'S CERTIFICATE

I, SALLY WALTON BOYD, a Court Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

I do hereby certify that the foregoing & Oil Conservation Division Examiner

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
State Land Office Building
Santa Fe, New Mexico
23 May 1979

### EXAMINER HEARING

IN THE MATTER OF:

Application of John F. Staver for salt water disposal, San Juan County, New Mexico.

CASE 6548

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

### APPEARANCES

For the Oil Conservation Division:

Ernest L. Padilla, Esq. Legal Counsel for the Division State Land Office Bldg. Santa Fe, New Mexico 87503

SALLY WALTON BOYD
SENTING SHORTHANG REPORTER
030Plate Bence (601) 411-3462
Anne Fe, Now Marker 1410

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MR. STAMETS: Call next case 6548.

MR. PADILLA: Application of John F. Staver

for salt water disposal, San Juan County, New Mexico.

MR. STAMETS: The Division has received a request that this case be continued to June 27th examiner hearing, and it will be so continued.

(Hearing concluded.)

### REPORTUR'S CERTIFICATE

I, SALLY WALTON BOYD, a Court Reporter, DO HEREBY GERTIFY that the foregoing and attached Transcript of Kearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

Sally W. Boyd, C.S.R.

I do here by certify that the foregoing is a complete that, of the proceedings in the Examiner hearing of Case to.

heard by me on

19

Examiner

Öil Conservation Division

LLY WALTON I TIFED SHORTHAND RI PLEAZ BLAGGA (605) (



### Pohlmann and Associates

FARMINGTON, NEW MEXICO AND HOUSTON, TEXAS

200 PETROLEUM PLAZA BLDG. FARMINGTON, NEW MEXICO 87401 PHONE (505) 323-4608

July 3, 1979

TO:

Oil Conservation Commission

State of New Mexico

P.O. Box 2088

Santa Fe, NM 87501

FROM:

Pohlmann & Associates for:

John Staver

Box 950

Virginia, Minn. 55792

SUBJECT:

Requested Additional Information to Allow John Staver to Dispose of Water in the Dakota-Table Mesa Field

The hearing concerning this matter took place on June 27th.

The main item that concerned the Commission(and us) was if the Dakota horizon in abandoned well No. 3-18 (1980 FNL, 1980 FWL - 3-27N-17W) was properly isolated. The original record we obtained and furnished was lacking.

In order to prove the Dakota is isolated, we reverted to the original Continental record. Please see attached diagram and copy of U.S.G.S. records. Note the Dakota is not only behind pipe, it is also cemented through a stage collar located 160' below the base of the zone of interest.

Other questions concerned production rates. The daily production rates follow:

JULO 2 1979	Well NO.	BOPD	BWPD
WW 0 2 :070	5	8	91
	20 (ليا)	7	81
14 / 11			

OIL CONSERVATION DIVISION estimate of total volume of water to be disposed is 4700 barrels. SANTA FE

Disposal well No. 22 has a defective packer. That packer is being replaced today. The annular space between the tubing and packer will be filled with water treated with a corrosion inhibitor. Disposal well No. 23 has checked out O.K. and the annular space in this well will also be filled with treated water. Both wells will have the casing valves open to atmosphere so annulus fluid can be checked.

We have also cleaned up the lease, repaired flow lines, repacked the triplex pump, repaired leaking well heads and most important of all prepared and turned in all due notices to the U.S.G.S. and New Mexico Oil Conservation Commission.

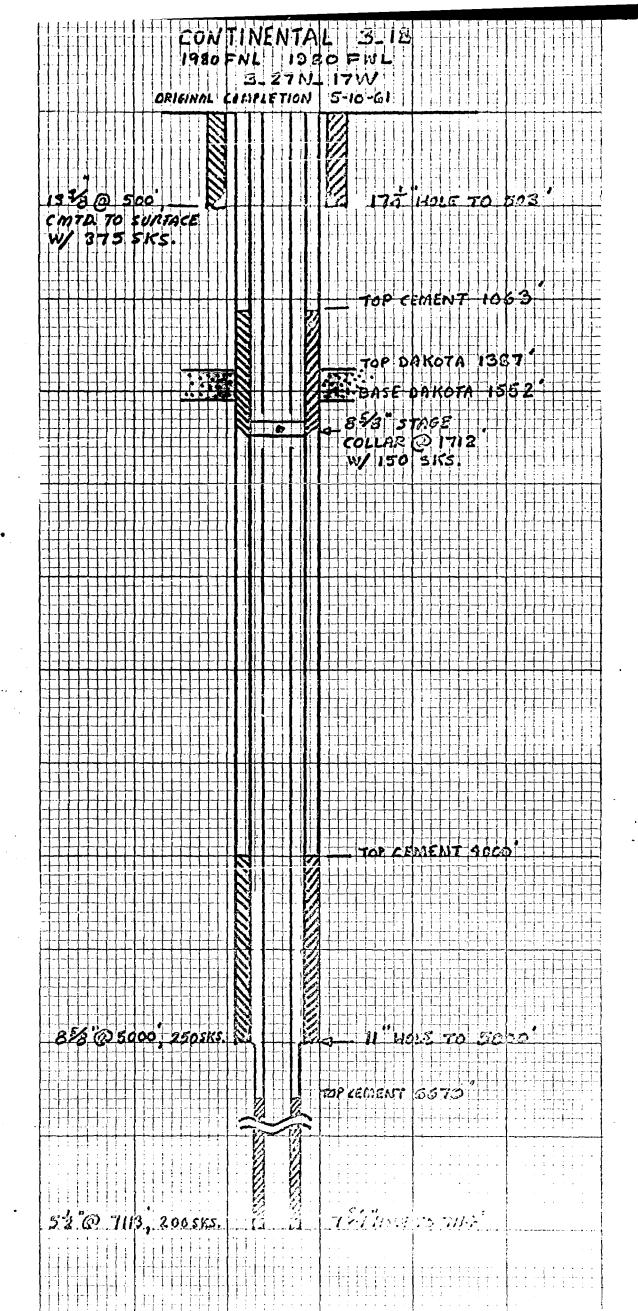
Hank Pohlmann

HP:wb Enclosures:

cc: John Staver
Box 950
Virginia, Minn. 55792

Al Kendrick N.M. Oil Conservation Commission 1000 Rio Brazos Rd. Aztec, NM 87410

OIL CONSERVATION DIVISION SANTA FE



Company Continental of

Rudget	Bureau	No	12	1(335	•
Approx	si expire	3 12	31	40.	

U. S. LAND OFFICE
SERIAL NUMBER
LEASE OR PERMIT TO PROSPECT

Navajo Tribo

Lease No. 1-89-IND-57

LEASE

UNITED STATES

### DEPARTMENT OF THE INTERIOR

GEOLOGICAL SURVEY

## LOG OF OIL OR GAS WELL.

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13 3/4" 501 30 13 5/4" 505 " 509 13 5/4" 505 " 309 13 5/4" 501 300 MUDDING AND KEMENTING RECORD HISTORY, OF OIL OR GAS WELL.

Lite of the greatest importance to have a complete history of his well. Picase state in detail the dates of redrilling, together with the greatest for the work and its results. If there were any changes made in the casing, state fully, and if any casing was "adequacted" of left in the well, give its size and location. If the well has been dynamited, give date, size, position, and number of shorts it lighting or hidges were put in to less for water, state kind of material used, position, and results of pumping or balling.

on blosout preventer from increase in pressure. Tried to bill well with mud-but due-to lost circulation, will supply became exhausted before well could be brought under control. Well bloring out of control. Ged cit hole in drill pipe, and drill pipe, parted, closed blind rams. Well killed 5-13-ul by pumping in 12,8%/gal. mnd. Set bridge in 8.5/8%. casing at 1900 trait shot off well villated has blowent preventer and minifold. On the plug and cleaned out to villated has blowent preventer and minifold. On surface to 7113! Camented with 200 sacks regular. Cement top found at 2701. Drilled out when the plug 14 holbs to T.D. of 711h. Perfectived 5 1/2% casing and 7097! to 7113! with the per face. Released rig 5-25-61. Ran 21P. survey. Fix at 70001. 3731 psig. Average gas gradient 0.10. Set production test unit. Tested for four days. Calculated absolute onen flow potential. 21.500 MCFOPD and 333 barrals 71.60 API gravity condensate. absolute open flow rotential, 21,500 MCFOPD and 333 barrals 71.60 API gravity condensate.

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GEOLOGICAL SURVEY

DEPARTMENT OF THE INTERIOR

UNITED STATES

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U. S. LAND OFFICE

Hadret Bureta No. 42 R288.4. Approval explica 12-31 69.

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16-48004-

### UNITED STATES SUBMIT IN TERESCRIPT DEPARTMENT OF LUE INVERIOR Class and the construction of the constructi

Porta approved. But it is the No. 42 R1121 A TEASE DESIGNATION AND NEPTAL NO. 4

GLOLOGICAL EDINVEY

SUNDRY MOTICES AT IN THE PORTS ON WELLS

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WELL CONTROL OTHER

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John F. Staver

Box 51, Farmington, Now Jonico 271011 merens or with any State continuous. Steeless with the State continuous.

14. PRUMBI NO.

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Land Company

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Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

SOURCE OF INTENSION TO: THER OR MITTER COUNTY х SHOOVING OR ACTORANG > AUANOUN\* AUGOT OR ACIDIZE CHANGE PLANS

personne med own on complete normaniana (Clearly ordered additionally modelike personned dates, medaling estimated date of standard groups). If well is directionally drilled, give subsurface locations and messaged a force vertical depths for all maskers and more results to the work.)

Starting March 1975 plug as directed erect dry hole marker & dean location from no directed - or not do hole worker & clean to entire.

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TITLE Mann ter

A P PAPEROTIDAY TO APPROVAL, IF ANY:

mmen .

DATE .

\*See Instructions on Reverse Side

R. J. D. Chu b

1 1 1 1

DISTINCT LINEAR E

To Dan Nutter:

Hank Pohlmann and "Mo" Seelinger think that Conoco circulated cement thru the Dakota when they cemented the 8 5/8" thru the stage c collar @ 1712". They consider this enough cement for a good job.

If you'd like them to set a plug inside of the 8 5/8" across the Dakota, they'll be glad to do it.

There was no concern about water disposal in the area when the well was plugged.

If you want a plug there, just write it in the order.

NEW MEXICO OIL CONSERVATION COMMISSION - AZTEC, NEW MEXICO

Ol Kendrick -Staver proposes to dispose of water into wall # 22 and 23, with Naul O of 34-28-17.

wree 70. 18 in F of 3-27-17 TD 7114 may or may not have breen slugged, but in day went does not have a crut plug above the Dakata asserting to our info. I DAN NUTTER

should pick a cent plug in this well at say 1875 to 1425 before disposing into #22 which is exactly to mice away.

There is nothing in care the well was ever shapped, but Hank Palilman, who textified at the hearing, sent me the atlached Fed Form 9-331 which I can scarcely read. It says they will "set plugs as directed"

Person Strong Control P1124
Strong Control Strong S

### CLOCOSICAL CURVEY

SUNDRY	NORGE	AHD		PORTS	ON	WELLS
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WELL S VIEW W OTHER

John F. Staver

2. NAME OF OLLGATOR

Box 51, Paper reton, W. M. Jonico 27601
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C. Programme

12 COUNTY OF PARISH 13 PARIS

16. Check Appropriate Box To Indicate Nature of Notice, Report, or Other Data

SOTICE OF INTENSION FOR TEST WATER SHUT-OFF

PULL OR OTHER SPONS MULTOPIE COMPUTE AMERICAN X

CHANGE TEAMS

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SHOOTING OR ACROPANG

(Other) To expense more storing comparities or increases afficially take all pertines to details, and give by the actions, nowed they estimated date of classical proposes I with the directionally duffed, give subsurface for all measures and restriction of the sort.) \*

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OIL COMSERVATION DIVISION

OIL COMPANTA FE SANTA FE

F. J. 1 - Bist 1-

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DISTRICT LINES:

CONTINENTAL 3_18	
ORIGINAL COLLECTION 5-15-61	
13:10 500 CMTD. TO SURTACE	70 203
W/ 375 \$K\$.	1053
TOP DOKOTA	
COLLAR () 1712 W/ 150 SKS	2
	2023 ·
853 O 5000 2508iis	
53 @ 7113, 200 SKS. 75-711015 73 711-	*

T.D: 1412

2 7/8" 6.5%, J-55 thg.on Guiberson
Uni-Packer @ 1365'

Init. Stim:

SOF w/ 10,000 gal.

10,000# sand

Init. Pot:

Jan. 1962 - Pmp'd

68 BO, 1680 BW/D.

Recent Test: Inject water @ 115#

BEFORE EXAMMER MUTTER

OIL CONSERVATION DIVISION SVAver EXHIBIT NO. 2

CASE NO. 6548

JOHN F. STAVER

Pay: Dakota

TABLE HESA DAROTA FIELD Sat Juan Co., New Mexico

55", 14#, J-55 csg.@ 14101

Cmt'd. w/300 sx. circ. to surf.

John F. Staver No. 22 Proposed Water Disposal Well 660 FSL, 1980 FWL Section 34 T29N, R17W.

	dgst Durent No. 12-11359.4. provní explica 12 31-60.
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lettee	************
ass No.	1-89-IND-57

# Poem 9-351 b (April 1952)

### (SUBMIT IN TRIPLICATE)

# UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

SUNDRY NOTICES AND REPORTS ON WELLS (1) [1] [1] [2]  NOTICE OF INTENTION TO DRILL SUBSEQUENT REPORT OF WATER SHUT-OFF SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING [2] [2] [2] [2] [2] [2] [2] [2] [2] [2]	<del></del>	•	
NOTICE OF INTENTION TO TEST WATER SHUT-OFF.  SUBSEQUENT REPORT OF ALTERING CASING.  SUBSEQUENT REPORT OF REDRILLING OR REPAIR CECLERICS.  SUBSEQUENT REPORT OF ABANDONMENT.   SUNDRY NOTICES AN	D REPORTS ON WELLS & E   V E		
NOTICE OF INTENTION TO ABANDON WELL	NOTICE OF INTENTION TO TEST WATER SHUT-OFF	SUBSEQUENT REPORT OF ALTERING CASING	( ()
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(Indicate above by Check Mark Nature of Report, Notice, or other data)

	***********	January 18, 19.62
Well No. 22 is loca	ted 660 ft. from S line	and 1980 ft. from Will line of sec. 34
CI/A: Section 34 (H See and See No.)	T28N, R174 (Twp.) (Range)	E IIM (Meridian)
Tablo Nosa	San Juan	Nos l'exico
(Field)	(County or Aubdivision)	(State or Territory)

The elevation of the derrick floor above sea level is .531.9. ft.

