DOCKET: EXAMINER HEARING - WEDNESDAY, MARCH 22, 1961

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

The following cases will be heard before Elvis A. Utz, Examiner, or Oliver E. Payne, attorney, as alternate examiner:

CASE 2218: Application of Shell Oil Company for an exception to Rule 309 (a) and for an automatic custody transfer system. Applicant, in the above-styled cause, seeks permission to transport oil from its McKinley "A" lease, S/2 of Section 19, to its McKinley "B" lease, SW/4 of Section 20, and to commingle the production from the two leases after separate metering and to install an automatic custody transfer system to handle said commingled production. Both leases are located in Township 18 South, Range 38 East, Lea County, New Mexico, and the production involved is all from the Hobbs Pool.

CASE 2219: Application of Shell Oil Company for an exception to Rule 309 (a) and for an automatic custody transfer system. Applicant, in the above-styled cause, seeks permission to transport oil from its Turner Lease, W/2 NE/4 of Section 34, to its Sanger Lease, Section 27, prior to measurement, and after measurement and commingling of production from the two leases, to transport it to the Grimes Lease, SW/4 of Section 28, for treatment. Applicant also desires to transport oil from its State "B" Lease, N/2 NW/4 of Section 33, to the said Grimes lease prior to measurement, and then, after measurement and [redacted] to commingle such production with the production from the other three leases, at which time the commingled production from the four leases is proposed to be handled by automatic custody transfer facilities. All leases are located in Township 18 South, Range 38 East, Lea County, New Mexico, and the production involved is all from the Hobbs Pool.

CASE 2220: Application of Shell Oil Company for an exception to Rule 303 (a) and Rule 309 (a). Applicant, in the above-styled cause, seeks permission to commingle the production from the Drinkard, Wantz-Abo and Blinebry Oil Pools from all wells presently completed or hereafter drilled on the Carl H. Livingston Lease comprising 320 acres in Sections 3 and 4, Township 21 South, Range 37 East, Lea County, New Mexico, allocating the production from the various pools on the basis

CASE 2220: (Continued)

of continuous metering of the Blinebry production and periodic well tests of the Wantz-Abo and Drinkard production. Applicant also seeks permission to install an automatic custody transfer system to handle said commingled production.

CASE 2221: Application of Shell Oil Company for an exception to Rule 303 (a) and Rule 309 (a). Applicant, in the above-styled cause, seeks permission to commingle the production from the Vacuum and Vacuum-Abo Pools from all wells presently completed or hereafter drilled on the Shell State "T" Lease comprising the SE/4 of Section 33, Township 17 South, Range 35 East, Lea County, New Mexico. Applicant also seeks permission to install an automatic custody transfer system to handle said commingled production.

CASE 2222: Application of Continental Oil Company for an automatic custody transfer system. Applicant, in the above-styled cause, seeks permission to install an automatic custody transfer system to handle the Vacuum Pool production from all wells presently completed or hereafter drilled on its State "H" Lease, SE/4 SE/4 of Section 34 and E/2 NW/4 and NE/4 of Section 35, all in Township 17 South, Range 34 East, Lea County, New Mexico.

CASE 2223: Application of Sinclair Oil & Gas Company for a 240-acre non-standard gas proration unit, and for an order force-pooling all mineral interests therein, and for an unorthodox gas well location. Applicant, in the above-styled cause, seeks the establishment of a 240-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the NE/4 NE/4 of Section 33 and the NW/4 and NW/4 NE/4 of Section 34, Township 19 South, Range 37 East, Lea County, New Mexico, and for an order force-pooling all mineral interests therein including those of Robert Roy Taylor, a minor, whose guardian is Johnnie S. Taylor, Jal, New Mexico. Applicant proposes to dedicate said unit to the J. H. Williams Well No. 3, located on an unorthodox location 1980 feet from the North line and 660 feet from the West line of said Section 34.

