CASE 3431: Application of SINCLAIR for a dual completion of its W. H. TURNER WELL NO. 1, Lea County.

Case Number

3431

Application

Transcripts.

Small Exhibits

ETC.

SINCLAIR OIL & GAS COMPANY
P. O. BOX 1470
MIDLAND, TEXAS 79701
August 20, 1968

file
Case 3431

WEST TEXAS REGION

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

Attention: Mr. A. L. Porter, Jr.

'68 AUG 21

Gentlemen:

Please refer to the reopened Case No. 3431 scheduled for hearing on September 4, 1968, to permit Sinclair Oil & Gas Company to show cause why its No. 1 W. H. Turner well should not be completed in accordance with the provisions of Rule #112-A of the Commission's Rules and Regulations.

This is to advise that the temporary authority to dual complete this well, Order No. R-3100-A, is no longer required in that on June 21, 1968 a plug was set in the bottom of the tubing thus blanking off the depleted Drinkard formation and the tubing sleeve opened thus producing the Blinebry formation through the tubing as a single zone completion. A copy of Commission form C-103 reporting this work is attached.

Accordingly it is requested that the hearing set on September 4, 1968, be cancelled and Order No. R-3100-A be allowed to terminate.

Very truly yours,

R. M. Anderson
Region Regulatory
Engineer

RMA/ar
attachment

cc: White, Gilbert, Koch & Kelly
P. O. Box 787
Santa Fe, New Mexico

ISSUED
8/22/68

Orig & 2cc: CCC-Hobbs
cc: Regional Office

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REGIONAL CENTRAL FILE

NEW MEXICO OIL CONSERVATION COMMISSION

JUN 21 3 18 PM '68

Form C-103
Supersedes Old C-102 and C-103
Effective 1-1-65

5a. Indicate Type of Lease: State ☐ Fee ☒

5. State Oil & Gas Lease No.

SUNDRY NOTICES AND REPORTS ON WELLS

(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT —" (FORM C-101) FOR SUCH PROPOSALS.)

1. OIL WELL ☒ GAS WELL ☐ OTHER-

2. Name of Operator: Sinclair Oil & Gas Company

7. Unit Agreement Name

3. Address of Operator: P. O. Box 1920, Hobbs, New Mexico 88240

8. Farm or Lease Name: W. H. Turner

4. Location of Well: UNIT LETTER L, 2310 FEET FROM THE South LINE AND 990 FEET FROM THE West LINE, SECTION 29 TOWNSHIP 21-S RANGE 37-E NMPM.

9. Well No.: 1

10. Field and Pool, or Wildcat: Drinkard

15. Elevation (Show whether DF, RT, GR, etc.): 3478' GR

12. County: Lea

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK ☐	PLUG AND ABANDON ☐	REMEDIAL WORK ☐	ALTERING CASING ☐
TEMPORARILY ABANDON ☐		COMMENCE DRILLING OPNS. ☐	PLUG AND ABANDONMENT ☐
PULL OR ALTER CASING ☐	CHANGE PLANS ☐	CASING TEST AND CEMENT JOB ☐	
OTHER ☐		OTHER Set tubing plug and hold for future development. ☒	

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 1103.

Set tubing plug in Model D Packer set at 6540' and this zone is held for future development. This well is dual completed in the Blinebry Pool.

RECEIVED
JUN 27 1968
CENTRAL FILE

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

SIGNED [signature] TITLE Superintendent DATE June 21, 1968

APPROVED BY [signature] TITLE DATE

CONDITIONS OF APPROVAL, IF ANY:

Docket No. 26-68

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 4, 1968

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

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

CASE 3847: (Continued from the August 21, 1968, Examiner Hearing)

Application of K. K. Amini for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Bough "C" zone of the Pennsylvanian formation underlying the NE/4 of Section 5, Township 10 South, Range 34 East, Lea County, New Mexico. Said acreage to be dedicated to a well to be drilled in the SW/4 NE/4 of said Section 5, adjacent to the Vada-Pennsylvanian Pool.

CASE 3513: (Reopened)

In the matter of Case No. 3513 being reopened pursuant to the provisions of Order No. R-3179-A, which order established 160-acre spacing units and a 160-acre proportional factor of 4.77 for allowable purposes for the Vada-Pennsylvanian Pool, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why the pool should not be developed on less than 160-acre spacing units and show cause why the 160-acre proportional factor of 4.77 should or should not be retained.

CASE 3849: Application of Penroc Oil Corporation 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 formation through its Phillips State Well No. 4 located in Unit I of Section 27, Township 17 South, Range 28 East, Artesia Pool, Eddy County, New Mexico.

CASE 3850: Application of Pan American Petroleum Corporation for salt water disposal, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to dispose of produced salt water into the Bough (Permo-Pennsylvanian) formation in the interval from approximately 9590 feet to 9634 feet in its Federal "A" Well No. 3 located in Unit J of Section 13, Township 9 South, Range 35 East, Bough (Permo-Pennsylvanian) Pool, Lea County, New Mexico.

CASE 3851: Application of Mobil Oil Corporation for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Bridges State Waterflood Project by the injection of water into the San Andres formation through an injection well recently completed at a location 660 feet from the South line and 560 feet from the West line of Section 24, Township 17 South, Range 34 East, Vacuum Pool, Lea County, New Mexico.

CASE 3852: Application of Mobil Oil Corporation for a triple completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the triple completion (conventional) of its Bridges State Well No. 126 located in Unit J of Section 11, Township 17 South,

Range 34 East, Lea County, New Mexico, in such a manner as to produce oil from the Abo, Middle Pennsylvanian and Morrow formations, Vacuum Field, through parallel strings of tubing.

CASE 3651: (Reopened)

In the matter of Case No 3651 being reopened pursuant to the provisions of Order No. R-3315, which order created the North Morton Permo-Pennsylvanian Pool, Lea County, New Mexico, and established 80-acre spacing units for said pool for a period of one year. All interested parties may appear and show cause why said pool should not be developed on 40-acre spacing units.

CASE 3853: Application of Tenneco Oil Company for a waterflood expansion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the expansion of its Mesa Queen Waterflood Project, Mesa-Queen Pool, by the conversion to water injection of two additional wells located in the SW/4 NW/4 of Section 20 and the NW/4 SE/4 of Section 16, both in Township 16 South, Range 32 East, Lea County, New Mexico. Applicant further seeks an administrative procedure whereby said project could be expanded to include additional lands and injection wells as may be necessary to complete an efficient injection pattern.

CASE 3854: Application of Sinclair Oil & Gas 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 Yates formation in the perforated interval from 3636 feet to 3700 feet in its Ballard DE Federal Well No. 6 located in Unit L of Section 22, Township 20 South, Range 34 East, Lynch Field, Lea County, New Mexico.

CASE 3431: (Reopened):

In the matter of Case No 3431 being reopened pursuant to the provisions of Order No. R-3100-A to permit Sinclair Oil & Gas Company to show cause why its W. H Turner Well No. 1 located in Unit L of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, a dual completion in the Drinkard and Blinebry Oil Pools, should not be completed in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations.

CASE 3855: Application of Sunray DX Oil Company for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Seven Rivers formation in the interval from approximately 3693 feet to 3733 feet in its H D. Greer Well No. 1 located in Unit C of Section 21, Township 22 South, Range 36 East, South Eunice Pool, Lea County, New Mexico.

CASE 3856: Application of Skelly Oil Company for a waterflood project, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Gallup formation through its Jicarilla "B" Wells Nos. 5 and 6 located in Units L and F, respectively, of Section 32, Township 25 North, Range 5 West, Otero-Gallup Pool, Rio Arriba County, New Mexico.

CASE 3857: Application of Coastal States Gas Producing Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Tulk-Pennsylvanian Pool in Township 14 South, Range 32 East, Lea County, New Mexico, including a provision for 160-acre spacing and proration units with the assignment of 80-acre allowables.

In the alternative, applicant seeks the creation of a new pool for Pennsylvanian oil production from its State "26" Well No. 1 located in Unit D of Section 26, said Township and Range, and promulgation of the aforesaid special rules therefor.

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

P. O. BOX 2088
SANTA FE

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

September 12, 1967

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

Re: Case No. 3431
Order No. R-3100-A
Applicant:

DOCKET MAILED
Date 8/22/68

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

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC
Other

SINCLAIR OIL & GAS COMPANY
P. O. BOX 1470
MIDLAND, TEXAS

June 15, 1966

Case 3431

LEGAL DEPARTMENT

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

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

Sinclair Oil & Gas Company hereby makes application for approval, after notice and hearing, to dual complete its W. H. Turner Well No. 1 to produce oil from the Drinkard Oil Pool and to produce oil from the Blinebry Gas Pool, Lea County, New Mexico. The well is located in Unit L, Section 29, Township 21-South, Range 37-East, N.M.P.M.

We transmit, in triplicate, the following:

1. Application for Dual Completion on the Commission form;

2. An area map showing the location of all wells on applicant's lease and all offset wells on offset leases;

3. A diagrammatic sketch of the dual completion.

Attorneys of record for the applicant are White, Gilbert, Koch & Kelly, of Santa Fe, New Mexico, and the undersigned.

A hearing is necessary on the application because a dual oil-oil completion will require an exception to Rule 112-A and also Rule 8 of the Blinebry Oil Pool rules, Order No. [illegible] as amended.

Please set this matter for hearing at the earliest convenience.

Very truly yours,

Horace N. Burton

Horace N. Burton
General Attorney

HNB/id

cc: Mr. L. C. White
White, Gilbert, Koch & Kelly
Santa Fe, New Mexico
(With copy of enclosures.)

DOCKET MAILED

Date 6-[illegible]-66

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 6, 1967

EXAMINER HEARING

IN THE MATTER OF:

Case 3431 being reopened pursuant to the provisions of Order No. R-3100 to permit Sinclair Oil & Gas Company to show cause why its W. H. Turner Well No. 1 located in Unit L of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, a dual completion in the Drinkard and Blinebry Oil Pools, should not be completed in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations.

Case No. 3431

BEFORE: Daniel S. Nutter, Examiner.

TRANSCRIPT OF HEARING

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE , NEW MEXICO

REGISTER

HEARING DATE SEPTEMBER 6, 1967 TIME: 9 A.M.

NAME:	REPRESENTING:	LOCATION:
[illegible]	[illegible] Oil Co	[illegible]
F.L. Hart	Mobil Oil	Midland, Tex
R.M. Anderson	Sinclair	Midland
J.B. Grant	Skelly Oil Co.	Tulsa, Okla
[illegible]	[illegible]	S.F.
[illegible]	Tenneco Oil Co.	Midland, Tex.
J.B. [illegible]	Union Oil Co	Roswell, N.M.
Jack Willock	Tenneco Oil Co.	Durango, Colo.
J.F. Massey	" " "	" "
Jay T. [illegible]	Skelly Oil Co	Hobbs, NM
B. L. Anderson	Skelly Oil Co	Midland, [illegible]
[illegible]	[illegible]	[illegible]
[illegible]	[illegible]	[illegible]
William [illegible]	[illegible]	[illegible] Fe
[illegible]	[illegible]	[illegible]
John [illegible]	[illegible]	[illegible]

NEW MEXICO OIL CONSERVATION COMMISSION

EXAMINER HEARING

SANTA FE, NEW MEXICO

REGISTER

HEARING DATE SEPTEMBER 6, 1967 TIME: 9 A.M.

NAME:	REPRESENTING:	LOCATION:
E. D. McCarter	Texaco Inc.	Hobbs
J. M. Morrison	Texaco Inc	Hobbs
John Strader	Dopco Inc	Artesia
R. T. Montgomery	Albert Gackle Opr	Hobbs
J. E. Gallagher	Modrall, Seymour, Sperling, Roehl & Harris	Albuquerque
A. J. Losee		Artesia
W. Putman	Pan Am	Santa Fe, Austin

MR. NUTTER: The hearing will come to order, please. The first case this morning will be Case No. 3431.

MR. HATCH: In the matter of Case 3431 being reopened pursuant to the provisions of Order No. R-3100 to permit Sinclair Oil & Gas Company to show cause why its W. H. Turner Well No. 1 located in Unit L of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, a dual completion in the Drinkard and Blinebry Oil Pools, should not be completed in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations.

MR. KELLY: Booker Kelly of White, Gilbert, Koch and Kelly on behalf of the Applicant. I have one witness and ask that he be sworn.

(Witness sworn.)

(Whereupon, Applicant's Exhibits 1 and 2 were marked for identification.)

MR. KELLY: Mr. Examiner, as a little background on this, I think Mr. Utz was the Examiner at the last hearing. Sinclair's well was, as the findings of the Order No. 3431 or R-3100 show, was projected as a gas well and I think our evidence clearly showed that any operator would expect a gas well and be surprised as Sinclair was by finding oil in the Blinebry. Also this was an old well that was

originally seven-inch casing and when it was deepened had to go to five-inch casing so that it was impossible to complete this in the conventional manner. Our testimony today will show that the findings that the Commission made are supported by the additional information we have, and certainly some of the findings necessarily could not change.

R. M. ANDERSON

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

DIRECT EXAMINATION

BY MR. KELLY:

Q Would you state your name for the record, please?

A R. M. Anderson.

Q And your position and employer?

A I'm an engineer for Sinclair Oil and Gas Company in their Midland, Texas office.

Q Your qualifications as a petroleum engineer are a matter of record?

A Yes, they are.

Q Would you, looking at a copy of Order R-3100, review the findings that were made by the Commission and state to the Commission if you have any additional information that would supplement or bring these findings

up-to-date?

A As a result of the hearing last year the Commission found, among other things, that subject well was projected as a gas well in the Blinebry zone, an oil well in the Drinkard zone, and that the special rules and regulations governing the Blinebry Pool required the well to be classified as an oil well rather than a gas well in the Blinebry Pool.

The Commission found that production tests over a twenty-five-day period which were submitted in detail at that hearing show an increase in GOR from 8782 cubic feet of gas per barrel of liquid hydrocarbons to 15,789 cubic feet of gas per barrel of liquid hydrocarbons, indicating the subject well may soon be classified as a gas well in the Blinebry Gas Pool.

Now, with regard to that finding, which was Finding No. 5, Sinclair retested the well on July 13th of this year and filed the test with the Commission's Hobbs Office. I have a copy of that test.

Q That is marked Exhibit No. 1 of Sinclair?

A Yes, sir. This is the Commission's Form C-116. This reflects that on July 13th the well produced 36 barrels of oil, 708 MCF of gas, for a GOR of 21,667 cubic feet

per barrel. I believe that this test is consistent with the information contained in Finding 5.

Q Has this increase been a fairly constant, steady increase?

A Yes, this increase has been since the first of this year. My next exhibit reflects the producing gas-oil ratio of this well during 1966 and I used that six or seven-month period so that the information shown on Exhibit 2 would be comparable with the information that I have on the other Blinebry wells in the immediate vicinity, the other offsetting Blinebry wells.

My Exhibit 2 is a slight modification of my old Exhibit 4 in that I have added the section year 1966 which updates my old Exhibit 4 to that extent. We see that for the year of '66 the well produced at an average GOR 12,700 to 1. Then shortly after the first of the year the ratio started increasing and has steadily increased since then to its present level of around twenty two to twenty-three thousand cubic feet per barrel.

Q What is the solution gas-oil ratio for the Blinebry?