### DETAILS OF WORK

ted depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, comenting points, and all other important proposed work)

Syndicod 11-13-61 with rotary tools. Drilled to Ihno. Ran IE3 log. Ean h6 joints of 5 1/2", 1hh, J-55 casing, landed at 1hno. Comented with 300 cacks of regular coment with good returns to surface. Hoved retary out and cable tools in, drilled to Ihlo. Sand fraced with 10,000/ sand and 7,500 gallons of crude. Shabbed clean. Ran tubing and submovable pump. IP, 68 BOPD and 1680 EMPD. Gas TSIN. Completed as pumping well from Ihlo-Ihlo (open-hole).

I understand that this plan of work must receive approval in writing	by the Geological Survey before operations may be commenced.
Company Continental Oil Company	
Address P. O. Box 3312	0.11.10.10.
Durango, Colorado	Original Signed By: By H. D. HALEY
	Title District Superintendent
UEUS(3) MACOG(2) ONG HOLLY HAN	CINCE 16-84376-3

Gallup Top @ 410'
Bottom @ 625'

139

Cement Top: Circulated

Init. Stim: SOF 10,000gal 10,000# sd Init. Pot: 35 BO, 1750 BW/D 196/

Recent Test: Inject water @ 110# 6-14-79

PB: 1397 TD: 1402

2 7/8", 6.5#, J-55 tbg. on Guiberson Uni-Packer @ 1352' Perf: 1394-1396 w/ 2 spf.

5½", 14#, J-55 csg. @ 1400'RB Cement w/300 sx neat circ to surface.

Pay: Dakota Top @ 1386RB.

DEFORE EXAMINER MUTTER
OIL CONSTRUCTION DIVISION
STAVER EXHIBIT NO. 3
CASE NO. 6548

JOHN F. STAVER

TABLE MESA DAKOTA FIELD San Juan Co., New Mexico

John F. Staver Well No. 23 Proposed Water Disposal Well. 625'FSL, 1980'FEL Section 34 T28N, R17W.

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			<u>}</u> ;	
			115	
ì			x	

### (SUBMIT IN TRIPLICATIO)

## **UNITED STATES**

Indian Agency Navajo
Allettee

31,	DEPARTMENT	OF THE INTERIOR	Allettee
x	GEOLOG	ICAL SURVEY	Land No. 1-82-IND-57
SUND	RY NOTICES A	ND REPORTS ON	WELLS E B E IVE
NOTICE OF INTENTION TO CA NOTICE OF INTENTION TO R NOTICE OF INTENTION TO SA NOTICE OF INTENTION TO PA	ULL OR ALTER CASING	SUBSEQUENT REPORT OF SHOOT SUBSEQUENT REPORT OF ALTER	ING OR ACIOIZING.  ING CASING.  LLING OR REPAIR. S. C. A. C.
	•	· .	nary 16, 19 <u>62</u>
SE/4 Section 3 (H Sea and Sea No.)	th T28N, R17M		
The elevation of the c	derrick floor above sea leve	el is <u>5336</u> ft.	
· ·	DETAIL	s of work	
(State names of and expected	depths to objective sands; show size ing points, and all ot	s, weights, and lengths of proposed ca her important proposed work)	sings; indicate mudding jobs, coments
		Drilled to 540' RB.	Cut Core #1, 5401-5901

in Gallup formation. Drilled to 1400! RB. Ran 46 joints 5 1/28, 18%, J-55 casing set at 1400!. Gemented with 300 sacks neat cement with good roturns to surface. Moved out rotary, moved in cable tools. Drilled 2' of sand to 1402!. Ran Garra Ray log. Found top of Dakota at 1366!. Flugged hole back to 1397! RB. Featherated at 1390!. Unable to sand frac formation. Perforated from 1326!. 1356! with 2 shots per Toot. Sand fraced with 10,000% sand, 10,000 gallons crude oil, and 1600% ADOMITM. Ran tubing and submersible pump. TPP, 35 BOPD and 1750 BVPD. Gas TSTM. Completed as Dakota pumping well from 1394!-1396! RB.

I understand that this plan of work must receive approval in writing by the	Geological Survey hefore operations may be commenced.			
Company. Continontal Oil Company				
Address P. O. Box 3322	Original Signad By			
Durango, Colurado	Original Signed By: By H. D. HALEY			
**************************************	Title District Superintendent-			
USAS(3) MOCC(2) ONO HOLLY MAN MAN CONTROL	16-34376-8			

Table Mesa Dakota (011)T. 27 N., R. 17 W., NMPM San Juan County, New Mexico

By: Robert E. Lauth Geological Consultant

### GEOLOGY

Regional Setting: Western San Juan Basin

Surface Formations: Mancos Formation

Exploration Method Leading to Discovery: Surface - plane table mapping

Type of Trap: Anticlinal structure with a minor cross-fault

Producing Formation: Upper Dakota Sandstone

Gross Thickness and Lithology of Reservoir Rocks: 200 feet

Geometry of Reservoir Rock: Alternating beds of sandstone and shale with some

coal beds

Other Significant Shows: Minor shows in Gallup Sandstone at 500 feet

Oldest Stratigraphic Horizon Penetrated: In Continental No. 17 Table Mesa (1-15-1951)

located in SE SE SW sec. 3, T. 27 N., R. 17 W., drilled into

Ignacio Quartzite

### DISCOVERY WELL

Name: (Present Operator: John F. Staver dba Saguaro Oil Company)

Continental Oil Co. No. 1 Table Mesa

Location: NW SE SW, sec. 3, T. 27 N., R. 17 W., NMPM

Elevation (KB): 5327 feet

Date of Completion: September 25, 1925

Total Depth: 1333 feet, plugged back to 1320 feet

Production Casing: 5 3/16" @ 1315 feet

Perforations: Open hole 1315 to 1320 feet

Stimulation: Natural completion

Initial Potential: 312 BOD flowing, no water 0/18/10 6548

ON CONTINUE OF MARION

Bottom Hole Pressure: In excess of 427 psig

### DRILLING AND COMPLETION PRACTICES

Present Practice: Mud-drill to approximately 600 feet or below the Gallup Sandstone. Set 5 1/2" casing, cement with 60 sacks. Air drill into top of Dakota Sandstone. If clean, open up about 3 feet. Set 2 7/8" with seating nipple and open hole packer to top of Dakota Sandstone. Run rods and pump and complete. If not productive in upper lenses, then drill deeper, checking additional lenses.

### RESERVOIR DATA

#### Productive Area:

Proved: 100 acres

Unproved: 20 acres

Approved Spacing: 2 1/2 acres

No. of Producing Wells: 2

No. of Abandoned Wells: 31

No. of Dry Holes: 11 excluding Continental's 19 coreholes

Average Net Pay: 12 feet; aggregate total in all productive lenses (estimated)

Porosity: Average 20 percent (estimated)

Permeability: Average 200 millidarcies (estimated)

Water Saturation: Original 28 percent (estimated)

Initial Field Pressure: Unknown - The wells flowed so it is in excess of 427 psig

(estimated 500 psig)

Type of Drive: Water drive

Gas Characteristics and Analysis: None

Oil Characteristics and Analysis: Yellow green, paraffin base;  $56.4^{\circ}$  API gravity;

pour point, below 5° F; sulfur less than 0.1 percent

Associated Water Characteristics and Analysis: Sulfur water

Original Gas, Oil, and Water Contact Datums: Unknown, each individual sand lense

was different (estimated + 3990 south of fault and + 3980 north of

fault

Estimated Primary Recovery:

Type of Secondary Recovery: From 1963 to 1969, a pressure maintenance program was in effect; all produced water was re-injected back in reservoir Estimated Ultimate Recovery: The reservoir is essentially depleted. Present production is the result of flushing of residual oil.

Present Daily Average Production: Average 10 BOPD

Market Outlets: Trucked by Thriftway to their refinery in Bloomfield

#### FIELD COMMENTARY

The Table Mesa field is located east of the Shiprock-Callup highway about thirteen miles south of Shiprock, New Mexico. The Table Mesa Anticline lies just west of the Hogback ridge on the Navajo Indian Reservation. The original test well drilled in 1924 in the NW/4 SW/4 of section 3, T. 27 N., R. 17 W., by Producers and Refiners Corporation to a total depth of 3010 feet found water in all sands penetrated.

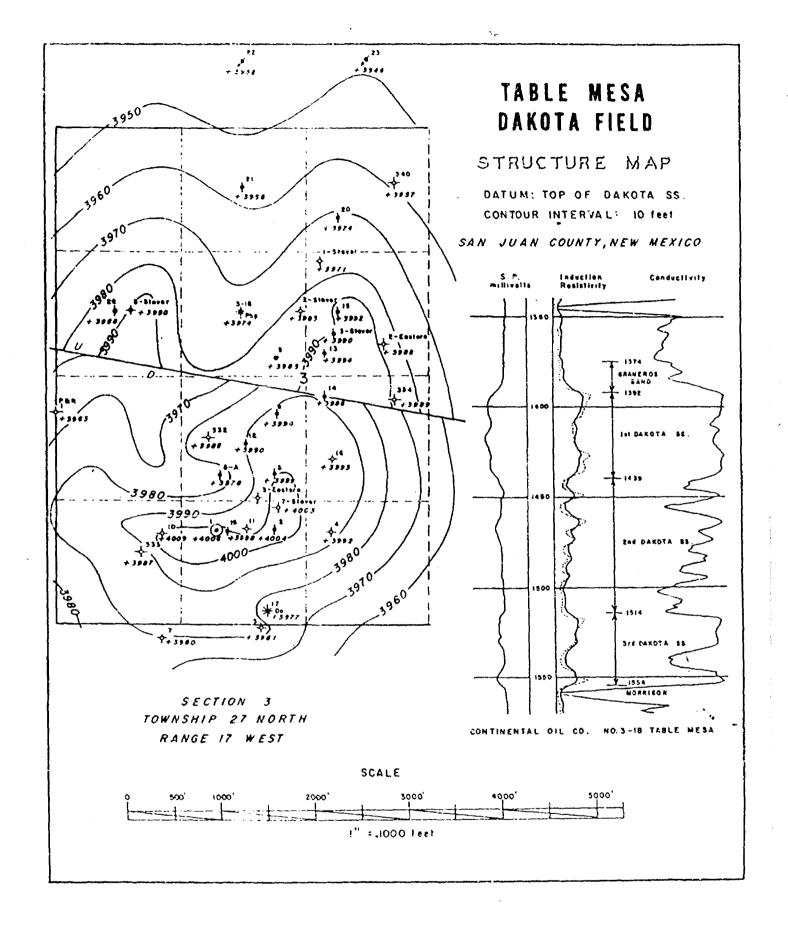
Continental Oil Company drilled the discovery well, NW SE SW of section 3, T. 27 N., R. 17 W. in 1925. It was completed for 312 BOPD flowing. The original development of the Table Mesa-Dakota Field was during the period 1925 to 1927. A total of twelve wells were drilled, five of which were dry holes. Table Mesa No.s 1, 2, and 3 flowed initially at rates in excess of 200 BOPD and no water. The remaining four wells were structurally lower and produced at rates of about 50 BOPD and some water.

The second stage of development was during the period 1939 to 1948. Five wells, No.s 12 through 16, were completed and produced at rates somewhat less than 50 BOPD and some water.

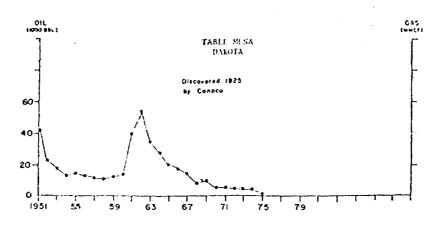
The fourth stage was during the period 1961 to 1962 during which time eight wells were drilled. All but one of the wells were completed. At this time it was necessary to install high volume lift equipment to produce the water. In 1963 a pressure maintenance project was initiated whereby all the produced water was re-injected back into the reservoir. This project continued until 1969 when it was sold to Eastern Petroleum and subsequently to John F. Staver (Saquero Oil Company). It is presently in a stripper or final stage. Approximately 20 acres in the SW/4 NW/4 of section 3, T. 27 N., R. 17 W., north of the cross fault appears to be not completely drained or flushed by reinjected water.

### REFERENCES

Personal files
Files of Continental Oil Company
New Mexico Oil and Engineering Committee
Production Records



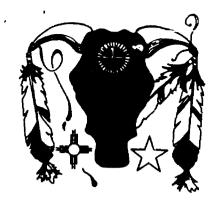
j		RS END		OIL I	DDUCTION - N BARRELS IN MCF
TE AN	101	PROU	SI/ABN	ANNUAL	CUNULATIVE
1951	} . ₽IL				919.790
175.0	_212_	8	- 9	23,709	973,499
1953	011	3	2	19,020	992.569
1951	01L	8	9	17'314	1,000,511
195	. 993	1	2	16,081	1,932,637
1986	31	-5	9	13,867	1,036,494
1957	311	<u>.</u>		12,407	1,048,901 •
1958	1011	_8	9	11,690	1,060,591
1959	011		9	13.564	1.074.155
1960	OU.	8	9	15,292	1,039,147
1961	<u>or</u>		_13	39,991	1,129,438
1962	211	111	13	\$5,703	1,185,111
1963	_118	12	15	35,212	1,220,353
1964	OIL	,	18	28,974	1,249,327
1965	UIL	7	18	21,403	1,270,730
1966	OIL	5	20	18,747	1,289,477
1967	OIL	5	20	15,144	1,304,621
1968	UIL	4	21	9,250	1,313,871
1969	UlL	_3	22	10,403	1,324,274
1970	011.	_1	22	6,166	1,330,440
1971	011.	3	25	6.595	1.337.035
1972	OIL	_3	25	5,308	1.342.343
1973	011.		26_	5.231	1.347.574
1974	OIL	2	21.	4.663	1,352,237
1975	OIL	2	26	1,279	1.353.510
1976	OUL	2	31		
1977	011		31		