CASE 2224: Application of Len Mayer for an unorthodox gas well location. Applicant, in the above-styled cause, seeks approval for an unorthodox gas well location in the Atoka-Pennsylvanian Gas Pool at a point 1650 feet from the South line and 990 feet from the West line of Section 28, Township 18 South, Range 26 East, Eddy County, New Mexico.

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
MARCH 22, 1961

IN THE MATTER OF:

CASE 2218 Application of Shell Oil Company for an exception to Rule 309 (a) and for an automatic custody transfer system. Applicant, in the above-styled cause, seeks permission to transport oil from its McKinley "A" lease, S/2 of Section 19, to its McKinley "B" lease, SW/4 of Section 20, and to commingle the production from the two leases after separate metering and to install an automatic custody transfer system to handle said commingled production. Both leases are located in Township 18 South, Range 38 East, Lea County, New Mexico, and the production involved is all from the Hobbs Pool.

BEFORE:

Elvis A. Utz, Examiner.

TRANSCRIPT OF PROCEEDINGS

MR. UTZ: The next case will be 2218.

MR. MORRIS: Application of Shell Oil Company for an exception to Rule 309 (a) and for an automatic custody transfer system.

MR. SETH: Oliver Seth, appearing for the applicant. We have one witness, Mr. Examiner.

MR. UTZ: Are there any other appearances in this case? If not, you may proceed.

(Witness sworn)

R. L. SOMERWELL,

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

DIRECT EXAMINATION

BY MR. SETH:

Q Would you state your name, please?

A R. L. Somerwell.

Q You are employed by Shell Oil Company?

A Yes, sir.

Q In what capacity?

A I'm a mechanical engineer in the Rosell Division.

Q Have you been in that capacity for any length of time?

A Yes. I have been employed by Shell for four and a half years, and been in Roswell for two and a half years.

Q Have you testified before the Commission in previous hearings?

A Yes.

Q Are you generally familiar with the application in this case?

A Yes, sir.

MR. SETH: May he testify as a mechanical engineer witness?

MR. UTZ: Yes, sir, he may.

Q (By Mr. Seth) Will you state, briefly, please, the gen-

eral purpose of the application?

A Yes, sir. Cases 2218 and 2219, as far as Shell Oil Company is concerned, are more or less combined for Commission purposes. We have separated them, but the over-all plan of this consolidation is to remove as much as possible Shell's operations from the City of Hobbs for safety purposes and for conservation and for labor protection within the company.

Q Let's refer specifically to your McKinley "A" and "B" leases there, and state what you propose to do by the application, generally. Let's take it generally.

A We would like to transport the production from McKinley "B" to the McKinley "A" lease prior to measurement at the McKinley "A." We plan to meter both the McKinley "B" and the McKinley "A" production, and commingle it into a treating system, and transfer the production through an ACT union.

MR. UTZ: Are these two leases state or fee leases?

A They are fee leases.

Q (By Mr. Seth) Do you have a diagram or plat showing the proposed --

A Yes, sir.

(Whereupon, Shell's Exhibit No. 1 was marked for identification)

Q With reference to what has been marked as Shell's Exhibit 1, would you state what that is?

A On the McKinley "B" we have a 4-well automatic header,

which will be led from the McKinley "A" lease, and two lines will connect this header with the McKinley "A" central battery. A three-inch production line and two-inch test line. Production will normally produce through the three-inch over to the McKinley "A," and when a well is tested, it will be for production over there, through the two-inch test line for production over there.

Q All the metering testing will be done on the McKinley "A" lease --

A Yes, sir, it sure will.

Q -- for production from both leases?

A Yes.

Q What pool or field or strata is this production from?

A The four wells on the McKinley "B" lease, and the eight wells on the McKinley "A" are producing from the Hobbs San Andres zone.

Q All wells are from the same zone?

A Same zone.

Q Have you prepared a diagram of the facilities which you propose to install?

