

CASE 3342: Application of SUNRAY  
DX OIL COMPANY for a waterflood  
project, Eddy County, N. Mex.

*2450X Waterflood  
Project  
Eddy County, N. Mex.*

CASE NO.

3342

Application,  
TRANSCRIPTS,

SMALL Exhibits

ETC.

BEFORE THE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF  
SUNRAY DX OIL COMPANY FOR PERMISSION  
TO CONDUCT SECONDARY RECOVERY OPER-  
ATIONS BY WATERFLOODING THE KEELY  
ZONE OF THE SAN ANDRES FORMATION  
UNDERLYING ITS DODD "A" AND DODD "B"  
LEASES LOCATED IN SECTIONS 10, 11,  
14, 15, 22 AND 23, TOWNSHIP 17 SOUTH,  
RANGE 29 EAST, GRAYBURG-JACKSON POOL,  
EDDY COUNTY, NEW MEXICO.

CAUSE CD NO. 2342

A P P L I C A T I O N

TO THE HONORABLE OIL CONSERVATION COMMISSION OF THE STATE OF NEW MEXICO:

COMES NOW Sunray DX Oil Company and respectfully states and alleges as follows:

1. It is the owner and operator of certain oil and gas leases within the above described area located in Eddy County, New Mexico.
2. Applicant hereby seeks approval of the Commission to conduct secondary recovery operations by waterflooding the Keely Zone of the San Andres Formation underlying its Dodd "A" and Dodd "B" Leases located in Sections 10, 11, 14, 15, 22 and 23, Township 17 South, Range 29 East, Grayburg-Jackson Pool, Eddy County, New Mexico.
3. Attached hereto is a plat showing the location of the proposed injection wells and the location of all other wells within a radius of two miles from said proposed injection wells.
4. Applicant intends initially to operate a pilot waterflood with injection into the Keely Zone at an average depth of 3,420 feet through the following wells:  
  
Sunray DX Dodd "A" Nos. 9, 10 and 11; and,  
General American Burch No. 1-C.
- An injection rate of 500 barrels of water per well per day is anticipated with a surface injection pressure of 1,250 psig.
5. Attached are the available logs of all proposed injection wells and a diagrammatic sketch of the proposed injection wells.
6. Applicant believes waterflooding the above mentioned formation will economically recover substantial quantities of oil which cannot be recovered by primary recovery methods. In the interest of conservation, the prevention of waste and the protection of correlative rights and to secure the greatest ultimate recovery of oil from the Keely Zone of the San Andres Formation, this application should be granted.
7. Attached hereto is a list of names and addresses of all principal lessees or operators known to Applicant to be interested in this application and the hearing thereon.

DOCKET MAILED

Date 7-10-65

8. This application may be set for hearing before an examiner if it is so desired.

9. A copy of this application, complete with all attachments, has been sent to the State Engineer Office, Capitol Building, Santa Fe, New Mexico.

WHEREFORE, Applicant prays that this application be set for hearing, that Notice thereof be given as required by law and that upon the evidence adduced at such hearing the Commission issue an order authorizing Applicant to conduct secondary recovery operations by waterflooding the Keely Zone of the San Andres Formation underlying its Dodd "A" and Dodd "B" Leases located in Sections 10, 11, 14, 15, 22 and 23, Township 17 South, Range 29 East, Grayburg-Jackson Pool, Eddy County, New Mexico.

DATED at Santa Fe this 21 day of Oct,  
1965.

SUNRAY DX OIL COMPANY

William R. Loar  
William R. Loar, Attorney

R. C. Spurlock  
R. C. Spurlock, Attorney

GILBERT, WHITE & GILBERT

By Lawrence D. Gilbert

GAMMA RAY  
RADIATION INTENSITY INCREASES

NEUTRON  
RADIATION INTENSITY INCREASES

Well 3342

Swabbed 7 BOPD

Swabbed 5 BOPD

Swabbed 3 BOPD

Swabbed 4 BOPD

KEELY

R. D. 3320.5'

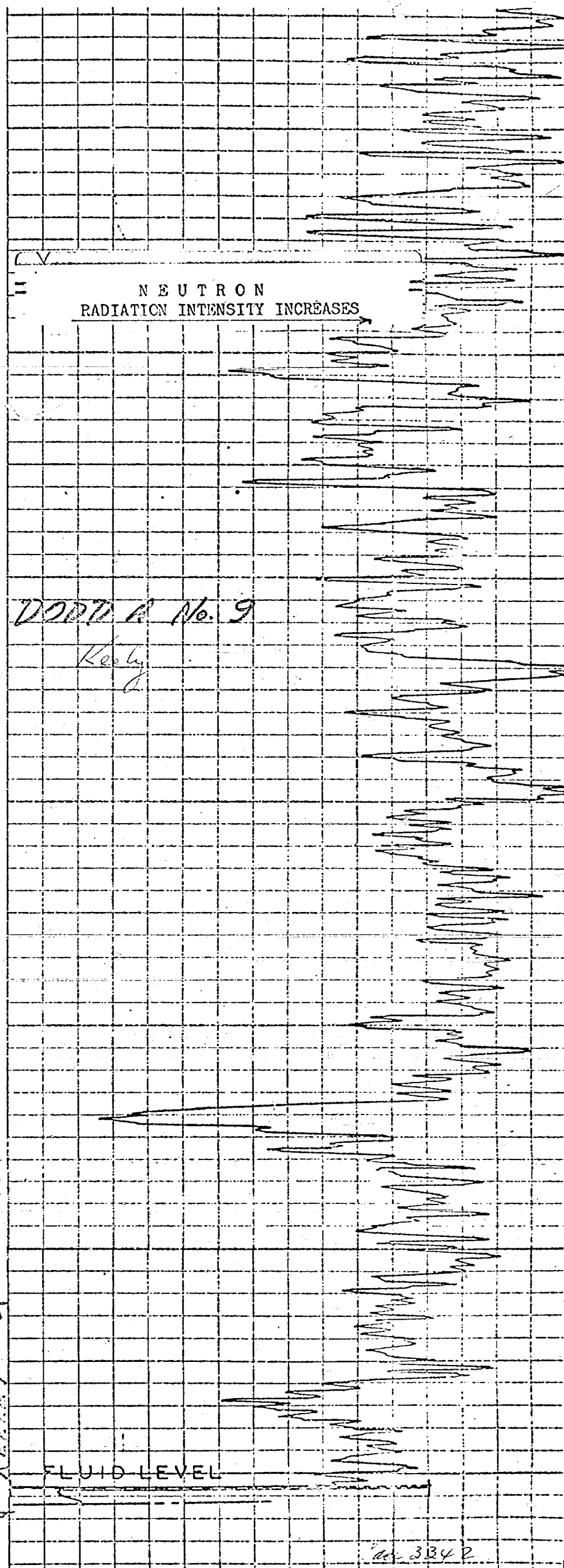
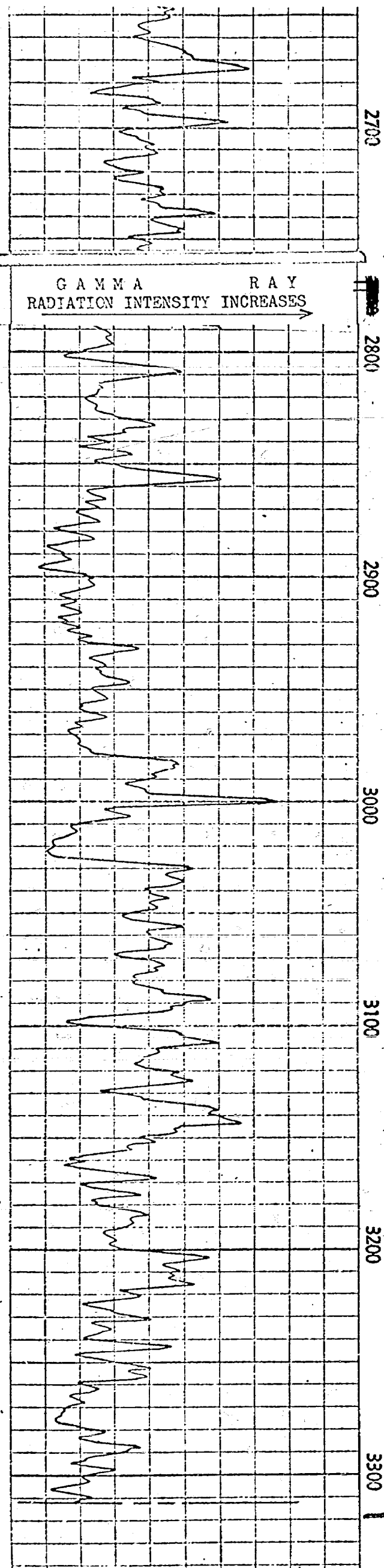
T. D. 33235'

