Case No.

Application
Transcripts
Small Exhibits



STATE OF NEW MEXICO

ENERGY AND MINERALS DEPARTMENT

OIL CONSERVATION DIVISION

BRUCE KING GOVERNOR LARRY KEHOE

February 19, 1981

POST OFFICE BOX 2098 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501 15051 827-2434

Oyco Petroleum Corporation 420 NBT Building 320 South Boston Tulsa, Oklahoma 74103

Attention: David E. Holley

Re: C. S. Stone Well No. 3
Unit F, Section 22, T15S,
R38E, Salt Water Disposal
Well, Lea County, New Mexico

Dear Mr. Holley:

Based upon information and test data submitted by your letter of February 5, 1981, the maximum authorized wellhead injection pressure for the subject well is hereby increased to 1800 psi.

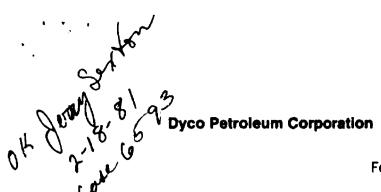
Please note that it remains the responsibility of the well operator to promptly report any disposal well failures or indications that injected fluid is "out-ofzone" to the supervisor of the Division's Hobbs district office.

Yours very truly,

JOE D. RAMEY Director

JDR/RLS/fd

cc: Jerry Sexton ✓ase File No. 6593





FEB 1 0 1981

OIL CONS EVATION DIVISION
SANTA FE
420 NBT BUILDING
320 SOUTH BOSTON
TULSA, OKLAHOMA 74103

AREA 918/587-2181

February 5, 1981

State of New Mexico Energy and Minerals Department Oil Conservation Division P. O. Box 2088 Santa Fe, New Mexico 87501

Attn: Mr. Joe D. Ramey

Re: C.S. Stone No. 3 - SWD Well Unit F, Sec 22, T15S, R38E Medicine Rock - Devonian Pool Lea County, N.M.

Dear Sir:

On August 17, 1979, Order No. R-6082 was issued granting permission for the use of the above well for saltwater disposal into the San Andres formation. This order provided that the maximum allowable surface injection pressure be limited to 980 psi based on 0.2psi/ft. times depth to the top of the San Andres.

After recompletion of the well, injection began in January, 1980 at an initial rate of 450 BWPD with a maximum injection pressure of 400 psi. Injection pressures have slowly increased during the past twelve months on this well to the point where 1000 to 1400 psi is now required to inject 450 BWPD into this well.

Cumulative injection into the San Andres during this period is approximately 162,000 barrels of produced Devonian water, which has increased the reservoir pressure in the vicinity of the wellbore approximately 400 psi.

Dyco Petroleum Corporation hereby requests that the allowable surface injection pressure for this well be increased from 980 psi to 1800 psi based on the following information:

1) During recompletion on 12-3-79, the San Andres formation was fracture treated with a total of 31,500 gallons of fluid and 65,000 lbs of sand. The instantaneous shut in pressure following this treatment was 1950 psi surface pressure, indicating formation fracture pressure to be 1950 psi at that time.

- 2) A step-rate injectivity test conducted on January 30, 1981 indicates that with the current injection pressure conditions, injection is occurring at less than fracture pressure.
- 3) Monitoring of the surface and intermediate casing pressures on the well shows that no migration of water to zones above the San Andres is occurring.
- 4) Based on the fact that the well was initially fracture simulated and the results of pressure fall-off tests conducted on the well, additional formation stimulation will not materially reduce the injection pressures on the well. Rather, the increase in injection pressure which has occurred is a result of the low porosity and permeability within the formation.
- 5) No other disposal zones are available for use in the wellbore and no other economically viable water disposal methods are available in the vicinity of the C.S. Stone lease.

If you should need additional information concerning this matter, please give me a call. Your earliest attention to this matter is appreciated.

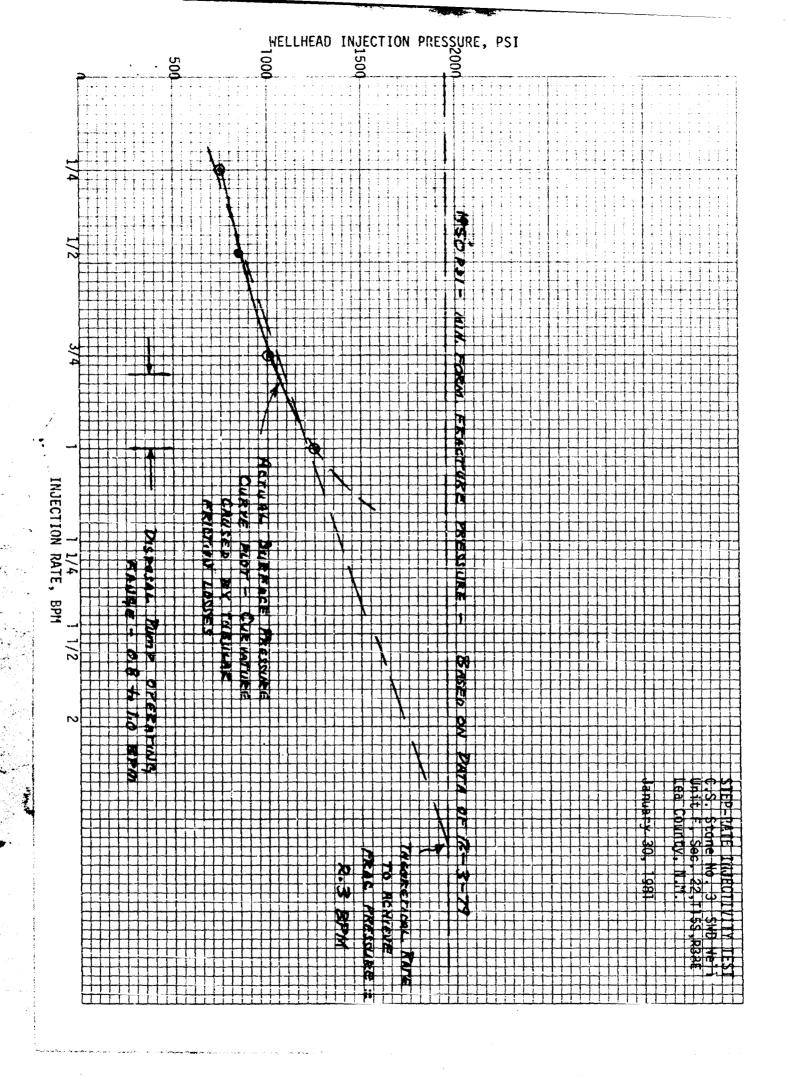
Sincerely,

David E. Holley Vice President

DEH: be

Attachs.

cc. Hobbs District Office NMOCC Attn: J.T. Sexton



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

EXAMINER HEARING

IN THE MATTER OF:

Application of Dyco Petroleum Corporation) CASE for salt water disposal, Lea County, New) 6593 Mexico.

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

For the Applicant:

Conrad Coffield, Esq.
HINKLE, COX, EATON, COFFIELD
& HENSLEY
Midland, Texas

SALLY WALTON BOY CERTIFIED SHORTHAND REPORT 1919 Plaze, Blance (1915) 471-3

> 20 21 22

11

25

INDEX

TOM SPRINKLE

Direct Examination by Mr. Coffield	3
Cross Examination by Mr. Stamets	23

EXHIBITS

Applicant Exhib	bit One, Plat	4
Applicant Exhib	bit Two, Diagram	7
Applicant Exhib	bit Three, Diagrams	9
Applicant Exhib	bit Four, Tabulation	12
Applicant Exhib	bit Five, Structure Maps	14
Applicant Exhib	bit Six, Cross Section	16
Applicant Exhib	bit Seven, Chemical Analysis	18
Applicant Exhib	bit Eight, Waivers	20
Applicant Exhib	bit Nine, Diagram	21

SALLY WALTON BOYD
ENTIRED SHORTHAMD REPORTER
1107 has Blune (615) 171-5145
Sents Fo. 190 Mexico 171-514

.

2

3

5

6

8

10 11

12 13

14

16

15

18

17

13

21

23

MR. STAMETS: We'll call next Case 6593.

MR. PADILLA: Application of Dyco Petroleum Corporation for salt water disposal, Lea County, New Mexico.

MR. COFFIELD: Conrad Coffield, with the Hinkle Law Firm, of Midland, Texas, appearing on behalf of the applicant, and I have one witness.

(Witness sworn.)

TOM SPRINKLE

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

DIRECT EXAMINATION

BY MR. COFFIELD:

Mr. Sprinkle, would you please state your name, address, occupation, and employer?

A. My name is Tom Sprinkle, S-P-R-I-N-K-L-E; employed by Dyco Petroleum, D-Y-C-O, as Area Manager of the Permian Basin Office, located in Midland, Texas.

Mr. Sprinkle, have you previously testified before the Division as a petroleum engineer?

A. Yes, I have.

Were your qualifications made a matter of

SALLY WALTON BC CENTIFIED SHORTHAND REPO 1011 Plans Binnes (191) 411 Benis Pe, New Mexico 11

11

12

13

15

16

17

18

19

record and accepted by the Division?

A Yes.

Q And are you familiar with this particular application?

A. Yes, I am.

Q. And the property involved?

A. Yes, I am.

MR. COFFIELD: Is the witness considered qualified?

MR. STAMETS: He is.

Q. Mr. Sprinkle, would you please state very briefly what it is that Dyco seeks by this particular application?

A Dyco seeks authority to dispose of produced salt water in the San Andres-Glorieta-Tubb formations in the open hole interval from 4894 feet to 8725 feet in the C. S. Stone No. 3 Well, located in Unit F of Section 22, Township 15 South, Range 38 East, Medicine Rock-Devonian Pool.

Q Mr. Sprinkle, please refer to what we've marked Exhibit One and explain that exhibit.

A. Exhibit One is a land plat of the Medicine Rock Field area. The Dyco jointly owned acreage is outlined in yellow. The Stone No. 3 salt water disposal system disposal well is circled in red.

7

10

11

12

13

14

15

16

17

18

19

20

21

22

23

This plat indicates that Dyco and others own 3/4ths of Section 22 as to the leased rights for oil production. The well indicates the plugged and producing wells within a half mile of the No. 3 disposal well system. Indicates that in fact all wells within a half mile are plugged and abandoned, either as dry holes originally or as depleted producing wells, excepting the Dyco C. S. Stone No. 1 Well, located immediately east of the No. 3 Well, which is currently productive from the Devonian formation.

In addition, just outside the lease area there is indicated production -- productive wells in Section 23, and also in the extreme southwest of Section 14 to the northeast of the area.

These wells are in some kind of productive status with Polaris Production of Midland, Texas, being the operator.

To my knowledge the well in Section 23, being the Roberts No. 1, has attempted to be recompleted but it's not productive at this time.

The well to the northeast in Section 14 makes 10 barrels of oil per day from the Devonian formation under artificial lift conditions.

Mr. Sprinkle, perhaps you've already covered this, but is Dyco the operator of this -- this particular property?

A. Yes, Dyco is the operator for the jointly owned property.

Q. Okay. Would you please state -- just give a history of this injection well, what has -- what has happened to it? When it was drilled, and so forth, do you have that information?

A. The C. S. Stone No. 3 Well was completed drilling in April the 7th, 1962, with Sinclair Oil and Gas as the operator.

The well was completed as a Devonian producer on April 13th, 1962, by Sinclair Oil and Gas. Total depth at that time was 12,815 feet; plugged back depth was 12,800 feet. The Devonian formation was initially completed in the interval 12,738 to 12,758 feet.

The well initially potentialed flowing for 320 barrels of oil per day from the Devonian formation.

On September the 14th, 1962, indicated the well was making 230 barrels of oil per day plus 336 barrels of water per day from the Devonian, at which time it was plugged back to 12,730 feet. The Devonian interval then was perforated from 12,687 to 12,708 feet. The well produced from that interval until -- I don't have the exact date; that was sometime in 1963.

Py Order SWD-41, effective December 13th, 1963, the well was permitted to be converted to salt water

SALLY WALTON BOY(
CERTIFIED SMORTHAND REPORT
1911 (PALL BIRDGE (1615) 411-34
SADIA 194, Now Mexico 1756)

3

7

10

11

12

13

14

15

16

17

18

19

20

21

22

disposal. At that time a cast iron bridge plug was set at 12,650 feet, which is above all the previously indicated Devonian perforations, and was squeezed with 70 sacks of cement in preparation for the disposal well conversion.

The well was effectively converted to salt water disposal on June the 9th, 1964, indicating it was disposing of produced Devonian formation water from other wells in the Medicine Rock Pool at that time, at the rate of 359 barrels of water in 7 hours at 1100 psig surface pressure. It later indicated that it was --

A SPECTATOR: What was that pressure, sir?

A. 1100 psig. And as later exhibits will show, this water was being disposed of into the Wolfcamp formation at that time, as per the SWD 41 permit.

The cumulative injection to November, 1974, was about 2,250,000 barrels of water, all of which was produced Devonian salt water associated with the Devonian cil production from the Sinclair Oil and Gas, later Atlantic Richfield, well in the area.

The estimated current cumulative injection volume in the Wolfcamp formation is 2,400,000 barrels of produced Devonian formation water.

Q Okay, Mr. Sprinkle, refer to what's been marked as Exhibit Two, and state what this represents.

A CONTRACTOR OF THE PROPERTY O

A. Exhibit Two is the schematic diagram of

11

12

13

14

15

17

18

19

22

the C. S. Stone No. 3 salt water disposal well. The sketch indicates the TD was 12,815 feet; 5-1/2 inch casing was set at that depth; cemented with 730 sacks of cement. The top of cement behind the 5-1/2 inch casing indicated by a temperature survey to be 8,725 feet; the cast iron bridge plug was indicated at 12,625 feet; that was squeezed with 77 sacks, thus isolating the former productive Devonian perforations.

The Wolfcamp interval was perforated from 10,050 feet to 10,336 feet with 162 holes through the casing to affect disposal into the Wolfcamp formation.

A 5-1/2 inch Model N type packer is indicated to be set at 10,009 feet kb depth. We also indicate the 2-7/8ths inch tubing stub is located at 8,729 feet from the surface.

We indicate that there is communication above the top of the cement on the 5-1/2 inch casing string to the open hole interval between 4,894 feet and 8,725 feet somewhere.

Moving up the hole, the 9-5/8ths casing string is indicated to be set at 4,894 feet. It was cemented to surface with 2,100 sacks. In addition there is 13-3/8ths casing at 364 feet, also cemented to surface with 400 sacks.

This schematic has, as I've indicated, is the current schematic of the downhole tubular equipment.

0

11

12

13

15

16

17

22

23

Q. And you propose to show by a subsequent exhibit the status of the well upon completion of your proposed conversion, is that correct?

A. Yes.

Q. Anything more on this exhibit Two?

A. I believe that's all.

Q. Okay, let's go to what we've marked as Exhibit Three and explain that, please.

A Okay, Exhibit Three is the schematic diagram of the producing and plugged wells within one half mile of the C. S.Stone No. 3 salt water disposal well, as was indicated on Exhibit One, the wells' location in relation to the No. 3 disposal well.

The first well is indicated to be the ARCO Oil and Gas Read Estate No. 1 Well, located in the northwest of the southeast of Section 22, being the direct diagonal southeast offset to the well of interest.

this time. It was originally drilled to 12,848 feet; produced from the Devonian formation, and was plugged as non-commercial in November, 1972. At that time the well was plugged, cast iron bridge plug was set at 12,425 feet. Additional cementing and plugging operations set plugs at 8130 feet over a 5-1/2 casing stub and open hole; 35 sack plug at 350 feet; 35 sacks at the 9-5/8ths casing seat at

4860 feet.

Note that the 9-5/8ths was cemented to surface. Additionally the 10-sack plug was set at the surface. The 13-3/8ths casing at 332 feet had also been originally cemented to surface.

The next well is the ARCO Oil and Gas C. S. Stone No. 2 Well, which is located diagonally northeast of the Stone No. 3 salt water disposal system, northeast offset, in the northwest of the northeast of Section 22.

This well formerly produced from the Devonian formation; was depleted as to economic production and plugged. That was plugged January 15th, 1976.

Again, the schematic shows the plugging procedure, cast iron bridge plug over the formerly productive interval in the Devonian; 30-sack plug inside the 5-1/2 inch casing; 40-sack plug inside the 5-1/2 inch casing at 6900 feet; 40-sack plug over the 5-1/2 inch casing stub at 5310 feet; a 60-sack plug across the 9-5/8ths casing seat into the open hole; again, the 9-5/8ths has been cemented to surface originally with 2100 sacks; a 50-sack plug was set inside the 9-5/8ths at 2200 feet; 13-3/8ths had originally been cemented to surface from 344 feet; of course the 13-3/8ths and 9-5/8ths strings were left intact in the plugged well. Final plug of 10 sacks on top.

The next well on the Exhibit Three is the

SALLY WALTON BC CERTPRED SHANTHAND REPC 1010 Plane Blacon (501) 471 Santa Pe, New Moxico 31

11

12

13

15

17

18

19

20

21

C. S. Stone No. 1, the immediate east offset, indicating that this well has not been plugged. Indeed, it is still producing from the Devonian formation.

That well had set 13-3/8ths at 327 feet and was cemented to surface; 9-5/8ths inch casing had been set at 4880 feet, cemented to surface with 1980 sacks.

All of these 9-5/8ths casing seats, I might mention, are casing seats into the top of the San Andres formation, thus isolating it from formations above.

5-1/2 inch casing had been set in that well, 12,848 feet and cemented with 195 sacks. Top of the cement being approximately 11,840 feet behind the 5-1/2 string.

We indicate a bridge plug over the lower part of the Devonian formation, which had been produced and then watered out. The well was plugged back to the upper portion of the Devonian formation where it still produces from.

This well is, as indicated, our only productive well and the only productive well that we operate in the field. It produces under artificial lift equipment 27 barrels of oil a day and a maximum of 400 barrels of water a day, which is the capacity of the lift equipment.

It's from this well that you will be taking the water for disposal?

WHITE COLUMN

That's correct.

The next well in Exhibit Three is the John Eisner Atlantic State No. 1, located in the southeast of the southwest of Section 15, Township 15 South, Range 38 East, being the north offset, exactly one half mile away.

That well was drilled to a TD of 12,872 feet and was plugged in September of 1963 as the Devonian formation was low and only water-bearing at that point.

The well was then plugged with the plugs indicated on the schematic. All plugs were 25 sacks except the top, being at 12,850 feet, 9200 feet, 8160 feet, 7200 feet, 6420 feet. A 25-sack plug at the top of the 8-5/8ths casing stub plugging of the 3-5/8ths at that point inside and outside; another sack at 359 feet across the 13-3/8ths casing seat; 10-sack plug at the top. 13-3/8ths had been cemented to surface, as indicates. The 8-5/8th inch casing had been set at 4915 feet and cemented with 600 sacks. The top is not known except by possible calculation, which I haven't made that calculation. You could probably -- several thousand feet of fillup, which would put it about 3000 feet, perhaps, from the surface.

Q Please refer to what we've marked as Exhibit Four and identify that for the Examiner.

A. Okay. This is a tabulation of the wells shown -- indicated on the schematics of Exhibit Three.

SALLY WALTON BOYE

11

12

13

15

16

17

20

21

22

	Q		Does	this	show	all	the	wells	within	a	half
mile	which	have	peneti	rated	the .	inje	ction	n zone:	?		

- A. That's correct.
- Q And the casing strings and setting depths, sacks of cement used, cement tops, total depth --
 - A. That's correct.
 - Q -- producing interval --
 - A. Yes.
- Q -- as well as the well identification and location.

A It indicates all those features, plugging, plugs, and if plugged at this time.

Q Okay, Mr. Sprinkle, what kind of fluid will be injected into the -- although I think you've already alluded to it -- and the source of the fluid that you stated would be in your well?

A. This will be Devonian salt water produced in association with Devonian oil production from the C. S. Stone No. 1 Well.

Q And what's the volume of salt water that you anticipate?

A It would range from 350 to 400 barrels of water per day, 400 being the maximum, because of the limit of the lifting equipment.

Q Let's go on now to what we've marked as

SALLY WALTON BOY
SERVED SHORTHAND REPORT
(1101) FAR BRIDGE (105) AT1-4

Exhibit Five, Mr. Sprinkle, and explain that exhibit of several pages to the Examiner.

A Exhibit Five consists of various structural maps in the immediate vicinity of the C. S. Stone No. 3 salt water disposal well.

The first page indicates the structure on the top of the San Andres porosity, which is one of the intervals of request. Scale of one inch to four miles; contour interval on the structure in 10 feet.

This structure map indicates that there is slight nosing to the south/southeast across this San Andres feature. Of course, this San Andres has not been proven oil productive in the area; had no shows on drilling from sample analysis on many of the wells drilled in the area. The only drill stem test taken, I believe, was on the C. S. Stone No. 1 in the upper part or first porosity, possible porosity in the high position, recovered only mud, and they did not get into the indicated higher permeability - porosity section because they probably figured they were wet at that point and they were already low, which the logs tend to confirm.

The second page indicates the structure at the top of the Glorieta, which is the next recognized horizon directly below the San Andres, still within the Permian interval of formations.

SALLY WALTON BOY(CERTIFED SHORTHAND REPORT 1928 Pleaz Blanca (1985) 473-34 Salle Pe, New Mexico 873 9 íô

This plat shows a little more of a structural feature there. Remember that we're getting deeper.

The third plat jumps back up the holes.

May have been out of order here but it's on the Yates
horizon in this particular area. This is a commercial map.

The Section 22 of interest is outlined in yellow. The
Yates formation in this area is indicated to be in a low
or sink area as opposed to the Yates formation surrounding
the area; that is, it's higher to the -- in about any
direction away from this area, and that tends to reflect
partly the previous two pages, that there is low to little
relief on the shallower beds.

The fourth page indicates an intermediate depth type structural picture. Again, the area of interest outlined in yellow. There appears to be a little low relief feature in the Pennsylvanian type formations. The geologic formations below the Permian in this area, immediately below.

The last commercial structure picture indicates that in the area of Section 22 we have the small, high area of Devonian production. The highest structural position indicates that our Stone No. 1 Well is located within that high feature and it is the highest well in the field, and because of its structural position still had remaining economic oil reserves, in our opinion.

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTES
1911 Plaza Bianca (841) 471-414
Santa Fil, New Mexico 87511

In general, as you can see, the SiluroDevonian formations are dipping to the west into the basin.

This feature is still relatively low relief for a Devonian producing feature. There's just a slight roll over there that caused the entrapment of this oil in the Devonian porosity.

The -- again reflecting back on the shallower beds and the fact that the Permian or shallower horizons are our area of interest at this time, we are in a sink to flat area within these shallow beds. This might reduce or possibly eliminate migration.

Q Okay, Mr. Sprinkle, go to what we've marked as Exhibit Six and discuss that, please.

A. This cross section is through the area of interest, and referring back to Exhibit Five, we indicate the line of section coursing generally from north to south across the area, and through all the wells within one half mile, as well as one well just outside that limit.

This cross section is concerned with the proposed zones of injection, being the Permian, including the San Andres, Glorieta, Clearfork Tubb, possibly Abo on the bottom, which is open partially in the open hole interval.

As indicated, there is not any significant relief to the <u>San Andres</u> formation, on which the first

2

3

4

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

line of demarcation below the datum of -1300 feet is the top of the gross porosity interval. Then the next line, horizontal line, indicates the top of the main porosity interval within the San Andres.

Most of these logs are porosity type logs, being neutron gamma ray radioactive logs for the most part.

The No. 4 Well on the cross section, going from left to right, is the C. S. Stone No. 1 Well, which is the producer, and the closest offset to the proposed disposal well zone. This well, besides showing some neutron porosity in yellow within the San Andres, indicates by some markings there microlog permeabilities within that

This is the only well in the immediate interval. area that had microlog logging across this interval to help determine some more permeable intervals.

As a result of that and then correlating with the No. 3 Well, which is the well of interest, No. 3 Stone, we see we have some correlative neutron porosity intervals. If we can correlate some of these intervals as also having pemerability based on microlog porosity -separation in the No. 1 Well, there is indicated to be enough net pay for disposal in an already water-saturated reservoir.

In the Stone No. 1 Well by this log analysis,

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER 1916 Pieze Blance (\$46) 411-446 Sante Pe, Now Mexico 57591

there is indicated to be 163 feet of net pay, net disposable pay interval, perhaps. There is something in that range, at least 100 feet, probably, on the average in our well of interest, as well as the other wells in the area.

Based on a 100-foot net pay disposal interval, we can project that the disposed volumes anticipated will utilize only 2.4 acres of reservoir volume per year of disposal operations. In a projected 10-year productive life perhaps remaining in this well, then we might be utilizing 24 acres of volumetric storage for disposal, still well within the confines of this No. 3 disposal well's area, and within the lease area that Dyco co-owns.

Marked as Exhibit Seven, Mr. Sprinkle, and discuss that, please.

A. Exhibit Seven then is the chemical analysis of the produced water from the Devonian formation.

The extreme righthand column indicates the chloride content as 39,600 parts per million. The total dissolved solids in the Devonian water of 70,222 parts per million.

Q Do you have a comparable analysis of fluids which may have been taken from the formation in which you propose to dispose of this Devonian water?

The second secon

A. There has not been any formation water

13

15

16

18

19

20

21

recovered from the interval in the San Andres-Glorieta-Tubb or Abo formations from drill stem testing nor by production in this area.

Q. In your opinion, from experience in other areas, and so forth, do you anticipate any incompatibility as between whatever fluids there may be in those formations as compared with this Devonian water?

A No, I do not. The San Andres-Glorieta type intervals in other parts of the Permian Basin are usually greater than 100,000 parts per million in chloride content; more 150,000 sodium chloride type saturations.

Therefore, in my opinion, we'll be putting fresher water into this formation than currently exists.

Q. Will you be injecting this water by pressure?

A. Yes.

And you already have the equipment on location as to the injection procedures that you expect to undertake?

Deen a Wolfcamp approved disposal well and still is, as far as to status. The water was being injected under pressure into that formation. The equipment we have available, we would probably limit to 2000 psig surface pressure rating so as to keep it intact.

11

12

13

14

15

16

17

18

19

20

21

22

23

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

A Yes.

Q. Will you have a pressure gauge then attached to the annulus?

A. Yes.

Q And you've just mentioned the pressure you have involved. I trust you are aware of the requirement by the Division that there is to be no surface injection pressure in a project of this sort greater than .2 psi per foot of depth to the top of the injection zone.

A Yes, we would --

Q. Do you expect to stay within this guideline?

A. We feel like we can treat the San Andres-Glorieta type intervals with acid, which is a common stimulant, and achieve surface pressures in this range.

Should we not be able to, we still think it will be below any fracturing pressure, and we would so advise and request modification of that pressure limit.

Q. Okay. Would you go to what we've marked as Exhibit Eight and identify that exhibit?

A These are signed waivers from the near offset producing operator, being Polaris Production Company in Midland, and a signed waiver from the surface owner

11

12

13

21

23

in Section 22, Mr. Troy Fort.

Okay, now let's go to what we've marked as Exhibit Nine. Identify that exhibit for the Examiner, please.

This is a C. S. Stone No. 3 salt water disposal well schematic as revised to indicate the proposed injection schematic under the current request for San Andres-Glorieta-Tubb-Abo, if you want to break it down at fine intervals.

This indicates that again we have cemented 13-3/8ths inch casing at 364 feet; cemented all the way to the surface. We have a 9-5/8ths string intermediate pipe set at 4894 that's been cemented all the way to the surface.

We propose to effectively seal the Wolfcamp injection interval. We would set a cast iron bridge plug retainer-type device at about 8700 feet and either squeeze or dump some cement on top of that.

We would then effect communication with the intervals of interest by perforating additionally or to affect the injection into the -- through the 5-1/2 inch casing, coming down through the 2-7/8ths tubing strings set on a packer inside the 5-1/2 inch casing.

The 5-1/2 inch casing would be further cemented from a point in the top of the San Andres but below

3

5

6

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

24

25

the 9-5/8ths casing seat with sufficient cement to affect a seal between the 5-1/2 inch casing string and the 9-5/8ths casing string, which is already cemented. And with the 2-7/8ths injection tubing of at least 2000 psi working pressure and of the fiberglass type that we propose, set on a retrievable packer at approximately 49 -- say 4880 feet, we would have isolated all formations except the injection zone of interest.

Additionally, the fluids behind the tubing string and casing strings at that point either have mud or inhibited packer type fluids for continued corrosion protection, and with the fiberglass strings which I believe are being used now, show competence at the higher working pressures, that we would eliminate corrosion in the tubing string almost 100 percent.

And, Mr. Sprinkle, is it your opinion that the casing and cement program that you have proposed here with this proposed system is of such a type that there would be no danger to oil or gas or fresh water reservoirs which the well might encounter?

- That's correct.
- Were these Exhibits One through Nine prepared by you or under your supervision?
- Will Dyco undertake to notify the Division yes.

of the date of commencement of injection operations under this proposed system and keep accurate records and report monthly to the Division the volume of fluids injected and injection pressures?

A Yes

And, in your opinion, will the approval of this application be in the interest of conservation and prevention of waste and protection of correlative rights?

A. Yes. Without an authorized disposal well in the immediate area, such as we're proposing, this well would not be economic to produce and would have to be plugged and abandoned as to productive wells in the area, which being the Stone No. 1.

MR. COFFIELD: Mr. Examiner, I move the admission of Exhibits One through Nine.

MR. STAMETS: These exhibits will be admitted.

MR. COFFIELD: And I have no other questions of the witness on direct examination.

CROSS EXAMINATION

BY MR. STAMETS:

Mr. Sprinkle, when did Dyco acquire these two wells, the No. 1 Well and the No. 2 Well?

A. Effectively April the 1st, 1978.

The second secon

8

7

2

11 12 13

10

14

15

16

17 18

19

21

20

22

24

11

12

13

14

15

16

17

18

19

20

21

Q You say effectively.

A Probably when it was recorded. We earned interest in this property through agreement with another joint owner.

Q When did you acquire responsibility for the operation of the wells? Was it before the paperwork was filed with the Division?

A. We commenced workover procedures on the No. 1 Stone almost simultaneously.

Q Okay. Why are you not going back into the Wolfcamp zone in this well?

schematic and information that the tubing, 2-7/8ths tubing and the packer are currently in the hole as a fish from 8729 feet to 10,000 feet, being still above the Wolfcamp injection interval. In attempting to pull that tubing to replace it for leaks that we encountered, more time and cost than we anticipated, and believe the proposed procedure is the best way to economically remedy the situation and still permit disposal of produced water on the producing operations.

Q Did you try to put water in the Wolfcamp in this well?

A. Yes.

After you acquired the property?

A Yes, the water, to my knowledge, has been

11

12

13

14

15

16

17

19

20

21

22

23

24

going into the Wolfcamp.

Q What were the results of your attempt to utilize this well? As an injector into the Wolfcamp?

A. The well was taking water in the Wolfcamp interval at the rate of 350 barrels of water per day at pressures between 1000 and 1500 psi surface pressure recently.

Q If that was the situation, why then would you attempt to work the well over and pull the tubing?

A. We had indications that we had a tubing leak and we had pressure on the tubing annulus.

Q Immediately?

A. Well, at the first time we checked it, which would probably be several months after we -- or when we completed working over the No. 1 Well, we found that we had restored production. Then we repaired the disposal pump, which put it on injection under the current scheme, and it in effect took water at the indicated pressures.

Q How long after you put it on did you check the annulus pressure?

A Well, this would be, I'd say, within three months.

Q You didn't check the well to see if it was sound until three months after you started using it?

Well, the production history of the Stone

No. 1 Well is such that we spent, say from April to June recompleting the well. After \$150,000 of tangible and intangible costs we put the well on production, consistently producing, and disposal operations. In August the producing well again had mechanical problems. We were down a number of weeks. The well was back on in September and went down again in October for mechanical problems. We're pumping that well with a 456 large beam pumping unit, rod string and insert pump of 6700 feet through tubing.

We did not feel that we had assurance that we had economic conditions until toward the end of last year, and then the timing of workload and operations were scheduled to do this workover on the disposal well.

Q When did you discover that you had holes in the 5-1/2 inch casing?

A. To our knowledge it was probably in March of this year, in March, 1979.

We again had problems with our producing well and, you know, made plans at that time to jointly work over that well and move the rig to the other well to do the work.

Q. At the same time that you found the holes in the tubing?

A. Well, yeah, physically found them. We suspected, you know, that we had tubing leaks earlier, be-

11

12

13

22

cause we had defective pressure monitoring on the tubing annulus, or at least checked it.

Q What was the condition of the tubing when you did get it out of the hole?

A. Well, it had primarily external collar corrosion. The tubes were generally intact. There were indications that the coupling area had failed.

Q Did you get this tubing out all in one piece or a piece at a time? Was it totally eaten up or was it really in pretty good shape?

there were numerous collars and as I indicated in the application, I think I indicated ten to twenty joints, we recovered maybe 2000 feet in one bite, so to speak. That's probably the maximum recovery on one run. We had other runs, and five -- most of them five or six hundred feet being in the 20-30 joint recovery per run.

Of course, the closer we got to the packer, the more tension and force had to be applied to attempt to free the tubing or unseat the packer, and we, at the expedience of time and expense, made an internal cut in the tubing string at 8729 feet in order to pull as much as possible and yet have the 5-1/2 casing cleaned out inside across the San Andres-Glorieta type intervals.

Q Now, do you expect this maximum life for

11

12

13

16

17

18

19

20

21

22

this field to be another ten years for the operations that you've got here?

A. Our experience in other areas of the Permian Basin, being in Texas, but still Devonian production, at these 12,000 foot depths, we're in effect skimming, you know, making marginal production, these wells will produce in the extents that we've seen a number of years, you know, with volumes of water mainly restricted to your lifting capacity.

Q Is the Devonian the only pay in the area?

A. I think we're probably the only ones that have proven this in some areas. You know, other operators have not elected to do this for the most part.

Q Is the Devonian the only pay in this area?

A. It's the only pay in the Medicine Rock

Pool, and there's -- the nearest production would probably

be in the four or five mile range to the east in Texas of

formations other than the Devonian.

Q You indicated that you had no analysis of formation fluids in the San Andres to the Abo interval, but that you did feel that they would be more highly contaminated than the Devonian waters.

A. Yes.

And what was that based on?

A. My own experience with San Andres production

SALLY WALTON BOY CENTIFIED SHORTHAND REPORTS S121 PRAILS BLIDGE (6.61) 471-24 Seath Pc. Now Mexico 5756

in the Permian Basin. We produce a lot of San Andres wells in the Permian Basin and they all make some water and they are all of this 100,000 plus chloride content. I believe that will be borne out by any investigation.

of the plugging, like on the first page there's a plug at 5350, which would be right in the middle of the -- your injection interval; on the last page there's a plug at 6420, 7200, again in the middle of your injection interval. Do you have any idea why those plugs were set?

A. Well, the -- let me go to the last page first, the John Eisner Well.

This well was not productive in any horizon.

It appears that that plugging procedure was based on so

many plugs per 1000 feet of open hole section, is the only
justification I can see.

The important plugs, of course, are those above the 8-5/8ths casing seat, which, jumping back to the number one sheet, the Read Estate Well, which did produce, set a usual plug at the cutoff 5-1/2 point; had a plug again possibly associated with the interval between plugs at 6350 feet and a more usual plug at the 9-5/8ths casing seat.

That's the only reason I know, to my know-ledge, you know, essentially that thing was productive in

19

21

24

That same exhibit, your No. 1 Well does not there. have any cement across this injection interval. Do you anticipate any casing corrosion problems or possible casing collapse because of the injection?

Oh, as the cement top behind the 5-1/2 indicates, 11,840 feet, that well has not had cement behind it all during the period of injection in the Wolfcamp interval in the No. 3 Well, so that interval has been exposed to the Wolfcamp injection for the last fifteen years.

There has been on all producing operations, for example, no pressure from injection, say, on the 5-1/2 annulus, which would only be there if it came from an external source, which zero pressure.

Well, your Exhibit Number Six, did you intend to show that most of this water, or all of the water, will likely go into the San Andres formation?

That's the most likely indication, you know, where we have information to put any quantitative figures to, as to net pay and porosity. But only injection profiling would actually determine the specific interval within there, even if we put one hole in the casing and it goes out, well, from then on it's going to go in the over all open hole interval at the most permeable porosity point, which may or may not be one of the points in the San Andres

11

12

13

15

îô

17

18

19

20

21

22

23

perfs.

Q. On completion of use of this well, do you think you'll be able to get in there and isolate the San Andres-Glorieta interval from the Abo-Tubb interval with a pluq?

We can, of course, as the cement plug indicated at the top of the San Andres, outside the 5/8ths but inside the 9-5/8ths, that affects that plug there, were that plug either extended or moved out to cover, say, at least to the bottom of the San Andres, then selectively perforated in the San Andres, it would confine injection under -- below frac pressure type pressures, to the San Andres formation.

Likewise any deeper horizon within that open hole interval that was cemented off by essentially a primary cement job would be -- could be isolated.

Could you reasonably get in there and -and plug off this well at the base of the San Andres at this time before you start your injection?

Yes, that is the plan as proposed under our application.

No, I think you misunderstood me.

So that there would be no injection into the Glorieta-Tubb-Abo section, but inject only into the San Andres.

3

7

8

9

10

11

12

13

14

15

16

17

18

19

20

21

22

23

We have right if we, depending exactly on where the communication is in the 5-1/2, you know, it can be done period, but you know, it's how much trouble remains to be seen.

> okay. Q.

The proposed schematic again would be the most expedient economically and timely.

Where are the fresh water zones in this area?

To my knowledge, the 13-3/8ths inch casing strings case off all surface fresh water, being in general above 350 feet.

This fiberglass tubing, do you land that in that packer or is there some sort of a metal sleeve that runs through the packer?

It has been recommended that we latch in, There would be a fiberglass to metal connection so to speak. point at the packer. All of that connecting equipment, however, could be internally and externally plastic coated, would be the proposed scheme to minimize corrosion, and this would again, as per the fiberglass design, minimize pulsation effects.

MR. STAMETS: Any other questions of this witness? He may be excused.

Anything further in this case?

MR. COFFIELD: No, sir.

MR. STAMETS: Take the case under advise-

ment.

(Hearing concluded.)

SALLY WALTON BOYD
CENTIFUE SHORTHAND REPCHTER
1019 Place Bloom (0.5) 471-4449
4-4-4-7- Week (0.5) 471-4449

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 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 hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6523

heard by me on 7-//

Examiner

Oll Conservation Division

SALLY WALTON BOYD
CENTRED SHORTIAND REPORTER
1919 PRARE BINGS (191) 471-444
Facts Pt. New Mexico 97191

OIL CONSERVATION DIVISION P. O. BOX 2088 SANTA FE, NEW MEXICO 87501

October 25, 1979

Dyco Petroleum Corporation 420 NBT Building 320 South Boston Tulsa, Oklahoma 74103

Attention: Mr. David E. Holley

Gentlemen:

As requested in your letter of October 23, 1979, permission is granted to install 2 7/8-inch steel tubing in your C. S. Stone No. 3 SWD well until March 1, 1980.

Because of corrosion experienced in the disposal of Devonian waters, no extension of this period will be considered.

Please notify our Hobbs District Office at least 24 hours prior to running the fiberglass tubing in the well.

Yours very truly,

JOE D. RAMEY Director

JDR/fd

cc: OCD, Hobbs



420 NBT BUILDING 320 SOUTH BOSTON TULSA, OKLAHOMA 74103 AREA 918/587-2181

State of New Mexico Energy and Minerals Department Oil Conservation Division P. O. Box 2088 Santa Fe, New Mexico 87501 Attn: Mr. Joe D. Ramey

Re: Case No. 6593 Order No. R-6082

Dear Sire

On August 17, 1979 the above order was entered in Dyco Petroleum Corporation's application to plug back and recomplete the C.S. Stone No. 3-SWD well located in the Medicine Rock - Devonian Pool, Lea County, New Mexico.

One of the provisions of the proposal and order (Item 1) was that the injection tubing string be $2\ 7/8$ inch fiberglass tubing.

At the time that the application was filed by Dyco, the quoted delivery for the fiberglass tubing was four weeks, which did not present a problem. However, upon contacting the supplier this past week, Dyco now finds that the earliest estimated delivery for the fiberglass tubing by the manufacturer has been extended to 18 weeks, which means that the earliest anticipated delivery date is about February 15, 1980.

This presents a significant problem relative to the C.S. Stone lease, as there is no other viable means for disposal of the produced water except by subsurface disposal in the Stone No. 3 well, and Dyco is faced with expiration of the lease unless it is returned to a producing status by November 15, 1979.

Therefore, Dyco requests a temporary exception be granted to Item 1 of Order R-6082 to allow use of a 2 7/8 inch steel tubing string until March 1, 1980 for injection tubing in the C.S. Stone No. 3. Operation of the disposal well will comply with all other provisions of the Order, and Dyco believes that this temporary exception will not alter the intent of the Order.

Your earliest attention to this request is appreciated.

Sincerely,

David E. Holley Vice President

DEH:rc

Attachment



STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT

GIL CONSERVATION DIVISION

August 17, 1979

POST OFFICE BOX 2008 STATE LAND OFFICE RUSLOING SANTA FE, NEW MEXICO 87501 (305) 827-2434

Becerald

AUG 2 0 1979

HINKLE, COX, EATON, COFFIELD & HENSLEY MIDLAND, TEXAS CASE NO. 6593 ORDER NO. R-6082

Mr. Conrad E. Coffield
Hinkle, Cox, Eaton, Coffield
& Hensley
Attorneys at Law
P. O. Box 3580

Applicant:

Dyco Petroleum Corporation

Dear Sir:

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

JOE D. RAMEY
Director

Midland, Texas 79702

JDR/fd

Copy of order also sent to:

Hobbs OCD x
Artesia OCD x
Aztec OCD

Other____

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

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

CASE NO. 6593 Order No. R-6082

APPLICATION OF DYCO PETROLEUM CORPORATION FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on July 11, 1979, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 16th day of August, 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, Dyco Petroleum Corporation, is the owner and operator of the C. S. Stone Well No. 3, located in Unit F of Section 22, Township 15 South, Range 38 East, NMPM, Medicine Rock-Devonian Pool, Lea County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres, Glorieta and Tubb formations, with injection into the open-hole interval from approximately 4894 feet to 8725 feet.
- (4) That the applicant expects essentially all of the injected water to enter porous zones within the San Andres formation from a depth of approximately 4894 feet to 6100 feet.
- (5) That said C. S. Stone Well No. 3 should be plugged back to an approximate depth of 6100 feet prior to initiation of injection.

- (6) That the 5 1/2-inch casing should be comented across the 9 5/8-inch casing shoe in order to isolate the casing-casing annulus from the injected fluid.
- (7) That the injection should be accomplished through 2 7/8-inch fiber glass tubing installed in a packer set at approximately 4850 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the easing, tubing, or packer.
- (8) That the injection well 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 980 psi.
- (9) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (10) That the operator should take all steps becessary to ensure that the injected water enters only the proposed injection interval and is not permitted to escape to other formations or onto the surface.
- (11) That approval of the subject application will prevent the drilling of unnecessary wells and otherwise prevent waste and proceed correlative rights.

IT IS THEREFORE ORDERED:

(1) That the applicant, Dyco Petroleum Corporation, is hereby authorized to utilize its C. S. Stone Well No. 3, located in Unit F of Section 22, Township 15 South, Range 23 East, NAPM, Medicine Rock-Devonian Pool, Lea County, New Mexico, to dispose of produced salt water into the San Andrés formation, injection to be accomplished through 2 7/8-inch fiber glass tubing installed in a packer set at approximately 4850 feet, with injection into the open-hole interval from approximately 4894 feet to 6100 feet;

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

Case No. 6593
Order No. R-6082

PROVIDED FUI
the applicant sha
an approximate de
inch casing acros
ance with Division

(2) That the
with a pressure
will limit the we
more than 980 ps:

(3) That the
Hobbs district of
the installation
be inspected.

(4) That the
visor of the Divisor of the tubing, can

PROVIDED FURTHER, that prior to initiation of injection the applicant shall plug back said C. S. Stone Well No. 3 to an approximate depth of 6100 feet and shall cement the 5 1/2-inch casing across the 9 5/8-inch casing shoe both in accordance with Division-approved programs.

- (2) That the injection well 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 980 psi.
- (3) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (4) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.
- (5) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.
- (6) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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

STATE OF NEW MEXICO
QIL CONSERVATION DIVISION

JOE D. RAMEY

Director

SEAL

fd/

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. 6593 Order No. R-6082

APPLICATION OF DYCO PETROLEUM CORPORATION FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on July 11, 1979, at Santa Pe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 16th day of August, 1979, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

PINDS:

- (1) That due <u>public</u> notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Dyco Petroleum Corporation, is the owner and operator of the C. S. Stone Well No. 3, located in Unit F of Section 22, Township 15 South, Range 38 East, NMPM, Medicine Rock-Devonian Pool, Lea County, New Nexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the San Andres, Glorieta and Tubb formations, with injection into the open-hole interval from approximately 4894 feet to 8725 feet.
- (4) That the applicant expects essentially all of the injected water to enter porous zones within the San Andres formation from a depth of approximately 4894 feet to 6100 feet.
- (5) That said C. S. Stone Well No. 3 should be plugged back to an approximate depth of 6100 feet prior to initiation of injection.

-2-Case No. 6593 Order No. R-6082

- (6) That the 5 1/2-inch casing should be cemented across the 9 5/8-inch casing shoe in order to isolate the casing-casing annulus from the injected fluid.
- (7) That the injection should be accomplished through 2 7/8-inch fiber glass tubing installed in a packer set at approximately 4850 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order to determine leakage in the casing, tubing, or packer.
- (8) That the injection well 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 980 psi.
- (9) That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (10) 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.
- (11) 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, Dyco Petroleum Corporation, is hereby authorized to utilize its C. S. Stone Well No. 3, located in Unit P of Section 22, Township 15 South, Range 38 East, NMPM, Medicine Rock-Devonian Pool, Lea County, New Mexico, to dispose of produced salt water into the San Andres formation, injection to be accomplished through 2 7/8-inch fiber glass tubing installed in a packer set at approximately 4850 feet, with injection into the open-hole interval from approximately 4894 feet to 6100 feet;

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

-3-Case No. 6593 Order No. R-6082

PROVIDED FURTHER, that prior to initiation of injection the applicant shall plug back said C. S. Stone Well No. 3 to an approximate depth of 6100 feet and shall cement the 5 1/2-inch casing across the 9 5/8-inch casing shoe both in accordance with Division-approved programs.

- (2) That the injection well 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 980 psi.
- (3) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (4) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.
- (5) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.
- (6) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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

STATE OF NEW MEXICO
OIL CONSERVATION DIVISION

JOE D. RAMEY Director

SEAL

fd/

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION State Land Office Building Santa Fe, New Mexico 11 July 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Dyco Petroleum Corporation) CASE for salt water disposal, Lea County, New) 6593 Mexico.

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

For the Applicant:

Conrad Coffield, Esq. HINKLE, CCX, EATON, COFFIELD & HENSLEY Midland, Texas

12

13

15

16

17

18

19

20

21

22

INDEX

mov	OD	-	T 3 T	7/	٠.	•
ጥርነለ	SP	ĸ	1 1/1	ĸ	1	٠ŀ

Direct Examination by Mr. Coffic	eld 3
Cross Examination by Mr. Stamets	3 23

EXHIBITS

Applicant	Exhibit	One, Plat	4
Applicant	Exhibit	Two, Diagram	7
Applicant	Exhibit	Three, Diagrams	9
Applicant	Exhibit	Four, Tabulation	12
Applicant	Exhibit	Five, Structure Maps	14
Applicant	Exhibit	Six, Cross Section	16
Applicant	Exhibit	Seven, Chemical Analysis	18
Applicant	Exhibit	Eight, Waivers	20
Applicant	Exhibit	Nine Diagram	21

SALLY WALTON BOYD
SERVINE SHORTMAND REPORTER
110 Plans Blaces (114 4445
Butta Pt. New Mexico 87301

12

13

16

17

20

21

22

MR. STAMETS: We'll call next Case 6593.

IR. PADILLA: Application of Dyco Petroleum Corporation for salt water disposal, Lea County, New Mexico.

MR. COFFIELD: Conrad Coffield, with the Hinkle Law Firm, of Midland, Texas, appearing on behalf of the applicant, and I have one witness.

(Witness sworn.)

