BEFORE THE
OIL CONSERVATION COMMISSION
STATE LAND OFFICE BLDG.
Santa Fe, New Mexico
November 30, 1960

IN THE MATTER OF:

APPLICATION OF SINCLAIR OIL & GAS COMPANY for permission to commingle the production from two separate pools and for an automatic custody transfer system. Applicant, in the above-styled cause, seeks permission to commingle the production from the Dean Devonian and Dean Permo-Pennsylvanian Pools from all wells presently completed or hereafter drilled on its State Lea 396 Lease consisting of the NE/4, S/2 NW/4, and N/2 SW/4 of Section 35, Township 15 South, Range 36 East, Lea County, New Mexico, after separately metering only the production from the Dean Permo-Pennsylvanian Pool. Applicant further seeks permission to install an automatic custody transfer system to handle said commingled production.

CASE NO. 2127

BEFORE:

Daniel S. Nutter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. MORRIS: Application of Sinclair Oil & Gas Company for permission to commingle the production from two separate pools and for an automatic custody transfer system.

MR. WHITE: Charles White of Gilbert White & Gilbert and appearing as counsel for Sinclair. We have Homer Burton from Midland who will present the testimony.

R. M. ANDERSON

a witness, called by and on behalf of the Applicant, having been duly sworn, testified as follows:

DIRECT EXAMINATION

BY MR. BURTON:

Q State your name and employment?

A R. M. Anderson, Senior Petroleum Engineer for Sinclair in the Midland Division Office at Midland, Texas.

Q Are your qualifications as an engineer before the Commission?

A Yes, I have testified before.

Q I will ask you to produce the exhibits you have prepared in this matter.

A I prepared three exhibits which I will pass out at this time.

Q What is your Exhibit No. 1?

A Exhibit No. 1 is a map showing the sub-lease Syncline, State Lea 396 Lease in the Dean Devonian and Dean Permo-Pennsylvanian Pool outlined in red. At least its - the lease is outlined in red, I have colored the Permo-Pennsylvanian wells on the lease with red and the Devonian completion with green and it can be seen that three of the wells are dual completions on this lease.

Q Is that state land?

A Yes, sir, it is.

Q And the lease is owned entirely by Sinclair?

A Yes. No, there are other interests, working interest owners.

However, ownership is common throughout the lease both horizontally and vertically.

Q Now, with reference to your Exhibit Nos. 2 and 3, will you explain the proposed system?

A We propose to modify the existing battery and put in a lease automatic custody transfer system. The unit we propose to install is shown on Exhibit No. 3. Exhibit No. 2 is a diagrammatic sketch of the proposed tank battery installation. The LACT unit is a package unit that is prefabricated in the Sinclair shops in Tulsa and Sinclair has many of these units in operation throughout the Southwest and also in New Mexico. The sketch shows that the three Devonian wells come into the header and go to the heater treater and from there into the first thousand barrel surge tank which remains full of oil at all times and as additional production enters that tank, it flows over into the second surge tank and is discharged to the LACT system from this second surge tank. The Permo-Pennsylvanian wells flow into the header and thence into a heater treater and then through a positive displacement oil meter, at which time the production will be commingled with the Devonian production into the first surge tank. We are proposing to obtain the Devonian production by subtracting the Permo-Pennsylvanian meter reading from the LACT combined meter reading. We feel that this will be an accurate method of determining the Devonian production because the flow from both streams will be metered under similar conditions and there will not be any weathering or shrinkage or anything of that nature involved to place a discrepancy in the readings. We feel this will be a very accurate way of determining the production from both pools. The master meter manifold

is shown and that is at the request of the pipe line which is Texas - New Mexico Pipe Line Company. They have requested we provide a master meter manifold on this installation for calibration purposes.