GENERAL AMERICAN OIL CO. OF TEXAS

BURCH "C" N°1

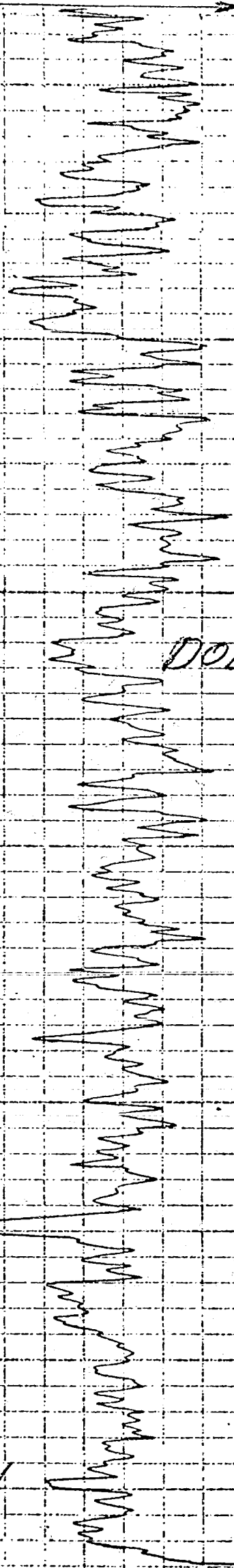
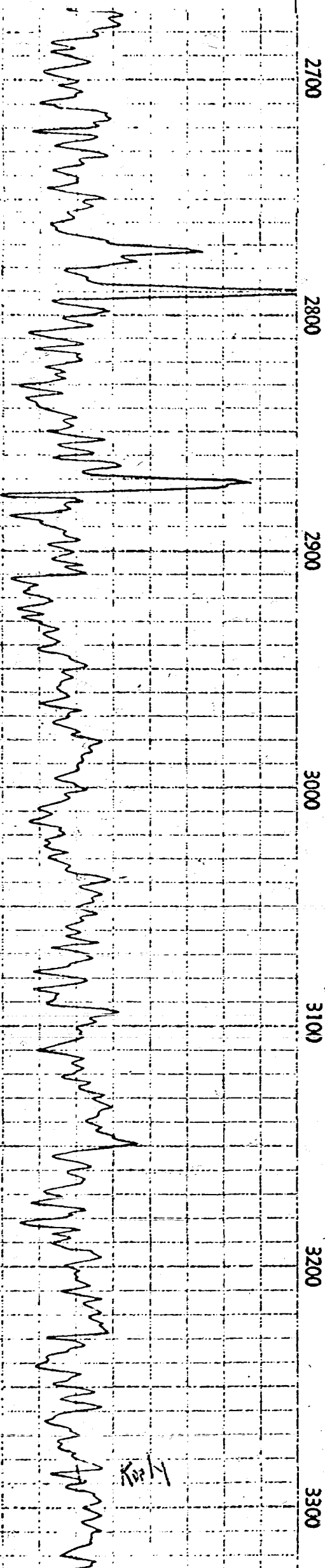
GRAYBURG KEELY

R. D. 33215'



GAMMA RAY  
RADIATION INTENSITY INCREASES

NEUTRON  
RADIATION INTENSITY INCREASES



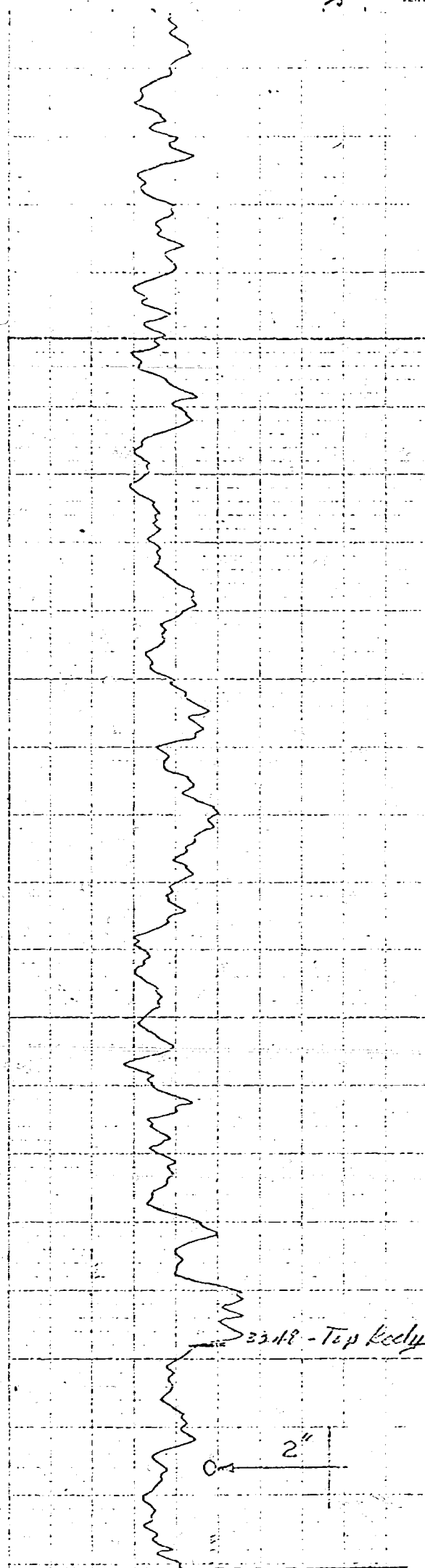
DODD A No. 10

Keeley

KEELEY

Case 3342

GAMMA RAY  
RADIATION INTENSITY INCREASES



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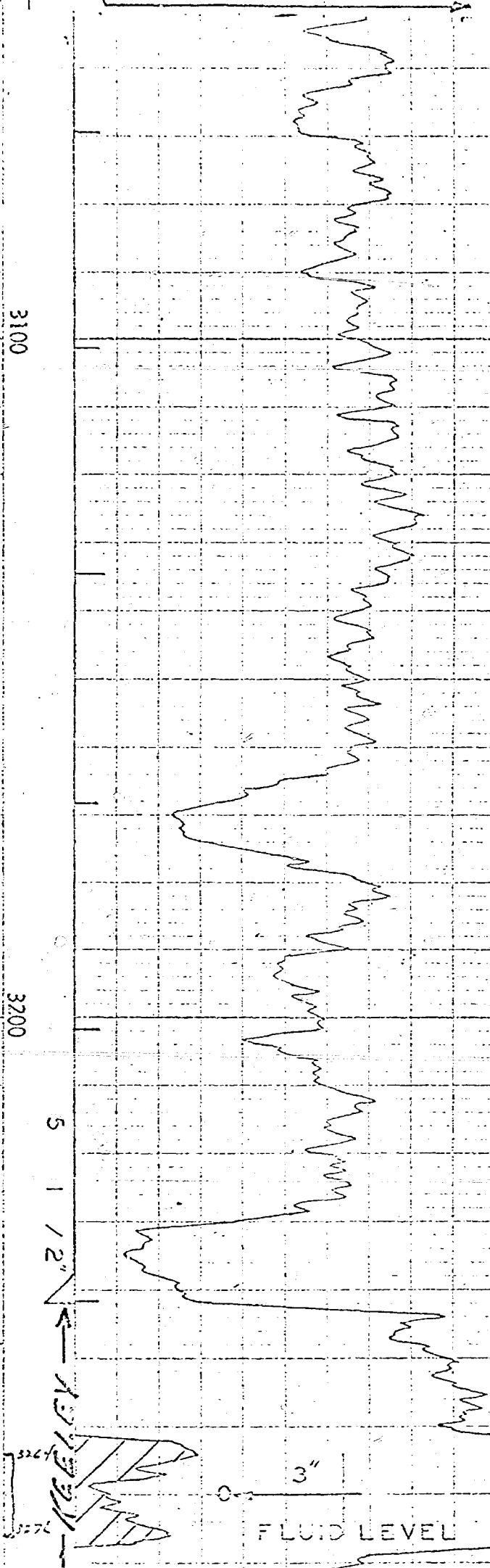
T. D. 3284'