TOM SPRINKLE

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

DIRECT EXAMINATION

BY MR. COFFIELD:

- 0. Mr. Sprinkle, would you please state your
 name, address, occupation, and employer?
- A. My name is Tom Sprinkle, S-P-R-I-N-K-L-E; employed by Dyco Petroleum, D-Y-C-O, as Area Manager of the Permian Basin Office, located in Midland, Texas.
- fied before the Division as a petroleum engineer?
 - A. Yes, I have.
 - Q Were your qualifications made a matter of

10

11

12

13

15

16

17

18

20

21

22

record and accepted by the Division?

Yes.

And are you familiar with this particular application?

Yes, I am.

And the property involved?

Yes, I am.

MR. COFFIELD: Is the witness considered

qualified?

MR. STAMETS: He is.

Mr. Sprinkle, would you please state very briefly what it is that Dyco seeks by this particular application?

Dyco seeks authority to dispose of produced salt water in the San Andres-Glorieta-Tubb formations in the open hole interval from 4894 feet to 8725 feet in the C. S. Stone No. 3 Well, located in Unit F of Section 22, Township 15 South, Range 38 East, Medicine Rock-Devonian Pool.

Mr. Sprinkle, please refer to what we've marked Exhibit One and explain that exhibit.

Exhibit One is a land plat of the Medicine Rock Field area. The Dyco jointly owned acreage is outlined in yellow. The Stone No. 3 salt water disposal system disposal well is circled in red.

SALLY WALTON BOYF CERTIFIED SHORTHAND REPORTS 1918 Please Blance (665) 471-444 Janes Po., New Moxico 171-514

own 3/4ths of Section 22 as to the leased rights for oil production. The well indicates the plugged and producing wells within a half mile of the No. 3 disposal well system. Indicates that in fact all wells within a half mile are plugged and abandoned, either as dry holes originally or as depleted producing wells, excepting the Dyco C. S. Stone No. 1 Well, located immediately east of the No. 3 Well, which is currently productive from the Devonian formation.

In addition, just outside the lease area there is indicated production -- productive wells in Section 23, and also in the extreme southwest of Section 14 to the northeast of the area.

These wells are in some kind of productive status with Polaris Production of Midland, Texas, being the operator.

To my knowledge the well in Section 23, being the Roberts No. 1, has attempted to be recompleted but it's not productive at this time.

makes 10 barrels of oil per day from the Devonian formation, under artificial lift conditions.

15 16

17

11

12

13

18

21

22

A. Yes, Dyon is the operator for the jointly owned property.

Okay. Would you please state -- just give a history of this injection well, what has -- what has happened to it? When it was drilled, and so forth, do you have that information?

The C. S. Stone No. 3 Well was completed drilling in April the 7th, 1962, with Sinclair Oil and Gas as the operator.

The well was completed as a Devonian producer on April 13th, 1962, by Sinclair Oil and Gas. Total depth at that time was 12,315 feet; plugged back depth was 12,800 feet. The Devonian formation was initially completed in the interval 12,738 to 12,758 feet.

The well initially potentialed flowing .

for 320 barrels of oil per day from the Devonian formation.

On September the 14th, 1962, indicated the well was making 230 barrels of oil per day plus 336 barrels of water per day from the Devonian, at which time it was plugged back to 12,730 feet. The Devonian interval then was perforated from 12,687 to 12,708 feet. The well produced from that interval until — I don't have the exact date; that was sometime in 1963.

By Order SWD-41, effective December 13th, 1963, the well was permitted to be converted to salt water

SALLY WALTON BOYCE CHRITERS SHOUTHAND REPORTS 1119 Plans, Blance (161) 111-141 Basis, Fe, New Mondon 57501

disposal. At that time a cast iron bridge plug was set at 12,650 feet, which is above all the previously indicated Devonian perforations, and was squeezed with 70 sacks of cement in preparation for the disposal well conversion.

The well was effectively converted to salt water disposal on June the 9th, 1964, indicating it was disposing of produced Devonian formation water from other wells in the Medicine Rock Pool at that time, at the rate of 359 barrels of water in 7 hours at 1100 psig surface pressure. It later indicated that it was —

A SPECTATOR: What was that pressure, sir?

A 1100 psig. And as later exhibits will show, this water was being disposed of into the Wolfcamp formation at that time, as per the SWD 41 permit.

The cumulative injection to November, 1974, was about 2,250,000 barrels of water, all of which was produced Devonian salt water associated with the Devonian oil production from the Sinclair Oil and Gas, later Atlantic Richfield, well in the area.

The estimated current cumulative injection volume in the Wolfcamp formation is 2,400,000 barrels of produced Devonian formation water.

Q Okay, Mr. Sprinkle, refer to what's been marked as Exhibit Two, and state what this represents.

A. Exhibit Two is the schematic diagram of

SALLY WALTON BOY CERTIFIED SHORTHAND REPORT 1919 Plant Blanca (341) 411-44 Seata Po, Now Marden 5110

11

12

13

îБ

17

22

the C. S. Stone No. 3 salt water disposal well. The sketch indicates the TD was 12,815 feet; 5-1/2 inch casing was set at that depth; cenented with 730 seeks of cement. The top of cement behind the 5-1/2 inch casing indicated by a temperature survey to be 8,725 feet; the cast iron bridge plug was indicated at 12,605 feet; that was squeezed with 77 sacks, thus isolating the former productive Devonian perforations.

The Wolfcamp interval was perforated from 10,050 feet to 10,336 feet with 162 holes through the casing to affect disposal into the Wolfcamp formation.

A 5-1/2 inch Model N type packer is indicated to be set at 10,009 feet kb depth. We also indicate the 2-7/8ths inch tubing stub is located at 8,729 feet from the surface.

We indicate that there is communication above the top of the cement on the 5-1/2 inch casing string to the open hole interval between 4,894 feet and 9,725 feet somewhere.

Moving up the hole, the 9-5/8ths casing string is indicated to be set at 4,894 feet. It was cemented to surface with 2,100 sacks. In addition there is 13-3/8ths casing at 364 feet, also cemented to surface with 400 sacks.

This schematic has, as I've indicated, is the current schematic of the downhole tubular equipment.

c commence and a commence of the commence of t

Q. And you propose to show by a subsequent exhibit the status of the well upon completion of your proposed conversion, is that correct?

- A Yes.
- Anything more on this exhibit Two?
- A I believe that's all.
- Q Okay, let's go to what we've marked as Exhibit Three and explain that, please.

diagram of the producing and plugged wells within one half mile of the C. S.Stone No. 3 salt water disposal well, as was indicated on Exhibit One, the wells' location in relation to the No. 3 disposal well.

The first well is indicated to be the ARCO Oil and Gas Read Estate No. 1 Well, located in the northwest of the southeast of Section 22, being the direct diagonal southeast offset to the well of interest.

this time. It was originally drilled to 12,848 feet; produced from the Davonian formation, and was plugged as non-commercial in November, 1972. At that time the well was plugged, cast iron bridge plug was set at 12,425 feet. Additional cementing and plugging operations set plugs at 8130 feet over a 5-1/2 casing stand open hole; 35 sack plug at 350 feet; 35 sacks at the 9-5/8ths casing seat at

4860 feet.

Note that the 9-5/8ths was cemented to surface. Additionally the 10-sack plug was set at the surface. The 13-3/8ths casing at 332 feet had also been originally cemented to surface.

The next well is the ARCO Oil and Gas C. S. Stone No. 2 Well, which is located diagonally northeast of the Stone No. 3 salt water disposal system, northeast offset, in the northwest of the northeast of Section 22.

This well formerly produced from the Devonian formation; was depleted as to economic production and plugged. That was plugged January 15th, 1976.

Again, the schematic shows the plugging procedure, cast iron bridge plug over the formerly productive interval in the Devonian; 30-sack plug inside the 5-1/2 inch casing; 40-sack plug inside the 5-1/2 inch casing at 6900 feet; 40-sack plug over the 5-1/2 inch casing stub at 5310 feet; a 60-sack plug across the 9-5/8ths casing seat into the open hole; again, the 9-5/8ths has been cemented to surface originally with 2100 sacks; a 50-sack plug was set inside the 9-5/8ths at 2200 feet; 13-3/8ths had originally been cemented to surface from 344 feet; of course the 13-3/8ths and 9-5/8ths strings were left intact in the plugged well. Final plug of 10 sacks on top.

The next well on the Exhibit Three is the

ALLY WALTON BOY!
INTIFE SHORTHAND REPORT
10Place Blance (805) 411-41
Seata Pt. Now Marke 2134

Marian Company of the Company

C. S. Stone No. 1, the immediate east offset, indicating that this well has not been plugged. Indeed, it is still producing from the Devonian formation.

That well had set 13-3/8ths at 327 feet and was cemented to surface; 9-5/8ths inch casing had been set at 4880 feet, cemented to surface with 1980 sacks.

All of these 9-5/8ths casing seats, I might mention, are casing seats into the top of the San Andres formation, thus isolating it from formations above.

5-1/2 inch casing had been set in that well, 12,848 feet and cemented with 195 sacks. Top of the cement being approximately 11,840 feet behind the 5-1/2 string.

We indicate a bridge plug over the lower part of the Devonian formation, which had been produced and then watered out. The well was plugged back to the upper portion of the Devonian formation where it still produces from.

This well is, as indicated, our only productive well and the only productive well that we operate in the field. It produces under artificial lift equipment 27 barrels of oil a day and a maximum of 400 barrels of water a day, which is the capacity of the lift equipment.

Q It's from this well that you will be taking the water for disposal?

A That's correct.

The next well in Exhibit Three is the John Eisner Atlantic State No. 1, located in the southeast of the southwest of Section 15, Township 15 South, Range 38 East, being the north offset, exactly one half mile away.

That well was drilled to a TD of 12,872 feet and was plugged in September of 1963 as the Devonian formation was low and only water-bearing at that point.

The well was then plugged with the plugs indicated on the schematic. All plugs were 25 sacks except the top, being at 12,850 feet, 9200 feet, 8160 feet, 7200 feet, 6420 feet. A 25-sack plug at the top of the 8-5/8ths casing stub plugging of the 8-5/8ths at that point inside and outside; another sack at 359 feet across the 13-3/8ths casing seat; 10-sack plug at the top. 13-3/8ths had been cemented to surface, as indicates. The 8-5/8th inch casing had been set at 4915 feet and cemented with 600 sacks.

The top is not known except by possible calculation, which I haven't made that calculation. You could probably -- several thousand feet of fillup, which would put it about 3000 feet, perhaps, from the surface.

Q Please refer to what we've marked as Exhibit Four and identify that for the Examiner.

A Okay. This is a tabulation of the wells shown -- indicated on the schematics of Exhibit Three.

SALLY WALTON BOYD
CENTIFIED SHORTHAND REPORTER
1019-PLAS BEAGE (805) 471-3445
RANKE PC. NOT HOSTON \$1701

Does this show all the wells within a half

The state of the s

SALLY WALTON BO CERTIFIED SHORTHAND REPORT 1939 FINES BENDER (1945) 471-4 SAMES PC, NOW MOREO 977

11

12

13

14

15

18

21

22

23

24

2

Exhibit Five, Mr. Sprinkle, and explain that exhibit of several pages to the Examiner.

Exhibit Five consists of various structural maps in the immediate vicinity of the C. S. Stone No. 3 salt water disposal well.

The first page indicates the structure on the top of the San Andres porosity, which is one of the intervals of request. Scale of one inch to four miles; contour interval on the structure in 10 feet.

This structure map indicates that there is slight nosing to the south/southeast across this San Andres feature. Of course, this San Andres has not been proven oil productive in the area; had no shows on drilling from sample analysis on many of the wells drilled in the area. The only drill stem test taken, I believe, was on the C. S. Stone No. 1 in the upper part or first porosity, possible porosity in the high position, recovered only mud, and they did not get into the indicated higher permeability - porosity section because they probably figured they were wet at that point and they were already low, which the logs tend to confirm.

The second page indicates the structure at the top of the Glorieta, which is the next recognized horizon directly below the San Andres, still within the Permian interval of formations.

SALLY WALTON BOY(CERTIFIED SHORTHAND REPORTE 1938 Planta Blanca (\$15) 471-344 Sauta Pa, New Mexico 27501 This plat shows a little more of a structural feature there. Remember that we're getting deeper.

May have been out of order here but it's on the Yates horizon in this particular area. This is a commercial map. The Section 22 of interest is outlined in yellow. The Yates formation in this area is indicated to be in a low or sink area as opposed to the Yates formation surrounding the area; that is, it's higher to the -- in about any direction away from this area, and that tends to reflect partly the previous two pages, that there is low to little relief on the shallower beds.

depth type structural picture. Again, the area of interest outlined in yellow. There appears to be a little low relief feature in the Pennsylvanian type formations. The geologic formations below the Permian in this area, immediately below.

The last commercial structure picture indicates that in the area of Section 22 we have the small, high area of Devonian production. The highest structural position indicates that our Stone No. 1 Well is located within that high feature and it is the highest well in the field, and because of its structural position still had remaining economic oil reserves, in our opinion.

SALLY WALTON BOYD
CERTIFIED SHORTHAND REPORTER
1019 FRAME BLANCE (105) 411-4467
BERGE FG, New Mostloo 61501

In general, as you can see, the SiluroDevonian formations are dipping to the west into the basin.
This feature is still relatively low relief for a Devonian producing feature. There's just a slight roll over there that caused the entrapment of this oil in the Devonian porosity.

The -- again reflecting back on the shallower beds and the fact that the Permian or shallower horizons are our area of interest at this time, we are in a sink to flat area within these shallow beds. This might reduce or possibly eliminate migration.

Q Okay, Mr. Sprinkle, go to what we've marked as Exhibit Six and discuss that, please.

Interest, and referring back to Exhibit Five, we indicate the line of section coursing generally from north to south across the area, and through all the wells within one half mile, as well as one well just outside that limit.

proposed zones of injection, being the Permian, including the San Andres, Glorieta, Clearfork Tubb, possibly Abo on the bottom, which is open partially in the open hole interval.

As indicated, there is not any significant relief to the San Andres formation, on which the first

SALLY WALTON BOY CERTIFIED SHORTHAND REPORT 1931 Plants Blanca (8.95) 471-44 feats Pc. New Mondon 5110

Ϊb

line of demarcation below the datum of -1300 feet is the top of the gross porosity interval. Then the next line, horizontal line, indicates the top of the main porosity interval within the San Andres.

Most of these logs are porosity type logs, being neutron gamma ray radioactive logs for the most part.

The No. 4 Well on the cross section, going from left to right, is the C. S. Stone No. 1 Well, which is the producer, and the closest offset to the proposed disposal well zone. This well, besides showing some neutron porosity in yellow within the San Andres, indicates by some markings there microlog permeabilities within that interval.

This is the only well in the immediate area that had microlog logging across this interval to help determine some mor permeable intervals.

As a result of that and then correlating with the No. 3 Well, which is the well of interest, No. 3 Stone, we see we have some correlative neutron porosity intervals. If we can correlate some of these intervals as also having pemerability based on microlog porosity — separation in the No. 1 Well, there is indicated to be enough net pay for disposal in an already water-saturated reservoir.

In the Stone No. 1 Well by this log analysis,

SALLY WALTON BOY CENTIFIED SHONTHAND REPORT 1910 Plans Blanca (845) 471-44 Benia Po. New Moxico 9150 there is indicated to be 163 feet of net pay, net disposable pay interval, perhaps. There is something in that range, at least 100 feet, probably, on the average in our well of interest, as well as the other wells in the area.

Based on a 100-foot net pay disposal interval, we can project that the disposed volumes anticipated will utilize only 2.4 acres of reservoir volume per year of disposal operations. In a projected 10-year productive life parhaps remaining in this well, then we might be utilizing 24 acres of volumetric storage for disposal, still well within the confines of this No. 3 disposal well's area, and within the lease area that Dyco co-owns.

All right. Let's go on to what we've marked as Exhibit Seven, Mr. Sprinkle, and discuss that, please.

A Exhibit Seven then is the chemical analysis of the produced water from the Devonian formation.

The extreme righthand column indicates the chloride content as 39,600 parts per million. The total dissolved solids in the Devonian water of 70,222 parts per million.

Q Do you have a comparable analysis of fluids which may have been taken from the formation in which you propose to dispose of this Devonian water?

A There has not been any formation water

recovered from the interval in the San Andres-Glorieta-Tubb or Abo formations from drill stem testing nor by production in this area.

In your opinion, from experience in other areas, and so forth, do you anticipate any incompatibility as between whatever fluids there may be in those formations as compared with this Devonian water?

type intervals in other parts of the Permian Basin are usually greater than 100,000 parts per million in chloride content; more 150,000 sodium chloride type saturations.

Therefore, in my opinion, we'll be putting fresher water into this formation than currently exists.

Q Will you be injecting this water by pressure?

A Yes.

And you already have the equipment on location as to the injection procedures that you expect to undertake?

A. Yes. Recall that this well has previously been a Wolfcamp approved disposal well and still is, as far as to status. The water was being injected under pressure into that formation. The equipment we have available, we would probably limit to 2000 psig surface pressure rating so as to keep it intact.

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

A Yes.

Q. Will you have a pressure gauge then attached to the annulus?

A. Yes.

And you've just mentioned the pressure you have involved. I trust you are aware of the requirement by the Division that there is to be no surface injection pressure in a project of this sort greater than .2 psi per foot of depth to the top of the injection zone.

A Yes, we would --

Q. Do you expect to stay within this guideline?

A We feel like we can treat the San AndresGlorieta type intervals with acid, which is a common
stimulant, and achieve surface pressures in this range.
Should we not be able to, we still think it will be below
any fracturing pressure, and we would so advise and request
modification of that pressure limit.

Q Okay. Would you go to what we've marked as Exhibit Eight and identify that exhibit?

These are signed waivers from the near offset producing operator, being Polaris Production Company in Midland, and a signed waiver from the surface owner

20

2

5

8

10

11

12

13

14

15

17

18

19

22

23

in Section 22, Mr. Troy Fort.

Q Okay, now let's go to what we've marked as Exhibit Nine. Identify that exhibit for the Examiner, please.

A This is a C. S. Stone No. 3 salt water disposal well schematic as revised to indicate the proposed injection schematic under the current request for San Andres-Glorieta-Tubb-Abo, if you want to break it down at fine intervals.

This indicates that again we have cemented 13-3/8ths inch casing at 364 feet; cemented all the way to the surface. We have a 9-5/8ths string intermediate pipe set at 4894 that's been cemented all the way to the surface.

We propose to effectively seal the Wolf-camp injection interval. We would set a cast iron bridge plug retainer-type device at about 8700 feet and either squeeze or dump some cement on top of that.

We would then effect communication with the intervals of interest by perforating additionally or to affect the injection into the — through the 5-1/2 inch casing, coming down through the 2-7/8ths tubing strings set on a packer inside the 5-1/2 inch casing.

The 5-1/2 inch casing would be further cemented from a point in the top of the San Andres but below

11

12

13

16

17

19

20

21

22

23

the 9-5/8ths casing seat with sufficient cement to affect a seal between the 5-1/2 inch casing string and the 9-5/8ths casing string, which is already cemented. And with the 2-7/8ths injection tubing of at least 2000 psi working pressure and of the fiberglass type that we propose, set on a retrievable packer at approximately 49 -- say 4880 feet, we would have isolated all formations except the injection zone of interest.

Additionally, the fluids behind the tubing string and casing strings at that point either have mud or inhibited packer type fluids for continued corrosion protection, and with the fiberglass strings which I believe are being used now, show competence at the higher working pressures, that we would eliminate corrosion in the tubing string almost 100 percent.

And, Mr. Sprinkle, is it your opinion that the casing and cement program that you have proposed here with this proposed system is of such a type that there would be no danger to oil or gas or fresh water reservoirs which the well might encounter?

- A. That's correct.
- Q Were these Exhibits One through Nine prepared by you or under your supervision?
 - A. Yes.
 - Q Will Dyco undertake to notify the Division

11

12

13

18

17

20

21

22

23

of the date of commencement of injection operations under this proposed system and keep accurate records and report monthly to the Division the volume of fluids injected and injection pressures?

And, in your opinion, will the approval of this application be in the interest of conservation and prevention of waste and protection of correlative rights?

Yes. Without an authorized disposal well in the immediate area, such as we're proposing, this well would not be economic to produce and would have to be plugged and abandoned as to productive wells in the area, which being the Stone No. 1.

MR. COFFIELD: Mr. Examiner, I move the admission of Exhibits One through Nine.

MR. STAMETS: These exhibits will be admitted.

MR. COFFIELD: And I have no other questions of the witness on direct examination.

CROSS EXAMINATION

BY MR. STAMETS:

Mr. Sprinkle, when did Dyco acquire these two wells, the No. 1 Well and the No. 2 Well?

Effectively April the 1st, 1978.

SALLY WALTON BOYD CERTIFIED SHORTHAND REPORTER SSEEPHAN BLADS (861) 411-446 BLASS PS, New Mexico 57101

10

11

12

13

14

15

îô

17

18

19

20

21

23

Q You say effectively.

A Probably when it was recorded. We earned interest in this property through agreement with another joint owner.

When did you acquire responsibility for the operation of the wells? Was it before the paperwork was filed with the Division?

A We commenced workover procedures on the No. 1 Stone almost simultaneously.

Q. Okay. Why are you not going back into the Wolfcamp zone in this well?

schematic and information that the tubing, 2-7/8ths tubing and the packer are currently in the hole as a fish from 8729 feet to 10,000 feet, being still above the Wolfcamp injection interval. In attempting to pull that tubing to replace it for leaks that we encountered, more time and cost than we anticipated, and believe the proposed procedure is the best way to economically remedy the situation and still permit disposal of produced water on the producing operations

Q Did you try to put water in the Wolfcamp in this well?

A Yes.

O. After you acquired the property?

A Yes, the water, to my knowledge, has been

11

12

13

14

15

16

17

18

19

20

21

22

23

going into the Wolfcamp.

Q What were the results of your attempt to utilize this well? As an injector into the Wolfcamp?

A. The well was taking water in the Wolfcamp interval at the rate of 350 barrels of water per day at pressures between 1000 and 1500 psi surface pressure recently.

Q If that was the situation, why then would you attempt to work the well over and pull the tubing?

A. We had indications that we had a tubing leak and we had pressure on the tubing annulus.

Q Immediately?

A Well, at the first time we checked it, which would probably be several months after we -- or when we completed working over the No. 1 Well, we found that we had restored production. Then we repaired the disposal pump, which put it on injection under the current scheme, and it in effect took water at the indicated pressures.

Q How long after you put it on did you check the annulus pressure?

A Well, this would be, I'd say, within three months.

Q. You didn't check the well to see if it was sound until three months after you started using it?

A Well, the production history of the Stone

24

No. 1 Well is such that we spent, say from April to June recompleting the well. After \$150,000 of tangible and intangible costs we put the well on production, consistently producing, and disposal operations. In August the producing well again had mechanical problems. We were down a number of weeks. The well was back on in September and went down again in October for mechanical problems. We're pumping that well with a 456 large beam pumping unit, rod string and insert pump of 6700 feet through tubing.

We did not feel that we had assurance that we had economic conditions until toward the end of last year, and then the timing of workload and operations were scheduled to do this workover on the disposal well.

Q When did you discover that you had holes in the 5-1/2 inch casing?

A. To our knowledge it was probably in March of this year, in March, 1979.

We again had problems with our producing well and, you know, made plans at that time to jointly work over that well and move the rig to the other well to do the work.

At the same time that you found the holes in the tubing?

Mell, yeah, physically found them. We suspected, you know, that we had tubing leaks earlier, be-

cause we had defective pressure monitoring on the tubing annulus, or at least checked it.

Q What was the condition of the tubing when you did get it out of the hole?

A. Well, it had primarily external collar corrosion. The tubes were generally intact. There were indications that the coupling area had failed.

Q Did you get this tubing out all in one piece or a piece at a time? Was it totally eaten up or was it really in pretty good shape?

there were numerous collars and as I indicated in the application, I think I indicated ten to twenty joints, we recovered maybe 2000 feet in one bite, so to speak. That's probably the maximum recovery on one run. We had other runs, and five -- most of them five or six hundred feet being in the 20-30 joint recovery per run.

of course, the closer we got to the packer, the more tension and force had to be applied to attempt to free the tubing or unseat the packer, and we, at the expedience of time and expense, made an internal cut in the tubing string at 8729 feet in order to pull as much as possible and yet have the 5-1/2 casing cleaned out inside across the San Andres-Glorieta type intervals.

Q Now do you expect this maximum life for

12

13

14

15

16

17

19

20

this field to be another ten years for the operations that you've got here?

Basin, being in Texas, but still Devonian production, at these 12,000 foot depths, we're in effect skimming, you know, making marginal production, these wells will produce in the extents that we've seen a number of years, you know, with volumes of water mainly restricted to your lifting capacity.

A. I think we're probably the only ones that have proven this in some areas. You know, other operators have not elected to do this for the most part.

A It's the only pay in the Medicine Rock

Pool, and there's — the nearest production would probably

be in the four or five mile range to the east in Texas of

formations other than the Devonian.

A You indicated that you had no analysis of formation fluids in the San Andres to the Abo interval, but that you did feel that they would be more highly contaminated than the Devonian waters.

A. Yes.

And what was that based on?

A My own experience with San Andres production

in the Permian Basin. We produce a lot of San Andres wells in the Permian Basin and they all make some water and they are all of this 100,000 plus chloride content. I believe that will be borne out by any investigation.

of the plugging, like on the first page there's a plug at 5350, which would be right in the middle of the -- your injection interval; on the last page there's a plug at 6420, 7200, again in the middle of your injection interval.

Do you have any idea why those plugs were set?

A. Well, the -- let me go to the last page first, the John Eisner Well.

This well was not productive in any horizon

It appears that that plugging procedure was based on so

many plugs per 1000 feet of open hole section, is the only
justification I can see.

above the 8-5/8ths casing seat, which, jumping back to the number one sheet, the Read Estate Well, which did produce, set a usual plug at the cutoff 5-1/2 point; had a plug again possibly associated with the interval between plugs at 6350 feet and a more usual plug at the 9-5/8ths casing seat.

That's the only reason I know, to my knowledge, you know, essentially that thing was productive in

there.

That same exhibit, your No. 1 Well does not have any cement across this injection interval. Do you anticipate any casing corrosion problems or possible casing collapse because of the injection?

A. Oh, as the cement top behind the 5-1/2 indicates, 11,840 feet, that well has not had cement behind it all during the period of injection in the Wolfcamp interval in the No. 3 Well, so that interval has been exposed to the Wolfcamp injection for the last fifteen years.

There has been on all producing operations, for example, no pressure from injection, say, on the 5-1/2 annulus, which would only be there if it came from an external source, which zero pressure.

Mell, your Exhibit Number Six, did you intend to show that most of this water, or all of the water, will likely go into the San Andres formation?

know, where we have information to put any quantitative figures to, as to net pay and porosity. But only injection profiling would actually determine the specific interval within there, even if we put one hole in the casing and it goes out, well, from then on it's going to go in the over all open hole interval at the most permeable porosity point, which may or may not be one of the points in the San Andres

perfs.

On completion of use of this well, do you think you'll be able to get in there and isolate the San Andres-Glorieta interval from the Abo-Tubb interval with a plug?

plug indicated at the top of the San Andres, outside the 5/8ths but inside the 9-5/8ths, that affects that plug there, were that plug either extended or moved out to cover, say, at least to the bottom of the San Andres, then selectively perforated in the San Andres, it would confine injection under -- below frac pressure type pressures, to the San Andres formation.

Likewise any deeper horizon within that open hole interval that was cemented off by essentially a primary cement job would be -- could be isolated.

Q Could you reasonably get in there and -and plug off this well at the base of the San Andres at
this time before you start your injection?

A Yes, that is the plan as proposed under our application.

Q No, I think you misunderstood me.

So that there would be no injection into the Glorieta-Tubb-Abo section, but inject only into the San Andres.

ALLY WALTO RIPED SHORTHAN

We have right if we, depending exactly on where the communication is in the 5-1/2, you know, it can be done period, but you know, it's how much trouble remains to be seen.

- Q Okay.
- A The proposed schematic again would be the most expedient economically and timely.
- Q Where are the fresh water zones in this area?
- A. To my knowledge, the 13-3/8ths inch casing strings case off all surface fresh water, being in general above 350 feet.
- Q This fiberglass tubing, do you land that in that packer or is there some sort of a metal sleeve that runs through the packer?
- A It has been recommended that we latch in, so to speak. There would be a fiberglass to metal connection point at the packer. All of that connecting equipment, however, could be internally and externally plastic coated, would be the proposed scheme to minimize corrosion, and this would again, as per the fiberglass design, minimize pulsation effects.

MR. STAMETS: Any other questions of this witness? He may be excused.

Anything further in this case?

MR. COFFIELD: No, sir.

MR. STAMETS: Take the case under advise-

ment.

(Hearing concluded.)

13

11

12

18 19

20

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 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.

Examiner

Oil Conservation Division

SALLY WALTON BOYD
ERTHED SHORTHAND REPORTS
11 Place Blades (111) 411-416
Seein Fo, Now Mouloo 1719-11

10

11

24

19

25



ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501

August 17, 1979

6505) 827-2434

	•
	Re: CASE NO. 6593
Mr. Conrad E. Coffield Hinkle, Cox, Eaton, Coffield & Hensley	ORDER NO. R-6082
Attorneys at Law P. O. Box 3580 Midland, Texas 79702	Applicant:
	Dyco Petroleum Corporatio
Dear Sir:	
Enclosed herewith are two coppivision order recently enter	ppies of the above-referenced ered in the subject case.
Pours very truly, JOE D. RAMEY	•
Director	
JDR/fd	
Copy of order also sent to:	
Hobbs OCD x Artesia OCD x Aztec OCD	
Other	

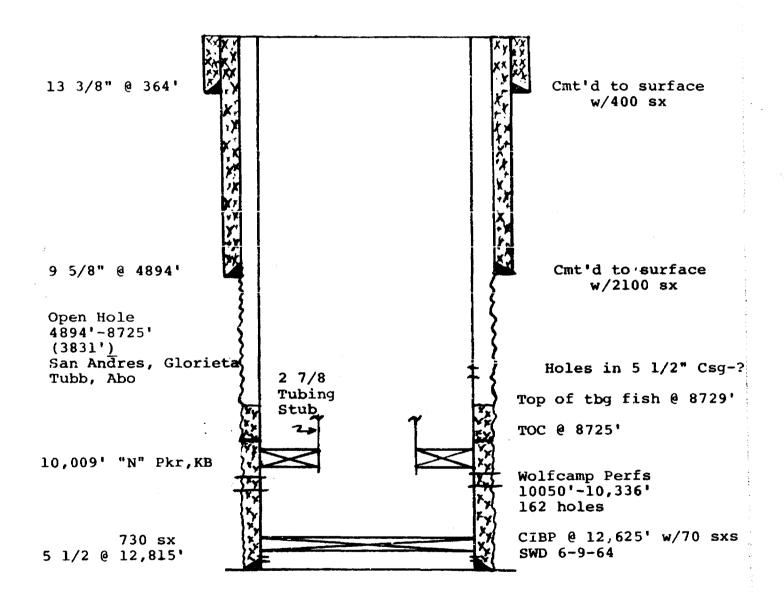
-	Einq I r	helle full - Ragemory			# 1 m		- Photos
	Rosemaniu firmy septi Roy di harteri sept	Begg Berten Grennig HBP Florida Maranger phot From an America	20	Chica de Nombre addid Me Province disense es 45 del	erakasta aris sattaris.	len m , G , ii	
	24 Both Suit 3- aws 61 - It stormen is 8 Johnnes May Crondy 3/8	W.E. My-	waren foa 10 is 375 pin 10 23 5 ww. Adams, Est. Mi	Wm, A, E pp4	Armstrand letter fund	Spriora for	
•	Fon Amer	ore evel. MI or regers of the Towns of the New American Control of the second of the s	Fown Ed.Co.	man A I gerb		Harbora Anderson, M.P. A.	33
	Tr.16 Tr.17 to		R S. Ad Sneoige E Lowe Ld.	dome File M Con Fon	Tenneco le M	Truete Evens, 5 LA Gioscors Tro es (1-6)	
	Tris 19 Tr. 12 g/ris A A A A A A A A A A A A A A A A A A A	Thurner Jr. Thurn	Tenneco 1/4 Ml minj divis	Anne Nord	Jock & C.B., Merkhom, Mi G.Cove, S&M. Investore Brec.	CA Gloscock 7/14 M 1 Hawthorne Bros.	
	The same services	Jac & Boron	R.G Brown 3.19.77		Great control of the	Howthorne Bros	14
1	A Co ofel Tr. 8 Ame	31	R O Brown 32	100° · ·	34-	11 23 61 12 3 61 	
•	Tr.9	265 AC. N J E Boy Aldridge Min Bivided) Win Civides Esha: Berry Be	9.19-77 L-282 Akman I Bros.etal Dickimbar -301 South Callie Co.	on o etal - Dickinson Cattle Ca,et	Ultibri M.I. A R Co M.I. Mrs Pare Lore BarthelomemEst EM Sovag	H. J. Boker, MI V3 M. Co. F.M. Savage Description	
	Comment (S)	Dickinson Cattle Co. etal	Tom Belce . Growin Ocis.	Mogure A	1	Raburto Urra kr E L. Phillips	725
-	Centour (A) 1 Polaris, (S) A R. Priest Dickinson Cattle Co.D.	6	Kathryff Michell. M.L. Dickinson CattleCo.cl	Cfd = 54 4/46 WC4434 Miss1278 Ber 13167 SAB 1-136 1 0	Sv. Macaman Life	eta webee	
	Bettie C. Dickinson".	Mery D. Crey for, etal Trs. Dickinson Corrie Co. etal Aikman Gros, etal L 288	Bernice Dickenson,¢ DickinsonCallle Ca,eli	efel M Mary D. Clayton stal Tri DickinsonCatile Co.el	MI Ind Y EX Moremen Service Se	Allen Phillips Promon Ctal, (S)	
	Dickinson Cattle Co., eta	⊗ '	Hund Herb Macreman TO 13219 D/A II 4 6	NS 139	So.NollGas Maremon to 1350 wc 3450 Derill 24 Jona Edwardseh	Ben Anderson etal Mil.	
	Texno MF Die TD 12 DIA 3-	7	ervice C.H.Spe	C.H. Sol West III	Amerille Dil 10 Amerille 6-12-77 Al 6-12 Amerille Dil	Oil Amorillo Amorillo Amorillo Amorillo Amorillo Amorillo Oil Amorillo Oil Oil Amorillo Oil Oil Amorillo Oil	ic.
-7¥	"Bettie C.Dickinson"	Mory D. Clayton 35:2 etal, Tra., MI Dickinson Cattle Co., etal Sea	Cit. Serv Mary D. Clay	I IM	Gordon Come Mr. Henry T Me	Tenneco Marige Mache	
	Dickinson Cottle Co.,	· [Aztec 1 - 20 80 L-4084 29 <u>×</u>	Sol West ## 3 · 1 · 81 1 · \$307 233	G-12-77 Govern Cere in 1 177 John R. Brend, I Gerder Tr. MI Bredy M. Leys, I	30-77 GE 19 75 77 SAPAN Anna hard ARV etal ARCo etal	
	13	Mary D. Clayton, etcl. 1 Dickinson Cattle Co. 1 18 Cities Serv.	rs. Mi etal	16 44ED/CINE	AR.LO.	Sinclair 12 Philippen Phil	
	Mary D. Clayron, eral, Tr Dickinson Cattle Co., et	12 - 16 - 79 L 3874 27 62 Stare, MI Dickinson Coffle Co.	etal(S) State Cattle	kinson le Co.,etal Store	15 38 Totals Emilian	A T Polocie	15
	AR.Co. Power in	Co. Shell Azi	1.80 Z -17 - 90 085 L - 423		(N.O.Nichols) (Gr Dyco. 719 etal (Sinclair)	P Disc	842S
	H.L.Brown, Jr.	Plains Radio Brondcasting Co.	20	21		Isomorphis 23 Tassa Isomorphis 23 Tassa Isomorphis 2 Isomorphis 3 Isomorphis 3 Isomorphis 4 Isomorphis 4 Is	
	Mery D. Clay- U.S ten, etal, MI Dickinson Cattle Co	IS 255 Store, MI		Co.,etal(5)	etal, M.I. Teay Fort, 7215 Billy Fort, 7215	ole Enserch	
	Conf. 1. 3. 1. 81 Conf. 1. 3. 1. 81 Conf. 1. 3. 1. 81 Ora 4.15.65 L. 5304	Plains Radie Broods 5 1 - 81 5 - 5462 -12 25	asting Co. Plains Redia Broada 5 · 1 · 81 • - 5463 12 18	. 17.79	So Union Supply 10 341167 28-31	Solf Sold 10 125 41	•1
	25 — —	Plains Page Broadca est III See 2 Bt 12 55			Dielish Mo. /	1	
	Stone, MI Dickinson Cattle C	state Dickinson Cattle	ca, etalis) Corre da, etalis da esting Co.	Submitte	s Refilire (S)	U.S. 14.1 William Reh. Inc. (S)	
	Ferace E-136	5 5463 1225	12-16-79 L-3613 17-79	79 6-17-79	2998	9 Ensech 5	
i	1	- 1,-0 3'		يتسافينا والمواجعا والرواد	alaban kanan ang atau kanan atau atau atau atau atau atau atau	e constante e entre e en la constante e	SERVICE IN THE PROPERTY.

ì

905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

EXHIBIT NO. 2

C. S. STONE NO. 3
UNIT F 1980' FNL & 1980' FWL
SECTION 22, T15S, R38E
MEDICINE ROCK FIELD
LEA COUNTY, NEW MEXICO





905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

EFFORE TYPE MICRO 11 A 2 15

CH. CCM

Submitted by Dyco

Hearing Date 7-11-79 ARCO OIL & GAS COMPANY

REED-ESTATE NO. 1

1980' FSL & 1980' FEL

Sec. 22, T15S, R38E

MEDICINE ROCK FIELD

LEA COUNTY, N. M.

Cmt'd to surface 13 3/8" @ 332' Mud 9 5/8" @ 4860' Cmt'd to surface . Mud 35 sx 6350' Mud Y y y y 35 sx × Xyxx Y 5 1/2" csg stub @ 8130' Mud TOC 10,260' on 5 1/2" CIBP @ 12,425' TD 12,848' 5 1/2" Csg @ 12,848' P&A 11-28-72

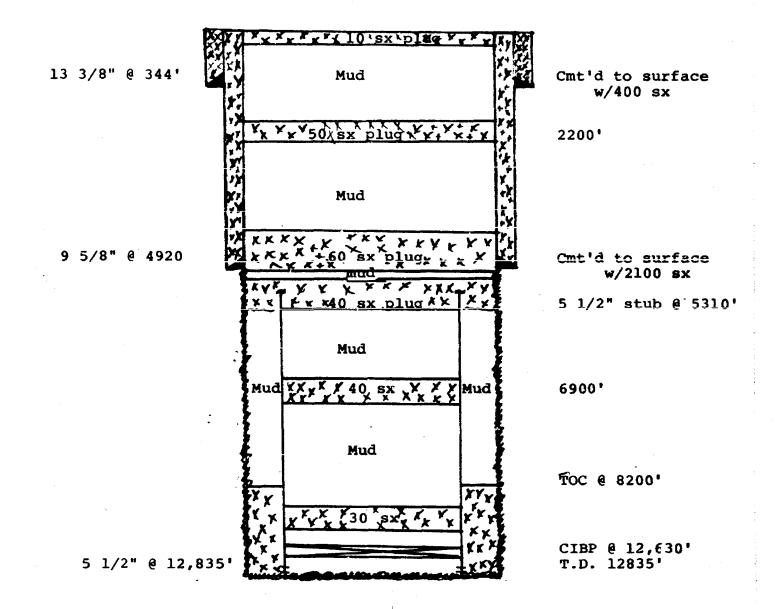


905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND. TEXAS 79701 AREA 915/683-6344

EXHIBIT #3

ARCO OIL & GAS COMPANY
C. S. STONE #2

B 660' FNL & 1980' FEL
Sec. 22, T15S, R38E
MEDICINE ROCK FIELD
LEA COUNTY, N. M.

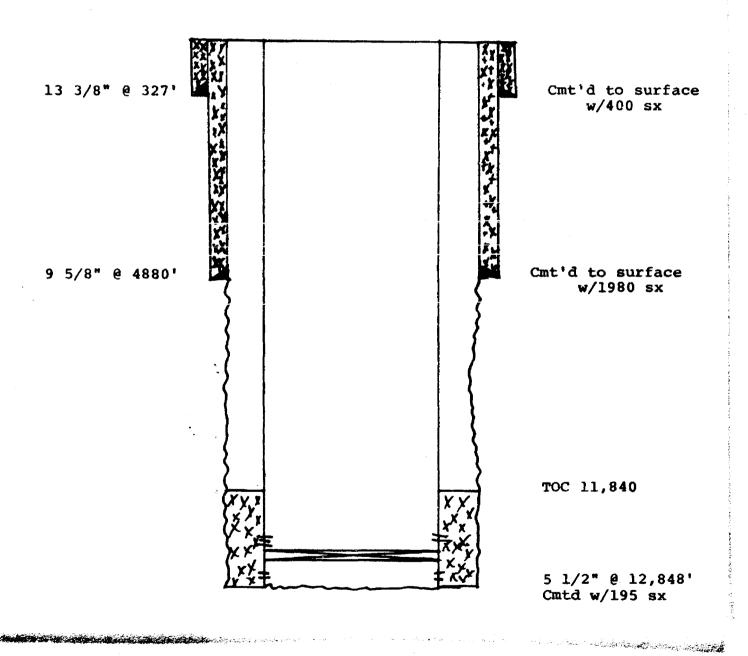


905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

EXHIBIT #3

C. S. STONE #1 WELL

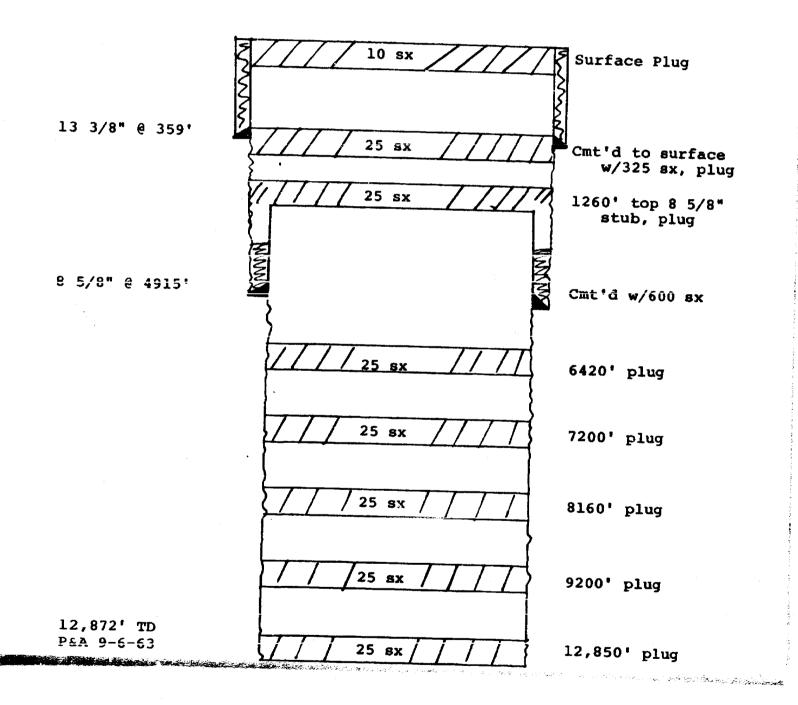
G 1980 FNL & 1980' FEL
Section 22, T15S R38E
MEDICINE ROCK FIELD
LEA COUNTY, N. M.