A I estimate it to be about 1100 cubic feet per barrel. This is based on some understanding of the crude.

I do not have an analysis on the crude or reservoir sample. It's also based on a study of the many Blinebry wells and their producing ratios and appears like about 1100 cubic feet per barrel is a reasonable number for this particular crude.

Q Now what is the current production status from the Blinebry as far as oil?

A Currently producing, as Exhibit 1 reflects, at a GOR of 21,676 cubic feet per barrel. This indicates that the well is producing almost 19 times more free gas than it is solution gas.

Q Is the oil production itself dropping off?

A Yes, the oil production is decreasing steadily. Tests a year ago started out with a productivity of about 80 barrels per day, currently the well's productivity is down to about 36 barrels per day.

Q So in your opinion this Blinebry zone is continuing to approach a gas zone rather than an oil --

A Yes, sir.

Q How about the present status of the Drinkard as compared to a year ago?

A The Drinkard is just about the same as it was a year ago. The first seven months of this year that I have

production history on, the Drinkard produced at a gas-oil ratio of 6,598 to 1 and produced an average of 10.06 barrels of oil per day, which is just about the same as it was a year ago at the previous hearing. Both zones, both the Blinebry and the Drinkard zones are flowing zones.

Q Have you been able to obtain any evidence in your year's study to show that this type of completion of producing the Blinebry through the annulus has in any way adversely affected the production from that zone?

A I believe that the production history during the last year reflects that there has been no adverse effect on the Blinebry zone as a result of producing it through the annulus.

Q Is the alternative that faces Sinclair if this application were to be denied or not to be continued the same as it was a year ago, that you would be faced with shutting in the zone that was least economic?

A Yes, that would be the alternative and would have to be my recommendation if this application were denied.

Q There is no way that in the size casing that you are facing here that you could dually complete in a conventional manner?

A No, sir, and there's no way that we could dually

complete in a manner that would in my opinion give us two as efficient flow streams as we now have. We could complete it by putting abnormally small tubing in this five-inch casing but this would be to the detriment of both zones. I might continue, I was discussing the findings.

Q Go ahead.

A And that's -- we just discussed Finding 6, they found that it was not feasible to install another string of tubing within five-inch casing, and Finding 7, that the peculiar reservoir characteristics of the Blinebry Oil Pool adjacent to the subject well-bore are such as to make the proposed dual completion feasible and in accord with good conservation practices. And I believe my Exhibit 2 reflects the producing condition of the oil, Blinebry oil and gas wells that Finding 7 is referring to, and we see there has been no substantial change in them in the year '66 as compared to the year '65.

We see that the gas wells in the year '66 are producing at around forty to fifty thousand to one with one exception, and the oil wells are producing from twelve-seven to twenty-one one to one; twelve thousand seven hundred to twenty-one thousand one hundred to one, in that range, and, of course, that low well in the twelve thousand seven

hundred well is the subject well and it is now over twenty-one thousand to one, so it is in line with the oil wells and approaching the condition of the gas wells.

Q Now on Finding No. 8 of the Commission, this order was originally one year or till the Blinebry zone can be reclassified as a gas well. Do you have any recommendation at this time as to the continuation of this order?

A Well, we're faced with about the same situation this year as we were last year. We have, over a period of six or seven months, steadily increasing gas-oil ratio, whereas a year ago on the special twenty-five-day flow tests that we turned in as our Exhibit 6, we were faced over a twenty-five-day period with increasing gas-oil ratios, and in trying to extrapolate those on the basis of a small amount of production history we found that we can't precisely say when the well is going to get to a point where it will be reclassified as gas under the Blinebry oil rules; so I think that at this time, based upon our experience, that we should not qualify the order with a one-year temporary period. I think we should have a permanent type order that will be voided or cancelled at such a time as the well becomes a gas well under the definitions of the Blinebry oil field rules.

Q It could be accomplished by just deleting the phrase, "or one year, whichever comes first"?

A Yes, sir.

Q In your opinion the granting of this application would prevent waste by producing oil that would otherwise be lost and would protect the correlative rights of Sinclair and not adversely affect other adjoining operators' rights?

A Yes, that is correct.

Q Were Exhibits 1 and 2 prepared by you or under your supervision?

A Yes, sir.

MR. KELLY: We move the introduction of Exhibits 1 and 2.

MR. NUTTER: Sinclair's Exhibits 1 and 2 will be admitted in evidence.

(Whereupon, Applicant's Exhibits 1 and 2 were offered and admitted in evidence.)

MR. KELLY: That's all we have on direct, Mr. Examiner.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Anderson, you recalled your cross section

exhibit that you submitted at the hearing a year ago?

A Yes, sir.

Q It appears from that exhibit that you have got an area perforated in this well which extends from the top of your so-called correlation marker A down through correlation marker B and into the area which normally produces oil from the Blinebry, but it also appears that between correlation marker A and correlation marker B is the zone in which several of the gas wells on this cross section are perforated. You got a total of 216 feet perforated in this well. Do you believe you are perforated in a gas stringer and an oil stringer both?

A Well, I believe that as a result of analyzing our Exhibit 2, and Exhibit 3 was a supplemental exhibit, I have an extra copy of it right here --

Q I think I have it right here.

A Exhibit 3 being a well that is a direct offset to our well but was not on the cross section on the Mobil Hardy Well, but it is in the immediate vicinity. In analyzing all of these wells I arbitrarily drew a line across them through Sinclair's lowest perforation.

Q Right.

A And I found that the gas wells, the first gas

well on the left of the Exhibit 2 is perforated wholly above Sinclair's lowest perforation --

Q It's perforated between marker A and B, right?

A Yes, and those markers, incidentally, were just geological markers, as far as I know they have no name or significance other than they are good points that we can correlate to. The second well is Texaco's Henderson No. 2 and it was perforated considerably below Sinclair's lowest perforation and it is a gas well. It is presently producing at a ratio of thirty-five one through five hundred to one.

Q Is it on your Exhibit No. 2?

A Yes, sir. All of the wells on the cross section, including the extra Mobil Hardy Well is on Exhibit, my Exhibit No. 2. That is the statistical summary of the wells. Now we see that Texaco's --

Q Just a minute, Mr. Anderson. While it's got a much higher ratio than your well, it's not producing much more gas than your well is. It's just a matter of producing less oil?

A Yes, sir.

Q Gas production is almost the equivalent --

A And it does have some 42 gravity. Its condensate was reported, or oil was reported at 42 gravity, which

indicates to me that some perforation in this well is oil-productive. Then the next well is the Gulf's Mattern B, and we see that their perforations extend, their highest perforation is maybe 20 feet below our lowest perforation and it is an oil well.

The next well is the Sinclair well and the third well is an oil well and it is perforated, Sinclair's Turner 4, both above and below the lowest perforation in Sinclair's subject well here. It has a low gravity and 21,000 to 1 ratio. The Turner 3 well is a gas well, has a 53 gravity, originally 53,000 to 1 ratio, and it is perforated wholly above the lowest perforation in the Sinclair well but down to within maybe ten feet of the perforation, not within ten feet, but two feet possibly.

Q Now, you have had a considerable change in gravity in the liquids on that well. Has there been a change in GOR on that well also? Has the GOR gone down?

A Exhibit 2 reflects in the year '65 the GOR was 32,000 to 1 and in '66 the GOR is 51,000 to 1, so the GOR has increased in the last two years.

Q Well, when did this change in gravity occur, has it been in the last two years or was this 53-degree gravity when the well was originally completed?

A That is when the well was originally completed, sometime before '65, I don't recall the date of the recompletion, and the 39-degree gravity was the gravity that was taken on it at about the time we were preparing for the hearing last year.

Q A year ago?

A But there again, is a classified gas well, had been classified that way from the very beginning, and its perforations were very comparable to the perforations that we made in our Turner 1 well, the subject well. I believe just by inspection the interval is about the same. The last well is the Stanolind's Turner No. 3 and it's a gas well with perforations above --

Q It's just perforated in one little narrow stringer there, isn't it?

A Yes, sir. And the Mobil Hardy well, which is my old Exhibit 3 on the extra sheet, is a gas well 45,000 to 1, '65, it was 58,000 to 1. It's producing 46 gravity and it has three perforated intervals below the Sinclair perforated intervals and as a result of the study of these wells, which are the nearest wells to our well, we felt we were safe in perforating our well as shown on our old Exhibit 2 of the last year's hearing and attempting to make a gas

well. Of course, any time an operator perforates a well he's got tools and a workover rig on the well and he's spending a lot of money and if he tests the well he's going to have to run a lot of equipment back in the hole, if he hasn't opened it enough, then he has to do it all over again. What you try to do is perforate enough to make the best commercial producer that you can make and we stayed above this minus 2251 last year in recompleting this well because we felt that that was somewhere above the gas-oil contact, which we don't know where it is. We cannot tell by analysis of these wells just where it is. We felt it was somewhere well above it and we would not have oil in this well but --

Q Mr. Anderson, on your Exhibit 3 from last year I see some lines drawn on here, they're not identified on this exhibit, but with the line at 5510 there, is that your marker A on your cross section?

A Yes, sir, that would be the marker A correlation point and the one at 5630 would be the marker B correlation point.

Q And the line equivalent to the lowest perforation in your well would probably be the one there at 5740 then?

A Yes, 5740, I believe is written on there

minus 5251. The log of this well contains markings that were put on it at the time that we did the work and not in preparation for the hearing, and I just took a shot of the marker, of the log.

Q Well, now, Mr. Anderson, it would appear to me that if you had a well completed in this manner and if as a result of excessive friction from producing through the annulus, there being friction both on the outer part of the flow tubing being the casing and on the inner part of the flow tubing being the outer surface of the tubing, you would have double friction and as a result you would have a certain amount of slippage of oil and the gas would come on through and there would be a natural tendency to increase the ratio anyway, wouldn't there?

A There are three things that affect the efficiency of production from the formation into the well bore at the bottom of the well and these things are things that affect the back pressure and that is the only thing that is affected by changing any of these three things that I am about to enumerate, but a variation of the back pressure on the formation determines how much oil and gas is going to feed into the well bore and things that vary that are the friction of the flow stream, they contribute

to the back pressure, the slippage or the gravity segregation in the flow stream, if the flow stream is large and permits the gas to bypass the oil and the oil to fall down and, in other words, the well to load up; and thirdly, is the action of the choke on the surface choke on the well head. These things are all contributing.

Q These things would affect the back pressure if it is at the perforation?

A Which will affect the rate that the production can feed into the well bore at the bottom. So what we have to do is to make sure none of these items are excessive to the point where they are inhibiting the flow of the oil and gas into the well bore at the bottom of the well. Now, we have made tests which were turned in as our Exhibit 6 at the first hearing, these flow tests where we produced this Blinebry zone through tubing in one case and then we switched over and produced it through the annulus and then back into the tubing was the sequence of tests. Do you have a copy of that?

Q Is this the exhibit?

A Yes. And we have added some things at the bottom.

Q Yes, there were two tests added on after the exhibit was printed.

A Do you have a test on 7-16-66?

Q Right, 7-16 and 7-17 were added on.

A Right. These tests determined two things and that was the effect of the friction on the flow stream of going through the tubing or going up the annulus and it also gave us an evaluation of any possible slippage or gravity segregation and as a result of these tests I determined that the difference in friction was negligible, I can't say that I couldn't positively calculate it with this data, the data I had. It cannot be calculated. Secondly, I determined that there was no slippage, and the reason that there was no slippage is that there is such a large proportion of gas, this is really more of a gas well than it is an oil well.

It physically, there is currently, there is almost 19 times more free gas with this oil than there is solution gas and a pure oil well has only the solution gas to lift the oil and blow the oil up the hole, but in this case we have the solution gas and we have 19 times more, 19-fold more gas assisting the solution gas in blowing this oil up the hole, so I determined back when we took these tests that we were blowing all of the oil up the hole that there was no gravity segregation or slippage taking place

and I determined that the friction factors were, the difference was negligible.

Q Isn't it true, Mr. Anderson, that when you switched from tubing on June the 28th to casing flow on June the 29th, that the ratios came up and isn't it also true that the ratios never have gone back down on the well?

A Just looking at the ratios, that is true, the ratios did come up and they stabilized there for test period two -- Is your exhibit lined up, and has test period 1 and 2?

Q Yes.

A For test period 2 and 3, when the well was being produced through the casing, the ratios stayed around twelve to thirteen thousand to one. Where before that, in the tubing, they were running around nine thousand. Then we put the well back into the tubing on test period 4 and produced it about seven days and we had trouble getting it flowing again, it was dead, when we shut the casing and opened the tubing the well was dead and we --

Q After having flowed through casing?

A After having flowed through casing. Of course, what was dead about it was that the area below the casing perforations down to the tubing nipple had undoubtedly

loaded up with oil and then when we shut the casing in the formation had to kick that oil on up through this tubing and had trouble kicking it off again. We did get it kicked off and we did get it stabilized on the 16th and 17th and it was stabilizing at fifteen and sixteen thousand to one ratio at that time and then the well was shut-in pending the outcome of the hearing, and when the approval was received, why we kicked it back into the casing and for the remainder six months of the year 1966 the well produced at only 12,700 to 1 on an average as reflected by my Exhibit 2 at this hearing, so it looks like that 12,700 to 1 was a pretty representative ratio for the well.

Then looking at the difference in the friction back at the end of test period 1 we had the June 28th test, the pressure on the tubing, which was the flow string, was 1320 pounds and the well was producing 80 barrels a day. When we put the well on the casing and stabilized it for five days the pressure on the casing producing at the same 80 barrels a day was the same 1320 pounds, indicating, well, exactly the same surface pressures, and similarly, at the end of test period 3 we had a rather stabilized condition, the oil productivity was dropping off each day a little bit but I would say that conditions were close to stabilization

on the 10th of July when we measured 1220 pounds on the casing, which was the flow string, at 63 barrels a day, and when we put it back in the tubing we had 1280 pounds, but now the well is averaging only 50 barrels a day, so we see this brand new completion and the flush production that we expect to find at any time you open the new zone is changing.

It was practically impossible to get good, stabilized tests in the first month's production, but this is what we got, and from the testimony I determined three things: First, that the difference in friction going up the tubing or up this annulus was negligible, it was small, it was something, of course, different, but I don't know what. Second, that there was no slippage, undoubtedly due to the fact of the high gas-oil ratio and the excessive free gas that comes with this oil and gas and is just blowing that production up the hole and was doing so at a 12,000 to 1 ratio, and certainly even doing more so at the 22,000 to 1 ratio that we have today. We have no problem there, because the well is more of a gas well than an oil well, was then and is now.

Thirdly, the thing that has the most effect on the back pressure and has to do with the feeding of the oil and gas into the well bore at the bottom of the well is the

choke pressure because we drop this 1300 pound pressure to 20 or 30 pounds at that choke and right there is where we make the biggest change in effect, and that surface choke on the wellhead makes more, far more affects the back pressure on the formation at the bottom of the hole than these other two things that we have been talking about.

Q Why have you found it necessary to decrease the choke size?

A Well, we're producing this well into a -- I am sorry, I didn't understand. Decrease the choke size?

Q Yes. Through all the tests that you took back in '66 you were flowing through 15-64, now your Exhibit No. 1 today indicates that the latest test is on 14-64 and also I wanted to ask you, you give the tubing pressure here, normally tubing pressure reported on a Form C-116 is the pressure on the flowing string. I wonder if that in actuality would be the casing pressure here.