SUNRAY MID-CONTINENT OIL COMPANY

DODD "A" N° 11

GRAYBURG JACKSON

NEUTRON  
RADIATION INTENSITY INCREASES

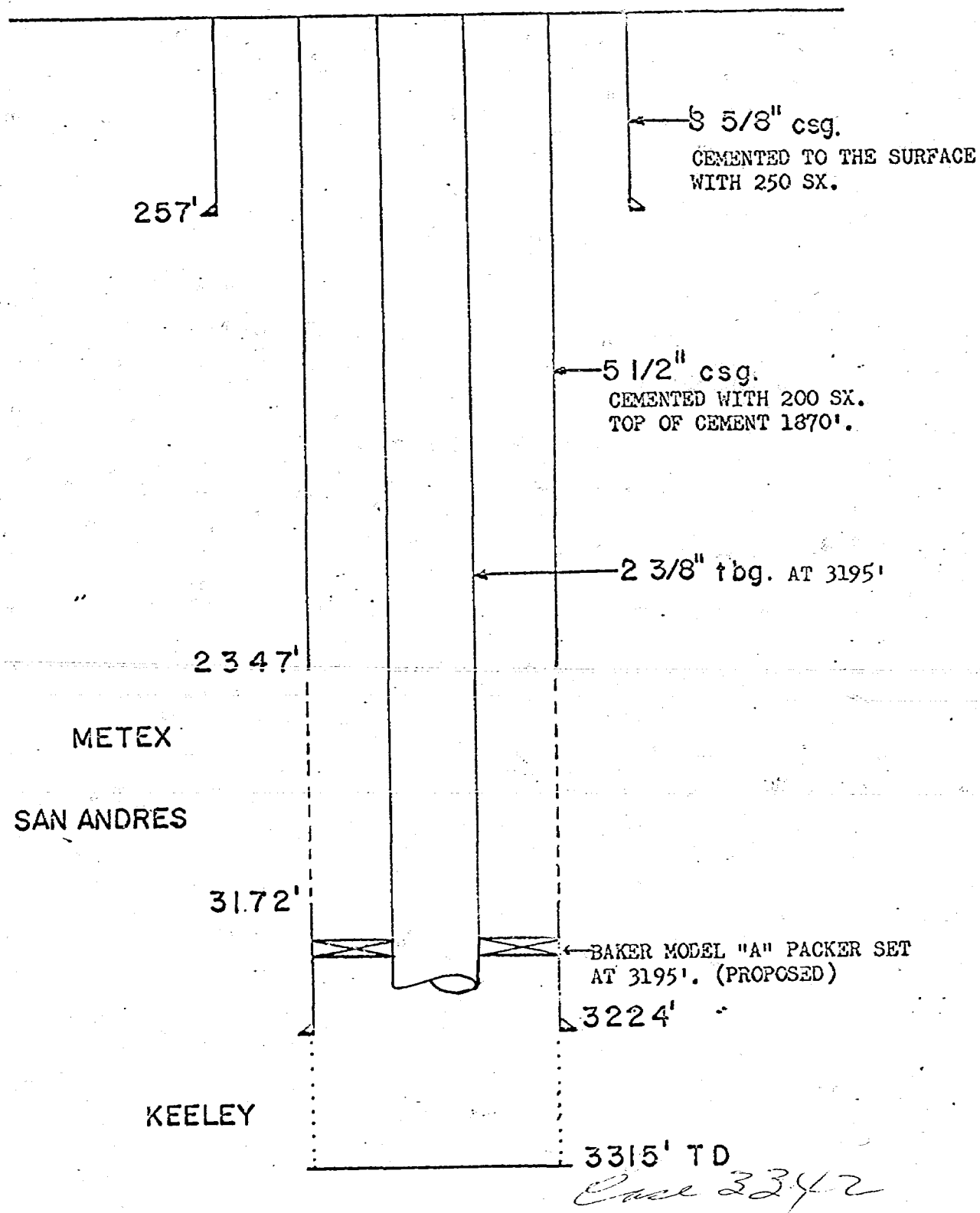


R. D. 3282'

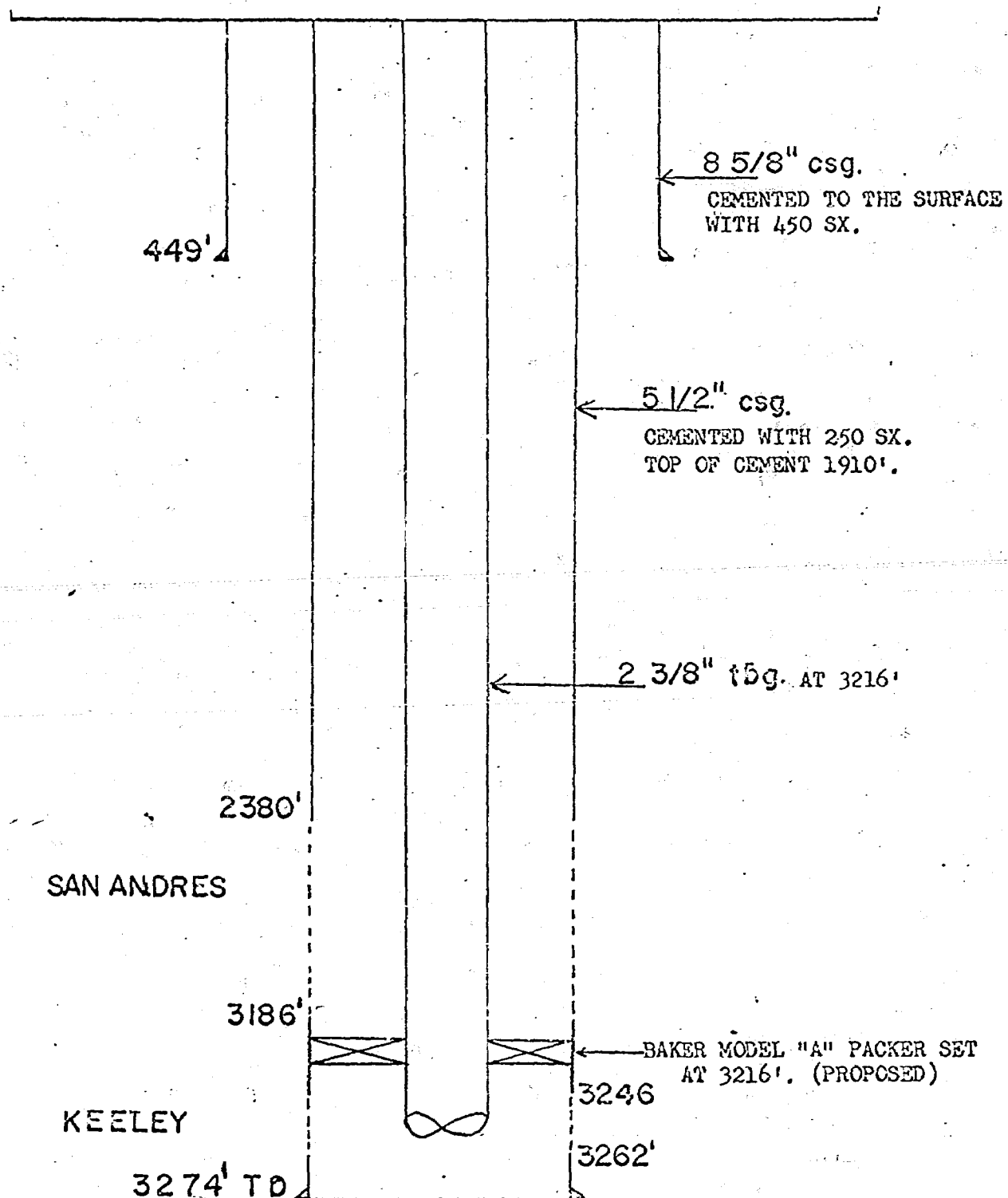
Kelly 3342



D O D D A No. 9

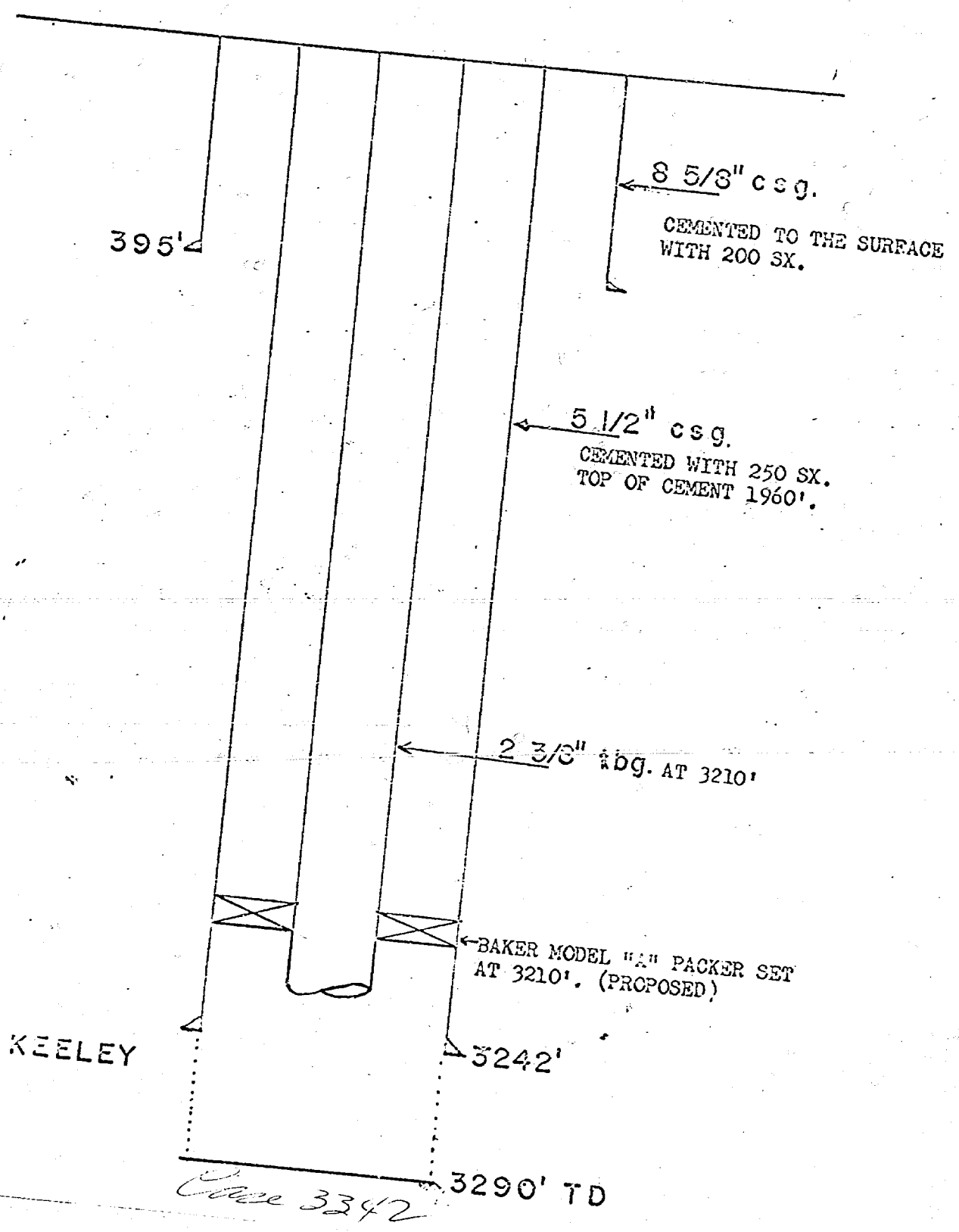


D O D D A No. 10

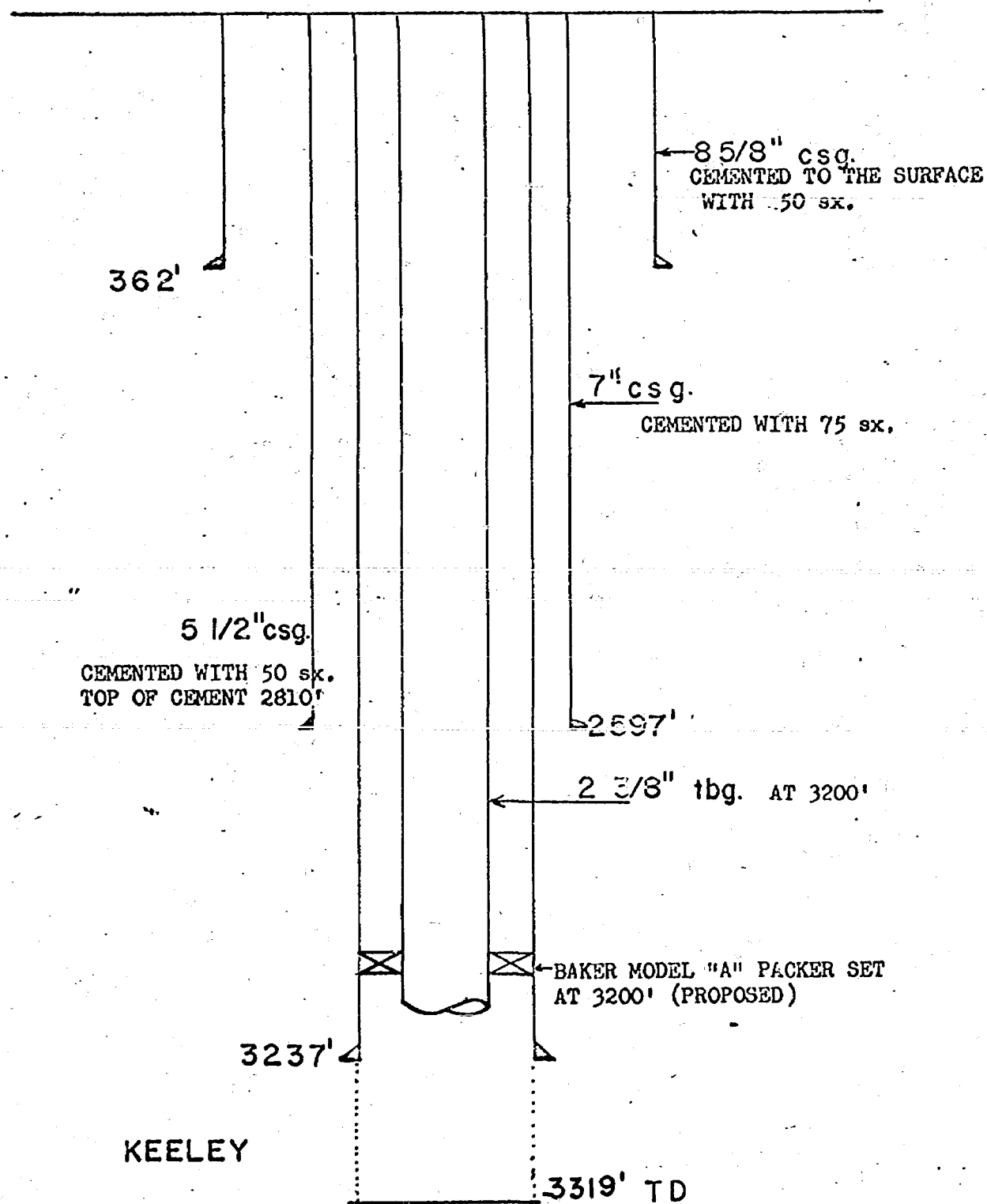


Well 3342

D O D D A No. 11



GENERAL AMERICAN  
BURCH "C" No. 1



# ADDRESSEE LIST

Dodd "A" & "B" Waterflood Project

OPERATOR	ADDRESS
Ambassador Oil Co.	200 Petr. Bldg., Abilene, Texas
Bassett and Birney	323 Carper Bldg., Artesia, N. M.
Collier Oils Inc.	P. O. Box 3988, Odessa, Texas
Continental Oil Co.	P. O. Box 460, Hobbs, N. M.
El Paso Nat. Gas Prod.	P. O. Box 3986, Odessa, Texas
Fair Oil Co.	P. O. Box 5445, Midland, Texas
O. F. Featherstone	236 Petr. Bldg., Roswell, N. M.
Gen. Amer. Oil Co.	P. O. Box 416, Loco Hills, N. M.
Gulf Oil Co.	P. O. Box 670, Hobbs, N. M.
International Oil & Gas	P. O. Box 427, Artesia, N. M.
Leonard Oil Co.	10th Fl., Sec. Ntl. Bnk. Bldg., Roswell, N. M.
E. J. McCurdy	1813 Clayton, Artesia, N. M.
Nearburg & Ingram	P. O. Box 1757, Roswell, N. M.
Newmont Oil Co.	Rowley Bldg., Artesia, N. M.
Sinclair Oil	P. O. Box 1920, Hobbs, N. M.
Skelly Oil Co.	P. O. Box 730, Hobbs, N. M.
Tenneco Oil Co.	18th Fl., Wilco Bldg., Midland, Texas
Texaco, Inc.	P. O. Box 728, Hobbs, N. M.
Yates Petr. Corp.	309 Carper Bldg., Artesia, N. M.

Case 3342

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PAGE 1

BEFORE THE  
NEW MEXICO OIL CONSERVATION COMMISSION  
Santa Fe, New Mexico  
November 23, 1965

EXAMINER      HEARING

-----  
IN THE MATTER OF: )