905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

EXHIBIT #3

JOHN J. EISNER
ATLANTIC-STATE #1
N 554' FSL & 2086' FWL
Sec. 15, T15S, R38E
LEA COUNTY, NEW MEXICO



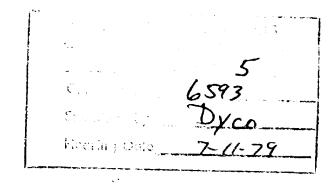
MEDICINE ROCK SWD SYSTEM LEA COUNTY, NEW MEXICO SUMMARY DATA - WELLS WITHIN 1/2 MILE CASING - CEMENTING

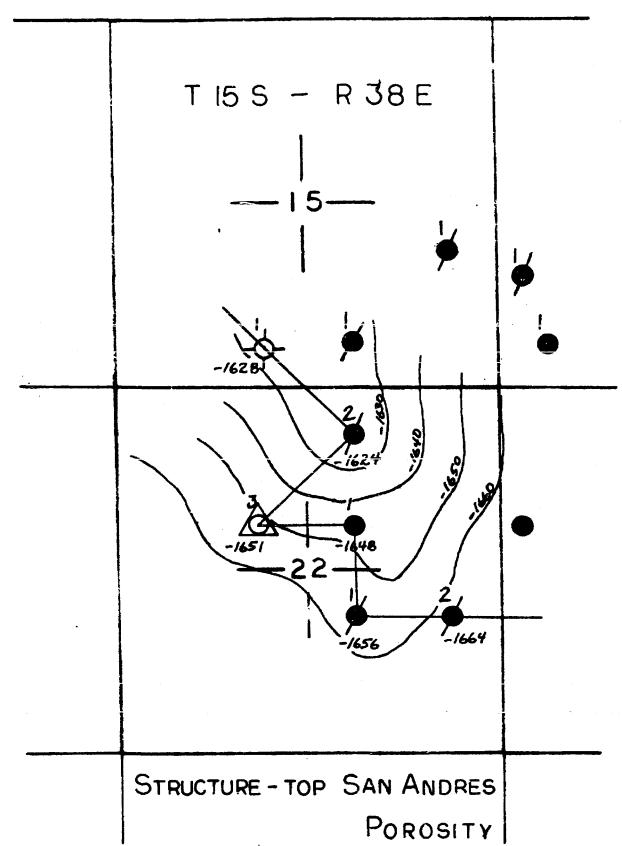
EISNI	ARCO		ARCO	DYCO	LAST
EISNER ATLANTIC-STATE	REED-ESTATE #1		C. S. STONE #2	C. S. STONE #1	WELL
#1 N-SESW 15-T15S-R38E	J-NWSE 22-T15S-R38E		Perforations: Devonian B- NWNE 22-T15S-R38E	G-SWNE-22-T15S-R38E	LOCATION
359'	332 '		12,633	327'	SURFACE CSG.DEPTH
Circ 325 sx	Circ		- 12,670' sx Circ 400	circ-400	SURFACE TOC DEPTH CSG.DEPTH SURF.CSG.INTER CSG
4915'	4860		4920'	4880"	DEPTH INTER CSC
600 sx	Cir		Circ.2100	sx Circ.1980	TOC SX
No csg s	12848'		12,835'	12,848'	PROD CSG.DEPTH
SA GO	TOC 10,250'		1005 sx	195 sx-11,840	TOC SX PROD CSG
P&A 9-6-63 12,850'-25sx; 25 sx @ following depths, 9200',8160',7200', 6420', 1260',360'; 10 sx @ top	P&A 11-28-72 CIBP @ 12,425' w/35 sx 8130'-35 sx;6350L 35 sx;4860-35 sx, Surf 10 sx	W/40 sx, 9100 - 9500', 30 sx; 6900-7400',40sx 5900'-40 sx; 5310'-40 sx, 4920- 60 sx; 2200'-50sx surface 10sx	CIBP @ 12740'PBTD P&A 1-15-76, CIBP @ 12630'	NOT PLUGGED	P&A PLUGS

DEFORE EXAMENS STAMETS
OIL CONES VANDON DIVISION
EXHIBIT NO. 4

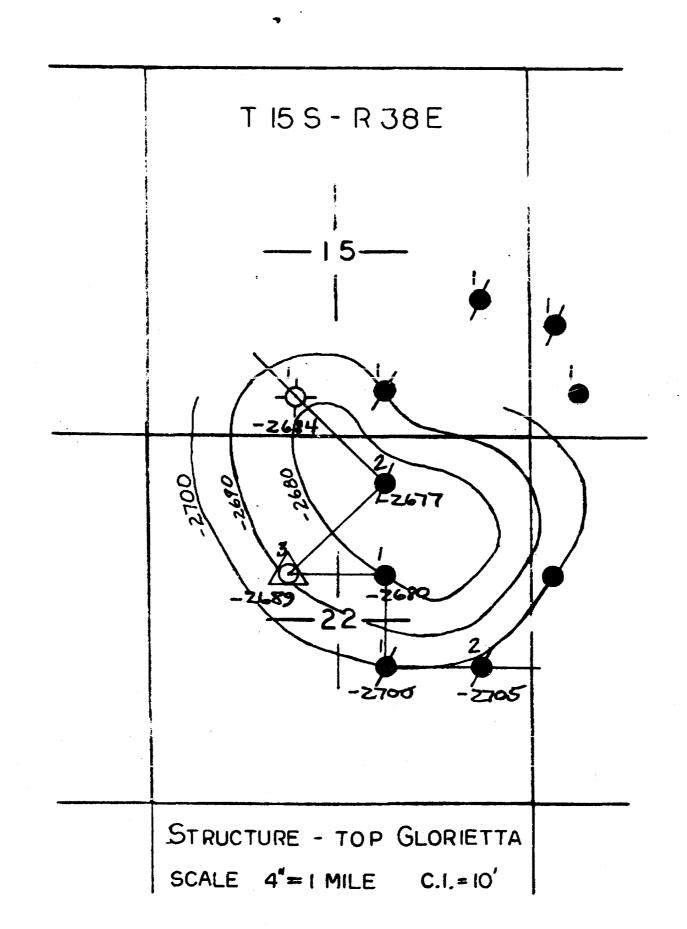
CASE NO. 6593
Submitted by Days
Hearing Date 7/11/79

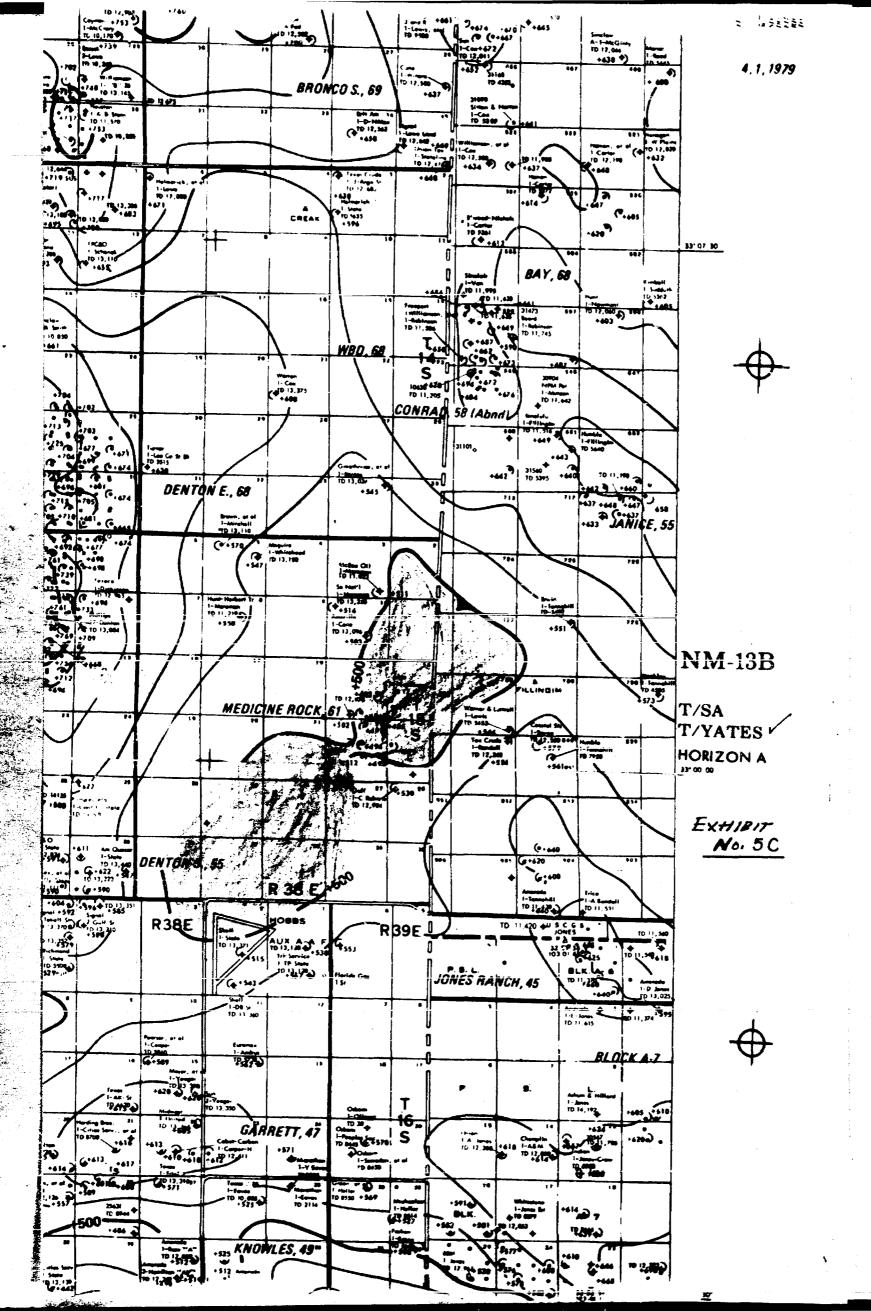
DYCO PETROLEUM CORPORATION CASE 6593
EXHIBIT NO. 4

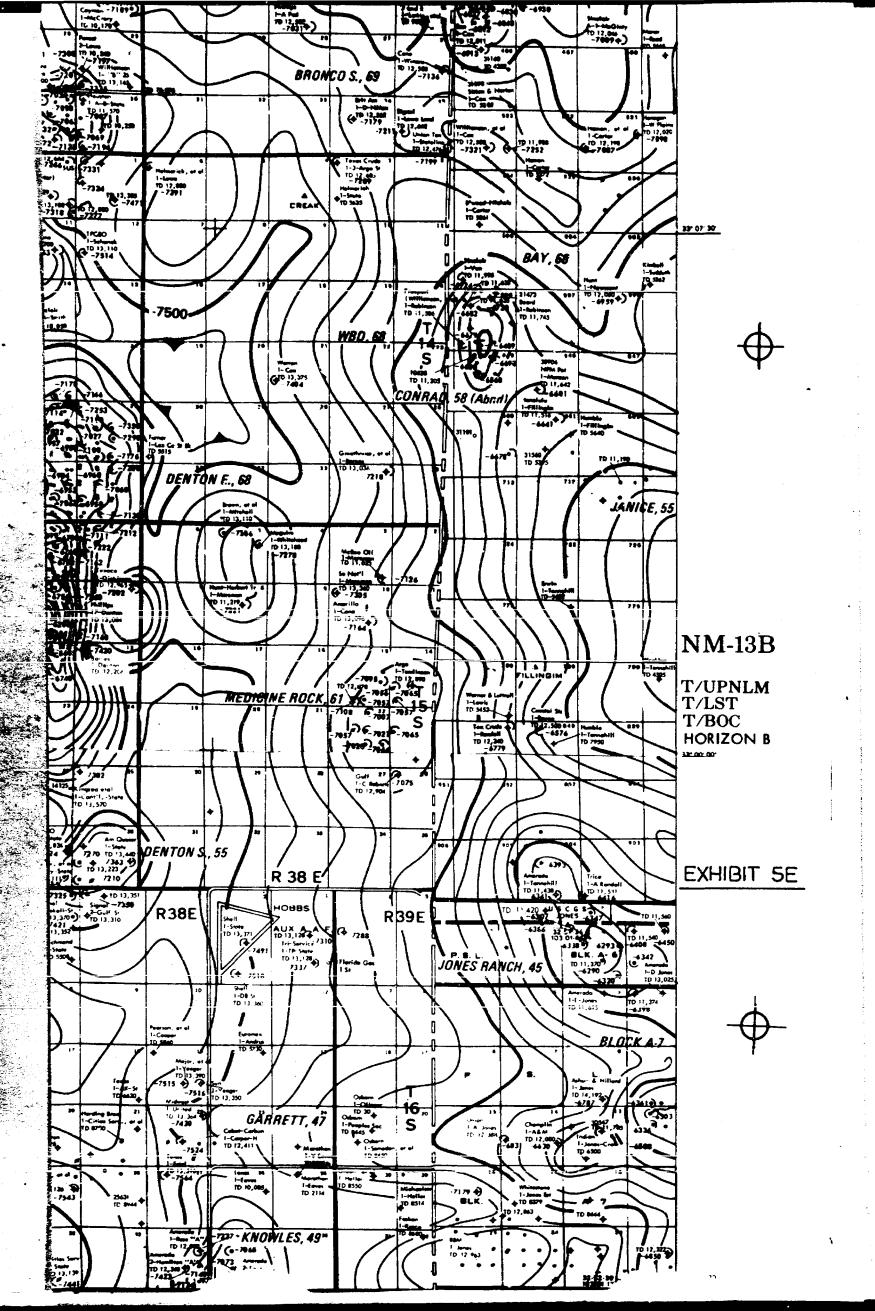


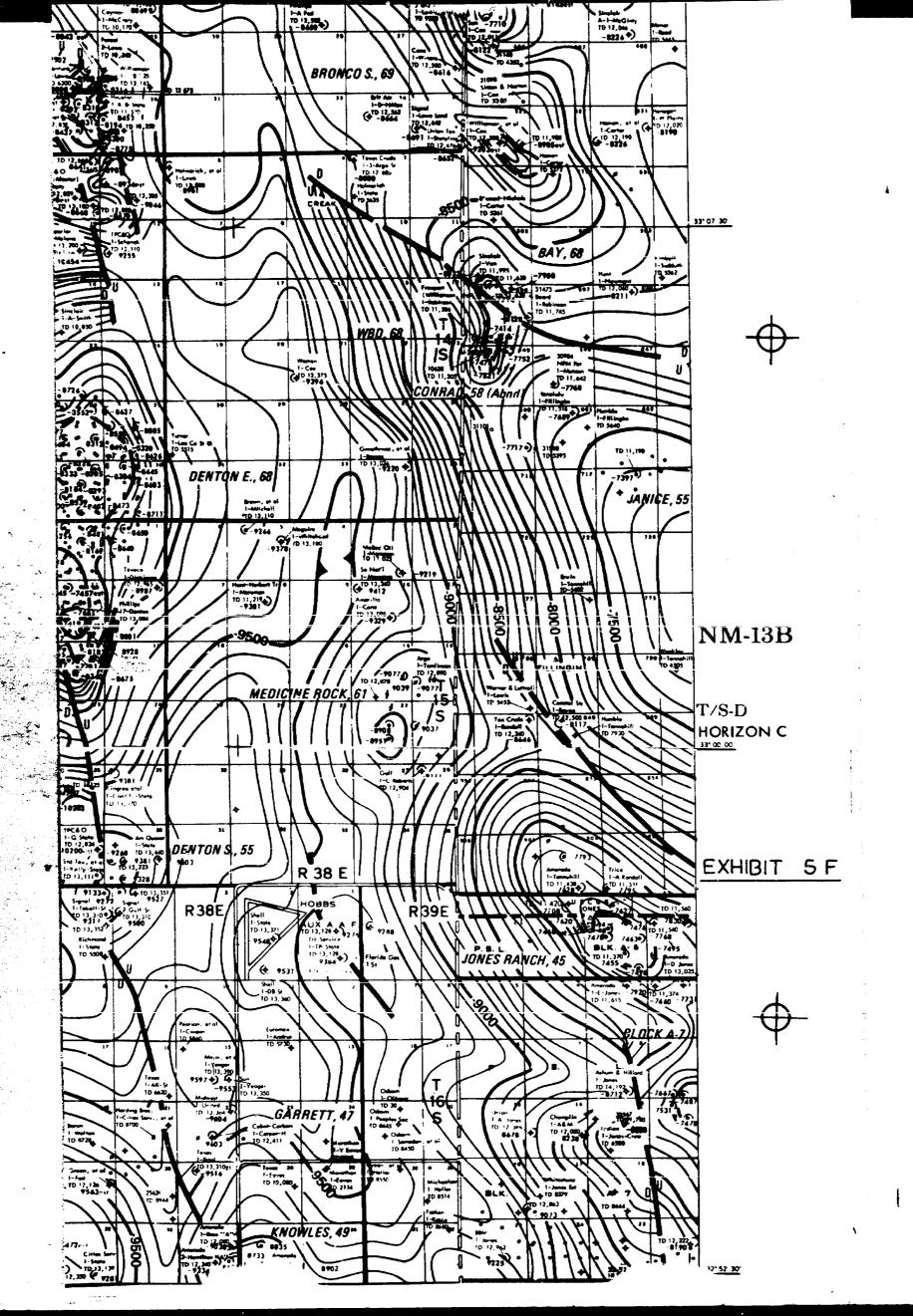


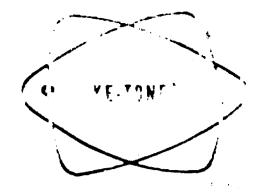
SCALE: 4"= 1 MILE C.1. = 10'











CORPORATION

P O BOX 1499

トウBBS : み がEXICO 88240

Dysc Potroleum Compration

Medic on Rock Day, in

S. Stone #

nicha Date 5-12-

100 and - Devonian Formation

VATER AND YSIS

Calcium (Ca++)
Magnesium (Mg++)
Sodium (Na+)
Iron (Total)

105.20 2,104 43.98 528 1.04.39 24,045

Disposal Water Analysm

C.S. Stone #3 - SWDWell

14.00 Not 64.35 1,116.72	854 found found 3.091 39,600
TOS	70,277
149.18 14.00	7,459 700 -, 6, 759
BEFORE EXAMINER TO SETS CIT CONT. JATEUN DIVISION	700
CALENO. 6593	-
Hearing Dale 7-11-79 C	NSE 659
	149.18 14.00 135.18 BEFORE EXAMINER M. DIVISION 101.100.17 CALE NO. 6593 Submitted by Dyco Hearing Date 7-11-79 C

CaSO4 So ling more menative (0.63)

Maios. Water Monto manusum

CAY Tile - Stone *3 DYCO PETROLEUM CORPORATION

905 WESTERN HINTED LINE AUTO DING 200 WEST TEXAS MIDLAND, ILXAS 79701



Dyco Petroleum Corporation

1703 WILCO BUILDING 415 WEST WALL STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

May 29, 1979

Polaris Production Company First Nat'l Bank Bldg. 303 West Wall Midland, Toxas 79701

Troy C. Fort P. O. Box 998 Lovington, New Mexico 88260

Re: Medicine Rock (Devonian) Field Section 22, T15S, R38E

C. S. Stone #3 SWD System Permit

Flooring Dale 7/11/79

Gentlemen:

You have received Dyco's Form C-108 submitted to the New Mexico Conservation Commission for a change in salt water disposal formation in the

As indicated, the well has been approved for salt water disposal into the Wolfcamp-Tennsylvanian Formations from 9990 -11000 . We are now applying to dispose of produced water from Pyco's C. S. Stone #1 Well (Devonian producer) into the Permian Formation from 4894' to 8725' because of high cost to attempt to restore the Wolfcamp interval to accept disposal water.

Therefore, in order to expedite approval of our application so the C. S. Stone #1 Well can get back on production (now shut in) it is requested that you oprove of the proposed disposal plan by signing in the space provided below. Return one (1) executed copy to the NMCC in the stamped addressed envelope provided and one (1) executed copy to Dyco Petroleum for our files and retain one copy for your file.

Yours very truly,

famile Tom L. Sprinkle Area Manager

CASE 6593 Ex. 8-2

. C. Fort

1/1 p pyco 905 V 1/1 MIDL

DYCO PETROLFUM CORPOLATION
905 WALLETT HANGED GREEN BUILDING
200 WALLETTANS
MIDLAND, TEXAS 79701

1703 WILCO BUILDING 415 WEST WALL STREET MIDLAND, TEXAS 79701 AREA 915/883-6344

Dyco Petroleum Corporation

May 29, 1979

Polaris Production Company First Nat'l Bank Bldg. 302 West Wall Nidland, Toxas 79701

Troy C. Fort
P. O. Box 998
Lovington, New Mexico 88260

Re: Medicine Rock (Devonian) Field Section 22, T155, R38E C. S. Stone #3 SWD System Permit Substitute by
Hearing Date
RECEIVED JUN 7 1070

Gentlemen:

You have received Dyco's Form C-108 submitted to the New Mexico Conservation Commission for a change in salt water disposal formation in the move well.

As indicated, the well has been approved for salt water disposal into the Wolfcamp-Pennsylvanian Formations from 9990'-11000'. We are now applying to dispose of produced water from Dyco's C. S. Stone #1 Well Devonian producer) into the Fermian Formation from 4894' to 8725' because of high cost to attempt to restore the Wolfcamp interval to accept disposal water.

Therefore, in order to expedite approval of our application so the C. S. Stone #1 Well can get back on production (now shut in) it is requested that you prove of the proposed disposal plan by signing in the space provided below. Return one (1) executed popy to the NMCC in the stamped addressed evelope provided and one (1) executed copy to Dyco Petroleum for our files and retain one copy for your file.

Yours very truly,

Tom L. Sprinkle
Area Manager

The above request for modification of the C. S. Stone #3 SWD system is agreed that ______ day of ______ 1979 by the undersigned.

CASE 6593

Ex. 8-/

POLATES PRODUCTION CORP.

Trov

HOW

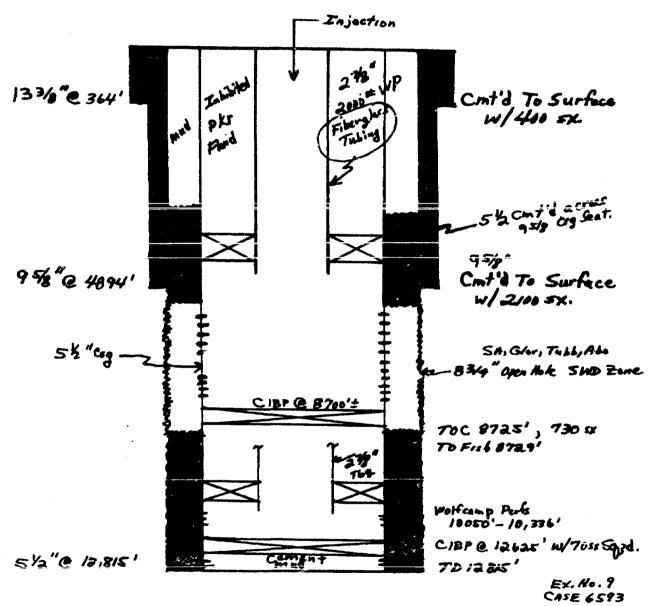
Dyco Petroleum Corporation 6543 Substitutive DyCo...
Hearing Jule 7-11-79

C. S. Stone 3 SWD Well

I Triortion System

905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

Proposed Injection System San Andrer, Glorieta, Tubb, Abo



E - Na 9

- Application of Grace Petroleum Corporation for compulsory pooling and an unorthodox gas well location, lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Lots 9, 10, 15, and 16 and the SE/4 of Section 6, Township 21 South, Range 32 East, to be dedicated to a well to be drilled at an unorthodox location 4650 feet from the South line and 660 feet from the East line of said Section 6. Also to be considered will be the cost of drilling and completing said well and the allocation of the costs 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 6591: Application of Exxon Corporation for vertical pool limit redefinition, Lea County, New Mexico.

 Applicant, in the above-styled cause, seeks an order extending the vertical limits of the Langlie

 Mattix Pool to include the lowermost 165 feet of the Seven Rivers formation and the concomitant

 contraction of the vertical limits of the Jalmat Gas Pool underlying the NE/4 of Section 2, Township

 24 South, Range 36 East.
- CASE 6592: Application of Maddox Energy Corporation for a dual completion, Eddy County, New Mexico.

 Applicant, in the above-styled cause, seeks approval for the dual completion of its Malaga Well No.

 1 located in Unit G of Section 3, Township 24 South, Range 28 East, to produce gas from the Atoka and Morrow formations through parallel strings of tubing.
- Application of Dyco Petroleum Corporation for salt water disposal, Lea County, New Mexico.

 Applicant, in the above-styled cause, seeks authority to dispose of produced salt water in the San Andres, Glorieta and Tubb formations in the open-hole interval from 4894 feet to 8725 feet in its C. S. Stone Well No. 3 located in Unit F of Section 22, Township 15 South, Range 38 East, Medicine Rock-Devonian Pool.
- CASE 6594: Application of Flag-Redfern Oil Co. for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221 to permit disposal of produced brine in an unlined surface pit located in Unit K, Section 2, Township 19 South, Range 31 East, Shugart Field.
- CASE 6595: Application of Stevens Oil Company for compulsory pooling, Chaves County, New Mexico.

 Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the San Andres formation underlying the NW/4 SW/4 of Section 30, Township 8 South, Range 29 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.
- CASE 6270: (Reopened and Readvertised)

In the matter of Case 6270 being reopened pursuant to the provisions of Order No. R-5771 which order created the South Peterson-Fusselman Pool, Roosevelt County, New Mexico, and provided for 50-acre spacing. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

Docket No. 26-79

DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 18, 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:

- ALLOWABLE: (1) Consideration of the allowable production of gas for August, 1979, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.
 - (2) Consideration of the allowable production of gas for August, 1979, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

Dockets Nos. 27-79 and 28-79 are tentatively set for hearing on July 25 and August 8, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - JULY 11, 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:

- Application of Amoco Production Company for downhole commingling, Rio Arriba County, New Mexico.

 Applicant, in the above-styled cause, seeks approval for the downhole commingling of B.S. Mesa-Gallup and Basin-Dakota production in the wellbore of its Jicarilla Apache 102 Well No. 13 located in Unit B of Section 10, Township 26 North, Range 4 West.
- CASE 6584: Application of Texas Oil & Gas Corp. for an unorthodox gas well location, Eddy County, New Mexico.

 Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Shugart State
 Com. Well No. 2 660 feet from the South line and 1930 feet from the East line of Section 16, Township18 South, Range 31 East, to test the Wolfcamp through Mississippian formations, the E/2 of said
 Section 16 to be dedicated to the well.
- CASE 6574: (Continued from June 13, 1979, Examiner Hearing)

Application of Texas Oil & Gas Corp. for an unorthodox gas well location and compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Wolfcamp through Morrow formations underlying the E/2 of Section 6, Township 17 South, Range 35 East, to be dedicated to a well to be drilled at an unorthodox location 660 feet from the South and East lines of said Section 6. 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.

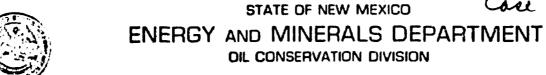
- CASE 6563: (Continued from June 27, 1979, Examiner Hearing)
 - Application of Roy L. McKay for a unit agreement, Lea County, New Mexico. Applicant, in the abovestyled cause, seeks approval for his North Woolworth Ranch Unit Area, comprising 1,280 acres, more or less, of State lands in Township 23 South, Range 35 East.
- Application of Dugan Production Corporation for downhole commingling, San Juan County, New Mexico.

 Applicant, in the above-styled cause, seeks approval for the downhole commingling of undesignated

 Fruitland and West Kutz-Pictured Cliffs production in the wellbores of its Paul Wells Nos. 1 and 2

 located in Units G and C of Section 19, Township 27 North, Range 11 West.
- Application of Dugan Production Corporation for downhole commingling, San Juan County, New Marico.

 Applicant, in the above-styled cause, seeks approval for the downhole commingling of Conner-Fruitland and undesignated Pictured Cliffs production in the wellbores of the following wells: Big Field Well No. 2 in Unit C of Section 3; Big Field Well No. 5 in Unit P of Section 10; Dinero Well No. 1 in Unit H of Section 13; and Molly Pitcher Well No. 2 in Unit H of Section 14, all in Township 30 North, Range 14 West.
- CASE 6587: Application of Caribou Four Corners, Inc., for three unorthodox well locations, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox locations of the following wells in the Cha-Gallup Pool: Kirtland Wells Nos. 3 and 4 located 730 feet from the North line and 2250 feet from the East line and 1450 feet from the North line and 595 feet from the East line, respectively, of Section 18, Township 29 North, Range 14 West; and Kirtland Well No. 2 260 feet from the North line and 2100 feet from the East line of Section 13, Township 29 North, Range 15 West.
- Application of Caribou Four Corners, Inc., for a non-standard proration unit, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for a 64.32-acre non-standard oil proration unit comprising the NW/4 NW/4 and that part of Lot 5 lying north of the San Juan River, all in Section 18, Township 29 North, Range 14 West, Cha Cha-Gallup Oil Pool.
- Application of Atlantic Richfield Company for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its State "BV" No. 2 Well 2109 feet from the North line and 1778 feet from the West line of Section 25, Township 17 South, Range 28 East, to test the Morrow formation, the N/2 of said Section 25 to be dedicated to the well.



LARRY KEHOE

June 25, 1979

POST OFFICE BOX 2008 STATE LAND OFFICE BUILDING SANTA FE, NEW MEXICO 87501 65051 827-2434

Dyco Petroleum Corporation 905 Western United Life Bldg. 300 West Texas Street Midland, Texas 79701

Attention: Tom L. Sprinkle

Medicine Rock (Devonian) Field Section 22, T-15-S, R-38-E, Lea County, New Mexico C. S. Stone #3 SWD System Permit Revision of Order No. SWD-41

(12-13-63)

Gentlemen:

Your application for salt water disposal has been set for hearing on July 11, 1979. A docket will be mailed to you in a few days.

Very truly yours,

(Ms.) DIANE RICHARDSON Secretary Legal Division

dr/



Dyco Petroleum Corporation

905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

June 20, 1979

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

Attn: Mr. Joe D. Ramey

Re: Medicine Rock (Devonian) Field
Section 22, T15S, R38E
Lea County, New Mexico
C. S. Stone #3 SWD System Permit
Revision of Order No. SWD-41 (12-13-63)

Gentlemen:

Attached please find additional supporting data for our revised SWD permit request in the above well as per requirements of Memo No. 3-77, dated August 24, 1977:

- (1) Surface injection pressure will probably be 0.3 psi per foot, which is still below frac pressure according to injectivity tests on untreated formation. Acid stimulation could result in surface injection pressure of 0.2 psi per foot or less.
- (2) Tabular summary of all wells penetrating the injection zone within one-half mile as required.
- (3) Schematic of all plugged and abandoned wells within onehalf mile which penetrated the proposed injection zone.

It is hoped the attached information plus that previously submitted, will permit early positive action on our request to convert from the Wolfcamp disposal zone to the San Andres disposal zone in the referenced well.

OIL CONSERVATION DIVISION SANTA FE

Yours very truly,

Tom L. Sprinkle

Area Manager

: Polaris Production Corp.-offset operator Troy Fort-Surface Owner



Dyco Petroleum Corporation

905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

MEDICINE ROCK FIELD

C. S. STONE NO. 3

SALT WATER DISPOSAL SYSTEM

LOCATION: F-1980- FNL & 1980' FWL, Sec. 22, T15S, R38E

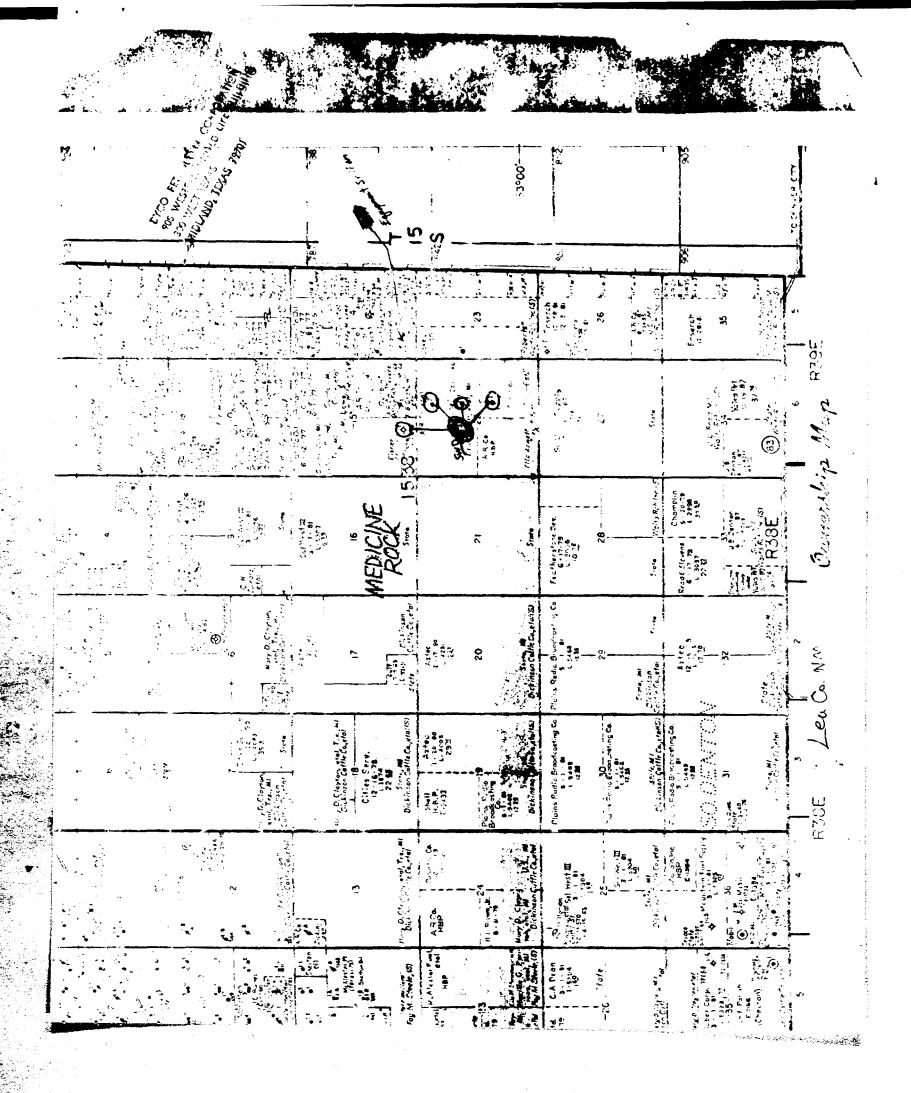
LEA COUNTY, NEW MEXICO

Re: Dyco Petroleum Corporation
Application to Convert from Wolfcamp Disposal Zone to
San Andres-Glorieta Disposal Zone

Summary of Casing & Cementing Records of Producing and Plugged Wells Within One-half Mile of C. S. Stone No.3

C. S. Stone #1	C. S. Stone #2	Reed-Estate #1
Dyco Pet. Corp.	Arco Oil & Gas	Arco Oil & Gas
G-1980' FNL &	B-660' FNL &	J-1980' FSL & 1980'
1980' FEL, Sec.	1980' FEL, Sec.	FEL, Sec. 22,
22, T15S, R38E	22, T15S, R38E,	T15S, R38E,
Lea County, N.M.	Lea County, N.M.	Lea County, N.M.

See Attached Sheets For Well Schematics And Casing-Cementing Detail.



ŀ

905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

ARCO OIL & GAS COMPANY C. S. STONE #2

LOCATION: B - 660' FNL & 1980' FEL, Sec. 22, T15S, R38E,

Lea County, N.M., Medicine Rock Field

SURFACE CSG: 13 3/8", 45# csg set @ 334', cmt'd w/400 sx to surface

INT. CSG: 9 5/8", 36# & 40# csg set @ 4920', cmt'd w/2100 sx

to surface

PROD. CSG: 5 1/2", 17#& 20# csg set @ 12,835'; cmt'd w/1005 sx,TOC @ 8200'

P&A EFFECTIVE 1-15-76 AS FOLLOWS:

1. CIBP @ 12,630' w/40 sx cmt plug on top

3.

5.

9500'-9100', 30 sx cmt plug inside 5 1/2" casing 7400'-6900', 40 sx cmt plug in 8 3/4" open hole 6400'-5900', 40 sx cmt plug in 8 3/4" open hole 5310'-5 1/2" csg stub. 40 sx cmt. plug 1/2 in-1/2 out 4920'-9 5/8" csg seat. 60 sx cmt. plug 1/2 in-1/2 out 2390'-2200', 50 sx cmt plug inside 9 5/8" csg.

7.

8. Surface, 10 sx plug w/DH marker

NOTE: Pulled 5310'-5 1/2" casing. All 13 3/8" casing and all 9 5/8" casing cemented to surface and left in well

905 WESTERN UNITED LIFE BLDG **Dyco Petroleum Corporation** 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

ARCO OIL & GAS COMPANY REED-ESTATE NO. 1

LOCATION: Unit_J, 1980' FSL & 1980' FEL, Sec. 22, T15S, R38E, Lea County, N.M., Medicine Rock Field

SURFACE CASING: 13 3/8" @ 332', Cmt'd to surface

INTER. CASING: 9 5/8" @ 4,860', cmt'd to surface

PROD. CASING: 5 1/2" @ 12,848', Cmt'd to 10,260'

P&A EFFECTIVE 11-28-72 AS FOLLOWS:

1. CIBP @ 12,425' w/35' cmt on top

2. 8130'; 35 sx plug 1/2 in-1/2 out of 5 1/2" csg stub
3. 6465'-6350', 35 sx plug in 8 3/4" open hole
4. 4860', 35 sx plug across 9 5/8" casing seat
5. Surface, 10 sx plug w/DH marker

NOTE: Pulled 8130' - 5 1/2" casing. All 13 3/8" casing and all 9 5/8" casing cemented to surface and left in well

905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

DYCO PETROLEUM CORPORATION (ARCO OIL & GAS COMPANY) C. S. STONE NO. 1

LOCATION: Unit G - 1980' FEL & 1980' FNL, Sec. 22, T15S, R38E, Lea County, N.M. Medicine Rock Field

SURFACE CASING: 13 3/8" @ 327', cmt'd to surface

INTER. CASING: 9 5/8" @ 4880', cmt'd to surface w/1980 sx.

PROD. CASING: 5 1/2" @ 12,848', cmt'd w/195 sx, est. TOC @ 11,840' by temperature survey. PBTD 12,740'

This well is the only productive well in the Medicine Rock (Devonian) Field, except the Polaris Production-Carter Estate #1 Well which is 4500' NE of the C. S. Stone #3 SWD well and 3500' NE of the C. S. Stone #1 producing well.



905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

JOHN J. EISNER ATLANTIC-STATE #1 N-554' FSL & 2086' FWL Sec. 15-T15S-R38E LEA COUNTY, NEW MEXICO

SURFACE CASING: 13 3/8" @ 359' w/325 sx to surface

INTER. CASING: 8 5/8" @ 4915' w/600 sx - no top

DST 12,864-72', rec 90' SGC Salty Sul Water Cut Mud

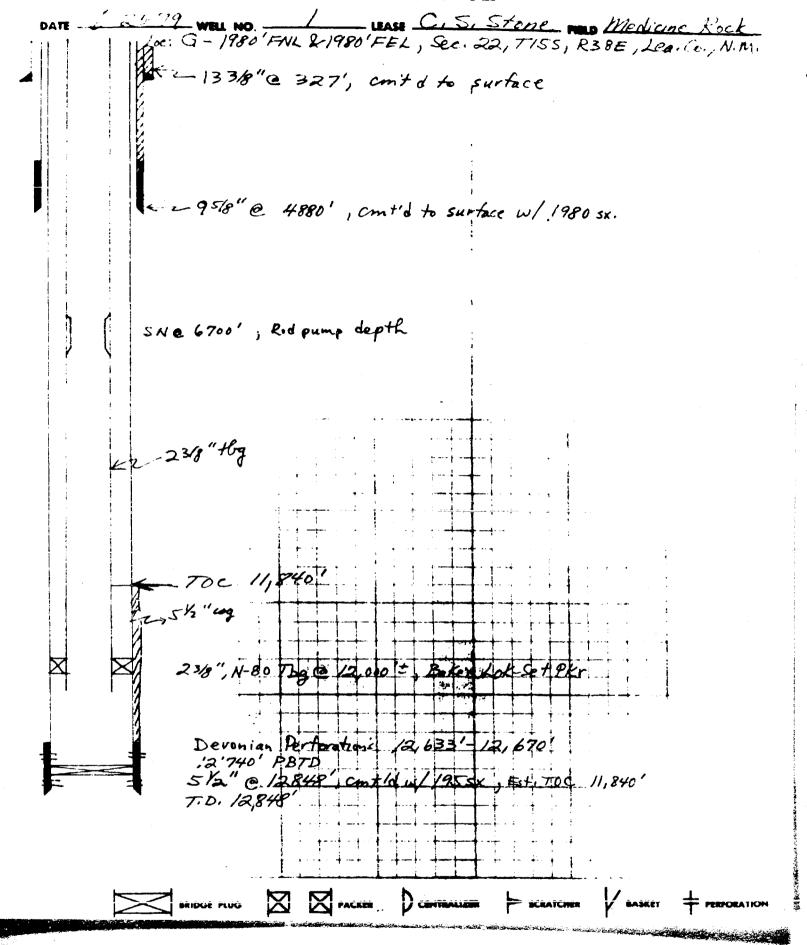
TD 12,872'

P&A 9-6-63:

No plugging record. Assume cement plug across 8 5/8" casing seat and at surface

BAKER OIL TOOLS, INC. SERVING THE WORLD

Producer

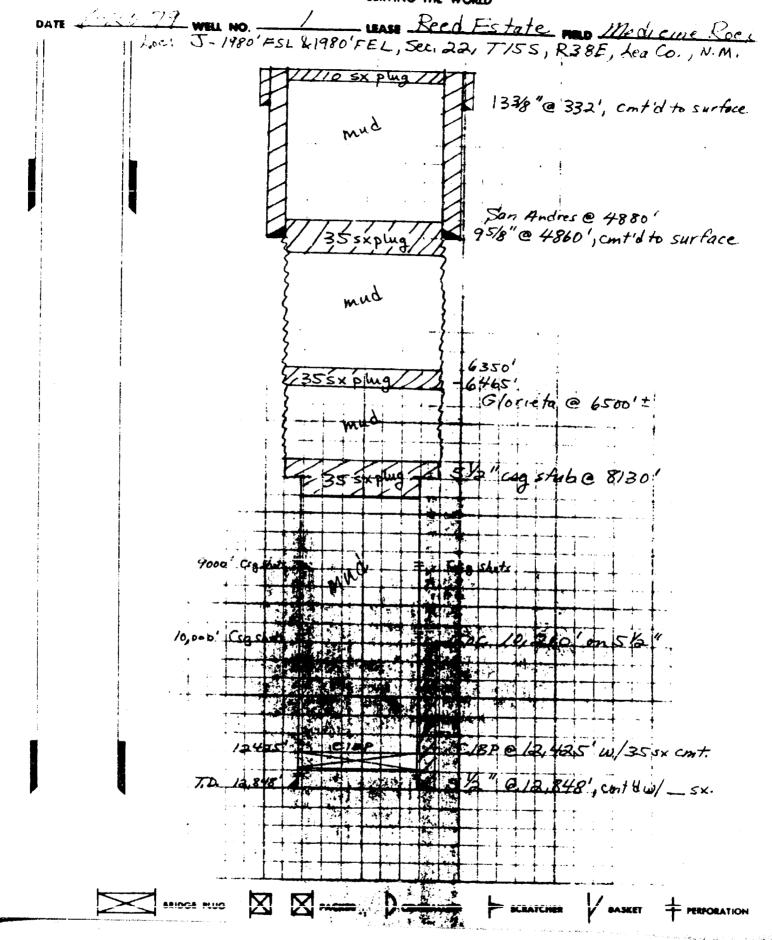


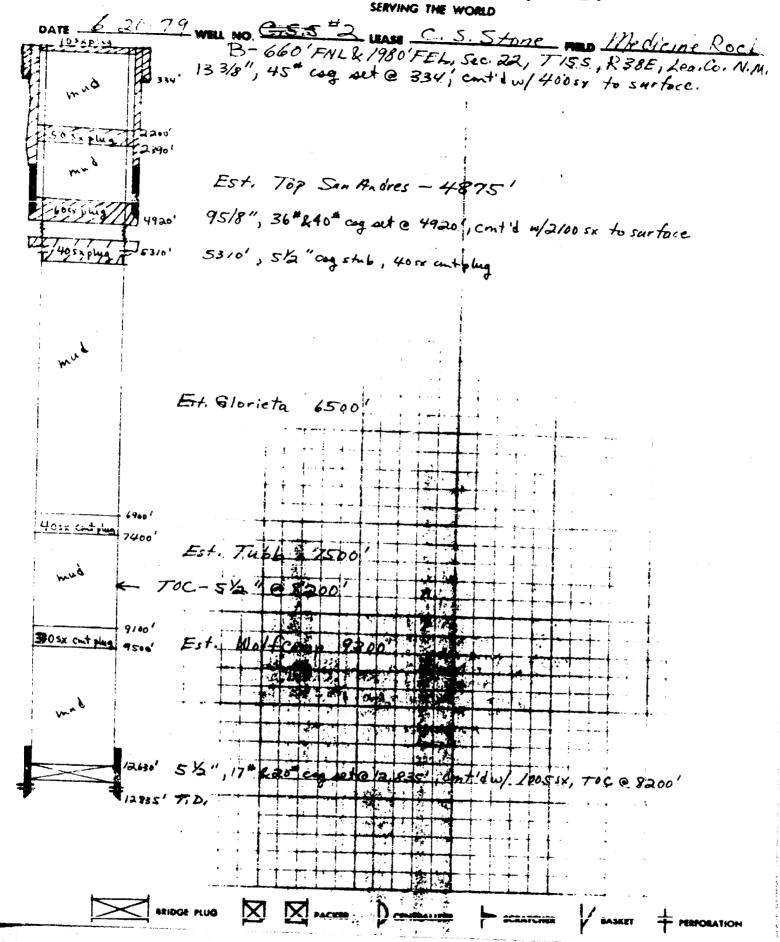
Dyco Petroleum Corp. BAKER OIL TOOLS, INC. LEASE FISHER-Atlantic State 9-6-63

CLOSEFEL & 1980'FWL, Sec. 15-7155, R3BE, Lea. Co. N. M.
2006, FWL, Sec. 15-7155, R3BE, Lea. Co. N. M. DATE 6 20-79 WELL NO. 133/8@ 3'59', cmt'd to surface. W/325 sx mud 85/8" @ 4915 cmt'd + natopindicated. mud no report on open hole SRIDGE PLUG

Dyco Petroleum Corporation BAKER OIL TOOLS, INC.









905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

June 20, 1979

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

Attn: Mr. Joe D. Ramey

Re: Medicine Rock (Devonian) Field Section 22, T15S, R38E Lea County, New Mexico C. S. Stone #3 SWD System Permit Revision of Order No. SWD-41 (12-13-63)

Gentlemen:

Attached please find additional supporting data for our revised SWD permit request in the above well as per requirements of Memo No. 3-77, dated August 24, 1977:

- Surface injection pressure will probably be 0.3 psi per foot, which is still below frac pressure according to injectivity tests on untreated formation. Acid stimulation could result in surface injection pressure of 0.2 psi per foot or less.
- Tabular summary of all wells penetrating the injection (2) zone within one-half mile as required.
- Schematic of all plugged and abandoned wells within onehalf mile which penetrated the proposed injection zone.

It is hoped the attached information plus that previously submitted, will permit early positive action on our request to convert from the Wolfcamp disposal zone to the San Andres disposal zone in the referenced well.

Yours very truly,

Fom L. Sprinkle

OIL CONSERVATION DIVISION

Area Manager

SANTA FE

Polaris Production Corp.-offset operator Troy Fort-Surface Owner



905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

MEDICINE ROCK FIELD C. S. STONE NO. 3

SALT WATER DISPOSAL SYSTEM

LOCATION: F-1980- FNL & 1980' FWL, Sec. 22, T15S, R38E LEA COUNTY, NEW MEXICO

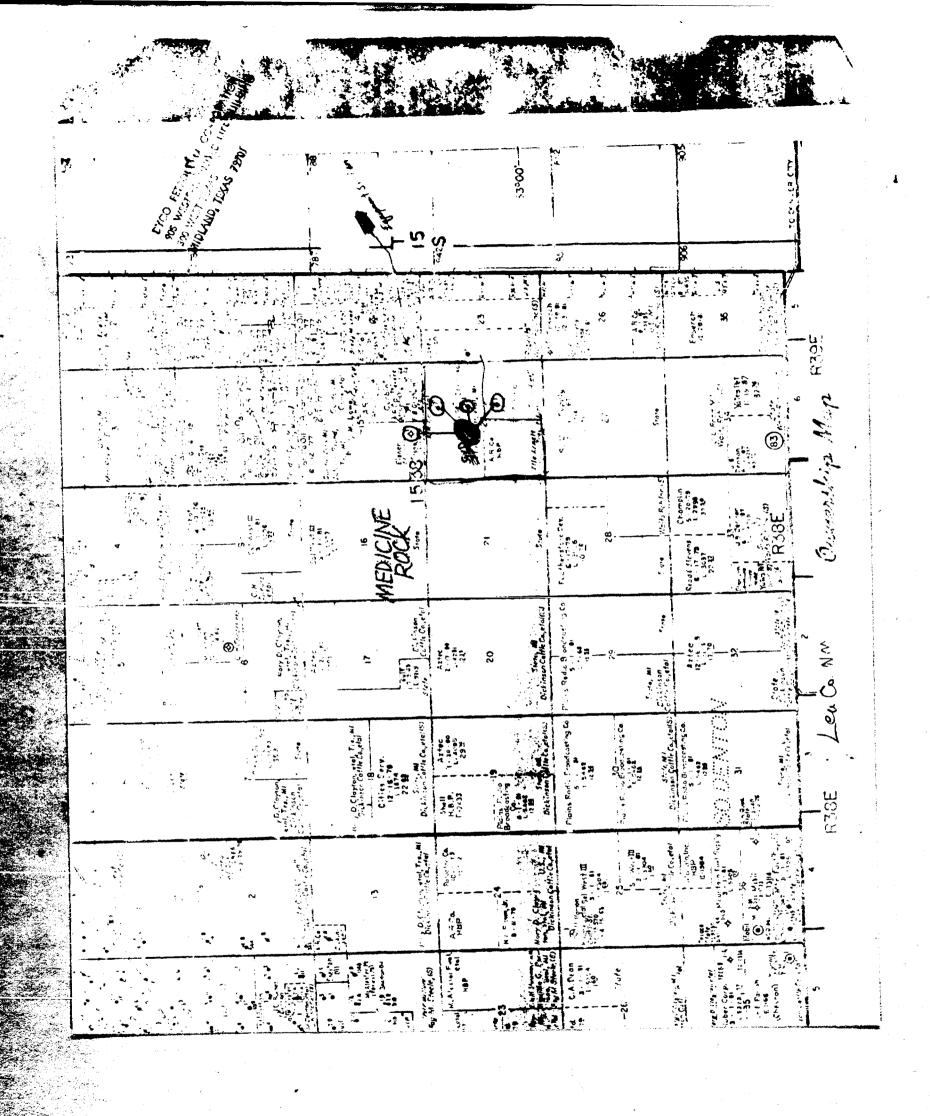
Re: Dyco Petroleum Corporation
Application to Convert from Wolfcamp Disposal Zone to

San Andres-Glorieta Disposal Zone

Summary of Casing & Cementing Records of Producing and Plugged Wells Within One-half Mile of C. S. Stone No.3

C. S. Stone #1	C. S. Stone #2	Reed-Estate #1
Dyco Pet. Corp.	Arco Oil & Gas	Arco Oil & Gas
G-1980' FNL & 1980' FEL, Sec.	B-660' FNL & 1980' FEL, Sec.	J-1980' FSL & 1980' FEL, Sec. 22,
22, T15S, R38E	22, T15S, R38E,	T15S, R38E,
Lea County, N.M.	Lea County, N.M.	Lea County, N.M.

See Attached Sheets For Well Schematics And Casing-Cementing Detail.