A Yes, I sure have. It will be Exhibit 2, I believe.

(Whereupon, Shell's Exhibit No. 2 was marked for identification)

Q Referring to Exhibit 2, would you please describe the flow and the general mechanical system there?

A Yes. In the bottom right corner is the remote header.

This is actually located on the McKinley "B" lease, and following through the three-inch line, the production will normally enter the free water knockout and go through the McKinley "B" separator and go through PD meters, which are temperature compensated, and then dumped into the treating system. The eight wells at the top left-hand portion of the Exhibit, the eight McKinley "A" wells then are manifolded and completed with automatic valves. Normally, through production, the McKinley "A" wells will produce through the free water knockout, and the McKinley "A" separator, and the McKinley "A" PD meter. They will be commingled at that point for treating. The test vessel, which is in the upper portion of the Exhibit --

Q What is that marked?

A That is metering test separator. This test separator will be utilized by both and,proposed to be utilized by both leases. Following the McKinley "A" header, the McKinley "A" 1 is placed on test, it will be diverted through the test separator. The fluid will then be rerouted back through the McKinley "A" free water knockout. The lease reroute valves are electrically interlocked with the McKinley "A" header so that no accidental commingling can be accomplished at that point.

Q Would you expand on that a little more? How does that operate?

A Well, these valves, the lease reroute valves are normally closed, fail-safe valves, and unless electrical energy is applied, they will not open. Any time a McKinley "A" lease well is placed

through the test separator, this reroute valve is opened and reroutes the test fluid back through the correct lease separator and through the correct lease meter.

Q What is the advantage of an interlocking system of that character?

A It just prevents any accidental commingling, primarily. In addition, it prevents any accounting problem at the end of the month. All the test material --

Q It eliminates the human error in operating the valves?

A Yes.

MR. UTZ: There is an automatic valve?

A Yes, sir. Both of these leases will be automatically tested; there will be a programmer.

Q Would you describe that in connection --

A We might follow a McKinley "B" well placed on test. Say, one McKinley "B" well is placed on the test line at the remote header. They will produce through the test line, through the test line pump valve, which is at the production separator. This pump valve is through the free water knockout, and the McKinley, after twenty-four hours have elapsed, this well will still remain in this two-inch test line at the header, but the test line pump valve will be energized the second twenty-four hours, which will divert, and at the same time the McKinley "B" lease reroute valve will be energized, which will return the McKinley "B" production to the McKinley "B" separator.

Q Does that system require a pumping of the lines?

A Yes. And that will be automatically programmed during the program.

Q Describe how that will work.

A Well, the way we'll program it is, the McKinley "A-1" may be on test twenty-four hours. At the same time it's on test, the McKinley "B-1" header valve will be energized at the remote header. That will divert it into the two-inch test line. The twenty-four hours that "A-1" is testing, the "B-1" is producing through the two-inch test line, and then the next twenty-four hours the programmer stops, and "B-1" remains in the header at the remote header, the two-inch test line at the remote header, but is diverted to the test separator at the central battery and tested that way.

Q Is this program automatically handled?

A Yes, sir, it sure is.

Q Do you have any comments in regard to Exhibit 2?

A No.

Q Could you compare this with the Pearl Queen facilities, in a general way?

A Yes, we sure could, which was approved by Commission Order 1101. This is, for all practical purposes, identical to our Pearl Queen installation Wier meters, that are temperature compensated. Free water knockouts will be installed when our free water exceeds fifteen percent, which,in the case of these two leases, it

does, so that we can accurately sample them.

Q On the Pearl Queen you are metering emulsions, are you not?

A Yes, sir, we sure are.

Q Are those comparable to the emulsions that you expect to meter on this facility if it is installed?

A As far as magnitude of BW&W, we will maintain them below fifteen percent by the use of free water knockouts, and, if necessary, chemical.

Q In your opinion, can an emulsion of this percentage be accurately metered?

