

CASE 4023: Application of ERNEST
A. HANSON FOR SALT WATER DISPOSAL,
EDDY COUNTY, NEW MEXICO.

Case Number

4023

Application
Transcripts.

Small Exhibits

ETC.

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS
1120 SIMAS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO

BEFORE THE
NEW MEXICO CIL CONSERVATION COMMISSION
Santa Fe, New Mexico
February 5, 1969

EXAMINER HEARING

IN THE MATTER OF:)

Application of Ernest A. Hanson)
for salt water disposal, Eddy)
County, New Mexico.)

Case No. 4023

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING



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MR. NUTTER: The hearing will come to order, please. The next case will be Case No. 4023.

MR. HATCH: Case 4023. Continued and readvertised from the January 15, 1969 Regular Hearing. Application of Ernest A. Hanson for salt water disposal, Eddy County, New Mexico. This case was heard on January 15. It was readvertised to show the correct disposal.

MR. NUTTER: Case No. 4023 has been heard and reopened now after correct advertising. Are there any appearances in Case 4023? No appearances. We will take the case under advisement.

STATE OF NEW MEXICO)
) ss
 COUNTY OF BERNALILLO)

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

Glenda Burks
 Court Reporter

I do hereby certify that the foregoing is a true and correct record of the proceedings of the New Mexico Oil Conservation Commission.
 2/5 4023
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Glenda Burks
 New Mexico Oil Conservation Commission

dearnley-meier

SPECIALIZING IN: DEPOSITIONS, HEARINGS, STATEMENTS, EXPERT TESTIMONY, DAILY COPY, CONVENTIONS

1120 SIMMS BLDG. • P. O. BOX 1092 • PHONE 243-6691 • ALBUQUERQUE, NEW MEXICO



BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION

Santa Fe, New Mexico

January 15, 1969

REGULAR HEARING

IN THE MATTER OF:

Application of Ernest A.
Hanson for salt water
disposal, Eddy County,
New Mexico.

Case No. 4023

BEFORE: A. L. Porter, Jr., Secretary-Director
Alex J. Armijo, Land Commissioner
Governor David F. Cargo, Chairman
George Hatch, Counsel

TRANSCRIPT OF HEARING

MR. PORTER: We'll call Case 4023.

MR. HATCH: Case 4023, application of Ernest A. Hanson for salt water disposal, Eddy County, New Mexico.

MR. KELLAHIN: If the Commission please, may the record show the same appearance, Jason Kellahin, of Kellahin and Fox appearing for the applicant, and we have Mr. Schram as a witness, and may the record show he has been sworn.

MR. PORTER: The record will so show.

(Whereupon, Applicant's Exhibit Number 1, a multi-page exhibit, was marked for identification.)

HARRY F. SCHRAM

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q State your name, please.

A Harry Schram.

Q You are the same Mr. Schram who testified in Cases 4021 and 4022?

A Yes, sir.

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

MR. PORTER: Yes.

Q Mr. Schram, are you familiar with the application of Ernest A. Hanson in Case 4023?

A Yes, sir.

Q Briefly, what is proposed in this application?

A Well, we have the Hanson Well Lease, which is the east half of the northwest of Section 22, 19 South, 28 East, Eddy County, New Mexico. At the present time, we would like to convert our No. 2 Well, which is in the southeast of the northwest of Section 22, to a salt water disposal well.

Q Now, referring to a multiple-page exhibit which has been marked as Exhibit Number 1, and referring to the first exhibit in that booklet, would you identify that?

A Yes, sir. Exhibit Number 1 is the application of Ernest A. Hanson to dispose of salt water by injection into the porous formation.

Q In the East Millman Queen-Grayburg Pool?

A Yes, sir.

Q What injection will you inject into?

A The Queen Formation.

Q What will the injection interval be?

A The injection interval will be 1,724 to 1,736, through perforations already in the casing.

MR. KELLAHIN: Now, the case was advertised to inject

into the perforated interval from approximately 1,994 to 2,178. If the Commission please, it is my understanding that this will necessitate a readvertising of the case, but we would like to submit our case at this time, and abide by the future advertisement the Commission makes.

MR. PORTER: What was the error?

MR. KELLAHIN: From 1,994 to 2,178.

MR. PORTER: And it would have to be readvertised?

MR. KELLAHIN: The injection interval will actually be from 1,724 to 1,736 feet.

MR. PORTER: Your motion is to go ahead and present your testimony, and then readvertise?

MR. KELLAHIN: That's right.

MR. PORTER: You may proceed.

Q (By Mr. Kellahin) Now, referring to what has been marked as Exhibit 2 in the exhibits, would you identify that, please?

A Yes, Exhibit 2 is a location map showing the location of the proposed salt water disposal well, and the location of the well that we propose to keep on producing.

Q On the exhibit, some of the offset wells appear to be circled.

A Those are injection wells that are presently being

injected to by depth.

Q Is that in connection with the water plug project?

A Yes, sir, that is water plug project.

Q Then your proposed salt water disposal well is actually offset by an injection well in the Depco Waterflood Project?

A Yes, sir.

Q Is this in the same zone?

A It is in the same formation. I'm not sure if it is in the same zone or not.

Q Referring to Exhibit Number 3, would you identify that?

A Exhibit Number 3 is a gamma ray neutron log of the well now known as the Hanson No. 1. There is a mistake there, that should be the No. 2 Welch Federal. The log is the No. 2 Welch Federal, and is a log of the well that we propose to inject into. It shows where the well had been plugged back to the total depth of 1,750 feet, and perforated with two shots per foot at 1,724 to 1,736.

Q That is the perforated interval in which you will dispose of water?

A Yes, sir.

Q Do you want to correct the exhibit to show it as

Hanson No. 2 Welch Federal log, is that correct?

A Yes, sir.

Q Now, turning to Exhibit Number 4, would you identify that exhibit?

A Exhibit Number 4 is a water analysis of the water produced from the Hanson Welch Federal Lease in Section 22.

Q This is the water that you will dispose of?

A Yes, sir.

Q Is this water produced from the same formation into which you will dispose of it?

A Yes, sir.

Q In that connection, then you would anticipate it would be compatible, and you would encounter no difficulty in producing the water into the Queen Formation, is that right?

A Yes, sir.

Q Would you identify Exhibit Number 5, please?

A Exhibit Number 5 is a diagrammatic sketch showing the proposed salt water injection or salt water disposal well.

Q Will you briefly outline where the casing and cement is in this well?

A To begin with, we did not originally drill either one of the wells on this lease. However, we purchased them at a later date, and much of this information is information reported

to the State at the time of the drilling.

MR. PORTER: In other words, you took the information from forms that were filed with the State?

THE WITNESS: Yes, sir. And we are estimating the tops of the cement, which is the only thing we could do, because there was no way of checking it.

Q (By Mr. Kellahin) There was no temperature survey run?

A Right. The well was plugged back to 1,750 feet, and perforated with two shots per foot at 1,724 to 1,736. We propose to set a Halliburton R-3 packer at 1,650 feet, on two and three-eighths-inch plastic-coated tubing, and inject down the tubing into the perforated zone.

Q Now, will you use a plastic-lined tubing?

A Yes, sir.

Q Will you fill the casing tubing annulus with an inert fluid?

A Yes, sir.

Q Will you place a pressure gauge at the surface?

A Yes, sir.

Q In your opinion, will a completion such as this adequately protect any surface water that may exist, or in any other producing formation?

A Yes, it will.

Q The fact that you are injecting into a producing formation, will that, in your opinion, cause any damage to the formation or the activity of any wells in the area?

A No, sir. The offset well to the west is producing from the Seven Rivers Formation, which is considerably above the proposed zone of injection.

Q And the offset well to the east is an injection well?

A It is already an injection well.

Q If the injection well would do anything, it would back up the waterflood project, would it not?

A Yes, sir.

Q Was Exhibit Number 1 prepared by you or under your supervision?

A Yes, sir.

MR. KELLIAHIN: At this time, I would offer in evidence Exhibit Number 1, consisting of five separate exhibits.

MR. PORTER: Without objection, the exhibit will be admitted.

(Whereupon, Applicant's Exhibit Number 1, a multi-page document, was admitted in evidence.)

MR. KELLAHIN: That completes our direct examination.

MR. PORTER: Any questions of Mr. Schram?

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Schram, on your form C-108, you say you will dispose of 30 to 43 barrels per day. What is the current rate of production?

A It varies in there. It is approximately 67 barrels a day.

Q I failed to get the amount of water you are going to be disposing of in these two pits in the other case. Would you give me that information?

A Yes, sir. The Read well will be producing 20 barrels a day, approximately; and the Hanson well will be producing 100 barrels a day, approximately. That will vary downward on the Hanson well, but that is the most we have ever been able to check it for.

MR. PORTER: You are talking about volume of produced water?

THE WITNESS: Yes, sir.

MR. NUTTER: That is in the previous case. That is all.

MR. PORTER: Any further questions? The witness may

be excused.

Does anyone else have anything they wish to offer in this case? The Commission will take the case under advisement. Before taking up Case 4024, we will have a ten-minute recess.

(Whereupon, a short recess was taken.)

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

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


COURT REPORTER



OIL CONSERVATION COMMISSION

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

February 11, 1969

GOVERNOR
DAVID F. CARGO
CHAIRMAN

LAND COMMISSIONER
ALEX J. ARMIJO
MEMBER

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

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

Re: Case No. 4023
Order No. R-3672
Applicant:
Ernest A. Hanson

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/ir

Copy of order also sent to:

Hobbs OCC X

Artesia OCC X

Aztec OCC

Other Mr. Harold Berends

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 4023
Order No. R-3672

APPLICATION OF ERNEST A. HANSON
FOR SALT WATER DISPOSAL, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 5, 1969, at Santa Fe, New Mexico, before Examiner Daniel S. Mutter.