905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

ARCO OIL & GAS COMPANY C. S. STONE #2

LOCATION: B - 660' FNL & 1980' FEL, Sec. 22, T15S, R38E,

Lea County, N.M., Medicine Rock Field

SURFACE CSG: 13 3/8", 45# csg set @ 334', cmt'd w/400 sx to surface

INT. CSG: 9 5/8", 36# & 40# csg set @ 4920', cmt'd w/2100 sx

to surface

5 1/2", 17#& 20# csg set @ 12,835'; cmt'd w/1005 sx,TOC PROD. CSG:

@ 8200'

P&A EFFECTIVE 1-15-76 AS FOLLOWS:

1. CIBP @ 12,630' w/40 sx cmt plug on top

2. 9500'-9100', 30 sx cmt plug inside 5 1/2" casing
3. 7400'-6900', 40 sx cmt plug in 8 3/4" open hole
4. 6400'-5900', 40 sx cmt plug in 8 3/4" open hole
5. 5310'-5 1/2" csg stub. 40 sx cmt. plug 1/2 in-1/2 out
6. 4920'-9 5/8" csg seat. 60 sx cmt. plug 1/2 in-1/2 out
7. 2390'-2200', 50 sx cmt plug inside 9 5/8" csg.
8. Surface, 10 sx plug w/DH marker

NOTE: Pulled 5310'-5 1/2" casing. All 13 3/8" casing and all 9 5/8" casing cemented to surface and left in well



905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

ARCO OIL & GAS COMPANY REED-ESTATE NO. 1

LOCATION: Unit J, 1980' FSL & 1980' FEL, Sec. 22, T15S, R38E,

Lea County, N.M., Medicine Rock Field

SURFACE CASING: 13 3/8" @ 332', Cmt'd to surface

INTER. CASING: 9 5/8" @ 4,860', cmt'd to surface

PROD. CASING: 5 1/2" @ 12,848', Cmt'd to 10,260'

P&A EFFECTIVE 11-28-72 AS FOLLOWS:

1. CIBP @ 12,425' w/35' cmt on top

2. 8130'; 35 sx plug 1/2 in-1/2 out of 5 1/2" csg stub
3. 6465'-6350', 35 sx plug in 8 3/4" open hole
4. 4860', 35 sx plug across 9 5/8" casing seat

Surface, 10 sx plug w/DH marker

NOTE: Pulled 8130' - 5 1/2" casing. All 13 3/8" casing and all 9 5/8" casing cemented to surface and left in well



90S WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

DYCO PETROLEUM CORPORATION (ARCO OIL & GAS COMPANY) C. S. STONE NO. 1

LOCATION: Unit G - 1980' FEL & 1980' FNL, Sec. 22,

T15S, R38E, Lea County, N.M. Medicine Rock Field

SURFACE CASING: 13 3/8" @ 327', cmt'd to surface

INTER. CASING: 9 5/8" @ 4880', cmt'd to surface w/1980 sx.

PROD. CASING: 5 1/2" @ 12,848', cmt'd w/195 sx, est. TOC @ 11,840' by temperature survey. PBTD 12,740'

This well is the only productive well in the Medicine Rock (Devonian) Field, except the Polaris Production-Carter Estate #1 Well which is 4500' NE of the C. S. Stone #3 SWD well and 3500' NE of the C. S. Stone #1 producing well.



905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

JOHN J. EISNER
ATLANTIC-STATE #1
N-554' FSL & 2086' FWL
Sec. 15-T15S-R38E
LEA COUNTY, NEW MEXICO

SURFACE CASING: 13 3/8" @ 359' w/325 sx to surface

INTER. CASING: 8 5/8" @ 4915' w/600 sx - no top

DST 12,864-72', rec 90' SGC Salty Sul Water Cut Mud

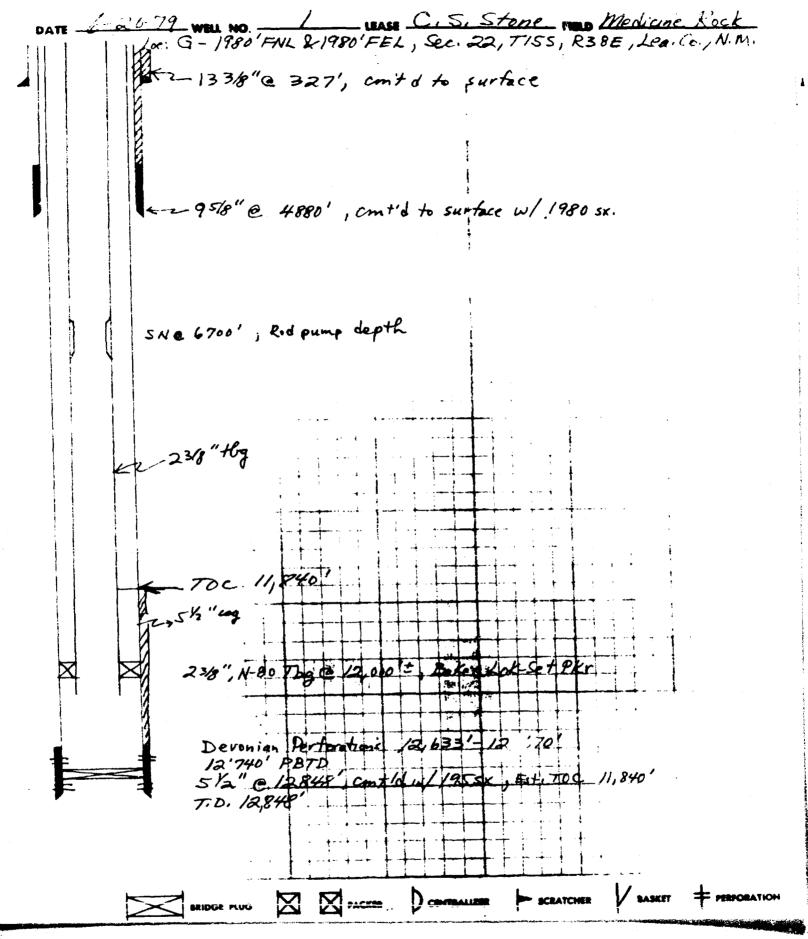
TD 12,872'

P&A 9-6-63:

No plugging record. Assume cement plug across 8 5/8" casing seat and at surface

BAKER OIL TOOLS, INC. SERVING THE WORLD

Hoducer



Dyco Petro leum Corp. BAKER OIL TOOLS, INC. 1808 EISNET-Hlantic State 9-6-63

1808 EISNET-Hlantic State Medicine Rock
2006; FWL, Sec. 15- TISS, R38E, Lea.Co.N.M. 133/8@ 3'59', cmt'd to surface W/325 sx mud 85/8"@ 4915, cmt'd # no top indicated, mud no report on open hole X X Mars Day BRIDGE PLUG

D&A

Dyco Petroleum Corporation BAKER OIL TOOLS, INC.

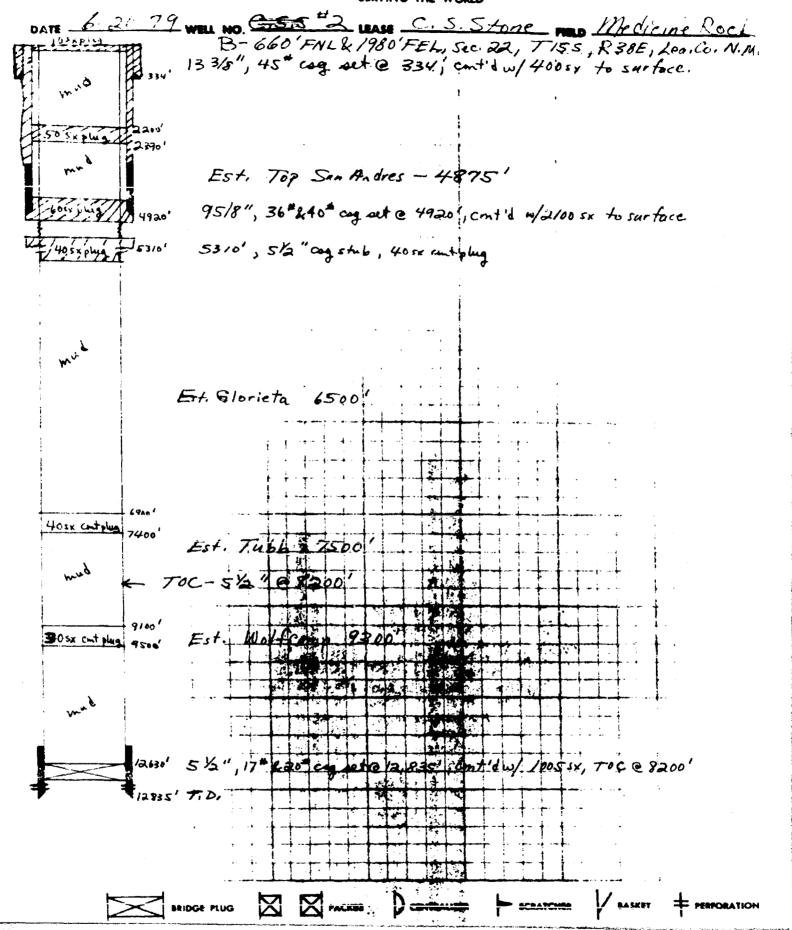


J-1980'FSL &1980'FEL, Sec. 22, TISS, R38E, Lea Co., N.M. ///10 SX plug // 133/8 "@ 332', cmt'd to surface mud San Andres @ 4880' 95/8"@ 4860', cmt'd to surface mng Glorieta @ 6500' ± \$12" cag stube 8130" E18P @ 12, 425 W/35 sx cmt. " @ 12.848', cm &w/_sx. BASKET

Dyco Petroleum Corp. BAKER OIL TOOLS, INC.

72 A

SERVING THE WORLD



0

Dyco Petroleum Corporation

7

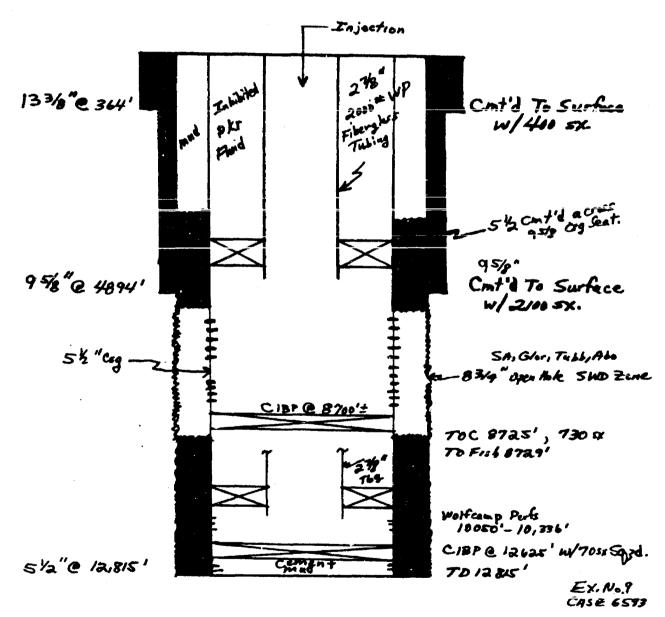
905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

6593 Dyco

and the second of the second s

Housing Pale 7-11-79

C. S. Stone 3 SWD Well Proposed Injection System San Andres, Glorieta, Tubb, Abo



.... A/a Q

At The - Stone "3

DYCO PETROLEUM CORPOPATION 905 WESTERN UNITED LIFE BUILDING 300 WEST TOWNS MIDLAND, TEXAS 79701



Dyco Petroleum Corporation

1703 WILCO BUILDING 415 WEST WALL STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

May 29, 1979

Polaris Production Company First Nat'l Bank Blog. 303 West Wall Midland, Texas 79701

Troy C. Fort P. 0. 30x 998 Lovington, New Mexico 88260

Medicine Rock (Devonian) Field Section 22, T15S, R38E C. S. Stone #3 SWD System Permit

	\$ \frac{1}{2}
	1
C/ 1, 10	6593
Submilles by La	and the second of the second o
Hearing Duic_	7/11/79

Gentlemen:

You have received Dyco's Form C-108 submitted to the New Mexico Conservation Commission for a change in salt water disposal formation in the

As indicated, the well has been approved for salt water disposal into the Wolfcamp-Tennsylvanian Formations from 9990'-11000'. We are now applying dispose of produced water from Dyco's C. S. Stone #1 Well (Devonian producer) into the Permian Formation from 4894' to 8725' because of high cost to attempt to restore the Wolfcamp interval to

Therefore, in order to expedite approval of our application so the C. S. Stone #1 Well can get back on production (now shut in) it is requested that you opprove of the proposed disposal plan by signing in the space provided below. Return one (1) executed copy to the NMCC in the stamped accinessed envelope provided and one (1) executed copy to Dyco Petroleum for our files and retain one copy for your file.

Yours very truly,

Tom L. Sprinkle Area Manager

C. Fort

CASE 6593

Ex.8-2

DYCO PETROLEUM CORPORATION 905 WI TEAM UNITED LIFE BUILDING 200 WEST TEXAS MIDLAND, TEXAS 79701

> 1703 WILCO BUILDING 415 WEST WALL STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

Dyco Petroleum Corporation

May 29, 1979

Polaris Production Company First Nat'l Bank Bldg. 302 West Wall Midland, Toxas 79701

Troy C. Fort P. O. Box 998 Lovington, New Mexico 88260

Re: Medicine Rock (Devonian) Field Section 22, T15S, R38E C. S. Stone #3 SWD System Permit RECEIVED JUN 7 1979

Gentlemen:

You have received Dyco's Form C-108 submitted to the New Mexico Conser-Vation Commission for a change in salt water disposal formation in the

As indicated, the well has been approved for salt water disposal into the Wolfcamp-Pennsylvanian Formations from 9990'-11000'. We are now applying to dispose of produced water from Dyco's C. S. Stone #1 Well Devonian producer) into the Permian Formation from 4894' to 8725' because of high cost to attempt to restore the Wolfcamp interval to

Therefore, in order to expedite approval of our application so the C. S. Stone #1 Well can get back on production from shut in) it is requested that you prove of the proposed disposal plan by signing in the space provided below. Return one (1) executed provided in the space addressed envelope provided and one (1) executed copy to Dyco Petroleum files and retain one copy for your file.

Yours very truly,

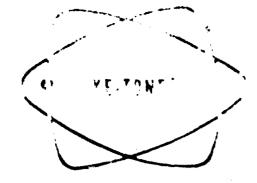
franko om L. Sprir le Area Mar mer

The above request for modification of the C. S. Stone #3 SWD system is agreed the ____day of 1979 by the undersigned.

CASE 6593

Ex. 8-/

POLARIS PRODUCTION CORP.



CRPORATION

Dyou Patroleum Commoration

Motto se Rock Dev.

5-12-78

and - Devonian Formation

Calcium (Ca++) 2,104 528 Magnesium (Mg++) Sodium (Na+) 24,945 150 Iron (Total) Disposal Water Analysi

C.C. Stone #3 - SWDWell

U.S.C.	27one 2	Swowell		
Bicarbonate (HCO ₃) Carbonate (CO ₃ -) Hydroxide (OH-) Sulphate (SO ₄ -) Chloride (CI-)			14.00 Net Not 64.35 1,116.72	854 found found 3,091 39,600
Total Dissolved Solids				70,222
6, 65 ph c 68 °F Dissolved Solids on Evap. at Hardness as Ca CO, Carbonate Hardness as CaC Non-Carbonate Hardness as Alkalinity as CaCO,	CaCO ₂ (permanent)	PERCENT	149.18 14.00 135.18 14.00	7,4 59 700 6, 759 70 0
Specific Gravity c 68° F	1.050	BEFORE ENAMER CIL CONSCIVATION CAME NO.	V DIVINION	
	s ver lite	Submitted by 1	yco	CASE 659
CaC) ₃ ∨alin	g Index slightly post	tive Heading (Biga)	7-11-79	EXMIBIT 6

CiSO4 Schling more negative (0.63)

man ff. si et. Water Hirly management and

MEDICINE ROCK SWID SYSTEM LEA COUNTY, NEW MEXICO SUMMARY DATA - WELLS WITHIN 1/2 MILE CASING - CEMENTING

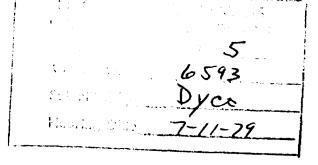
DAST WELL	LOCATION	SURFACE CSG.DEPTH	TOC DEPTH SURF.CSG. INTER.CSG	DEPTH INTER CS	TOC SX	PROD CSG. DEPTH	PROD CSG	P&A PLUGS
DYCO C. S. STONE #1	G-SWNE-22-T15S-R38E	327'	Cinc-400	4880	sx Circ.1980	12,848'	195 sx-11,840'	NOT PLUGGED
	Perforations: Devonian	12,633'	- 12,670'		n K		3	CIBP @ 12740'PBTD
ARCO C. S. STONE #2	B- NWNE 22-T15S-R38E	⊕ 3 4	Circ 400	4920	Circ. 2100	12,835'	1005 sx TOC 8200	P&A 1-15-76, CIBP @ 12630' w/40 sx, 9100'-
					e e e e e e e e e e e e e e e e e e e			9500', 30 sx; 6900-7400',40sx 5900'-40 sx; 5310'-40 sx,4920- 60 sx; 2200'-50sx surface l0sx
ARCO REED-ESTATE #1	J-NWSE 22-T15S-R38E	332 •	Circ	4 860 •	Cir	12846'	TOC 10,260'	P&A :1-28-72 CIBP @ 12,425' w/35 sx 8:30'-35 sx;6350L 35 sx;4860-35 sx, Surf 10 sx
EISNER ATLANTIC-STATE	#1 N-SESW 15-T15S-R38E	359'	Circ 325 sx	4915°	600 sx	No csg	set	P&A 9-6-63 12,850'-25sx; 25 sx @ following depths, 9200',8160',7200', 6420', 1260',360';
]	10 sx @ top

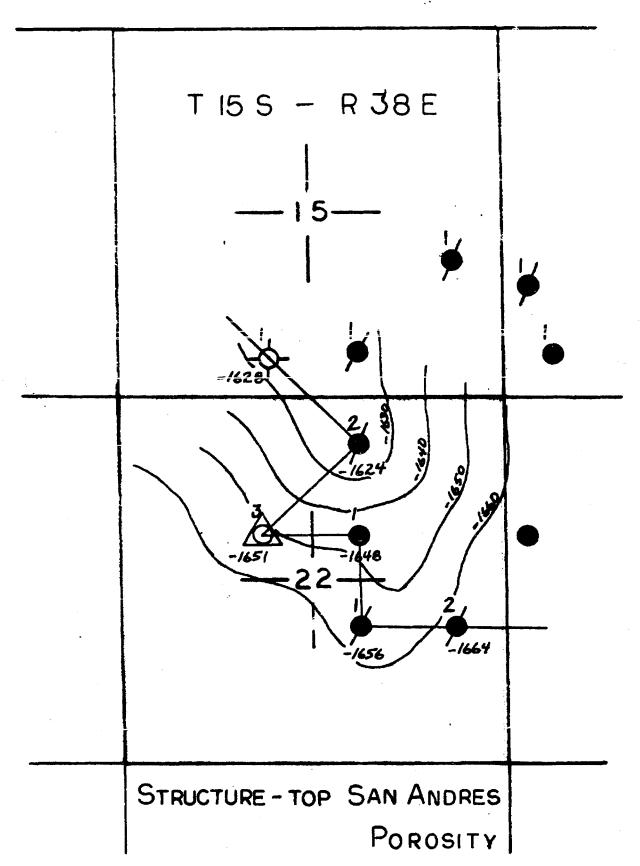
BEFORE EXAMINER STAMETS
OIL CONSE VATION DIVISION
EXHIBIT NO.

CASE NO. 6593

Submitted by Daco
Hearing Date 7/1//29

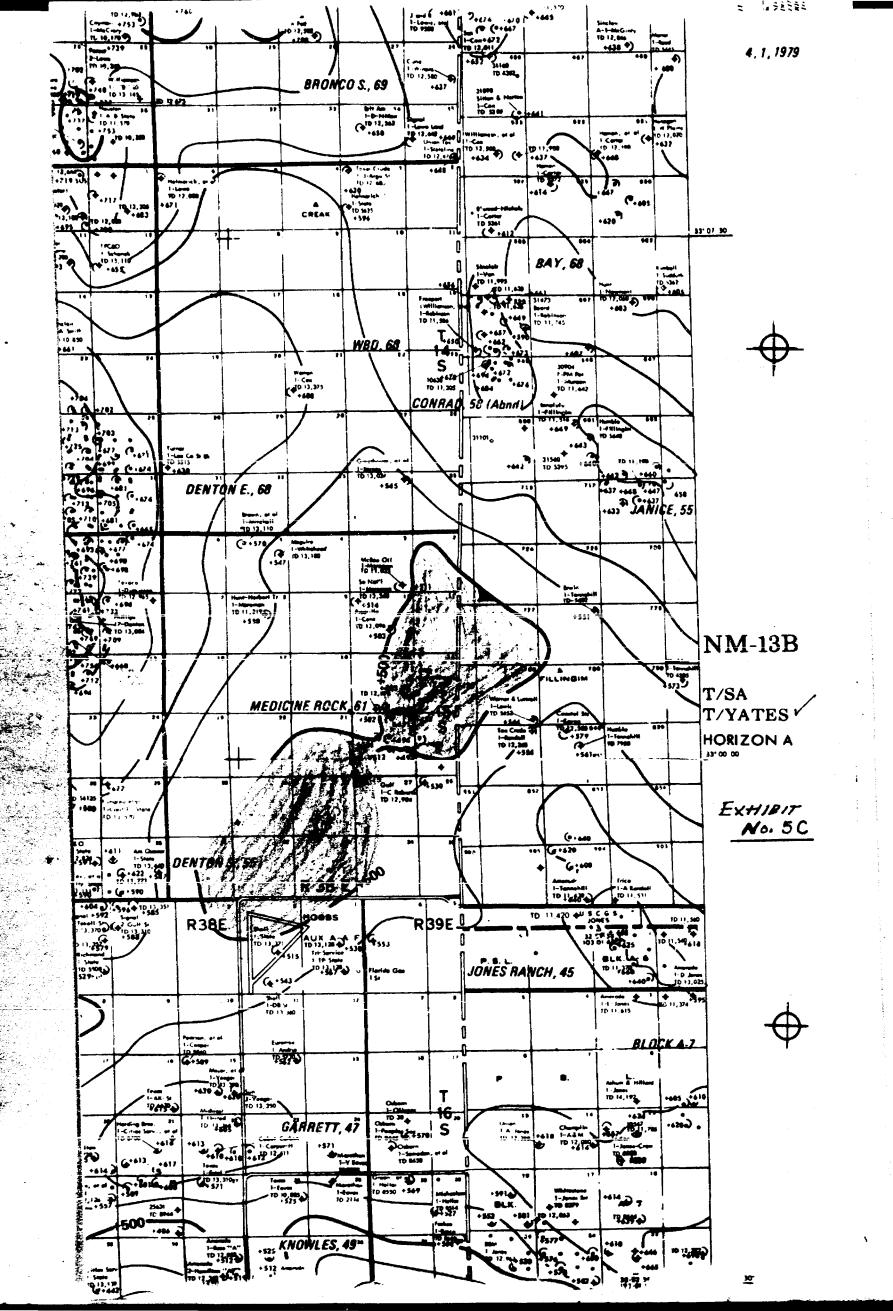
DYCO PETROLEUM CORPORATION CASE 6593
EXHIBIT NO. 4

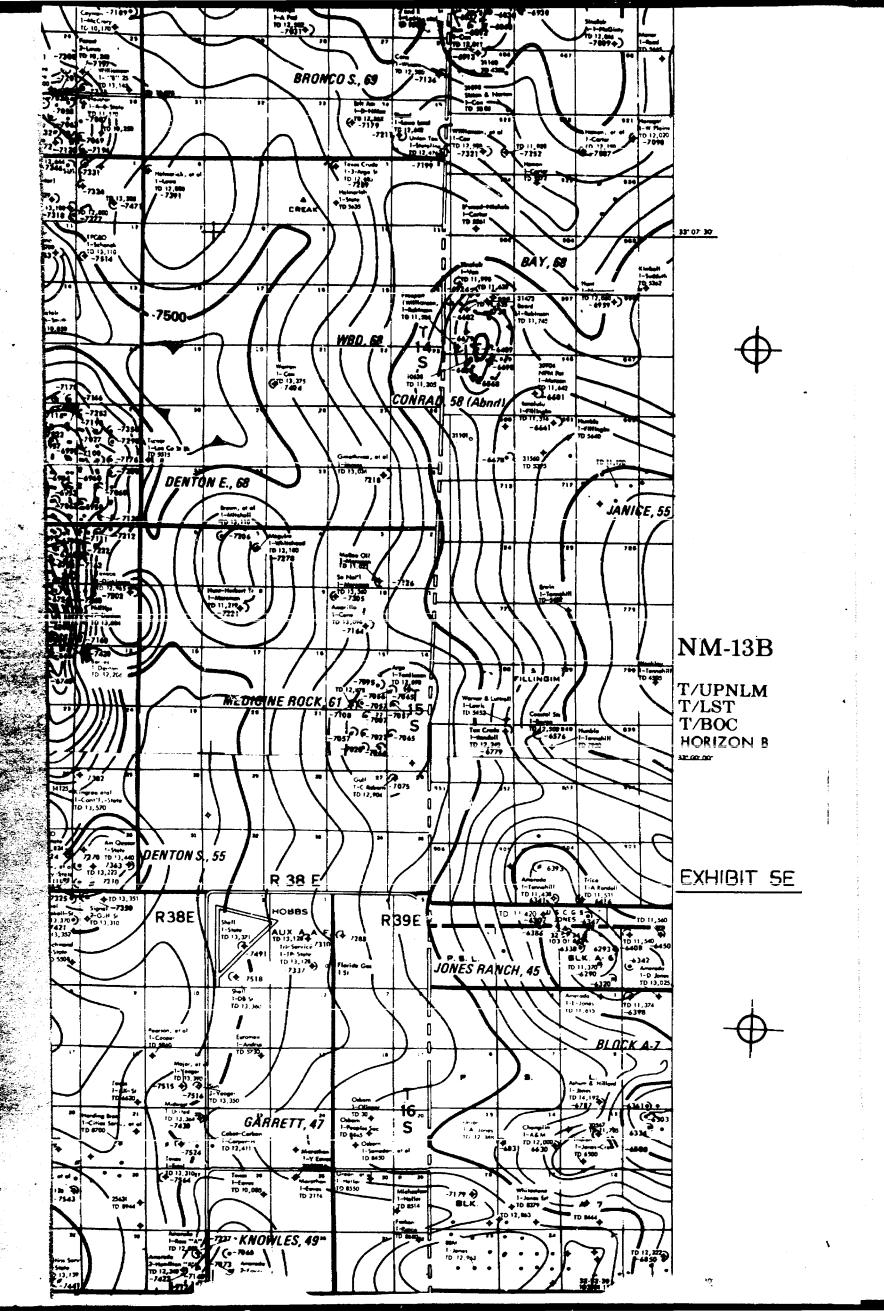


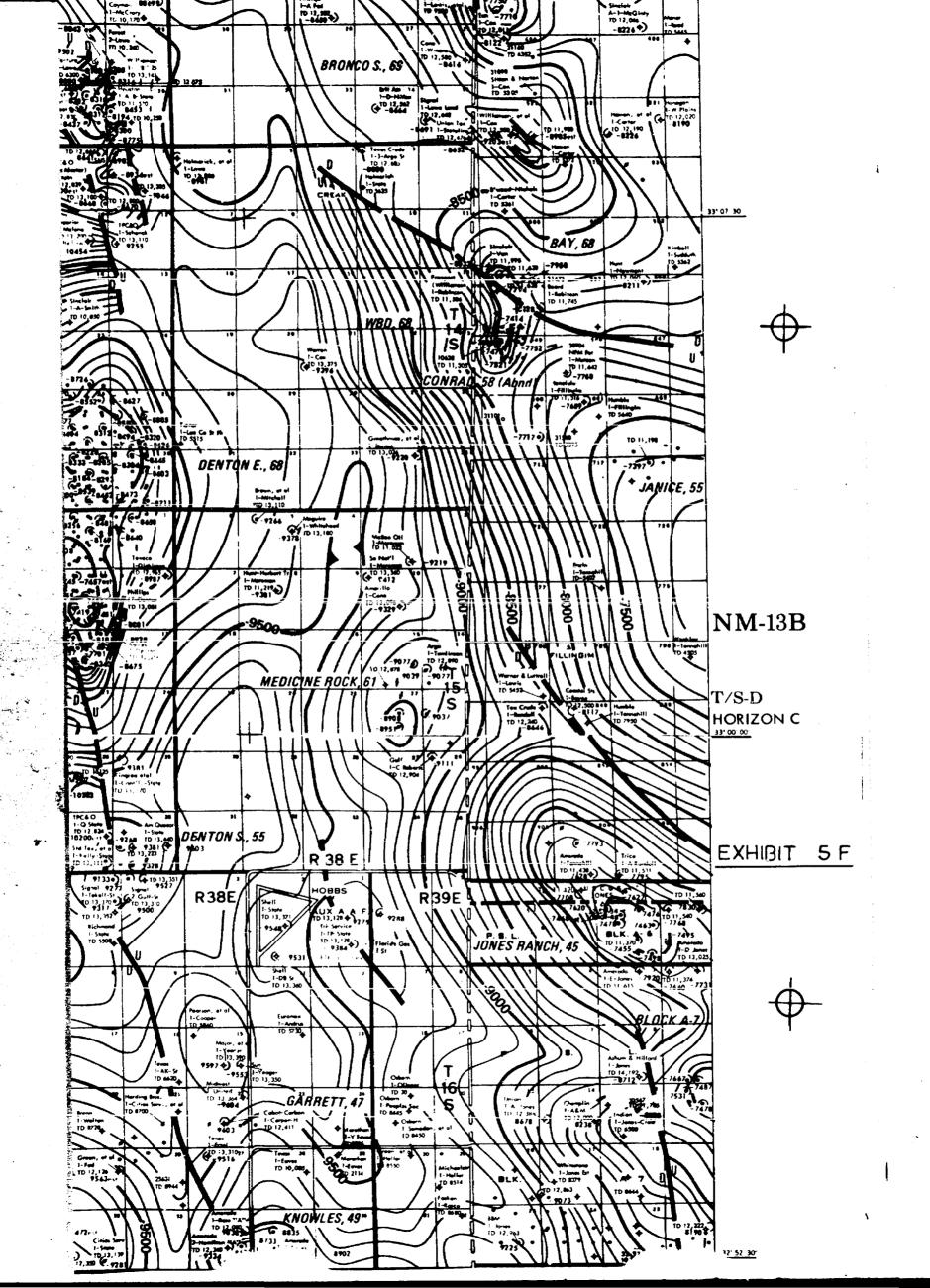


SCALE: 4"= | MILE C.1. = 10'

T 15 S - R 38 E FZ677 STRUCTURE - TOP GLORIETTA SCALE 4"= | MILE C.1. = 10'







6593



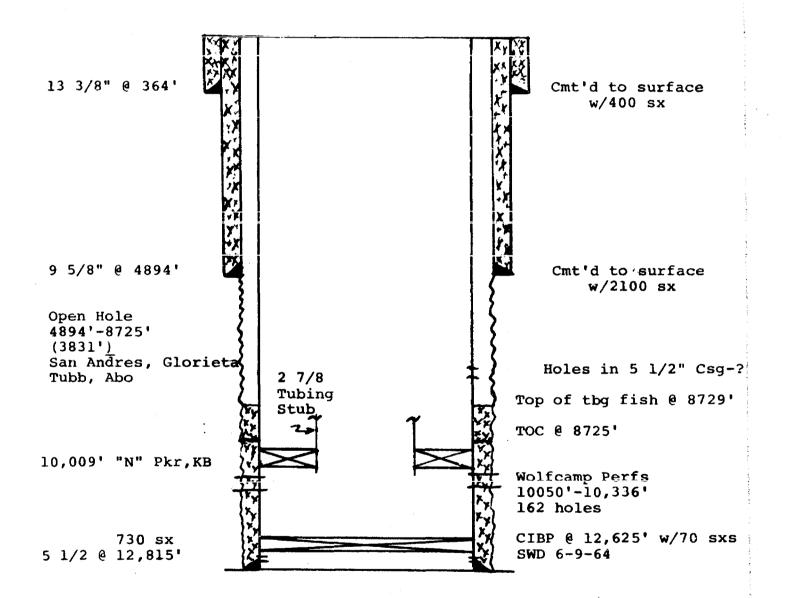
Hearing Date. 1/11/79



905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

EXHIBIT NO. 2

C. S. STONE NO. 3
UNIT F 1980' FNL & 1980' FWL
SECTION 22, T15S, R38E
MEDICINE ROCK FIELD LEA COUNTY, NEW MEXICO



LEA COUNTY, N. M.

905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

CALELO. 6593

CACELO. 6593

Submitted by Dyco

Hearing Date 7-11-79 ARCO OIL & GAS COMPANY REED-ESTATE NO. 1

J 1980' FSL & 1980' FEL Sec. 22, T15S, R38E MEDICINE ROCK FIELD

13 3/8" @ 332' Cmt'd to surface Mud 9 5/8" @ 4860' Cmt'd to surface . Mud 6350' 35 sx Mud YYY Y 35 SX X XYXX YY 5 1/2" csg stub @ 8130' Mud TOC 10,260' on 5 1/2" CIBP @ 12,425' TD 12,848' 5 1/2" Csg @ 12,848' P&A 11-28-72

Į



905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

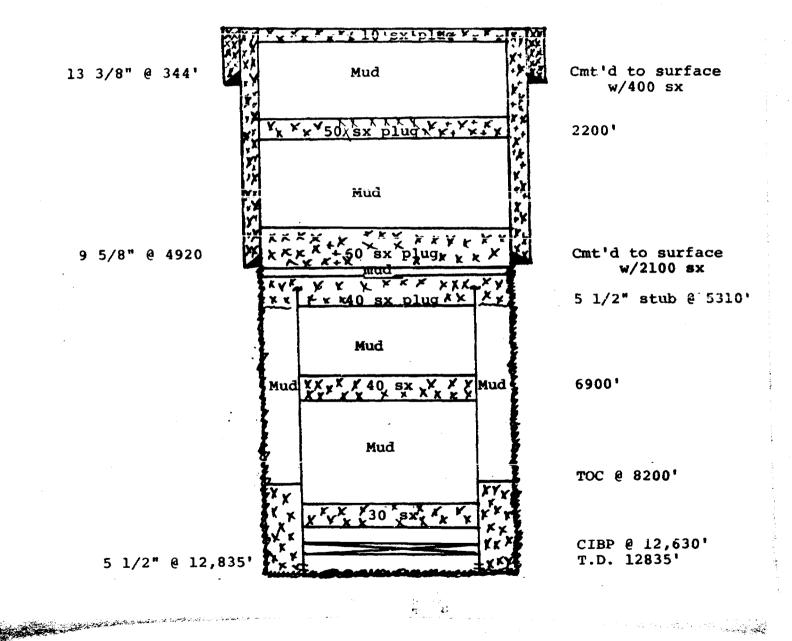
EXHIBIT #3

ARCO OIL & GAS COMPANY C. S. STONE #2

B 660' FNL & 1980' FEL

Sec. 22, T15S, R38E

MEDICINE ROCK FIELD LEA COUNTY, N. M.

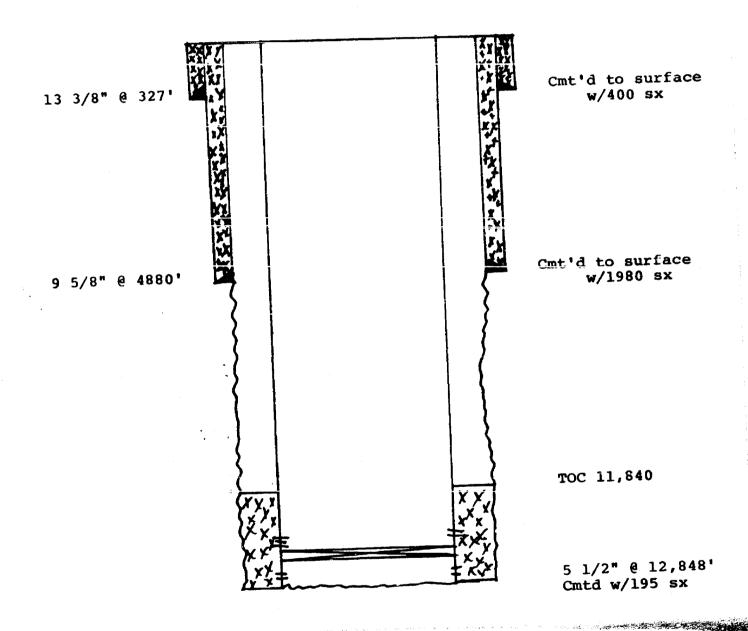


905 WESTERN UNITED LIFE BLDG. 300 WI FEXAS STREET MIDLA. TEXAS 79701 AREA 911/683-6344

EXHIBIT #3

C. S. STONE #1 WELL

G 1980 FNL & 1980' FEL
Section 22, T15S R38E
MEDICINE ROCK FIELD
LEA COUNTY, N. M.



905 WESTERN UNITED LIFE BLDG. 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

EXHIBIT #3

JOHN J. EISNER
ATLANTIC-STATE #1
N 554' FSL & 2086' FWL
Sec. 15, T15S, R38E
LEA COUNTY, NEW MEXICO

	10 sx Surface Plug
13 3/8" @ 359'	Cmt'd to surface w/325 sx, plug
	25 sx /// 1260' top 8 5/8" stub, plug
8 5/8" @ 4915'	Cmt'd w/600 sx
	//// 25 sx //// 6420' plug
	7200' plug
	// / 25 sx / / / 8160' plug
	// /25 sx / / / 9200' plug
12,872 TD P&A 9-6-63	25 sx / / / l l2,850' plug

905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

June 20, 1979

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

Attn: Mr. Joe D. Ramey

Re: Medicine Rock (Devonian) Field
Section 22, T15S, R38E
Lea County, New Mexico
C. S. Stone #3 SWD System Permit
Revision of Order No. SWD-41 (12-13-63)

Gentlemen:

Attached please find additional supporting data for our revised SWD permit request in the above well as per requirements of Memo No. 3-77, dated August 24, 1977:

(1) Surface injection pressure will probably be 0.3 psi per foot, which is still below frac pressure according to injectivity tests on untreated formation. Acid stimulation could result in surface injection pressure of 0.2 psi per foot or less.

ECEIVED

Tabular summary of all wells penetrating the injection pene within one-half mile as required.

JUN 2 2 1979)

Sphematic of all plugged and abandoned wells within onemalf mile which penetrated the proposed injection zone.

ONSERVATION DIVISION
SANTATE hoped the attached information plus that previously submitted, will permit early positive action on our request to convert from the Wolfcamp disposal zone to the San Andres disposal zone in the referenced well.

Yours very truly,

Tom L. Sprinkle

Area Manager

cc: Polaris Production Corp.-offset operator
Troy Fort-Surface Owner

905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

MEDICINE ROCK FIELD C. S. STONE NO. 3

SALT WATER DISPOSAL SYSTEM LOCATION: F-1980- FNL & 1980' FWL, Sec. 22, T15S, R38E

LEA COUNTY, NEW MEXICO

Dyco Petroleum Corporation

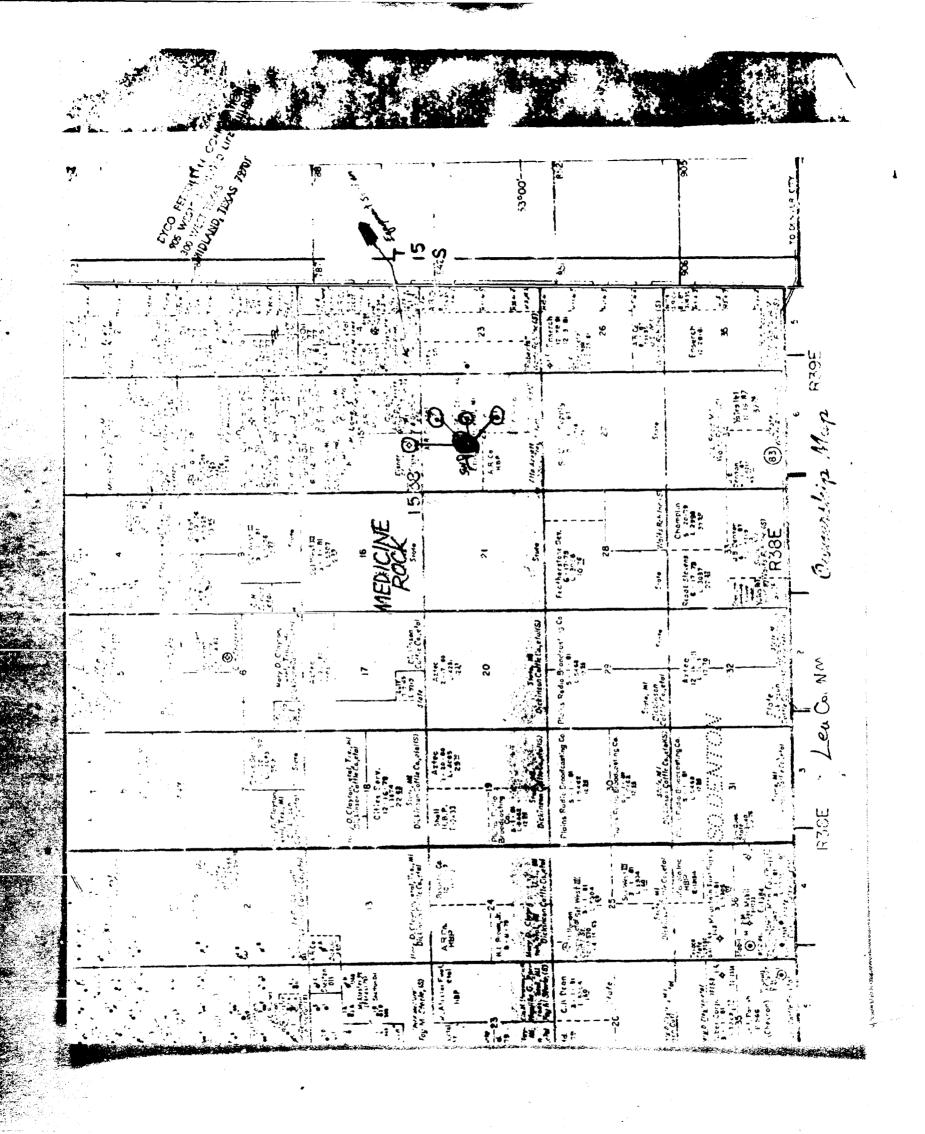
Application to Convert from Wolfcamp Disposal Zone to

San Andres-Glorieta Disposal Zone

Summary of Casing & Cementing Records of Producing and Plugged Wells Within One-half Mile of C. S. Stone No.3

C. S. Stone #1	C. S. Stone #2	Reed-Estate #1
Dyco Pet. Corp.	Arco Oil & Gas	Arco Oil & Gas
G-1980' FNL &	B-660' FNL &	J-1980' FSL & 1980'
1980' FEL, Sec.	1980' FEL, Sec.	FEL, Sec. 22,
22, T15S, R38E	22, T15S, R38E,	T15S, R38E,
Lea County, N.M.	Lea County, N.M.	Lea County, N.M.

See Attached Sheets For Well Schematics And Casing-Cementing



Dyco Petroleum Corporation

905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

ARCO OIL & GAS COMPANY C. S. STONE #2

LOCATION: B - 660' FNL & 1980' FEL, Sec. 22, T15S, R38E, Lea County, N.M., Medicine Rock Field

SURFACE CSG: 13 3/8", 45# csg set @ 334', cmt'd w/400 sx to surface

INT. CSG: 9 5/8", 36# & 40# csg set @ 4920', cmt'd w/2100 sx to surface

5 1/2", 17#& 20# csg set @ 12,835'; cmt'd w/1005 sx,TOC @ 8200' PROD. CSG:

P&A EFFECTIVE 1-15-76 AS FOLLOWS:

CIBP @ 12,630' w/40 sx cmt plug on top

9500'-9100', 30 sx cmt plug inside 5 1/2" casing 7400'-6900', 40 sx cmt plug in 8 3/4" open hole 6400'-5900', 40 sx cmt plug in 8 3/4" open hole 5310'-5 1/2" csg stub. 40 sx cmt. plug 1/2 in-1/2 out 4920'-9 5/8" csg seat. 60 sx cmt. plug 1/2 in-1/2 out 2390'-2200', 50 sx cmt plug inside 9 5/8" csg.

7. 8. Surface, 10 sx plug w/DH marker

NOTE: Pulled 5310'-5 1/2" casing. All 13 3/8" casing and all 9 5/8" casing cemented to surface and left in well

905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

ARCO OIL & GAS COMPANY REED-ESTATE NO. 1

LOCATION: Unit J, 1980' FSL & 1980' FEL, Sec. 22, T15S, R38E,

Lea County, N.M., Medicine Rock Field

SURFACE CASING: 13 3/8" @ 332', Cmt'd to surface

INTER. CASING: 9 5/8" @ 4,860', cmt'd to surface

PROD. CASING: 5 1/2" @ 12,848', Cmt'd to 10,260'

P&A EFFECTIVE 11-28-72 AS FOLLOWS:

1. CIBP @ 12,425' w/35' cmt on top

2. 8130'; 35 sx plug 1/2 in-1/2 out of 5 1/2" csg stub
3. 6465'-6350', 35 sx plug in 8 3/4" open hole
4. 4860', 35 sx plug across 9 5/8" casing seat
5. Surface, 10 sx plug w/DH marker

NOTE: Pulled 8130' - 5 1/2" casing. All 13 3/8" casing and all 9 5/8" casing cemented to surface and left in well



Dyco Petroleum Corporation

905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

DYCO PETROLEUM CORPORATION (ARCO OIL & GAS COMPANY) C. S. STONE NO. 1

LOCATION: Unit G = 1980' FEL & 1980' FNL, Sec. 22,

T15S, R38E, Lea County, N.M. Medicine Rock Field

SURFACE CASING: 13 3/8" @ 327', cmt'd to surface

INTER. CASING: 9 5/8" @ 4880', cmt'd to surface w/1980 sx.

PROD. CASINC: 5 1/2" @ 12,848', cmt'd w/195 sx, est. TOC @ 11,840' by temperature survey. PBTD 12,740'

This well is the only productive well in the Medicine Rock (Devonian) Field, except the Polaris Production-Carter Estate #1 Well which is 4500' NE of the C. S. Stone #3 SWD well and 3500' NE of the C. S. Stone #1 producing well.