Application of Sunray DX Oil Company for a )  
waterflood project, Eddy County, New Mexico. )

Applicant, in the above-styled cause, seeks )  
authority to institute a waterflood project )  
in the Grayburg-Jackson Pool, Eddy County, )

New Mexico, by the injection of water into )  
the Keeley zone of the San Andres formation )  
through four weels in Sections 22 and 23, )

Township 17 South, Range 29 East, and )

Application of Sunray DX Oil Company for a )  
waterflood project, Eddy County, New Mexico. )

Applicant, in the above-styled cause, seeks )

-----  
authority to institute a waterflood project )  
in the Grayburg-Jackson Pool, Eddy County, )

BEFORE: New Mexico, by the injection of water into )

the Metex zone in the Grayburg formation )

through four injection wells in Sections )

14 and 15, Township 17 South, Range 29 East. )  
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Case Nos. 3342  
and 3343.

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING



MR. DURRETT: Application of Sunray DX Oil Company for a waterflood project, Eddy County, New Mexico.

MR. WHITE: If the Examiner, please. Charles White of Santa Fe, New Mexico, appearing on behalf of the Applicant and we have one witness to be sworn at this time.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 through 9 marked for identification.)

MR. WHITE: I would like to have them both consolidated if we may.

MR. NUTTER: We will call also Case 3343.

MR. DURRETT: Application of Sunray DX Oil Company for a waterflood project, Eddy County, New Mexico.

MR. NUTTER: Cases 3342 and 3343 will be consolidated for testimony.