A Yes, in this case that is the pressure on the upstream side of the choke than on the casing. I don't know why they've changed the choke from 15-64 to 14-64ths; in operating the well in the last year they undoubtedly changed the choke many times keeping the well within its allowable,

but my point is that on the upstream side of the choke we have maybe 1200 pounds but currently 635 pounds and on the downstream side we have maybe 30 pounds, enough to kick that production through the separator.

Q The well is a marginal well, isn't it?

A It is a penalized,high GOR penalized well, and marginal.

Q It is capable of making more liquids if it were opened up more then than with this present size choke. It would make more gas, more liquids, both?

A Yes, sir, the choke, what is labeled here as tubing pressure on the form indicates that you could open the choke further and the well would continue to --

Q On your Exhibit No. 2 today, Mr. Anderson, you show this producing ratio and 1966 production. How many months' production is that actually for your well? I suppose it's twelve months for most of these wells, is it only about six or five months for your well, or what is it?

A It is five full months plus the twenty-five days in July, which is almost a full month, it would be six months that we were making these special tests all during, so it's, in effect, six full months. There was some small amount of production out of the well in June when it was first

completed.

MR. NUTTER: Are there any other questions of Mr. Anderson?

MR. KELLY: Just one or two points on redirect.

REDIRECT EXAMINATION

BY MR. KELLY:

Q Mr. Anderson, Finding No. 7 of the Commission, which is to the effect that the particular characteristics of this well make the type of completion that we have here feasible and in accord with good conservation practices, the evidence that you have presented in Exhibits 1 and 2 and in comparison with the specific Exhibit No. 6 of last year, do they in your opinion show to your satisfaction as a petroleum engineer that this type of completion has no adverse effect on the Blinebry Oil Pool as far as its production?

A With regard to this specific well with these producing characteristics, in my opinion the approval of this application will have no adverse effect on any other well in the field or on any well in the field.

Q As far as its ability to produce through the annulus in this particular well, do you feel it is an efficient way to produce the Blinebry oil zone?

A Yes, I do.

MR. KELLY: Mr. Examiner, I'm not sure it's necessary, but since we have referred back to specific exhibits at the first hearing I would ask that you take administrative notice of the testimony and the exhibits of the first hearing.

MR. NUTTER: Yes, sir, we will. This is actually all part of the same case, it's reopened.

MR. KELLY: Yes.

MR. NUTTER: I wanted to ask you one more question, how is the Drinkard doing in this well now?

THE WITNESS: The Drinkard averaged in the first seven months that I have information on of this year --

MR. NUTTER: Of 1967?

THE WITNESS: Of 1967. -- 10.06 barrels of oil per day and last year at the hearing I reported that the Drinkard was making about ten barrels a day, so it is about the same.

MR. NUTTER: Any further questions of the witness? He may be excused.

(Witness excused.)

MR. NUTTER: Do you have anything further, Mr. Kelly?

MR. KELLY: Nothing further.

MR. NUTTER: Does anyone have anything further they wish to offer in Case 3431 reopened? We will take the case under advisement.

I N D E X

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, 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 21st day of September, 1967.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1971.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3481, heard by me on 9/6, 1967.

, Examiner
New Mexico Oil Conservation Commission

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 19, 1966

EXAMINER HEARING

IN THE MATTER OF: **Application of Sinclair Oil and Gas Company for a dual completion, Lea County, New Mexico.**

Case No. **3431**

BEFORE: **ELVIS A. UTZ, Examiner**

TRANSCRIPT OF HEARING

MR. UTZ: Case 3431.

MR. HATCH: Application of Sinclair Oil and Gas Company for a dual completion, Lea County, New Mexico.

MR. KELLY: Booker Kelly of White, Gilbert, Koch and Kelly, Santa Fe, on behalf of the Applicant Sinclair, and we have one witness.

(Witness sworn.)

(Whereupon, Exhibits 1 through 7 marked for identification.)

* * *

R. M. A N D E R S O N, called as a witness herein, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLY:

Q Would you state your name, position and employer, please?

A R. M. Anderson, senior petroleum engineer, Sinclair Oil and Gas Company.

Q And your qualifications as an expert witness are a matter of record with this Commission?

A Yes, they are.

MR. KELLY: Excuse me, Mr. Examiner, I just wanted to make a brief statement first to give a little background and to amend our application in one slight respect. This well is presently completed in the Drinkard and is an oil well, but it's not getting too much oil out of there, about ten barrels a day, and Sinclair decided to attempt to get a

gas well in the Blinebry and had, pursuant to that, gotten an order for a dual completion whereby they would produce oil from the Drinkard through tubing and then gas through the annulus.

After completion, they found out instead of getting a gas well, they got an oil well, at least as defined by the Commission's definition of a gas well, and because of the history of this well and the size of the original casing, it was impossible to complete in the more traditional manner.

I think our testimony will show that the well will be able to be classified as a gas well before too long and since we feel that this is a,possibly a precedent setting application, we would like to amend our application to ask for this type of approval on a one year basis, or until such time as the well can be properly reclassified as a gas well, and since we already have approval for this type of production, if it is a gas well, we would ask that the order which is now in effect, assuming this application were granted, would then go into effect as far as a gas well.

I don't feel that this type of amendment would have any bearing on the publication because it restricts the application rather than broadens it.

MR. UTZ: The dual completion request was for gas in the Blinebry?

MR. KELLY: Yes, that's what we were after, a gas well in the Blinebry, and we will produce the gas at the annulus.

MR.UTZ: Your testimony will show what you feel will be the possibility of the Blinebry going to gas in the near future?

MR. KELLY: Yes, our testimony will definitely show that, along with the necessity, we feel in this case, for allowing a dual completion even as an oil well as it now stands.

MR. UTZ: So, your amendment you are requesting here is just to the effect instead of a permanent order you would like a temporary order?

MR. KELLY: We would like a temporary order for one year, or until such time as this well will be classified as a gas well.

MR. UTZ: I don't believe that will have any bearing on your advertisement.

MR. PORTER: You now have an order for a dual?

MR. KELLY: Yes.

MR. PORTER: For oil and gas?

MR. KELLY: Yes.

MR. PORTER: But you got oil in the Blinebry rather than gas, under our definition of gas?

MR. KELLY: Yes, under your definition of a gas and

oil well. With that explanation, I think we have sufficiently apprised the Examiner of what Sinclair seeks.

Q (By Mr. Kelly) So, referring to what has been marked as Exhibit 1, which is a plat of the area, would you identify the well in the two zones involved?

A The subject well of this application is located in the northwest of the southwest quarter of Section 29, 21 South, 37 East. It is Sinclair's W. H. Turner Well Number One. The well, as counsel stated earlier, was dually completed with the old Drinkard zone below and the new Blinebry zone above, and in the annulus.

Q Now, what is the history of this well, as far as the casing program?

A The well was drilled in 1937 and completed in the Grayburg formation at about 3600 feet with 7 inch oil string set. In 1947, ten years later, the well was deepened to 6640 feet and completed in the Drinkard formation.

Because of the presence of the 7 inch oil string set at 3658 it was necessary to set casing no larger than five inch casing, which was set at 6637 feet. The well was completed in 1947 in the Drinkard. In May of '66 Sinclair worked this well over, we had formed a 160 acre gas unit comprised of our W. H. Turner lease and our H. S. Turner lease, and we had the -- in the Blinebry we had the 160 acres assigned to Well Number

Three and this 160 acres was subsequently reduced by the completion of our H. S. Turner Number Four, reduced to 120 acres.

So, the Number Three Well is a marginal well. It is not able to make its Blinebry 120 acre gas allowable. So, in order to restore our gas production from the Blinebry, we attempted to work over the W. H. Turner Number One, the subject well of this application. We attempted to complete it as a gas well in the Blinebry.

Q Now, what is the size of the tubing you have down in the Drinkard now?

A Two inch EUE tubing is presently set in the packer just above the Drinkard perforations.

Q What is the present status of the Drinkard Well, as far as your production?

A The present status in the Drinkard, it is shut in by the means of a plug in the bottom of the tubing.

Q When you were last on production, what were you getting per day.

A We were producing the Drinkard ten barrels a day gas-oil ratio of about 3,000 to one, gross income from the well was over a $1,000.00 a month.

Q Was that pumping or flowing?

A That was flowing. The well was flowing.

Q Do you anticipate you will have to go to pumping?

A We anticipate that we will have to pump this well in the near future in the Drinkard formation.

Q Is this well offsetting any proposed water flood?

A Yes. The Central Drinkard Unit operated by Gulf offsets this well to the north and to the west, and we've anticipated that water flooding operations in the Central Drinkard Unit will eventually commence when they get their water situation straightened out, and will eventually expand to include the Sinclair property which offsets the Central Drinkard Unit, and at that time, Sinclair will have to cooperate with the Central Drinkard Unit in order to achieve the most efficient production of Drinkard hydrocarbons.

We will have to establish injection wells and producing wells and we will need our Number One Well as a Drinkard producer especially at that time.

Q Could you get by with less than two inch tubing for the Drinkard?

A No, sir.

Q What is the gas limit for your Blinebry Well?

A The gas limit for the Blinebry Oil Pool is 6,000 to one.

Q Well, is it advisable to allow that much gas to flow through two inch tubing?

A The gas limit then would calculate to be 360 mcf a day. In putting that much gas through tubing --

MR. UTZ: You are talking about the Blinebry now?

A I am talking about the Blinebry, yes. In producing that much gas through tubing, you have excessive friction developing, and just how much gas you should put through two inch tubing is questionable. In reviewing the literature, Uren's book called Petroleum Production Engineering on page 191 has a tabulation of maximum gas production for various sized tubing as recommended by J. R. McWilliams, who ran the series reported and described to Mr. Uren. He recommends that no more than 330 mcf a day be produced through two inch tubing.

It is on account of data of this type, I am sure, that it has become a common, acceptable practice to produce gas wells in annuluses because, of course, there is much larger cross sectional area in the annulus than there is in the tubing, and I believe that is why this Commission, one of the reasons why they approve gas completions in the annulus.

Q (By Mr. Kelly) This well would be able to produce up to 360 mcf per day?

A That would be the allowable for our Blinebry completion as an oil well, and as a high gas oil ratio well, it would be limited by its gas production.

Q So you would be at least 30 mcf a day over the recommended flow through two inch tubing?

A Through two inch tubing, yes, sir.

Q In your opinion, could you produce both of these zones through parallel tubing with a five inch casing?

A No, sir, I could not.

Q Now, going to what has been marked Exhibits 2 and 3, Exhibit 2 being a cross section of wells in the area, and Exhibit 3 being an additional log, would you explain the relevance of those Exhibits to the Examiner?

A Exhibit 2 is a cross section of nearby Blinebry completions in the vicinity of the subject well, the trace of which is shown on Exhibit 1. Looking across the Exhibit 2, we see symbols at the top of these logs. The first two wells are gas wells, the next three are oil wells, the last two are gas wells.

This Exhibit was compiled from data that was used by Sinclair in determining what section they were going to perforate in their Number One Well, which is the subject of this Hearing,in an effort to get a gas well completion.

Q Would you show the Examiner the significance of the blue line that you have drawn across this cross section?

A Yes. I have drawn a blue line across the section through the lowest perforation in Sinclair's W. H. Turner

Number One Well, the Number One Well being the center well of the seven wells on the section.

Analyzing the well completions of these wells, we find the first well on the left side of the section is completed as a gas well, and we see the relative location of the perforations in the first well, and this is a gas well.

The second well is a gas well, it has perforations both above and below the blue line. It was producing in April with a GOR of 27,300 to one and a gravity reported, at one time or other since the well was completed, at 42 degrees.

The third well on the section is Gulf's Mattern B Number Eight. This is an oil well. We see that all the perforations are below the blue line. All the perforations are lower, subseawise, than any perforations in the Sinclair subject well.

MR. UTZ: What kind of GOR does that well have?

A 6,450 to one in April, and I have no record of any gravities reported on that well.

Skipping the Sinclair Well to the Sinclair Turner Number Four Well, the fifth well on the cross section, this is an oil well and we see on our Number Four Well that we have perforations both above and below the blue line. It is producing with a ratio of 11,800 to one and had 39 gravity oil.

The next well, Sinclair's Turner Number Three, all the perforations on that well are above the blue line, that is a gas well. We notice that the lowermost perforation in the Number Three Well is about 14 or 16 feet higher subseawise than the lowest perforation in the Sinclair Well but very, very close.

The last well is Pan American's Turner Number Three and the perforations are shown on -- it's a gas well and all the perforations are above the blue line.

Q Go ahead and make your correlation as to the Mobil Wells.

A The next Exhibit is Number 3 and it is another log of a nearby well, the Mobil Hardy Well Number Three located in Unit C, Section 29, 21, 37, located just to the north and east of the subject well. This well is a gas well. I have drawn a blue line across this log similarly, and we see that this gas well has perforations both above and below the blue line.

Q Then, in summary, would it be correct to say that the gas wells have perforations similar or in the same range as your subject well and the oil wells perforations are almost exclusively below your lowest perforation?

A Yes. The gas wells, several of them are completed lower in the Blinebry Section than our subject well. We were

attempting to replace our Turner Number Three Well, which is a marginal well. We were interested in opening as much section as possible because we had a marginal well in the Number Three Well.

We did want to open as much formation as possible and still get a gas well. The perforations in our Number One Well for overall interval compare in my opinion very favorably with our perforations in the Number Three Well, except we have perforated higher in the section than the Number Three Well in an effort to get a gas well.

Q Now, are you prepared to state the qualification that it was Sinclair's intention to get a gas well in this case?

A Yes, it was in anticipation of a gas well we filed our application for an approval of the dual completion with a gas well.

Q How about that lowest perforation, then?

A Well, all of these shots, including this lower perforation, as I stated before, we were interested in getting as much section open as possible and still have a gas well. That lowest perforation is a single-hole in the casing and it is three-eighths inch in diameter, so it's a pretty small hole. We didn't anticipate that we would get large volumes of oil from it if that porosity zone did turn out to be oil

productive.

Q Now, would Sinclair perforate or do they have any plans at all to perforate lower into the oil zone in this well?

A No. If this application is approved we certainly would not open up any lower section in the Blinebry to bring more oil into the wellbore, no, sir. We would produce this well in this manner until such a time as it went to gas and could properly be classified as a gas well.

Q If for some reason or other the plans of Sinclair changed, would you get prior approval before perforating lower?

A Yes.

MR. UTZ: What did you say the GOR was on that well, again?

A The subject well?

MR. UTZ: Yes.

A Our well was originally completed at about 8500 to one, but in preparation of this Hearing, and I do have a later Exhibit that reflects it, the ratio has steadily increased now to over 15,000 to one in 30 days testing.

MR. UTZ: The limit is 32 here, isn't it?

A 32 is the critical ratio.

Q (By Mr. Kelly) Can you testify what, in your opinion, is the present solution gas oil ratio in the Blinebry?

A Yes, in my opinion the present solution gas oil

ratio in the Blinebry is about 1,000 to one, 1,000 cubic feet per barrel.

Q How are you able to establish this?