905 WESTERN UNITED LIFE BLDG 300 WEST TEXAS STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

JOHN J. EISNER
ATLANTIC-STATE #1
N-554' FSL & 2086' FWL
Sec. 15-T15S-R38E
LEA COUNTY, NEW MEXICO

SURFACE CASING: 13 3/8" @ 359' w/325 sx to surface

INTER. CASING: 8 5/8" @ 4915' w/600 sx - no top

DST 12,864-72', rec 90' SGC Salty Sul Water Cut Mud

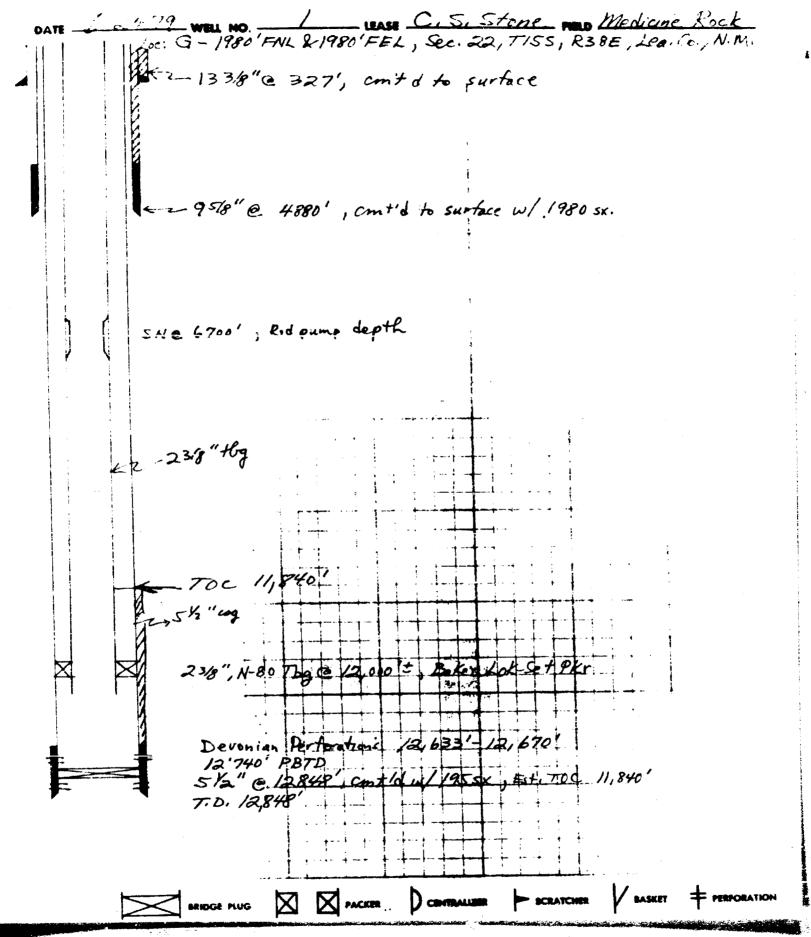
TD 12,872'

P&A 9-6-63:

No plugging record. Assume cement plug across 8 5/8" casing seat and at surface

BAKER OIL TOOLS, INC. SERVING THE WORLD

Producer

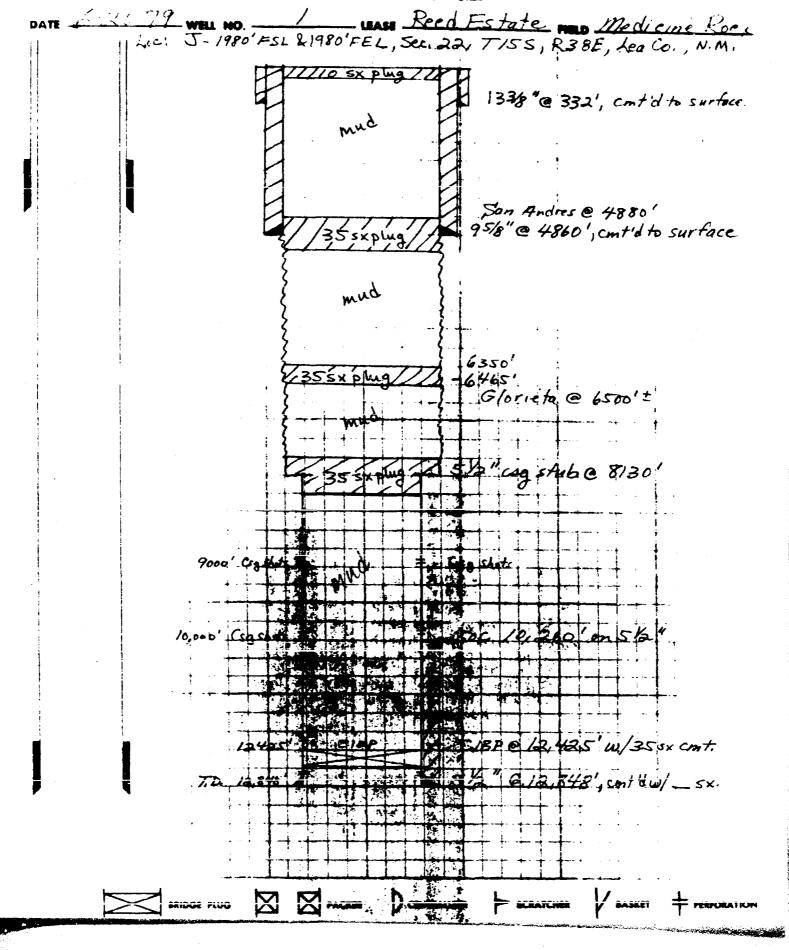


Dyco Petroleum Corp. BAKER OIL TOOLS, INC. Unit N- SSY FSL & 1980'FWL, Sec. 15- TISS, R38E. Lea. Co.. N.M. SERVING THE WORLD 133/8@ 3'59', cmt'd to surface. mud 85/8"@4915', cmt'd + no top indicated. mud no report on open hole X X MG BASKET BRIDGE PLUG

PXA

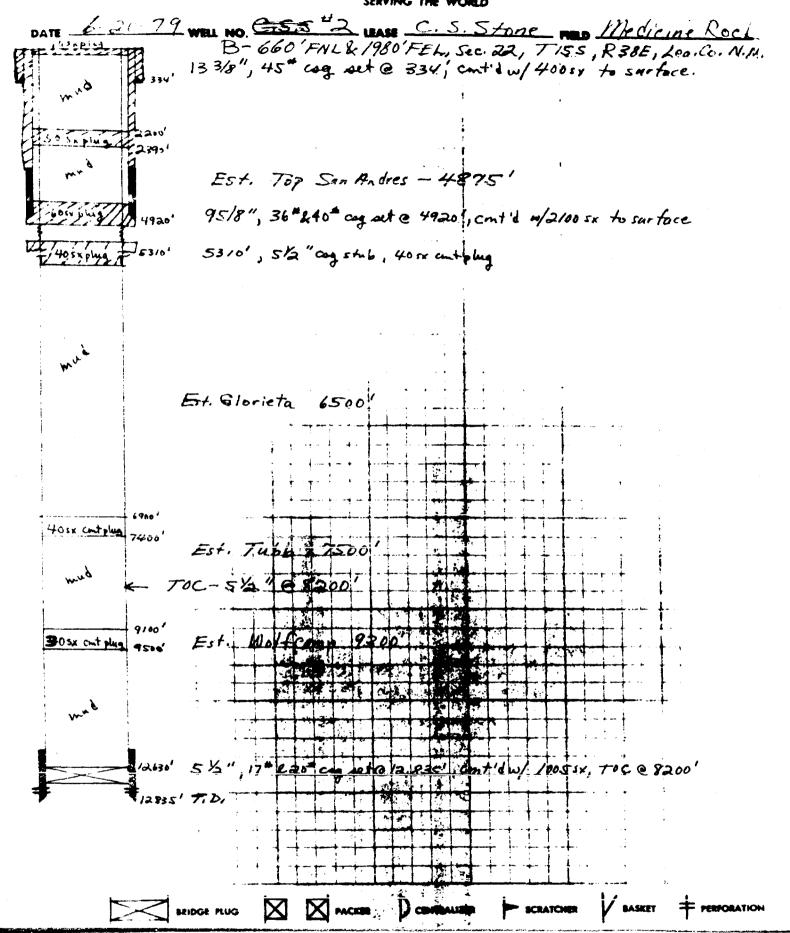
Dyco Petroleum Corporation BAKER OIL TOOLS, INC.

SERVING THE WORLD



Dyco Petroleum Corp. BAKER OIL TOOLS, INC.

SERVING THE WORLD





Dyco Petroleum Corporation

May 30, 1979

DYCO FETROLLUM CORPORATION 905 WASHING DITTED LIFE BUILDING MIDUATED, TEXAS 79701

> 1703 WILCO BUILDING 415 WEST WALL STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

State Of New Mexico Oil Conservation Commission Box 2088 Santa Fe, New Mexico 87501

Euse 6593

Attn: Mr. Joe D. Ramey

Re: Dyco-Stone #3 SWD Well Medicine Rock Field Sec. 22, T15S, R38E Lea County, New Mexico

Gentlemen:

Attached please find information supporting Dyco's C-108 Form to convert the above SWD well to SWD in another formation. Order No. SWD-41 was approved December 13, 1963, permitting Sinclair Oil & Gas to dispose of salt water in the above well in the Wolfcamp-Pennsylvanian interval from 9990' to 11,000'.

As the attached C-103 indicates, the 2 7/8" tubing was fished to 8726', leaving 1300' \pm of 2 7/8" tubing in the hole as a fish along with the 5 1/2" Model "N" packer. During casing cleaning operations to fish the tubing, the tubing-fish is now plugged inside and outside with ironsulphide and scale or collapsed preventing injection into the Wolfcamp. In addition, the 5 1/2" casing may have failed as deep as 8720', the last 5 1/2" packer setting depth.

Form C-108 indicates the 13 3/8" casing and 9 5/8" casing strings are cemented to surface; therefore, we propose to cement the 5 1/2" casing -9 5/8" casing annulus w/200 sx from 4894' to permit disposal into the Permian open hole section from 4894' to 8725' through tubing set on a 5 1/2" packer @ 4890. There is no nearby oil or gas production in these zones to my knowledge and no shows were encountered originally when drilling this interval.

Dyco's Stone #1 well on the same lease produces from the Devonian @ 12,630-12,670' at 27 BOPD and 390 BWPD on artificial lift. The produced water is disposed into the Stone #3 SWD system. This well will have to be shut down until SWD can resume in the Stone #3 well because it would not be economic to produce if water has to be trucked to a commercial disposal system. Disposal cost would be about \$10,000 per month while net income would be about \$7,000 per month under normal DOC About \$30,000 has already been spent on the remedial work to this point

Thank you for your early attention to this matter.

Tom L Sprinkle Puntle OIL CONSTRUATION DIVISION

Vice President

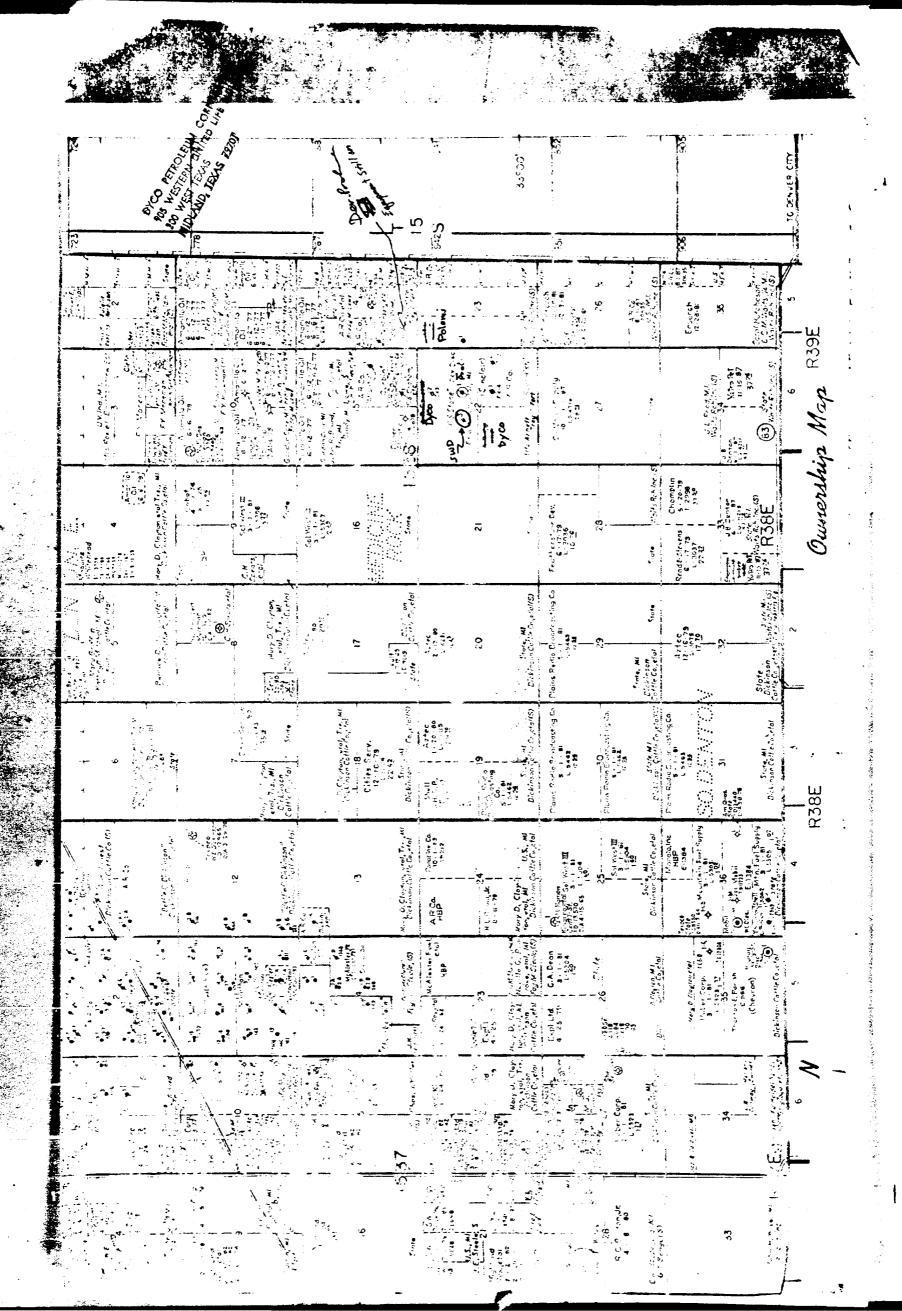
Page 1 of 2 . OF COPIES RECEIVED Form C - 103 Supersedes Old DISTRIBUTION C-102 and C-103 Effective 1-1-65 ANTAFE NEW MEXICO OIL CONSERVATION COMMISSION FILE Sa. Indicate Type of Lease U.S.G.S. State F** K LAND OFFICE OPERATOR SUNDRY NOTICES AND REPORTS ON WELLS WELL other. Salt Water Disposal Well Name of Crerato 6, Farm or Lease Name Dyco Petroleum Corporation S. Stone . Address of Operator 905 Western United Life Bldg, Midland, Texas 79701 i. Location of Well Wedicine Book UNIT LETTER F 1980 FEET FROM THE North LINE AND 1980 LINE, SECTION ___ 22 THE West 15. Elevation (Show whether DF, RT, GR, etc.) 3721 GR Check Appropriate Box To Indicate Nature of Notice, Report or Other Data NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF: PLUG AND ABANDON PERFORM REMEDIAL WORK REMEDIAL WORK ALTERING CASING TEMPORARILY ABANDON PHILL OF ALTER CASING CHANGE PLANS CASING TEST AND CEMENT JOB OTHER Change SWD injection Zone X 17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1703. Started pulling tubing to repair tubing leak(s). Had pressure on $5\ 1/2"$ casing annulus and $9\ 5/8"$ casing annulus (see attached May 3, 1979 to schematic). Tubing string weakened by corrosion(external) that May 19, 1979 only 10 to 20 joints could be recovered per run as it would part in the collars before reaching full string weight. In 14 days fishing with tubing spear and overshot recovered 8726' (328 1/2 jts). Cut tubing internally at 8726, PBTD inside tubing; attempts to fish remaining string with spear was not successful, could not get good bite, could not release from packer @ 9997'. Went in hole with 5 1/2" packer and 2 7/8", N-80 tubing to 8720', set packer, pressured to 4,000#, no injection; spotted 168 gallons 15% HCL, pressured to 3700#, casing failed, had communication on 5 1/2" & 9 5/8" casing; pulled up 300', closed casing valves and BOR injected down tubing at 1.5 BPM at 1800#; fluid apparently going into open hole through 5 1/2" casing from 4894'-8725' (Permian-San Andres, Glorietta, Tubb). Laid down 2 7/8", N-80 tubing workstring, shut well in to apply for new SWD permit TION DIVISION is true and complete to the best of my knowledge and belief.

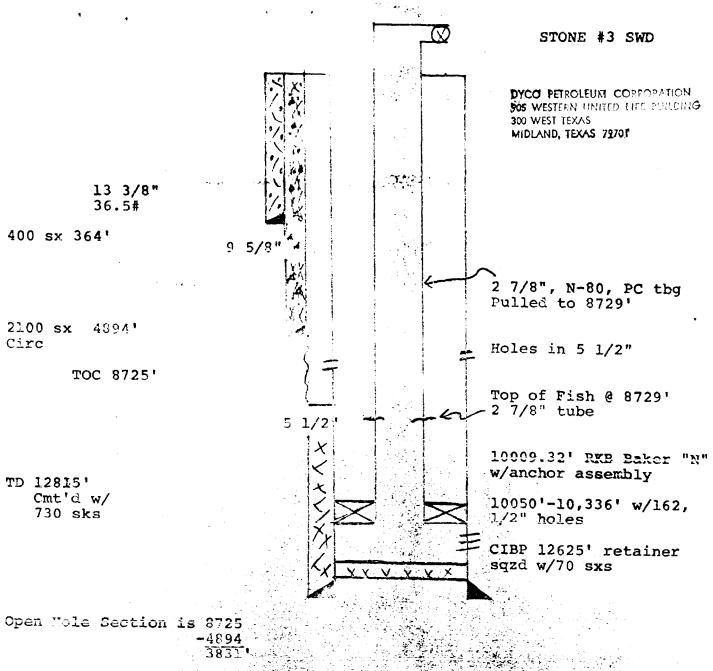
Tomb famile

Vice Pres & Area Manager DATE 5-29-79

CONDITIONS OF APPROVAL, IF ANY:

DISTRIBUTION	NEW MEXICO OIL CONSI	FRYATION COMMISSION	Form C-103 Supersedes Old C-102 and C-103 Effective 14-65
U.S.G.S.			Sa. Indicate Type of Lease State Foo
OPERATOR			5. State Oil & Gas Lease No.
SUNDR	Y NOTICES AND REPORTS ON	WELLS ACL TO A DIFFERENT RESERVOIR. H PROPOSALS.I	
OIL GAS WELL	OTHER. SWD Well	- W-,	7. Unit Agreement Name F 8. Farm or Lease Name
Dyco Petroleum Corp	oration		C. S. Stone
905 Western United	Life Bldg, Midland, 1	rexas 79701	3
;, Location of Well WHIT LETTER F 1	980 FEET FROM THE	LINE AND 1980 FEET FROM	10. Field and Pool, or Wildcat Medicine Rock (Dev)
THE West LINE, SECTI	22 TOWNSHIP 15S	RANGE 38E NMPM	
	15. Elevation (Show whether 3721 GR	DF, RT, GR, etc.)	12. County Lea
	Appropriate Box To Indicate N		her Data T REPORT OF:
PERFORM REMEDIAL WORK X TEMPORARILY AGANDON PULL OR ALTER CASING	PLUG AND ABANDON	REMEDIAL WORK COMMENCE DRILLING OPNS. CASING TEST AND CEMENT JQB	ALTERING CASING PLUG AND ABANDONMENT
OTHER		OTHER	□
17. Describe Proposed or Completed Owork) SEE RULE 1703.	perations (Clearly state all pertinent deta	ails, and give pertinent dates, including	estimated date of starting any proposed
In support of Form to convert from sal the Permian Formatic	C-108 for the above w t water disposal in t on.	well,Dyco proposes t the Wolfcamp Formati	he following work on to injection in
from 8729' to 8 2) Cement 5 1/2" c	ng inspection log. I 699' to permanently p asing from 4894' w/20	plug Wolfcamp inject 00 sx or to good 5 1	ion zone. /2" casing whichever
is higher. Dri 5462-5500 and 5	ll out cement, perfor 615-5650 w/l SPF. ction packer to 4890	rate 5 $1/2$ " casing i	n San Andres from
with 2000 psi w	orking pressure ration mian- San Andres form	ng.	-
BCHTV UT	ST DIVISION		
14. I hereby certif the the information SANTA	facile rive AZ	of my knowledge and belief.	DATE 5-29-79
APPROVED BY	1116		OAYE





1st Inj. 9-12-64

Status: Hole (s) in tbg; Hole (s) in 5 1/2" csg,
Have pressure on 5 1/2" annulus & 9 5/8" annulus

FUERNONE HOBBS 393 71 APEA CODE 505



CHEMICAL CORPORATION

P. O. BOX 1499

HOBBS, NEW MEXICO 88240

Dyco Petroleum Corporation

DYCO PETROLEUM CORPORATION 305 WESTERN UNITED LIFE BUILDING

Yedicine Rock Devenian

300 WEST TEXAS MIDLAND, TEXAS 7970)

C. S. Stone #1

IONIC FORM

Sampling Date

We' head - Devonian Formation

WATER ANALYSIS

odiun. 🔨 🗓 -

ron (Total)

105.20

me/! *

mg/ * 2,104 24,045

Disposal Water Analysia.

Cisc Stone #3 - SWD Well

otal Disolved Solids

in learn Chesk as CaCO, the Coordry)

found found 3,091 39,600

854

70,222

700 6,759 700

reg = milligroms per liter

er i i i uma e polenti i grilli s

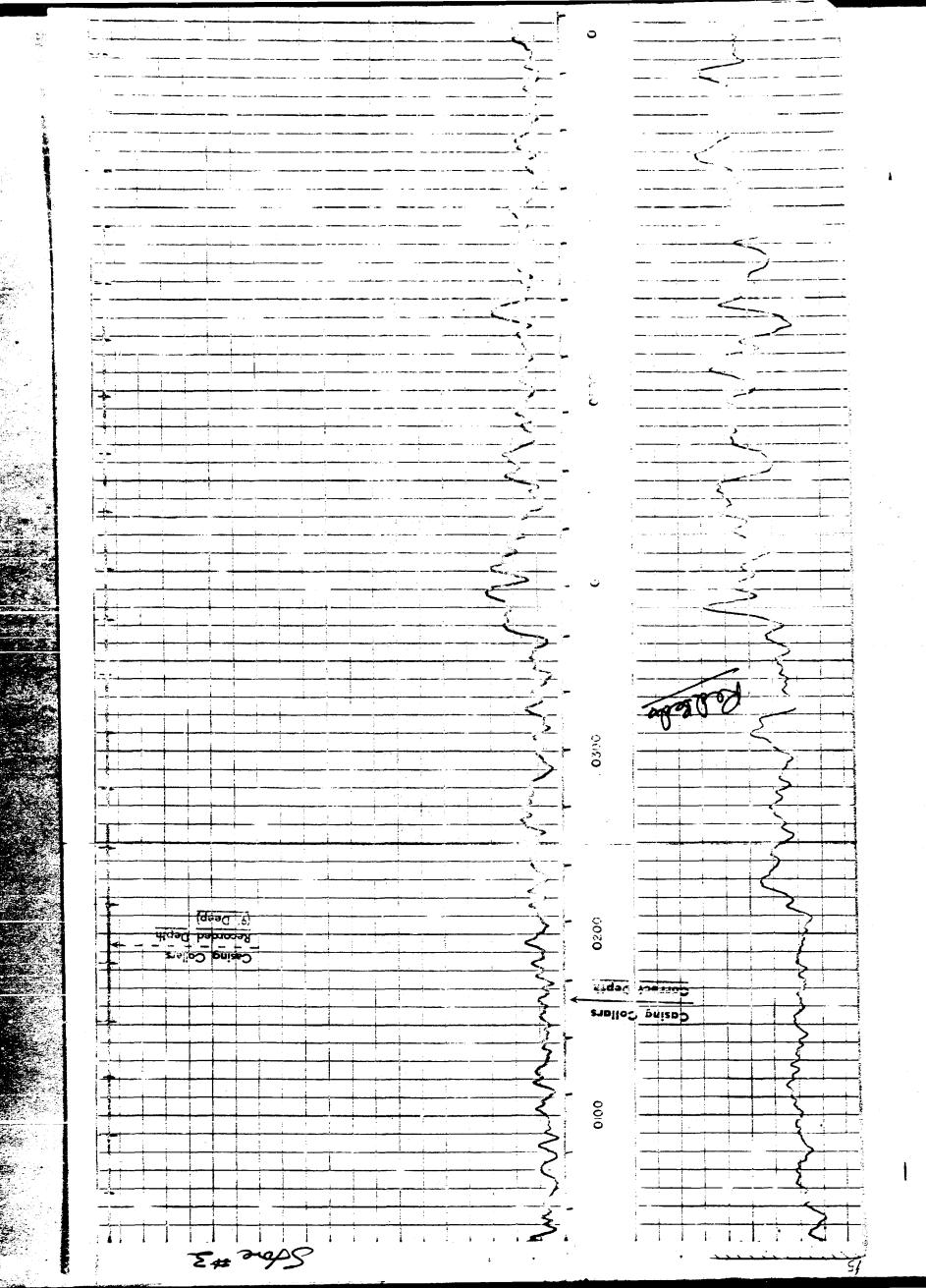
CO₃ Scaling Incox secontly positive @ 86°F (0.14)

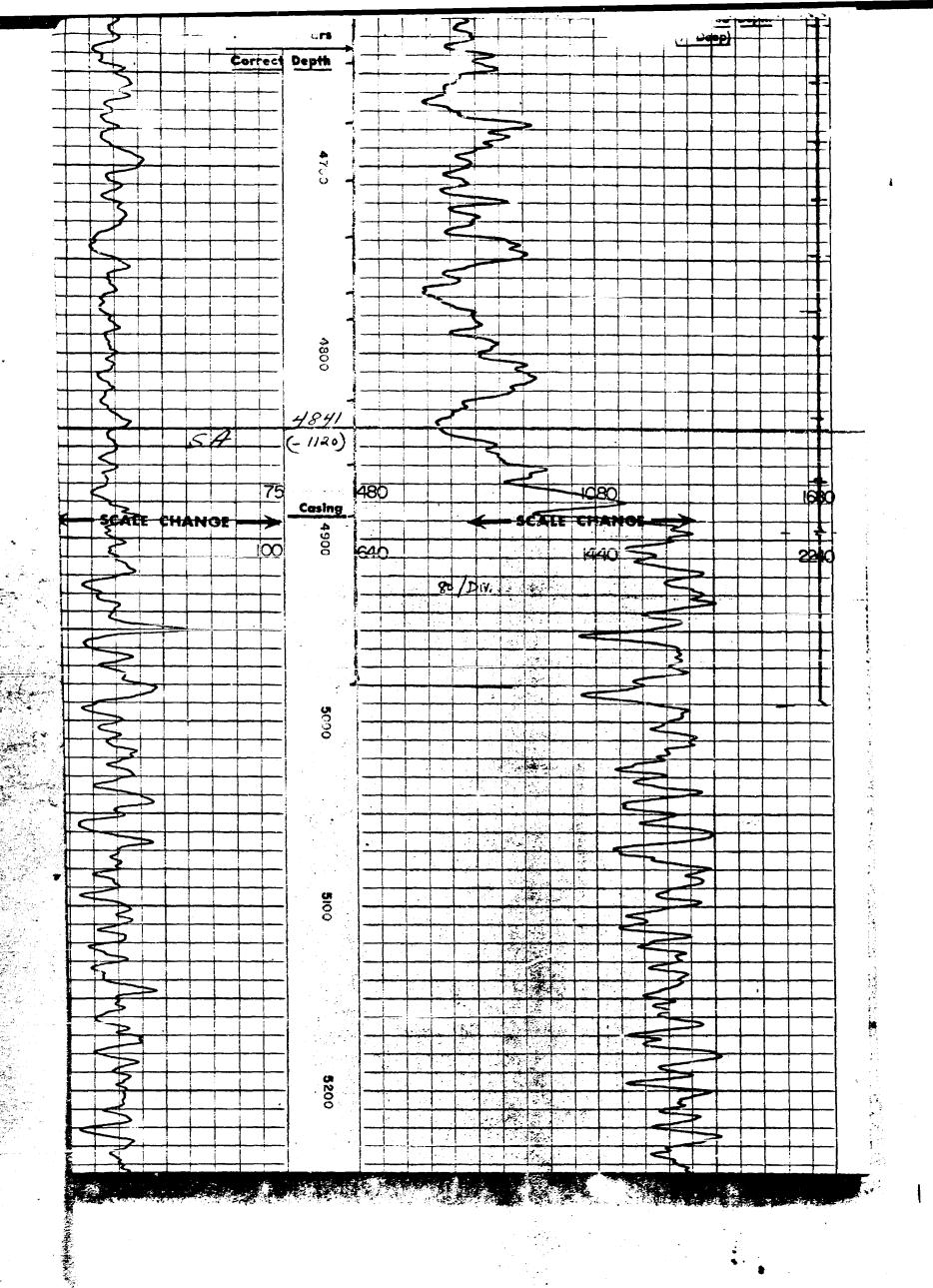
Cashy Scaling Index regative (0.63)

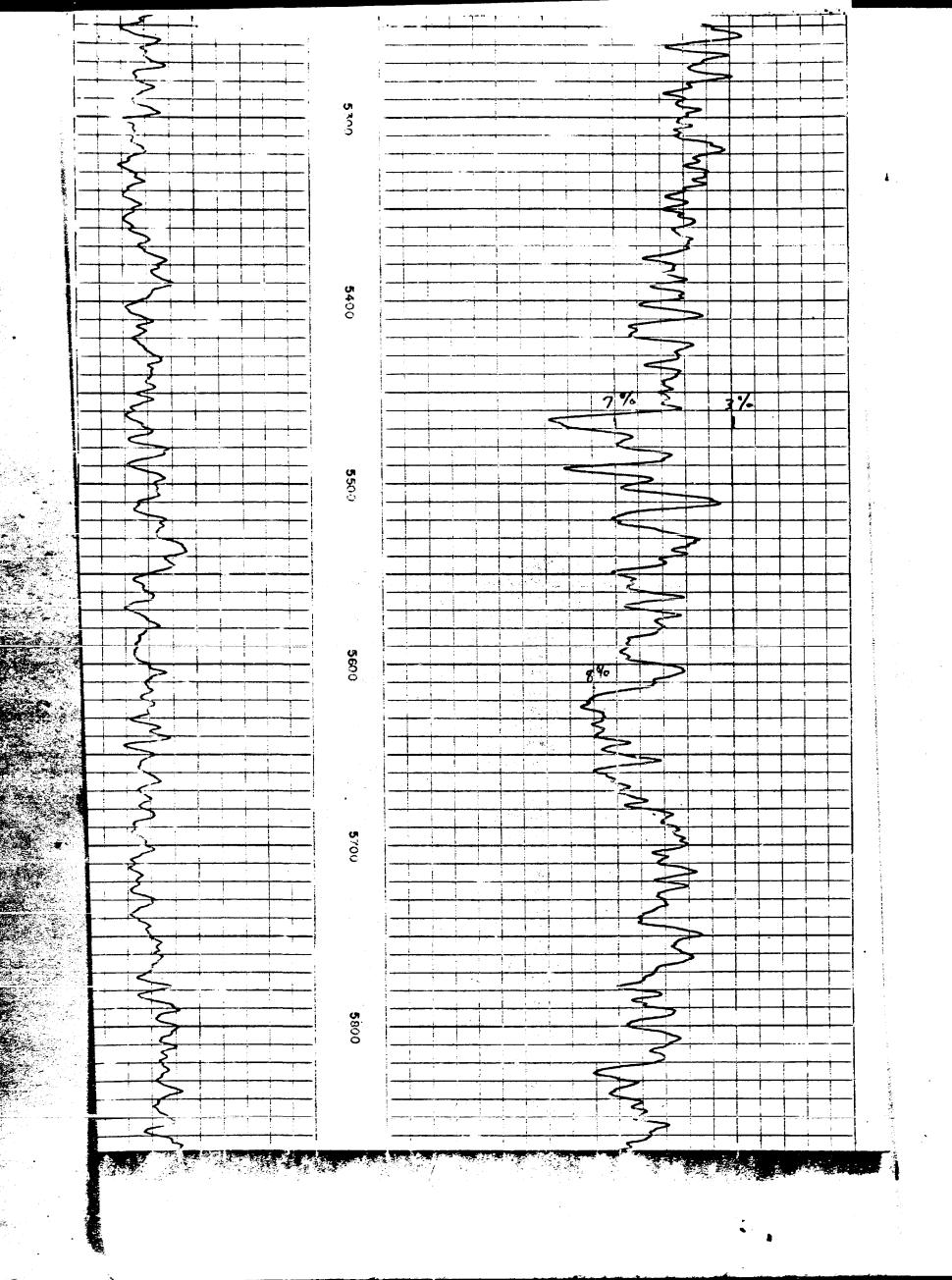
accumentation of the Section of the Standard Commission and Commis

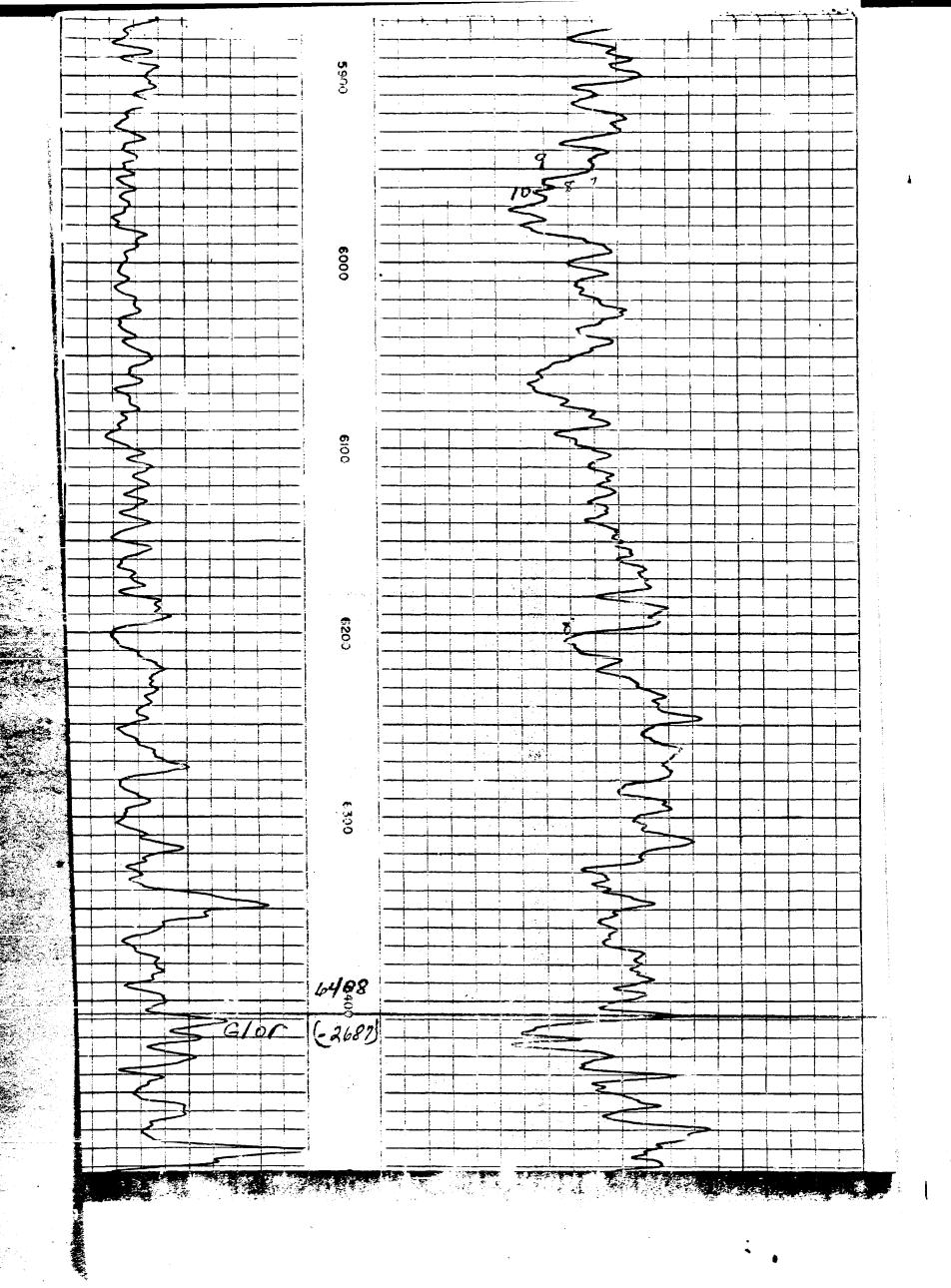
SCHII	SCHLUMBERGER & BAMMA RAY - NEUTRON SCHLUMBERGER WELL SURVEYING CORPORATION HOUSTON, Texas		·	AP! N. Uni		
CK #3 &	COMPANY SINCLAIR OIL & GAS COMPANY DYCO PETROLEUM CORPORATION	ERM	Neutron	Zero Div. L or R 8L 8L		
ICINE RO S. STONE CLAIR O! COMPANY	WELL C. S. STONE #3 MIDLAND, TEXAS 7970" FIELD MEDICINE ROCK	Neutro 1 G+N-N TH GNT-G 3 7/8 NLD-D G.M. 6" NLS-B	15.5 C-(RA BE O'N/SEC	Sens. Settings 400 300		
MEDI C. S SINC GAS	COUNTY LEA STATE NEW MEXICO			T.C. Sec. 2 2		EU.
COUNTY FIELD or LOCATION VELL COMPANY	Location: 1980' FNL Other Services: 21L-LL8 21L-LL8 Sec. 22 Twp. 155 Rge. 38E	No. ype Model No. ameter Model No. oe agth e Model No. fial No.	ocing pe ength ATA	G.R. Units er Log Div. 10 7.5	500	N
Permone * Do Log Messured Drilling Messured Drilling Messured Date Run No.	Datum: GROUND LEVEL ; Elev.: 3721 Elev.: K.B. ed From G. L. Ft. Above Perm. Datum G.1. 3721 4-7-62	Run Log Tool. Di Det'r Ty Le	Ty	Zero AF Div. L or R p	5 - 800 1 6.6/4. 5 -	
Type Log Jepth—Driller Depth—Logger Bottom logged	GRN 12815 12801 12800 interval 12800		G	Sens. Settings 400 300	0 - 82.5 0/320 -	DE)*
<u> </u>	nterval 0 hole CHEM-GEL CI. 3600			T.C. Sec. 2 2	- 41(- 1220	wayson the careful of
Density Level Max rec. temp., de Operating rig time Recorded by Witnessed by	g F. 6 EASL	Gamma Ra 1 GNT-G 3 7/8 SGD-F SCINT. 811 8711		To Fr/Min. 12800 30/60 60	CAL: B 80 CAL: B 5 -	MA RAY
R: V Bir	### ### ##############################	del No.	al No. Genera	Depths From 0 1	s: GR N	CAMA
		Diame et'r Mo Type Length	st. True		emarks	