### TABULAR SUMMARY\_ ALL WELLS WITHIN ONE HALT MILE OF DISPOSAL WELLS \_ STAYER 22 + 23

WELL NO.	WELL LOCATION	CASING	TOTAL DEPTH	PRODUCING INTERVAL	ABANDWAENT DA TÉ	CEMENT PLUGS	ELEVITION	PAKOTA
20	990 FNL , 2310 FEL, 3.27M.m	1 5.5,14 1,1882 , 900 SKS.	1372	1365 - 1372	PRODUCING	NONE	6309 61	1371
21	330FML, 1980 FEL, 3-27N-17W	MONE	1551	NEVER PROD.	MAY 55	1225-1525, 205 ks 550-404, 21 8ks 0-10, 105Ks	534/ 61	1383
21	660FNL,1980FWL, 3_27N_17W	51 @ 1385' w/ 500 sks. (19#)	1430	1285- 1432	11-17-72 (F.A.)	NONE	5361 DF	1393
8	1189 FNL, 1187 FWL, 3_27N. 17W	8 1 2411 @ 20' w/ 8 5KS. 4.5", 9.5#@1375'w/ 35 5KS.	/381	MEYER PROD.	1-22-73	565 - 569, 2018; 450 - 474, 10 5/2 69' - 10 5/2 5 585 - <b>6</b> 3 5 84644	5740 21	1374
15	1980FNL,2310FEL, 3.27N_17W	8号·@ wp'w / IS SKS. 7·@ 644'? PHLLED 5·@ ISNO' \$ (MD CBMENT)	/371	1341- 1852	1-17-73	1752-1244 14515 0-17, \$5K5.		1341
	1980FNL,1980FmL 3.274L17W	# K @ 502 W 175 5 KS. (484)	7114	BARFER CREEK 7097_ 7113	)	AACASED 713-6744, 149 MS 6140-6444, 75 MS 8417-5118, 50 MS 7260-9744, 849 SIS 2800-3744, 7 SKS 75-3 VALACE 931	3 360 DF	1387
	665 FML, 2054 FEL, 3.27ML 17W	878,27 #,17 W/ 5 5KS. 54,17 #, 687 ND CAMENT (PRILED)	1389	NEVER PROD.	(	U00-1389, 205/12 130 - 750 , 42 SK 0 - 10 '   5 SKT.		1356
2	1/52 FM, 2295 FEL, 3_274_ 17W	8% 27#@ 17' W. 5 5KS.	1358	NEVER PROD.	2-17-76	400-1554, 185RS, 400-200 ; 485RS 0-10', 5'5KS.	5340 GM.	1356
•	1650F5L, 1650FEL, 34, 28N_ 17W	4.5, 7.5#, 1390 , ? sacks	1395	NEVER PROD.	7-23-71	1400-1300, 1803A 200-535, 205A 0-100,100 IA	5314 GL	?
IA	1650 FSL,1350 FEL, 34. 28N_17W	4.5, 9.5 , 1367, NO SACKS (PULLED)	1384	NEVER PROD.	8_16-71	1594-12 <b>34</b>  D65R 140-520, 40 St.1 0-100', 100 SRS	5314 GL	1390
25	1980FSL,1980FWL, 34, 28M. 17W	55, 14#, 1411 , 300 SKS.	1456	1415_ 1456	8-4_62 (T.A.)	MON E	5379 DF	1415
	was da tanak of	le agica heaport	A. Yh	1.	1 0			1

peeds final plugging report on this weel



## Pohlmann and Associates

FARMINGTON, NEW MEXICO AND HOUSTON, TEXAS

200 PETROLEUM PLAZA BLDG. FARMINGTON, NEW MEXICO 87401 PHONE (505) 325-4608

June 26, 1979

Subject:

Application for Approval of Water Disposal Injection

Wells

Area:

Table Mesa Field in 34-28N-17W and 3-27N-17W, the Navajo Reservation in San Juan County, New Mexico

Zone:

Dakota Sandstone

Operator:

John F. Staver

Box 950

Virginia, Minnesota 55792

(218) 741-4122

Summary:

Wells 22 and 23 in the  $S\frac{1}{4}$  of 34-28N-17W are the proposed disposal holes. Diagrams and word description of the subject holes are included in this package.

A chemical analysis of the Dakota Formation water from Conoco's No. 27 in the NE4SW4 4-27N-17W follows:

Dissolved Solids 1076 p	PM
Total Alkalinity 204 "	C 1v1
Carbonate 40 "	
Hydroxide 0 "	
Bi-Carbonate 164 "	
Chloride 32 "	
Calcium 20 "	
Sulphate 240 "	
Fluorite 1.75 "	
Magnesium 20 "	
Iron 0.12 "	
Hardness 40 "	

PH Conductance

8.7 1370.0

per P2

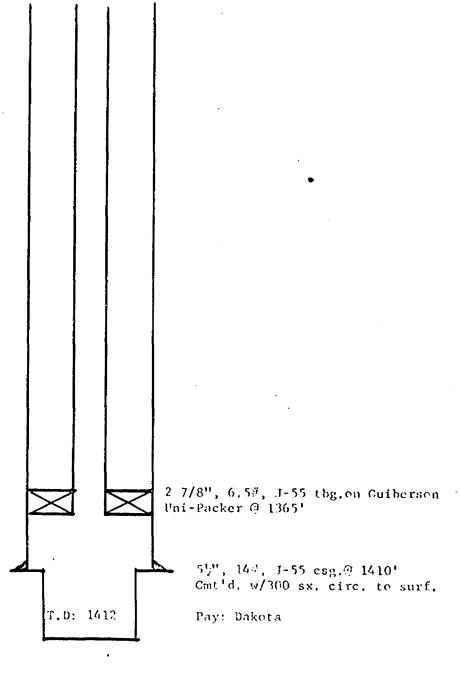
STAVER

The remainder of the information contained here consists of:

- (1) Table Mesa geologic-production and history summary with contour map, electric log and other details.
- (2) Tabular summary of all wells within one-half mile of the proposed disposal wells.
- (3) Diagram of all plugged and abandoned wells within one-half mile of the disposal wells.
- (4) Map (4" = 1 mile) of Table Mesa Field showing well locations and lease lines.

Recent tests (June, 1979) indicate we can inject all anticipated volumes of produced water (two producing wells) at surface pressure of less than 150 psi. The is considerably less than the 0.2 psi per foot (280 psi for a well depth of 1400') presently allowed. If any future problem in this regard is encountered, the disposal wells will be cleaned up and chemically treated.

Hank Pohlmann



SOF w/ 10,000 gal. 10,000# sand Jan. 1962 - Pmp'd 68 BO, 1680 BW/D. Init. Stim:

Init. Pot:

Recent Test: Inject water @ 115#

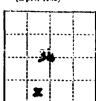
JOHN F. STAVER

TABLE HESA DAKOTA FIELD San Juan Co., New Mexico

Exhibit 2 case 6548

John F. Staver No. 22 Proposed Water Disposal Well 660°FSL, 1980°FWL Section 34 T28N, R17W.

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#### (SUBMIT IN TRIPLICATE)

#### **UNITED STATES** DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

Indlan Agend	, Navajo
•••••	
Allette	
Lease No	1-89-IND-57

SUNDRY	NOTICES	AND	REPORTS	ON	WELLS	(i)			$\bigvee \hspace{-0.1cm} \hspace{0.1cm}$		
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NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	.40	2
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING		-
		SUBSEQUENT REPORT OF ALTERING CASING		
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL		SUBSEQUENT REPORT OF REDRILLING OR REPAIR DEGLOSIO.	131	Y2Y%
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ABANDONMENT	112 1.	E. (5.)
		SUPPLEMENTARY WELL HISTORY		
NOTICE OF INTENTION TO ABANDON WELL	<u> </u>			i
***************************************	<u> </u>			

(INDICATE ABOVE BY CHECK MARK NATURE OF REPORT, NOTICE, OR OTHER DATA)

	quantita e a a a a a a a a a a a a a a a a a a	January 18 , 19.62
Well No. 22 is located	660 ft. from S line	and 1980 ft. from W line of sec. 34
(H Bec, and Bec. No.)	T28H, R17W	MCH
(34 Bec. and Sec. No.)	(Twp.) (Range)	(Meridian)
Table Mesa	San Juan	New Mexico
(Fieló)	(County or Subdivision)	(State or Territory)
	•	

The elevation of the derrick floor above sea level is \_5349\_ft.

#### DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed casings; indicate mudding jobs, con ing points, and all other important proposed work)

Specified 11-13-(1 with rotery tools. Drilled to 1110'. Ran IRS log. Ran 16 joints of 5 1/2", 115, J-55 casing, landed at 1110'. Commented with 300 macks of regular coment with good returns to surface. Moved rotery out and cable tools in, drilled to 1112'. Sand fraced with 10,000 sand and 7,500 gallons of crude. Symbol clean. Ran tubing and submersible pump. IP, 68 BOPD and 1680 BMPD. Gas ISIM. Completed as pumping well from 1110'-1112' (open-hole).

I understei	nd that this plan of work must receive approval in writing by the	Geological Survey before operations may be commenced.
Company.	Continental Oil Company	
Address	P. Q. Box 3312	
	Durango, Colorado	Original Signed By By H D HALFY
		Title District Superintendent
nadut a Y	NMOCC(2) ONG HOLLY THE	1681376-3

PB: 1397 TD: 1402

Gallup Top @ 410' Bottom @ 625'

Cement Top: Circulated

2 7/8", 6.5#, J-55 tbg. on Guiberson Uni-Packer @ 1352'

Perf: 1394-1396 w/ 2 spf.

5½", 14#, J-55 csg. @ 1400'RB Cement w/300 sx neat circ to surface.

Pay: Dakota Top @ 1386RB.

10,000# sd
Init. Pot: 35 BO, 1750 BW/D
196/ Init. Stim: SOF 10,000gal

Recent Test: Inject water @ 110# 6-14-79

JOHN F. STAVER

TABLE MESA DAKOTA FIELD San Juan Co., New Mexico

Exhibit 3 Case 6548

John F. Staver Well No. 23 Proposed Water Disposal Well. 625'FSL, 1980'FEL Section 34 T28N, R17W.

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#### (SUBMIT IN TRIPLICATE)

# UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

Approval	cabitos 13-21-00.
Indian Agency	Navajo
******************	••••••
Allettee	••••••
14 No. 1-1	2-IND-57

Hudget Bureau No. 42-11359.4.

SUNDRY	NOTICES	AND	REPORTS	ON	WELLS	įĢ.	64			Ŋ	E.	[
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NOTICE OF INTENTION TO CHANGE BLANS	SUBSEQUENT REPORT OF WATER SHUT-OFF.	1967.
NOTICE OF INVENTION TO TEST WATER SHITTORE	SUBSCOURNT DEBODT OF ALTERING CASING	
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.	SUBSEQUENT REPORT OF REDRILLING OR REPAIR! 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1.	A WEXIC Y
	SUPPLEMENTARY WELL HISTORY	
	ure of report, nonce, or other data)	Į

		anuaryto, 191	12
Well No. 23 is loca	ated 625 ft. from STATE line	e and $1980$ ft. from $\begin{bmatrix} E \\ XX \end{bmatrix}$ line of sec. $31$	<u></u>
SE/4 Scotion 34	T28H, R17M	NITH	
(14 Sec. and Sec. No.)	(Twp.) (Range)	(Meridian)	
Inble Hose (Field)	(County or Bubdirulon)	NGY MOXICO (State of Tarritory)	

The elevation of the derrick floor above sea level is .5336.. ft.

#### DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and longths of proposed casings; indicate mudding jobe, comenting points, and all other important proposed work)

Specified 11-16-61 with rotary tools. Drilled to 500 RB. Cut Core \$1, 500-590 in Gallup formation. Drilled to 1000 RB. Ran 46 joints 5 1/28, 18%, J-55 casing set at 1000. Cemented with 300 sacks neat cement with good roturns to surface. Moved out rotary, moved in cable tools. Drilled 2' of sand to 1002. Ren Garsia Ray log. Found top of Dakota at 1306. Plugged hole back to 1397 RB. Perforated at 1390. Unable to sand frac formation. Ferforated from 1396. 1396 with 2 chots per foot. Sand fraced with 10,000 sand, 10,000 gallons crude oil, and 1000 ADOMIN. Ran tubing and submersible pump. IPP, 35 BOPD and 1750 RAPD. Gas TSTM. Completed as Bakota pumping well from 1394-1396 RB.

I understand that this plan of work must receive approval in writing by the	Geological Survey before operations may be commenced.
Company Continental Oil Company	
Address P. Q. Box 3312	Original Signed By: By H. D. HALEY
Durango, Colorado	
	Title District Superintendent
HBUS(3) PRIOCE(2) ONG HOLLY WILL PRINCE OF THE STATE OF T	16-5/376-3

Table Mesa Dakota
(011)
T. 27 N., R. 17 W., NMPM
San Juan County,
New Mexico

By: Robert E. Lauth Geological Consultant

#### **GEOLOGY**

Regional Setting: Western San Juan Basin

Surface Formations: Mancos Formation

Exploration Method Leading to Discovery: Surface - plane table mapping

Type of Trap: Anticlinal structure with a minor cross-fault

Producing Formation: Upper Dakota Sandstone

Gross Thickness and Lithology of Reservoir Rocks: 200 feet

Geometry of Reservoir Rock: Alternating beds of sandstone and shale with some

coal beds

Other Significant Shows: Minor shows in Gallup Sandstone at 500 feet

Oldest Stratigraphic Horizon Penetrated: In Continental No. 17 Table Mesa (1-15-1951)

located in SE SE SW sec. 3, T. 27 N., R. 17 W., drilled into Ignacio Quartzite

#### DISCOVERY WELL

Name: (Present Operator: John F. Staver dba Saguaro 011 Company)

Continental Oil Co. No. 1 Table Mesa

Location: NW SE SW, sec. 3, T. 27 N., R. 17 W., NMPM

Elevation (KB): 5327 feet

Date of Completion: September 25, 1925

Total Depth: 1333 feet, plugged back to 1320 feet

Production Casing: 5 3/16" @ 1315 feet

Perforations: Open hole 1315 to 1320 feet

Stimulation: Natural completion

Initial Potential: 312 BOD flowing, no water

Bottom Hole Pressure: In excess of 427 psig

Exhibit 4 case 6548

#### DRILLING AND COMPLETION PRACTICES

Present Practice: Mud-drill to approximately 600 feet or below the Gallup Sandstone. Set 5 1/2" casing, cement with 60 sacks. Air drill into top of Dakota Sandstone. If clean, open up about 3 feet. Set 2 7/8" with seating nipple and open hole packer to top of Dakota Sandstone. Run rods and pump and complete. If not productive in upper lenses, then drill deeper, checking additional lenses.

#### RESERVOIR DATA

Productive Area:

Proved: 100 acres

Unproved: 20 acres

Approved Spacing: 2 1/2 acres

No. of Producing Wells: 2

No. of Abandoned Wells: 31

No. of Dry Holes: Il excluding Continental's 19 coreholes

Average Net Pay: 12 feet; aggregate total in all productive lenses (estimated)

Porosity: Average 20 percent (estimated)

Permeability: Average 200 millidarcies (estimated)

Water Saturation: Original 28 percent (estimated)

Initial Field Pressure: Unknown - The wells flowed so it is in excess of 427 psig

(estimated 500 psig)

Type of Drive: Water drive

Gas Characteristics and Analysis: None

Oil Characteristics and Analysis: Yellow green, paraffin base; 56.4° API gravity;

pour point, below 5° F; sulfur less than 0.1 percent

Associated Water Characteristics and Analysis: Sulfur water

Original Cas, Oil, and Water Contact Datums: Unknown, each individual sand lense

was different (estimated + 3990 south of fault and + 3980 north of

fault

Estimated Primary Recovery:

Type of Secondary Recovery: From 1963 to 1969, a pressure maintenance program

was in effect; all produced water was re-injected back in reservoir

Estimated Ultimate Recovery: The reservoir is essentially depleted. Present

production is the result of flushing of residual oil.

