BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE 1715

TRANSCRIPT OF HEARING

JULY 8, 1959

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BEFORE THE
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IN THE MATTER OF:

CASE 1715 Application of Gulf Oil Corporation for permission to install a lease automatic custody transfer system. Applicant, in the above-styled cause, seeks an order authorizing it to install automatic custody transfer equipment to receive and measure the oil produced from its B. V. Culp lease consisting of the SW/4 NW/4, E/2 NW/4, and the NE/4 of Section 19, Township 19 South, Range 37 East, Lea County, New Mexico.

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: We will take next Case 1715.

MR. PAYNE: Case 1715. Application of Gulf Oil Corporation for permission to install a lease automatic custody transfer system.

MR. KASTLER: Bill Kastler from Roswell, New Mexico, appearing on behalf of the Gulf Oil Corporation. Our witness in this case is Mr. John W. Hoover.

(Witness sworn)

JOHN W. HOOVER,

called as a witness, having been first duly sworn, testified as

follows:

DIRECT EXAMINATION

BY MR. KASTLER:

Q Will you please state your name and position?

A John Hoover, Petroleum Engineer, Gulf Oil Corporation, Roswell, New Mexico.

Q Mr. Hoover, have you previously appeared and qualified as an expert witness and testified before the New Mexico Oil Conservation Commission and its examiners?

A Yes, sir, I have.

Q Are you familiar with the application of Gulf Oil Corporation in Case 1715?

A Yes, sir.

Q Would you please state what Gulf is seeking in this application?

A We are asking for an exception to Rule 309-A, which requires the measurement of oil in tanks before the oil is transported from the lease; also approval for the installation and operation of automatic custody transfer equipment for our B. V. Culp NCTA lease.

MR. KASTLER: Mr. Examiner, is the witness qualified to your satisfaction?

MR. NUTTER: Yes, sir.

Q Mr. Hoover, do you have a lease plat that has been marked Case 1715, Exhibit No. 1, for introduction here as an Ex-

hibit?

A Yes, sir.

(Thereupon, the document above referred to was marked Applicant's Exhibit No. 1 for identification.)

Q Referring now to Exhibit No. 1, would you state what can be seen on that plat?

A This is a lease plat for our B. V. Culp NCTA Lease, showing the lease outlined with hashed marks, also outlined with red pencil.

Q What is the acreage of this lease, if you please?

A This is a 280-acre lease which we have seven wells producing from the Monument Oil Pool, one well being dually completed in the Eumont Gas Well No. 3.

Q Mr. Hoover, your application states that this lease is approximately 278.7 acres due to the fact there are irregular lots. Do you wish to correct your testimony in that respect as to the acreage, --

A Yes.

Q -- rather than 280?

A 278.7.

Q Is this a State, Federal or Fee lease?

A This is a Fee lease.

Q Is there a diversity of the royalty ownership on this lease?

A No, there is not.

Q Does Exhibit No. 1 show the offset operators?

A Yes, sir.

Q And does it also show the completion, or well completions in the Monument Oil Pool?

A Yes, sir, it does.

Q Would you explain what completions are made on this lease?

A We have seven wells that are completed in the Monument Oil Pool. They were completed back in 1935 and '36. Well No. 3, as shown there, is dually completed in the Monument Oil Eumont Gas.

Q Is the pipeline connection to these wells the same?

A Yes, it is.

Q What is that pipe line?

A Gulf Refining Company takes the oil.

Q Mr. Hoover, do you also have an Exhibit labeled "Case 1715, Exhibit No. 2," which consists of a schematic diagram?

A Yes, sir.

Q Is this schematic diagram a diagram of the proposed LACT installation involved in Case 1715?

A Yes, sir, it is.

(Thereupon, Gulf's Exhibit No. 2 was marked for identification.)

Q Referring now to Exhibit No. 2, would you trace the course of the crude oil from the seven wells into the pipe line through this proposed installation?

A On this schematic diagram we have shown a color code which determines the different types of crude, being -- the pink being raw crude, green, merchantable crude, blue is water, yellow is gas, and brown non-merchantable crude. The center of this Exhibit you will see seven lines coming in labeled "flow lines." There will be a flow line from each of our seven wells going into a windwell header. It will come out of this header through a shut-in valve to a production separator, at which point the oil and gas will be separated, the gas going to sales, the crude going to a production heater-treater. It will come out of the production, heater-treater passing through over a BS & W monitor, and then to a low five hundred barrel storage tank. We will also have test facilities in which the flow will be approximately the same, going through the shut-in valve to the test separator, where the gas is measured, and then on to sales, the oil going to a test heater-treater, at which point the oil and water will be measured, the oil tying into the merchantable crude line and going to the low five hundred barrel tank.