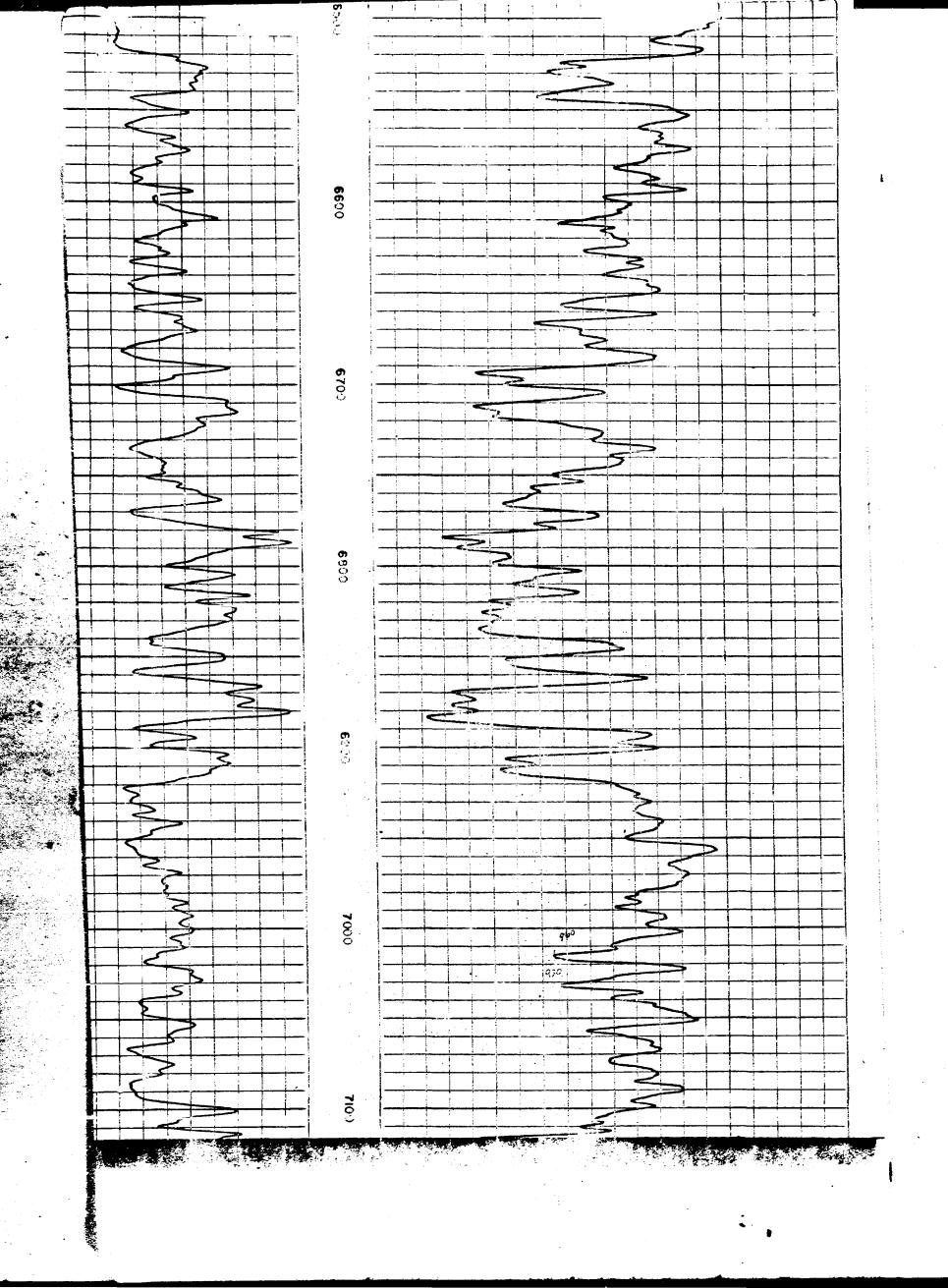
į

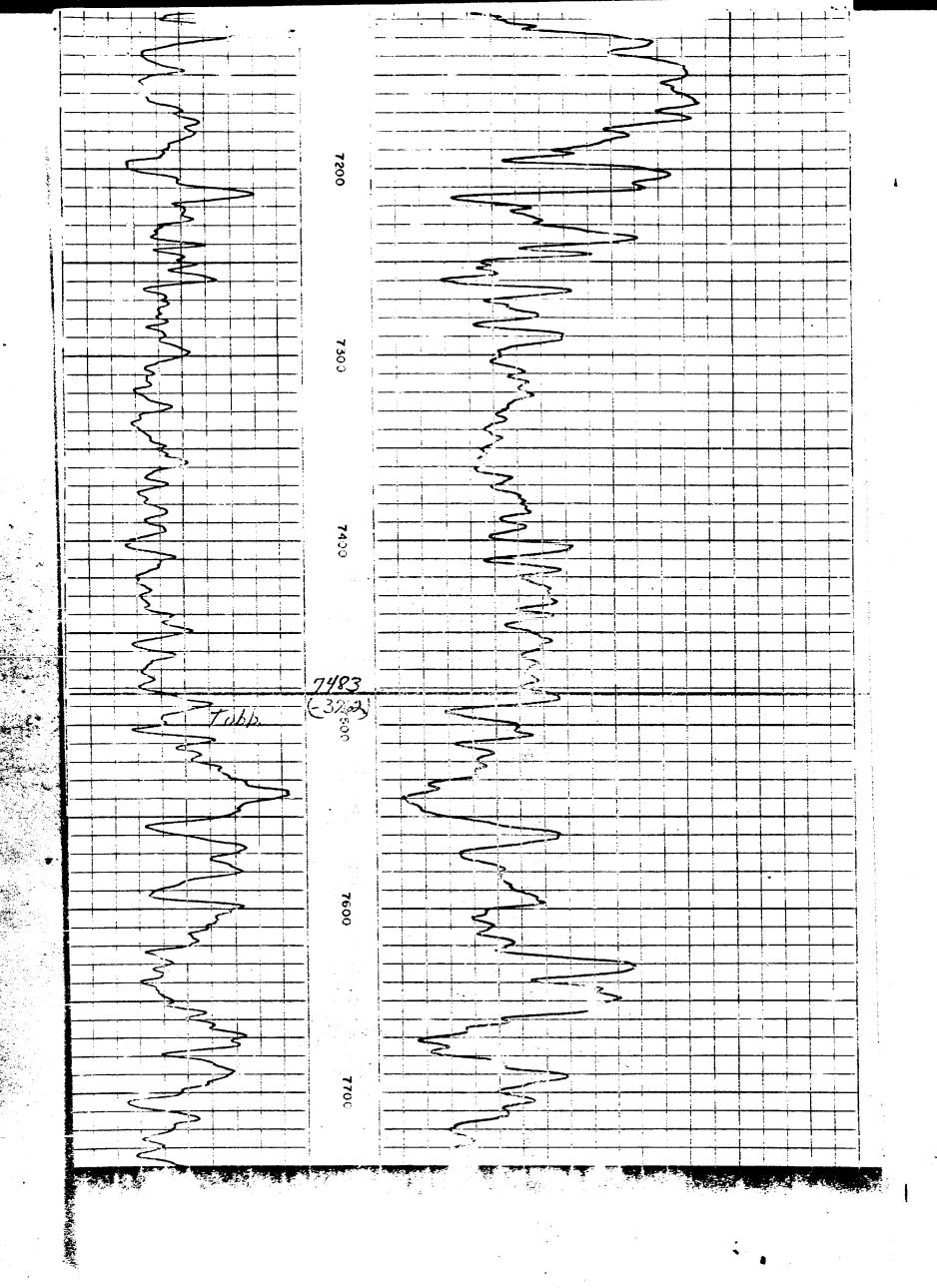


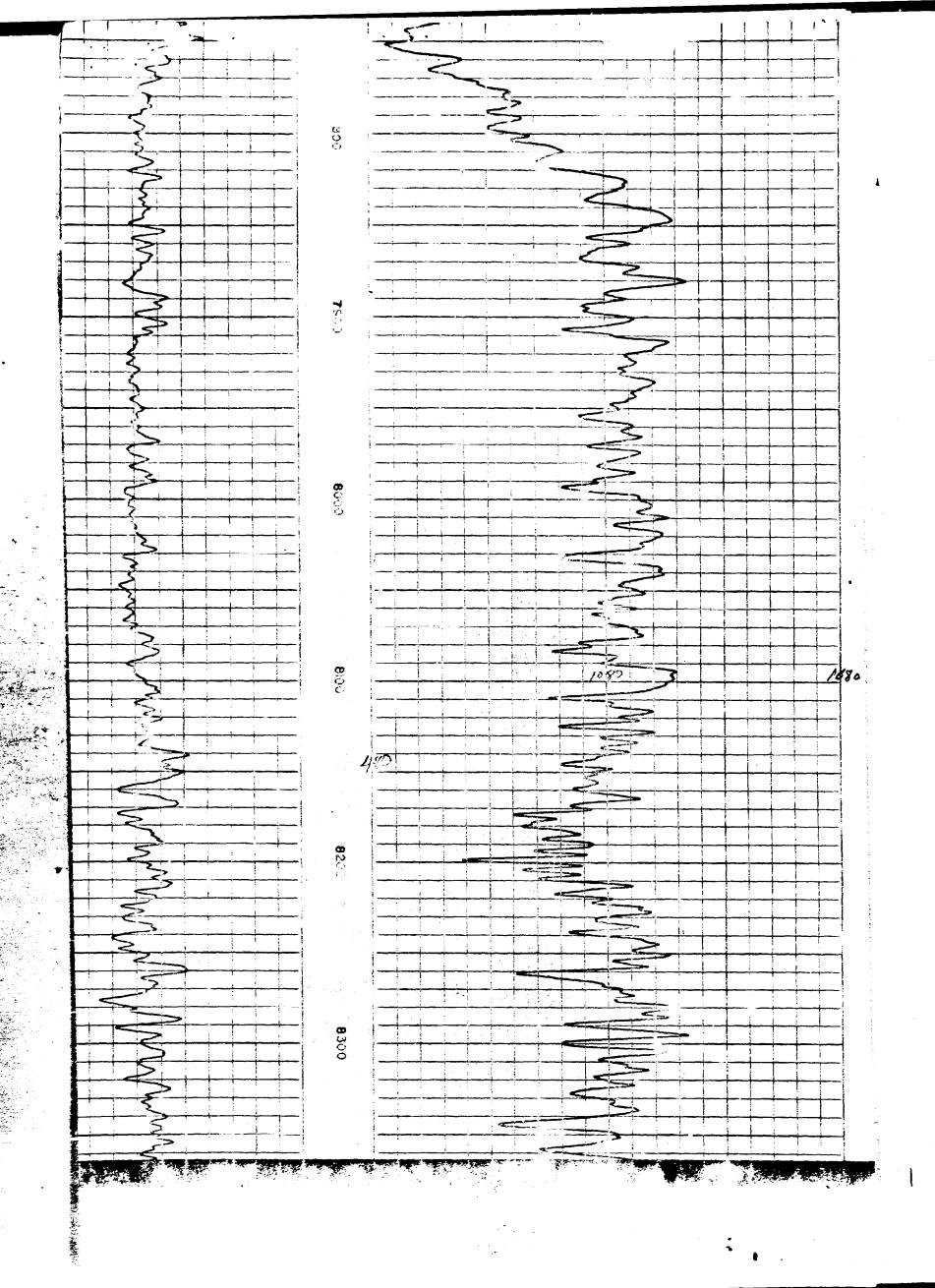


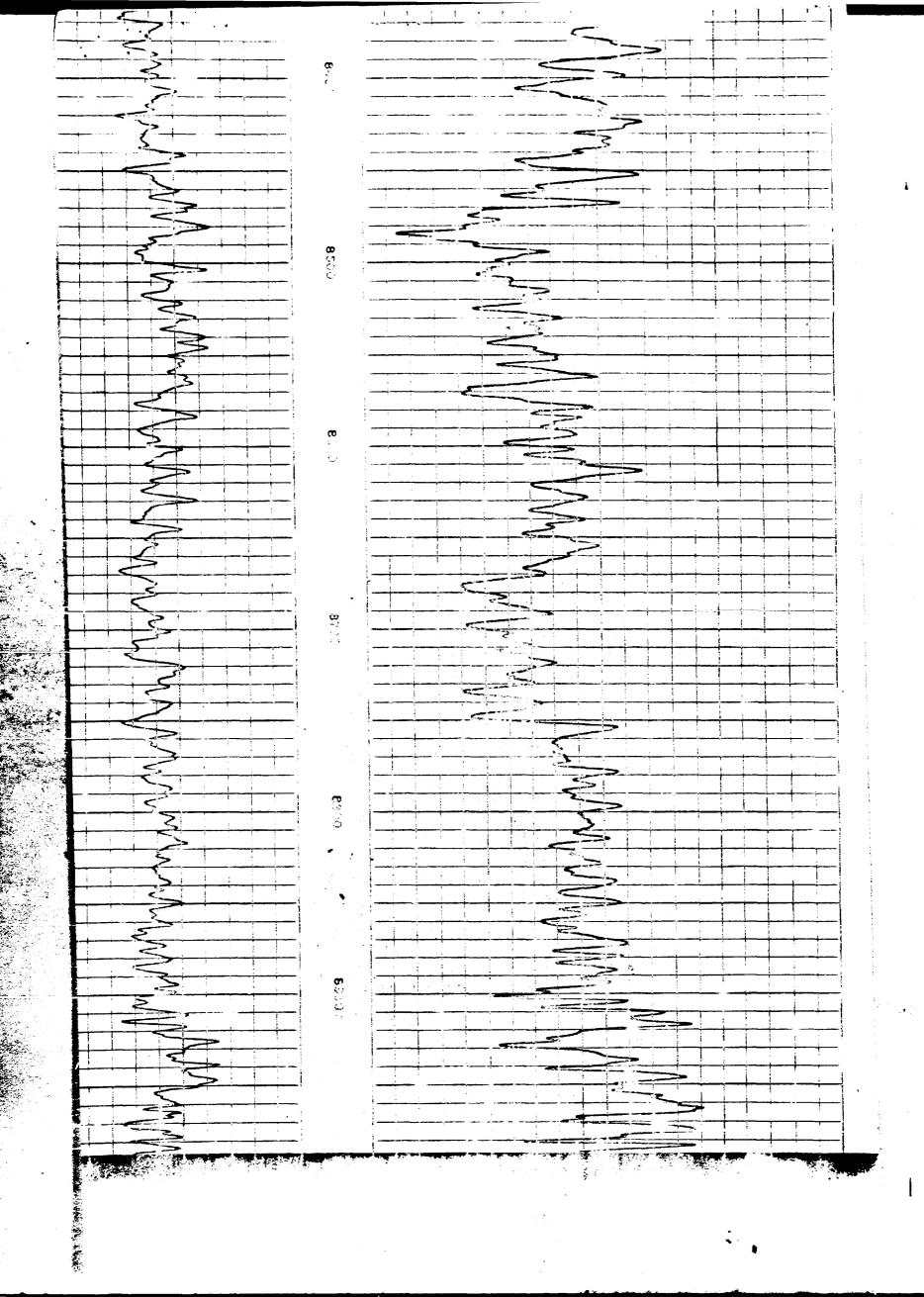


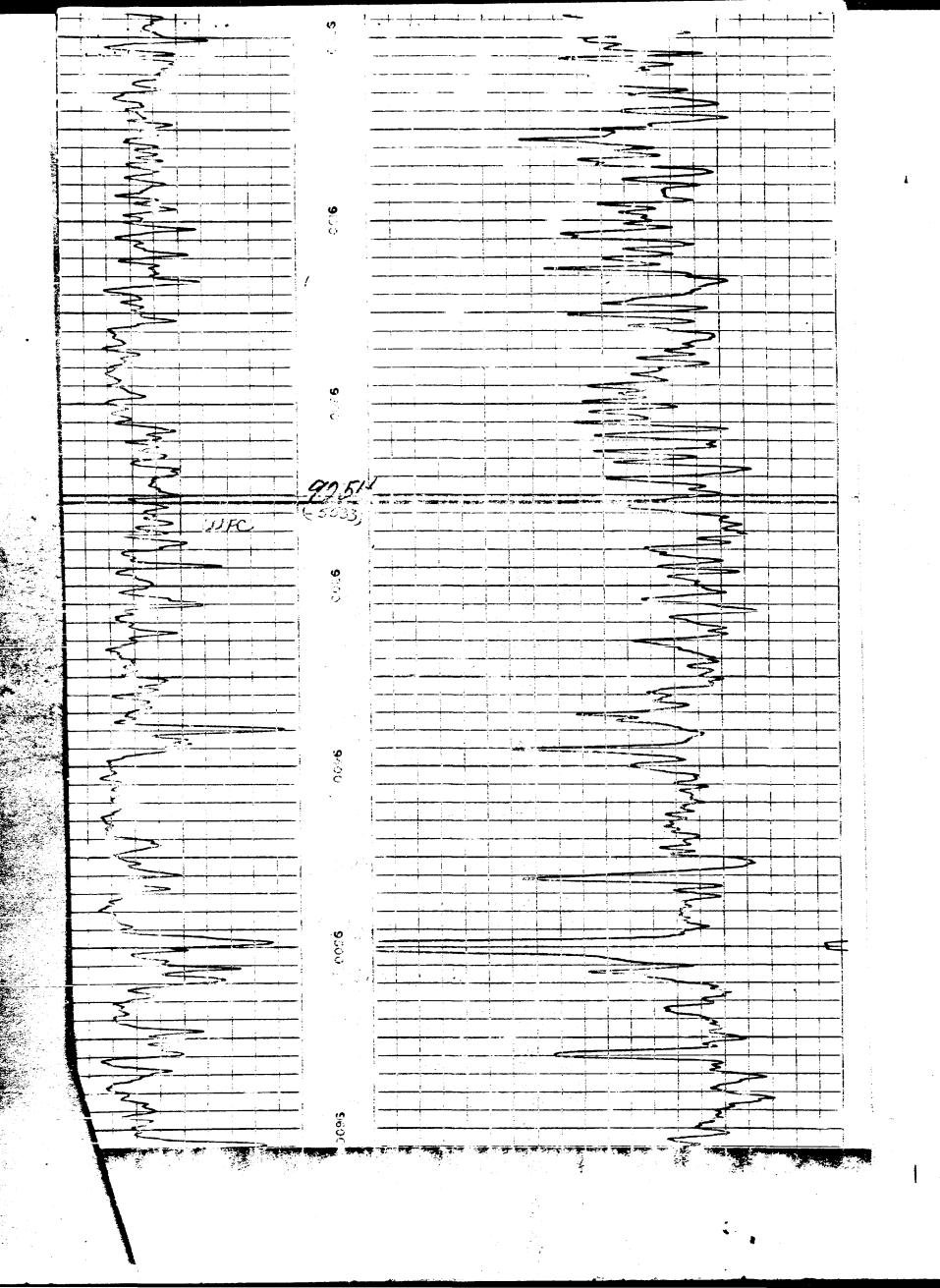












P

Dyco Petroleum Corporation

May 30, 1979

DYCO PETROLFULL COMPORATION 908 WESTE OF GESTED LIFE BUILDING COD WOOD 1677 D MIDLAND, TEXAS 79701

> 1703 WILCO BUILDING 415 WEST WALL STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

State Of New Mexico Oil Conservation Commission Box 2088 Santa Fe, New Mexico 87501

Attn: Mr. Joe D. Ramey

Re: Dyco-Stone #3 SWD Well Medicine Rock Field Sec. 22, T15S, R38E Lea County, New Mexico

Gentlemen:

Attached please find information supporting Dyco's C-108 Form to convert the above SWD well to SWD in another formation. Order No. SWD-41 was approved December 13, 1963, permitting Sinclair Oil & Gas to dispose of salt water in the above well in the Wolfcamp-Pennsylvanian interval from 9990' to 11,000'.

As the attached C-103 indicates, the 2 7/8" tubing was fished to 8726', leaving 1300' \pm of 2 7/8" tubing in the hole as a fish along with the 5 1/2" Model "N" packer. During casing cleaning operations to fish the tubing, the tubing-fish is now plugged inside and outside with iron-sulphide and scale or collapsed preventing injection into the Wolfcamp. In addition, the 5 1/2" casing may have failed as deep as 8720', the last 5 1/2" packer setting depth.

Form C-108 indicates the 13 3/8" casing and 9 5/8" casing strings are cemented to surface; therefore, we propose to cement the 5 1/2" casing -9 5/8" casing annulus w/200 sx from 4894' to permit disposal into the Permian open hole section from 4894' to 8725' through tubing set on a 5 1/2" packer @ 4890. There is no nearby oil or gas production in these zones to my knowledge and no shows were encountered originally when drilling this interval.

Dyco's Stone #1 well on the same lease produces from the Devonian @ 12,630-12,670' at 27 BOPD and 390 BWPD on artificial lift. The produced water is disposed into the Stone #3 SWD system. This well will have to be shut down until SWD can resume in the Stone #3 well because it would not be economic to produce if water has to be trucked to a commercial disposal system. Disposal cost would be about \$10,000 per month while net income would be about \$7,000 per month under normal DOC. About \$30,000 has already been spent on the remedial work to this point.

Thank you for your early attention to this matter.

Yours very truly,

Tom L Sprinkle

Vice President

		Page 1 of 2
S . OF COURS RECEIVED		Form C-103
DISTRIBUTION		Supersedes Old C+102 and C+103
ANTA FE	NEW MEXICO OIL CONSERVATION COMMISSION	Effective 1-1-65
LE	· ·	
.s. g.s ,		Su. Indicate Type of Lease
AND OFFICE		State Fee 🗶
PERATOR		5. State Cil 6 Gas Lease No.
400 Hot 445 Park	SUNDRY NOTICES AND REPORTS ON WELLS CHAIN FOR PROPOSALS TO CHILL OR TO DIEFER OR PLUG PALF TO A DIFFERENT RESERVOIR LYAPPLICATION FOR PERMIT - 11 FERM CHICATON FOR SUCH PROPOSALS.	
251	"APPLICATION FOR PERKIT -" IFORM C-1011 FOR SUCH PROPOSALS,)	
011 GAS	Calt Water Dienogal Well	7, Unit Agreement Name
Hame of Crerator	ormen. Salt Water Disposal Well	8. Furm or Lease Name
yco Petroleu	m Corporation	C. S. Stone
Address of Gerater	W COLDOLAGIO	9. Well No.
905 Western U	nited Life Bldg, Midland, Texas 79701	3
Location of Well		10. Field and Pool, or Wildcat
UNIT LETTER F	1980 PEET FROM THE NORTH LINE AND 1980 PEET FROM	Welicine Book
ONIS CETTER	TELL TROM	
West	LINE, SECTION 22 TOWNSHIP 155 RANGE 38E MMPM.	
· nt		
	15, Elevation (Show whether DF, RT, GR, etc.)	12. County
	3721 GR	Lea
	Check Appropriate Box To Indicate Nature of Notice, Report or Oth	er Data
NOT	ICE OF INTENTION TO: SUBSEQUENT	
ERFORM REMEDIAL WOFK	PLUG AND ABANDON REMEDIAL WORK	ALTERING CABING
EMPORARILY ASANDON	COMMENCE DRILLING OFMS.	PLUG AND ABANDORMENT
ULL OR ALTER CASING (CHANGE PLANS CABING TEST AND CEMENT JOS	
•	OTHER	
OTHER _ Change	SWD injection Zone k	
 Descrite Frogosed or (work) SEE RULE 1103 	Completed Operations (Clearly state all pertinent details, and give pertinent dates, including is	estimated date of starting any proposed
2 1070	- Claud 2	
2	Started pulling tubing to repair tubing leak (
to	5 1/2" casing annulus and 9 5/8" casing annulus	us (see attached
May 19, 1979		ion(external) that
	only 10 to 20 joints could be recovered per re	un as it would part
	in the collars before reaching full string we	ight. In 14 days
	fishing with tubing spear and overshot recover	red 8726' (328 1/2
	jts). Cut tubing internally at 8726, PBTD inst	ide tubing; attempts
	to fish remaining string with spear was not so	uccessful, could not
	get good bite, could not release from packer	0 9997'. Went in
	hole with 5 1/2" packe and 2 7/8", N-80 tubis	ng to 8720' set
	packer, pressured to 4,000#, no injection; spe	ng to 8/20 , set
	packer, pressured to 4,000#, no injection; special	otted 168 gallons
	5% HCL, pressured to 3700#, casing failed, h	ad communication
,	on 5 1/2" & 9 5/8" casing; pulled up 300', cl	osed casing valves
	and BOP injected down tubing at 1.5 BPM at 18	
	going into open hole through 5 1/2" casing from	
	mian-San Andres, Glorietta, Tubb). Laid down 2	
	workstring, shut well in to apply for new SWD	permit
	,	
. I hereby certify that th	e information above is true and complete to the best of my knowledge and belief.	
1	P 10 10	
TUNCO TON	J. Journello Vice Pres & Area Manag	er _{bate} 5-29-79
PPROVED AV	TITLE	DATE

COMPITIO

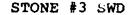
	E Q	gc 01 2
N . OF COPIES RECEIVED		Form C -103
DISTRIBUTION		Supersedes Old
ANYAFE	NEW MEXICO OIL CONSERVATION COMMISSION	C-102 and C-103 Effective 1-1-65
ILE	The state of the s	Piter (IAA 14-62
).S.G.S.		Sa. Indicate Type of Lease
AND OFFICE		State Fee K
		5. State Oil 6 Gas Lease No.
PERATOR		5. State Off & Gas Lease No.
SUNDRY N	NOTICES AND REPORTS ON WELLS	minimininh.
(DO NOT USE THIS PORCE FOR PROTOCE USE "APPLICATION F	OR PERMIT - " (FORM C-) OIL FER SUCH PROPOSALS.)	
CIL CAS	orner. SWD Well	7. Unit Agreement Name
Hame of Gerator	oração. DAD ACII	F 16, Furm or Lease Name
Oyco Petroleum Corpora	ation	C. S. Stone
Address of Operator		9. Well No.
	fe Bldg, Midland, Texas 79701	3
Location of Well	0 1000	10. Field and Pool, or Wildow
UNIT LETTER F 1980	O FEET FROM THE N LINE AND 1980 FEET	Medicine Rock (Dev)
West	22 TOWNSHIP 15S RANGE 38E	
THE LINE, SECTION	TOWNSHIP TOWNSHIP	~~~ (
mmmmm	15. Elevation (Show whether DF, RT, CR, etc.)	12. County
	3721 GR	Lea
Charles App	propriate Box To Indicate Nature of Notice, Report of	
NOTICE OF INTE		UENT REPORT OF:
PERFORM REMEDIAL WORK	PLUG AND ABANDON REMEDIAL WORK	ALTERING CASING
EMPORARILY ASANDON	COMMENCE DRILLING OPHS.	PLUG AND ABANDONMENY
TULL OR ALTER CASING	CHANGE PLANS CABING TEST AND CEMENT JOB	_
	OTHER	
97HER		
	tions (Clearly state all pertinent details, and give pertinent dates, incl	1 12
work) SEE RULE 1103.	mons (Crearly state are pertinent actuals, and give pertinent autra, met	taking estimated date of starting day proposed
in support of Form C	108 for the above well, Dyco propose	s the following work
	water disposal in the Wolfcamp Form	ation to injection in
the Permian Formation	•	
) Run 5 1/2" casing	inspection log. Dump 30' cement is	nside 5 1/2" casing
from 8729' to 869	9' to permanently plug Wolfcamp inj	ection zone.
 Cement 5 1/2" cas: 	ing from 4894' w/200 sx or to good	5 1/2" casing whichever
is higher. Drill	out cement, perforate 5 1/2" casing	g in San Andres from
5462-5500 and 561	5-5650 w/l SPF.	
	ion packer to 4890' and 4890'-2 3/8	", fiberglass tubing
with 2000 psi wor	king pressure rating.	,
4) Inject into Permi	an- San Andres formation, through fi	herglass tubing strin
at 400 BWPD.	Jan Indiana Tormacrote, Chrough II.	bergraps cuning Stilli
	,	
1. I hereby certify that the information ab-	ove is true and complete to the best of my knowledge and belief.	
	- F PO	
100 100	Area Manager	OATE 5-29-79
PROVED BY	71718	DATE
ONDITIONS OF APPROVAL, IF ANY:		

NEW MEXICO OIL CONSERVATION COMMISSION

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

HAVE COPIES OF THIS APPLICATION SENT TO EACH OF THE FOLLOWING TEMS ATTATHS APPLICATION (SEE RULE 70)	CHED TO PLAT OF AR	EA	Ves		DIAGRAMMATIC SKETCH OF WELL YES Edge and belief.
SENT TO EACH OF THE FOLLOWING	VES	•	VOS		
SENT TO EACH OF THE FOLLOWING	VES	•	1 of this well		DIAGRAMMATIC SKETCH OF WELL
TAVE COPIES OF THIS APPLICATION	ON BEEN SURFACE DY	INER	TEACH OPERATOR	WITHIN CHACKMER MILE	
				R WITHIN ONE-HALF MILE	
		······································	,	- 1944	
dump 30' cmt	on top of	fish @ 8725			
Perf Wolfcamp	•	•	•	101221, 10050	1, 90, MITT
	_				ll, Midland, Texas
TTOY C FORT					79701
				lexico 88260	
RALIZED TO SUCH A DEGREE AS T TOCK, IRRIGATION, OR OTHER GEN AME AND ADDRESS OF SURFACE O	VERAL USE ~ C 1 2			Ves	yes
380 350	FOLLOWING WATERS A	Open	TO SE DISPOSED OF	DIESSUFE	ARE WATER ANALYSES ATTACHED?
TTCTPATED DAILY MINIMUM JECTION VOLUME BLS.	MAXIMUM	OFEN OR CLOS	ED TYPE SYSTEM	S INJECTION TO BE BY GRAV	
PTH OF BUTTOM OF DEEFEST ESH WATER ZONE IN THIS AREA	310	OIL OR GAS ZONE IN	F NEXY PIGHER This area	DEPTH OF TOP	OF NEXT LOWER
				iner @ 12625'	, sqzd w/70 sks
TION ZONE?				olfcamp, Devonian	
Tubing This A NEW WELL DRILLED FOR	IF ARSWER II	Perfora		894'-8725'	MAS WELL EVER BEEN PERFORATED IN A
Permian-San Ar		letta Tybb	Hole Prop	OSED INTERVALIS) OF INJEC	9254
ME OF PROPOSED INJECTION FOR	MATION		1	!	BOTTOM OF FORMATION
	2 3/8"	4890'	Baker Lock		
UNING .	5 1/2"	12815	730	87251	Survey
ONG STRING	9 5/8"	4894	2100	surface	Circulation Temperature
TERMEDIATE	13 3/8"	364		surface	
URFACE CANING	12 2/0"	264	400	aun£	circulation
NAME OF STRING	3128	CASING	AND TUBING DATA	TOP OF CEMEN	T TOP DETERMINED BY
West time, section	22	A45410 155	***** 38E	HMBW.	
SHAT LETTER	F	100 IN COCATED 198	30 FEET PROM	тие	E AND 1980 PEET FROM T
C. S. Stone	a annula magasa i qabiqiyi qaray saangi tibi ila (ila (ila (ila (ila (ila (ila (ila	3	Mediçi	ne Rock (Devo	nian) Lea
		1			COURTY
Dyco Petroleum	Corporati	OD TWELL NO.	905 wes	stern United	Lie Bidd.

NOTE: Should waivers from 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.



DYCO PETROLEUM COSFOS TICH 905 WESTERN UNITED LIFE CURLDING
300 WEST TEXAS MIDLAND, TEXAS 79701

36.5#

13 3/8"

400 sx 364'

2 7/8", N-80, PC tbg Pulled to 8729'

2100 sx 4894' Circ

TOC 8725'

Top of Fish @ 8729' 2 7/8" tube

Holes in 5 1/2"

TD 12815' Cmt'd w/ 730 sks 10009.32' RKB Baker "N" w/anchor assembly

10050'-10,336' w/162, 1/2" holes

CIBP 12625' retainer eqze w/70 sxs

Open Hole Section is 8725 -4894 3831

lst Inj. 9-12-64

Status: Holes(s) in tbg; Hole (s) in 5 1/2" csg,
Have pressure on 5 1/2" annulus 2 9 5/8" annulus

9 5/8"

F.EPHONE HOBBS 393 7751 APEA CODE 505



ORPORATION CHEMICAL

401 NORTH LEECH

P. O. BOX 1499

DYCO PETROLEUM CORPORATION

HOBBS, NEW MEXICO 88240

Dyco petroleum Corporation

Medicine Tock Devonian

905 WESTERN UNITED LIFE BUILDING 300 WEST TEXAS MIDLAND, TEXAS 79701

C. S. Stone #1

Sampling Date 5-12-78

IONIC FORV

Wer Good - Devonian Formation

105.20

me/| •

2,104

mg .

Disposal Water Malysm

Cisc Stone #3 - SUDWell

Not

found 3,091 39,600

70,222

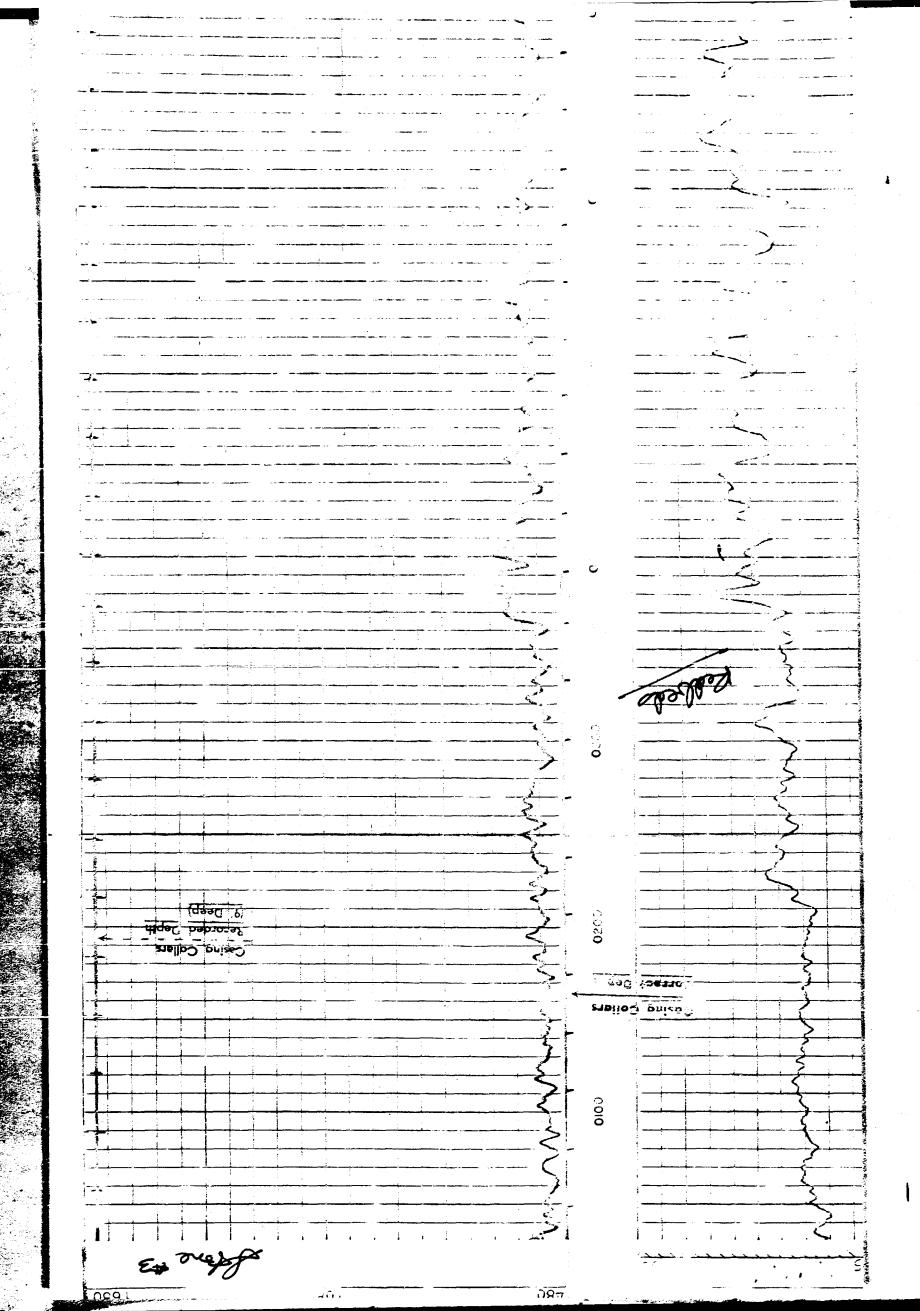
6,759

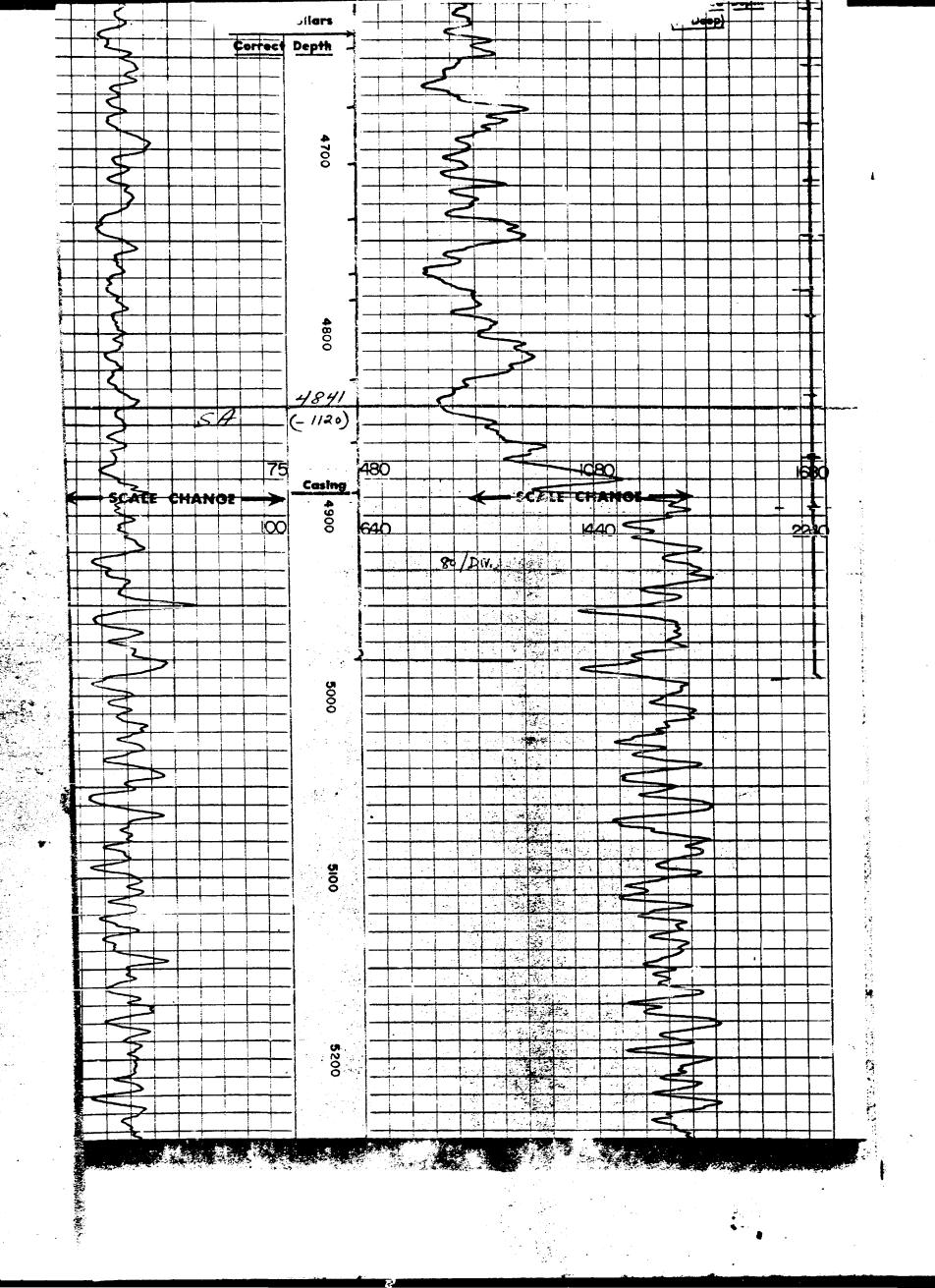
Cacco Scaling Index slightly positive a 36°F (0.14)

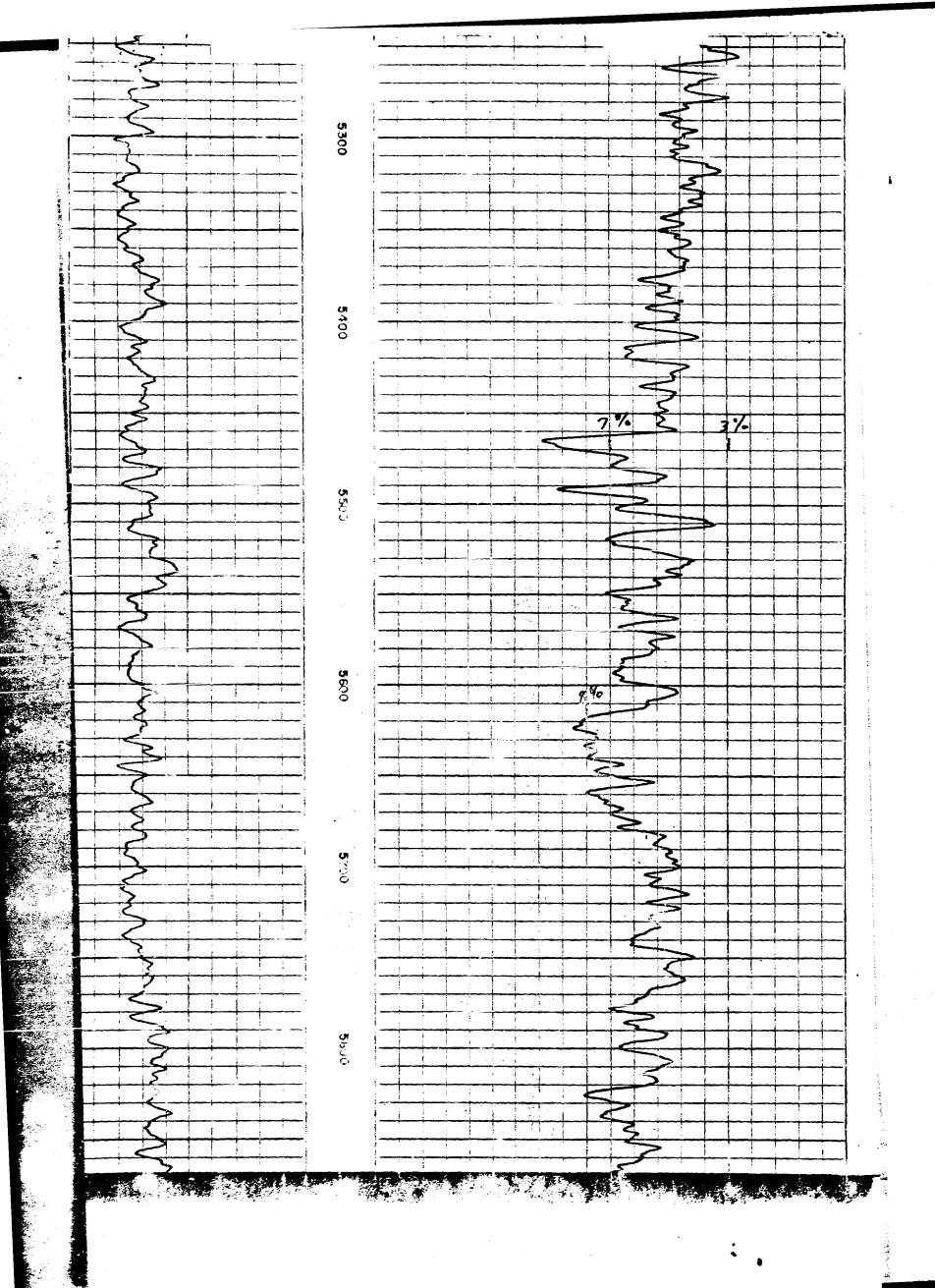
Gard Scaling Index negative (0.62)

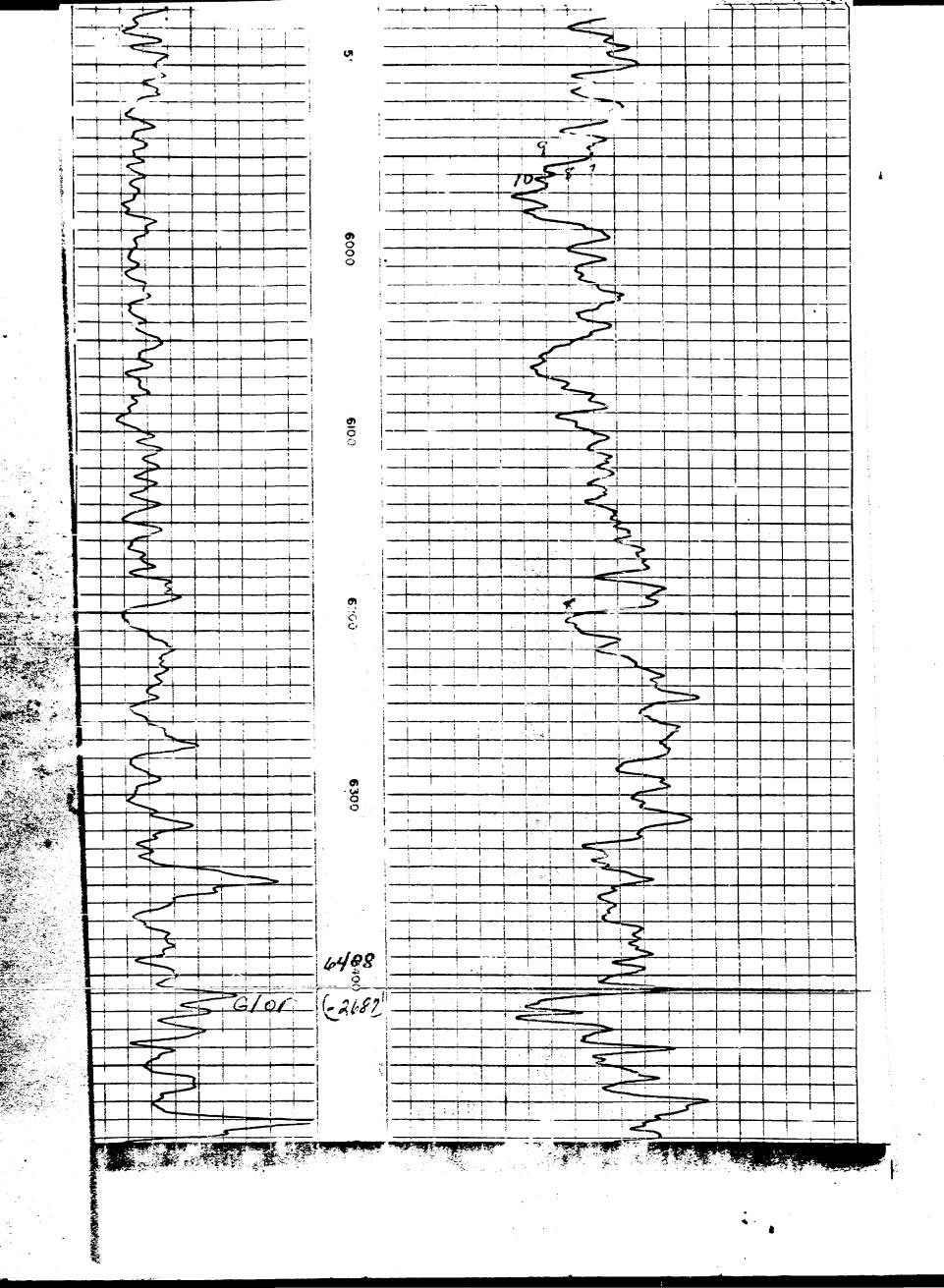
manuscripe Habel. Water Clark manuscripe manuscripe

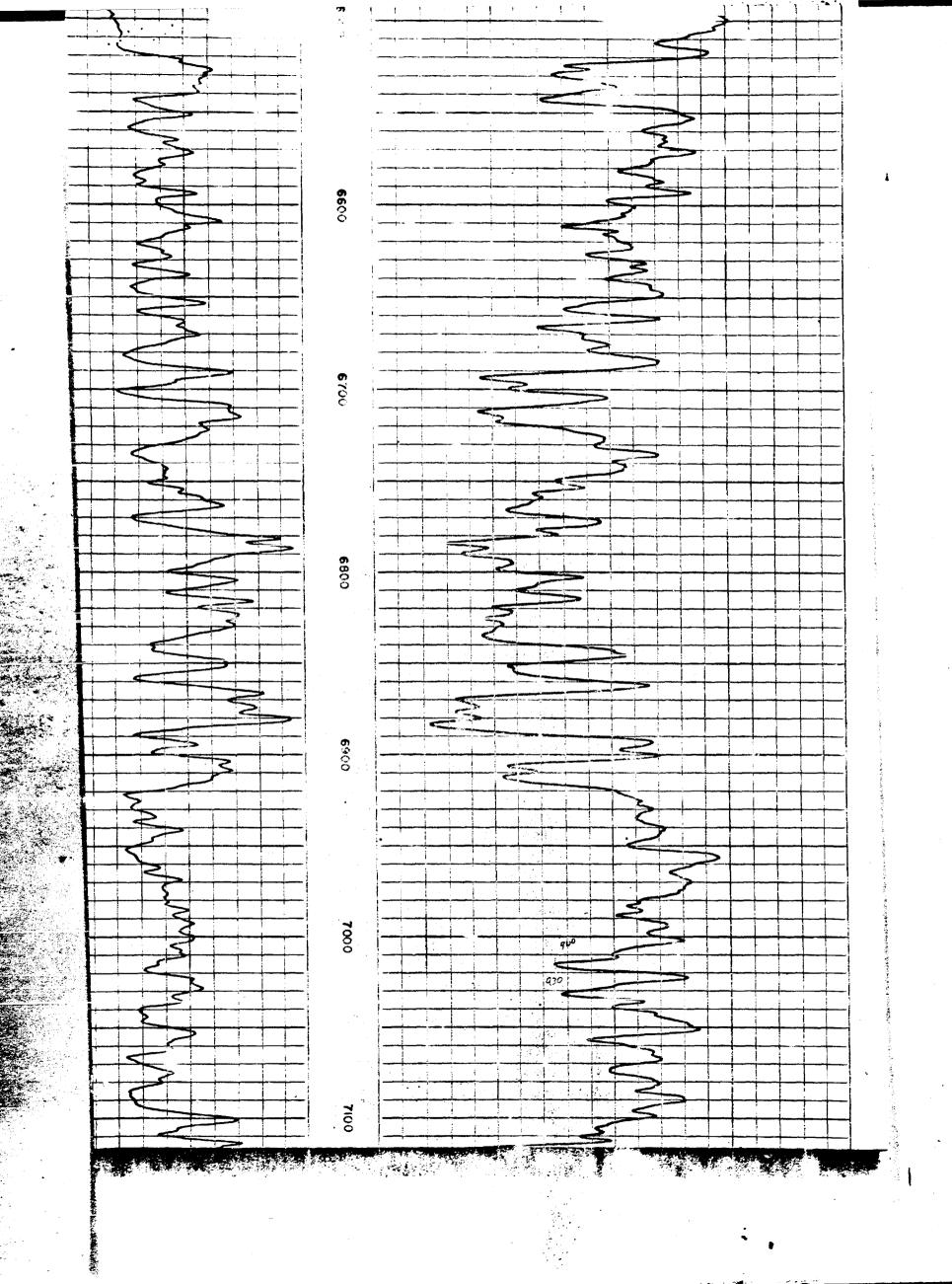
No. 8 3/4	Density Level Aax rec. temp., deg Density The second of th	Tyne Log Depth—Drill Depth—Logger Boitom logg interval Top logged interval Type fluid in hole Salinity, PPM Cl.	Permanent Dotum: Log Measured From Drilling Measured F	COUNTY_ FIELD or LOCATION WELL_ COMPANY		DCK	SCHLMN
BORE-HOLE RECORD CASING RECORD TO From To Size Wgt From 10 4838	FULL FULL GEGF. 146 ME 6 HOURS EASLEY-MILLER ANDREWS		ground Level; Elev.: 3721 Elev.: K.B. on: G.L. It. Above Perm. Datum. GROUND Level GROUND Level 4-7-62	Location: 1980' FNL 1980' FWL 21L-LL8 21L-LL8 ML-CDM Sec. 22 Twp. 155 Rge. 38E	WELL C. S. STONE #3 MIDLAND, TEXAS 79705 FIELD MEDICINE ROCK 78 DEW MEXICO COUNTY LEA STATE NEW MEXICO	COMPANY SINCLAIR OIL & GAS COMPANY DYCO PETROLEUM CORPORATION DOS VESTERN UNITED LIFE BUILDIN	SCHLUMBERGER GAMMA RAY - NEUTRON SCHLUMBERGER WELL SURVEYING CORPORATION HOUSTON, Texas
FOLD HERE			NO AND LOG COMP		I say	67	Name of the second
lun No.	Gamma Ro			DATA No. 334	Neutr	on	
ooi Model No. Diameter Det'r Model No. Type Length Dist. to N. Source	GNT-G 3 7/8 3 7/8 SGD-F SCINT. 8" 87"		Log Tool Di Det	Model No. ameter Rodel No. po	N-G+N-N T GNT-G 3 7/8 NLD-D G.M. 6"	HERM_	
	General		Se	ce Model No rial No.	20		
loist Truck No. 1st. Truck No. ool Serial No. ocation	1582 1582 20 KERMIT		ry	pacing pe rength	15.5 C- RA BE 10 N/SEC		
Gener	ral	Gr	LOGGING E	ATA STACE		Neutron	
Run Depih	To Ft/Min.			PI G.R. Units er Log Div. 10	T.C. Sens. Sectings 2 400 2 300	Zero Div. L or R 8L 8L	API N. Units per Log Div 80 60
	12800 30/60 60						
No. From							
No. From	60						
No. From 1 0	60						
No. From 1 0 Reference Literatu	re:	- 4:0 - 82.5	- 800 16.6/4	500			
No. From 1 0 Reference Literatu	re:	- 410 - 82.5	- 800 16.6/4.				
No. From 1 0 Reference Literatu	re:	- 410 - 82.5	- 800 16.6/4	500			