Present Daily Average Production: Average 10 BOPD

Market Outlets: Trucked by Thriftway to their refinery in Bloomfield

#### FLELD COMMENTARY

The Table Mesa field is located east of the Shiprock-Callup highway about thirteen miles south of Shiprock, New Mexico. The Table Mesa Anticline lies just west of the Hogback ridge on the Navajo Indian Reservation. The original test well drilled in 1924 in the NU/4 SW/4 of section 3, T. 27 N., R. 17 W., by Producers and Refiners Corporation to a total depth of 3010 feet found water in all sands penetrated.

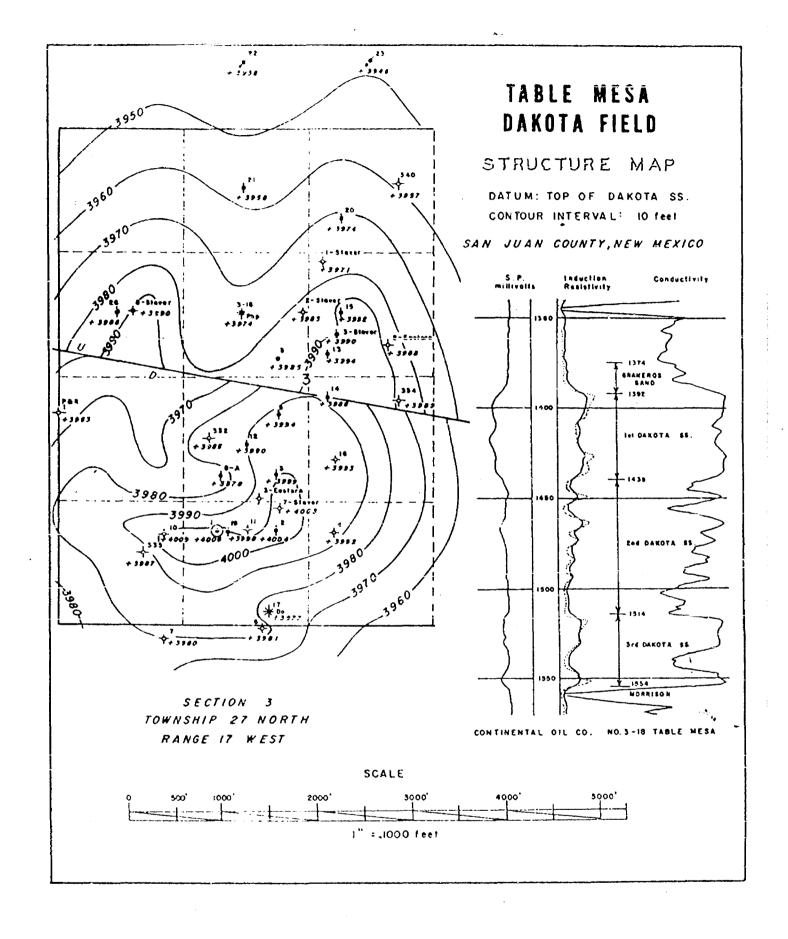
Continental Oil Company drilled the discovery well, NW SE SW of section 3, T. 27 N., R. 17 W. in 1925. It was completed for 312 BOPD flowing. The original development of the Table Mesa-Dakota Field was during the period 1925 to 1927. A total of twelve wells were drilled, five of which were dry holes. Table Mesa No.s 1, 2, and 3 flowed initially at rates in excess of 200 BOPD and no water. The remaining four wells were structurally lower and produced at rates of about 50 BOPD and some water.

The second stage of development was during the period 1939 to 1948. Five wells, No.s 12 through 16, were completed and produced at rates somewhat less than 50 BOPD and some water.

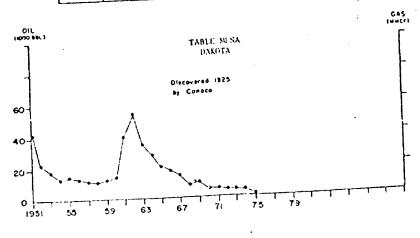
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#### REFERENCES

Personal files
Files of Continental Oil Company
New Mexico Oil and Engineering Committee
Production Records



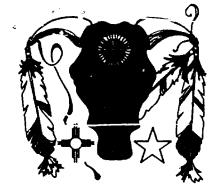
NUMBER OF WELLS AT YEARS END						s		- PRODUCTION - OIL IN BARRELS GAS IN MCF				
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1_	1403	-	OIL		7	-†-	18		28,974	$\rightrightarrows$	1,249,327	1
-	1964		011		7	-	18	_[	21,403	#	1,270,730	}
-	1965	-	011	-	5	1	50	_	18,747	4	1,269,477	}
-	1966	+	UII		5	1	20	_	15,144	4	1,304,621	1
L	1967	[	ij.	-	4	-+	21	-	9,250	$\Box$	1,313,871	4
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-	1969	∤	01				22		6,166	_	1,330,440	3
-	1970		01				25		6,595	_	1.337.035	_
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1	1972		0					_	5.231_		1.347.574	듸
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TABULAR SUMMARY\_ ALL WELLS WITHIN ONE HALT MILE OF DISPOSAL WELLS\_ STAVER 12 + 13

ELEMENT DAKOTA	6309 64 1371	282/ 79/	5361 DF 1393	4LE1 75 6985	1461 79 2585	5260 DF 1387	5352 GA 1356	5340 GR. 1356	. 79	0881 75	5339 DF 1415	
CEMENT PLUGS	Now 6 530	25 /4 57 34/ 61-0 57 -40 -41 57 4/ 61-0	Nove	565-567 2012 450-474, 2026 536 69: 10 583	25.5 - 34.5 - 6.5	ANCINES CO 11/1-6700, 100 30 4100-6000, 75 873 2017-8/12, 60 873 7260-674, 100 315	1300-230, T 355 175-3016-355 100-159, 39 355 175-75, 45 405 175-75, 45 405	0-10-1, 5-2145 345-30-445475 345-30-10-10-10-10-10-10-10-10-10-10-10-10-10	\$165 50 100 001 - 0 \$0.00 50 000	7.50-100 to 545 5314 G.L.		
-ABANDWHENT DA TE	PRODUCING	MAY 55	11-17-72 (5.A.)	/- \$2-73	1-17-73	3-4-15	3-10-76	2-11-2	7-23.71	11-91-8	8-4-62 (T.A.) move	
FRODUCING INTERVAL	1365- 1372	MEVER PROD.	1885- 1432	KEVER PROD.	134/- 1852	BARYER CREEK 7097_ 7118	NEVER PROD.	NEVER MOD.	NEVER PROD.	NEVER PROD.	1415_1456	
TOTAL DEPTH	1372	155/	/430	1381	1371	41114	1389	1358	1395	1384	1456	
CASINA	1 5.5,14",1382, 300 SAS.	2 M ON	5± "@ 1385' w/ 300 cks. (MM)	8%, 24# (P 20' W/ \$ 5K3. 4.5", 9.5#(3)1375'W/ 85 5K5.	846"@ 48"4/12 5KS. 7"@ 644" 2 rolled 5"@ 1840' 5 (20 coment)	\$ \$4 @ 502 w/ 175 SRS. (40%) \$ \$40 Soo w/ 25 SRS (\$24) \$4 @ 7113 w/ 20 SRS.(470174)	856,27 19, 17 W 5 5KS. 5£,174,687 NO CONGN!	8 Forth @ 17' W S SKS. Fr, 178 & 675 NO CRMBUT	4.5, 9.5th, 1390, 9 sacks	"S, 9.5 , 1367, NO SACKS (PULLED)	£5,' 14#, 1411, 300 sks.	
WELL LOCATION	980 FNL, 2310 FILL, S. ZTM. TM	350FWL, 1980 FEL, 3-27W-17W	660FHL, 1180 FWL, 3.27N_1TW	1183 FNL, 1189 FWL, S 274. 17 W	1980FHL, 2310 FEL, 3.27M_17W	1980 FML, 1980 FWL, 3-27M. 17W & 98 G 500 W/ 25 5KS (828) 54 @ 7117 W/ 200 5KS (828)	665 FHI, 2054 FEL, 3. 27N. 17W	1152 FW, 1295 FEL, 3.27W. 17W	1650FSL, 1650FEL, 34, 28N. 17W	1650 FSL, 1350 FEL, 34. 28N_1TW 4.5, 9.5, 1367, #0	:980F5L,136FWL,14,28N_17W	
WELL NO.	70	22	ল	80	تر	3-18	**************************************	N		4	72	

Exh,b; + 5 case 6548



## Pohlmann and Associates

FARMINGTON, NEW MEXICO AND HOUSTON, TEXAS

200 PETROLEUM PLAZA BLDG. FARMINGTON, NEW MEXICO 87401 PHONE (505) 325-4608

June 26, 1979

Subject:

Application for Approval of Water Disposal Injection

Wells

Area:

Table Mesa Field in 34-28N-17W and 3-27N-17W, the Navajo Reservation in San Juan County, New Mexico

Zone:

Dakota Sandstone

Operator:

John F. Staver

Box 950

Virginia, Minnesota 55792

(218) 741-4122

Summary:

Wells 22 and 23 in the  $S_4^1$  of 34-28N-17W are the proposed disposal holes. Diagrams and word description of the subject holes are included in this package.

A chemical analysis of the Dakota Formation water from Conoco's No. 27 in the NE4SW4 4-27N-17W follows:

Dissolved Solids	1076	PPN
Total Alkalinity	204	11
Carbonate	40	11
Hydroxide	0	11
Bi-Carbonate	164	3.6
Chloride	32	11
Calcium	20	11
Sulphate	240	11
Fluorite	1.75	11
Magnesium	20	. 11
Iron	0.12	11
Hardness	40	11

PH 8.7 Conductance 1370.0

> Exhibit > Case 6548

The remainder of the information contained here consists of:

- (1) Table Mesa geologic-production and history summary with contour map, electric log and other details.
- (2) Tabular summary of all wells within one-half mile of the proposed disposal wells.
- (3) Diagram of all plugged and abandoned wells within one-half mile of the disposal wells.
- (4) Map (4" = 1 mile) of Table Mesa Field showing well locations and lease lines.

Recent tests (June, 1979) indicate we can inject all anticipated volumes of produced water (two producing wells) at surface pressure of less than 150 psi. The is considerably less than the 0.2 psi per foot (280 psi for a well depth of 1400') presently allowed. If any future problem in this regard is encountered, the disposal wells will be cleaned up and chemically treated.

Hank Pohlmann

Elev: 5394 DF (81 AGL)

2  $7/8^{\circ}$ ,  $6.5^{\circ}$ , J-55 tbg.on Guiberson Uni-Packer @ 1365' 5½", 14#, J-55 csg.@ 1410' Cmt'd, w/300 sx. circ. to surf. T.D: 1412 Pay: Daketa

Init. Stim: SOF w/ 10,000 gal.

10,000# sand Jan. 1962 - rmp\*d 68 BC, 1680 BW/D. Init. Pot:

Recent Test: Inject water @ 115#

JOHN F. STAVER

TASLE MASA DARCTA FIELD Jan Juan Co., New Mexico

Exhibit 2 Case 6548

John F. Staver No. 22 Proposed Water Disposal Well 660°CSL, 1980°FWL Section 34 T28N, R17W.

(April 1952)										
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	x									

#### (SUBMIT IN TRIPLICATE)

# UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

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SUNDRY	NOTICES	AND	REPORTS	ON	WELLS	B		V		
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NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF	.:	2
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACHOIZING		
		SUBSEQUENT REPORT OF ALTERING CASING		
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL	-	SUBSEQUENT REPORT OF REDRILLING OR REPAIR GEOLOGICAL	3	EYEY
NOTICE OF INTENTION TO SHOOT OR ACIDIZE.	<u> </u>	SUBSEQUENT REPORT OF ABANDONMENT.	112	Miss
		SUPPLEMENTARY WELL HISTORY		
NOTICE OF INTENTION TO ABANDON WELL	ļ			
			<u>                                     </u>	

(indicate above by check mark nature of report, notice, or other data)

		i		******	*****	January	<u> </u>	19.02
Well No.	22	is located	660 ft	. from ${S \atop S}$ lin	e and 1980	Lt. from W	line of sec.	34
SN/13	Section	34	T20N.	R174	neiry	1	•	
(48	oo, adu boo. No.	)	(Twp.)	(Range)	()	(eridian)		
Tablo	Moss	-	San.	Juan		New 11	lexico	-444
	(Field)		(Co	unty of Subdivision	)	(State o	x Territory)	,

The elevation of the derrick floor above sea level is .5342.. ft.

#### DETAILS OF WORK

(State names of and expected depths to objective sands; show rizes, weights, and lengths of proposed casings; indicate mudding jobs, coments ing points, and all other important proposed work)

Synddod 11-13-61 with rotary tools. Drilled to 1410. Ran IES log. Ean 46 joints of 5 1/2", 114, J-55 ensing, landed at 1410. Comented with 300 sacks of regular coment with good roturns to surface. Noved rotary out and cable tools in, drilled to 1412. Sand fraced with 10,000% sand and 7,500 gallons of crude. Symbols clean. Ran tubing and submersible pump. IP, 63 BOPD and 1680 BMPD. Gas ISM. Completed as pumping well from 1410:-1412! (open-1010).

I understand that this plan of work must receive approval in writing by the	Geological Survey before operations may be commenced,
Company Continental Oil Company	
Address Pa Oa Box 3312	
	Original Signed By: By ILD HALEY
	Title District Superintondent
UCUS(3) IMOCC(2) OHO HOLLY HEAT MINIST MINIS	16-8477-8

Elev: 5336 DF (( 8'AGL )

PB: 1397 TD: 1402

Gallup Top @ 410' Bottom @ 625'

Cement Top: Circulated

2 7/8", 6.5#, J-55 tbg. on Guiberson Uni-Packer @ 1352'

Perf: 1394-1396 w/ 2 spf.

5½", 14#, J-55 csg. @ 1400'RB Cement &/300 sx neat circ to

surface.

Pay: Dakota Top @ 1386RB.

Init. Stim: SOF 10,000gal 10,000# sd 35 BO, 1750 BW/D

Init. Pot:

Recent Test: Inject water @ 110# 6-14-79

Exhibit \$18 Case 6518

JOHN F. STAVER

TABLE MESA DAKOTA FIELD San Juan Co., New Mexico

John F. Staver Well No. 23 Proposed Water Disposal Well. 625'FSL, 1980'FEL Section 34 T28N, R17W.