Going to Exhibit No. 3 is a detail of the LACT system and we finished - initially we have low pressure stop switches on the stream as it goes into the LACT unit, from the left side of the sheet there marked, Item 5, there are two of them, they are pressure operated Murphy switches and the one is set to shut down the LACT unit at about 36 inches above the outlet on the surge tank. In the event that does not function for some reason or another, we have a second switch which is set to shut it off at a six or eight inch lower depth. Then the next item is a little electric motor which furnishes the power to circulate the oil through the LACT unit and then we have a BS&W monitor, have a sampling device, we have a temperature compensating bulb, instead of being mounted in the meter it is mounted in the line and the purpose of that is to, in this normal operation of this unit we circulate oil before we start to deliver it to the pipe line. We circulate oil through the LACT system and back into the surge tank for 15 minutes whenever the unit comes on. Incidentally, it is not triggered or turned on by a float switch or anything, it is turned on by pre-set clock, just the same type of clock that is frequently installed on electric pumping units and whatnot. You can set in there as many starts per day that is required for a particular installation.

MR. NUTTER: Recirculating pump for turning the LACT on.

A To turn the LACT on, the way it works, the first 15 minutes the LACT merely recirculates to the surge tank and that flushes out the line if

there has been any gas or air or anything captured in these lines while they are sitting static after the previous delivery. It flushes them out and also brings up to temperature the temperature bulb which is wired over to the meter and during this 15 minutes circulation time everything is brought up to temperature and the BS&W monitor working. The only thing that is not working is the sampler, it will not sample during the initial 15 minute period. At the end of the 15 minutes, the direction changes and the system delivers the oil into the pipe line and provided the BS&W monitor has okayed the stream. This particular installation has just one meter and it is designed for production from 30 to 700 barrels per day which is more than enough to handle the production on these two leases.

Q How will the commingling affect the price of oil?

A It will not have any affect on the selling price of the oil in that both crudes are over 44 gravity and therefore both crudes, the Devonian and Permo-Pennsylvanian crude are subject to similar penalties for high gravity. One crude is 53 gravity, the other is 46 and by commingling the two together, no price advantage or disadvantage is obtained. Selling price of the mixture theoretically will be the same as the selling price of the individual components.

Q In your opinion, is this system a reliable and economic means of transferring the custody of the oil?

A Yes, it is.

Q Is it in the interest of prevention of waste?

A Yes, sir, it certainly is.

Q Will there be any impairment of correlative rights?

A No, sir.

MR. BURTON: We offer the exhibits in this hearing.

MR. NUTTER: Sinclair's 1 through 3 will be admitted. Anyone have any questions of Mr. Anderson?

CROSS EXAMINATION

BY MR. PAYNE:

Q How many of the Dean Devonian wells are top allowable?

A None of them are top allowable.

Q Are any of the Dean Permo-Pennsylvanian wells top allowable?

A No, sir, they are not. All wells are producing at capacity on this lease.

Q Are any of them close to the present allowable?

A To give you an example, September 1960, the Devonian wells total allowable for the month was 8220. The Devonian produced 4418, the Permo-Penn, 4380 barrels, it produced 2978. So we are producing about three-quarters of our allowable, none of the allowables are top allowable.

CROSS EXAMINATION

BY MR. NUTTER:

Q That allowable is assigned to the well or the allowable if they were top allowable?

A That is the allowable that is assigned to the wells. That is the indication of how short of the present limited allowables they are.

Q It would appear then a form 127 requesting a change in allowable may be due on this well?

A Yes, sir.

Q Would you arrange to see that that form is filed?

A Yes.

QUESTION BY MR. PAYNE:

Q Is your application here limited to the well shown on Exhibit No. 1?

A No, we have our application. It has produced enough and I believe we would like it to include any additional development. I will say this, we have no plans at present to further develop the lease, we would like any additional development in these two reservoirs to be included in it.

Q Were any of these wells top allowable when they were drilled?

A Yes, sir, all of them.

Q Any further development in all probability will produce a top allowable well?

A Not in all probability, the pressures and the stage of completion of the reservoir have declined to a point now where I don't know. We don't anticipate drilling a top allowable anywhere on this lease.

Q If you did have a top allowable well and you proposed to use one meter and subtract your - assuming as you say there is no shrinkage when you have a LACT system.

A I feel if there is, its very minimal.