A Yes. If the Commission please, I have some data. In a twenty-two month period we have commingled production from fourteen leases for a total of 636,617 barrels of oil, and that was the magnitude indicated by the fourteen lease meters. The ACT meter which ships to the pipeline the oil from these fourteen leases, indicated 637,836 barrels, that is a percent deviation of .191, less than two-tenths percent.

MR. UTZ: What was the first figure?

A Through the fourteen lease meters, it was 636,617. The ACT reading was 637,836.

Q Do you believe that is reasonably accurate?

A Yes, we do.

Q Very accurate?

A Yes, considering that we are sampling each lease meter

and determining the BS&W content by sample.

Q On the proposed facilities for the McKinley "A" and "B" this indicates a continuous metering for both leases?

A Yes, sir, it certainly does. I might also mention that although the total deviation was .191, we have a maximum deviation during any one month with a .97, and the best was .0082 percent.

Q You are referring to the Pearl Queen figures again?

A Yes, sir.

MR. NUTTER: .082?

A .0082.

MR. NUTTER: 0082?

A Yes, sir.

Q (By Mr. Seth) Do you have any other comments on the Pearl Queen experience?

A No, sir, except we have been highly pleased with our accuracies and we have affected expense savings in labor on that and the treating system.

Q Have you accomplished any conservation?

A Yes. The gravity data that we collected in tankage showed that we had effected one API conservation.

Q One degree?

A Yes.

Q How about the volume?

A I believe that's about 1.5 percent.

Q Will that be a significant amount over the life of the

field?

A Yes, sir, it sure would.

Q Now, referring again to the application in this case, do you contemplate the addition of an ACT facility?

A Yes, sir, we do to transfer the commingled oil after it's treated.

Q Do you have a diagram with specifications on that?

A Yes, sir.

MR. SETH: This is Exhibit 4.

(Whereupon, Shell's Exhibit No. 4 was marked for identification)

Q Now, referring to Exhibit 4, will you please tell the Commission what this shows?

A Yes, sir, this unit is very similar to what Shell has installed in the past.

Q Describe the flow and tell us which diagram you are referring to.

A This shows Exhibit No. 4.

MR. UTZ: Which one was Exhibit No. 3?

MR. SETH: It hasn't been introduced yet. That's the telegram.

A Item 2, this will be BS&W monitor probe. That will be set at approximately one percent. Should our water exceed that, it will divert the fluid back to the treating system for further treating. In the top picture, it shows Item 7, which is the divert-

ing valve. This is the valve that is energized by the monitor, should all that be received. At the same time bad oil is indicated, Value 5 at the end of the skid is also closed.

Q Does that reroute the oil automatically?

A Why, it sure does. Item 3 is a --

Q Why don't you run through the flow first?

A Well, the fluid is pumped by the pump, Item 1, up to the BW&W monitor through the diverting valve, through the air-eliminator and strained, Item 3; through the PD meter, Item 4; and through the meter proving loop, and then finally the back pressure valve. It holds 15 to 20 pounds of back pressure.

Q Mechanically, is this similar to other installations that you have in the State?

A Yes, sir, t he same components.

Q What type of meter is it?

A It's an A. O. Smith positive displacement meter.

Q Is that described in Exhibit 4 too?

A Not in detail, no, sir, other than it is the same type meter that we have used.

Q Has it been successful,as far as you are concerned?

A Yes, it sure has. Very accurate.

Q Referring also to Exhibit 4, what else does it show? Do you have some further diagrams?

A Well, the second page shows our sampling system which contains a representative sample of the product produced.

Q Would you describe the procedure there?

A Well, close to the center of the picture, Item 1, is a piston driven diaphragm, piston driven by a diaphragm, and a fresh sample is taken into this piston and on a meter.

Q Is there an enlargement of that?

A Yes, Section B.

Q Describe a little bit how that operates.