Q Before that is tied in, is it metered or proposed to be metered from the test facilities?

A Yes, it is metered before it goes back into the production line.

Q All right. Continue.

A At the storage tank or volume tank, being the low five hundred barrel tank, we will have a PD meter, skid-mounted

unit for measuring the oil delivered to the pipe line. We will have a strainer, a pump, PD meter, back pressure valve and connections for installing a test meter, check meter. Also we will have safety devices which will shut the lease in case of high level. We will have a high level float in the test heater-treater, the production heater-treater, the test separator, the production separator, and the low five hundre barrel tank. If the level at any one of these vessels reaches that point, it will shut the shut-in valves, close the shut-in valves, which are between that windwell header and the production separator and the test separator. This will cause a slight buildup of pressure on the flow lines, and we will have valves at each well that will shut in from this differential pressure.

Q Mr. Hoover, is your proposed windwell header or the test selector of a type frequently used by the oil industry in New Mexico?

A Yes, sir, we have used several of them and have had no trouble with them.

Q Is it so arranged that at any time the production from six of the wells or perhaps seven of the wells can be flowed directly to the production separator or if you wish to select one well for test, the well, the oil from that well can be diverted to the testing facilities?

A Yes, it has seven connections, or inlet connections which will handle seven wells, two outlet connections, one being

a production line and one a test line, and you can have one well on test all the time, or by a bypass arrangement with valves, the well that would be on test can be blocked to the test separator and produced around through the production separator, and all the wells would go through the production facilities at the time we are not making tests on the wells.

Q Is there any possibility of a backflow into any of the production lines?

A No, sir. The check valves will prevent that.

Q In your opinion, are the proposed testing facilities adequate?

A Yes, sir.

Q Does Gulf seek approval to use either a dump-type meter or PD meter on its test facilities or downstream from its test facilities?

A Yes, sir.

Q And whichever is used will be properly calibrated?

A Yes.

Q Will you please explain the operation of the BS & W monitor?

A The crude oil coming from either the production heater-treater, test heater-treater, or both, pass over this BS & W monitor. If the oil reaches a BS & W content above a pre-set point, it starts the tank bottom pump, closes the valve going to the low five hundred barrel tank. Therefore, the crude is circulated

back around through the production heater-treater, again over the BS & W monitor, and at such time as the oil meets specifications, then the valve will open to the low five hundred barrel storage tank and the tank bottom pump will be shut off.

Q This tank bottom pump is also a recirculating pump, then?

A Yes, it is. We can, by manual operation, recirculate tank bottoms for retreating at any time we so desire.

Q Is the BS & W monitor an electric control that actuates the recirculating or tank bottom pump?

A Yes, sir, that's automatic.

Q And you say you can take the unmerchantable crude, if any should be found at the bottom of the surge tank and recirculate that through the heater-treater, --

A Yes, sir.

Q -- and then find its way back to the surge tank?

A Yes, sir.

Q Will you explain the operation of the surge tank? When does it turn on and when does it turn off?

A In addition to the high level float, which I mentioned previously, we have a pipe line high level switch and a low level switch. When the crude reaches the low level switch, it shuts the pump down to the pipe line; when it reaches the high level switch, it starts the pump up.

Q Delivering the crude oil from the surge tank through

the LACT mechanism and then through the pipe line?

A Yes, sir, through the meter.

Q And you have already explained if there should be any further -- that this proposed installation is set up so that it will fail safe.

A Yes, sir, it will fail safe.

Q Have all offset operators been notified of this requested exception to Rule 309-A?

A Yes, sir, they have.

Q Have you had any communication from them that they are opposed to that?

A No, sir.

Q Will the granting of this application afford protection of correlative rights of the royalty owners and offset operators?

A Yes, sir, it will.

Q Will this result in any waste?

A No, sir, none.

Q Will this proposed installation insure as much accuracy of measurement as is presently obtained through manual gauging of tanks?

A Yes, sir. We believe that it will be as accurate or more accurate than manual gauging.

Q Were Exhibits Nos. 1 and 2 prepared by you or at your direction and under your supervision?

A Yes, sir.