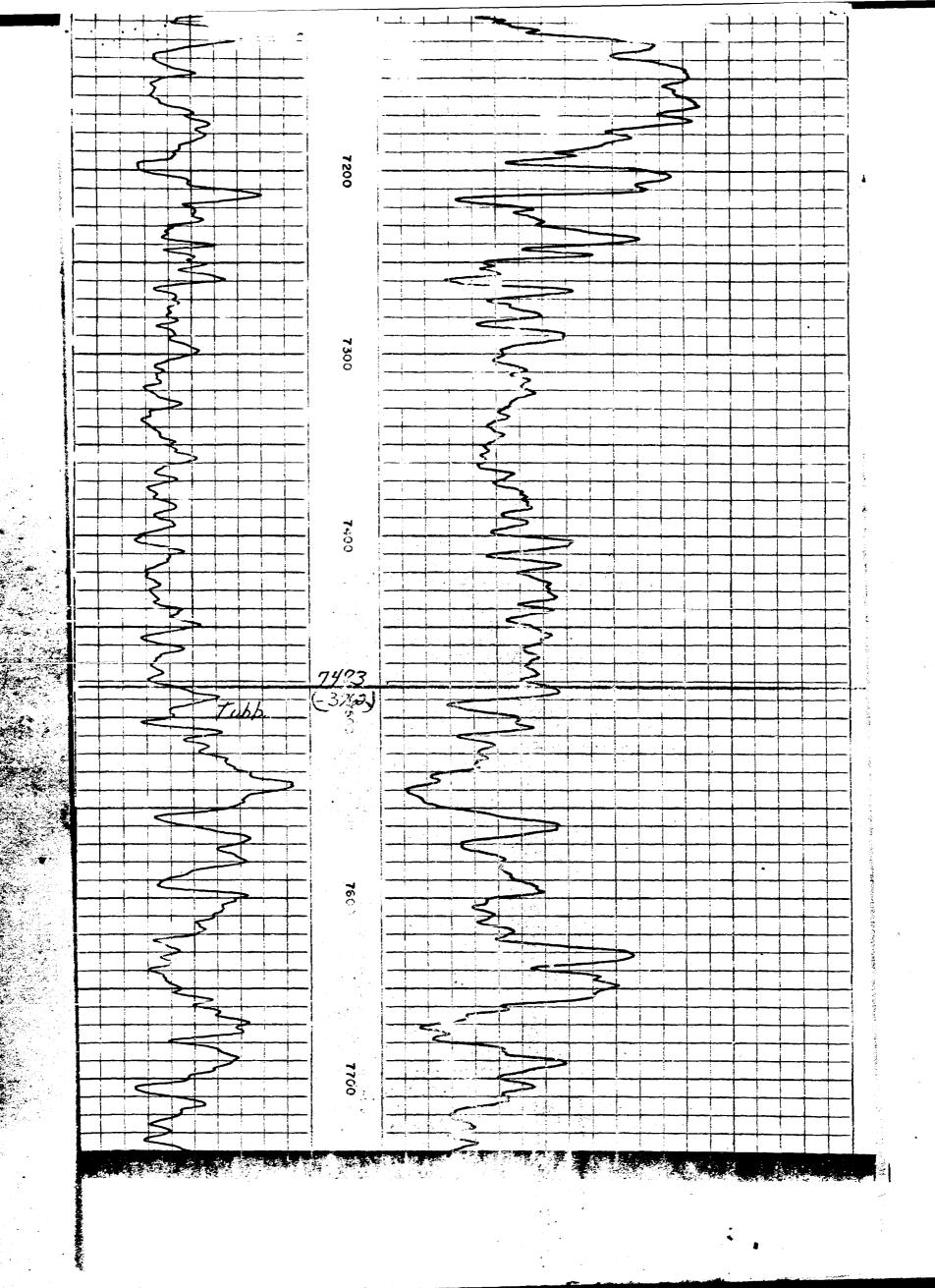


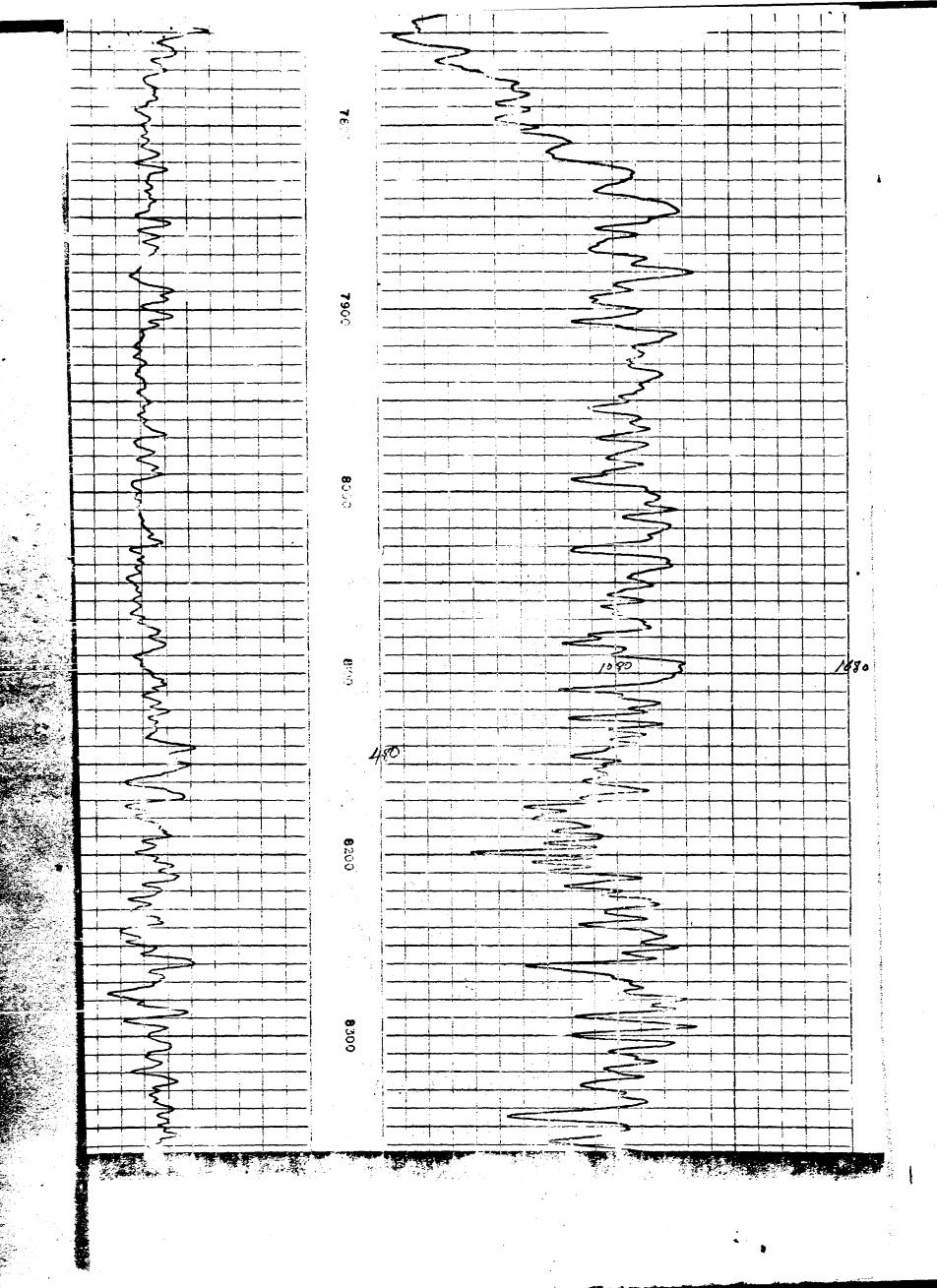


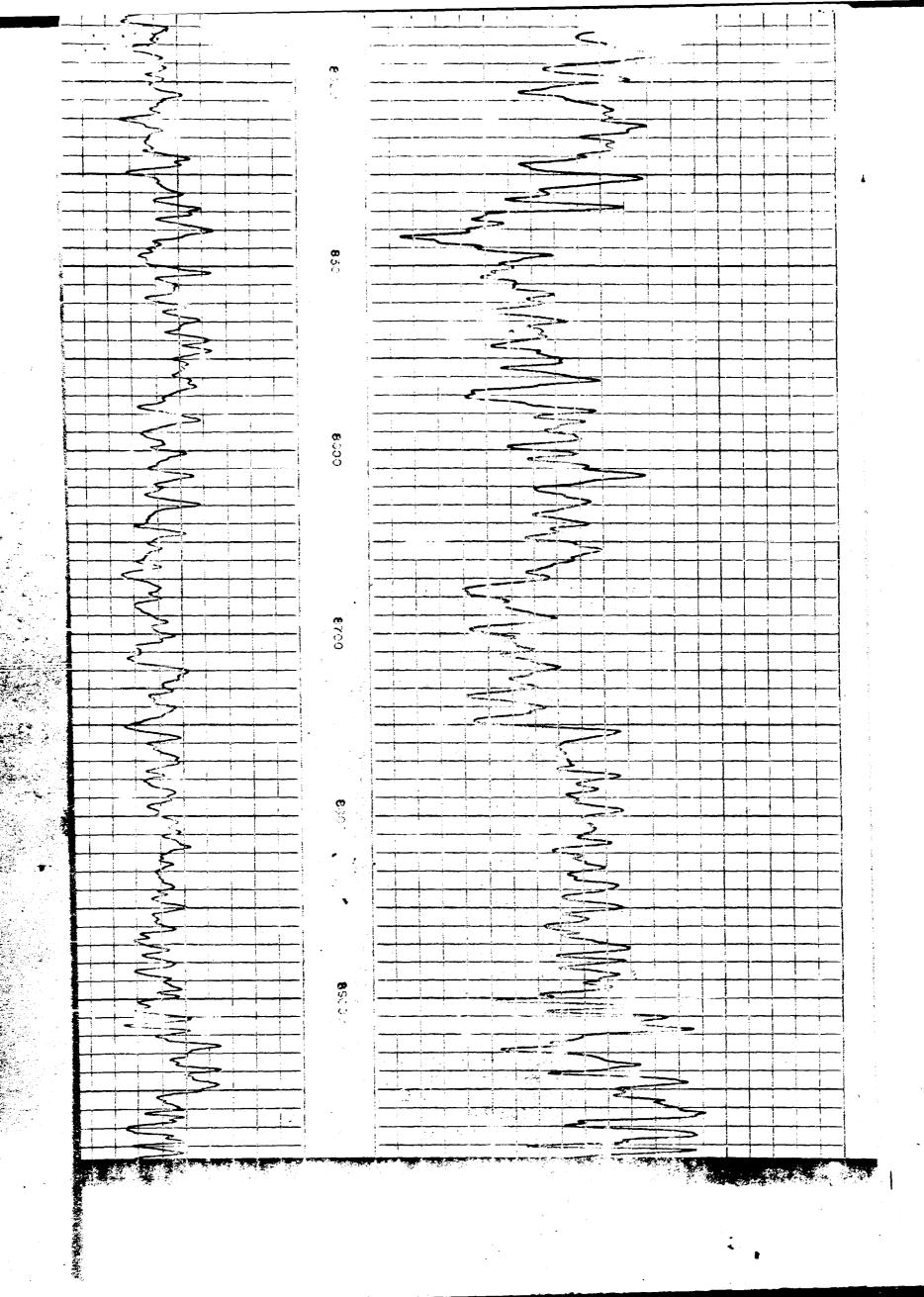


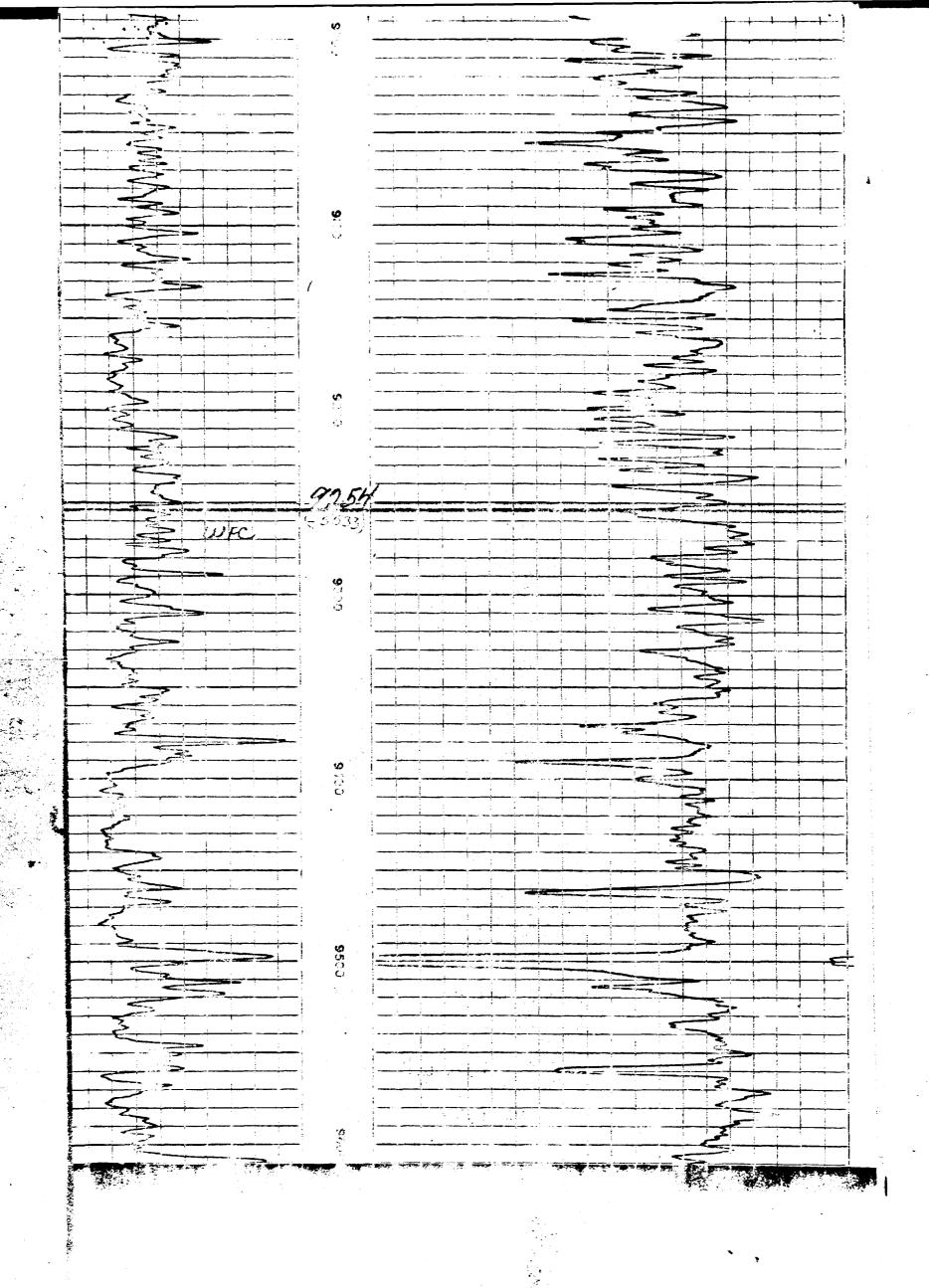














Dyco Petroleum Corporation

May 30, 1979

DYCO PETROLEUM CORPORATION 905 WESTLEIN LINNED LIFE BUILDING 100 WEST TEXAS MIDLAND, TEXAS 79701

> 1703 WILCO BUILDING 415 WEST WALL STREET MIDLAND, TEXAS 79701 AREA 915/683-8344

State Of New Mexico Oil Conservation Commission Box 2088 Santa Fe, New Mexico 87501

Attn: Mr. Joe D. Ramey

Re: Dyco-Stone #3 SWD Well Medicine Rock Field Sec. 22, T15S, R38E Lea County, New Mexico

Gentlemen:

Attached please find information supporting Dyco's C-108 Form to convert the above SWD well to SWD in another formation. Order No. SWD-41 was approved December 13, 1963, permitting Sinclair Oil & Gas to dispose of salt water in the above well in the Wolfcamp-Pennsylvanian interval from 9990' to 11,000'.

As the attached C-103 indicates, the 2 7/8" tubing was fished to 8726', leaving $1300' \pm of 2$ 7/8" tubing in the hole as a fish along with the 5 1/2" Model "N" packer. During casing cleaning operations to fish the tubing, the tubing-fish is now plugged inside and outside with iron-sulphide and scale or collapsed preventing injection into the Wolfcamp. In addition, the 5 1/2" casing may have failed as deep as 8720', the last 5 1/2" packer setting depth.

Form C-108 indicates the 13 3/8" casing and 9 5/8" casing strings are cemented to surface; therefore, we propose to cement the 5 1/2" casing -9 5/8" casing annulus w/200 sx from 4894" to permit disposal into the Permian open hole section from 4894" to 8725' through tubing set on a 5 1/2" packer @ 4890. There is no nearby oil or gas production in these zones to my knowledge and no shows were encountered originally when drilling this interval.

Dyco's Stone #1 well on the same lease produces from the Devonian @ 12,630-12,670' at 27 BOPD and 390 BWPD on artificial lift. The produced water is disposed into the Stone #3 SWD system. This well will have to be shut down until SWD can resume in the Stone #3 well because it would not be economic to produce if water has to be trucked to a commercial disposal system. Disposal cost would be about \$10,000 per month while net income would be about \$7,000 per month under normal DOC. About \$30,000 has already been spent on the remedial work to this point.

Thank you for your early attention to this matter.

Yours very truly,

Tom L Sprinkle Vice President

DISTRIBUTION SANTA FE SILE S.G.S. LAND OFFICE	NEW MEXICO OIL CONSERVATION COMMISSI	Page 1 of 2 Form C-103 Supersedes Old C-102 and C-103 Effective 1-1-65 Su. Indicate Type of Lease State State Fee State Oil 6 Gas Lease No.
(DO NOT USE THIS FORM	SUNDRY NOTICES AND REPORTS ON WELLS	avoia. 7. Unit Agreement Name
OIL GAS WELL	OTHER Salt Water Disposal Well	Vi Control (Marie
Name of Conrator		6, i'arm or Lease flume
Dyco Petroleum Address of Cremon	Corporation	C. S. Stone
• •	ted Life Bldg, Midland, Texas 79701	3
1. Location of Well	1980 reet FROM THE North LINE AND 1980	10. Field and Pool, or Wildcot Wolfsing Swsk
	t, SECTION 22 TOWNSHIP 15S RANGE 38E	
	15. Elevation (Show whether DF, RT, GR, etc.)	12. County
	3721 GR	Lea (\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\\
	heck Appropriate Box To Indicate Nature of Notice, R. OF INTENTION TO:	eport or Other Data UBSEQUENT REPORT OF:
	PLUG AND ABANDON REMEDIAL WORK COMMENCE DRILLING OF CABING TEST AND CEME OTHER WD injection Zone Soleted Operations (Clearly state all pertinent details, and give pertinent	api tr
to 55 May 19, 1979 s of interpretation of the second of th	tarted pulling tubing to repair tubing 1/2" casing annulus and 9 5/8" casing chematic). Tubing string weakened by 10 to 20 joints could be recover a the collars before reaching full sishing with tubing spear and overshots). Cut tubing internally at 8726, of fish remaining string with spear wet good bite, could not release from ole with 5 1/2" packer and 2 7/8", Nacker, pressured to 4,000#, no injects HCL, pressured to 3700#, casing for 5 1/2" & 9 5/8" casing; pulled up nd BOP injected down tubing at 1.5 Boing into open hole through 5 1/2" cian-San Andres, Glorietta, Tubb). Laiorkstring, shut well in to apply for	ng annulus (see attached y corrosion (external) that ed per run as it would part tring weight. In 14 days trecovered 8726' (328 1/2 PBTD inside tubing; attempts as not successful, could not packer @ 9997'. Went in -80 tubing to 8720', set tion; spotted 168 gallons ailed, had communication 300', closed casing valves PM at 1800#; fluid apparently asing from 4894'-8725' (Perd down 2 7/8", N-80 tubing
•	Commetion above is true and complete to the best of my knowledge and be	

CONDITIONS OF APPROVAL, IF ANY:

	3	
N . OF COPIES RECEIVED	7	Form C -103
DISTRIBUTION	-	Supersedes Old
ANTAFE	NEW MEXICO OIL CONSERVATION COMMISSION	C-102 and C-103
HE	TEN MEXICO DIE CONSERVATION COMMISSION	Effective 1-1-65
	┥ .	Sa. Indicate Type of Lease
1.S.G.S.	4	State Fee K
LAND OFFICE	-	5. State Oil 6 Gas Lease No.
SPERATOR	」	5. State Off & Gas Lease Ac.
		······································
	RY NOTICES AND REPORTS ON WELLS	
USE PAPELICA	ATTON FOR PERMIT -" (FORM C-101) FUR SUCH PROPOSALS.)	
· .		7. Unit Agreement Name
SIL SAS WELL	other. SWD Well	F
, Hame of Cyerator		6. Farm or Lease Name
Dyco Petroleum Cos	poration	C. S. Stone
, Address of Operator		9. Well No.
905 Western United	Life Bldg, Midland, Texas 79701	3
i, Location of Well		10. Field and Pool, or Wildcat
F	1980 FEET FROM THE N LINE AND 1980 FEET	Medicine Rock (Dev)
UNIT LETTER	FEET FROM THE LINE AND FEET	Man Man Man Man
THE West	TION 22 TOWNSHIP 15S RANGE 38E	
THELINE, SEC	TION TOWNSHIP RANGE N	~~~.
mmmmm	15. Elevation (Show whether DF, RT, GR, etc.)	12. County
	3721 GR	Lea
Check	Appropriate Box To Indicate Nature of Notice, Report or	Other Data
NOTICE OF	INTENTION TO: SUBSEQU	ENT REPORT OF:
PER ORM REMEDIAL WORK	PLUG AND ABANDON REMEDIAL WORK	ALTERING CASING
TEMPORARILY ABANDON	COMMENCE DRILLING OPHS.	PLUG AND ABANDONMENT
PULL OR ALTER CASING	CHANGE PLANS CASING TEST AND CEMENT JOS	
POLL ON ACTUR CASING	OTHER	ر ا
OTHER		
17. Describe Proposed or Completed	Operations (Clearly state all pertinent details, and give pertinent dates, incl	uding estimated date of starting any proposed
work) SEE RULE 1503.		
In support of Form	C-108 for the above well, Dyco proposes	the following work
	It water disposal in the Wolfcamp Form	
		action to injection in
the Permian Format	ion.	
3. D 6 3.408		
	ing inspection log. Dump 30' cement in	
	8699' to permanently plug Wolfcamp inje	
	casing from 4894' w/200 sx or to good !	
	ill out cement, perforate 5 1/2" casing	g in San Andres from
5462-5500 and	5615-5650 w/l SPF.	
3) Run 5 1/2" inj	ection packer to 4890' and 4890'-2 3/8	", fiberglass tubing
	working pressure rating.	
	ermian-San Andres formation through fil	berglase tubing strin g
at 400 BWPD.		
	•	
	,	
		•
	Also phase in the good good state to the heat of my beautiful and belief	
1 hereby certify that the informa-	tion above is tr. and complete to the best of my knowledge and belief.	
TO	1 × 00	
to ton	April Area Manager	5-29-79

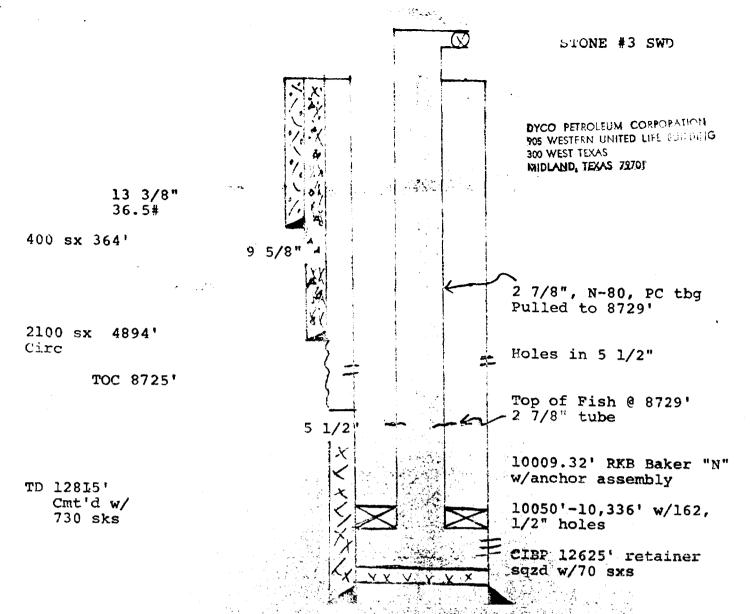
TIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION

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

West the settion 22 townset 15S masset 38E town. CASING AND TUBING DATA NAME OF STRING	OPERATOR			ADDRESS	Mic	dland, To	exas 79701
West CHE, SECTION 22 198.0 PEC 15 SECTION DEPO PEC 15 SECTION OF STREET SECTION OF S	Dyco Petroleum	Corporation	ON WELL HO.	905 We			e Bldg.
West the section 22 tonner 15S wast 38E was CAMING AND TUBING DATA NAME OF STRING SIZE SETTING CLETT SACRAS CEVENT TOP OF CENERY TOP OF CENER	C. S. Stone		3	Medici	ne Rock	(Devonía	n) Lea
NAME OF STRING NAME OF STRING	LOCATION			•			
NAME OF STRING NAME OF STRING 13 3/8" 364 400 SURFACE CIRCUlation 13 3/8" 364 400 SURFACE CIRCUlation 15 1/2" 12815 730 STRING 5 1/2" 12815 730 STRING 16 SURFACE CIRCUlation 17 SURFACE CIRCUlation 18 SURFACE CIRCUlation 18 SURFACE CIRCUlation 18 SURFACE CIRCUlation 19 5/8" 4894 2100 SURFACE CIRCUlation 18	UNIT LETTER	; we	LL IS LOCATED 19	80 FEET PROM	N THE N	LINE AND	1980 FEET FROM TH
NAME OF FIRING 113 3/8" 364 400 Surface Circulation 1008 STRING 9 5/8" 4894 2100 Surface Circulation 1008 STRING 5 1/2" 12815 730 8725' Temperature 5 1/2" 12815 730 8725' Survey 12 3/8" 4890' Baker Lockset 4890' 12 3/8" Lockset 4890' 13 3/8" 4890' Baker Lockset 4890' 14 10 Surface Circulation 12 3/8" 4890' Baker Lockset 4890' 15 Survey 16 Survey 17 ARREAS SOCIETA TRIBD PERMANDIAL PROPERTY OF ALLES SURVEY 18 Survey 19 Survey 10 Sur	West LINE, SECTION	22 tow			NMPM.		
13 3/8" 364 400 surface circulation 9 5/8" 4894 2100 surface Circulation 5 1/2" 12815 730 8725' Survey ***AULTON STREET** 12815 730 8725' Survey ***AULTON STREET** ***POLITION OF PROPOSITION FORWARD ON THE PROPOSITION OF PROP	NAME OF STRING	SIZE		r	TOPO	FCEMENT	TOP DETERMINED BY
9 5/8" 4894 2100 surface Circulation Temperature 5 1/2" 12815 730 8725' Survey Sale of Price of Circulation Temperature 5 1/2" 12815 730 8725' Survey Sale of Price of Circulation Temperature 5 1/2" 12815 730 8725' Survey Sale of Price of Circulation Temperature 5 1/2" 12815 730 88725' Survey Sale of Price of Circulation Temperature 5 1/2" Sale of Price of Pri	SURFACE CASING						
Temperature S 1/2" 12815 730 8725' Temperature Survey 12815 730 8725' Survey 12815	INTERMEDIATE	13 3/8"	364	400	surfa	ce	circulation
TOTALL OF PROCESSIO INJUSTICAL PROPERTY OF A STATE OF PROCESSION OF A STATE O	One arrive	9 5/8"	4894	2100	surfa	се	Circulation
Devenian San Andres, Glorietta, Twbb 4841 Permian San Andres, Glorietta, Twbb 4841 Permian San Andres, Glo	LONG 3 INING				07051		
Permian-San Andres Glorietta. Twbb 481 9254 Thining Permians San Andres Glorietta. Twbb 481 9254 Thining Perforations 8 4894'-8725' Thining Perforations 8 4894'-8725' This action of the perforation and the perforation and the perforation of the perforation	UBING	5 1/2"	12815			KER	Survey
Permian-San Andres Glorietta. Twbb 481 9254 Thining Permians San Andres Glorietta. Twbb 481 9254 Thining Perforations 8 4894'-8725' Thining Perforations 8 4894'-8725' This action of the perforation and the perforation and the perforation of the perforation		2 3/8"	18901	Baker Lock	set 4890	•	
Tubing Tubing Tubing Perforations & 4894'-8725' Tribing Tubing T	IAME OF PROPOSED INJECTION FORM	MATION	3079	TOP OF FORMA	TION		M OF FORMATION
Tubing Perforations & 4894'-8725' INTRIBUTED TO PERFORM THE DRILLED TOR DEVONIAN OF THE WART PURPOSE WAS WELL CHICKLED TO THE WOLFT WART THE PROPOSED TO THE WOLF WART THE PROPOSED TO THE WOLF WAS ALLE OF THE WOLF WOLF WAS ALLE OF	Permian-San And	dres. Glor	ietta.T u bb	4841		925	54
Devonian Oil Production 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12676', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12676', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12625', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12676', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12676', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12676', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12676', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12676', sqrd W/70 sks 12738-58' sqrd 100 sks; perf 12687-708', retainer @ 12676', sqrd W/70 s	S INDECTION THROUGH TUSING, CAS	ទេនុក្ខ ភេសិសបន្លាន	FERFORATION	HOLE PEO	POSED INTERVAL () OF INJECTION	
Devonian Oil Production Wolfcamp, Devonia 12736-58! sized 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 12736-58! sized 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 12736-58! sized 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', retainer @ 12625', retainer @ 12625', seed w/70 sks 100 sks; perf 12687-708!, retainer @ 12625', r	Tubing	1.2.2.2.2.2				5'	
12738-58' SIZZED 100 Sks; Derf 12687-708', retainer @ 12625', sqzd w/70 sks 12738-58' SIZZED 100 sks; Derf 12687-708', retainer @ 12625', sqzd w/70 sks 12616 of softon of detest of softon of detest of long as 2001 in this anta 310 none 126676 WITCIPATED DAILY MINIMUM MARIMUM DEN OR CLOSED TYPE SYSTEM IS INJECTION TO BE BY GRAVITY OR APPROX. PRESSURE (FSI 380 350 400 Open Dress Sure 380 ASO WHETHER THE FOLLOWING WATERS ARE MIN. WATER TO BE DISPOSED OF MATURAL WATER IN DISPOSE OF MATURAL WATER AND ADDRESSES OF ALL DERAYORS WITHIN ONE-MALF (1) MILE OF THIS INJECTION WELL TO DE MATURAL WATER IN DISPOSE OF MATURAL WATER AND ADDRESSES OF ALL DERAYORS WITHIN ONE-MALF (1) MILE OF THIS INJECTION WELL TO THE FOLLOWING THE FO		\			LY DRILLED?	ZONE	FELL EVER BEEN PERFORATED IN AI OTHER THAN THE PROPOSED INJEC- LONE?
12738-58' SGZd 100 Sks; Derf 12687-708', retainer @ 12625', SGZd w/70 Sks SETH OF ROTTON OF DEFERST SETH OF BOTTON OF REX HIGHER 10 CH GAS 2006 IN THIS AREA 310	NO	Devon	ian Oil Pr	oduction		Wolf	camp, Devonian
TOOL FOR P. O. BOX 998. LOVINGTON. WELL POLITIES PRODUCTION CORP., FIRST Nat'l BINE Bldg. 303 W. Wall, Midland, Texa Perf Wolfcamp 10320-336-, 10274-308', 10101'-10122', 10050', 60', will dump 30' cmt on top of fish @ 8725' I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager Pare Manager 12676 Polaris Processor Pallowing Warens are min. Pare Manager 12676 Polaris Processor Pallowing Warens are min. Pare Manager 12676 Por Prose Processor Pallowing Warens are min. Pare Manager 12676 Por Supraction of the Waren Andress are min. Pare Manager 12676 Por Supraction of the Waren Andress are min. Pare Manager 12676 Paressure Paressure (Pallowing Marens and Min. Paressure Paressure Pallowing Paressure (Pallowing Marens and Min. Paressure) Perf Wolfcamp 10320-336-, 10274-308', 10101'-10122', 10050', 60', will dump 30' cmt on top of fish @ 8725' Paressure Paressure Pallowing Paressure Pallowing Paressure Paressu	10720 5014	100 -1	12607	7001	sinom A l	26251 6	2023 w/70 eke
ARE THE POLLOWING ITEMS ATTACLOGO TO PLAN OF AREA ARE THE POLLOWING ITEMS ATTACLOGO TO PLAN OF AREA ARE THE POLLOWING ITEMS ATTACLOGO TO PLAN OF AREA ARE THE POLLOWING ITEMS ATTACLOGO TO PLAN OF AREA ARE THE POLLOWING ITEMS ATTACLOGO TO PLAN OF AREA ARE THE POLLOWING ITEMS ATTACLOGO TO PLAN OF AREA ARE THE POLLOWING ITEMS ATTACLOGO TO PLAN OF AREA ARE THE POLLOWING ITEMS ATTACLOGO TO PLAN OF AREA ARE THE POLLOWING ITEMS ATTACLOGO TO PLAN OF AREA YES I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager (Signature) (Title) (Page 1967 APPROX. PRESSURE IP STATEM PRESSURE IP S	SEPTH OF BOTTOM OF DEEPEST	TOO SKS!	DEPTH OF BOTTOM O	F NEXT HIGHER	TUEL 6	TH OF TOP OF HE	ST LOWER
MAKE THE POLLOWING ITEMS APPLICATION SEEN SURFACE OWNER Su	HESK WATER ZUNE IN THIS AREA		OIL ON WAS ZONE IN	INIS AREA	BIL	ON GVR TONE IN	THIS AREA
NAME COPIES OF THIS APPLICATION BEEN SURFACE OWNER OF FISH @ 8725' ANY COPIES OF THE FOLLOWING SEEN SURFACE OWNER OF FISH @ 8725' ANY COPIES OF THIS APPLICATION BEEN SURFACE OWNER OF FISH @ 8725' ANY COPIES OF THIS APPLICATION BEEN SURFACE OWNER OF SURFACE OWNER OF THIS APPLICATION SEEN SURFACE OWNER OF THE FOLLOWING TH	MJECTION VOLUME : 1	TMAXIMUM		SED TYPE SYSTEM	IS INJECTION TO		APPROX. PRESSURE (PS10
TOOK FOR ENERAL USE UNIFICE CONER (OR LESSEE, IF STATE OR FEDERAL LAND) TOOK FORT, P. O. BOX 998. LOVINGTON, New Mexico 88260 POLARIS PRODUCTION CORP., First Nat'l Bnk Bldg, 303 W. Wall, Midland, Texas Perf Wolfcamp 10320-336-, 10274-308', 10101'-10122', 10050',60', will dump 30' cmt on top of fish @ 8725' HAVE COPIES OF THIS APPLICATION SEEN SURFACE OWNER COP' THIS APPLICATION (SEEN ULE 701-8) WES I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager (Title) Yes (Date)	380 350		oper				
Troy C. Fort. P. O. Box 998. Lovington, New Mexico 88260 Troy C. Fort. P. O. Box 998. Lovington, New Mexico 88260 Polaris Production Corp., First Nat'l Bnk Bldg. 303 W. Wall, Midland, Texast Perf Wolfcamp 10320-336-, 10274-308', 10101'-10122', 10050',60', will dump 30' cmt on top of fish @ 8725' WAVE COPIES OF YHIS APPLICATION BEEN SUMPACE OWNER OF THIS WELL OF THIS WELL OF THIS WELL OF THIS WELL OF THIS APPLICATION (SEE NOLE 701-B) WAVE COPIES OF YHIS APPLICATION BEEN SUMPACE OWNER OF THIS APPLICATION (SEE NOLE 701-B) WAS LECCTRICAL Loc OLOWING ITEMS ATTACLED TO PLAT OF AREA SEED THIS APPLICATION (SEE NOLE 701-B) WAS LECCTRICAL Loc OLOWING SEEN SUMPACE OF WELL OPEN COPIES OF WELL OPEN CACH OPEN COPIES OF WELL OPEN COPIES OF THIS APPLICATION (SEE NOLE 701-B) WAS SUMPACED OF THE MANAGER SEET OF WELL OPEN COPIES OF WELL OPEN COPI	TOAL TYPO TO BUCH A DEGREE AS TO	BE UNFIT FOR DOMES	TIC.	R TO BE DISPOSED OF	NATURAL WATER	IN DISPD- ARE W	ATER ANALYSES ATTACHED?
Troy C. Fort. P. O. Box 998. Lovington, New Mexico 88260 Polaris Production Corp., First Nat'l Bnk Bldg. 303 W. Wall. Midland. Texe Perf Wolfcamp 10320-336-, 10274-308', 10101'-10122', 10050', 60', will dump 30' cmt on top of fish @ 8725' HAVE COPIES OF THIS APPLICATION SEEN SURFACE OWNER CACH OPERATOR WITHIN ONE-HALF MILE SERVE TO EACH OF THE FOLLOWING TEXES TO FAT OF AREA CLECTRICAL LOG DIAGRAMMATIC SKETCH OF WELL THIS APPLICATION (SEE RULE 701-8) Yes Yes I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager 5-29-79 (Date)		unfit		yes :	yes		yes
Polaris Production Corp., First Nat'l Bnk Bldg. 303 W. Wall, Midland, Texas Perf Wolfcamp 10320-336-, 10274-308', 10101'-10122', 10050', 60', will dump 30' cmt on top of fish @ 8725' HAVE COPIES OF THIS APPLICATION SEEN SURFACE OWNER OF THIS WELL OF THIS WELL Yes ARE THE FOLLOW, IG ITEMS ATTACLED TO FLAT OF AREA I SECTION (SEE RULE 701-8) Yes I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager 3-29-79 (Date)						20260	
Polaris Production Corp., First Nat'l Bnk Bldg. 303 W. Wall, Midland, Texas Perf Wolfcamp 10320-336-, 10274-308', 10'01'-10122', 10050', 60', Will dump 30' cmt on top of fish @ 8725' HAVE COPIES OF THIS APPLICATION BEEN SURFACE OWNER EACH OPERATOR WITHIN ONE-HALF MILE STRY TO EACH OF THE FOLLOWING: WAS YES I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager 5-29-79 (Date)	Troy C. Fort	P. O. BOX	ONE-HALF (1) MILE O	FTHIS INJECTION WELL	MEXICO A	38260	79701
Perf Wolfcamp 10320-336-, 10274-308', 10101'-10122', 10050', 60', Will dump 30' cmt on top of fish @ 8725' HANNE COPIES OF THIS APPLICATION SEEN SURFACE OWNER CACH OPERATOR WITHIN ONE-HALF MILE 107 THIS WELL ARE THE FOLLOW; IG ITEMS ATTACE0 TO PLAY OF AREA ELECTRICAL Log DIAGRAMMATIC SKETCH OF WELL THIS APPLICATION (SEE RULE 701-8) Yes Yes Yes I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager 3-29-79 (Date)	Dolaria Broduc	stion Corn	First Na	+11 Rnk R1	aa 303 s	w. Wall.	
dump 30' cmt on top of fish @ 8725' HAVE COPIES OF THIS APPLICATION SEEN SURFACE OWNER SUNFACE OWNER OF THIS WELL ARE THE FOLLOWING ITEMS ATTACHED TO PLAY OF AREA THIS APPLICATION (SEE RULE 701-B) Yes I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager 5-29-79 (Date)	POTATIS PRODUC	con corp.	TISC NO		44	J. S III Salahada da. d	114444
dump 30' cmt on top of fish @ 8725' HANE COPIES OF THIS APPLICATION BEEN SURFACE OWNER SURFACE OWNER OF THIS WELL YES YES I hereby certify that the information above is true and complete to the best of my knowledge and belief. Yes Yes I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager 5-29-79 (Date)	Perf Wolfcamp	10320-336-	10274-30	08'. 10101'	-10122'.	100501	60', will
HAVE COPIES OF THIS APPLICATION BEEN SURFACE OWNER SENT TO EACH OF THE FOLLOWING? ARE THE FOLLOWING ITEMS ATTACLED TO PLAY OF AREA YES Ves Ves Ves Ves Ves Ves Ves Ve		•				•	
The section of the following? Wes Ves Ves Ves Ves Ves Ves Ves	dump 30' cmt c	on top of f	ish @ 8725	5 '			
The section of the following? Wes Ves Ves Ves Ves Ves Ves Ves	_	_					
The section of the following? ARE THE FOLLOWING ITEMS ATTACHED TO PLAY OF AREA YES Ves Ves Ves Ves Ves Ves Ves Ve	·					· ·······	
The section of the following? Wes Ves Ves Ves Ves Ves Ves Ves							
The rollowing items attached to play of area Yes Yes Yes Yes Yes Yes Yes I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager (Signature) (Date)	HAVE COPIES OF THIS APPLICATION	BEEN SURFACE OW	NER	EACH OPERATO	AH-BHO HINTEW NO	LF MILE	
THE FOLLOW, IS ITEMS ATTAC., ED TO STATE OF AREA Ves Ves I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager (Signature) (Date)	SERE TO EACH OF THE POLLOWING?	voc	-	1			
I hereby certify that the information above is true and complete to the best of my knowledge and belief. Area Manager 5-29-79 (Title) (Date)	ARE THE FOLLOW, IG ITEMS ATTAC.	ED TO PLAT OF ARE	i A		06	DIAGR	RAMMATIC SKETCH OF WELL
I hereby certify that the information above is true and complete to the best of my knowledge and belief. Torrection Section Secti		1		ves			es
Form I sprinkly Area Manager 5-29-79 (Signature) (Date)	I hereby		formation above is		to the best of		
(Signature) (Title) (Date)	The of	11	0				
	-10m0-2	mente	Area			5=	
	(Signature) V	\ 	(Title)			(Date)
NOTE: Should waivers from the surface owner and all operators within one-half mile of the proposed injection well not accompany this application,	NOTE: Should waivers from the	e surface owner and	d all operators with	in one-half mile of th	re proposed injec	tion well not ac	company this application, the N
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 of 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 re	Mexico Oil Conservatio	n Commission will I	hold the application	for a period of 15 days	s from the date of office, the anal	of receipt by the ication will be m	Commission's Santa Fe office vacessed. If a protest is received
the application will be set for hearing, if the applicant so requests. SIE RULE 701.					-limes ove white		

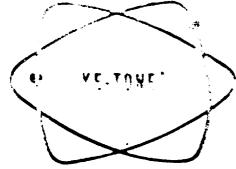
A CONTRACTOR OF THE PROPERTY O	6		A COLD STATE OF THE COLD STATE		THE STATE OF THE S	57				
and the second state of th	made. 5	Chercon Stable 1	B. C. State	pl Ltd. C.A. Deon 5, 12-11	23 2. 10. 24 2. 10. 9 2. 10. 9 2. 10. 9					
	Σ	High State of the Supply State of Supply State	25 STANDER	Shirten (attributed)	K. Dromak.	The second of the field of the second of the	<u>ت</u>	"Forme Coathean" and	2	Errhanson Corried Co.
	R38E *	31 Signary M Distriction Collection (1)	Plans Eddly Brown on Co. Plans Eddly Brown	on costing Co.	- (((((((((((((((((((A STATE OF THE STA	Cities Serv.	20 Copped 31 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5 5		66
	; N	Side M. (O)	Store, All Citikinson Citikinson Store	Piciting proceeding Co. Proins Redin Proclusting Co. S. 1 - 91 (1948)	20	State State State Cotte Contest Autre Total Cottes Cott	7	Actec	<u> </u>	Service Olive souther A
	Ownersh	12.5 R38E		C. Jherstone Dev. 6:17:19 1. 30.36 1. 30.36 1. 30.36	2	5100 15	6	5 Storte 5 Of West 10 2 1 1 51	S	And the second s
	•	Waits feet inciss Waits feet inciss Waits feet inciss Wates feet Wates fee	State	So thick Supply So thick Supply So the er The st	The State of the s	Section 1	RCO.	Control (1801)	Amordio Oi Control Con	Wis Form: Barrio Ten Est Wis Form: Barrio Ten Est Open Ey Morens Killing Ey Morens Killing Ex Marens Ki
	R39E	Corol Hydrheson E.C.M.Worts, A.M.I. White Reinac(5)	ARCS derection to the second s	All Ersouth (A)	23 January		ARCOCKET BEING	Selection of the control of the cont	acribo	State of Sta
		TO DENVER CITY	903	852	33°00°	15 842S	THE STATE OF THE S		MEST TEXAS LIFE	



Open Hole Section is 8725

lst Inj. 9-12-64.

Status: Holes(s) in thg: Hole (s) in 5 1/2" csg, Have pressure on 5 1/2" annulus 6.9 5/8" annulus



P. O. BOX 1499

HOBBS, NFW MEXICO 88240

Dyco Pascaleum Corporation

DYCO PETROLEUM CORPORATION 905 WESTERN UNITED LIFE BUILDING 300 WEST TEXAS

Medicine Rock Devongan

MIDLAND, TEXAS 79701

Lense

C. S. Stone #1

Sumpling Date 5-12-78

Ne'lhead - Devonion Formation

WATER ANALYSIS

, c	INIC FORM	me/! *	mg,
Calcion Carri Magnesian (Mg +) Gadiga: (Mg +	(CALCULATED)	105.20 43.98 1,045.89	2,104 528 24,045
Dispe	osal Water Malysmi		150
Cisc Stone	#3 - SWDWell	· · · · · · · · · · · · · · · · · · ·	
heart or ann this firm Iarbon na liCinic III	e de la companya de La companya de la co	14,00 Not	854 found

ncore promi (190) rij Lorbon m. (Cr. 190)		en e	14,00 Not	854
tvaroxide (C.)	the contract of the contract o	res . v	Not	found
ulpha SC .	· water · · · · · · ·	to the second of the second	64.35	found 3,091
here of the		The second secon	1,116.72	39,600
	• • •	e de la companya de l	19110076	39,000
	· · ·		* * * *	
otal E. ⊼elved Solids		st in the specific of the		70,222
		And the state of t		10,270
		e (d) e		
.65 ~ AP 15	T P S a P S A P S	د دمانه د د مستوجه جامه د د د د درخوالای د ده	* · · · ·	
as a value of sign are voted on the interest of				
Janeire CO.			149.18	7,459
articles en en chess as CaCO, Hemporary)	· · · · · · · · · · · · · · · · · · ·	n en green grant a san de la companya de la company	4.00	700
en Comment ordness or Coll Calberino	nent)		35.18	6,759
NAME OF THE OWN OWN OF THE OWN	**	and the same of th	14.00	700
pertonica no no na	1.050	· · · · · · · · · · · · · · · · · · ·		:

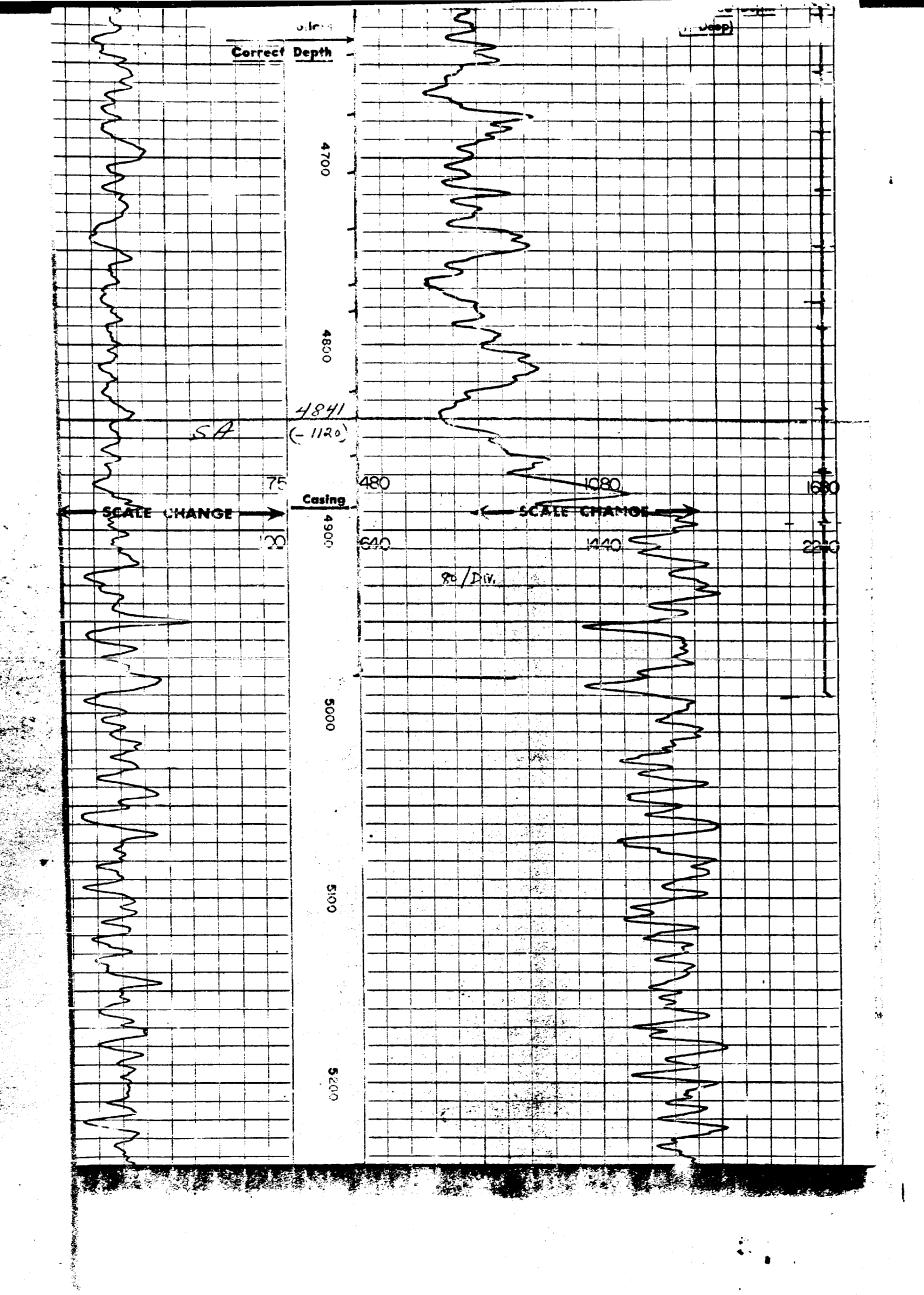
ONCO Scaling Index slightly positive @ 86°F (0.14)

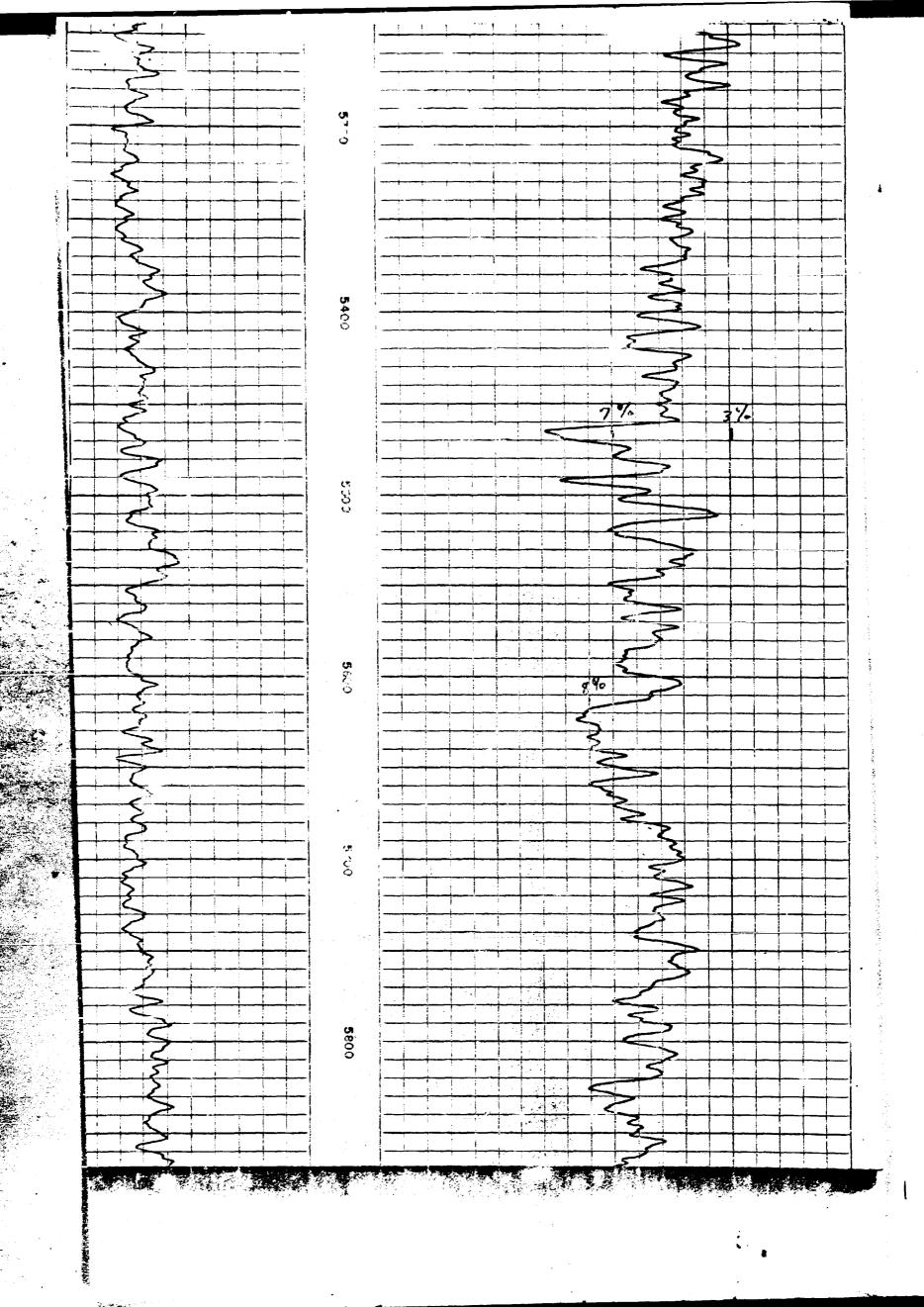
Cashox Scaling Index negative (0.63)