NOW, on this 11th day of February, 1969, the Commission, a quorum being present, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Ernest A. Hanson, is the owner and operator of the Welch Federal Well No. 2, located 1650 feet from the North line and 2310 feet from the West line of Section 22, Township 19 South, Range 28 East, NMPM, East Millman Queen-Grayburg Pool, Eddy County, New Mexico.

(3) That the applicant proposes to utilize said well to dispose of produced salt water into the Queen formation, with injection into the perforated interval from approximately 1724 feet to 1736 feet.

(4) That the injection should be accomplished through 2 3/8-inch plastic-lined tubing installed in a packer set at approximately 1650 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should

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CASE No. 4023
Order No. R-3672

be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(5) 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:

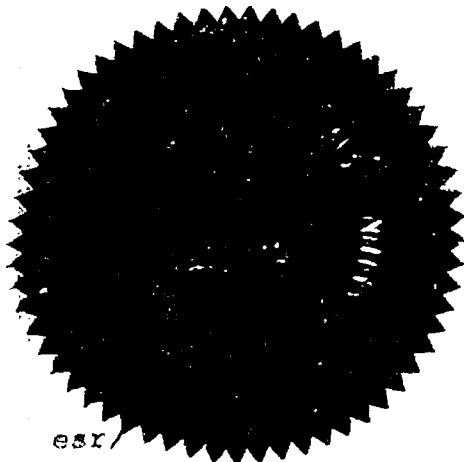
(1) That the applicant, Ernest A. Hanson, is hereby authorized to utilize his Welch Federal Well No. 2, located 1650 feet from the North line and 2310 feet from the West line of Section 22, Township 19 South, Range 28 East, NMPM, East Millman Queen-Grayburg Pool, Eddy County, New Mexico, to dispose of produced salt water into the Queen formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 1650 feet, with injection into the perforated interval from approximately 1724 feet to 1736 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of his disposal operations in accordance with Rules 704 and 1120 of the Commission Rules and Regulations.

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

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



STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

David F. Carco
DAVID F. CARCO, Chairman

Alex J. Armijo
ALEX J. ARMILLO, Member

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

esr

DOCKET: EXAMINER HEARING - WEDNESDAY - FEBRUARY 5 1969

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

The following cases will be heard before Daniel S. Nutter, Examiner,
or Elvis A. Utz, Alternate Examiner:

CASE 4036: Application of Mobil Oil Corporation for a dual completion, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its C. L. O'Brien Well No. 1 located in Unit A of Section 7 Township 8 South, Range 30 East, Chaves County, New Mexico, to produce oil from an undesignated Pennsylvanian oil pool and the Lightcap (Devonian) Pool through parallel strings of tubing.

CASE 3975 (Reopened):

In the matter of Case No. 3975 being reopened pursuant to the provisions of Order No. R-3618, which order established 80-acre spacing units for the East Bluitt-San Andres Pool, Roosevelt County, New Mexico, for a period of approximately two months. All interested parties may appear and present evidence as to whether the subject area is indeed a separate common source of supply or an extension of the Bluitt-San Andres Gas Pool.

CASE 4010: (Continued from December 27, 1968 and January 8, 1969 Examiner Hearings)

Application of John H. Trigg for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg-San Andres formations through his Empire "J" Federal Well No. 1 located in Unit P of Section 1, Township 18 South, Range 26 East, Red Lake Grayburg-San Andres Pool, Eddy County, New Mexico.

CASE 4037: Application of Anadarko Production Company for several waterflood projects and waterflood buffer zones, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute several waterflood projects by the injection of water into the Grayburg and San Andres formations of the Square Lake Pool by the conversion to water injection of its Etz Federal Well No. 3 and its Grier Well No. 14 located, respectively, in Sections 19 and 20 of Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the S/2 SW/4 of said Section 19, the N/2 SE/4 of said Section 19, and the N/2 SE/4 of said Section 20 as waterflood buffer zones with capacity allowables.

CASE 4038: Application of Kennedy Oil Company for a waterflood project and waterflood buffer zone, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Grayburg and San Andres formations of the Square Lake Pool by the conversion to water injection of its Carper Federal Well No. 2 located in Unit K of Section 19, Township 16 South, Range 31 East, Eddy County, New Mexico. Applicant further seeks the designation of the N/2 SW/4 of said Section 19 as a waterflood buffer zone with capacity allowable.

CASE 4039: The application of the Oil Conservation Commission upon its own motion for an order granting an exception to the ninth paragraph of Chapter II, Section 2 of Order No. R-333-F to permit shutting in gas wells for the required shut-in test at some period during the 1969 test season other than immediately following the 7-day deliverability flow test; further to permit measuring the shut-in test pressure during the 8th to 15th day of shut-in of the well rather than on the 8th day as presently required. The above exceptions would be for the 1969 annual deliverability test season only and would be applicable to all wells in San Juan, Rio Arriba, McKinley and Sandoval Counties, New Mexico, subject to the testing requirements of Chapter II of Order No. R-333-F.

CASE 4023: (Continued and readvertised from the January 15, 1969 Regular Hearing)

Application of Ernest A. Hanson for salt water disposal, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Queen formation in the perforated interval from approximately 1724 feet to 1736 feet in his Welch Federal Well No. 2 located 1650 feet from the North line and 2310 feet from the West line of Section 22, Township 19 South, Range 28 East, East Millman Queen-Grayburg Pool, Eddy County, New Mexico.

CASE 4040: Application of Cities Service Oil Company for the institution of gas prorationing in the Buffalo Valley-Pennsylvanian Gas Pool, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks the limitation of gas production from the Buffalo Valley-Pennsylvanian Gas Pool in Chaves County, New Mexico, to reasonable market demand and to the capacity of gas transportation facilities, and that the subject pool be governed by the general rules and regulations for the prorated gas pools of Southeastern New Mexico insofar as said general rules and regulations are not inconsistent with the special rules and regulations governing the subject pool. Further, the applicant proposes that the allowable production from the pool be allocated among the wells in the pool on a 100% surface acreage basis.

CASE 4041: Application of Tamarack Petroleum Company, Inc. for salt water injection, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to inject produced salt water into the Queen formation in the perforated interval from 4955 feet to 5030 feet in its Texaco Moran Well No. 2, located in Unit H of Section 22, Township 19 South, Range 35 East, Pearl Queen Pool, Lea County, New Mexico.

CASE 4042: Application of El Paso Natural Gas Company for an amendment to Order No. R-2948, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-2948, which order established a number of non-standard gas proration units in the Basin-Dakota Gas Pool, Rio Arriba County, New Mexico. Applicant proposes to change the acreage dedication comprising units 12 and 13 of Township 28 North, Range 6 West and Units 16 and 17 of Township 28 North, Range 7 West to comprise the following:

<u>TOWNSHIP 28 NORTH, RANGE 6 WEST</u>		
Unit	Acres	Description
12	320	Section 33: N/2
13	330.71	Section 33: S/2

<u>TOWNSHIP 28 NORTH, RANGE 7 WEST</u>		
Unit	Acres	Description
16	320	Section 35: N/2
17	332.40	Section 35: S/2

CASE 4017: [Continued from the January 8, 1969 Examiner Hearing]
Application of Morine Mine for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Section 8, Township 21 South, Range 24 East, North Indian Hills-Morrow Gas Pool, Eddy County, New Mexico. Said acreage to be dedicated to a well to be drilled in the SE/4 of said Section 8. Also to be considered will be the costs of drilling said well, a charge for the risk involved a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well.

CASE 4043: Application of David Easken for compulsory pooling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Morrow formation underlying Section 8, Township 21 South, Range 24 East, North Indian Hills-Morrow Gas Pool, Eddy County, New Mexico. Said acreage to be dedicated to a well to be drilled 1980 feet from the North line and 2105 feet from the East line of said Section 8. Also to be considered will be the costs of drilling said well, a charge for the risk involved, a provision for the allocation of actual operating costs, and the establishment of charges for supervision of said well. Case No. 4043 will be consolidated for purposes of hearing with Case No. 4017 which is the application of Corinne Grace for compulsory pooling of the same section.

CASE 4044: Application of Continental Oil Company for a non-standard gas proration unit, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the consolidation of two existing non-standard gas proration units into one 481-acre unit comprising the E/2 and E/2 W/2 of Section 3, Township 20 South, Range 36 East, Eumont Gas Pool, Lea County, New Mexico, to be dedicated to its Reed A-3 Wells Nos. 2 and 3 located in Units H and I, respectively of said Section 3, to be effective as of January 1, 1967. Applicant further seeks authority to produce the allowable assigned to said unit from either of the aforesaid wells in any proportion.

CASE 4045: Application of H & S Oil Company for an amendment to Order No. R-3357, as amended by Order No. R-3357-A, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the amendment of Order No. R-3357, as amended by Order No. R-3357-A, which order authorized the H & S West Artesia Unit Waterflood Project. Applicant proposes to substitute the Roach Drilling Company-Leonard Well No. 18 located in Unit D of Section 17 as a water injection well in said project in lieu of the Cities Service-Mell Well No. 17 located in Unit M of Section 8, both in Township 18 South, Range 28 East, Artesia Pool, Eddy County, New Mexico.

CASE 4030: (Continued from the January 22, 1969 Examiner Hearing)

Application of Argus Production Company for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Seven Rivers formation in the perforated and open-hole interval from approximately 3554 feet to 3775 feet in its J. T. Lynn A-28 Well No. 3 located 2410 feet from the South line and 1650 feet from the East line of Section 28, Township 23 South, Range 36 East, Jalmat Yates-Seven Rivers Pool, Lea County, New Mexico.

ir/

CASE NO. 4023

APPLICATION OF ERNEST A. HANSON FOR APPROVAL OF SALT WATER
DISPOSAL, EAST MILLMAN-QUEEN-GRAYBURG POOL,
EDDY COUNTY, NEW MEXICO

The applicant, in the above-styled cause, applies
to the Oil Conservation Commission of New Mexico for approval
of the underground disposal of produced water in the East
Millman-Queen-Grayburg Pool, Eddy County, New Mexico.