A An examination of the proration schedule. I do not have a fluid analysis on the Blinebry oil. I know that we couldn't obtain one on our well. Some of these operators might be able to but in trying to determine the solution ratio, it is very interesting to look at the wells that have been tested in the field and the ones that have the lowest GOR test are coming closest to reflecting what the true actual current solution gas oil ratio is.

The wells with the higher ratios are suspected of producing extra gas, free gas, and the ones that -- it is impossible for the wells to produce at below their solution ratio and so I have looked through the schedule, and just to mention a few wells to indicate that the solution gas oil ratio is about 1,000 to one, we have Cities Service Owen Number Seven tested at 908 on the last test. Just picking the low ones, Harper Oil Company Sarkey's Number One, top allowable 60 barrels of oil, ratio 950 to one. Shell Sarkey's Number One, 60 barrels top allowable well at 1,048 to one. Sunray Elliott A Three tested 60 barrels of oil at 1,111 cubic feet per barrel. Their Number Four tested 60 barrels of oil at 883 cubic feet per barrel.

So, those wells producing substantial quantities of oil at low ratio leads me to believe that the current solution gas oil ratio is in the vicinity of 1,000 cubic feet per barrel at this time, and at this reservoir pressure.

Q In comparing your analysis of the solution gas oil ratio of the field to the GOR of this well, do you feel that this well is basically an oil or gas well?

A By definition and in order to prorate these various wells in this Blinebry Oil Pool, the Commission has defined an oil well as one having a ratio below 32,000 to one and a gravity below 51 degrees. However, I believe that that was necessary to administer the field and to prorate the field as to whether a well is a gas well or oil well. It is necessary to have a definition, but insofar as the annulus of our well is concerned, I don't believe that this well is sensitive, particularly, to the Commission's definition.

The well is currently producing at a ratio of 15,000 to one as I have detailed tests to present later. A thousand cubic feet per barrel of that 15,000 is our solution gas, 14,000 of it is free gas coming from the perforations that we have opened up higher in the section. I feel that this oil is undoubtedly coming from the lower perforation or two in the well.

It is not reasonable to think that it would be coming

from one of the higher ones. So, the well is roughly 15 times more a gas well than it is an oil well, in my opinion, from a physical behavior.

MR. UTZ: What kind of gravities do you have?

A Our gravity is measured variously from 39 to 40.5.

Q (By Mr. Kelly) Going to Exhibit 4, which is a production history of your offsets, would you explain the relevance of that to the Examiner?

A Exhibit 4 is a tabulation of pertinent data concerning the wells shown on the cross section, including the Mobil Hardy Well. In comparing that to the Sinclair Well, we find that, for instance, the April GOR of the first well, the Texaco Well, was 41,500 to one, Sinclair's gravity is shown at 12,512. This was the ratio measured as of Friday morning last. Since Friday I have Saturday morning gauges and Sunday morning gauge, and this reflects that the ratio is now up around 15,000 to one. I'll give you those figures in a minute.

So, we see the ratio, we can compare the ratios of those wells with the Sinclair Wells, we see the oil or distillate gravities as reported, the Texaco Well producing at 41,500 had a reported gravity of 38.4; their Henderson Number Two Well, 27,300 was the GOR with a gravity of 42 degrees; Gulf's Oil Well had a GOR of 6,450. I had no gravity

on it. Our Sinclair's Turner Four, which is an oil well, had a GOR 11,800, a gravity of 39 degrees; Sinclair's Turner Three, that's our gas well, it was perforated almost as low as our subject well, it has a ratio of 62,500, had original gravity of 53, present gravity of 39. Pan American's Well, it produced 261,500 with 60 gravity and that certainly looks like condensate gravity on that well.

We also see that their fluid production in April was just 46 barrels, indicating that they're not producing much fluid with the well. Mobil's Hardy ratio of 113,200 to one with 46 gravity.

I feel that all these wells, with the exception of Pan American's well, producing black oil along with their gas to some extent similarly to what our well is doing, I think we're just initially and momentarily enjoying a little more oil higher.

MR. UTZ: How much oil?

A It started out producing on 15-64 inch choke 80 barrels a day and we were testing at this rate, and it kept dropping off and it's presently down to 50 barrels a day. The oil is dropping, the gas is staying up.

Q (By Mr. Kelly) At least with the Mobil well you are producing 213 barrels, or Mobil is, of liquid up the annulus in that well, is that correct?

A Yes.

Q It's the same kind of completion as you have in this one?

A Yes, Mobil's gas well in April produced 213 barrels of 46 gravity fluids. Looking at a couple of the others, Texaco's Number 6, 320 barrels of 38 gravity, Number 2 produced 322 barrels in April with 42 gravity.

Q Now, going on to Exhibit Number 5 which is your diagramatic sketch. This is the same Exhibit which was attached to your administrative application, is that correct?

A No, sir. The administrative application had approximate depths. It was prepared before the work was done.

Q As far as the mechanical installation?

A The mechanical installation is identical. We have corrected the depths to the actual figures for this Exhibit.

Q And that was the mechanical installation that was approved by the Commission under Order MC-1713?

A Yes.

MR. KELLY: We would ask that the Examiner take administrative notice of that approval.

MR. UTZ: 1315?

MR. KELLY: MC-1713. I have a copy of the order.

Q (By Mr. Kelly) Now, that approval was to produce gas in the Blinebry up the annulus and oil from the Drinkard.

The fact that you were going to be producing more oil than you would have if this had been classified as a gas well, would that have any effect on the mechanical installation?

A No, sir.

Q Would you anticipate any corrosion problems from either of these zones?

A No, sir.

Q Now, do you have Exhibits and testimony that would prove that oil can efficiently be produced up the annulus from the Blinebry?

A Yes. Before we leave Exhibit 5, I would like to point out how the flow tests on Exhibit 6 were possible. With approval of the District Supervisor of the Oil Conservation Commission in Hobbs, we set a blanking plug in the tubing in the vicinity of the packer. We opened mechanically,opened the sliding sleeve located three feet above the packer. It's noted on this sketch but it isn't drawn on there. There is a sleeve three feet above the packer that was opened, so in order to test this well through the annulus, we just leave the tubing shut in and opening the casing valve. In order to test the well through the tubing, we would shut in the valve on the annulus and open the tubing and then the well would reverse to the perforations and go into the tubing and come out the tubing. So, this way we could go from casing flow

to tubular flow without any mechanical -- without shutting the well in or going to any mechanical means, nothing was required except manipulation to the surface, master gates.

Q Now, going on to your flowing Blinebry test, Exhibit 6, would you go through that with some particularity for the Examiner?

A Yes. I have tabulated daily tests commencing June 22 through July 17th tests, flowing tests conducted on this well in an effort to determine if this well would flow through the annulus as efficiently, or almost as efficiently as through the tubing. In order to talk about them to you, I have arbitrarily divided by drawing horizontal lines across the page, divided these tests into four test periods. Now, the first test period, the well was flowing through the tubing and flowed for six days. We have a 15-64 inch choke, the pressures are recorded for both the tubing and the casing, they were reported and recorded with a two-pen recording instrument. I have the charts with me.

They indicated for not only the first test period, but for all test periods they indicated a very stable tubing and casing pressure condition for these 24 hour intervals. There was no heading of the well. There was very little, if any, fluctuation of these pressures. They just sat there for 24 hours fluctuating maybe as much as 10 pounds each way

on a very gradual basis and we tried to pick out,this pressure was very easy to pick out in the morning when the tanks were gauged, so we see a tabulation of six days of flowing through the tubing, we see the oil produced and we see the gas produced and the GOR and here we have a GOR starting at 8,700 and going up as high as 9,400, and we see the tubing pressure which was the flow string, was 1320 pounds and it stabilized there very nicely for the entire six days.

Then we switched the well by shutting in the tubing and opening the casing valve in the casing flow and were able to mechanically, to put the flow right through the same choke the way the well is rigged up, so we went right through the same choke, and now we are flowing up the casing and we see that we flowed there for five days at 80 barrels a day on a 15-64 inch choke, and the flowing casing pressure during practically that entire five day period was 1320 pounds, the same surface flowing pressure on the casing as what we had on the tubing for the test period one with the same daily production of oil from the well, but we do see that the gas production increased apparently simultaneously with switching it, it jumped from 9,000 to 12,000, then dropped back, gas production dropped back off to 11,300.

MR. PORTER: You are talking about the gas oil ratio?

A The gas oil ratio dropped off from 11,300 at the end of test period two. Test period three, we continued flowing it through the casing but the oil production started dropping off and we were watching that for another seven days. We notice that the casing pressure now started dropping off as did the oil pressure and the last day,the 10th of July, the flowing casing pressure was 1220 pounds, the well produced 63 barrels of oil and the ratio had now risen to 13,905, and we are experiencing a gradual increase in pressure in gas-oil ratio all during test period three.

Then we decided to see what the ratio would be if we put the well now back into the tubing, so we shut the casing valve and we opened the tubing and the tubing was dead, it would not flow, so the reason that the bottom of the well had loaded up with this casing flow, we'd have oil dropping out and filling up the annulus and going through the sleeve and filling up the tubing while it was producing up through the annulus, and they also felt that there may be some sand plugged up in the sleeve or there may be something plugging the sleeve, so they pumped three or four barrels of oil into the tubing to check the sleeve, and it pumped right through.

They built no pressure up, indicating that the sleeve was open, they got a swab truck out there and they swabbed the well and they got the well flowing, and it

stabilized again on the 11th, so that on the morning of the 12th it had been flowing at a stabilized rate, they felt, of 16 and a half hours. Here the flowing tubing pressure now was 1260, and they have reported 64 barrels of oil at a ratio of 7,000 to one.

We feel that, analyzing this, that that's probably a lot of that oil that had logged up in the bottom of the well during the flow test in the casing. So then, the second day was a full 24 hours on the 13th, flowing tubing pressure was 1280, flowed 58 barrels of oil, ratio 12,155; the next day the 24 hour test, 1280 tubing pressure, flowing tubing pressure, oil production 65 and the ratio 11,769.

So, they felt that they had tested the ratio again. They had ascertained that the ratio in the tubing was going to be about the same as in the casing, they had experienced loss in oil productivity from 80 barrels down now to 64, and 58, and 65 barrels a day, and they felt that possibly there may be something clogging something up in the bottom of the tubing or in the choke.

So, they opened the choke up pretty wide and let the well flow fairly hard and cleaned it out, they felt, and shut it back down to the 15-64 inch choke, and on the morning of the 15th they had had 17 hours of stabilized flow, the tubing pressure at the end of that 17 hours of stabilized

flow was 1280 and the oil produced was 41 barrels.

Now, when I put that on the 24 hour basis, that's 58 barrels of oil per day. Then, on the 16th, Saturday morning's gauges tubing pressure was still 1280. The oil produced was 49 barrels in 24 hours and ratio was 16,433. So, Sunday morning they went out and gauged it, the tubing pressure was still 1280, the oil production was 51 barrels, the gas oil ratio was 15,789. That's the latest information that I have, I believe that they're going to have to shut the well in here, now, if they haven't already, they have completed the tests.

The flowing tubing pressure at this 51 barrels a day was 1280, and the end of test three we were producing about 63 barrels a day, and the flowing casing pressure was 1220. So, we see only a 60 pound difference in the flowing of the casing or flowing from the tubing.

We also see a decline in oil productivity through this month or so of testing. We see an increase in gas-oil ratio during this month or so of testing.

Q (By Mr. Kelly) Then I take it it's your opinion that this well is going, the GOR is going to increase in relation to the oils produced and before too long will probably reach the ratio that will reclassify it?

A I believe that within the next year this well will certainly reach the 32,000 to one ratio. I don't know, at the rate it's going, a straight extrapolation would be three months but I imagine that that rate will change.

Q Also, I assume it is your opinion, based on these pressure figures that the difference in pressure between the tubing and the casing is insignificant as far as the production of oil?

A This indicates just a few pounds difference in surface pressure, whether you are going through the casing or whether you are going through the tubing, and I do know that it is not as efficient to flow an oil well through the annulus as it is through the tubing, and all the literature maintains this, and what you've got there, this is assuming a well with a 1,000 to one ratio.

This well, if it were a pure oil well, would have a ratio of a 1,000 to one. If we were to attempt to produce an oil well with that little bit of gas available to get that oil out of the well, why, we would have to be looking for efficient tubing flow columns but in this case, where we have 15 times more gas than what's in the oil, we have a well that is, in my opinion, much more so a gas well than it is an oil well, as far as the physical properties of the gas and the oil is concerned, just by the ratio of 15,000 to one.

Therefore, I believe that this well is behaving in its flow characteristics like a gas well rather than like an oil well.

Q Based on these figures it's going to behave even more that way in the future, I would assume?

A Yes, that is correct. Of course, just in a matter of a foot or two from the place where we measure these surface pressures, if we were to make a measurement of the pressure it would be in the neighborhood of 25 or 30 pounds, because the inefficiencies in flowing this oil and gas up this wellbore through the annulus or through the tubing, the inefficiencies aren't that we're losing hydrocarbons in so doing. There's no leaks, they are not losing any hydrocarbons but we are losing pressure and as I said, if we lose a few more pounds, as 50 or 60 more pounds, if it takes 60 more pounds to get that production to the surface, it's just 60 more pounds that we don't kill right then on the choke cause there we experience a loss of maybe 12, 1300 pounds the minute it crosses that choke, so really, from an efficiency standpoint, it doesn't make much difference whether you lose it in the flow column as I see it, or whether you lose it plus a whole lot more at the choke when you knock your pressure.

Q Do you feel that you are going to leave any oil in place over and above what you are going to leave in place by

going up the tubing or through the annulus. In other words, is this an efficient way to produce the oil in the Blinebry?

A Yes, in my opinion, annular flow in this particular well is an efficient way of production.

Q What would be the alternative facing Sinclair if this application were not approved?

A Well, well, as mentioned before, I do not believe that we could run parallel strings of tubing in this five inch. The two largest strings that we could run would be inch and a quarter tubing. We could put nothing larger than that in there. That's the maximum tubing that could be run.

With regard to the Drinkard, we anticipate we are going to have to pump the Drinkard in the near future. The field advises me that they are considering a pumping installation for it. If they pump through inch and a quarter, the maximum fluid that they would lift would be 25 barrels a day. They would be using half-inch rods, which are very poor. They would have many inefficiencies in the pumping equipment and it would not be practical or prudent to pump from in the case of the Drinkard, the pump would have to be set at the bottom at 6500 feet, and we do not consider it practical or prudent to lift the Drinkard with rods using inch and a quarter tubing.

With regard to flowing the Blinebry through inch and

a quarter tubing I mentioned earlier reference to literature that said the maximum amount of gas that you should produce for efficient operation through two inch tubing is 330 mcf a day.

Our allowable is 360, we should have at least two inch tubing, I would think, to produce our Blinebry gas. Our annulus is roughly threefold larger than our tubing from a cross sectional basis. This should make an efficient flow path for this very gassy Blinebry well.

Q Then you will be faced with shutting in one of the zones?

A The alternative being we could not dual it and incidentally, it would take another Hearing to get approval to run tubing as small as inch and a quarter. The Commission restricts to tubing of 1.65 inches ID at the minimum. They recognize the difficulties of using small tubing so we would have to just leave the plug in the well.

We would, of course, sacrifice the less productive zone, which is the Drinkard zone and we would have to do so until such a time as the Blinebry completion could qualify as a gas well and then we could complete this dual that we're proposing today.