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# UNITED STATES DEPARTMENT OF THE INTERIOR GEOLOGICAL SURVEY

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SUNDRY	NOTICES	AND	REPORTS	ON	WELLS	t	(a)	ì	$\int_{0}^{\infty}$

NOTICE OF INTENTION TO DRILL		SUBSEQUENT REPORT OF WATER SHUT-OFF.		1952
NOTICE OF INTENTION TO CHANGE PLANS		SUBSEQUENT REPORT OF SHOOTING OR ACIDIZING.		
NOTICE OF INTENTION TO TEST WATER SHUT-OFF	ļ <b>.</b>	SUBSEQUENT REPORT OF ALTERING CASING.		CH 30 C
NOTICE OF INTENTION TO REDRILL OR REPAIR WELL		subsequent report of redrilling or repair $1.2.2.000$ subsequent report of arandonment. $1.00000000$		TARABLE I
NOTICE OF INTENTION TO SHOOT OR ACIDIZE		SUBSEQUENT REPORT OF ADANDONMENT.	-	1.3 (0.5.10.)
NOTICE OF INTENTION TO PULL OR ALTER CASING		SUPPLEMENTARY WELL HISTORY	<u></u>	
NOTICE OF INTENTION TO ABANDON WELL				
				[

(indicate above by check mark nature of report, notice, or other data)

	**************************************	January 18 , 1962	
Well No. 22 is loca	ted 625 ft. from S line and	1980 ft. from (E) line of sec. 34	
SE/4 Scotion 34	T28H, RUM	N. IFII	
(14 Sec. and Sec. No.)	(Twp.) (Range)	(Meridian)	
Table Nosa	San Juan County	New Mexico	-
(Field)	(County or Subdivision)	(State or Territory)	•

The elevation of the derrick floor above sea level is .5336.. ft.

#### DETAILS OF WORK

(State names of and expected depths to objective sands; show sizes, weights, and lengths of proposed easings; indicate mudding jobs, coments ing points, and all other important proposed work)

Specified 11-16-61 with rotary tools. Drilled to Sho! RB. Cut Core #1, 5401-590! in Gallup formation. Drilled to 1400! RB. Ran 46 joints 5 1/2", 14#, 3-55 capting sot at 1400!. Comented with 300 sacks neat conent with good roturns to surface. Moved out rotary, moved in cable tools. Drilled 2! of sand to 1402!. Ran Garra Ray log. Found top of Dakota at 1306!. Plugged hole back to 1397! RB. Perforated at 1390!. Unable to sand frac formation. Perforated from 1394!-1396! with 2 shots per foot. Sand fraced with 10,000# cand, 10,000 gallens crude oil, and 1000# ADOMITE. Ran tubing and submorphibe pump. IPP, 35 BOPD and 1750 BJPD. Gas TSTM. Completed as Dakota pumping well from 1394!-1396! RB.

Lundersta	nd that this plan of work must receive approval in writing by the	Geological Survey before operations may be commenced.
Company.	Continental Oil Company	
Address	Pa Qa Box 3322	Original Signed Bur
	Durango, Colorado	Original Signed By: By H. D. HALEY
*******		Title District Superintendent
V898 <b>(3)</b>	EMOCO(2) GHO HOLLY TEMPORAL MAINT OFFICE	16-81375-8

By: Robert E. Lauth Geological Consultant

Table Mesa Dakota (011)T. 27 N., R. 17 W., NMPM San Juan County, New Mexico

#### GEOLOGY

Regional Setting: Western San Juan Basin

Surface Formations: Mancos Formation

Exploration Method Leading to Discovery: Surface - plane table mapping

Type of Trap: Anticlinal structure with a minor cross-fault

Producing Formation: Upper Dakota Sandstone

Gross Thickness and Lithology of Reservoir Rocks: 200 feet

Geometry of Reservoir Rock: Alternating beds of sandstone and shale with some

coal beds

Other Significant Shows: Minor shows in Gallup Sandstone at 500 feet

Oldest Stratigraphic Horizon Penetrated: In Continental No. 17 Table Mesa (1-15-1951)

located in SE SE SW sec. 3, T. 27 N., R. 17 W., drilled into

Ignacio Quartzite

### DISCOVERY WELL

Name: (Present Operator: John F. Staver dba Saguaro Oil Company)

Continental Oil Co. No. 1 Table Mesa

Location: NW SE SW, sec. 3, T. 27 N., R. 17 W., NMPM

Elevation (KB): 5327 feet

Date of Completion: September 25, 1925

Total Depth: 1333 feet, plugged back to 1320 feet

Production Casing: 5 3/16" @ 1315 feet

Perforations: Open hole 1315 to 1320 feet

Stimulation: Natural completion

Initial Potential: 312 BOD flowing, no water

Bottom Hole Pressure: In excess of 427 psig

Exhibit 4 case 6548

## DRILLING AND COMPLETION PRACTICES

Present Practice: Mud-drill to approximately 600 feet or below the Gallup Sandstone. Set 5 1/2" casing, cement with 60 sacks. Air drill into top of Dakota Sandstone. If clean, open up about 3 feet. Set 2 7/8" with seating nipple and open hole packer to top of Dakota Sandstone. Run rods and pump and complete. If not productive in upper lenses, then drill deeper, checking additional lenses.

## RESERVOIR DATA

Productive Area:

Proved: 100 acres

Unproved: 20 acres

Approved Spacing: 2 1/2 acres

No. of Producing Wells: 2

No. of Abandoned Wells: 31

No. of Dry Holes: 11 excluding Continental's 19 coreholes

Average Net Pay: 12 feet; aggregate total in all productive lenses (estimated)

Porosity: Average 20 percent (estimated)

Permondility: Average 200 millidarcies (estimated)

Water Saturation: Original 28 percent (estimated)

Initial Field Pressure: Unknown - The wells flowed so it is in excess of 427 psig

(estimated 500 psig)

Type of Drive: Water drive

Oil Characteristics and Analysis: Yellow green, paraffin base; 56.4° API gravity;

pour point, below 5° F; sulfur less than 0.1 percent

Associated Water Characteristics and Analysis: Sulfur water

Original Cas, Oil, and Water Contact Datums: Unknown, each individual sand lense

was different (estimated + 3990 south of fault and + 3980 north of

fault

Estimated Primary Recovery:

Type of Secondary Recovery: From 1963 to 1969, a pressure maintenance program was in effect; all produced water was re-injected back in reservoir Estimated Ultimate Recovery: The reservoir is essentially depleted. Present production is the result of flushing of residual oil.

Present Daily Average Production: Average 10 BOPD

Market Outlets: Trucked by Thriftway to their refinery in Bloomfield

#### FIELD COMMENTARY

The Table Mesa field is located east of the Shiprock-Gallup highway about thirteen miles south of Shiprock, New Mexico. The Table Mesa Anticline lies just west of the Hogback ridge on the Navajo Indian Reservation. The original test well drilled in 1924 in the NU/4 SW/4 of section 3, T. 27 N., R. 17 W., by Producers and Refiners Corporation to a total depth of 3010 feet found water in all sands penetrated.

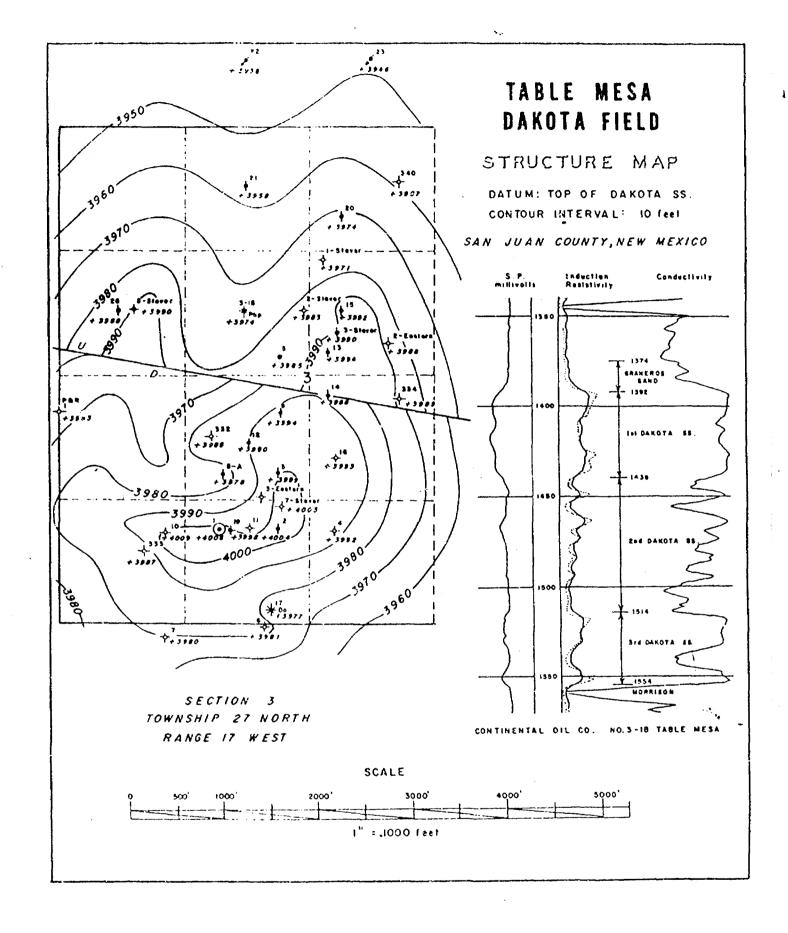
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The second stage of development was during the period 1939 to 1948. Five wells, No.s 12 through 16, were completed and produced at rates somewhat less than 50 BOPD and some water.

The fourth stage was during the period 1961 to 1962 during which time eight wells were drilled. All but one of the wells were completed. At this time it was necessary to install high volume lift equipment to produce the water. In 1963 a pressure maintenance project was initiated whereby all the produced water has re-injected back into the reservoir. This project continued until 1969 when it we sold to Eastern Petroleum and subsequently to John F. Staver (Saquero Oil Company). It is presently in a stripper or final stage. Approximately 20 acres in the SW/4 NW/4 of section 3, T. 27 N., R. 17 W., north of the cross fault appears to be not completely drained or flushed by reinjected water.

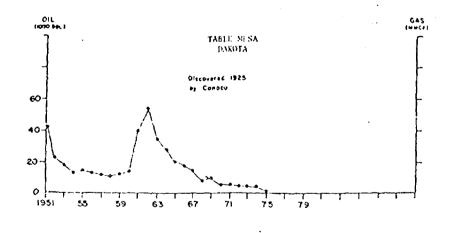
#### REFERENCES

Personal files
Files of Continental Oil Company
New Mexico Oil and Engineering Committee
Production Records



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P.	N REDWUI			- PRODUCTION - OIL IN BARRELS GAS IN MCF			
TE AF:	IYPE	PHON	\$1/48H	ANNUAL	CUMUL ATIVE		
1951	1 211			12.600	919.790		
195.5	-414-		99	23,709	921,499		
1953	011	X		12.070	922.569		
1954	. D!L.			13,224	1,000,513		
195	. 940			16,084	1,932,637		
1950	201	-5	2	13,807	1,036,494		
1957	सा			12,407	1,048,901 -		
1958	2014	_\$		11,690	1,000,591		
1959	_011_		3_	13,561	1.074.155		
1960	011.			15,292	1,039,147		
1961	_DI_	11	_12_	39,991	1,139,438		
1962	.011	<u></u>	13	55,703	1,155,141		
1963	ـــاللاـــ	10	15	35,212	1,220,353		
1961	OIL	7	18	28,974	1,249,327		
1965	OIL	7	18	21,403	1,270,730		
1966	OIL	-5	50	18,747	1,289,477		
1967	OIL	5	20	15,144	1,304,621		
1968	OIL	4	21	9,250	1,313,871		
1969	UIL	3	22	10,403	1,324,274		
1970	011,	->	22	6,166	1,330,440		
1971	011.	-3	25	6.595	1,337.035		
1972	011	3	25	5.308	1.342.343		
1973	011,_	_2_	26	5.231	1.347.574		
1971	OIL	2	21.	4.663	1,352,237		
1975	OIL.		26	1.279	1.353,516		
1976	011.	-3					
1977	011.						



#### TABULAR SUMMARY\_ ALL WELLS WITHIN ONE HALT MILE OF DISPOSAL WELLS \_ STAVER 12 + 23

WELL NO.	WELL LCTATION	CASINA	TOTAL PEPTH	PROBUCING INTERVAL	ABANDWHENT DATE	CEMENT PLUGS	ELCHOTHN	PAKOTA
30	990 FNL , 2310 FEL, 3.27M.m	5.5,14 " 1382 , 300 SKS.	1372	1365 - 1372	PRODUCING	None	6309 61	1371
21	350FML, 1980 FEL, 3-2711-171W	MONE	1551	NEVER PRID.	MAY 55	1225-1325, 205 KS 830-400 , 24 SKS 0-10 , 105KS	534/ 61	1383
21	660FNL, 1980FWL , 3_27N_17W	5 1 10 1385' W/ 100 SKE (19#)	1430	1385- 1432	11-17-72 (F.A.)	NONE	5361 DF	1393
8	!! 83 FNL,    81 FWL , 5_27N_    7 W	88 24# @ 20" w/ 5 3KS. 4.5" 9.5#@1375" w/ 35 3KS.	/381	NEVER PROD.	1-22-73	565. 587, 80 sks. 450. 474, 10 sks 69', 10 sks 5 sks. Øs suppe	5369 GL	1374
15	1980FNL,2310FEL, 3_27N_17W	\$5\$"@ 49"W / 13 5K5. 7"@ 644" ? PULLED 5"@ 1840" \$ (NO COMBAT)	/371	1341- 1352	1-17-73	0-10, 3 S KS.		1341
3-18	1980FNL.1980FNL 3.27NL17W	45 % @ 502 W 178 SKS. (484)	7114	BARFER CREEK 1097_711\$	)	pAc/AISED 7/12-6700, 100 785 6100-36400, 75 38 4 6017-5/18, 50 585 42/0-4764, 80 585 1800-3760, 7 585 75 = 3 0 445 ct 931	3 360 27	1387
ı	645 FML, 2054 FEL, 3.27M. 17W	888,27#,17 W S SKS. 55,17#,687 ND CEMENT (PULLED)	1389	NEVER MOD.		uno-1389, 20 5/15	5352 <i>64</i> .	1356
2	1/52 FM, 2295 FEL, 3_274_17W	85, 27#@17' W 5 5Ks. 53,178@672' W CEMENT (MULE)	1358	NEVER PROD.	2-17-76	1400-1554, 183RS. 400-200 ; 485RS 0-10', 5'5RS.	5340 GM.	1356
1	1650F5L, 1650FEL,34, 28N_ 17W		1395	NEVER PROD.	7-23-11	/400-/300, noesk 800-536, 80 Sk 0-100, 100 KS	5314 GL	?
IA	1650 FSL,1350 FEL, 34. 28N_17W	4.5, 9.5 1367, NO SACKS (PULLED)	1384	NEVER PROD.	9 14.71	1594-12 <b>84 (</b> 005k 190-520, 90 SKI 0-100', Me SKS	5314 GL	1390
25	1980FSL,1980FWL,3428N17W	≤5, 14\$, 1411 , 300 sks.	1456	1415_ 1456	8-4-62 (T.A.)	MON E	5379 DF	1415

Exhibit 5 Case 6548



## Pohlmann and Associates

FARMINGTON, NEW MEXICO AND HOUSTON, TEXAS

200 PETROLEUM PLAZA BLDG. FARMINGTON, NEW MEXICO 87401 PHONE (505) 325-4608

June 26, 1979

Subject:

Application for Approval of Water Disposal Injection

Wells

Area:

Table Mesa Field in 34-28N-17W and 3-27N-17W, the Navajo Reservation in San Juan County, New Mexico

Zone:

Dakota Sandstone

Operator:

John F. Staver

Box 950

Virginia, Minnesota 55792

(218) 741-4122

Summary:

Wells 22 and 23 in the S¼ of 34-28N-17W are the proposed disposal holes. Diagrams and word description of the subject holes are included in this package.