THE FOLLOWING EXHIBITS ARE IN SUPPORT OF THIS
APPLICATION.

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Exhibit No. 1	Application To Dispose Of Salt Water (C-108)
Exhibit No. 2	Location Map
Exhibit No. 3	Gamma Ray-Neutron Log
Exhibit No. 4	Water Analysis
Exhibit No. 5	Diagramatic Sketch Of Injection Well

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

NAME OF APPLICANT Ernest A. Hansen		ADDRESS P. O. Box 1515, Roswell, New Mexico			
WELL NAME Welch Federal	WELL NO. 2	FIELD E. Millman-Queen-Grayburg	COUNTY Eddy		
LOCATION UNIT LETTER F WELL IS LOCATED 1650 FEET FROM THE North LINE AND 2310 FEET FROM THE West LINE, SECTION 22 TOWNSHIP 19-S RANGE 28-E NEAD.					
CASING AND TUBING DATA					
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT	TOP OF CEMENT	TOP DETERMINED BY
SURFACE CASING	8-5/8"	550'	50	396'	Estimated
INTERMEDIATE					
LONG STRING	7"	2196'	120	216'	Estimated
TUBING	2-3/8"	1650'	NAME, MODEL AND DEPTH OF TUBING PACKER HOWCO R-3 @ 1650'		
NAME OF PROPOSED INJECTION FORMATION Queen Formation			TOP OF FORMATION 1584'		BOTTOM OF FORMATION 1919'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS?		PERFORATIONS OR OPEN HOLE?		PROPOSED INTERVAL(S) OF INJECTION	
Tubing		Perforations		1724-1736'	
IS THIS A NEW WELL DRILLED FOR DISPOSAL?		IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED?		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE?	
No		Producing oil well		Yes	
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH					
2 Jets Per Foot @ 1723-1740'. Squeezed with 200 sacks @ 5000 psi.					
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA		DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA	
Unknown		None		1994'	
ANTICIPATED DAILY INJECTION VOLUME (BBLS.)	MINIMUM	MAXIMUM	OPEN OR CLOSED TYPE SYSTEM	IS INJECTION TO BE BY GRAVITY OR PRESSURE?	APPROX. PRESSURE (PSI)
30	43	Open	Pressure	1000	
ANALYSES OF NO. WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE -			WATER TO BE DISPOSED OF	NATURAL WATER IN DISPOSAL ZONE	ARE WATER ANALYSES ATTACHED?
			Yes	Yes	Yes
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND)					
H. A. Lindley, P. O. Box 628, Carlsbad, New Mexico					
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL					
Depco, Inc., 1025 Petroleum Club Bldg., Denver, Colorado 80202					
W. C. Welch, P. O. Box 558, Artesia, New Mexico					
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING?		SURFACE OWNER		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL	
		Yes		Yes	
ARE THE FOLLOWING (IF ANY) ATTACHED TO THIS APPLICATION (SEE RULE 701-6)?		PLAT OF AREA		ELECTRICAL LOG	
		Yes		Yes	
				THE NEW MEXICO STATE ENGINEER	
				Yes	
				DIAGRAMMATIC SKETCH OF WELL	
				Yes	

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

Ernest A. Hansen Exploration Manager Dec. 17, 1968
(Signature) (Title) (Date)

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

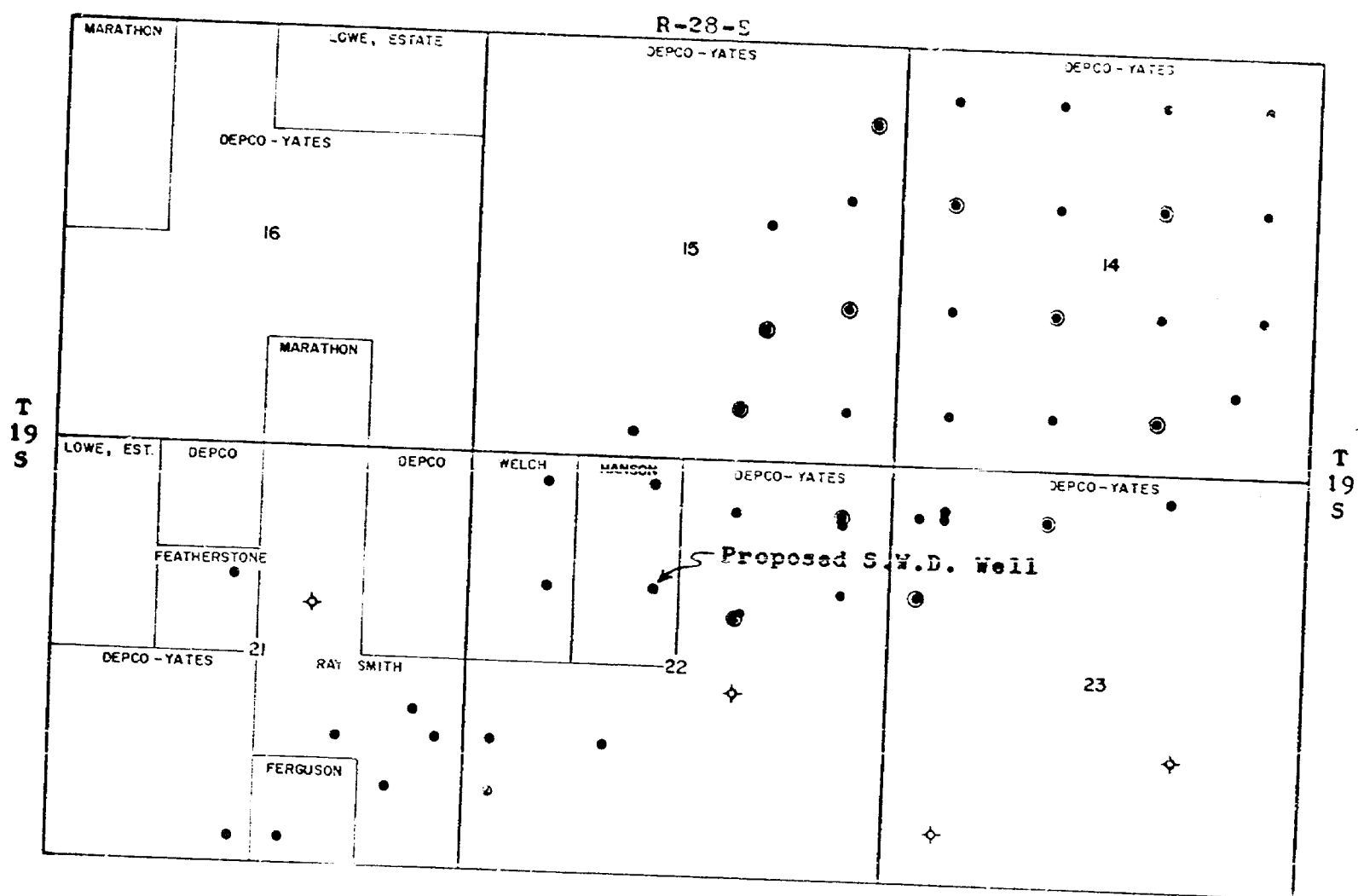


EXHIBIT NO. 2

LOCATION MAP

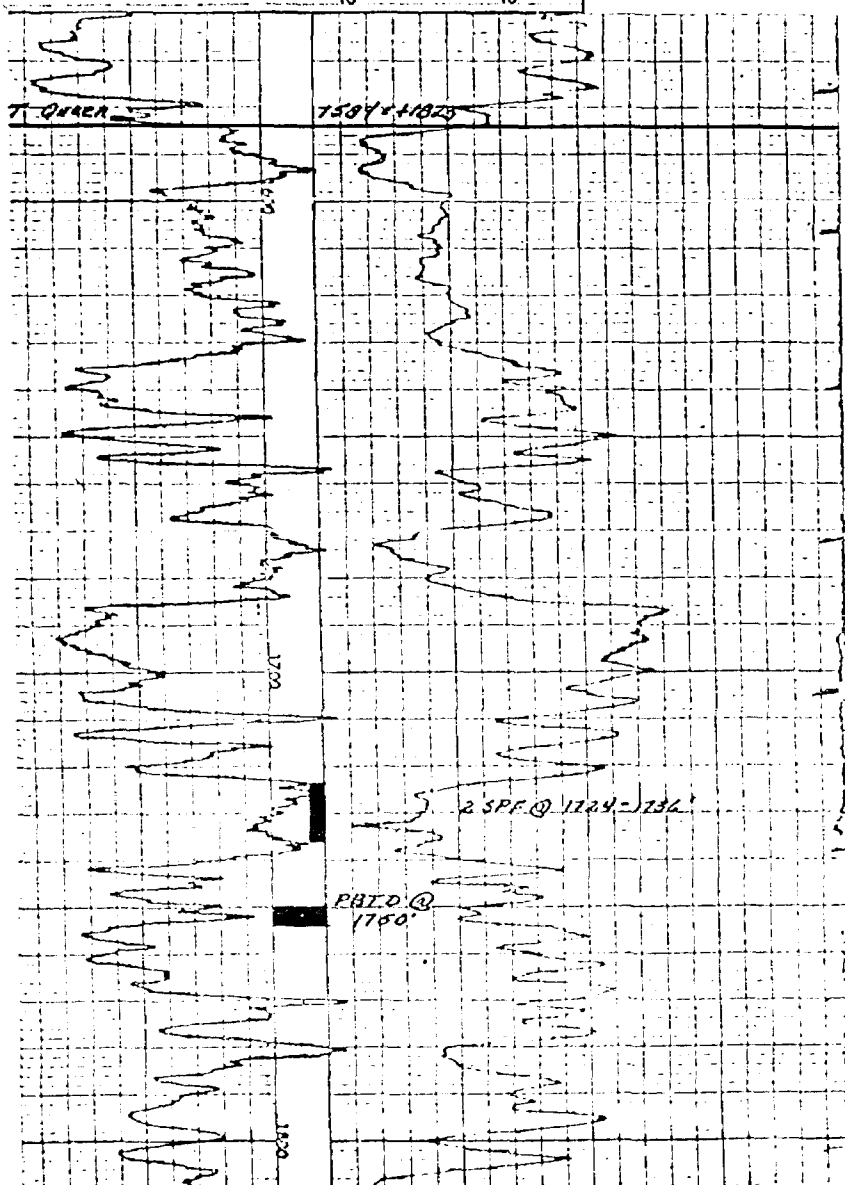
East Millman-Lucas-Grayburg Pool
T-19-S, R-28-S, N.M.P.M.
Eddy County, New Mexico