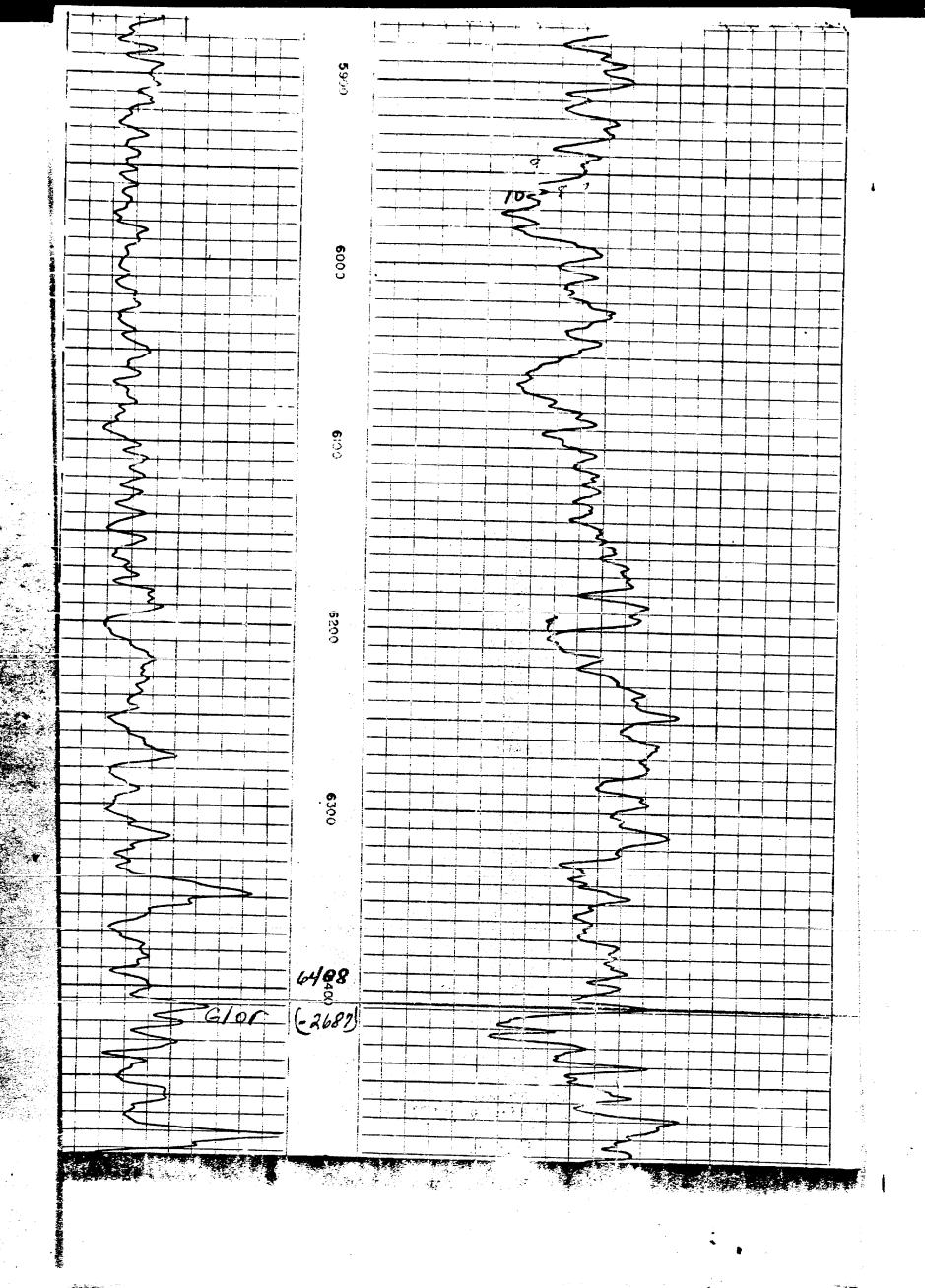
ravaanaana Maleet Water Work; naanaanaanaanaan

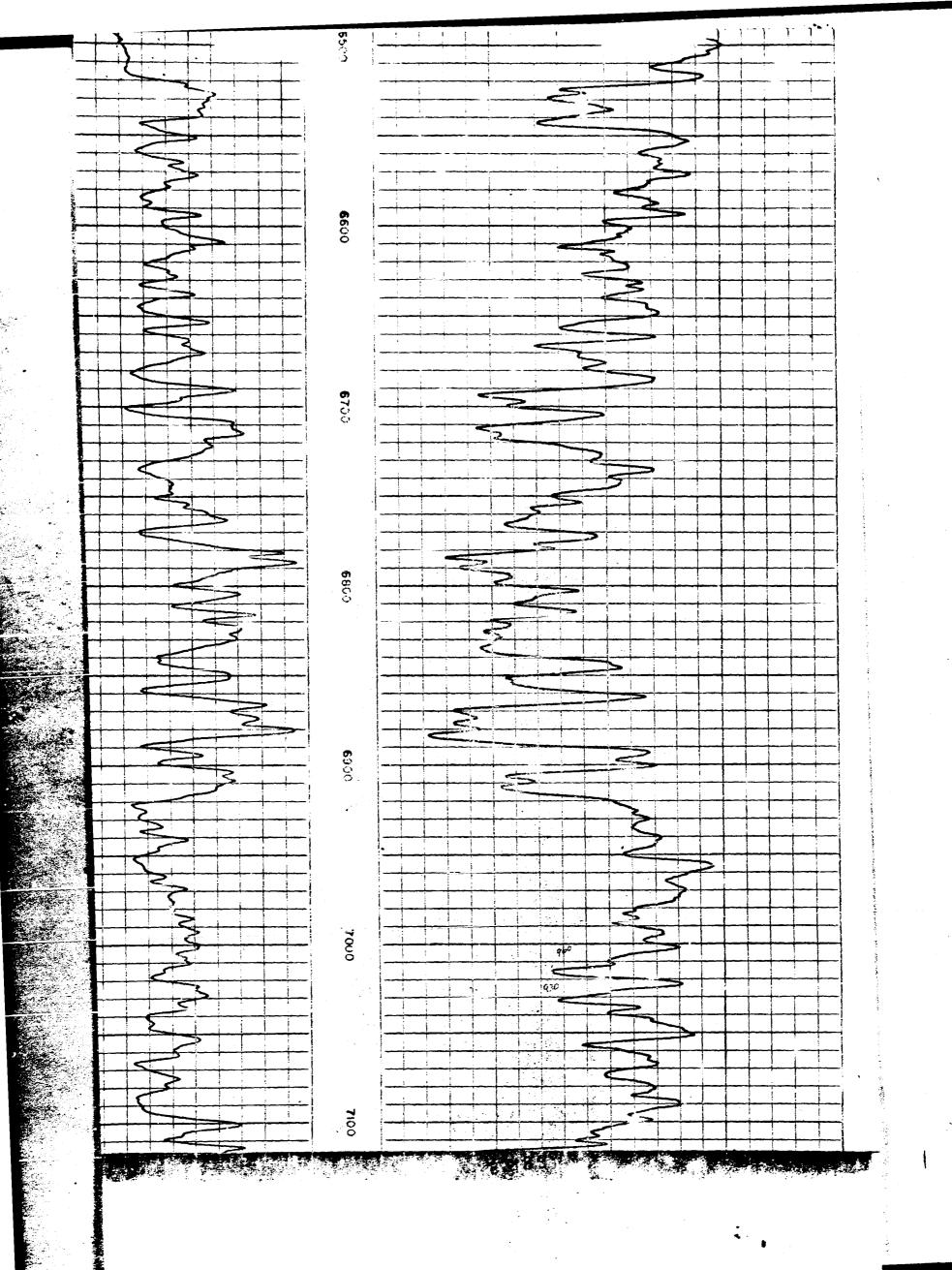
No Bit BC	Level Max rec. temp., deg Operating rig time Recorded by Witnessed by	logged inte uid in he	Date Run No. Type Log Depth D::	Log Measured From Drilling Measured F	COUNTYFIELD or LOCATION WE'LLCOMPANY	C S	CINE RO S. STONE CLAIR OI COMPANY	#3 L &	SCHLUM
CASING RECORD To Size Wg! From To 4888 12815 9 5/8 0 4888	F. EAS	12800 ol 0 CHEM-GEL J. 3600	GRN 12815 12801	From GROUND LEVEL G.L. 3721	Other Services: 21L-LL8, 21L-LL8, 21L-LL8, ML-CDM GROUND LEVEL , Elev.: 3721 Flov.: K.B.	VITY LEA STATE NEW MEXICO	60 =	COMPANY SINCLAIR OIL & GAS COMPANY DYCO PETROLEUM COPPODATION 905 WESTERN UNITED LIFE BUILDING	SCHLUMBERGER GAMMA RAY - NEUTRON SCHLUMBERGER WELL SURVEYING CORPORATION HOUSTON, Texas
FOLD HERE	Gamma Ro			LIPMEN	NT DATA	33 10	Neutro	in.	
Run No. ool Model No.	GNT-G				un No. og Type	 N-	1 G+N-N Th		
Diameter Det'r Model No.	3 7/8 SGD-F				ool Mod el No. Diameter		GNT-G 3 7/8		
Туре	SCINT.				Pet'r Model No.		NLD-D G.M.		
Length Dist. to N. Source	87"			ſ	length	-	6''		
	General			S	Serial No.		NLS-B 20		
Hoist Truck No. Inst. Truck No.	1582 1582				Spacing Type		15.5 C=(RA BE	C	
tool Serial No.	20				Strength	1	O7N/SEC		
ocation	KERMIT				G DATA			<u> </u>	
Gene Run Depth	s Speed		Sens.	ma Ray Zer o	API G.P. Units	T.C.	Sens.	Neutron Zero	API N. Units
No. From	To Ft/Min. 12800 30/60	Sec. Sec. Sec.	ttings Div.	L or R	per log Div.	Sec.	Settings 400	Div. L or R	per Log Div.
	60	2	300	0	7.5	2	300	81	60
Reference Literatu	ire:								
*							<u> </u>		
Remarks: Gf	R CAL: B 80	- 410 •	25-	800					
N	JAL: B 5	1220/	320 - 15.	.6/4.					
<u> </u>									

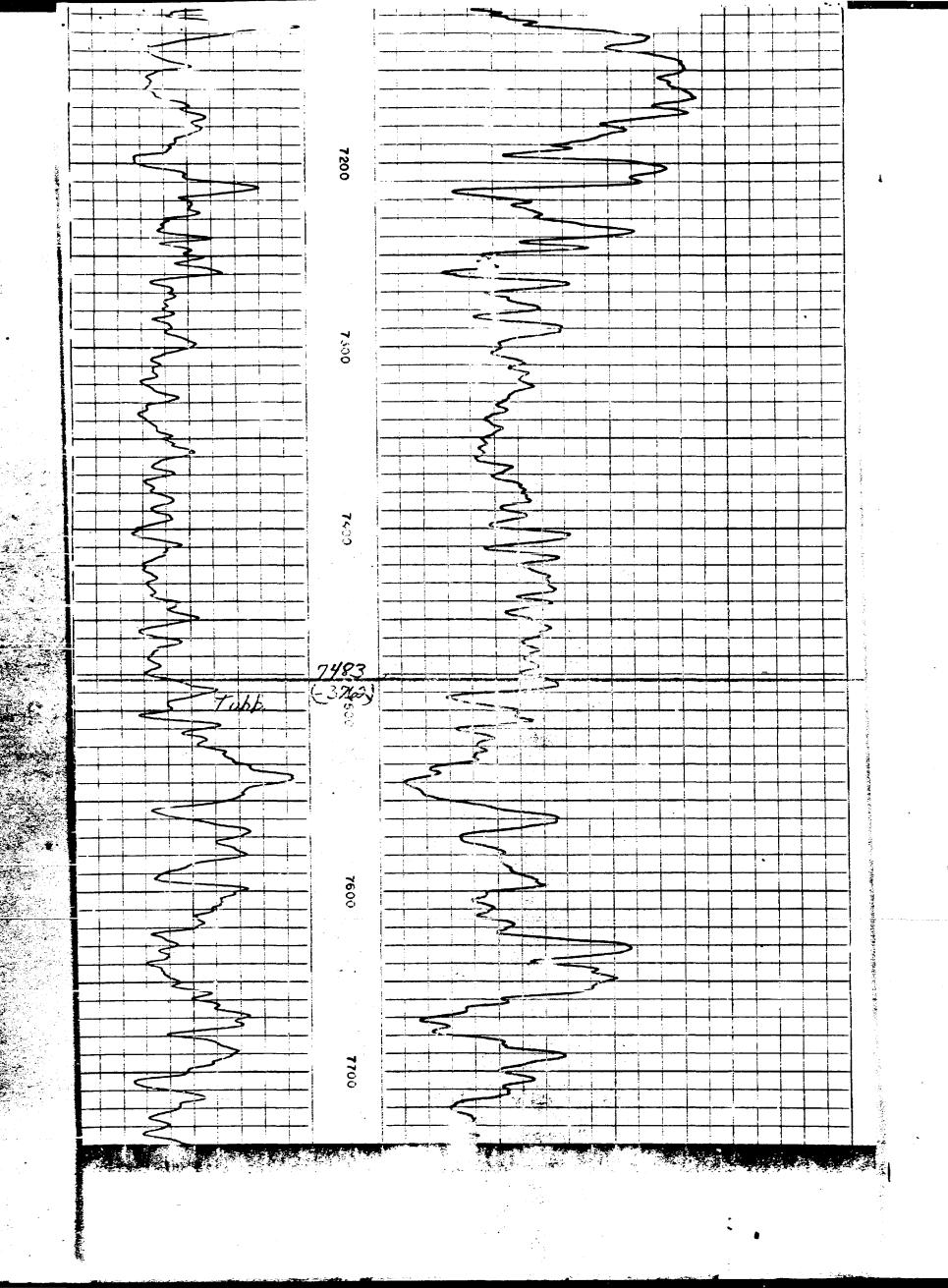
							·	•	
GAM	MA RAY	keen oor on makasi ka	DELIHS		\	.—•	TRON		
0	 	75	480			é	080		1680

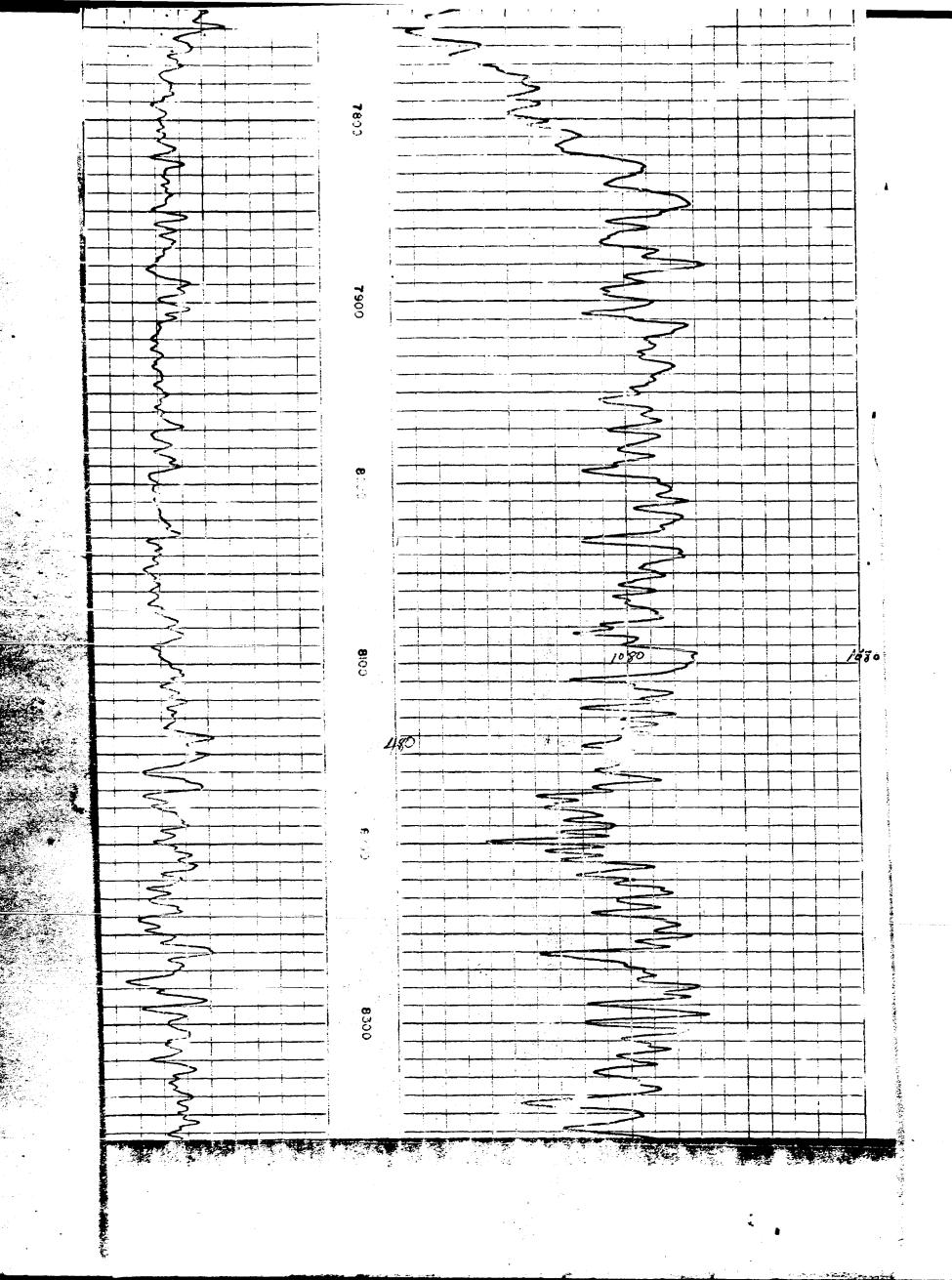


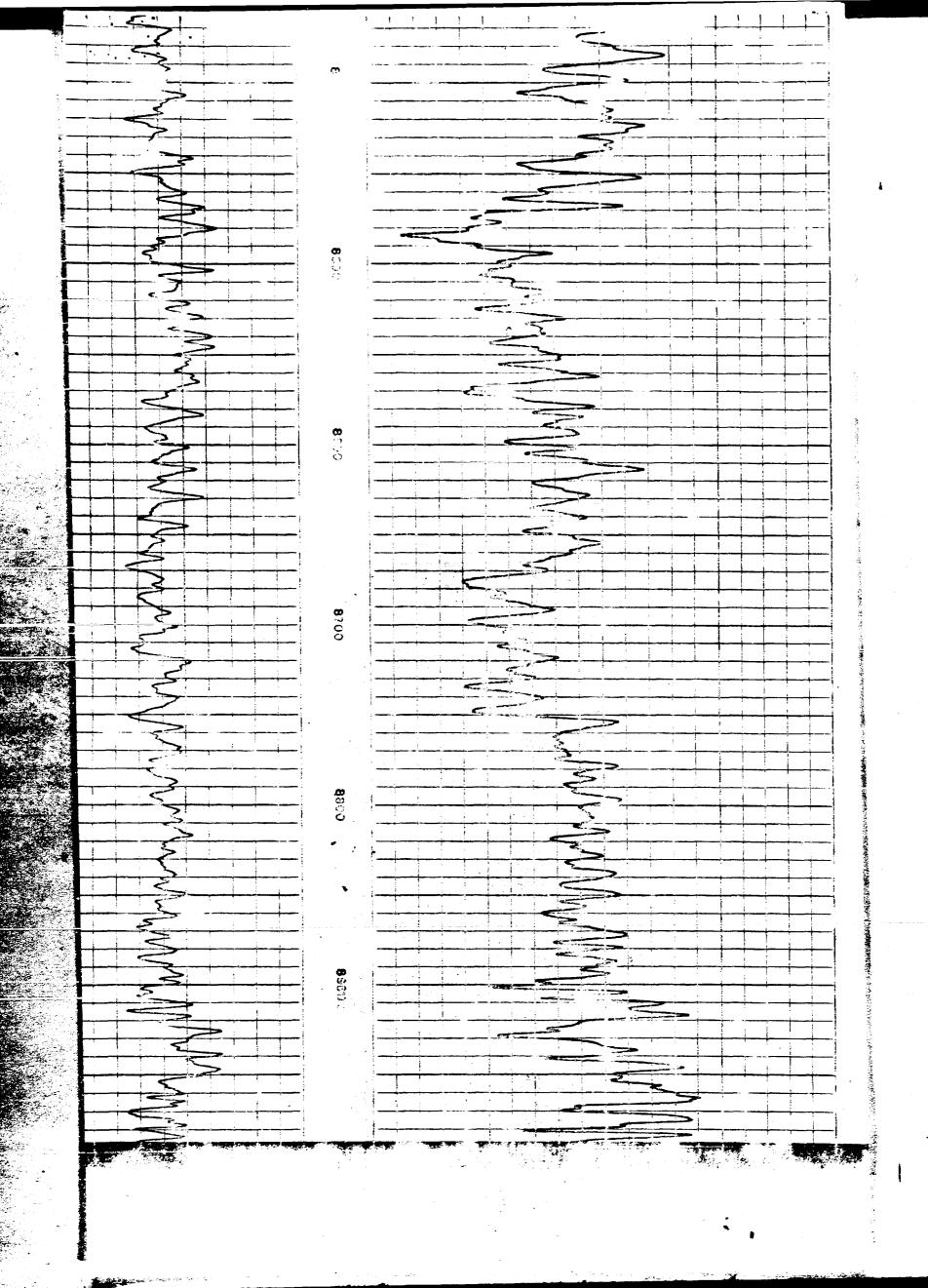


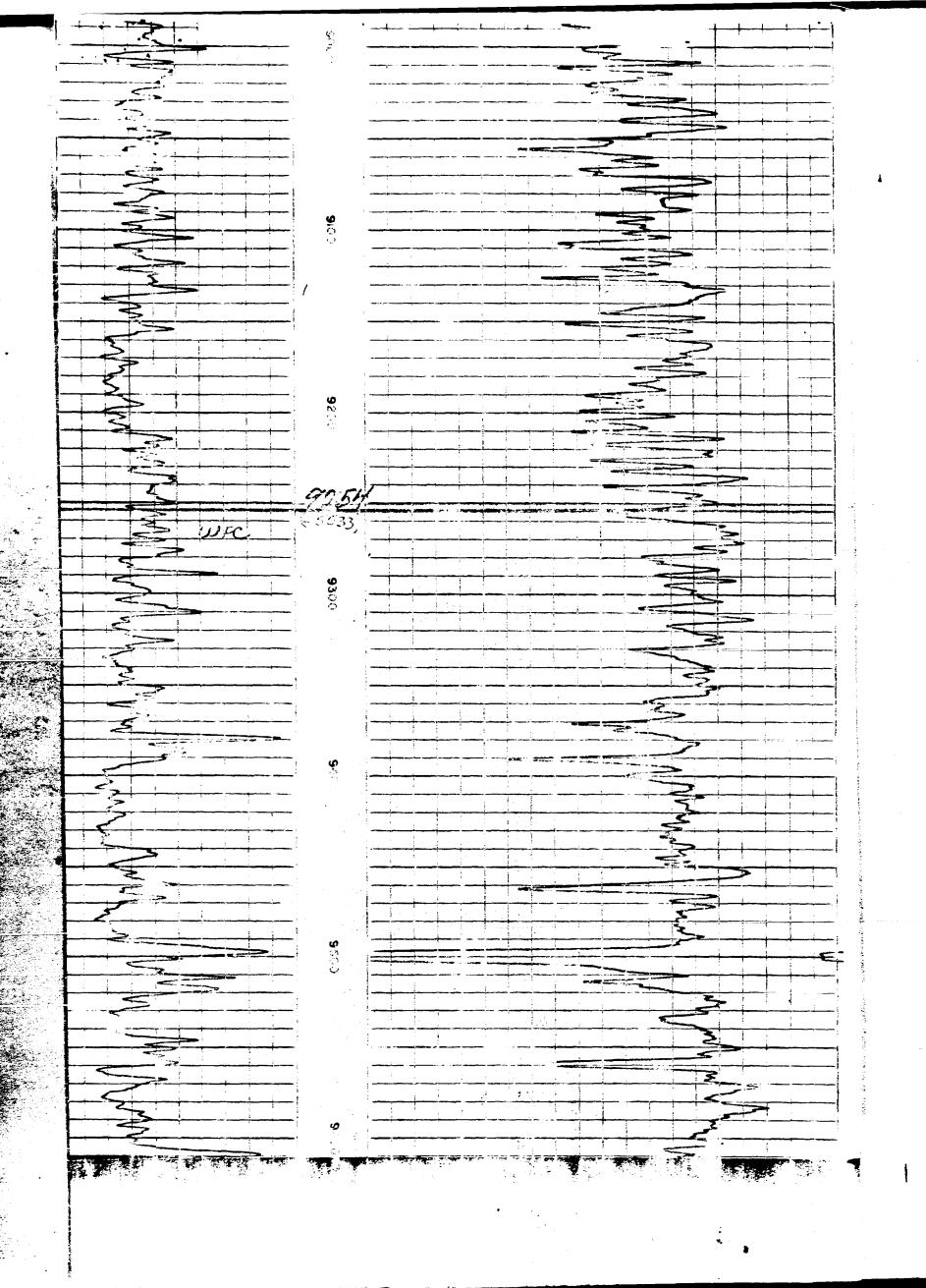














OIL CONSURVATION DIVISION

SANTA FE

Dyco Petroleum Corporation

DACO EFFERNE FOR COMPUTATION Got to be 100 V 3 MIDENTER, 117705 79701

> 1703 WILCO BUILDING 415 WEST WALL STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

> > Cuse 6593

May 29, 1979

Polaris Production Company First Nat'l Bank Bldg. 303 West Wall Midland, Texas 79701

Troy C. Fort P. O. Box 998 Lovington, New Mexico 88260

Medicine Rock (Devonian) Field Section 22, T15S, R38E

C. S. Stone #3 SWD System Permit

Gentlemen:

You have received Dyco's Form C-108 submitted to the New Mexico Conservation Commission for a change in salt water disposal formation in the above well.

As indicated, the well has been approved for salt water disposal into the Wolfcamp-Pennsylvanian Formations from 9990'-11000'. We are now applying to dispose of produced water from Dyco's C. S. Stone #1 Well (Devonian producer) into the Permian Formation from 4894' to 8725' because of high cost to attempt to restore the Wolfcamp interval to accept disposal water.

Therefore, in order to expedite approval of our application so the C. S. Stone #1 Well can get back on production (now shut in) it is requested that you approve of the proposed disposal plan by signing in the space provided below. Return one (1) executed copy to the NMCC in the stamped addressed envelope provided and one (1) executed copy to Dyco Petroleum for our files and retain one copy for your file.

Yours very truly,

Sprinklo Tom L. Sprinkle Area Manager

The above request for modification of the C. S. Stone #3 SWD system is agreed to this _____day of _____, 1979 by the undersigned.

Troy C. Fort

POLARIS PRODUCTION CORP.

NEW MEXICO OIL CONSERVATION COMMISSION

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

OPERATOR	The first of the state of the s		ADDRESS	·	Widland	To.	as 79701
Dyco Petroleum	Corporati	on well wo.	905 1	Western			
C. S. Stone		3	Medi	cine Roc	k (Devo	onian)	Lea
totalion.	a	1.0	9.0	3.7		1	000
UNIT LETTER	<u>:</u> ; wi	ELL IS LOCATED 19	OU FEET	FROM THE	LI	HE ANO 1	FEET FROM
West LINE, SECTION	22 10	WHENTE 158	RANGE 3	8E 4ÚPN	1.		
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEM	ENT T	OP OF CRME	NT	TOP DETERMINED BY
SURFACE CASING							
INTERMEDIATE	13 3/8"	364	400	sur	face		circulation
	9 5/8"	4894	2100	8111	face		Circulation
LONG STRING	9 3/0	4034		301	<u>. race</u>		Temperature
	5 1/2"	12815	730	872			Survey
TUBING			HAME, NOOEL AND				•
NAME OF PROPOSED INJECTION FORM	2 3/8"	4890'	Baker Lo		390'	BOTTOM OF	FORMATION
Dormian-Can An	dres Glor	iotta muhh	484	1		9254	
Permian-San An	ING OR ANNULUS?	PERFORATION	Hole Hole	PROPOSED INTER	VAL(S) OF INJE	CTION	
Thing IS THIS A NEW WELL DRILLED FOR DISPOSALY		Perfora	tions &	4894'-	3725'		
		S NO, FOR WHAT PURPO				ZONE OTHE	EVER BEEN PERFORATED IN R THAN THE PROPOSED INJ
NO LIST ALL SUCH PERFORATED INTERV	Devon	ian Oil Pr	oduction OFF OR SQUEEZE EA	сн		Wolfca	mp, Devoniar
12738-58' sqzd	100 sks;	perf 12687	-708', re	tainer	<u> 12625</u>	', sq2	d w/70 sks
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA		OIL OR GAS ZONE IN	F MEXT HIGHER		DEPTH OF TO	P QF NEXT L	OWER
ANTICIPATED SAILY T MINIMUM	310	none	SED TYPE SYSTEM	i is injection	1267		APPROX, PRESSURE (PSIO
1880 1 350	400	open	•	į	essure		1500
ANSWER YES OR NO WHETHER THE PERALIZED TO SUCH A DEGREE AS TO	OLLOWING WATERS AF	RE MIN- WATER	R TO BE DISPOSED O	F NATURAL WA	TER IN DISPO-	ARE WATER	R ANALYSES ATTACHED?
STOCK, IRRIGATION, OR OTHER GENE	nal use _ unfit	-	yes	ye	s	<u> </u>	yes
HAME AND ADDRESS OF SURFACE OA				_			
Troy C. Fort	P. O. BOX	998, Lovin	igton. New	<u>Mexico</u>	88260		79701
Polaris Produc	stion Corp	Firet Na	+'l Bnk F	31da. 30	3 W. Wa	11. M	
POTATIS PIODUC	LIUII COLP	A FILSE NO		1441 - 14	<u> </u>		10101
Perf Wolfcamp	10320-336-	-, 10274-30	10101	'-10122	1005	01,60	', will
_	•		- ~ 5	יון יבון אוז היי	•		
dump 30' cmt c	n top of	fish @ 8725	5 BC	الوي الوي	- []	<u>.</u>	
			1111	1 1070	1		
				; 13/3-	世	··	
			(1 /L)	CALATION DI	WISIPWIE		
HAVE COPIES OF THIS APPLICATION SENT TO EACH OF THE FOLLOWING?	SEEN SURFACE OW	INER .	OIL & ONE	irtan wahib bu 'ANTA FE	e-hack mite		
ARE THE FOLLOWING ITEMS ATTACH		EA	Ves ELECTRICA	L LOG		DIAGRAMM	ATIC SKETCH OF WELL
THIS APPLICATION (SEE RULE 701-	B) ;		Vec			yes	
I hereby	certify that the in	nformation above is	true and comple	ete to the besi	of my know		belief.
15	1 .1	0				_	
Tomora	prink	Area l	Manager			_5-29	
(Signature) V		Title	/			(Date)
NOTE: Should waivers from the	surface owner and	d all operators with	in one-half mile o	f the proposed	injection well	not accomp	oany this application, the

NOTE: Should univers from 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.

•	Page 1 of 2
N. OF COPIES RECEIVED	Form C -103
DISTRIBUTION	Supersedes Old C-102 and C-103
NEW MEXICO OIL CONSERVATION COMMISSION	Effective 14-65
THE STATE OF THE S	
.5.G.S.	State
LAND OFFICE	State Fee K S. State Cil & Gas Lease No.
PERATOR	3, stole Cit & Gds Ledsa Ro.
SUNDRY NOTICES AND REPORTS ON WELLS	
100 NOT USE THIS FORM FOR PERSON TO DELEGATE OR TO DELIGN OR MEUG BACK TO A DIFFERENT RESERVOIR.	
	7, Unit Agreement Name
Artic O Marie Osalt Water Disposal Well	
1. Using of Cymrator	6, r'urm or Leuse liume
Dyco Petroleum Corporation	C. S. Stone
Address of Cperator	9. Well No.
905 Western United Life Bldg, Midland, Texas 79701	3
Location of Well	Medicine Rock
UNIT LETTER F 1980 FEET FROM THE NORTH LINE AND 1980 FEET FR	Wedising Book
Mark 00 375	
THE WEST LINE, SECTION 22 TOWNSHIP 155 RANGE 38E NMP	
15. Elevation (Show whether DF, RT, GR, etc.)	12. County
3721 GR	
	Lea
Check Appropriate Box To Indicate Nature of Notice, Report of C	
NOTICE OF INTENTION TO:	NT REPORT OF:
PLUG AND ABANDON REMEDIAL WORK	ALTERING CASING
TEMPORARILY ABANDON COMMENCE DRILLING OPHS.	PLUG AND ABANDONMENT
PAGE OR ALTER CASING CHANGE PLANS CASING TEST AND CEMENT JOB	
OTHER	
Change SWD injection Zone X	
. Descrite 7 reposed of Completed Operations (Clearly state all pertinent details, and give pertinent dates, include	na estimated date of starting any proposed
work) SEE RULE 1103.	ng termited date of starting dity proposed
May 3, 1979 Started pulling tubing to repair tubing leak	co orugação bed (a):
to 5 1/2" casing annulus and 9 5/8" casing annu	lus (see attached
May 19, 1979 schematic). Tubing string weakened by corre	eion(syternal) that
only 10 to 20 joints could be recovered per	run as it would nart
in the collars before reaching full string w	
fishing with tubing spear and overshot recov	
	rered 8726' (328 1 <i>/</i> 2
its). Cut tubing internally at 8/26. Philip in	
jts). Cut tubing internally at 8726, PBTD in to fish remaining string with spear was not	side tubing; attempts
to fish remaining string with spear was not	side tubing; attempts successful, could not
to fish remaining string with spear was not get good bite, could not release from packer	side tubing; attempts successful, could not @ 9997'. Went in
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tul	side tubing; attempts successful, could not @ 9997'. Went in bing to 8720', set
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tultipacker. Differsured to 4,000#, no injection:	side tubing; attempts successful, could not @ 9997'. Went in bing to 8720', set
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tules acker, pressured to 4,000#, no injection; should be made at the sure of the string failed, pressured to 3700#, casing failed,	side tubing; attempts successful, could not 9997'. Went in sing to 8720', set spotted 168 gallons had communication
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tulned with 5 1/2" packer and 2 7/8", N-80 tulned with 5 1/2" packer and 2 7/8", no injection; should be sured to 3700#, casing failed, on 5 1/2" 1 9 5/8" casing; pulled up 300', or	side tubing; attempts successful, could not e 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tules acker, pressured to 4,000#, no injection; so no 5.1/2" pressured to 3700#, casing failed, on 5.1/2" p 5/8" casing; pulled up 300', of 1/2" p 1/2"	side tubing; attempts successful, could not e 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves 1800#; fluid apparently
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tules acker, pressured to 4,000#, no injection; so no 5.1/2" pressured to 3700#, casing failed, on 5.1/2" p 5/8" casing; pulled up 300', of 1/2" p 1/2"	side tubing; attempts successful, could not e 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves 1800#; fluid apparently
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tulned to 1,000#, no injection; so HCL, pressured to 3700#, casing failed, on 5 1/2" 19 5/8" casing; pulled up 300', on 5 1/2" 19 5/8" casing; pulled up 300', on 5 1/2" 19 5/8" casing; pulled up 300', on 5 1/2" 19 5/8" casing; pulled up 300', on 5 1/2" 20 1/2"	side tubing; attempts successful, could not e 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves 1800#; fluid apparently from 4894'-8725'(Per-2 7/8", N-80 tubing
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tules acker, pressured to 4,000#, no injection; so no 5.1/2" pressured to 3700#, casing failed, on 5.1/2" p 5/8" casing; pulled up 300', of 1/2" p 1/2"	side tubing; attempts successful, could not e 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves 1800#; fluid apparently from 4894'-8725'(Per-2 7/8", N-80 tubing
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tul packet, pressured to 4,000#, no injection; should be a sured to 3700#, casing failed, on 5 1/2" a 9 5/8" casing; pulled up 300', on 5 1/2" a 9 5/8" casing; pulled up 300', on 5 1/2" a 9 5/8" casing; pulled up 300', on 5 1/2" and BOP injected down tubing at 1.5 BPM at going intespen hole through 5 1/2" casing mian San Andres, Glorietta, Tubb). Laid down workstring, shut well in to apply for new Si	side tubing; attempts successful, could not e 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves 1800#; fluid apparently from 4894'-8725'(Per-2 7/8", N-80 tubing
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tulned to 1,000#, no injection; so HCL, pressured to 3700#, casing failed, on 5 1/2" 19 5/8" casing; pulled up 300', on 5 1/2" 19 5/8" casing; pulled up 300', on 5 1/2" 19 5/8" casing; pulled up 300', on 5 1/2" 19 5/8" casing; pulled up 300', on 5 1/2" 20 1/2"	side tubing; attempts successful, could not e 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves 1800#; fluid apparently from 4894'-8725'(Per-2 7/8", N-80 tubing
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tulnaction; pressured to 4,000#, no injection; so HCL, pressured to 3700#, casing failed, on 5.1/2" 9 5/8" casing; pulled up 300', on 5.1/2" 9 5/8" casing; pulled up 300', on 5.1/2" 9 5/8" casing; pulled up 300', on 5.1/2" And BOP injected down tubing at 1.5 BPM at going interspeen hole through 5 1/2" casing minimisan Andres, Glorietta, Tubb). Laid down workstring, shut well in to apply for new SI	side tubing; attempts successful, could not e @ 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves 1800#; fluid apparently from 4894'-8725' (Per-2 7/8", N-80 tubing ND permit
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tul packer, pressured to 4,000#, no injection; should be not be not, pressured to 3700#, casing failed, on 5 1/2" a 9 5/8" casing; pulled up 300', on 5 1/2" a 9 5/8" casing; pulled up 300', on 5 1/2" a 9 5/8" casing; pulled up 300', on 5 1/2" and BOP injected down tubing at 1.5 BPM at going into sopen hole through 5 1/2" casing the sound string and Andres, Glorietta, Tubb). Laid down workstring, shut well in to apply for new String.	side tubing; attempts successful, could not e @ 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves 1800#; fluid apparently from 4894'-8725' (Per-2 7/8", N-80 tubing ND permit
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tul packet, pressured to 4,000#, no injection; so the MCL, pressured to 3700#, casing failed, on 5 1/2" 19 5/8" casing; pulled up 300', on 5 1/2" casing in 5 1/2" casi	side tubing; attempts successful, could not e @ 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves 1800#; fluid apparently from 4894'-8725' (Per-2 7/8", N-80 tubing ND permit
to fish remaining string with spear was not get good bite, could not release from packer hole with 5 1/2" packer and 2 7/8", N-80 tulnaction; pressured to 4,000#, no injection; so HCL, pressured to 3700#, casing failed, on 5.1/2" 9 5/8" casing; pulled up 300', on 5.1/2" 9 5/8" casing; pulled up 300', on 5.1/2" 9 5/8" casing; pulled up 300', on 5.1/2" And BOP injected down tubing at 1.5 BPM at going intersopen hole through 5 1/2" casing mian-San Andres, Gloriet a, Tubb). Laid down workstring, shut well in to apply for new Since the information above is true and complete to the best of my knowledge and belief.	side tubing; attempts successful, could not e @ 9997'. Went in sing to 8720', set spotted 168 gallons had communication closed casing valves 1800#; fluid apparently from 4894'-8725' (Per-2 7/8", N-80 tubing ND permit

ONDITIONS OF APPROV



Dyco Patroleum Corporation

DYCO PETROLFUM CORPORATION
995 WILDIAMS GRAND LINE BUILDING
100 WEST TEXAS
MIDLAND, TEXAS 79701

1703 WILCO BUILDING 415 WEST WALL STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

OIL CONSERVATION DIVISION

SANTA FE

May 29, 1979

Polaris Production Company First Nat'l Bank Bldg. 303 West Wall Midland, Texas 79701

Troy C. Fort
P. O. Box 998
Lovington, New Mexico 83260

Re: Medicine Rock (Devonian) Field Section 22, T15S, R38E

C. S. Stone #3 CMD System Permit

Gentlemen:

You have received Dyco's Form C-100 submitted to the New Mexico Conservation Commission for a change in salt water disposal formation in the above well.

As indicated, the well has been approved for salt water disposal into the Wolfcamp-Pennsylvanian Formations from 99% -11000'. We are now applying to dispose of produced water from Dyco's C. S. Stone #1 Well (Devonian producer) mate the Permian Formation from 4994' to 8725' because of high cost to attempt to restore the Wolfcamp interval to accept disposal water.

Therefore, in order to expedite approvaluof our application so the C. S. Stone #1 Well can get back on production ((now shut in) it is requested that you approve of the proposed disposal plan by signing in the space provided below. Return one (1) executed copy to the NMCC in the stamped addressed envelope provided and one (1) executed copy to Dyco Petroleum for our files and retain one copy for our file.

Yours very truly,

Tom L. Sprinkle
Area Manager

The above request for modification of the C. S. Tone #3 SWD system is agreed to this _____ day of _______. 1979 by the undersigned.

Troy C. Fort

POLARIS PRODUCTION CORP

ä



OIL CONSERVATION DIVISION

Dyco Petroleum Cornoration

DYCO PETROLEUM CORPOPATION SOS WICHERN UNITED THE BUILDING 300 WEST TEXAS MIDLAND, TEXAS 79701

> 1703 WILCO BUILDING 415 WEST WALL STREET MIDLAND, TEXAS 79701 AREA 915/683-6344

May 29, 1979

Case 6593

Polaris Production Company First Nat'l Bank Bldg. 303 West Wall Midland, Texas 79701

Troy C. Fort P. O. Box 998 Lovington, New Mexico 88260

Re: Medicine Rock (Devonian) Field Section 22, "158, R38E C. S. Stone #3 SWD System Permit

Gentlemen:

You have received Dyco's Form C-108 submitted to the New Mexico Conservation Commission for a change in salt water disposal formation in the above well.

As indicated, the well has been approved for salt water disposal into the Wolfcamp-Pennsylvanian Formations from 9990'-11000'. We are now applying to dispose of produced water from Dyco's C. S. Stone #1 Well (Devonian producer) into the Permian Formation from 4894' to 8725' because of high cost to attempt to restore the Wolfcamp interval to accept disposal water.

Therefore, in order to expedite approval of our application so the C. S. Stone #1 Well can get back on production (now shut in) it is requested that you approve of the proposed disposal plan by signing in the space provided below. Return one (1) executed copy to the NMCC in the stamped addressed envelope provided and one (1) executed copy to Dyco Petroleum for our files and retain one copy for your file.

Yours very truly,

Tom . Sprinkle Area Manager

The above request for modification of the C. S. Stone #3 SWD system is

le Fort

POLARIS PRODUCTION CORP.

NEW MEXICO OF CONSERVATION COMMITSION

APT LICATION TO DISPO TO SALT WATER BY THE MATTER AND A POROUS FURNATION DIVISION OIL CONSERVATION DIVISION MEXASANTASPED 1

Dyco Patroleum Comporation	2005 Westorn United Li e Bldg.
C. S. Stone	Andicine Rock (Devonian) Lea
ONIT CETTER F. WELL IN LOCATED 1980	TEET FROM THE N LINE AND 1980 FEET FROM TH
West LINE, SECTION 22 TONVAMID 155 SA	207
The state of the s	TOP DETERMINED BY
12 3/8" 3.64 40	0 surface circulation
9 5/8" 4294 21	00 surface Circulation Temperature
5. 72" 12313 73	
2 3/9" (1991) TOP	or Lockset 4890'
<u>Pornu_cua-San</u> _ludgesGlorietta,Twbb_ Toli	9254
	S & 7/24'-8725' MAS WELL EVER BEEN PERFORATED IN A TONE OTHER THAN THE PROPOSED IN ACTION OF TH
No con marco was well produced to the production of the production	CON ZONE?
12738-58' 8026 100 sks; porf 12687-705	
NJECTICH VOLUME	12676
ARRIVER OF NO. 1 TE FOLLOWING VI. S.	DESCRIPTION 1500 DESCRIPTION OF TAXABLE AND SECURE OF THE
NAME A POSPESSOR STATE OF LET OF LET F STATE OF STOR ALLAN	yes yes
Troy C. For P. C. Box 333, Lovin to	New Mexico 88260 79701
Polar a Production C up First Nat!	Pnk 31dg, 303 W. Wall, Midland, Texas
Penf %-1fcamp 10, 20-32/-, 1027/-30/14	10101'-10122', 10050',60', will
dum: 30' cmt on top 41 28 672	
	SACH LICERATOR LITHIN ONE-HALF MILE
HAVE COPIES OF THIS APPLICATION BEEN TO STAND DANTE SOUTH TO ENGHLOF THE FOLLOWING?	Ver
ARE TOLLOW THE TOTAL OF TO THE STATE OF THE	
Yes Thereby certify that the information above is true	nd complete to the best of my kn tiedge and belief.
The Allenielle	ae
The state of the s	(Dec.)
	ried of 15 days from the date of incelpt by the Commission's Santa-Fe-office. The Santa-Fe-office, the application will be processed. If a protest is three

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. 6593
Order No. R- 1,082
APPLICATION OF DYCO PETROLEUM CORPORATION FOR SALT WATER DISPOSAL, LEA COUNTY, NEW MEXICO.
ORDER OF THE DIVISION
BY THE DIVISION:
This cause came on for hearing at 9 a.m. on July 11
19 79 , at Santa Fe, New Mexico, before Examiner Richard L. Stamet
NOW, on this day of July , 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, Dyco Petroleum Corporation
 is the owner and operator of the C. S. Stone Well No. 3
 located in Unit F of Section 22, Township 15 South
 Range 38 East , NMPM, Medicine Rock-Devonian Pool
 Lea County, New Mexico.
- (3) That the applicant proposes to utilize said well to dispose of produced salt water into the <u>San Andres</u>, Glorieta and Tubb formations, with injection into the <u>open-hole</u> interval from approximately <u>4894</u> feet to <u>8725</u> feet.

(4) That the applicant expects essentially all-of the injected water to enter all-of the injected water to enter the porous somes within the Sam the dress formetion from a depth of approximately H894 feet to 6100 feet.

(5) That said C.S. Stone Well No 3

(5) That said C.S. Stone Well No 3

Should be plugged back to an approximate depth of 6100 feet prior of injection.

(6) That the co 5/2-inch to the commented cosing that the 95/8-inch should be commented across the 95/8-inch cosing show a in order to isolate the casing casing and in order to isolate the injected fluid.

That the injection should be accomplished through 2 % -inch plastic lined tubing installed in a packer set at approximately 4850 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge or approved leak detection device should be attached to the annulus in order

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

- (8) That the injection well or system should be equipped pressure / device with a pop-off valve or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 980 psi.
- That the operator should notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (10) 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.
- (") That approval of the subject application will prevent the drilling of unnecessary well. and otherwise prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

is hereby authorized to utilize its C. S. Stone Well No. 3

located in Unit F of Section 22 , Township 15 South

Range 38 East , NMPM, Medicine Rock-Devonian Pool

Lea County, New Mexico, to dispose of produced salt water into the San Andres, Glorieta and Tubb formation, injection to be accomplished through 2 //8 __inch/stubing installed in a packer set at approximately 4850 feet, with injection into the open-hole interval from approximately 4894 feet to

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus

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

Provided Further, that the prior such said initiation of injection to sent C. S. Stone Well No 3 state be played for an approximate depth of 6100 feet and shell cement the 5½-inch casing across the 95%-inch casing shoe both in accordance with the Division-approved programs.

- with a pop-off value or acceptable substitute which will limit the wellhead pressure on the injection well to no more than 980 psi.
- (3) That the operator shall notify the supervisor of the Hobbs district office of the Division of the date and time of the installation of disposal equipment so that the same may be inspected.
- (4) That the operator shall immediately notify the supervisor of the Division's Hobbs district office of the failure of the tubing, casing, or packer, in said well or the leakage of water from or around said well and shall take such steps as may be timely and necessary to correct such failure or leakage.
- (5) That the applicant shall submit monthly reports of its disposal operations in accordance with Rules 704 and 1120 of the Division Rules and Regulations.
- (6) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

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