Meantime, we would be losing, as I mentioned before, over $1,000.00 a month of gross income from the Drinkard zone,

as long as it's shut in. It's entirely possible that this could be a year or two years, I don't know. We have recommended that this order be temporary for one year, at which time we could come back and present the Commission with current data on the producing characteristics of the Blinebry if the application were approved through the annulus, and again examine the well to see if it is prudent to continue the operation like we feel it is at this time.

Q You said $1,000.00 a day, that's $1,000.00 a month?

A Yes. I stand corrected. For the record, it's over $1,000.00 a month gross income is what we're getting out of the Drinkard.

Q In line with the earlier amendment to this application that we would ask that this exception be granted only until such time as the well would be properly reclassified as a gas well, would Sinclair be willing to furnish a monthly gas oil ratio test on Form C-116 to the Commission?

A Yes, we would be agreeable to testing the well running a two test on the well monthly or quarterly or however the Commission would require.

Q In summation, do you feel that the granting of this application would protect the correlative rights of Sinclair and would insure the efficient production and prevent the

waste of both gas and oil, or oil in the Blinebry?

A Yes. I believe that the Blinebry in this well with this ratio and with these flowing characteristics can be produced effectively and efficiently and I believe that this application should be granted in order to protect our correlative rights with regard to both zones.

Q Now, we also have a bottom-hole pressure survey report which has been marked Exhibit 7, do you wish to make any comments on that?

A This bottom-hole pressure test, Exhibit 7, was run in the tubing on May 18th, 1966, with the tubing sleeve open, and encountered oil standing in that tubing at 4810 feet, gravity of the oil was .309 pounds per foot, .302 pounds per foot as shown on the Exhibit; also see the weight of the gas column, .048 and .046 pounds per foot, and I made some calculations from this trying to calculate pressure losses due to lifting in the tubing and in the casing but I found that I did not have sufficient data to make any more than rough estimates.

The best data, I believe, is on Exhibit 6, which is the tabulation of pressures actually measured at the surface and we can assume that the reservoir pressure at the perforations when the well is flowing at 80 barrels per day, for instance, and in the tubing is exactly the same at the perforations

when the well is flowing 80 barrels a day at the casing because the reservoir drawdown at that flow rate would be the same under either condition.

So, by the time you get to the surface, you just compare your surface pressures and you have an idea of the efficiency of the flow.

Q Were Exhibits 1 through 7 prepared by you or under your supervision?

A Yes.

MR. KELLY: I move the introduction of Sinclair's Exhibits 1 through 7.

MR. UTZ: Without objection they will be entered into the record.

(Whereupon, Exhibits 1 through 7 offered and admitted into evidence.)

MR. KELLY: That's all we have on direct examination.

MR. UTZ: The Hearing will recess until 1:30.

(Whereupon, the Hearing was recessed.)

AFTERNOON SESSION

(Whereupon, the Hearing was continued at 1:30 o'clock P.M.)

MR. UTZ: The Hearing will come to order. I believe we were at the cross examination of the witness.

CROSS EXAMINATION

BY MR. UTZ:

Q In spite of the fact, Mr. Anderson, that Mr. Uren in his tables recommends only 360 mcf per day through two inch tubing, really the common practice is to produce more than that through two inch tubing wherever it's necessary?

A Yes. I believe his limit was 330 mcf a day. He recommended that, under ideal conditions that you wouldn't exceed that.

Q But as a matter of common practice, we have much more daily through two and three-eighths inch tubing in many cases, is that correct?

A Yes.

Q Referring to your Exhibit Number 6, on your first test when you flowed through tubing, your oil production rates were in the magnitude of 67 to 80 barrels a day and your GOR's from, oh, around an average would be slightly over 9,000 and all you did when you changed from tubing to casing was to change the valves at the surface, right?

A Yes, sir.

Q And immediately the oil rate stayed the same, or virtually so, and your GOR's went up about 3,000 per barrel, is that about the way it is?

A Yes, sir.

Q What would you attribute that increase in GOR's to?

A Well, I don't know what caused the increase but I would guess that possibly the first day or two after we switched into the casing, that some of the oil that was coming out of the formation was dropping down in the well bore below the perforations, and being stored there, thus causing the GOR to increase somewhat. Then, too, the entire 30 day trend is an increasing GOR trend and it is just possible that this is just a natural; we notice on the third day the GOR was 10,691 and then from that point on it just kept increasing so it's possible it would -- 12,325.

We notice that the gas is identical for both days and in interpreting these gas charts and in trying to calculate your gas production and your ratios, it's possible that this data could actually, truly have been just a continuous increase in gas oil ratio and that's why we decided to put the well back in the tubing after the casing test, to see what would happen to the ratios, to see if they would drop

back down to 9,000. They didn't, in fact, they have continued to increase from the 12,000 on up to 15, 16,000 to one.

Q Well, from 6-28 tubing flow, the date of 6-28 to 6-29 where it jumped from 9,000 to 12,000 you would consider that as a gradual increase, wouldn't you?

A No. That 9,000 to 12,000 is a marked increase.

Q Something happened in one day to cause it to go up about 3,000?

A Yes, sir.

Q And during the period from 6-29 to 7-10 that is somewhat of a gradual increase. However, it isn't consistent, is it?

A No, sir.

Q Do you think that jump in GOR could possibly have been due to slippage of gas out of the flow string?

A No, sir, I do not. I thought at first that that's what it looks like. I referred back to the literature, the most interesting literature that I found was the Uren textbook that I referred to earlier in the Hearing, and in reading that I see that we are worried about slippage in oil wells and we're worried where we do not have much gas. For instance, if this was a pure oil well, it would have a GOR of 1,000 to one and then we would be concerned that we had a flow string small enough to prevent slippage but I don't believe that any of his

conclusions that he draws, I believe all of them are concerned with oil wells and their solution gas, and he is not talking about a well that has 100 feet or more of pure gas cap open and producing the amount of extraneous gas that this well is producing.

Now, sometimes we get a little concerned about slippage when we're going to gas lift the well artificially and we want to conserve our gas because our gas is -- we buy our gas, usually to gas lift with, we don't want to waste it and there's no point in putting the gas in there any faster than what it takes to lift your solid oil column; and here again, when we talk about gas lifting, we are talking about adding 500 cubic feet per barrel to maybe as much as 2,000 cubic feet per barrel to the oil. That's about what we use.

Well, here again, we are talking about 15,000 cubic feet per barrel, maybe 14,000 has been added to each barrel of oil as a result of opening these gas perforations, so what we're doing here, we're just blowing that oil up the hole, as I visualize it, in a very light mist condition, and we have quite a velocity there and quite a -- I don't believe that slippage is a factor, and I do not believe that slippage can account for the change in ratio from 9,000 to 12,000.

Q The effective diameter of the annulus in this case,

even at the collar, is twice the effective diameter of the two and three-eighths tubing, isn't that true?

A The two inch tubing would have a cross sectional area of 3.12 inches. Our annulus at the collar is 8.77 inches, so it's about three times more cross sectional area at the collars than regular two inch tubing and about three times along the tubing, too.

Q This would be equivalent to the effective diameter of almost four inch tubing, would it not?

A I believe that's about right, yes, sir.

Q Actually, in completing any oil well you wouldn't use four inch tubing, would you?

A Not in completing an oil well. It's very important that you keep the tubing down. In completing gas wells we do usually use large, in effect, four inch tubing by using annulus. This is a small annulus, and usually we use an 8.77 collar, and many of the gas wells in the Blinebry Field are completed in annuluses. There's two of them on the cross section.

Q And those GOR's are in all cases over 32,000?

A Yes, sir. In all cases but one, one of those gas wells is below.

Q I notice that. Do you have any explanation as to why that GOR is 27,300 and still called a gas well?

A During the year 1965, my Exhibit reflects that that well produced a GOR of 105,700 to one for the entire year, that's about the year's distillate and the year's gas. The ratio for the year '65 was that. Why the well is down to 27,300 to one in April, I don't know, but it was.

Q In other words, your contention here and the reason you feel that you are entitled to an exception is that you think that you really have a gas well?

A I realize that under the definitions of the Field Rules, the Blinebry Oil Pool Rules, where the Commission has recognized the Blinebry Oil Pool and the Blinebry Gas Pool as a common source of supply and it has wells completed lower structurally in the oil zone and wells completed intermediate with perforations both low and high and wells completed only high, some of them are illustrated on my Exhibit 2, that some arbitrary definition of a Blinebry Oil Well and a Blinebry Gas Well had to be devised in order to permit you to put the well on one schedule or another.

I realize that under the existing rules and regulations that this well is well within the qualifications of a Blinebry Oil Well, but is -- physically, factually, the well is producing 14 times more gas than a pure oil well would produce and the reason I make that distinction, one of the reasons is in comparing this well to your textbook examples and your

theoretical examples that I have been able to find, when you are talking about sizing, tubing, they are talking about an oil well without extraneous gas, or very little extraneous gas, free gas being produced in addition to the oil.

This is not the case with our well. Our well can not be talked about in the terms that you would talk about an oil well because it's just too much gas. It's much more **manifold**, more a gas well than it is an oil well from a production standpoint.

Q If you add a well or completion here in the Blinebry from, say, 1, 2, or even 3,000 GOR would you still want to complete it in this manner?

A If the ratio was that low, I would not recommend that we flow it in the annulus, no.

Q Because of the flow efficiency?

A That is correct. Probably if this ratio had stayed around 8 or 9,000 to one, it would have been more of a marginal case, whether we could have come up and asked you to consider treating it in this manner, but with the ratios increasing the way they are increasing,with the fact that the well is completed high in the section and we shouldn't have any oil, but we somehow did, I think that we're justified in asking for a temporary exception for one year.

Q Back to your Exhibit Number 6, in, say, the last

test, or the fourth test period, where you flowed through the tubing again; now, that test there is really the one that you base your contention on that the oil is decreasing and your gas is increasing, and you have a gas well?

A Well, I believe the oil has been increasing -- or decreasing, and the gas increasing, or at least the ratio increasing down to the fourth period test, but the fourth period test is where we put the well back through the tubing in an effort to determine if the difference in ratio was due to flowing it through the casing, and we didn't think that it would be, but we were making physical tests in the field and no matter what your theory or thinking or analysis tells you, if you have an opportunity to try it out, this, we feel is much more conclusive and this is what we have done.

I might say further, that had this well exhibited on the fourth period test a much lower ratio, had it dropped back down to 9,000, that we would not have come up and asked you to give us this exception because we would have felt then that we had shown through the testing, that it was less efficient in the annulus and a difference of 3,000 to one ratio is a considerable difference. So, we would not have asked you to consider this problem and make a decision. We would have withdrawn it but we now feel that whether it is in the annulus or tubing has no effect on the gas-oil ratio for the reasons

I have stated previously.

Q Now, the normal unit allowable in the Blinebry is about 60 barrels?

A I believe the June allowable is 60 barrels, yes.

Q So let's see, the Blinebry GOR is what? I don't recall.

A 6,000.

Q 6,000?

A Yes.

Q So, this will be a restricted well?

A Yes, to 360 mcf a day. That's 24 barrels a day, would be the restrictive allowable.

Q What was the rate at which the Drinkard would produce, you said $1,000.00 a month, but how many barrels?

A Yes, it will produce and sustain 10 barrels a day, a ratio of 3,000 to one.

Q This tubing you have in the well, is it the tubing that was originally in the well before completion?

A I don't know. It was tubed with two inch tubing. I don't know if it's this identical tubing or not. It was pulled out to work over the Blinebry and rerun. I am sure some of it was discarded.

Q But the well has been flowing from the Drinkard up until now?

A Yes, sir, and my engineers in the field advise me that they expect that the well will have to be pumped in the near future and especially when Gulf's water flooding operations start, why, they anticipate we'll have to start lifting quantities of water with the well, which will necessitate its pumping.

MR. UTZ: Are there any other questions of the witness? The witness may be excused.

(Witness excused.)

MR. UTZ: Any statements in this case? We will take the case under advisement.

I N D E X

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EXHIBITS

EXHIBIT	MARKED FOR IDENTIFICATION	OFFERED	ADMITTED
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STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, 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 23rd day of July, 1966.

Ada Dearnley
NOTARY PUBLIC

My Commission Expires:

June 19, 1967.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 3431, heard by me on July 19, 1966.

....., Examiner
New Mexico Oil Conservation Commission

DOCKET NO. 26-67

DOCKET: SPECIAL HEARING - WEDNESDAY - AUGUST 30, 1967

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

CASE 3644: In the matter of the hearing called by the Oil Conservation Commission upon its own motion to consider the revision of Paragraph (1) of Order No. R-3221, to provide that the effective date for the prohibition of surface disposal of produced water from the North Bagley-Upper Pennsylvanian, North Bagley-Middle Pennsylvanian, North Bagley-Lower Pennsylvanian, North Bagley-Wolfcamp, and Northeast Bagley-Wolfcamp Pools, Lea County, New Mexico, or within one mile thereof, be changed from November 1, 1967, to some earlier date.

NOTE: A COPY OF THIS DOCKET WAS MAILED TO ALL PRODUCERS IN THE ABOVE-MENTIONED POOLS ON AUGUST 11, 1967.

DOCKET NO. 27-67

DOCKET: EXAMINER HEARING - WEDNESDAY - SEPTEMBER 6, 1967

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 3431 (Reopened and continued from the August 9, 1967 Examiner Hearing)

In the matter of Case 3431 being reopened pursuant to the provisions of Order No. R-3100 to permit Sinclair Oil & Gas Company to show cause why its W. H. Turner Well No. 1 located in Unit L of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, a dual completion in the Drinkard and Blinebry Oil Pools, should not be completed in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations.

CASE 3645: Application of Skelly Oil Company for special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Lazy "J" Pennsylvanian Pool, including a provision for 80-acre spacing units for that area east of a line drawn through the centers of Sections 26 and 35, and south of a line drawn along the south line of Sections 33, 34, and 35, all in Township 15 South, Range 33 East, Lea County, New Mexico

CASE 3646: Application of Texaco Inc. for a waterflood project, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Delaware Sand through 12 wells in the Cotton Draw Unit Participating Area and through 3 wells on off-setting leases in Sections 10, and 28, Township 25 South, Range 32 East, Paduca-Delaware Pool, Lea County, New Mexico.

CASE 3647: Application of Tenneco Oil Company for two waterflood projects, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute two waterflood projects by the injection of water into the Delaware Sand through two wells on its State Monsanto Lease, in Section 16, and through one well on its J. D. Sena, Jr. Lease, in Section 28, both in Township 25 South, Range 32 East, Paduca-Delaware Pool, Lea County, New Mexico.

CASE 3648: Application of Tenneco Oil Company for a dual completion, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval of the dual completion (conventional) of its Jicarilla "A" Well No. 8 located in Unit H of Section 17, Township 26 North, Range 5 West, Rio Arriba County, New Mexico, in such a manner as to permit the production of Tapacito-Gallup oil and Basin-Dakota gas through tubing, and the casing-tubing annulus, respectively, by means of a cross-over assembly.

CASE 3649: Application of Texas Pacific Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Ella Drinkard Well No. 2 located in Unit E of Section 25, Township 22 South, Range 37 East, Lea County, New Mexico, in such a manner as to produce oil from an undesignated Ellenburger pool and from another undesignated pool, either pre-Ellenburger or Granite Wash, through parallel strings of tubing.