Radioactivity Log				
COMPANY: <u>G. S. ALLEN</u>				
WELL: <u>FEDERAL 1# SEC. 22</u>				
FIELD: <u>WILSON</u>				
LOCATION: <u>SEC. 22, T-19-S, R-28-E</u>				
COUNTY: <u>EDDY</u> STATE: <u>N.M.</u>				
LOG ZERO: <u>VALUE FROM FLUID</u>	ELEV: <u>4001</u>			
ORIG. ZERO: <u>SAFETY TOOL FLUID</u>	ELEV: <u>4001</u>			
PERM. DATUM: <u>6.1.1. 15 1.3' ABOVE G. L.</u>	ELEV: <u>4001</u>			
TYPE OF LOG: <u>GAMMA RAY</u> <u>NEUTRON</u>				
RUN NO. <u>1-21-50</u>				
DATE: <u>1-21-50</u>				
TOTAL DEPTH (DRILLER): <u>2120</u>				
EFFECTIVE DEPTH (DRILLER): <u>2120</u>				
TOP OF LOGGED INTERVAL: <u>1120</u>				
BOTTOM OF LOGGED INTERVAL: <u>2120</u>				
TYPE OF FLUID IN HOLE: <u>WATER</u>				
FLUID LEVEL: <u>2120</u>				
MAXIMUM RECORDED TEMP.: <u>51.2</u>				
SOURCE STRENGTH & TYPE: <u>13.25</u>				
SOURCE SPACING - IN.: <u>14.2</u>				
DETECTOR CLASS: <u>5015A</u>				
DETECTOR TYPE: <u>5015</u>				
LENGTH OF MEAS. DEVICE - IN.: <u>1 5/8</u>				
O.D. OF INSTRUMENT - IN.: <u>1 1/2</u>				
TIME CONSTANT - SECONDS: <u>30</u>				
LOGGING SPEED FT./MIN.: <u>WELCH</u>				
STATISTICAL VARIATION - IN.: <u>WELCH</u>				
SENSITIVITY REFERENCE: <u>WELCH</u>				
RECORDED BY: <u>WELCH</u>				
WITNESSED BY: <u>WELCH</u>				
WELL RECORD				
RUM	BIT SIZE	CASING WT.-LB.	FROM WELL RECORD	FROM LOG
ONE	10 1/4	0 5/8	SURFACE TO 250	SURFACE TO
ONE	8	1	SURFACE TO 2130	SURFACE TO 2120
			TO	TO
			TO	TO

EXHIBIT NO. 3

GAMMA RAY-NEUTRON LOG

Hanson - #1 Welch Federal
Sec. 22, T-19-S, R-28-E
Eddy County, New Mexico



SAMPLE NO. _____

THE WESTERN COMPANY
Service Laboratory

EXHIBIT NO. 4

WATER ANALYSIS

Hanson - Welch Federal Lease
Soc. 22, T-19-S, R-28-E
Eddy County, New Mexico

WATER ANALYSIS

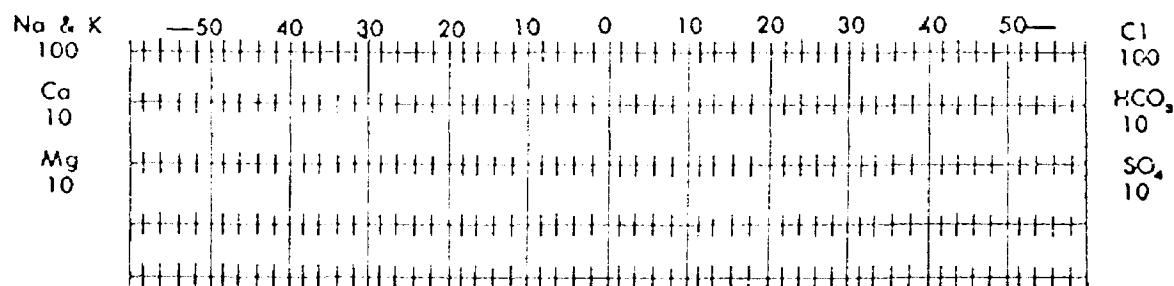
Operator	Hanson Oil Company	Date Sampled	
Well	Welch-Federal	Date Received	6/29/68
Field	Millman Field	Submitted by	Hobbs District
Formation	Queen	Worked by	Capps
Depth		Other Description	
County	Eddy, New Mexico		

CHEMICAL DETERMINATIONS

Density	1.040 @ 81° F	pH	8.7
Iron	Faint Trace	Hydrogen Sulfide	Very Strong Trace
Sodium and Potassium	12,750 ppm	Bicarbonate	1,087 ppm
Calcium	8,800 ppm	Sulfate	7,200 ppm
Magnesium	1,336 ppm	Phosphate	ppm
Chloride	33,200 ppm	as Sodium Chloride	ppm

Remarks:

for Stiff type plot (in meq./l.)



Per _____

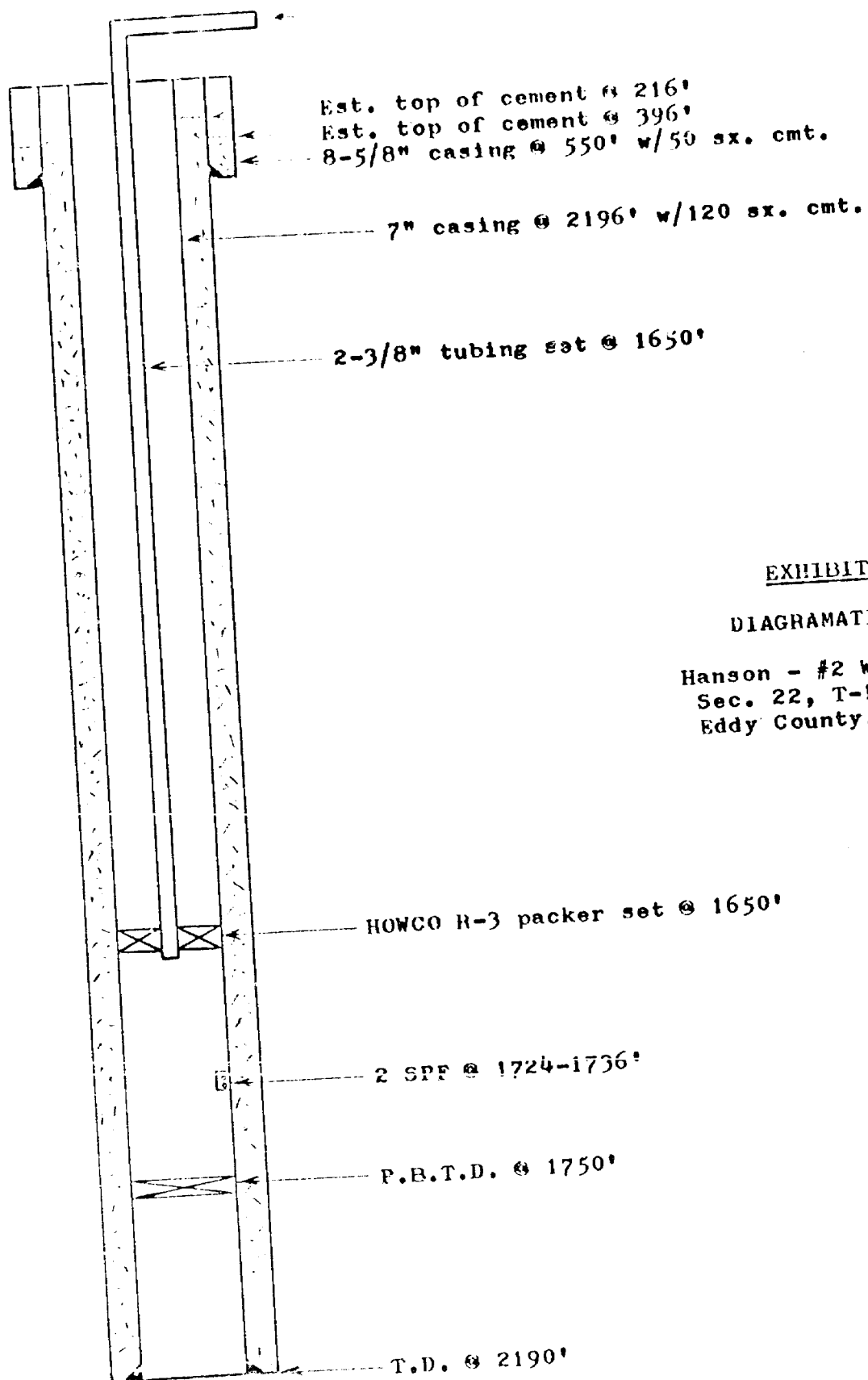


EXHIBIT NO. 5

DIAGRAMATIC SKETCH

Hanson - #2 Welch Federal
 Sec. 22, T-19-S, R-28-E
 Eddy County, New Mexico

CASE NO. 4023

APPLICATION OF ERNEST A. HANSON FOR APPROVAL OF SALT WATER
DISPOSAL, EAST MILLMAN-QUEEN-GRAYBURG POOL,
EDDY COUNTY, NEW MEXICO

The applicant, in the above-styled cause, applies
to the Oil Conservation Commission of New Mexico for approval
of the underground disposal of produced water in the East
Millman-Queen-Grayburg Pool, Eddy County, New Mexico.