MR. WHITE: May the record show the same appearance.

MR. NUTTER: It shall.

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J O H N B. H A S T I N G S, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. WHITE:

Q Mr. Hastings, will you please state your name?

A John B. Hastings.



Q By whom are you employed and in what capacity?

A I'm employed by Sunray DX Oil Company as a production engineer in the Roswell District of it.

Q Are you familiar with Sunray's applications in Cases 3342 and 43?

A Yes, I am.

Q What does Sunray seek by these applications?

A Sunray DX Oil Company is seeking approval to initiate waterflood operations in Keeley and Metex zones under our Dodd "A" and Dodd "B" leases in Eddy County, New Mexico.

Q Would you refer to Exhibit 1 and explain your ownership plat, please? Now will you proceed please?

A Exhibit Number 1 is a lease plat showing the wells within a two-mile radius of our proposed project. It shows both ownership and producing intervals of each of the wells in the two leases.

Q Does it show the location of the project area?

A Yes, it does.

Q Does it show the location of the injection wells?

A Yes, both projects.

Q And does it show all wells within the two-mile limit?

A Yes, it does.

Q Is Exhibit Number 1 applicable to both cases: 3342 and 3343?





A Yes, sir, it is.

Q How about the ownership as to the Keeley project?

A Ownership is set out on a plat for both projects.

Q In your proposed waterflood in Case 3342 to the Keeley project, do you have any working agreement or coordination in your project with General American?

A Yes, sir. We are entering into a line well agreement with General American in which they will inject water into their Burch "C" Number 1 well.

Q Would you identify that on the exhibit, please?

A This is the easternmost injection well in the Keeley project.

Q Do you have a letter from them stating what they intend to do?

A Yes, sir, I do.

Q In substance, what is the gist of the letter?

A General American is agreeing to cooperate with us in our line well project in which they will furnish their own pressurized water to inject into this well.

Q And then you will coordinate your project with General American, is that correct?

A That is correct.

Q Will you refer to Exhibit 3 and 4 and identify the logs, please? Your log is Exhibit Number 3 in 3342?



A Yes. This is a reproduction of the gamma neutron logs for each of the proposed injection wells.

Q Have these logs previously been submitted to the Commission?

A Yes, they have.

Q Now, the logs will be Exhibit Number 4?

A Right.

Q In Case 3343?

A Right.

Q Now, will you refer to your Exhibit Number 4 pertaining to Case 3343 and will you explain that exhibit, please?

A Exhibit Number 4 is a diagrammatic sketch of the proposed injection well. On these sketches we have noted the surface casing, production casing, the amount of cement to cement these casing strings and cement tops. We have also note the producing intervals and the bridge plugs, the tubing depth and any proposed packers and these packer setting depths.

MR. NUTTER: What exhibit are you talking about, four?

MR. WHITE: Those are the logs for Case 3343.

MR. NUTTER: Is there supposed to be more than one sheet and have a log for each of them?

THE WITNESS: There's a log for each well.

MR. NUTTER: I believe that Case 3342 is the Keeley



zone and Case 3343 is the Metex.

MR. WHITE: That's correct. The Keeley is the 3342.

MR. DURRETT: Dodd "A" Number 20, which case is that?

MR. WHITE: Dodd "A" Number 20 is the Metex zone.

MR. DURRETT: What is the Dodd "A" Number 19, which case?

MR. WHITE: Number 19 is also the Metex.

THE WITNESS: Should I read the numbers of the injection wells for the two projects?

MR. DURRETT: I think you should because I think we have some exhibits marked wrong.

MR. NUTTER: I don't believe that we have a full set of exhibits.

THE WITNESS: No, sir. I believe they just got separated going across the table.

MR. NUTTER: Now I have got, talking about the Keeley project, we have got well Number 9, 10, 11 and then the General American well, right?

THE WITNESS: That's correct. Here's another full set for the Keeley project.

MR. DURRETT: That's better. They're still put together.

MR. NUTTER: This is Case 3343?

MR. WHITE: This is Keeley in 3342 and this is also



complete set for the other project; that would be 3343, Exhibit Number 4.

Q (By Mr. White) Do you have any further comments as to Exhibits 3 and 4?

A No, sir. I believe the diagrammatic sketches would be self-explanatory. They are all somewhat similar in nature.

Q Now, is there any correction to be made on the Dodd "A" Number 19?

A Yes, sir, there is.

MR. NUTTER: That is what exhibit, please?

MR. WHITE: The next one coming up.

A The diagrammatic sketh erroneously shows that a Model "A" Baker packer will be set.

MR. NUTTER: I have one here that shows a bridge plug.

THE WITNESS: It should be a Baker Model "A" bridge plug.

MR. NUTTER: That would be Exhibit 5?

MR. WHITE: No, sir, that would be Exhibit 4. It should be a diagrammatic sketch in Case 3342 and Exhibit 5 is your diagrammatic sketch, number 3343 and the correction should be made in Case 3343, your Dodd "A" Number 19.

MR. NUTTER: In other words, this is not another additional exhibit. This is just a correction of the existing exhibit, is that right?



MR. WHITE: A correction to an existing exhibit, that's correct.

Q (By Mr. White) Will you explain your diagrammatic sketch in Exhibits 5 and 6?

A These sketches pertain to the proposed injection wells for the Keeley zone. The same information is noted on them as in the Metex: the casing strings, both surface and production strings, the amount of cement used to cement these strings, the tops of cement, perforated zones, tubing depths and the proposed packers, setting depths.

Q Is there any explanation needed in Exhibits 5 and 6?

A They should be self-explanatory.

Q And does this program include a contamination of the formation?

A We feel it will.

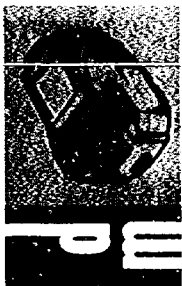
Q In your injection program do you intend to inject fresh water?

A Yes, sir, we do.

Q And what are your initial injection rates?

A We expect to obtain an injection rate of 500 barrels per day at 1250 psig in the Keeley zone and an injection rate of 1,000 barrels per day at approximately 1100 psig in the Metex zone.

Q What is your source of water supply?



A We will purchase this water from the Yucca Water Company of Lovington, New Mexico.

Q Have you submitted these applications to the State Engineer?

A Yes, sir, we have.

Q And do you have a letter from the State Engineer approving your proposal?

A Yes, sir, we have received such a letter.

Q With certain limitations or conditions?

A Yes, sir. I have a letter amending our original letter to Mr. Irby.

MR. WHITE: If the Commission, please. I believe the record should show that Mr. Irby addressed a letter to the Commission approving it. However, his letter was based Sunray's letter of October 28 and certain inquiries were made by Mr. Irby and since then we have sent him an additional letter which the Commission does not have a copy. I would like to identify this as Exhibit Number 7.

MR. DURRETT: Would you mark all those, Mr. White, because I don't think we have any of those letters.

MR. NUTTER: Is that the letter of November 3rd?

MR. WHITE: Yes, sir. I believe you have a copy of that.

THE WITNESS: This letter approving our application is

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subsequent to this revision of our earlier letter.

Q (By Mr. White) And did Mr. Irby approve any project subsequent to your letter of November 3rd?

A That is correct.

MR. WHITE: I believe the Commission has on file Mr. Irby's letter of November 3rd wherein he refers to our letter of November 3rd which we just offered.

MR. DURRETT: I don't think we do.

MR. NUTTER: I think I have it on my desk. I know we got a letter. It's not in this file but I think it's on my desk.

MR. WHITE: This correspondence will complete the Examiner's record, right.

Q (By Mr. White) Are both reservoirs in a stage of depletion?

A Yes, sir, they are.

Q Will you refer and explain Exhibit 8, please?

A Exhibit Number 8 --

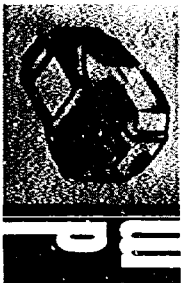
Q Is this for the 42?

A No, I think this is for the Metex zone which is 43.

Q Now, Mr. Hastings will you please explain Exhibit 8?

A This is the decline curve of the Dodd "A" lease. This curve shows that the 19 producing wells on this lease are producing five barrels of oil per day.





Q Any further comments on Exhibit 8?

A Only that this lease is certainly in a stripper stage.

Q Now, will you refer to and explain Exhibit Number 9, please?

A Exhibit Number 9 is the decline curve of Dodd "B" lease. You will note that on the 13 producing wells on the Dodd "B" lease they are averaging 1.3 barrels of oil per day.

Q Will you now give the reservoir characteristics production data you might have?

A The Keeley zone is located and found at an average depth of approximately 3420 feet. It is composed of medium grade dolomite. We have an average effective pay thickness of approximately 12 feet and an average porosity of 8 per cent. The average horizontal permeability of 14 milidarcies and original connate water saturation of approximately 20 per cent. The gravity of the oil is 36.5 degrees API and has viscosity of about .6

MR. NUTTER: What was that depth again?