A When the meter is not sending out a pulse to take an electrical pull to take a sample, why, this piston is depressed by the fluid pressure,and every two barrels, I believe every two, is what we had it set at, an electrical impulse is set and energized a solenoid valve which pushes the diaphragm and pushes the sample into the container. Item 2 is a check valve, and Item 3 is a pressure relief valve so fluid can enter the piston, but when it tries to discharge, it overcomes the relief valve and stores the sample.

Q Is this a reliable method and device for taking samples?

A Yes. We have it on four of our ACT systems, and it operates satisfactorily.

Q This can be set to operate to take the sample at any given volume?

A Yes, sir.

Q What do you recommend as the setting?

A We normally set them at two or four barrels. Sometimes the pipeline companies haven't a purpose for the size.

Q Does this Exhibit also show the electrical diagram?

A Yes. The third drawing shows the electrical portion of the skid. Without delving into the electrical portion, we have provided daily and monthly allowable set stops. So, should the daily or monthly allowable be exceeded, it will be shut down. We have meter lockout counter circuits that should it drop below some value, 75 percent, why, the unit will be shut down.

Q Does this contain generally acceptable safety devices there?

A Yes. It has a number of safety features. We are using a pressure switch on the surge tank to stop and start on approximately one and three foot levels in the surge tank.

Q Generally, in your opinion, will this type of installation result in savings or gravity and of volume comparable to, say, the Pearl Queen?

A Yes, sir. As mentioned a while ago, it is one degree API. We don't anticipate that good a savings, that is a little better than we hope for, but if we can effect a half a degree API and one percent volume savings, we shall be satisfied.

Q Would that be a substantial figure over the life of the field?

A Yes, sir. I don't contemplate it, but it will be.

Q That, in your opinion, will be in the interest of conservation?

A Yes, sir.

Q You have a communication from the pipeline company that they will accept the oil --

A Yes, sir.

Q -- that passes through these facilities?

A Yes, sir.

Q Do you have any other comments on this application?

A No, sir. We do have approximately twenty-four hours surge capacity at this battery, and we do not propose to install any safety shutdowns on this system other than having the surge capacity.

Q The twenty-four hour period, is that greater than the period of time?

A Yes. The maximum number of hours would be sixteen, that the pumper would check it each day.

MR. SETH: We would like to offer the Exhibits, Mr. Utz.

MR. UTZ: Without objection, Exhibits 1 through 4 will be accepted into the record.

(Whereupon, Shell's Exhibits Nos. 1 through 4 were received in evidence.)

MR. SETH: That's all our direct testimony.

MR. UTZ: Are there questions of the witness? Mr. Nutter.

CROSS-EXAMINATION

BY MR. NUTTER:

Q Mr. Somerwell, I believe you stated that you had a set stop counter --

A Yes, sir.

Q -- on the ACT unit.

A Yes.

Q This is set for daily allowable as well as monthly allowable?

A Yes, sir.

Q This set stop counter, in other words, as soon as the total allowable of both leases has been produced, then it shuts the unit in?

A Yes, sir, that's correct.

Q What assurance does this give that one lease hasn't been overproduced and one underproduced?

A Just that our lease operator will keep up with each lease's production through the PD meters and will daily check those meters and that should be a fairly reliable, or should be a very reliable method of keeping up with the daily production.

Q You have a meter back behind the ACT unit for each one of the two leases, have you not?

A Yes, sir, we sure do. Both leases are being metered into the treater system.

Q Describe the feasibility with putting set stop counters on those meters.

A It would just be quite expensive because the set stop counter would have to actuate something, and to shut in all the wells would be quite costly, and we would rather not do that. If

the wells are flowing, it could kill the wells. We don't like to install any automatic equipment that will inhibit a well's production and if we can produce independently, install it, and maintain our daily allowables in proper proportion, we would rather do that, we prefer to do that. In specific answer to your question, we would have to install either a mechanical or electrical driven timer or counter that after a predetermined count would close the switch which would close a valve entering the separators,and if we use pressure,we could pressure up the lines to the wells and eliminate running on the wells.