THE FOLLOWING EXHIBITS ARE IN SUPPORT OF THIS
APPLICATION.

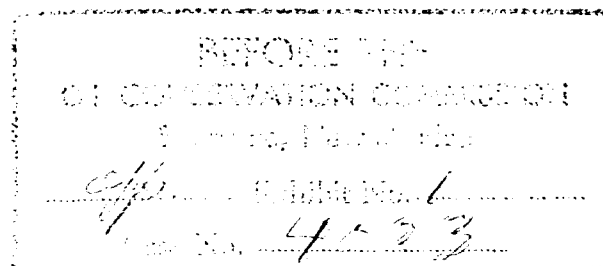


TABLE OF CONTENTS

Exhibit No. 1	Application To Dispose Of Salt Water (C-108)
Exhibit No. 2	Location Map
Exhibit No. 3	Gamma Ray-Neutron Log
Exhibit No. 4	Water Analysis
Exhibit No. 5	Diagramatic Sketch Of Injection Well

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

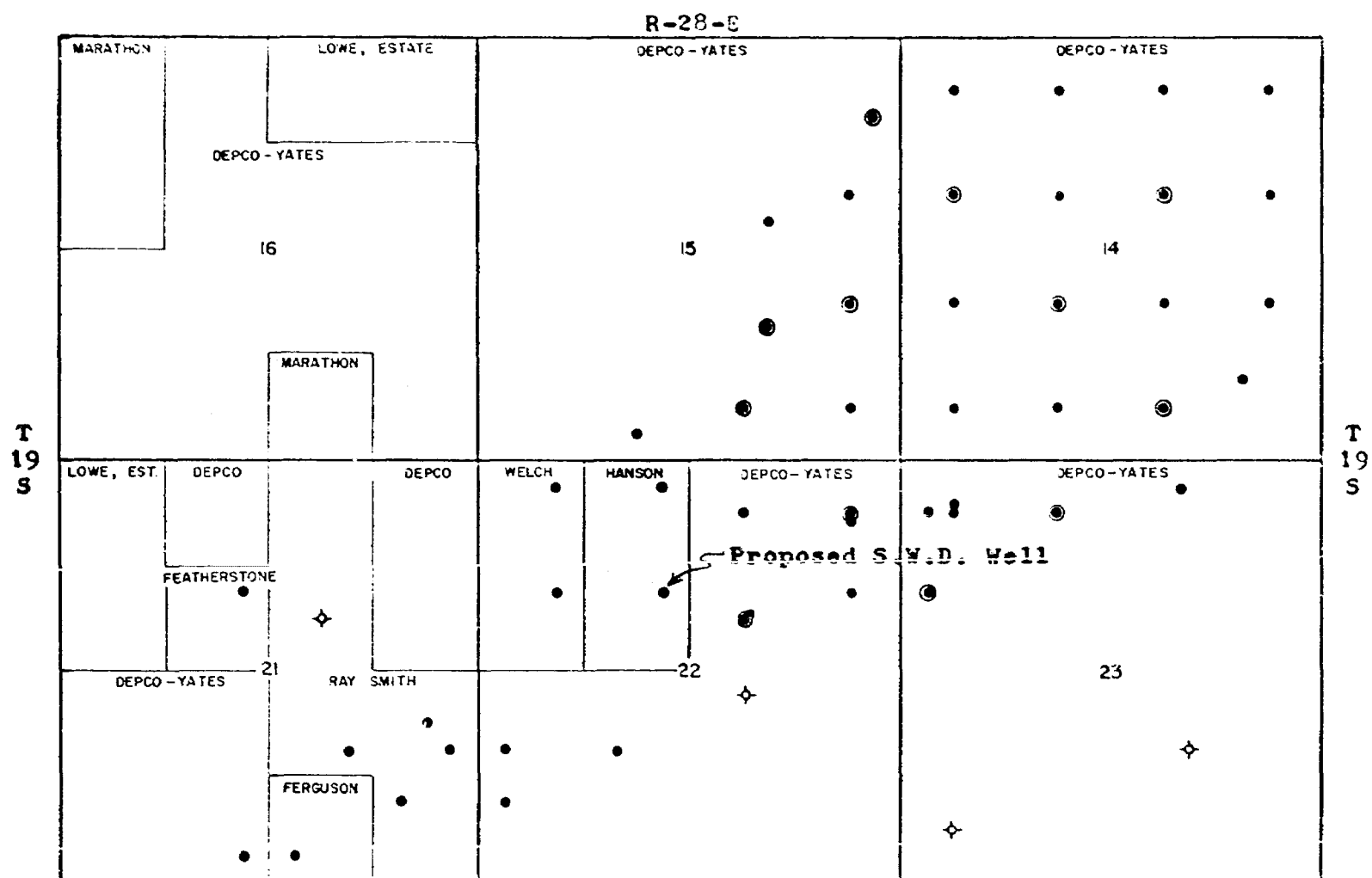



EXHIBIT NO. 2

LOCATION MAP

East Millman-Queen-Drayburg Pool
T-19-S, R-28-E, N.M.P.M.
Eddy County, New Mexico



LAND LOGS

Radioactivity Log

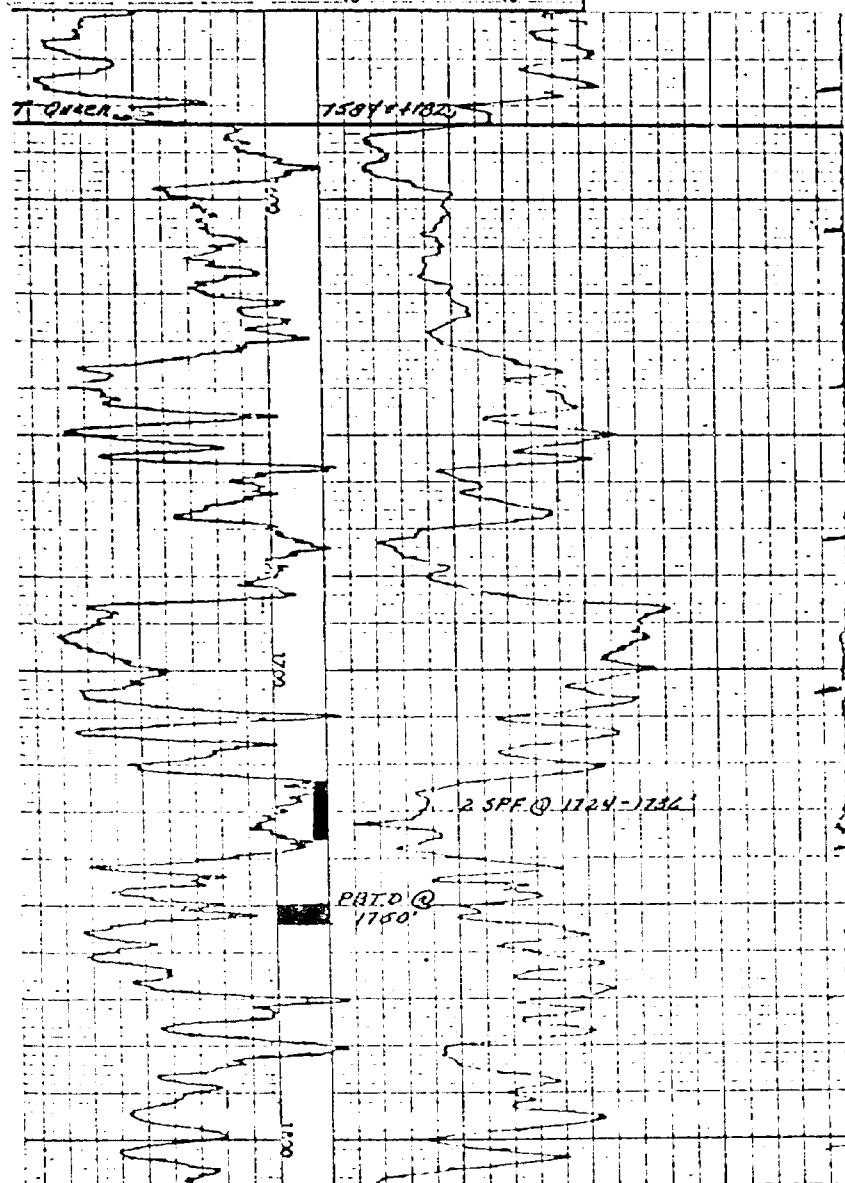
COMPANY: <u>W. S. JAMES</u> WELL: <u>FEDERAL WELCH No. 2</u> FIELD: <u>WELCH</u> LOCATION: <u>SEC. 22, T-19-S, R-28-E</u> COUNTY: <u>EDDY</u> STATE: <u>N.M.</u>	LOG ZERO ORIG. ZERO FROM DATUM	ALL T. & F. 15 1.5' ABOVE G. L. ELEV. 5401 ELEV. 5405	TYPE OF LOG RUN NO. DATE TOTAL DEPTH (DRILLER) EFFECTIVE DEPTH (DRILLER) TOP OF LOGGED INTERVAL BOTTOM OF LOGGED INTERVAL TYPE OF FLUID IN HOLE FLUID LEVEL MAXIMUM RECORDED TEMP. SOURCE STRENGTH & TYPE SOURCE SPACING—IN. DETECTOR CLASS DETECTOR TYPE LENGTH OF MEAS. DEVICE—IN. OD OF INSTRUMENT—IN. TIME CONSTANT—SECONDS LOGGING SPEED FT./MIN. STATISTICAL VARIATION—IN. SENSITIVITY REFERENCE RECORDED BY WITNESSED BY
--	--------------------------------------	---	--

WELL RECORD			
RUN	BIT SIZE	CASING WT.—LB.	FROM WELL RECORD
ONE	10 1/4	8 5/8	SURFACE TO 350
TWO	8	7	SURFACE TO 2110
			TO
			TO