THE WITNESS: 3420.

Q (By Mr. White) In your opinion will both reservoirs lend themselves to waterflooding?

A Yes, we feel they would.

Q How many wells are making top allowable?

A None of the wells are making top allowable.



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Q What is the best producing well?

A The best well is producing approximately 15 barrels of oil per day.

Q Do you have any estimates as to additional recoveries that you might obtain by reason of this project?

A Yes, sir. We are estimating that we would recover an additional 255,000 barrels due to waterflooding in the Keeley zone.

Q Are you requesting secondary recovery allowable pursuant to Rule 701?

A Yes, we are.

Q And would you like administrative approval to expand the area as presently provided?

A Yes, sir, we would.

Q Do you care to comment on your future plans?

A Let me ask: Aren't we a little bit ahead on something. We haven't given the characteristics of the Metex zone.

Q Go ahead with them.

A This Metex zone is found at approximately 2430 feet. It is a medium grain sandstone. We have an average effective pay thickness of approximately 14 feet and an average porosity of 21 per cent, an average horizontal permeability of 15 millidarcies, an original connate water saturation of 30 per cent. The oil is 34.5 degrees API gravity and has a viscosity

of approximately .774. We feel that we will be able to recovery an additional 450,000 barrels of oil due to waterflooding in the Metex zone.

Q What is your best producing well in this zone?

A Our best producing well in this zone is making approximately 11 barrels per day.

Q Now, I'll renew my question: Do you request secondary recovery allowable as to this one, too?

A Yes, sir, we certainly do.

Q You wish administrative approval to expand the area as presently provided by the Rules?

A Yes, sir.

Q In your opinion will each of these projects tend to conserve oil and prevent waste?

A Yes, sir.

Q Do you have any further testimony to offer?

A One other thing that we didn't expand on that you started: We would expect to have possibly eight additional injection wells at a later date in the Metex zone and probably five additional wells in the Keeley zone pending favorable results of these pilot projects.

Q Does that conclude your testimony?

A Yes, sir.

MR. WHITE: At this time we offer Exhibits 1 through



9.

MR. NUTTER: Sunray's Exhibits 1 through 9 in Cases 3342 and 3343 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 through 9 were offered and admitted into evidence.)

MR. WHITE: That completes our presentation.

MR. NUTTER: Does anyone have any questions of the witness?

I didn't get your name, sir.

THE WITNESS: John Hastings.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Hastings, now in Exhibit Number 1, I realize that we have the Metex part of it in that north end of it and the Keeley pilot in the south end. Is there any Metex wells down in the south end here in the Keeley area?

A There are Metex wells on the Dodd "A" lease which is generally down in the southern area but there are not Metex completions on the southern part of the Dodd "A" Lease.

Q Does "ME" signify a Metex completion?

A Yes, sir.

Q That Well Number 3 right there in the center of the Keeley pilot, for instance, it says "ME" along side that well?

A This is correct. This is also open in the Metex zone.



I also notice that there is a well just further south, also.

Q Now, do you have any Keeley wells in the north end there?

A I believe, for instance, Number 13 which is a Metex injector is open in the Keeley. Yes, this is correct but as you know on our diagramatic sketches we are separating or shall we say limiting our injection by the use of bridge plugs.

Q That's one you had a bridge plug set in to separate?

A Yes, sir.

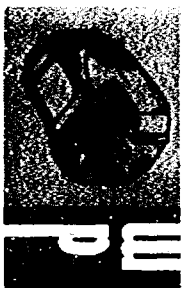
Q So, in a given area you will only be flooding the zone that you are concerned with by the name of the project: The Keeley or the Metex?

A This is correct. We are limiting our injection to the Metex and to the Keeley in the two separate areas.

Q I see. Now, for the assignment of allowables I'll need to know exactly the ownership of these spaces. Now, down here in the Keeley pilot area, what is your Dodd "A" lease? Is it all of the east half of Section 22 with the exception of the that Leonard 40 and also the southeast of the southwest? Would that be the lease?

A That's correct and it also encompasses, I believe, with the exception of the northwest unit it also encompasses the northeast quarter section of Section 22.

Q That's what I mean. It's all of the east half except



the 140 plus the 140 down in the southeast of the southwest?

A Yes.

Q That's the Dodd "A" lease?

A Yes, sir, that is correct.

Q Now, General American has their Burch lease over there and they are going to have an injection well on that one?

A Their Burch "C" Number 1 will be converted to injection.

Q What is this other Burch lease that comprises the southwest of 23?

A This is their Burch General American Burch "B" lease.

Q Burch "B"?

A Yes.

Q The other one is Burch "C"?

A Right.

Q Now, up here in Section 14, is this Dodd "A" lease this "L" shaped 120, is that part of the other lease?

A Yes, sir, it is and I believe if you will note in Section 15, this also is encompassed in the Dodd "A" lease.

Q The southeast quarter?

A Right.

Q That's all Dodd "A" then?

A Yes, as well as this area in Section 14 which you just referred to.

Q And the northeast of 15 would be just about right

and the rest of 14. All that other in 14 is Dodd, "B"?

A Yes, sir.

MR. WHITE: Would it assist if we had them in color?

MR. NUTTER: No, I have them identified here.

Q (Mr. Nutter) Now Mr. Hastings, I really don't know how the allowable would be computed on a project like this where you are flooding two separate intervals at two projects but it's all in the same pool overall, isn't it?

A No, sir. Actually the Dodd "B" lease is in the Square Lake Pool while the Dodd "A" is in the Grayburg-Jackson although these encompass the same vertical limits here. The same zones are open in both projects.

Q Yes. This is probably going to present some problems in trying to compute the allowables. For instances, the well in the southwest southwest 14 is that 18, your Dodd "A" Number 18?

A Yes, sir.

Q Now, that is the northeast diagonal offset to your injection well number 10 in your Keeley pilot?

A Yes.

Q So, theoretically that would be eligible as northeast diagonal offset that would be eligible to be in the project area and share that allowable?

A Yes.



Q It's also a south offset to your number 20 in your Metex pilot?

A Yes, sir.

Q So theoretically it maybe eligible to receive an allowable for that project and to receive two allowables. You see what I'm running into?

A Yes, sir.

Q So I'm going to have to study this pretty carefully to just try to determine which zones these various wells are open in. Now, will any changes be made in the producing interval --

A No, sir.

Q -- on any of the producing wells?

A No.

Q Won't bridge any of the other zones off on them?

A Our present plans are not to do so.

Q You don't know off-hand where the limits of these two pools lies?

A No, sir. I certainly don't. I know that the Dodd "B" is in the Square Lake and the Dodd "A" are in the Grayburg-Jackson.

Q We will start to run a pool line through there and figure from there. Now, you mentioned that you were going to inject a total of or inject 1,000 barrels a day in the Metex

and 1250 into the Keeley. That's the sum of the injection in the four wells?

A In the Metex zone we will be injecting 1,000 barrels per injection well.

Q This is per well?

A That is correct. In the Keeley it is 1250 barrels per injection well.

Q You estimated 450,000 additional barrels in the Metex and 255,000, was it in the other one?

A 450,000 in the Metex and 255,000 in the Keeley. We arrived at this by somewhat conservative estimate of 75 per cent above our ultimate primary is what we are basing both of these on.

MR. NUTTER: Are there any other questions of Mr. Hastings? You may be excused.

Do you have anything further, Mr. White?

MR. WHITE: No, sir, that concludes our case.

MR. NUTTER: Does anyone else have anything they wish to offer in Case 3342 and Case 3343? We will take the cases under advisement and call Case 3344.

(Whereupon, Cases 3342 and 3343 were concluded.)



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I N D E X

WITNESS	PAGE
JOHN B. HASTINGS	
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E X H I B I T S

<u>NUMBER</u>	<u>MARKED FOR IDENTIFICATION</u>	<u>OFFERED</u>	<u>ADMITTED</u>
App's. 1	2	14	14
App's. 2	2	14	14
App's. 3	2	14	14
App's. 4	2	14	14
App's. 5	2	14	14
App's. 6	2	14	14
App's. 7	2	14	14
App's. 8	2	14	14
App's. 9	2	14	14

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STATE OF NEW MEXICO )  
COUNTY OF BERNALILLO ) ss

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

Witness my Hand and Seal this 31st day of December, 1965.

*Dean A. Robinson*  
NOTARY PUBLIC

My Commission Expires:  
October 16, 1969.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3342 heard by me on 11/23, 1965.

*[Signature]*, Examiner  
New Mexico Oil Conservation Commission



GOVERNOR  
JACK M. CAMPBELL  
CHAIRMAN

State of New Mexico  
**Oil Conservation Commission**



LAND COMMISSIONER  
GUYTON B. HAYS  
MEMBER

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

P. O. BOX 2088  
SANTA FE

December 3, 1965

Mr. Charles White  
White, Gilbert, Koch & Kelly  
Attorneys at Law  
Post Office Box 787  
Santa Fe, New Mexico

Re: Case No. 3342  
3343

Order No. R-3012 & R-3013  
Applicant:

Sunray DX Oil Company

Dear Sir:

Enclosed herewith is a copy of the above-referenced Commission order recently entered in the subject case. Letter pertaining to conditions of approval and maximum allowable to follow.