MR. KASTLER: Mr. Examiner, that concludes the questions I have, and at this time I would like to move that Exhibits 1 and 2 be admitted into evidence.

MR. NUTTER: Gulf's Exhibits 1 and 2 will be admitted into evidence.

(The documents heretofore marked Gulf's Exhibits 1 and 2 were received in evidence.)

MR. NUTTER: Any questions of Mr. Hoover?

MR. PAYNE: Yes, sir.

CROSS EXAMINATION

BY MR. PAYNE:

Q Mr. Hoover, are your flow lines above ground or below ground?

A Above ground. All of these lines will be above ground on this installation.

Q Do you propose to have a man on the lease?

A There will not be a man on the lease all the time, but there is a switcher pumper who makes the rounds every day, probably several times a day.

Q Now, these seven wells, are they pump wells or flowing wells?

A They are flowing wells.

Q I believe you testified that you have a high pressure shutoff switch, is that right?

A High level.

Q Yes. Do you have also a low level in case of malfunction or flow line breaks?

A No, sir, we do not have a low level.

Q Do you believe that is necessary when you have flowing wells?

A No, sir. We are not speaking of very high pressures, probably twenty-five pounds on our separators.

MR. PAYNE: Thank you. That's all.

MR. NUTTER: Mr. Porter.

QUESTIONS BY MR. PORTER:

Q Mr. Hoover, has Gulf employed this same type of installation with success elsewhere on other leases?

A Which part of it, just in general?

Q The whole setup?

A Yes, sir, this is similar to what we have on our other automatic batteries. The facilities for measuring the oil to the pipe line is --

Q That was the main thing I was interested in. Now, you testified that you thought the measurement of the oil would be at least as accurate as manual gauging. Has this been borne out by your other installations?

A Yes, sir, it has, and I believe it will be supported by the test results which we have submitted to the Commission.

MR. PORTER: Thank you.

QUESTIONS BY MR. NUTTER:

Q Mr. Hoover, you stated that the No. 3 Well was a Eumont-Monument dual. Is that an oil-oil dual or a gas-oil dual?

A No, sir, a gas-oil dual.

Q Does that well make any liquids?

A The gas part?

Q Yes, sir.

A No, sir.

Q So this installation you are talking about is for handling the liquids produced from the Monument zone only, correct?

A Yes, sir.

Q Now, as I understand it, there is a valve, an automatic valve downstream from the BS & W monitor and downstream from the brown line that goes to the tank bottom pump?

A Yes, sir. It is where -- after you pass over the BS & W monitor, that valve where the brown line takes off perpendicular from it. It is a two-way valve. When it is open, you will be going through the green line. When the pump starts, it closes, and it opens the green line, from the brown line to the green line.

Q If the monitor doesn't like the oil that is going through it, it closes the portion of the valve that leads into the green line going to the five hundred barrel tank and opens the valve into the brown line, correct?

A Yes, sir.

Q But if the monitor likes the oil, the normal flow is

What pressure is actually on the flow lines coming from the wells?

A Well, probably fifty pounds, sixty pounds.

Q Are you acquainted with the wellhead flowing pressures?

A I don't have that information available. I can get it.

Q Are they in excess of a hundred pounds?

A I'd hate to answer that and not know it. It would be just a guess. I can furnish that information.

Q Would you do that, please?

A Of course. They are choked at the well, being flowing wells, and your pressure to the flow line wouldn't proximate the wellhead pressure.

Q The reason I ask, Mr. Hoover, is because in previous orders for installations similar to this, the Commission has required low pressure valves at the wellhead --

A Yes, sir.

Q --to shut the well in case of a flow line break. Now, if there is any excessive pressure on those flow lines, perhaps those low pressure valves should be installed in this instance.

A I can get that information. You would like the well-head pressure?

Q Yes, sir.

A Yes, sir.

MR. NUTTER: Any further questions of Mr. Hoover? He may be excused.

(Witness excused.)

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

MR. KASTLER: No.

MR. NUTTER: Does anyone have anything further in Case 1715? We will take the case under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, J. A. Trujillo, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of Proceedings before the New Mexico Oil Conservation Commission was reported by me in Stenotype and reduced to typewritten transcript by me, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand and Seal, this, the 23rd day of January, 1959, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Joseph A. Trujillo
NOTARY PUBLIC

My Commission Expires:

October 5, 1960

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 1715, heard by me on 7-8, 1959.

New Mexico Oil Conservation Commission, Examiner