EXHIBIT NO. 3

GAMMA RAY-NEUTRON LOG

Hanson - #1 Welch Federal
Sec. 22, T-19-S, R-28-E
Eddy County, New Mexico



SAMPLE NO. _____

THE WESTERN COMPANY
Service Laboratory

EXHIBIT NO. 4

WATER ANALYSIS

Hanson - Welch Federal Lease
Sec. 22, T-19-S, R-28-E
Eddy County, New Mexico

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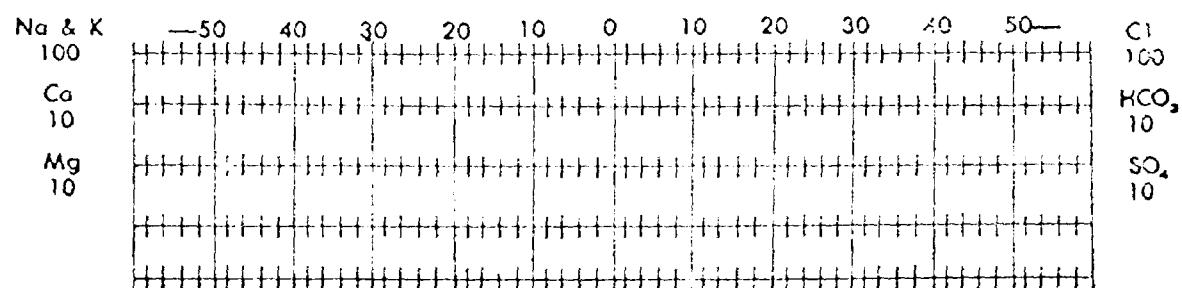
Operator	Hanson Oil Company	Date Sampled	
Well	Welch-Federal	Date Received	6/29/68
Field	Millman Field	Submitted by	Hobbs District
Formation	Queen	Worked by	Capps
Depth		Other Description	
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CHEMICAL DETERMINATIONS

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Remarks:

for Stiff type plot (in meq./l.)



Per _____

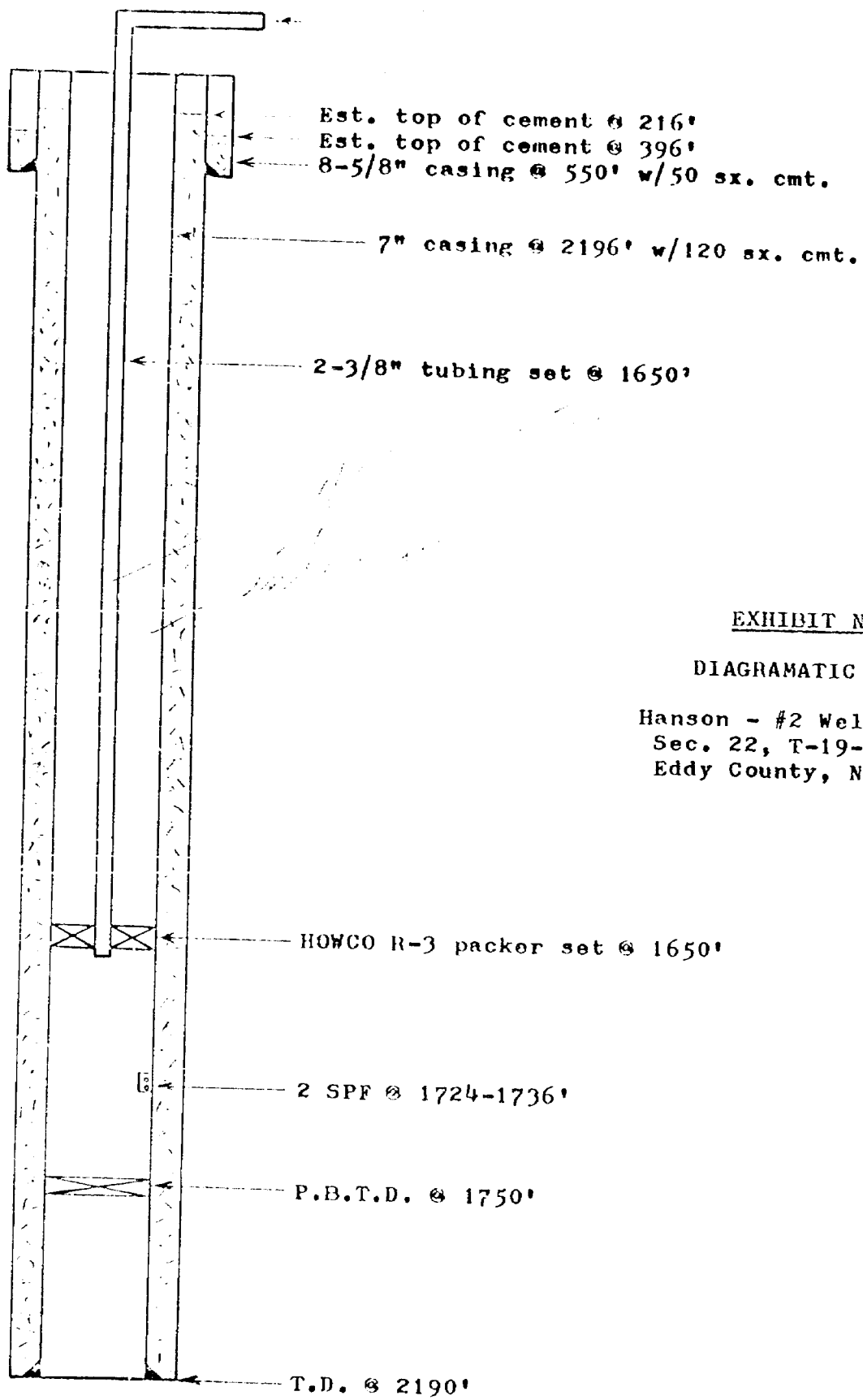


EXHIBIT NO. 5

DIAGRAMATIC SKETCH

Hanson - #2 Welch Federal
 Sec. 22, T-19-S, R-28-E
 Eddy County, New Mexico

File 402-5

JASON W. KELLAHIN
ROBERT E. FOX

KELLAHIN AND FOX
ATTORNEYS AT LAW
54 1/2 EAST SAN FRANCISCO STREET
POST OFFICE BOX 1769
SANTA FE, NEW MEXICO 87501

TELEPHONE 982-4315
AREA CODE 505

January 3, 1969

Oil Conservation Commission
Post Office Box 2088
Santa Fe, New Mexico

Gentlemen:

Enclosed for filing in connection with the application of Ernest A. Hanson for salt water disposal, East Millman-Queen-Grayburg Pool, are Form C-108 with attached exhibits.

It is my understanding this case will be heard at the Commission hearing, January 15.

Yours very truly,

Jason W. Kellahin
JASON W. KELLAHIN

jwk:peg
Enc. as stated

RECEIVED

1-23-69

JASON W. KELLAHIN
ROBERT E. FOX

KELLAHIN AND FOX
ATTORNEYS AT LAW
54 1/2 EAST SAN FRANCISCO STREET
POST OFFICE BOX 1769
SANTA FE, NEW MEXICO 87501

December 17, 1968

TELEPHONE 982-4315
AREA CODE 505

68 DEC 19 AM 8 17

Case 4023

Oil Conservation Commission of New Mexico
Post Office Box 2088
Santa Fe, New Mexico

Re: Ernest A. Hanson

Gentlemen:

Enclosed please find original and two copies of
application for Ernest A. Hanson, which please
set for hearing January 15, 1969.

Yours very truly,

Jason W. Kellahin

JASON W. KELLAHIN

jwk;peg
Enc. as stated

DOCKET MADE

Date 1-7-69

FILED IN 1933 DEC 13

BEFORE THE
OIL CONSERVATION COMMISSION OF NEW MEXICO

APPLICATION OF ERNEST A. HANSON FOR
APPROVAL OF SALT WATER DISPOSAL, EAST
MILLMAN-QUEEN-GRAYBURG POOL, EDDY
COUNTY, NEW MEXICO

160-4-23

A P P L I C A T I O N

Comes now ERNEST A. HANSON and applies to the Oil Conservation Commission of New Mexico for approval of the underground disposal of produced water in the East Millman-Queen-Grayburg Pool, Eddy County, New Mexico, and in support thereof would show the Commission:

1. Applicant proposes to convert the Ernest A. Hanson No. 2 Welch Federal Well to a disposal well, and dispose of produced water in the interval from 1994 to 2178 feet, into the Queen, which is a producing formation.
2. Disposal will be through tubing, under a packer, and in a perforated interval in the subject well.
3. The Ernest A. Hanson No. 2 Welch Federal Well is located 1630 feet from the North line, and 2310 feet from the West line of Section 22, Township 19 South, Range 28 East, N.M.P.M., Eddy County, New Mexico. The water disposal interval proposed to be used is subject to a waterflood project in the vicinity of the proposed disposal well.
4. It is anticipated that approximately 43 barrels of water per day, produced from the same lease, will be disposed of in the subject well.
5. Exhibits required by Rule 701 of the Commission's rules and regulations will be filed with the Commission prior to the hearing of this application.

WHEREFORE, applicant prays that this matter be set for

hearing before the Commission at its regular hearing on January 15, 1969, and that after notice and hearing as required by law the Commission enter its order approving this application as prayed for.