CASE 3650: Application of Albert Gackle for dow-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle production from the Dalmat and South Eunice Pools in the well-bore of his Esmond "B" Well No. 3 located in Unit H of Section 33, Township 22 South, Range 36 East, Lea County, New Mexico, with the assignment of a single allowable to said commingled production.

CASE 3635 (Corrected Notice):

Case 3635, Application of Cities Service Oil Company for an Exception to Order No. R-3221, Chaves County, New Mexico, was heard by the Commission on August 16, 1967. This notice is being given and the case will be re-opened to correct the location of one of the surface pits which were the subject of the hearing. The correct location of said pit is Unit E of Section 2, Township 14 South, Range 31 East, Chaves County, New Mexico, rather than Unit L of Section 2 as previously advertised.

CASE 3651: Application of Olen F. Featherstone for the creation of a new pool and special pool rules, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Permo-Pennsylvanian pool for his Mobil-State Well No. 1 located in Unit E of Section 32, Township 14 South, Range 35 East, Lea County, New Mexico, and for the promulgation of special rules therefor including a provision for 80-acre proration units.

CASE 3652: Application of Depco, Inc. for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of its Artesia Unit Area comprising 2400 acres, more or less, of State lands in Townships 17 and 18 South, Range 28 East, Eddy County, New Mexico.

CASE 3653: Application of Depco, Inc. for a waterflood project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project in its Artesia Unit Area by the injection of water into the Grayburg formation through 15 wells, Artesia Pool, Eddy County, New Mexico.

CASE 3654: Application of Mobil Oil Corporation for a waterflood expansion and for an amendment of Order No. R-1244, Lea Co New Mexico. Applicant, in the above-styled cause, seeks authority to expand its Bridges-State Wate. Flood Project by the conversion to water injection of its Bridges-State Wells Nos. 63 and 73 in Units K and G of Section 13; Wells Nos. 3 and 6 in Units O and E of Section 23; Well No. 47 in Unit K of Section 24; Well No. 5 in Unit C of Section 26, and Well No. 52 in Unit A of Section 27; its State G Well No. 3 in Unit G of Section 24 and State J Wells Nos. 1 and 4 in Units I and A of Section 22, all in Township 17 South, Range 34 East, Vacuum Pool, Lea County, New Mexico.

Applicant further seeks the amendment of Order No. R-1244 to provide that future operation and expansion of said project would be subject to the provisions of Rule 701-E of the Commission Rules and Regulations.

in/

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

July 28, 1967

COPY

Sinclair Oil & Gas Company
Post Office Box 1470
Midland, Texas 79701

DOCKET MAILED
Date 8-23-67

Attention: Mr. R. M. Anderson

Re: Case No. 3431

Gentlemen:

Reference is made to your letter dated July 27, 1967, requesting that Case No. 3431 be continued to an examiner hearing in September, 1967.

Case 3431 will be continued to the examiner hearing scheduled for 9 a.m. on September 6th in the Oil Conservation Commission Conference Room, State Land Office Building, Santa Fe, New Mexico.

Very truly yours,

DANIEL S. NUTTER
Chief Engineer

DSN/ir

SINCLAIR OIL & GAS COMPANY
P. O. BOX 1470
MIDLAND, TEXAS 79701

July 27, 1967

WEST TEXAS REGION

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

Attention Mr. D. S. Nutter
Chief Engineer

Reference: Examiner Hearing
August 9, 1967

Gentlemen:

Please refer to Commission Order R-3100 dated August 5, 1966, wherein the Commission approved Sinclair Oil & Gas Company's application to produce its W. H. Turner Well #1 as an oil-oil dual through the tubing and the casing-tubing annulus for a period of one year at which time an Examiner's Hearing would be scheduled to review the installation. Accordingly, the Commission has set this matter for hearing on August 9, 1967, Case No.3431, (Reopened).

Finding No. 5 of said Order reflects that production tests on this well indicated a gas-oil ratio of 15,789 cubic feet per barrel in said Blinebry zone which is producing through the casing-tubing annulus. Recent gas-oil ratio tests on July 13, 1967, (C-116 Filed 7-17-67) reflected that the Blinebry zone produced 36 barrels of oil and 4 barrels of water, and 780 MCF of gas for a gas-oil ratio of 21,667 cubic feet per barrel. This indicates that the producing characteristics of this well have not substantially changed since the hearing on July 19, 1966, and as found in said Finding No. 5 and that this completion is still feasible and in accord with good conservation practices (Finding No. 7).

Sinclair Oil & Gas Company respectfully requests that the hearing scheduled on August 9, 1967 to review this completion method be continued and/or rescheduled for an Examiner Hearing in September, 1967, in order to allow sufficient time to adequately study and prepare the testimony. As there was no

opposition at the original hearing on July 19, 1966, it is believed that there is no conern over correlative rights by the other operators in this area.

Very truly yours,

SINCLAIR OIL & GAS COMPANY

R. M. Anderson
Region Regulatory Engineer

RMA/oc

cc: White, Gilbert, Koch & Kelly
P. O. Box 787
Santa Fe, New Mexico

Mr. Horace N. Burton
Legal Department

Mr. W. F. Burns, Supt.
P. O. Box 1920
Hobbs, New Mexico 88240

File

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

August 5, 1966

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

Re: Case No. 3431
Order No. R-3100
Applicant:

SINCLAIR OIL & GAS CO.

DOCKET MAILED
Date 7-27-67

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.
A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC

DOCKET MAILED
Date 8-23-67

OTHER

Case 3431
Heard 7-9-66
Rec. 7-28-66

1. Grant Sinclair permission flow the Blinebry production thru the 5 x 2 3/8 Annulus ~~in~~ their ~~WF~~ Turner #1 L 29-21S-37E. in ~~exception to Rule 8 of Blinebry pool Rules R-1670 and~~ General Rule 112A.

2. This order shall be for a temporary period 7 1/2 yrs.

3. Said ~~that~~ the Blinebry Zone has increased in GOR from 8782 to 15,789 on a 25 day production test. which indicates the well will probably become a gas well in a year.

8/17/25

4. Find ~~that to be~~ it is necessary to pump the Drinkard zone thru 2 3/8 tubing in order to make the allowable and that there is "casing would not accommodate another string of tubing large enough to produce the Blinebry.

Examiner

Docket No. 18-66

DOCKET: EXAMINER HEARING - TUESDAY - JULY 19, 1966

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

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

CASE 3428: Application of Continental Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of its Eumont-Hardy Unit Area comprising 1,930 acres, more or less, of State, Federal and Fee lands in Township 20 South, Ranges 37 and 38 East, and Township 21 South, Ranges 36 and 37 East, Lea County, New Mexico.

CASE 3429: Application of Continental Oil Company for two waterflood projects, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a waterflood project by the injection of water into the Yates, Seven Rivers, and Queen formations, Eumont Pool, through 28 wells in its Eumont Hardy Unit. Applicant further seeks the approval of an offsetting cooperative waterflood project to be conducted on its SEMU Eumont lease by the injection of water into two wells in Section 25, Township 20 South, Range 37 East, all in Lea County, New Mexico.

CASE 3430: Application of Tenneco Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of its Hess Hills Unit Area comprising 16,801 acres, more or less, of State, Federal and Fee lands in Townships 23 and 24 South, Ranges 23 and 24 East, Eddy County, New Mexico.

CASE 3431: Application of Sinclair Oil & Gas Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the approval of the dual completion of its W. H. Turner Well No. 1 located in Unit L of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, to produce oil from the Drinkard Oil Pool through 2-inch tubing and to produce oil from the Blinebry Oil Pool through the casing-tubing annulus.

CASE 3432: Application of Gulf Oil Corporation for down-hole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle in the well-bore marginal oil production from the Arrowhead Drinkard Pool and an undesignated Blinebry Pool in its Harry Leonard (NCT-C) Well No. 11 located in Unit K of Section 36, Township 21 South, Range 36 East, Lea County, New Mexico.

CASE 3252 (Reopened):

In the matter of Case No. 3252 being reopened pursuant to the provisions of Order No. R-2917, which order established 640-acre spacing units for the McMillan-Morrow Gas Pool, Eddy County, New Mexico, for a period of one year after first pipeline connection in the pool. All interested parties may appear and show cause why said pool should not be developed on 320-acre spacing units.

CASE 3433: Application of Skelly Oil Company for an exception to Rule 104, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Rule 104 C I of the Commission Rules and Regulations to permit the production of oil from two wells located less than 660 feet apart in the West Dollarhide-Drinkard Pool, Lea County, New Mexico. Applicant's Mexico "L" Well No. 18 located 1656 feet from the North line and 990 feet from the East line of Section 5, Township 25 South, Range 38 East, is presently completed in said pool, and applicant proposes to recomplete its Well No. 2, located 1980 feet from the North line and 660 feet from the East line of said Section 5 in said pool, with the assignment of a single 40-acre allowable to both wells.

CASE 3259 (Reopened):

In the matter of Case No. 3259 being reopened pursuant to the provisions of Order No. R-2929, which order established 160-acre spacing units for the Nonombre-Upper Pennsylvanian and Nonombre-Lower Pennsylvanian Pools, Lea County, New Mexico, for a period of one year. All interested parties may appear and show cause why said pools should not be developed on 40-acre or 80-acre spacing units.

CASE 3434: Application of Shell Oil Company for a dual completion, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the approval of the dual completion (conventional) of its South Wilson Deep Unit Well No. 2 located in Unit J of Section 33, Township 21 South, Range 34 East, Lea County, New Mexico, to produce oil from an undesignated Bone Springs Oil Pool and to produce gas from the Grama Ridge-Morrow Gas Pool through parallel strings of tubing.

CASE 3435: Application of Tidewater Oil Company for a capacity allowable, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the assignment of a capacity allowable to its GO State "J" Well No. 1 located in Unit H of Section 7, Township 17 South, Range 33 East, Maljamar Pool, Lea County, New Mexico. Said well offsets the waterflood project operated by Great Western Drilling Company on its Malmar Unit in said Section 7.

CASE 3436: Application of Leonard Latch for a gas injection project, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks authority to institute a gas injection project in the Empire Yates-Seven Rivers Pool, Eddy County, New Mexico, by the injection of gas into the Yates formation through his Berry "A" Wells Nos. 11 and 26, located in Units K and O, respectively, of Section 24, Township 17 South, Range 27 East.

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-104
5-1-61

APPLICATION FOR MULTIPLE COMPLETION

Case 3431

JUN 17 AM 7 40

Operator			Date
Sinclair Oil & Gas Company		Lea	6-14-66
Address			Well No.
P. O. Box 1470, Midland, Texas		W. H. Turner	1
Location of Well: Unit	Section	Township	Range
L	29	21-S	37-E

1. Has the New Mexico Oil Conservation Commission heretofore authorized the multiple completion of a well in these same pools or in the same zones within one mile of the subject well? YES X

2. If answer is yes, identify one such instance: Order No. DC 458 Operator Lease, and Well No.: Sinclair Oil & Gas Company H. S. Turner No. 3 N-29-21-37

3. The following facts are submitted:	Upper Zone	Intermediate Zone	Lower Zone
a. Name of Pool and Formation	Blinebry Oil		Drinkard
b. Top and Bottom of Pay Section (Perforations)	5,508 5,724		6,572 6,607
c. Type of production (Oil or Gas)	Oil		Oil
d. Method of Production (Flowing or Artificial Lift)	Flowing		Flowing

4. The following are attached. (Please check YES or NO)

Yes	No	
X		a. Diagrammatic Sketch of the Multiple Completion, showing all casing strings, including diameters and setting depths, centralizers and/or turbolizers and location thereof, quantities used and top of cement, perforated intervals, tubing strings, including diameters and setting depth, location and type of packers and side door chokes, and such other information as may be pertinent.
X		b. Plat showing the location of all wells on applicant's lease, all offset wells on offset leases, and the names and addresses of operators of all leases offsetting applicant's lease.
	X	c. Waivers consenting to such multiple completion from each offset operator, or in lieu thereof, evidence that said offset operators have been furnished copies of the application.
	X	d. Electrical log of the well or other acceptable log with tops and bottoms of producing zones and intervals of perforation indicated thereon. (If such log is not available at the time application is filed, it shall be submitted as provided by Rule 112-A.)

5. List all offset operators to the lease on which this well is located together with their correct mailing address.

Mobil Oil Company, P. O. Box 1800, Hobbs, New Mexico

Sunray DX Oil Company, 1101 Wilco Building, Midland, Texas

Marathon Oil Company, P. O. Box 2107, Hobbs, New Mexico

Pan American Petroleum Corporation, P. O. Box 68, Hobbs, New Mexico

Skelly Oil Company, P. O. Box 730, Hobbs, New Mexico

Gulf Oil Corporation, P. O. Box 670, Hobbs, New Mexico

6. Were all operators listed in Item 5 above notified and furnished a copy of this application? YES ____ NO X. If answer is yes, give date of such notification ____

CERTIFICATE: I, the undersigned, state that I am the Engineering Supervisor of the Sinclair Oil & Gas Company (company), and that I am authorized by said company to make this report; and that this report was prepared under my supervision and direction and that the facts stated therein are true, correct and complete to the best of my knowledge.

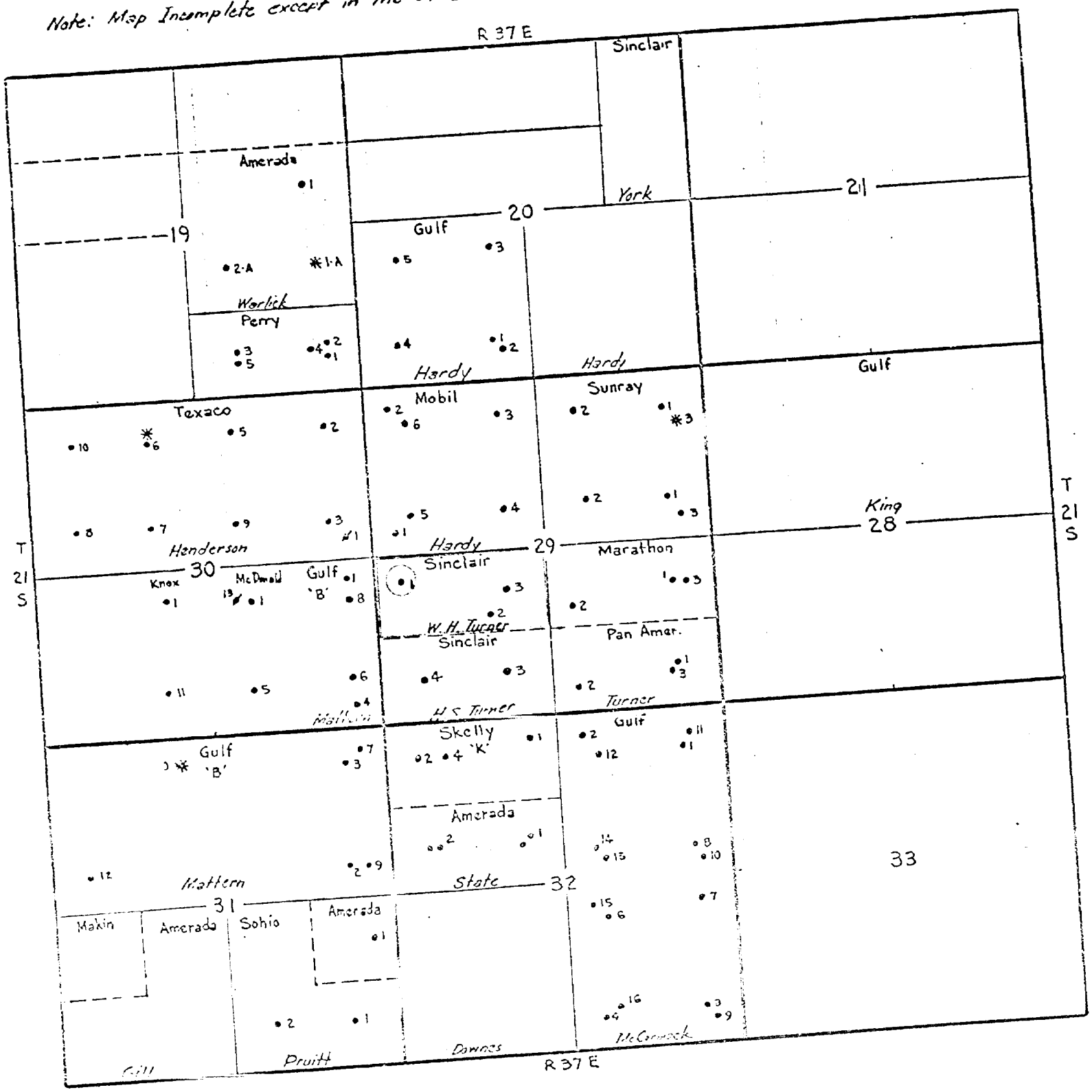
R. E. Powers
Signature

*Should waivers from all offset operators not accompany this application, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from the date received in the Commission's Santa Fe office. If, after said twenty day period, no protest nor request for hearing is received, the application will then be processed.