Very truly yours,

A handwritten signature in cursive script, reading "A. L. Porter, Jr.", written in dark ink.

A. L. PORTER, Jr.  
Secretary-Director

ALP/ir

Carbon copy of order also sent to:

Hobbs OCC X  
Artesia OCC X  
Aztec OCC       

Other Mr. Frank Irby

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

May 3, 1966

Sunray DX Oil Company  
P. O. Box 1416  
Roswell, New Mexico

Attention: Mr. John Hastings

Gentlemen:

Reference is made to your Metex Waterflood Project on your Dodd "A" and Dodd "B" Leases and to your Keeley Waterflood Project on your Dodd "A" Lease which were authorized by Commission Orders Nos. R-3013 and R-3012, respectively.

We recently received the plat of the leases showing the interval in which each of the wells in the two flood areas is completed. From this we have calculated the maximum allowables for the projects.

As far as we can tell, when all of the wells in each of the two projects are placed on active water injection, and assuming no change in the perforated or open-hole interval of any well, the Dodd "A" Lease in the Metex project will have a maximum allowable of 252 barrels per day while the Dodd "B" Lease in this project will have a maximum of 210 barrels per day. The Dodd "A" Lease in the Keeley project will have a maximum allowable of 294 barrels per day. If wells are drilled in the SW/4 NW/4 and the NE/4 SW/4 of Section 14, as indicated by the well location symbols on your plat, the Dodd "B" Lease allowable maximum in the Metex project would be increased by 84 barrels per day, and if a well is drilled in the SE/4 SW/4 of Section 14, the Dodd "A" allowable for the Metex project would be increased by 42 barrels per day.

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

-2-

May 3, 1966

Sunray DX Oil Company  
Roswell, New Mexico

C  
O  
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Y

Please report any error in these calculated maximum allowables immediately, both to the Santa Fe office of the Commission and the appropriate district proration office.

In order that the allowable assigned to each lease and to each project may be kept current, and in order that the operator may fully benefit from the allowable provisions of Rule 701, it behooves him to promptly notify both of the aforementioned Commission offices by letter of any change in the status of wells in the project areas, i.e., when active injection commences, when additional injection or producing wells are drilled, when additional wells are acquired through purchase or unitization, when wells have received a response to water injection, etc.

Your cooperation in keeping the Commission so informed as to the status of the projects and the wells therein will be appreciated.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/DSN/esr

cc: Oil Conservation Commission  
Drawer DD  
Artesia, New Mexico  
(With copy of plat)

Mr. Frank Irby  
State Engineer Office  
Capitol Building  
Santa Fe, New Mexico

November 17, 1965

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

Gentlemen:

This letter is to advise that General American Oil Company of Texas is fully aware of Sunray's plans to flood the Keely zone in Section 22, Township 17 South, Range 29 East, Eddy County, New Mexico.

General American intends to cooperate along the line by the conversion of its Burch C No. 1 located 855 feet from West line and 2400' from North line of Section 23, Township 17 South, Range 29 East, Eddy County, New Mexico.

General American will convert its well to injection and furnish its own pressured water from a plant already located in the Northeast quarter of Section 26.

General American verifies the Flood Plan submitted as being correct in as far as it shows General American's Burch C No. 1 to be converted to water injection.

A lease line agreement between Sunray and General American is currently in the process of being executed.

General American's Burch C No. 1 has 5 1/2" 14# casing set at 3237'. Water injection will be down 2" EUE tubing with a tension packer set at approximately 3800'. The conversion of Burch C No. 1 to water injection will fit General American's ultimate flood plan for flooding its entire Keely section.