Respectfully submitted,

ERNEST A. HANSON

BY: *James W. Kellam*
KELLAMIN & FOX
Post Office Box 1769
Santa Fe, New Mexico

ATTORNEYS FOR APPLICANT

Case 4023
Form C-108
Revised 1-1-65

NEW MEXICO OIL CONSERVATION COMMISSION
APPLICATION TO DISPOSE OF SALT WATER BY INJECTION INTO A POROUS FORMATION

OPERATOR Ernest A. Hanson		ADDRESS P. O. Box 1515, Roswell, New Mexico	
LEASE NAME Welch Federal	WELL NO. 2	FIELD E. Millman-Quoon-Grayburg	COUNTY Eddy
LOCATION UNIT LETTER F ; WELL IS LOCATED 1650 FEET FROM THE North LINE AND 2310 FEET FROM THE West LINE. SECTION 22 TOWNSHIP 19-S RANGE 28-E NMPM.			
CASING AND TUBING DATA			
NAME OF STRING	SIZE	SETTING DEPTH	SACKS CEMENT
SURFACE CASING	8-5/8"	550'	50
INTERMEDIATE			
LONG STRING	7"	2196'	120
TUBING	2-3/8"	1650'	NAME, MODEL AND DEPTH OF TUBING PACKER HOWCO R-3 @ 1650'
NAME OF PROPOSED INJECTION FORMATION Queen Formation		TOP OF FORMATION 1584'	BOTTOM OF FORMATION 1919'
IS INJECTION THROUGH TUBING, CASING, OR ANNULUS? Tubing		PERFORATIONS OR OPEN HOLE? Perforations	PROPOSED INTERVAL(S) OF INJECTION 1724-1736'
IS THIS A NEW WELL DRILLED FOR DISPOSAL? No	IF ANSWER IS NO, FOR WHAT PURPOSE WAS WELL ORIGINALLY DRILLED? Producing oil well		HAS WELL EVER BEEN PERFORATED IN ANY ZONE OTHER THAN THE PROPOSED INJECTION ZONE? Yes
LIST ALL SUCH PERFORATED INTERVALS AND SACKS OF CEMENT USED TO SEAL OFF OR SQUEEZE EACH 2 Jets Per Foot @ 1723-1740'. Squeezed with 200 sacks @ 5000 psi.			
DEPTH OF BOTTOM OF DEEPEST FRESH WATER ZONE IN THIS AREA Unknown		DEPTH OF BOTTOM OF NEXT HIGHER OIL OR GAS ZONE IN THIS AREA None	DEPTH OF TOP OF NEXT LOWER OIL OR GAS ZONE IN THIS AREA 1994'
ANTICIPATED DAILY INJECTION VOLUME (BBLS.) 30	MINIMUM 43	MAXIMUM Open	IS INJECTION TO BE BY GRAVITY OR PRESSURE? Pressure
APPROX. PRESSURE (PSI) 1000		ARE WATER ANALYSES ATTACHED? Yes	
ANSWER YES OR NO WHETHER THE FOLLOWING WATERS ARE MINERALIZED TO SUCH A DEGREE AS TO BE UNFIT FOR DOMESTIC, STOCK, IRRIGATION, OR OTHER GENERAL USE - Yes			
NAME AND ADDRESS OF SURFACE OWNER (OR LESSEE, IF STATE OR FEDERAL LAND) H. A. Lindley, P. O. Box 628, Carlsbad, New Mexico			
LIST NAMES AND ADDRESSES OF ALL OPERATORS WITHIN ONE-HALF (1/2) MILE OF THIS INJECTION WELL Depco, Inc., 1025 Petroleum Club Bldg., Denver, Colorado 80202 W. C. Welch, P. O. Box 558, Artesia, New Mexico			
HAVE COPIES OF THIS APPLICATION BEEN SENT TO EACH OF THE FOLLOWING? Yes		SURFACE OWNER Yes	
ARE THE FOLLOWING ITEMS ATTACHED TO THIS APPLICATION (SEE RULE 701-B) Yes		EACH OPERATOR WITHIN ONE-HALF MILE OF THIS WELL Yes	
		THE NEW MEXICO STATE ENGINEER Yes	
		ELECTRICAL LOG Yes	
		DIAGRAMMATIC SKETCH OF WELL Yes	

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

Henry R. [Signature] Exploration Manager Dec. 17, 1968
(Signature) (Title) (Date)

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

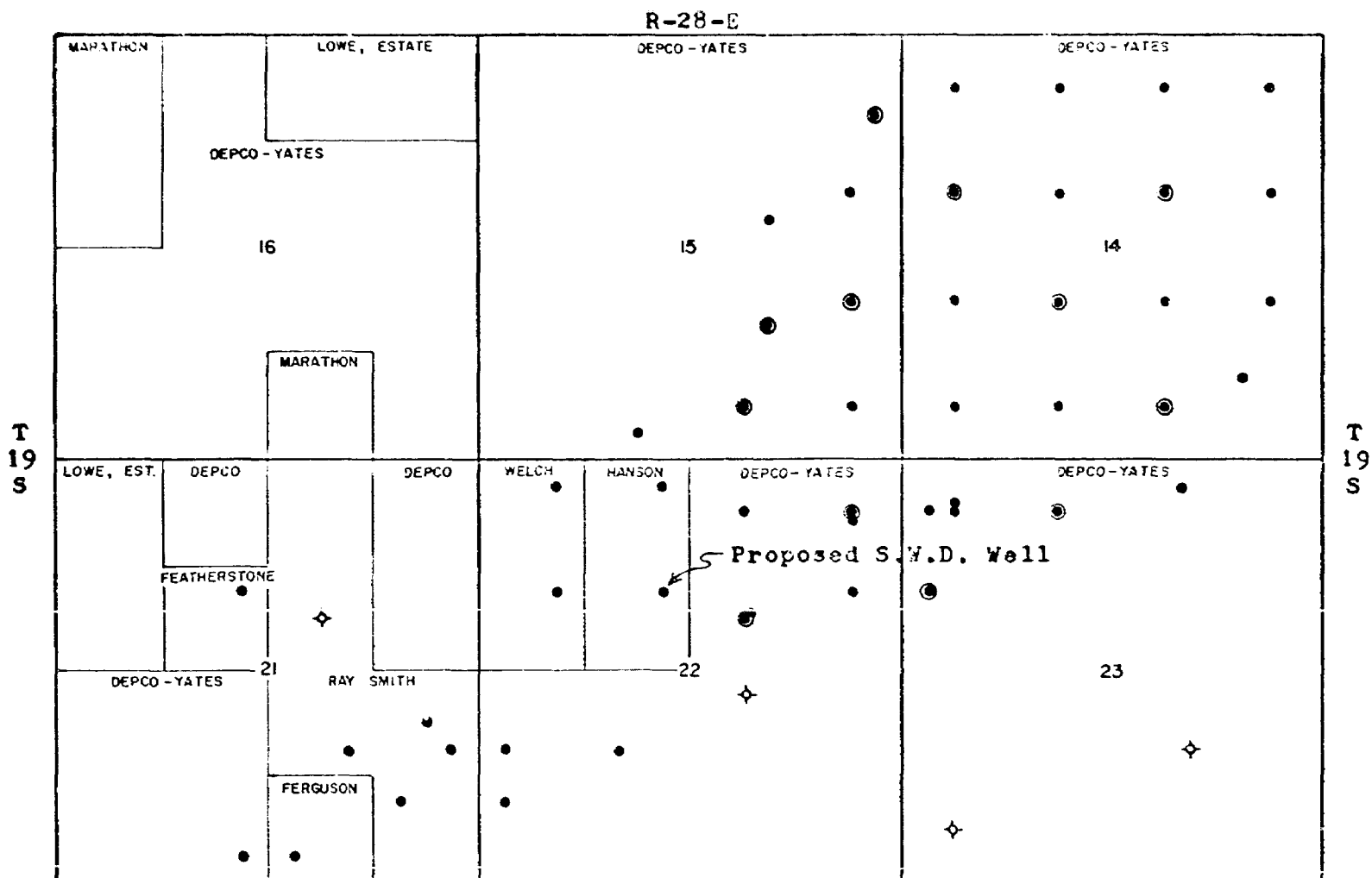


EXHIBIT NO. 2

LOCATION MAP

East Millman-Queen-Grayburg Pool
T-19-S, R-28-E, N.M.P.M.
Eddy County, New Mexico

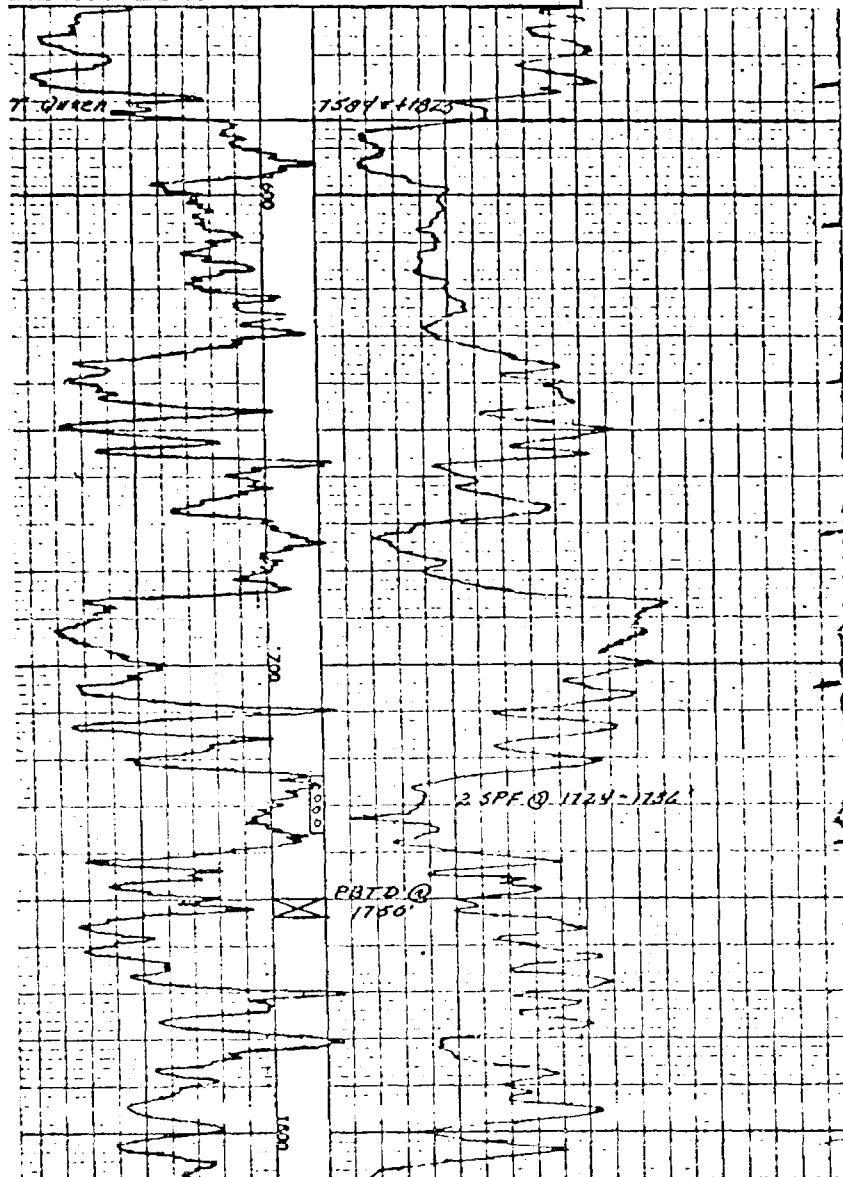
Page 4023

LANE WELLS		Radioactivity Log																																																																																																															
COMPANY: E. S. WELCH		Well Location																																																																																																															
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EXHIBIT NO. 3