NOTE: If the proposed multiple completion will require a non-standard gas proration unit for any of the producing zones, then separate application for a non-standard proration unit in one or more of the producing zones must be filed simultaneously with this application.

PORTION OF LEA COUNTY, NEW MEXICO
PLAT TO ACCOMPANY DUAL COMPLETION APPLICATION
W. H. TURNER NO. 1

Note: Map Incomplete except in the area immediately adjoining Sinclair, Turner Lse. (Sec. 29).



SCALE: 1" = 2000 ft.

5-2-44

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
August 9, 1967

EXAMINER HEARING

In the Matter of: In the matter of Case 3431 being reopened pursuant to the provisions of Order Number 3100	Case No. 3431

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF HEARING

STATE OF NEW MEXICO)
) SS.
COUNTY OF BERNALILLO)

I, JERRY M. POTTS, Court Reporter, do hereby certify that the foregoing and attached transcript of proceedings before the New Mexico Oil Conservation Commission Examiner at Santa Fe, New Mexico, is a true and correct record to the best of my knowledge, skill and ability.

IN WITNESS WHEREOF: I have affixed my hand and notarial seal this 11th day of August, 1967.

Notary Public & Court Reporter

My Commission Expires:

June 26, 1968

I do hereby certify that the foregoing is
8/9 3431
67

MR. NUTTER: Case Number 3431.

MR. HATCH: Case 3431. In the matter of Case 3431 being reopened pursuant to the provisions of Order Number 3100, to permit Sinclair Oil and Gas Company to show cause why its W. H. Turner Well Number 1, located in Unit L of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, a dual completion in the Drinkard and the Blinebry Oil Pools, should not be completed in accordance with the provisions of Rule 112 of the Commission's Rules and Regulations.

If the Examiner please, we have received word from Sinclair Oil and Gas Company that no substantial change has occurred in this well, and they have requested that the case be continued until a hearing in September to allow them sufficient time to prepare testimony.

MR. NUTTER: Case 3431 will be continued to the Examiner Hearing scheduled for 9:00 A.M., September 6th, 1967, at this same place.

BEFORE THE
NEW MEXICO OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
September 4, 1968

EXAMINER HEARING

IN THE MATTER OF:

Case No. 3431 being reopened pursuant to the provisions of Order No. R-3100-A to permit Sinclair Oil & Gas Company to show cause why its W. H. Turner Well No. 1 located in Unit L of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, a dual completion in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations.

Case 3431

(Reopened)

BEFORE: Elvis A. Utz
Examiner

TRANSCRIPT OF HEARING

MR. UTZ: Case 3431.

MR. HATCH: Case 3431, reopened. In the matter of Case Number 3431 being reopened pursuant to the provisions of Order Number R-3100-A to permit Sinclair Oil and Gas Company to show cause why its W. H. Turner Well Number 1 located in Unit L of Section 29, Township 21 South, Range 37 East, Lea County, New Mexico, a dual completion in the Drinkard and Blinebry Oil Pools, should not be completed in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations.

If the Examiner please, Applicant, Sinclair Oil and Gas Company has requested that the case be dismissed and the Order 3100-A terminate.

MR. UTZ: Case 3431 will be dismissed in accordance with the Applicant's request.

STATE OF NEW MEXICO)
) ss.
COUNTY OF BERNALILLO)

I, CHARLOTTE MACIAS, 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 2nd day of October, 1968.

Notary Public

My Commission Expires:

February 10, 1971.

343/15

Case #3431
Heard 9-4-68
Rec. 9-5-68.

Decision as requested by Applicant.

GOVERNOR
DAVID F. CARGO
CHAIRMAN

State of New Mexico
Oil Conservation Commission

LAND COMMISSIONER
GUYTON B. HAYS
MEMBER

P. O. BOX 2088
SANTA FE

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

September 12, 1968

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

Re: Case No. 3431
Order No. R-3100-B
Applicant:
Sinclair Oil & Gas Company

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

Carbon copy of order also sent to:

Hobbs OCC x
Artesia OCC
Aztec OCC
Other

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE No. 3431
Order No. R-3100

APPLICATION OF SINCLAIR OIL & GAS
COMPANY FOR A DUAL COMPLETION, LEA
COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on July 19, 1966, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 5th day of August, 1966, 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, Sinclair Oil & Gas Company, seeks, as an exception to Rule 112-A of the Commission Rules and Regulations, temporary authority to complete its W. H. Turner Well No. 1, located in Unit L of Section 29, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, as a dual completion to produce oil from the Blinebry Oil Pool through 2 3/8-inch tubing and to produce oil from the Tubb Oil Pool through the casing-tubing annulus, with segregation of zones by a packer set at approximately 6500 feet.

(3) That the subject dual completion is [illegible] in the Blinebry zone and an oil well in the Tubb zone.

(4) That the Special Rules and Regulations governing the Blinebry Oil Pool require that each well be classified as an oil well in the Blinebry Oil Pool.

(5) That production tests, over a 25-day period, show an increase in the gas-oil ratio from 8782 cubic feet of gas per barrel of liquid hydrocarbons to 15,789 cubic feet of gas per barrel of liquid hydrocarbons indicating the subject well may soon be classified as a gas well in the Blinebry Gas Pool.

(6) That it is not feasible to install another string of tubing within the 5-inch casing in the subject well.

(7) That the peculiar reservoir characteristics of the Blinebry Oil Pool adjacent to the subject well-bore are such as to make the proposed dual completion feasible and in accord with good conservation practices.

(8) That the applicant should be allowed to complete its W. H. Turner Well No. 1 to produce oil from the Drinkard Oil Pool through 2 3/8-inch tubing and to produce oil from the Blinebry Oil Pool through the casing-tubing annulus until the upper completion of said well has been re-classified as a gas well in the Blinebry Gas Pool, or one year, whichever comes first, during which time additional gas-oil ratio tests should be conducted to determine the subject well's proper classification as an oil well or a gas well.

(9) That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

That the applicant, Sinclair Oil & Gas Company, is hereby granted an exception to Rule 112-A of the Commission Rules and Regulations to complete its W. H. Turner Well No. 1, located in Unit L of Section 29, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, as a dual completion to produce oil from the Drinkard Oil Pool through 2 3/8-inch tubing and to produce oil from the Blinebry Oil Pool through the casing-tubing annulus, with separation of zones by a packer set at approximately 6540 feet, for a period of one year, or until the upper completion of said well has been re-classified as a gas well in the Blinebry Gas Pool, whichever comes first;

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Commission Rules and Regulations insofar as said rule is not inconsistent with this order;

PROVIDED FURTHER, that the applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Gas-Oil Ratio Test Period for the Blinebry Oil Pool.

IT IS FURTHER ORDERED:

(1) That if the upper completion of the subject well is still classified as an oil well in the Blinebry Oil Pool, this cause shall be reopened at an examiner hearing in August, 1967, at which time the operator of said well may appear and show cause why said well should not be completed in accordance with Rule 112-A of the Commission Rules and Regulations.

(2) That Administrative Order NC-1713, which authorized the dual completion of the subject well to produce gas from the Blinebry Gas Pool and oil from the Drinkard Oil Pool through the casing-tubing annulus and through 2 3/8-inch tubing, respectively, is hereby suspended for as long as this order remains in effect.

(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

JACK M. CAMPBELL, Chairman

GUYTON B. HAYS, Member

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

esr/

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. 3431
Order No. R-3100-A

IN THE MATTER OF CASE 3431 BEING REOPENED PURSUANT TO THE PROVISIONS OF ORDER NO. R-3100 TO PERMIT SINCLAIR OIL & GAS COMPANY TO SHOW CAUSE WHY ITS W. H. TURNER WELL NO. 1 LOCATED IN UNIT L OF SECTION 29, TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM, LEA COUNTY, NEW MEXICO, A DUAL COMPLETION IN THE DRINKARD AND BLINEBRY OIL POOLS, SHOULD NOT BE COMPLETED IN ACCORDANCE WITH THE PROVISIONS OF RULE 112-A OF THE COMMISSION RULES AND REGULATIONS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 6, 1967, at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 12th day of September, 1967, 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 by Order No. R-3100, dated August 5, 1966, the applicant, Sinclair Oil & Gas Company, was granted an exception to Rule 112-A of the Commission Rules and Regulations to complete its W. H. Turner Well No. 1, located in Unit L of Section 29, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, as a dual completion to produce oil from the Drinkard Oil Pool through 2 3/8-inch tubing and to produce oil from the Blinebry Oil Pool through the casing-tubing annulus, with separation of zones by a packer set at approximately 6540 feet, for a period

of one year, or until the upper completion of said well has been re-classified as a gas well in the Blinebry Gas Pool, whichever comes first.

(3) That pursuant to the provisions of Order No. R-3100, this case was reopened to allow the operator of the subject well to appear and show cause why the well should not be completed in accordance with Rule 112-A of the Commission Rules and Regulations.

(4) That a gas-oil ratio test conducted July 13, 1967, shows an increase in the gas-oil ratio from 15,789 cubic feet of gas per barrel of liquid hydrocarbons on July 17, 1966, to 21,667 cubic feet of gas per barrel of liquid hydrocarbons on said July 13.

(5) That the aforementioned increase in gas-oil ratio is further evidence that the subject well may soon be classified as a gas well in the Blinebry Gas Pool.

(6) That the authority granted under Order No. R-3100 should be continued in full force and effect for a one-year period in order to further evaluate the producing characteristics of the subject well.

IT IS THEREFORE ORDERED:

(1) That the authority granted under Order No. R-3100 is hereby continued in full force and effect for a one-year period from the date of this order.

(2) That if the upper completion of the subject well is still classified as an oil well in the Blinebry Oil Pool, this case shall be reopened at an examiner hearing in September, 1968, at which time the operator of the subject well may appear and show cause why said well should not be completed in accordance with Rule 112-A 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. CARGO, Chairman

GUYTON B. HAYS, Member

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

esr/

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. 3431
Order No. R-3100-B

IN THE MATTER OF CASE 3431 BEING REOPENED PURSUANT TO THE PROVISIONS OF ORDER NO. R-3100-A TO PERMIT SINCLAIR OIL & GAS COMPANY TO SHOW CAUSE WHY ITS W. H. TURNER WELL NO. 1 LOCATED IN UNIT L OF SECTION 29, TOWNSHIP 21 SOUTH, RANGE 37 EAST, NMPM, LEA COUNTY, NEW MEXICO, A DUAL COMPLETION IN THE DRINKARD AND BLINEBRY OIL POOLS, SHOULD NOT BE COMPLETED IN ACCORDANCE WITH THE PROVISIONS OF RULE 112-A OF THE COMMISSION RULES AND REGULATIONS.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on September 4, 1968, at Santa Fe, New Mexico, before Examiner Elvis A. Utz.

NOW, on this 12th day of September, 1968, 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 by Order No. R-3100, dated August 5, 1966, the applicant, Sinclair Oil & Gas Company, was granted an exception to Rule 112-A of the Commission Rules and Regulations to complete its W. H. Turner Well No. 1, located in Unit L of Section 29, Township 21 South, Range 37 East, NMPM, Lea County, New Mexico, as a dual completion to produce oil from the Drinkard Oil Pool through 2 3/8-inch tubing and to produce oil from the Blinebry Oil Pool through the casing-tubing annulus, with separation of zones by a packer set at approximately 6540 feet, for a period of one year, or until the upper completion of said well

has been re-classified as a gas well in the Blinebry Gas Pool, whichever comes first.

(3) That by Order No. R-3100-A, dated September 12, 1967, the aforesaid exception was extended for a period of one year from said date.

(4) That pursuant to the provisions of said Order No. R-3100-A, this case was reopened to allow the operator of the subject well to appear and show cause why the well should not be completed in accordance with Rule 112-A of the Commission Rules and Regulations.

(5) That the applicant's request to dismiss the reopening of Case 3431 and to allow the exception granted by Order No. R-3100 and extended by Order No. R-3100-A to terminate should be granted.

IT IS THEREFORE ORDERED:

(1) That Case 3431 (Reopened) is hereby dismissed and the exception to Rule 112-A granted by Order No. R-3100 and extended by Order No. R-3100-A is hereby terminated.

(2) 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. CARGO, Chairman

GUYTON B. HAYS, Member

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

esr/

REGIONAL CENTRAL FILE

NEW MEXICO OIL CONSERVATION COMMISSION
GAS – OIL RATIO TESTS

C-116
Revised 1-1-65

Operator	Pool	County
Sinclair Oil & Gas Co.	Blinebry (Oil)	Lea

Address	TYPE OF TEST – (X)	
P.O. Box 1920, Hobbs, New Mexico	Scheduled ☐	Completion ☐ Special ☒

LEASE NAME	WELL NO.	LOCATION U	S	T	R	DATE OF TEST	STATUS	CHOKE SIZE	TBG. PRESS.	DAILY ALLOWABLE	LENGTH OF TEST HOURS	PROD. DURING TEST WATER BBLS.	GRAV. OIL	OIL BBLS.	GAS M.C.F.	GAS – OIL RATIO CU.FT/BBL
W. H. Turner	1	L	29	21	37	7-13-67	F	14/64	635	40	24	4		36	780	21,667

*Re-test to reflect producing capacity.

No well will be assigned an allowable greater than the amount of oil produced on the official test.

During gas-oil ratio test, each well shall be produced at a rate not exceeding the top unit allowable for the pool in which well is located by more than 25 percent. Operator is encouraged to take advantage of this 25 percent tolerance in order that well can be assigned increased allowables when authorized by the Commission.

Gas volumes must be reported in MCF measured at a pressure base of 15.025 psia and a temperature of 60° F. Specific gravity base will be 0.60.