Very truly yours,

GENERAL AMERICAN OIL COMPANY OF TEXAS

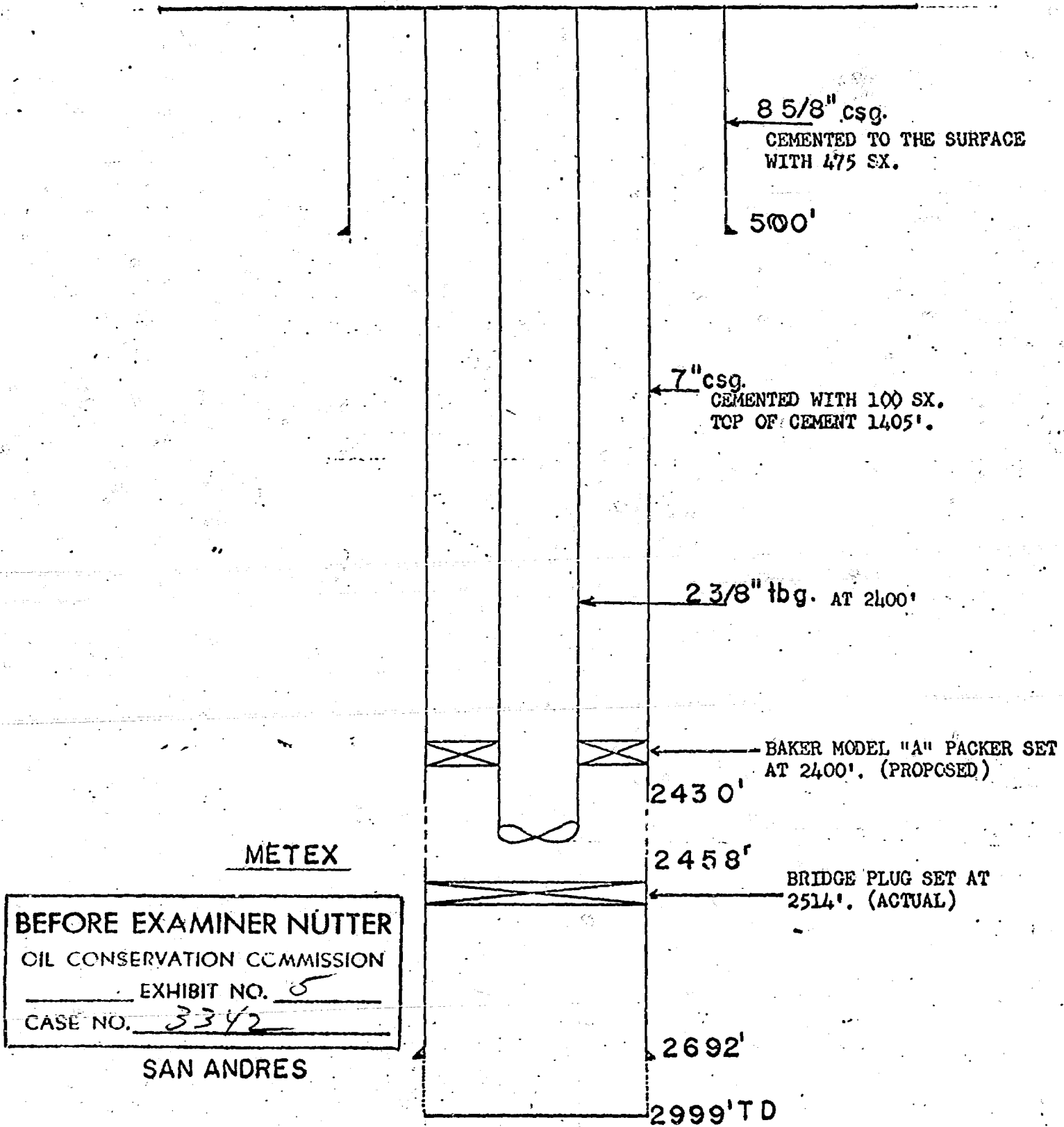
*R. J. Heard*  
R. J. Heard

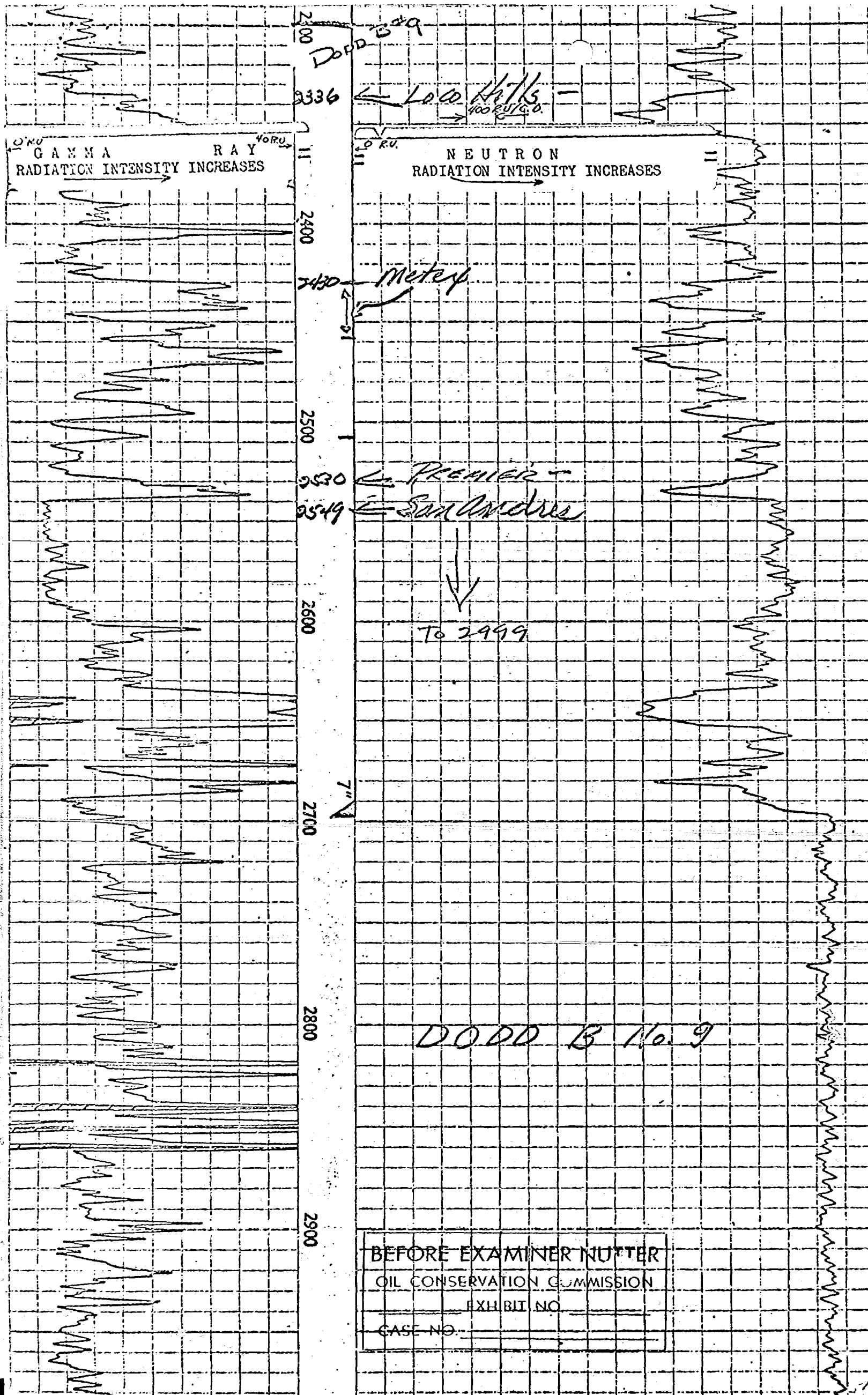
District Superintendent

RJH/rlc

BEFORE EXAMINER NUTTER	
OIL CONSERVATION COMMISSION	
<i>EDK</i>	EXHIBIT NO. <i>2</i>
CASE NO. <i>3542-42</i>	

00DD B No. 9





GAMMA RAY  
RADIATION INTENSITY INCREASES

NEUTRON  
RADIATION INTENSITY INCREASES

DODD B No. 9

2336 ← 100 R.U. -  
100 R/G.D.

2430 Metex

2530 ← Premier -  
2549 ← San Andres

To 2999

DODD B No. 9

BEFORE EXAMINER NOTED
OIL CONSERVATION COMMISSION
EXHIBIT NO. _____
CASE NO. _____



# Sunray DX Oil Company

Tulsa, Oklahoma 74102

Production Department



October 19, 1965

William R. Loar  
Manager, Unitization  
and Conservation

PG-6

*Case 3342*

Gilbert, White & Gilbert  
P. O. Box 787  
Santa Fe, New Mexico

Attention: Mr. Charles White

Re: Dodd Waterflood  
Grayburg-Jackson Pool  
Eddy County, New Mexico

Dear Charlie:

Enclosed are six copies of two separate application for permission to waterflood the Metex Zone of the Grayburg Formation and the Keely Zone of the San Andres Formation under our Dodd Leases in Eddy County, New Mexico. Although both zones are in the Grayburg-Jackson Pool, they are not in the same formation and Sunray intends to keep the injection facilities separate. We would like to have both of these Applications on the same docket and they may be combined into one hearing if the Commission so desires. We have no objection to the Commission considering this as one flood.

If the Applications are in order, please file them with the State Engineer and the Oil Conservation Commission.

Very truly yours,

SUNRAY DX OIL COMPANY

*William R. Loar*  
William R. Loar

*by R. J. Spunk*

RCS/rwd  
Enclosures

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. 3342  
Order No. R-3012

APPLICATION OF SUNRAY OX OIL COMPANY  
FOR A WATERFLOOD PROJECT, EDDY COUNTY,  
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on November 23, 1965, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 3rd day of December, 1965, 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, Sunray OX Oil Company, seeks permission to institute a waterflood project in the Grayburg-Jackson Pool by the injection of water into the Keeley zone of the San Andres formation through four injection wells in Sections 22 and 23, Township 17 South, Range 29 East, NMPM, Eddy County, New Mexico.

(3) That the wells in the project area are in an advanced state of depletion and should properly be classified as "stripper" wells.

(4) That the proposed waterflood project should result in the recovery of otherwise unrecoverable oil, thereby preventing waste.

(5) That the subject application should be approved and the project should be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

-2-

CASE No. 3342  
Order No. R-3012

IT IS THEREFORE ORDERED:

(1) That the applicant, Sunray DX Oil Company, is hereby authorized to institute a waterflood project in the Grayburg-Jackson Pool by the injection of water into the Keeley zone of the San Andres formation through the following-described wells in Township 17 South, Range 29 East, NMPM, Eddy County, New Mexico:

Sunray DX Dodd A Well No. 10, Unit A of Section 22;  
Sunray DX Dodd A Well No. 9, Unit G of Section 22;  
Sunray DX Dodd A Well No. 11, Unit I of Section 22;  
and General American Burch C Well No. 1, Unit E of  
Section 23.

(2) That the subject waterflood project is hereby designated the SDX Keeley Waterflood Project and shall be governed by the provisions of Rules 701, 702, and 703 of the Commission Rules and Regulations.

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

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

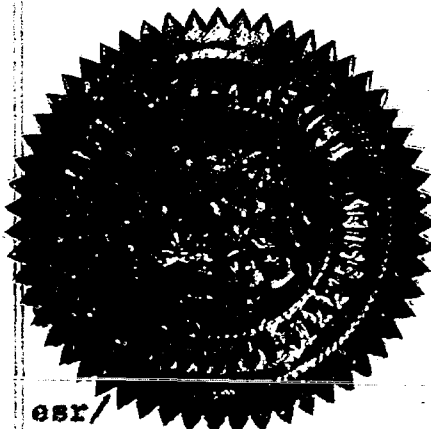
DONE at Santa Fe, New Mexico, on the day and year hereinabove designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Jack M. Campbell*  
JACK M. CAMPBELL, Chairman

*Guyton B. Hays*  
GUYTON B. HAYS, Member

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



esr/

P. O. Box 1416  
Roswell, New Mexico  
November 3, 1965

Mr. Frank Irby  
State Engineer Office  
Capital Building  
Santa Fe, New Mexico

Re: Dodd Leases (PG-6)  
Grayburg-Jackson Pool  
Eddy County, New Mexico

Dear Mr. Irby:

The purpose of this transmittal is to confirm our telephone conversation of November 2, 1965, concerning the mechanics of waterflooding the subject leases.

The produced water from the Dodd "A" and Dodd "B" leases is currently disposed of into two earthen pits, one located on each of the leases. It is proposed to continue this disposition of produced water which currently amounts to about 30 bbls. per day on each lease until a sufficient amount is available to supply the required injection volume of one injection well or an estimated 100-200 BPD. This will mean each pit will take about 50-100 EPD until this condition is reached. Otherwise fresh water will be the sole injection source and purchased from Yucca Water Company of Lovington, New Mexico. At no time during the life of the project do we propose to co-mingle fresh and produced water.

In regards to cement lining or internal protection of injection tubing strings or systems, we propose to use unprotected pipe and tubing where fresh water is to be handled. When produced water injection begins, the systems handling this water and the tubing strings of the wells in which produced water is injected will be internally lined with cement.

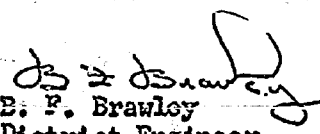
BEFORE EXAMINER NUTTER  
OIL CONSERVATION COMMISSION  
EXHIBIT NO. VII  
CASE NO. 3342

Mr. Frank Irby  
November 3, 1965  
Page 2

Please accept our apologies for previously supplying erroneous information regarding the above. If we can be of any further assistance in this matter, please advise. This waterflood will be handled by our Roswell Production District, P. O. Box 1416, Roswell, New Mexico.

Yours very truly,

SUNRAY OIL COMPANY

  
E. F. Brawley  
District Engineer

BFB:sk

cc: R. C. Spurlock