Q In this case I suppose Sinclair would be willing to take its' allowable as shown by the meter reading rather than from what is sold at the tank, do you follow me?

A Well, maybe I don't. In the event a top allowable well were

completed in one or the other reservoirs, does it make any difference?

Q No, either one.

A Either one. Your question is, would we, would our production be our allowable, is that the way you would propose?

Q Would you meter the oil that went through the meter as recorded, would that be your total production? In other words, ordinarily you have shrinkage in the tank, you run some oil through the meter and the meter record will actually be more than your allowable; there is no shrinkage, then it seems to me the meter reading should be taken as the allowable and production figures.

A Yes, because both meters, the one on the Permo-Penn header and the one on the LACT unit will be the only record of that what is produced on the LACT and we will not in any way propose to reduce those readings to allow for shrinkage, had we stock tanks and use all other methods, no, we wouldn't propose any reduction in those meter readings. That is one of the things that will prevent waste in that we will be selling actually more of the oil we produce than we have under the regular stock tank system. The difference being the amount of shrinkage, we do not have, we do have now.

Q You don't anticipate any shrinkage?

A I don't think there will be any appreciable amount; there might be a very small amount. The oil will be a few hours in the system, I don't anticipate any magnitude and certainly not enough to justify metering both streams prior to commingling, in my opinion. We will say this, in the event we would further develop the lease and bring in a top allowable well, we might at that time be willing to install a second meter on the Devonian if

required it.

Q Do you have any present plans to rework any of the existing wells in the event they might become top allowable?

A I don't know.

Q Would you explain your fail-safety work on this LACT?

A In the event that anything would happen to the system, let's start with a power failure, electric power failure we have, all of the wells are pumping in both reservoirs and we have solenoid switches and mercuroid switches installed, both at the header and at the wells and those switches will shut the well in in the event of a power failure. In the event of the surge tank becoming full because the oil is being recirculated by the LACT system, a lease shut-in switch on the mounting in the top of the second surge tank, whenever the fluid gets to that level it will actuate the solenoid switches at the headers and thus put a little bit of pressure on the flow lines from the wells, the pumping wells, and that pressure in turn actuates the shut-down switches on the pumping units at the wells. And that is the principal fail-safety feature we have. We also have a bakelite mounted on the LACT system which lights every time that the LACT system is not delivering oil but is in operation. For instance, the 15 minute circulating time, that light is on at that time, anytime that the LACT rejects the oil and starts to recirculate, that light comes on. So we are now making the leases automatic, we are fully automatic as to this extent and we will have personnel around the lease and they will be on hand just possibly not as much as required now but certainly to some extent every day.

Q So that in all probability they would discover any flow line

break?

A Yes, and again the switches will shut the wells in in case of flow line break. The mercuroid switches are high-low pressure shut-in pressures and if the pressure reduces or increases on the flow line, the pumping units will be shut down.

MR. PAYNE: I see. Thank you.

QUESTION BY MR. NUTTER:

Q Mr. Anderson, would Sinclair Oil & Gas Company be willing in the event the top allowable production was re-established for either or both of these formations to install a second meter downstream from the heater treater on the Devonian system or re-open this case for further consideration?

A Yes, sir.

MR. NUTTER: Any further questions of Mr. Anderson?

MR. BURTON: No, sir.

MR. NUTTER: Does anyone have anything further? We will take the case under advisement and take case 2128.

INDEX

EXHIBITS

Number	Exhibit	Marked for Identification	Offered	Received
No. 1	Map	2	6	6
No. 2	Sketch	3	6	6
No. 3	LACT	4	6	6

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

I, LEWELLYN F. NELSON, Court Reporter, 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 under my personal supervision, and that the same is a true and correct record to the best of my knowledge, skill and ability.

WITNESS my Hand this 12th day of Dec 1960, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Lewellyn F. Nelson

Lewellyn F. Nelson, Court Reporter

My commission expires
March 14, 1964

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2127, heard by me on 11/30, 1960.

, Examiner
New Mexico Oil Conservation Commission