A chemical analysis of the Dakota Formation water from Conoco's No. 27 in the NE4SW4 4-27N-17W follows:

Dissolved Solids	1076	PPM
Total Alkalinity	204	11
Carbonate	40	11
Hydroxide	0	11
Bi-Carbonate	164	11
Chloride	32	11
Calcium	20	11
Sulphate	240	11
Fluorite	1.75	11
Magnesium	20	11
Iron	0.12	11
Hardness	40	11

PH 8.7 Conductance 1370.0

> Exhibit > Case 6548

The remainder of the information contained here consists of:

- (1) Table Mesa geologic-production and history summary with contour map, electric log and other details.
- (2) Tabular summary of all wells within one-half mile of the proposed disposal wells.
- (3) Diagram of all plugged and abandoned wells within one-half mile of the disposal wells.
- (4) Map (4" = 1 mile) of Table Mesa Field showing well locations and lease lines.

Recent tests (June, 1979) indicate we can inject all anticipated volumes of produced water (two producing wells) at surface pressure of less than 150 psi. The is considerably less than the 0.2 psi per foot (280 psi for a well depth of 1400') presently allowed. If any future problem in this regard is encountered, the disposal wells will be cleaned up and chemically treated.

Hank Pohlmann

# OIL CONSERVATION COMMISSION OTHER DISTRICT

OIL CONSERVATION COMMISSION BOX 2088	DATE april 24,1979
SANTA FE, NEW MEXICO	RE: Proposed MC Proposed DHC
	Proposed NSL
	Proposed SWD X
	Proposed PMX
	•
Gentlemen:	
I have examined the application dated do	eril 24,1979
for the John 8. Staver Suble Men	at 22 N-34-28N-17-W
∫ Operator Lease and Wel	1 No. Unit, S-T-R
Require tubing and marker wit	h look sletection
device on annulus. Order show	Ild specify that
only water produced from the d	Jakota formation
may be elissoned of in this w	ell.
	Y
	Yours very truly,
	Frank & Charge

#### NEW MEXICO OIL CONSERVATION COMMISSION

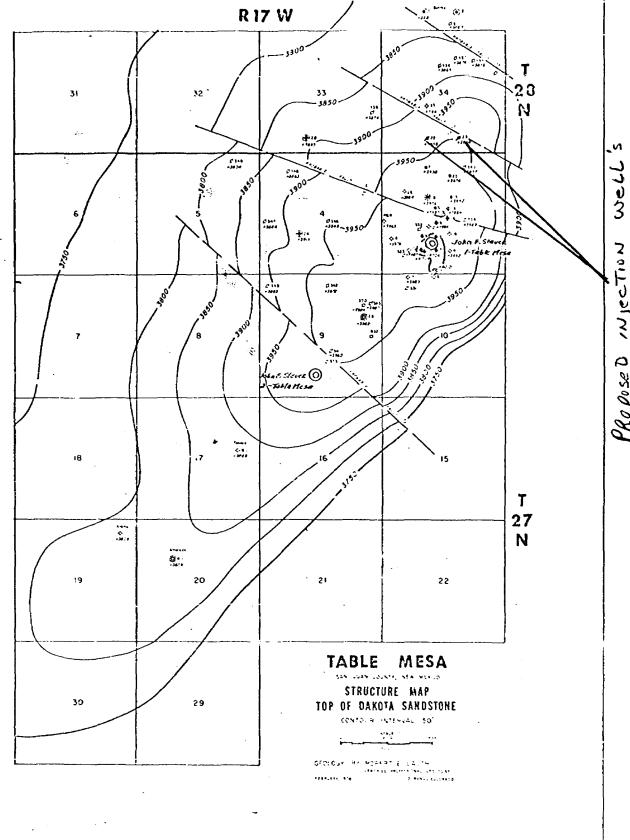
#### APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR					I TUUBLE				
	HN F. STAVE	R	- Luc	LL NO.	P.	O.Box	51, Farm	ningto	n, N.M. 8740
Tal	ble Mesa			22		ble M	esa		San Juan
LOCATION	UNIT LEFTER	; we	LL IS LOCA	. <sub>тео</sub> 66	O FEET P	10M THE	South	NE AND	1980 FEET FROM TO
West		34 ,,,		28N	17W	I			
	LINE, SECTION	7. 10.	AIHSHA		RANGE TO		APM.		
NAME O	FSTRING	SIZE	SETTING	DEPTH	SACKS CEME	NT	TOP OF CEME	NT	TOP DETERMINED BY
SURFACE CASING									
INTERMEDIATE									
	j			45		ļ		l	
LOKE STRING		.1 as					~ ^		G'
		5출"	14				Surface		Circulated
TUBING			1	~ ^	ME, MODEL AND I	DEPTH OF TU	BING PACKER		•
NAME OF PROPOSE	HOLLSTIN FORMATION		!	i	TOP OF FOR	HOITAN		BOTTOM OF	FORMATION
Dak	ota		•		140	80		141	.2
IS INJECTION THR	OUGH TUSING, CASING, OF	ANNULUS?	PE	REGRATIONS OF	OPEN HOLE! P		ERVAL(S) OF INTE	CTION	<del></del>
Cas	ing		l	Jpen F			-1412	<b>_</b>	
IS THIS A NEW WE	ELL DAILLED FOR	IF ANSWER IS	-	uction	WAS WELL ORIGIN	IALLY DRILL	EO?	TION ZONE	EVER BEEN PERFORATED IN A R THAN THE PROPOSED INJECTION
	ERFORATED INTERVALS A	ND SACKS OF CO			OR SQUEEZE EAC	н		L	
DEPTH OF BOTTON FRESH WATER ZON	A OF DEEPEST NE IN THIS AREA		DEPTH OF OIL OR GA	BOTTOM OF NE		one	DEPTH OF TO OIL OR GAS Z	P OF NEXT LO ONE IN THIS	OWER 6740
ANTICIPATED DAIL INJECTION VOLUM (BBLS.)	E	TMAXIMUM	09	EN OR CLOSED		IS INJECT PRESSURE	ION TO HE BY GRA		APPROX. PRESSURE (PSI)
300	200 .	1 400	IE MIN-	CDET		NATURAL	Pressu		100#
ERALIZED TO SUC STOCK, IRRIGATIO	H A DEGREE AS TO BE UN ON, OR OTHER GENERAL U SS OF SURFACE OWNER (	IFIT FOR DOMES	itic,	1	Fresh	SAL ZONE	Yes		No
		OR LESSEE, IF	SIATE OR F	EDENAL LANDS					
	AVAJO ADDRESSES OF ALL OPER	RATORS WITHIN	ONE-HALF (	) MILE OF TH	IS INJECTION WE	LL			
NO	ONE								
			· · · · · · · · · · · · · · · · · · ·						
					·				
		Tabasaa						T	·
SENT TO EACH OF	THIS APPLICATION BEEN THE FOLLOWING!	SURFACE OW	No		OF THIS WE	TOR WITHIN NOTIE	ONE-HALF MILE	THE NEW M	EXICO STATE ENGINEER  NO
ARE THE FOLLOW	NO ITEMS ATTACHED TO N (SEE RULE 701-B)	PLAT OF ARE			ELECTRICAL		,,	DIAGRAMMA	ATIC SKETCH OF WELL
THIS APPLICATION	N (SEE NULE 701+8)	r l	Yes	5	1· ;	None	e	[ }	Yes
10	here'oy certi	ly that the in	formation	above is tru	ie and complet	e to the be	est of my know	ledge and t	pelief.
(1 V	/ 1 .	()		= -	_				
- 6km	Ullimin	-16	<b>-</b>	ĵv.	lanager				4-24-79

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well.

not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days
from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing,
if the applicant so requests. SEE RULE 701.

- INJECTION LINE COMENT CIRCULATED TO SURFACE Water Toube MJecTed 15 produced From Same DS. KOTA FORMATION JOHN STAVER YN Sec. 3 TOTAL RITW Table MesA #22 Scc. 34 728N RITW 1 3/12 Casing 1408' 4'of open DAKOTA FORMATION nole 7 1/8 hole 14/2' T.D.



15

MJecTION

## OIL CONSERVATION COMMISSION DISTRICT

OIL CONSERVATION COMMISSION	DATE Clarif 24, 1979
BOX 2088 SANTA FE, NEW MEXICO	RE: Proposed MC Proposed DHC Proposed NSL Proposed SWD Proposed WFX Proposed PMX
Gentlemen:	
I have examined the application dated	
for the John & Stare Suble Muser	#23 0-34-28N-17W
Operator Lease and Well	l No. Unit, S-T-R
Beguire tubing and nucher with	leak detection device
on annulus. Order should specif	y that only water
procheed from the Dahota forma	than may obspiced of
·	Yours very truly,
	Frank 5. Clarg

Form C-198 Revised 1-1-65

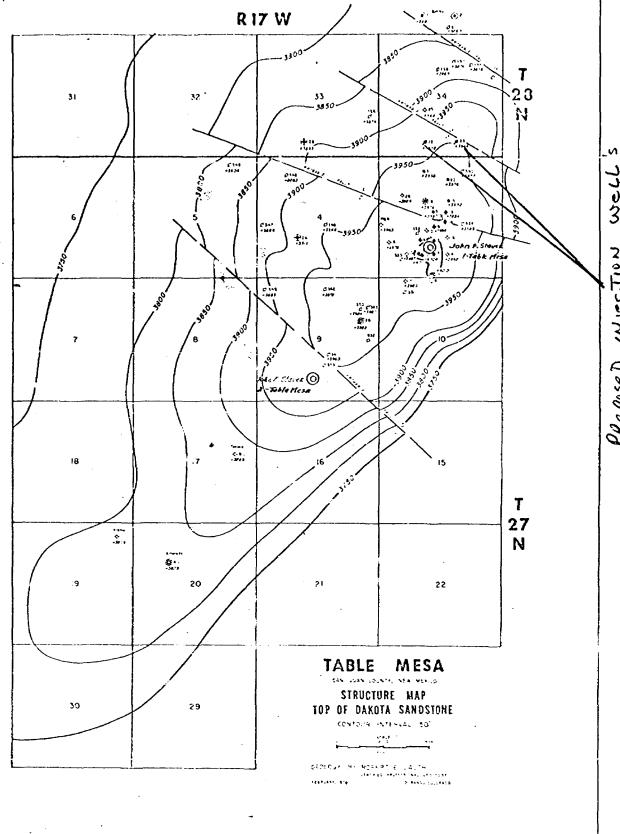
#### NEW MEXICO OIL CONSERVATION COMMISSION

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

OPERATOR			ADDRES	3			
JOHN F. STAVI	ER			P.0.Bo	x 51, Far	mingto	
Table Mesa		23	FIELD	Table	Mesa		San Juan
LOCATION							
UNIT LL TER		WELL IS LOCATED	625	ET FROM THE	South	LINE AND	1980 FEET FROM THE
East LINE, SECTION	34 ·	омизиця 28N	RANGE	17W	нмрм.		
NAME OF STRING	SIZE	SETTING DEPTH	AND TUBING		TOP OF CEM	ENT	TAD DETERMINED ON
SURFACE CASING	312.6	32: TING DEPTH	SACKSC	EMENT	TOP OF CEN		TOP DETERMINED BY
INTERMEDIATE		73					
-		3.5.					
LONG STRING	5 <del>½</del> "	1401			Surface	,	Circulated
TUBING			NAME, MODEL	ND DEPTH OF	TUBING PACKER		
NAME OF PROPOSED INJECTION FORMATI	ON		TOP CF	FORMATION	1	BOTTOM	OF FORMATION 1400
Dakota IS INJECTION THROUGH TABING, CASING,	OR ANNULUS?	719	S OR OPEN HOLE	1394	P INTERVAC(S) OF IN	IECTION	1400
Casing		Open 1	Häle	139	94-1400		
IS THIS A NEW WELL DRILLED FOR DISPOSAL?	IF ANSWER	IS NO, FOR WHAT PURPO		RIGINALLY DR	ILLED?	HAS WEL ZONE OT: TION ZON	L EVER BEEN PERFORATED AN' HER THAN THE PROPOSED INJEC-
NO LIST ALL SUCH PERFORATED INTERVALS	AND SACKS OF	Production		FACU		Tion 208	No No
CIS! ALL SUCH PERFURATED INTERVALS	AND SACKS CE		OFF OR SQUEEZE	EACH			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA		DEPTH OF BOTTOM OF	F NEXT HIGHER		DEPTH OF T	OP OF NEXT	IS AREA
				None		·	6740
ANTICIPATED DAILY MINIMUM INJECTION VOLUME I (BBLS.)	1 40	. i	SED TYPE SYSTE	M IS IN! PRESS	ection to be by of DRE?		100#
ANSWER YES OR NO WHETHER THE FOLL	OWING WATERS	ARE MIN- WATER		D OF NATUR	AL WATER IN DISPO		ER ANALYSES ATTACHED?
ERALIZED TO SUCH A DEGREE AS TO BE STOCK, IRRIGATION, OR OTHER GENERAL	UNFIT FOR DOM , USE ~	ESTIC.	Fresh	SAL Z	Yes		No
NAME AND ADDRESS OF SURFACE OWNER	OR LESSEE, II	STATE OR FEDERAL LAN			103		
Navajo	SENATAGE WITH	N ONE-WALE (1) WHIS OF	THIS INTESTIO	II WELL			·
NONE	ENATURS WITH	N ONCORACT (37 MICE OF	THIS INSECTIO				
						· · · · · · · · · · · · · · · · · · ·	
				··	·····	<del></del>	
				······································			
HAVE COPIES OF THIS APPLICATION BEI	N SURFACE O	NO NO	EACH O	WELL	in one-half mile	THE NEW	MEXICO STATE ENGINEER NO
ARE THE FOLLOWING ITEMS ATTACHED THIS APPLICATION (SEE RULE 701-B)	TO PLAT'OF A	REA	ELECTR	ICAL LOG		DIAGRAM	MATIC SKETCH OF WELL
		Yes	<u>-</u>	<del>-</del> -	one	<u> </u>	Yes
A D A hereby cer	tify that the i	information above is	true and com	plete to the	best of my know	wledge and	i belief.
(Khu limin	my Ka	·	Manage	er			4-24-79
(Signature)	1		(Ti	tle)			(Date)