Report casing pressure in lieu of tubing pressure for any well producing through casing.

Mail original and one copy of this report to the district office of the New Mexico Oil Conservation Commission not later than 30 days following completion of the test. Failure to comply with Rule 301 and appropriate pool rules.

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

(Signature)

Superintendent
(Title)

7-17-67
(Date)

STA CHNG

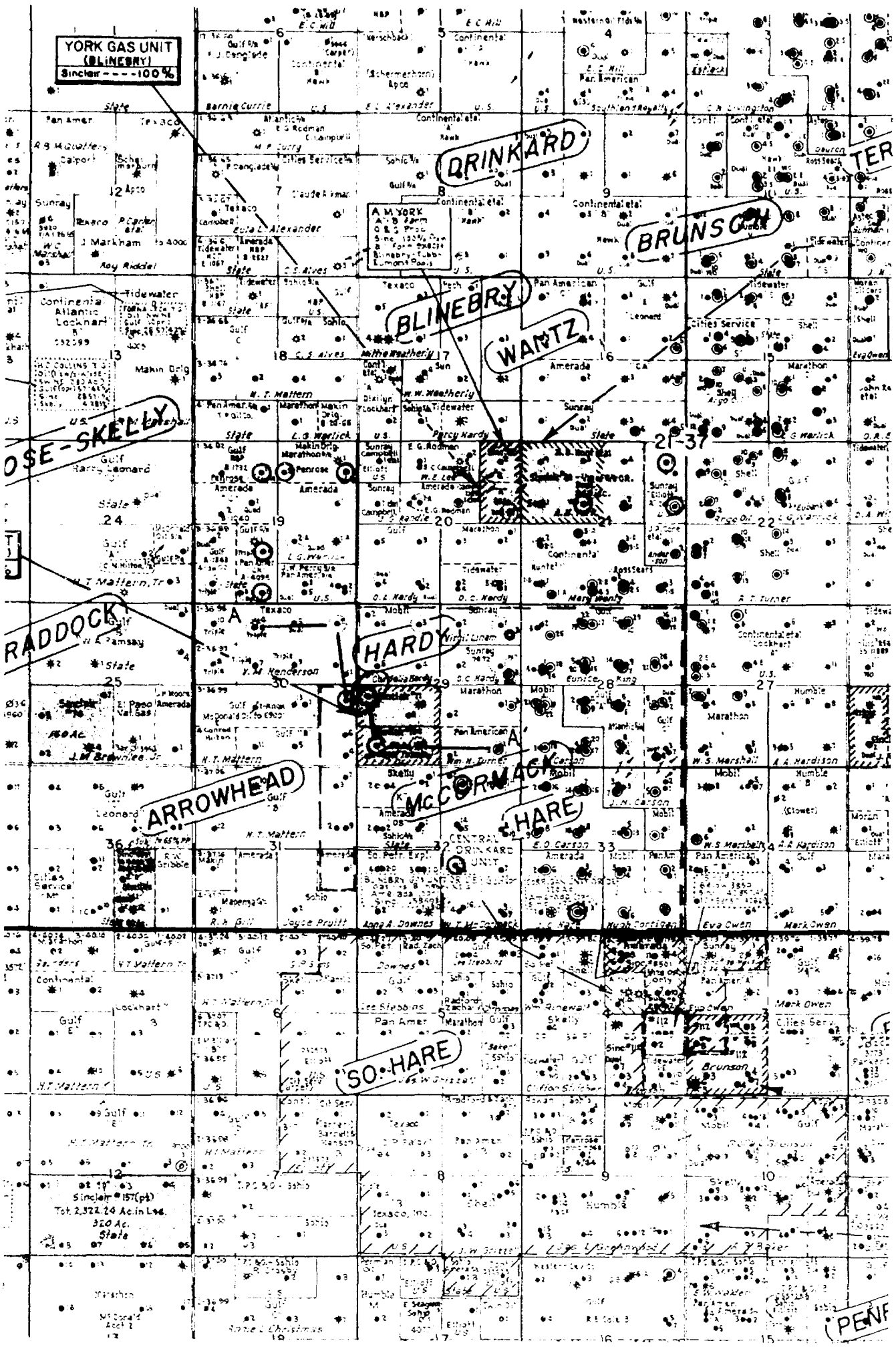
3431

LTA 1-8

SINCLAIR OIL & GAS COMPANY

Offsetting Blinebry Pool Wells to
W. H. TURNER NO. 1
Lea County, New Mexico

Operator	Lease & Well	Class	Year 1965 Production Oil-Dist.	Gas	GOR	Year 1966 Production Oil-Dist.	Gas	GOR	Oil-Dist. Gravity	Flow Column
Texaco	Henderson #6	Gas	5334	200,361	37,550	2745	113,246	41,300	38.4°	Tubing
Texaco	Henderson #2	Gas	1859	196,308	105,700	2073	106,969	51,500	42°	Tubing
Gulf	Mattern "B" #8	Oil	924	6,013	6,520	756	10,852	14,350	No Rpt	Tubing
SINCLAIR	W. H. TURNER #1	OIL	—	—	—	8298	105,338	12,700	39.5°	ANNULUS
Sinclair	H. S. Turner #4	Oil	3731	31,836	8,540	3966	83,761	21,100	39°	Tubing
Sinclair	H. S. Turner #3	Gas	853	27,488	32,200	743	38,049	51,200	53°orig 39°present	Tubing
Pan American	W. H. Turner #3	Gas	659	118,549	180,000	355	73,870	208,000	60°	Annulus
Mobil	Hardy #3	Gas	3280	192,141	58,600	2693	145,460	54,000	46°	Annulus



BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
SINCLAIR EXHIBIT NO. 1
CASE NO. 3431

o GAS WELL

(o) OIL WELL

SINCLAIR OIL & GAS CO.

MIDLAND, TEXAS

PORTION OF

BLINEBRY POOL

LEA COUNTY, NEW MEXICO

DRAWN BY GEH CHECKED BY JWH DATE 7-14-66

SCALE 1" = 1000' REVISED

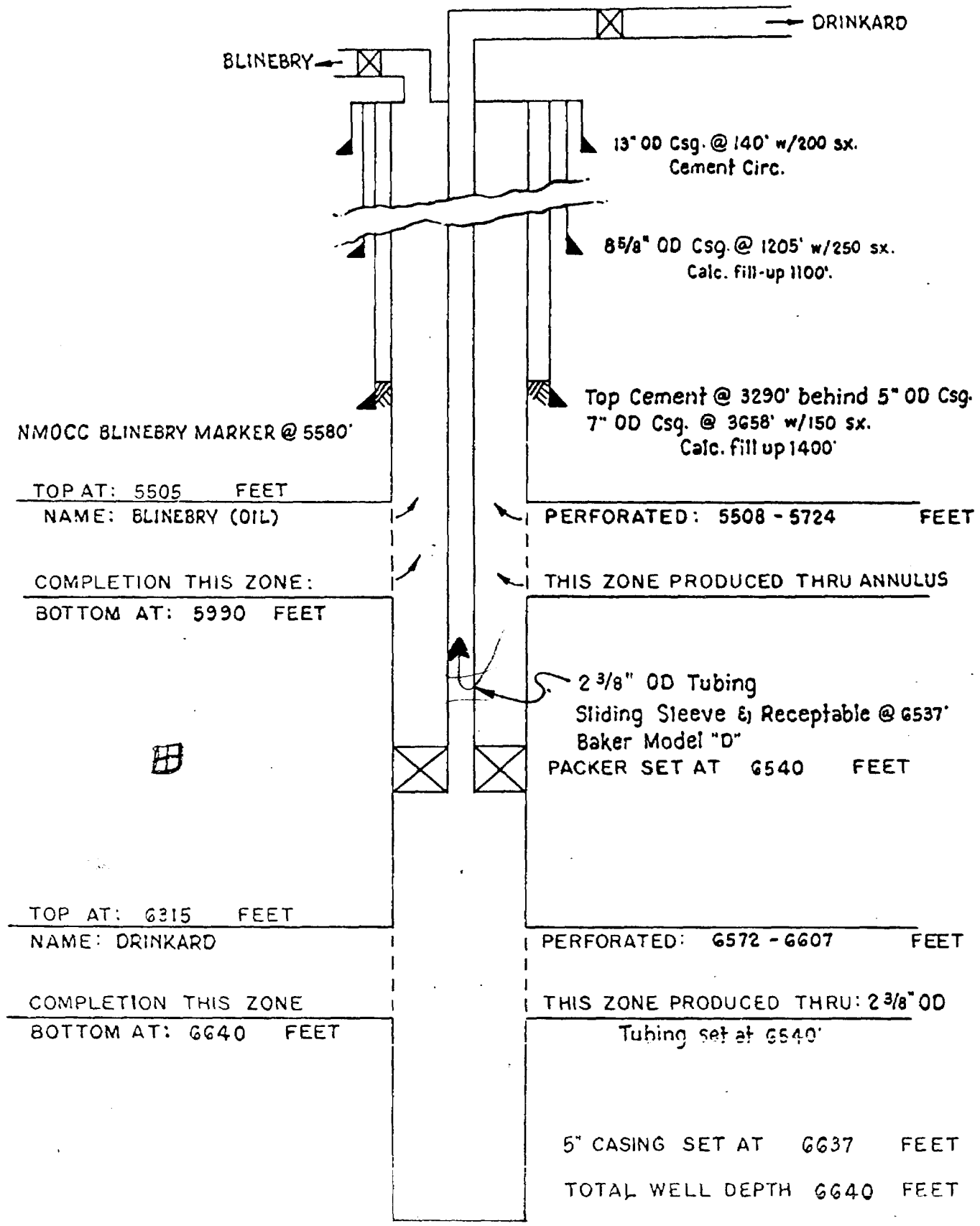
SINCLAIR OIL & GAS COMPANY

W. H. TURNER NO. 1
Offsetting Blinebry Pool Wells
Lea County, New Mexico

Operator	Lease & Well	Class	April 1966 Production Oil-Dist.	Water	Gas	GOR	Year 1965 Production Oil-Dist.	Gas	GOR	Oil-Dist Gravity	Flow Column
Texaco	Henderson #6	Gas	324	44	13444	41,500	5334	200,361	37,550	38.4°	Tubing
Texaco	Henderson #2	Gas	322	0	8799	27,300	1859	196,308	105,700	42°	Tubing
Gulf	Mattern "B" #8	Oil	66	55	426	6,450	924	6,013	6,520	No Rpt	Tubing
Sinclair	H. S. Turner #4	Oil	341	38	4034	11,800	3731	31,836	8,540	39°	Tubing
Sinclair	H. S. Turner #3	Gas	47	118	2939	62,500	853	27,488	32,200	53°orig. 39°present	Tubing
Pan American	W. H. Turner #3	Gas	46	0	12022	261,500	659	118,549	180,000	60°	Annulus
Mobil	Hardy #3	Gas	213	42	24148	113,200	3280	192,141	58,600	46°	Annulus
SINCLAIR	W. H. TURNER #1	OIL	-	-	-	12,512	-	-	-	39.5°	ANNULUS

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
SINCLAIR EXHIBIT NO. 4
CASE NO. 3431

DIAGRAMMATIC SKETCH SHOWING
DUAL COMPLETION INSTALLATION



COMPANY SINCLAIR OIL & GAS CO.

LEASE W. H. TURNER WELL No. 1

FIELD BLINEBRY & DRINKARD

DATE JUNE 14, 1966

BEFORE EXAMINER UTZ
IL CONSERVATION COMMISSION
SINCLAIR EXHIBIT NO. 5
CASE NO. 3431

BEFORE EXAMINER UTZ
OIL CONSERVATION COMMISSION
SINCLAIR EXHIBIT NO. 6
CASE NO. 3431

SINCLAIR OIL & GAS COMPANY

W. H. TURNER NO. 1

Flowing Blinebry Tests

		Hours On	Choke	Flow thru Tbg./Csg.	Pressures Tbg.	Pressures Csg.	Bbls. Oil Prod.	MCF Gas Prod.	GOR
6-22-66		13	15/64"	Tbg.	1320	1610	55	483	8,782
6-23-66	1st Test Period	24	15/64	Tbg.	1320	1610	67	644	9,612
6-24-66		24	15/64	Tbg.	1320	1560	80	684	8,550
6-25-66		24	15/64	Tbg.	1320	1560	77	725	9,416
6-26-66		24	15/64	Tbg.	1320	1560	80	725	9,063
6-27-66		24	15/64	Tbg.	1320	1560	77	725	9,416
6-28-66		24	15/64	Tbg.	1320	1560	80	725	9,063
6-29-66	2nd Test Period	20	15.64	Csg.	1280	1330	80	986	12,325
6-30-66		24	15/64	Csg.	1280	1320	80	986	12,325
7-1-66		24	15.64	Csg.	1280	1320	80	866	10,691
7-2-66		24	15/64	Csg.	1270	1320	80	906	11,325
7-3-66		24	15/64	Csg.	1270	1320	80	906	11,325
7-4-66	3rd Test Period	24	15/64	Csg.	1260	1320	75	906	12,080
7-5-66		24	15/64	Csg.	1260	1320	75	906	12,080
7-6-66		24	15/64	Csg.	1240	1320	77	906	11,766
7-7-66		24	15/64	Csg.	1220	1270	75	937	12,493
7-8-66		24	15/64	Csg.	1200	1240	73	917	12,562
7-9-66		24	15/64	Csg.	1180	1230	67	876	13,075
7-10-66		24	15/64	Csg.	1180	1220	63	876	13,905
7-11-66	4th Test Period	1	15/64	Tbg.	Plugged	1540	3	0	-
7-12-66		16½	15/64	Tbg.	1260	1520	64	456	7,125
7-13-66		24	15/64	Tbg.	1280	1520	58	705	12,155
7-14-66		24	15/64	Tbg.	1280	1520	65	765	11,769
7-15-66		17	15/64	Tbg.	1280	1500	41	513	12,512
7-16-66		24	15/64	Tbg.	1280	1500	49	804	16,433
7-17-66		24	15/64	Tbg.	1280	1500	51	800	15,789

NOTE: Gauges as of 7:15 AM each morning.

JOHN W. WEST ENGINEERING COMPANY
412 NORTH DAL PASO, HOBBS, NEW MEXICO

TELEPHONES 3-3942
3-6770

BOTTOM HOLE PRESSURE SURVEY REPORT

OPERATOR SINCLAIR OIL & GAS COMPANY
LEASE (W.H. TURNER)
WELL NO. 1
FIELD Blinebry Gas
DATE 5-18-66 TIME 10:00 A.M.

STATUS SHUT-IN TEST DEPTH 6375
TIME S.I. 26 HRS. LAST TEST DATE
CAS. PRES. BHP LAST TEST
TUB. PRES. 1322 BHP CHANGE
ELEV. 3475 GR. FLUID TOP 4810
DATUM -2400 WATER TOP
TEMP RUN BY M.C.T.
CLOCK NO. 18971 GAUGE NO. 19389
ELEMENT NO. 9156-N

DEPTH	PRESSURE	GRADIENT
000	1322	
1000	1367	.045
2000	1410	.043
3000	1458	.048
4000	1504	.046
5000	1598	.094
5875*	1868*	.309
6375**	2019**	.302

*DATUM
**TEST DEPTH