GAMMA RAY-NEUTRON LOG

Hanson - #1 Welch Federal
Sec. 22, T-19-S, R-28-E
Eddy County, New Mexico



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SAMPLE NO. _____

THE WESTERN COMPANY
Service Laboratory

EXHIBIT NO. 4

WATER ANALYSIS

Hanson - Welch Federal Lease
Sec. 22, T-19-S, R-28-E
Eddy County, New Mexico

WATER ANALYSIS

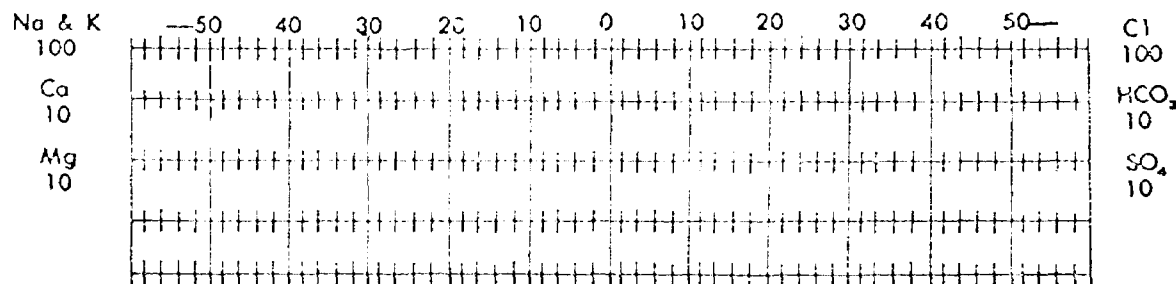
Operator	Hanson Oil Company	Date Sampled	
Well	Welch-Federal	Date Received	6/29/68
Field	Millman Field	Submitted by	Hobbs District
Formation	Queen	Worked by	Capps
Depth		Other Description	
County	Eddy, New Mexico		

CHEMICAL DETERMINATIONS

Density	1.040 @ 81° F	pH	8.7
Iron	Faint Trace	Hydrogen Sulfide	Very Strong Trace
Sodium and Potassium	12,750 ppm	Bicarbonate	1,087 ppm
Calcium	8,800 ppm	Sulfate	7,200 ppm
Magnesium	1,336 ppm	Phosphate	ppm
Chloride	33,200 ppm	as Sodium Chloride	ppm

Remarks:

for Stiff type plot (in meq./l.)



Per Car 4623

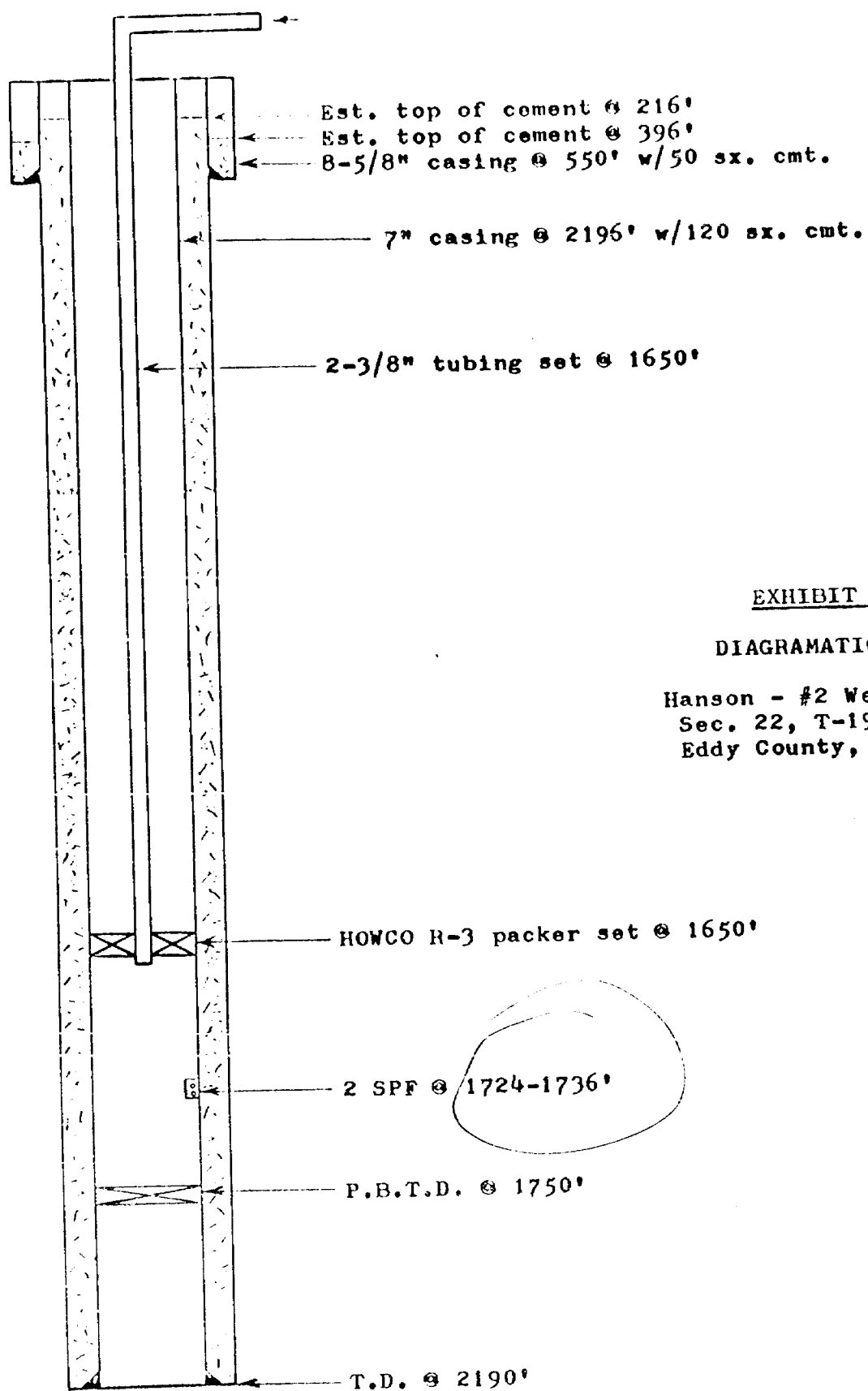


EXHIBIT NO. 5

DIAGRAMATIC SKETCH

Hanson - #2 Welch Federal
 Sec. 22, T-19-S, R-28-E
 Eddy County, New Mexico

Case 4023

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 4023

Order No. R- 2672

APPLICATION OF ERNEST A. HANSON
FOR SALT WATER DISPOSAL, EDDY
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSIONBY THE COMMISSION:

This cause came on for hearing at 9 a.m. on February 5, 1969,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this day of February, 1969, the Commission, a
quorum being present, having considered the testimony, the record,
and the recommendations of the Examiner, and being fully advised
in the premises,

FINDS:

(1) That due public notice having been given as required by
law, the Commission has jurisdiction of this cause and the subject
matter thereof.

(2) That the applicant, Ernest A. Hanson
is the owner and operator of the Welch Federal Well No. 2
1650 feet from the North line and 2310 feet from the West line
located X/XXX/XXX of Section 22, Township 19 South, Range
28 East, NMPM, East Millman Queen-Grayburg Pool, Eddy
County, New Mexico.

(3) That the applicant proposes to utilize said well to
dispose of produced salt water into the Queen
formation, with injection into the perforated interval
from approximately 1724 feet to 1736 feet.

(4) That the injection should be accomplished through
2 3/8 inch plastic-lined tubing installed in a packer set

approximately 1650 feet; that the casing-tubing annulus should be filled with an inert fluid; and that a pressure gauge should be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(5) 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, Ernest A. Hanson, is hereby authorized to utilize ~~his~~ his Welch Federal Well No. 2, 1650 feet from the North line and 2310 feet from the West line located ~~at the NW 1/4 of~~ at the NW 1/4 of Section 22, Township 19 South, Range 28 East, NMPM, East Millman Queen-Grayburg Pool, Eddy County, New Mexico, to dispose of produced salt water into the Queen formation, injection to be accomplished through 2 3/8-inch tubing installed in a packer set at approximately 1650 feet, with injection into the perforated interval from approximately 1724 feet to 1736 feet;

PROVIDED HOWEVER, that the tubing shall be plastic-lined; that the casing-tubing annulus shall be filled with an inert fluid; and that a pressure gauge shall be attached to the annulus ~~or the annulus left open~~ at the surface in order to determine leakage in the casing, tubing, or packer.

(2) That the applicant shall submit monthly reports of ~~xxxx~~ his disposal operations in accordance with Rules 104 and 1120 of the Commission Rules and Regulations.

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

DONE at Santa Fe, New Mexico, on the 25 day of April, 1954, designated.