NOTE: Should waivers from the State Engineer, the surface owher, and all operators within one-half mile of the proposed injection well. not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been re-

> MecTION LINE WETER TO be INJECTED 15 produced From Same Dakoto Formation IN Sec. 3 POTH FLOW 1 JOHN STEWER Table Mesa #23 Sec. 34- 728N-BITW FRAC KNOTCH 1394-1400'IN -518 CASING 1400' >71/8"hole 1400" DOKOTA FORMATION



operators MyecTION WELL'S

Care 6548

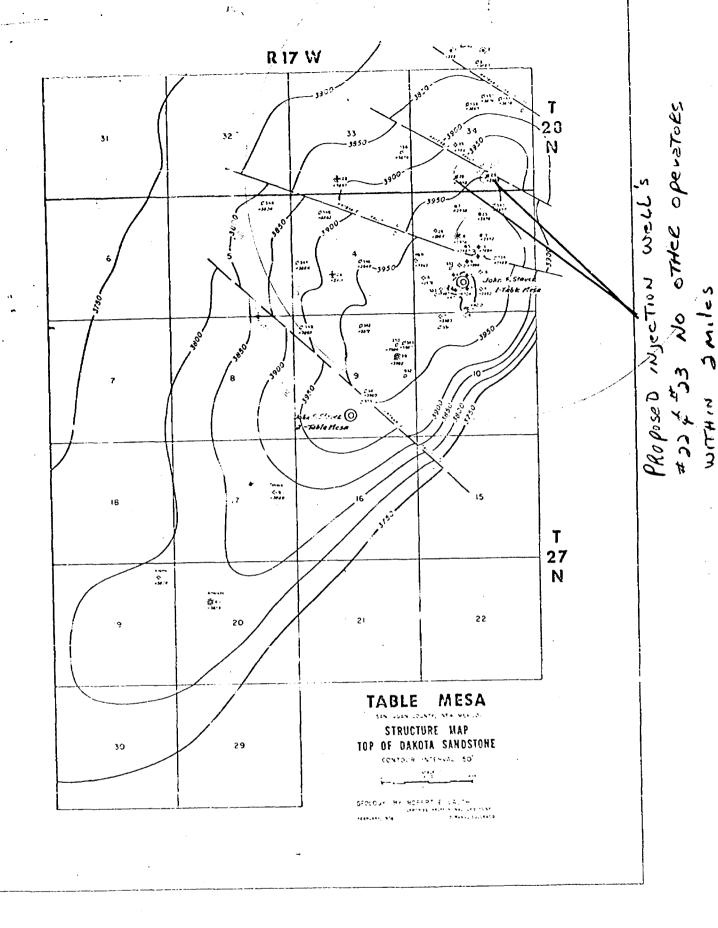
## APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR				Т	ADDRESS						
JOHN F. STA	VER					0.Во	x 51, Far	mingt			
Table Mesa			23		Ta	ble	iiesa		San Juan		
UNIT LETTER	0	ELL 15 1	LOCATED	625	FEET FR	OM THE	South	INE AND	1980 FEET FROM THE		
East Line, SECTION	34 10	WNSHIP	28N	PA)	NGE 17	laJ	кити.				
		r			TUBING DAT		Y				
NAME OF STRING	SIZE	SETTING DEPTH S		S .	SACKS CEMENT		TOP OF CEME	NT	TOP DETERMINED BY		
	i		ļ								
INTERMECIATE											
LONG STRING			<del></del>								
	5 <del>1</del> "	]	1401				Surface	j	Circulated		
TUBING		<u> </u>		NAME,	MODEL AND D	EPTH OF	TUBING PACKER				
NAME OF PROPOSED INJECTION FORMA	TION	ـــــ			TOP OF FORM	ATION		воттом	OF FORMATION		
Dakota				ļ		1394	4		1400		
IS INJECTION THROUGH TUBING, CASIN	GOR ANNULUS?		PERFORATIONS	OR OP	EN HOLE! PE	OPOSED	INTERVAL(5) OF INJ	ECTION			
Casing			Open h			-	94-1400				
IS THIS A NEW WELL DRILLED FOR DISPOSAL?	IF ANSWER IS	TIS NO, FOR WHAT PURPOSE WAS V			WELL ORIGIN	ALLY DR	IILLED?	HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE?			
NO LIST ALL SUCH PERFORATED INTERVAL	LS AND SACKS OF C		oduction		SQUEEZE EAC	H			110		
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA		DEPTH OIL OI	OF BOTTOM OF R GAS ZONE IN T	NEXT	EA	lone	DEPTH OF TO OIL OR GAS 2	P OF NEXT	LOWER 6740		
ANTICIPATED DAILY MINIMUM (INJECTION VOLUME (BBLS.) 300 200	MAXIMUM 400	`	OPEN OR CLOSE	E SYSTEM	IS INJ	IS INJECTION TO BE BY GRA		APPROX. PRESSURE (FSI)			
ANSWER YES OR NO WHETHER THE FOLERALIZED TO SUCH A DEGREE AS TO STOCK, IRRIGATION, OR OTHER GENER	FOLLOWING WATERS ARE MIN-		TO BE	E DISPOSED OF NATURAL WATER IN DIST		AL WATER IN DISPO-	O- ARE WATER ANALYSES ATTACHED?				
NAME AND ADDRESS OF SURFACE OWN		STAYE		Fresh Yes			tes	INO			
Navajo											
LIST NAMES AND ADDRESSES OF ALL	OPERATORS WITHIN	ONE-HA	LF ( } ) MILE OF	THIS I	NICTION WEL	. L					
NONE											
		~									
	<del></del>										
	a di Limita		<b>)</b>								
6.0	180	- <u>1</u>	Oj4			1					
HAVE COPIES OF THIS APPLICATION B	EEN SURFACE ON	NEX	lo		EACH OPERAT	L	one	THE NEW	NO		
THIS APPLICATION (SEE RULE 701-B)	CO SALARE	Y	es		ELECTRICAL	None		DIAGRAMMATIC SKETCH OF WELL			
I hereby)	ertify that the in	format	ion above is t	true a	nd complete	e to the	best of my know	ledge and	d belief.		
Chw/ emm	ug han_			Man	ager				4-24-79		
(Signature)	1	- Wall			(Title)				(Date)		

NOTE: Should waivers from the State Engineer, the surface owner, and all operators within one-half mile of the proposed injection well. not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

- Myr CTION LINE CENTENTED TO SURFICE Watek to be injected 15 produced From Same DaKoTA Formation IN Sec. 3 TOTA PUTW JOHN STEUC C Table Mesa #23 sec. 34- 728N-RITW FRAC KNOTCH 1394-1400' IN 5/18 CASING 1400' >718"hole 1400°

DOKOTA FORMATION



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

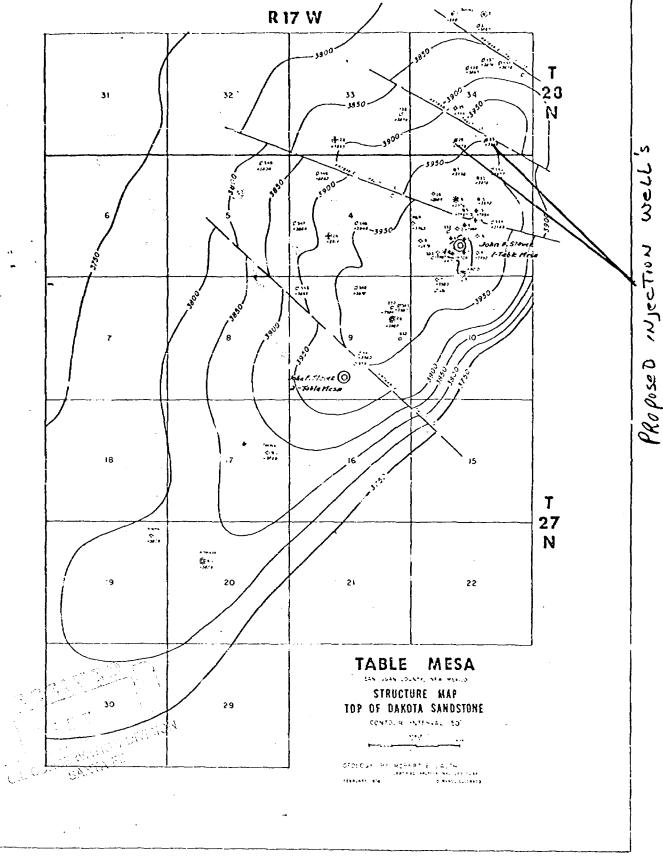
OPERATOR	OR .					ADDRESS					
JOHN F. STAV	ER			Box 5	l, Farn	ningto	n, N.M.	87401			
LEASE NAME		WELL NO.	FIELD		COUNTY	~					
Table Mesa		23	Tal	Table Mesa			San Juan				
		6	סב	9	outh		1 ดหิก				
UNIT : T ER	; WELL [5	LOCATED	25 FEET PA	OM THE S	ou en	NE AND		FEET FROM THE			
East LINE. SECTION	34 TOWNSHI	28N	RANGE 17	N RMPM							
			D TUBING DAT		·						
NAME OF STRING	SIZE STY	TING DEPTH	SACKS CEMEN	17 70	OP OF CEME	NT	TOP DETERMINED BY				
SURFICE CASING	ļ	į									
INTERMEDIATE											
_		3				}					
LONG STRING		<del>fy </del>									
_	5 <del>1</del> "	101		S	Surface		Circu	lated			
TUBING		NAN	IE, MODEL AND DE	EPTH OF TUBIN	G PACKER			<del></del>			
						1					
NAME OF PROPOSED INJECTION FORMA	TION	é	TOP OF FORM	_		BOTTOM	OF FORMATION 1400				
Dako La	GOR ANNULUS?	PER DRATIONS OR		1394	VAL(S) OF INJE	CTIUN	T400				
Casing		Open Hä	1	1394-1							
IS THIS A NEW WELL DRILLED FOR	IF ANSWER IS NO.	SWER IS NO, FOR WHAT PURPOSE WAS VELL ORI			<del>_</del>			L EVER BEEN PERFORATED ANHER THAN THE PROPOSED INJEC-			
No		cduction		TION :			No No				
LIST ALL SUCH PERFORATED INTERVAL	LS AND SACKS OF CLMENT	USED TO SEAL OFF	OR SQUEEZE EACH								
				<del></del>	r						
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA	OIL	DEPTH OF BOTTOM OF NEXT HIGH OIL OR GAS ZONE IN 1115 AREA			DEPTH OF TO	ONE IN THIS	674	.0			
ANTICIPATED DAILY MINIMUM	. I MAXIMUM	OPEN OR CHOSEN		ONE	TO BE BY SRA	VITY OR	APPROX. PRESS				
(BBLS.) 300 ! 200	400	0pen		Press			100#	!			
ANSWER YES OR NO WHETHER THE FOL ERALIZED TO SUCH A DEGREE AS TO B	LOWING WATERS ARE MIN E UNFIT FOR DOMESTIC,	- WATER TO	BE DISPOSED OF	SPOSED OF NATURAL WATER IN DISPO- ARE WATER ANALYSES ATTACHED			ACHED?				
STOCK, IRRIGATION, OR OTHER GENER.	AL USE -	; F1	resh	l 	Yes	s No					
NAME AND ADDRESS OF SURFACE OWN	ER (OR LESSEE, IF STATE	OR FEDERAL LAND)									
Navajo	OPERATORS WITHIN ONE-H	ALF (1) MILE OF TH	S INJECTION WEL	<u> </u>							
NONE				_							
NonB											
S. S. T. Land	100										
Jan B. Denie	11/11										
100	Vic.										
	<sup>0//</sup> / <sub>2/2, _</sub>				<del></del>						
The state of	-										
HAVE COPIES OF THIS APPLICATION B	EEN SURFACE OWNER		EACH OPERAT	OR WITHIN ONE	E-HALF MILE	THE NEW	MEXICO STATE E	HGINEER			
C:/r		No	i L	None		!					
ARE THE FOLLOWING ITEMS ATTACHED THIS APPLICATION (SEE RULE 761-B)	· I			ELECTRICAL LOG		DIAGRAMMATIC SKETCH OF WELL					
		Yes		None			Yes				
11 1 i hereby c	ertify that the informa	ation above is tru	e and complete	to the best	of my know	ledge and	belief.				
	4 L	:	พลกลดอก				11 211	70			
(Signature)	Trons		ianager (Title)					4-24-79 (Date)			

NOTE: Should waivers from the State Engineer, the surface owher, and all operators within one-half mile of the proposed injection well.

not accompany this amplication, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been re-

FRAC KNOTCH 1394-1400'IN DOKOTA FORMATION

>718"hole 1400"



F-,

#23 & 53 NO OTHER OPERATORS

CUAR 6548

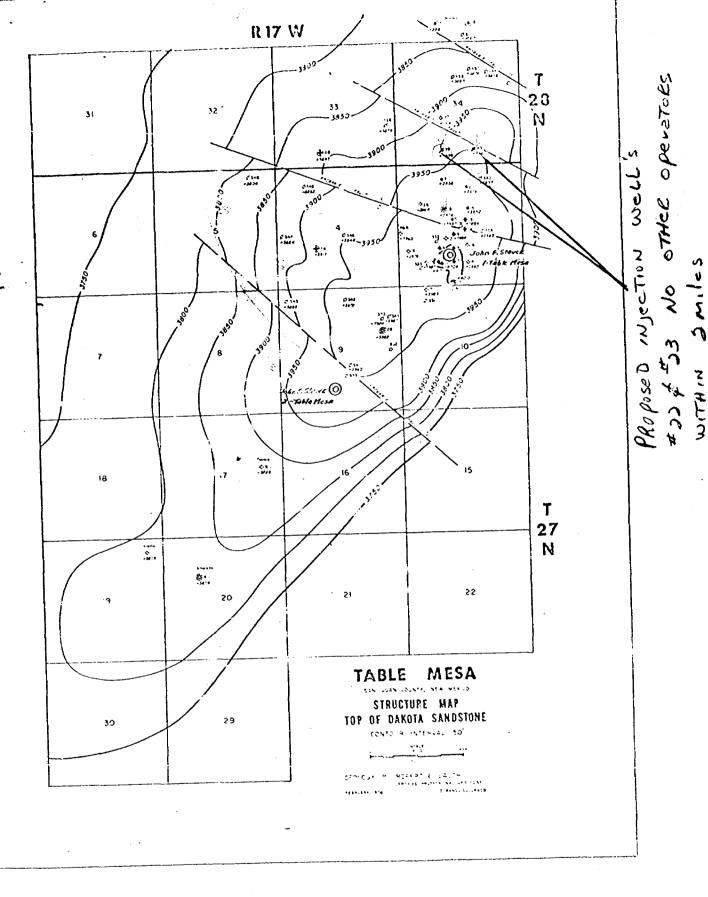
# APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMALION

OPERATOR				ADDRESS					
JOHN F. STAV	/ER			Р.	0.Box	51, Far	mingto	n, N.A	87401
LEASE NAME		WELI	L NO.	FIELD				COUNTY	,
Table Mesa		L	22	l Ta	ble Me	sa		Sar	Juan
	$\mathcal{N}$		. 660	)		South		1980	
UNIT LETTER		ELL IS LOCAY					INE AND		FEET FROM THE
West LINE, SECTION	34 ,	PIRSHW	28N ,	IANGE 17W	N M	Рм.			
		<del></del>		TUBING DAT	<del></del>		T		
NAME OF STRING SURFACE CASING	SIZE	SETTING	DEPIH	SACKS CEMEN	11	TOP OF CEME	NT	TOP DET	RMINED BY
					Î				
INTERMEDIATE									
LONG STRING									
	5½"	140	8			Surface		Circui	Lated
TUBING		<del>                                     </del>		E, MODEL AND O	EPTH OF TUB	ING PACKER			
		<u> </u>							
NAME OF PROPOSED INJECTION FORMAT				TOP OF FORM	•		14]	FORMATION	
Dakota	OR ANNULUS?	PERF	ORATIONS OR		_	RVAL(S) OF (NJS			
Casing		,	Open Ho	ole	1408-	-1412			
IS THIS A NEW WELL DRILLED FOR DISPOSAL?	IF ANSWER I	S NO. FOR WH	AT PURPOSE W.	AS WELL ORIGIN.	ALLY DRILLE	D?	HAS WELL	EVER BEEN F	PERFORATED IN AN
NO	E AND BACKS OF C		ction				TION ZONE	' No	
LIST ALL SOCK PERFORATED INTERFAL	3 AND SACKS OF C	EMENI USED	IO SEAL OFF O	H SQUEEZE EACH	•				
DEPTH OF BOYTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA		DEPTH OF B	OTTOM OF NEX	T HIGHER	<del></del>	DEPTH OF TO	P OF NEXT L	OWER	
				No	ne			6	740
ANTICIPATED DAILY MINIMUM INJECTION VOLUME   (BBLS.)	MAXIMUM	OPEN	OR CLOSED T	PE SYSTEM	PRESSURE?	N TO BE BY GRA			SSURE (PSI)
ANSWER VES OR NO WHETHER THE FOL	400	RE MIN-	Open	E DISPOSED OF	NATURAL W	Pressu		10	
ANSWER YES OR NO WHETHER THE FOL ERALIZED TO SUCH A DEGREE AS TO B STOCK, IRRIGATION, OR OTHER GENERA	E UNFIT FOR DOME L USE -	STIC,		Fresh	Yes Yes		1	No	Comment
NAME AND ADDRESS OF SURFACE OWNE	R (OR LESSEE, IF	STATE OR FED	ERAL LAND)						
Navajo					<del></del>				
NONE	PERAIORS WITHIN	ONE-HALF (3)	MILE OF THIS	INJECTION WEL	·				
NONE			<del></del>				······	<del></del>	<del></del>
		= D							•
• 77	CELVE								
	January Control of the Control of th	<del>70        </del>	<b>\</b>						
		113	9						
the state of the s		N DIVISIO	77						
OIL	CONSERVATION	FE							
HAVE COPIES OF THIS APPLICATION BE SENT TO EACH OF THE FOLLOWING?	Но зом¥ядые на: !	No		FACH OPERAT	oa within o None	NE-HALF MILE	THE NEW N	NO NO	E ENGINEER
ARE THE FOLLOWING ITEMS ATTACHED THIS APPLICATION (SEE RULE 701-8)	TO PLAT OF ARI			ELECTRICAL			DIAGRAMM	ATIC SKETCH	OF WELL
THIS APPLICATION (SEE RULE 701-B)	ļ 1	Yes		1	None		1	Yes	
I hereby ce	rtify that the in		bove is true	and complete		st of my know	ledge and	belief.	
100						•	-		
- John Cum	ypan	<del>-</del>	Ma	nager			4	-24-79	<u>'</u>

NOTE: Should waivers from the State Engineer, the surface owher, and all operators within one-half mile of the proposed injection well.

not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Santa Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

= INJECTION LINE - Cement CIRCULATED TO SURFACE WATER TO be MjecTed 15 produced From Same JOHN STAVER DOKOTA FORMATION Table MesA #22 Y IN Sec. 3 JOAN RITW Sec. 34 T28N 15/17 Casing 1408' 4'of open note DEKOTA FORMETION 77/8" hole 1412' T.D.

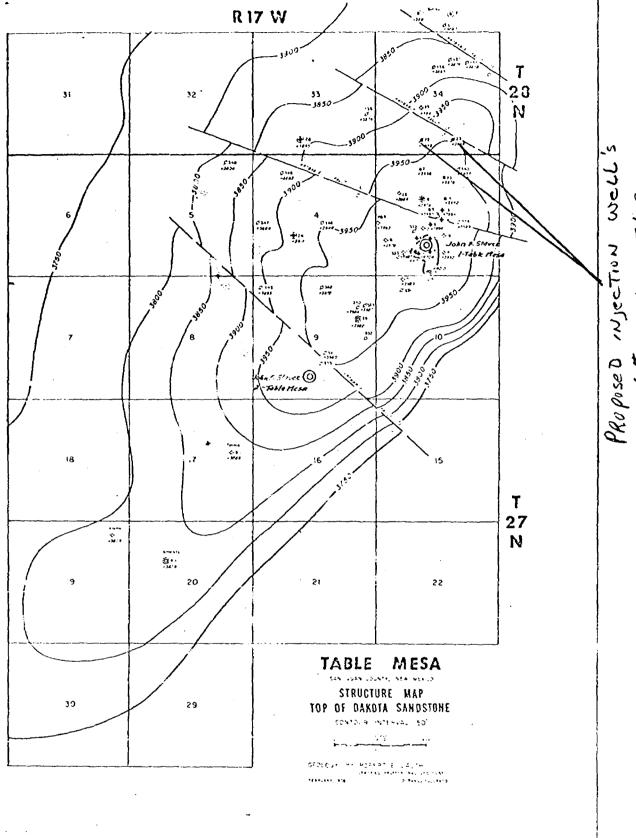


## APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR					T	ADDRESS				The supplication of the same and the same an		
JC	OHN F. STAVI	ER	<del></del>	WELL NO.		P.	O.Box 5	l, Farr	ningto	n, N.M.	87401	
	able Mesa		]	22	}	Table Mesa San J					an	
LOCATION												
	UNIT LE. FER		:11 15 1:	OSATEL	660	FEEY FR	OM THE	outh u	NE AND	1980	I FROM THE	
West	LINE, SECTION	34 ,,,,	NSHIP	28N	RAN	ce 17W	NMPM	·				
				CASING	AND T	UBING DAT	Α					
	OF STRING	51 Z E.	o i. TTI	NG DEPTH	SA	CKS CEMEN	2T TC	P OF CEME	NT	TOP DETERMINE	EO BY	
SURFACE CASING												
INTERMEDIATE												
LONG'STRING			ļ	* (								
LONG. STRING		ا 1 اس		1100	1			urface		Circulate		
		5½"	<u> </u>	.408	<u> </u>		EPTH OF TUBIN		L_	CITCUIACE	:u	
TUBING	•				AGME.	MUDEL AND DI	CEIR OF TUBIN	. FALKER				
NAME OF PROPOS	SEO INJECTION FORMATI	ON	L			TOP OF FORM			BOTTOM O	F FORMATION		
Dal	kota				l	140	8		143	12		
	ROUGH TOURS, CASING,	OR ANNULUS?	T	FERFORATIONS	S 09 0PE	EN HOLE! PR	OPOSED INTERV		CTION			
Ca	sing		1	) pen			1408-1					
15 THIS A NEW V	YELL DRILLED FOR	IF ANSWER IS	NO, Fu.	WHAT PURPO	SE WAS	WELL ORIGINA	ALLY DRILLED?		HAS WELL	EVER BEEN PERFORE	ATED IN AN	
No		1	Fre	oduction	duction   †					HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED THE		
LIST ALL SUCH	PERFORATED INTERVALS	AND SACKS OF C	MENT U	ED TO SEAL	OFF OR	SQUEEZE EACH			·	· · · · · · · · · · · · · · · · · · ·	<del></del>	
DEPTH OF BOTTO FRESH WATER Z	OM OF DEEPEST ONE IN THIS AREA		DEPTH OIL OR	OF BOTTOM OF GAS ZONE IN	F NEXT H		ne	DEPTH OF TO	OF NEXT L	6740	,	
ANTICIPATED DA	TLY MINIMUM	MAXIMUM	١	OPEN OR CLOS	SED TYPI			TO ST BY GRA	VITY OR	APPROX. PRESSURE	(129)	
300		400	ì	( <del>)</del> n	en		PAESSURE	Pressu		100#		
ANSWER YES OR	NO WHETHER THE FOLL	OWING WATERS AR	E MIN-			DISPOSED OF	NATURAL WAT	ER IN DISPO-	ARE WATE	R ANALYSES ATTACH	ED?	
STOCK, IRRIGAT	ION, OR OTHER GENERAL	USE -		i	I			No	*			
	ESS OF SURFACE DWNER	(OR LESSEE, IF	STATE O	R FEDERAL LAN	ND)				·			
N	avajo	TOLTONS WITHIN	DEF HE		F 11	VIEGEION WEI						
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§,	Service Of the	11012										
M	10 P	E DIAPOIA	·	<del></del>						~ · · · · · · · · · · · · · · · · · · ·		
HAVE COPIES OF	THIS APPLICATION ME	N SURFACE OW	NER			EACH OPERAT	OR WITHIN ONE	-HALF MILE	THE NEW	MEXICO STATE ENGIN	IEER	
HAVE COPIES OF	OF THE EOSTONINGS	•		 No		FACH OPERATOR WITHIN ONE-		1		No		
ARE THE FOLLS	NAG TEMS ATTACHED	TO PLAT OF ADE		<del>-</del>	<del></del>	ELECTRICAL			DIAGRAMA	ATIC SKETCH OF WE	LL	
THES APPLICATE	ON (SEE RULE 701-8)	!	Y	es	1		None		Yes			
1	/) Uhereby cer	tify that the in			true as	nd complete		of my know	ledge and	belief.		
S						•			<b>u</b>			
Ske	Menry	my Kan			iia	nager				4-24-79		
//		,				True.				ets :		

NOTE: Should waivers from the State Engineer, the surface owher, and all operators within one-half mile of the proposed injection well. not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of 15 days from the date of receipt by the Commission's Sunta Fe office. If at the end of the 15-day waiting period no protest has been received by the Santa Fe office, the application will be processed. If a protest is received, the application will be set for hearing, if the applicant so requests. SEE RULE 701.

- INJECTION LINE - Cement CIRCULATED TO SURFECT WATER TO BE MjecTed Isproduced From Same DOKOTA FORMATION JOHN. STaveR IN Sec. 3 TOTAL ROTW Table MesA #22 Scc. 34 728N 15/12 Casing 1408' 40 FORNATION Note DAKOTA FORMETION 778"hole 1412' T.D.



PROPOSED INJECTION WELL'S
# 23 # 53 NO STHER OPENET

dr/

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

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

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	Holes I will

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APPLICATION OF JOHN F. STAVER FOR SALT WATER DISPOSAL,

SAN JUAN COUNTY, NEW MEXICO.

Jan

CASE NO. 6548

Order No. R- 6058

#### ORDER OF THE DIVISION

R

Standard Sta
BY THE DIVISION: June 27
This cause came on for hearing at 9 a.m. on Hay 23
19 79, at Santa Fe, New Mexico, before Examiner Richard L. Stame
NOW, on thisday of, 19_79_, the Division
Director, having considered the testimony, the record, and the
recomendations of the Examiner, and being fully advised in the
premises,
FINDS:
(1) That due public notice having been given as required by

- (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, John F. Staver

  Table Mesa Well No. 23 in Unit O, both is the owner and operator of the Table Mesa Well No. 22 in Unit N and the located in XN mixxxxxxxxxx Section 34 , Township 28 North

  Range 17 West , NMPM, Table Mesa-Dakota Oil Pool ,

  San Juan County, New Mexico.
- (3) That the applicant proposes to utilize said wells to Dakista dispose of produced salt water into the Dakota

formation, with injection into the open hole

interval from approximately 46 feet to 1412 feet in the able Mesa Weil No. 22 and 1394 feet to 1402 feet in the Table Mesa Well No. 23 (4) That the injection should be accomplished through 2 kints each of said wells

mately 1365 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

in the perforaced and grow hole interval from

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

- (5) That the injection wellsor system should be equipped Pressur India, device with a pop-off valve or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 275 psi.
- (6) That the operator should notify the supervisor of the Aztec district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (7) That the operator should take all steps necessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.
- (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, John F. Staver
his Table Mesa Well No. 23 in Unit O, both in
is hereby authorized to utilize its Table Mesa Well No. 22 in Unit N and
loox kendx xkmx link kxxxxxxxxxxx Section 34 , Township 28 North ,
Range 17 West , NMPM, Table Mesa-Dakota Oii Pool .
San Juan County, New Mexico, to dispose of produced calt water
formation back into the Dakota formation, injection to be
accomplished through 278 -inch tubing installed in a and 1352 feet, respectively, packers set at approximately 1365 feet, with injection into
the open hole interval from approximately 1410 feet to milke performing and open hole interval 1412 feet in his Table Mesa Well No. 22 and from 1394 feet to 1402
feet in his Table Mesa Well No. 23; PROVIDED HOWEVER, that the tubing shall be plastic-lined; in each well
that the casing-tubing annulus shall be filled with an inert
fluid; and that a pressure gauge shall be attached to the annulus

(8) That we injection into the sulejech weels should occur until applicant's wree No. 3-18 occurs in Unit Fof Section 3, Township 27 horth, Kange 17 West, DMPM, has been reentered and repligged to a count plug set serves Dabala formation in said Well, Jeon approximately, 1360 feet to 1560 feet.

or the annulus shall be equipped with an approved leak detection device in order to determine leakage in the casing, tubing, or packer.

- (2) That the injection well, or system shall be equipped pressure had to divide with a pop-off valve or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 275 psi.
- (3) That the operator shall notify the supervisor of the Aztec district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (4) That the operator shall immediately notify the supervisor of the Division's <u>Aztec</u> district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.
- (5) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.
- (6) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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

- PROVIDED FORTHER, that no injection into with weels

Shall accers with after applicant's Weel Bo. 3-18

Shall accers with after applicant's Weel Bo. 3-18

Sucalid in Clink & of Section 3, Township 27 Plorth,

Pauge 17 West, NMPM, has these received and
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Dakota Tarmation in said well, from approximally

1360 feet to approximately 1560 feet.