Q I take it, then, that you don't anticipate shutting in either or both of the leases in the event that the set stop counter on the ACT unit shuts the transfer down?

A No, sir. That would be indicated on the ACT unit, and our lease operator would immediately shut in the leases.

Q I see. What are you relying on until he shuts it in, available storage in the wash tank --

A Yes.

Q -- and the surge tank?

A Yes. And it would be carried as stock for that month. That amount of stock, even if it were maximum, would not exceed it.

Q I think you said that your pressure switch in the surge tank would operate with a one to three foot level?

A Yes, sir, approximately.

Q The three foot is the maximum level that the oil would

attain before starting up ACT transfer?

A Yes. That is adjustable, the differential is fixed, but the position of the differential is adjustable.

Q How tall is the surge tank?

A It's sixteen feet.

Q So you are always going to have a maximum, then --

A I think it works out just about 420 barrels.

Q 420 barrels of available empty storage at all times?

A Yes.

Q What's the status of the wash tank normally?

A We normally carry our oil level in those approximately, maybe eighteen to twenty feet.

Q What percentage of the total capacity is that?

A Oh, that's a 750, it would be about 600 barrels of the 750.

Q So for all practical purposes, that tank is carried more or less full at all times?

A Yes. We can install a valve and utilize that extra barrel storage if we wanted to, if we needed to.

Q In the event the ACT does shut down, about all that you have is 420 barrels of storage space --

A Yes, sir.

Q -- without having to shut in the wells?

A And the oil production from these two leases is 360 barrels per day. It would actually care for an excess of twenty-four

hours.

Q Of the four wells, how many are top allowable?

A Three of the McKinley "B" are under allowable. The rest, all the McKinley "A" and one of the McKinley "B" wells is top allowable.

Q Any prospect for making the McKinley "B" wells that are marginal at this time top allowable?

A We have spent considerable money trying, and we, at this time, we don't expect to.

Q So you don't anticipate that unless there was a substantial increase in production?

A No, we sure don't.

Q What's the maximum time that the lease operates?

A Sixteen hours.

Q A pumper is on duty there every day?

A Yes, and week-ends.

Q If no well is on test on either the "B" lease or the "A" lease, what's the position of the pump valve?

A It is normally into the production separator, the pump valve on the test line.

Q And if no well is on test, there's no oil coming down this two-inch test line, the line which I've indicated with an arrow on this Exhibit 2. There would be no oil coming down this line to the pump valve?

A No, sir.

MR. UTZ: Is that the metering test separator?

MR. SETH: That's from the metering test separator loop.

A No, sir, there would be no oil in that tank.

Q And the valve, then, will be in a position diverting the two-inch line from the McKinley "B" into the water knockout?

A Into the McKinley "B" water knockout.

Q So oil normally flowing in the two-inch line of the McKinley is not a test?

A No, sir.

Q It would be full of oil, but it wouldn't be moving?

A Right.

Q And then had you put a well on test for twenty-four hours, the oil is moving into the direction from the two-inch line into the water knockout, at the end of twenty-four hours, the valve is energized and diverts itself from the line position to the meter test separator?

A Yes, sir.

Q All of the wells in the McKinley "A" lease, then, are diverted into the production line and not the test line?

A Yes, sir.

Q When you put a well on the McKinley "B" on test in the remote header, is the wiring connection such that the automatic header valves on the McKinley "A" lease are all diverted into the production line of the header?

A Yes, sir.

Q And the valves of the left test line of the McKinley "A" lease are shut?

A Yes, sir, three-way, two-position valves.

Q Is there any possibility of having a well on the McKinley "B" lease on test, and showing it throwing a switch to open any valves in the McKinley "A" header to put that well into the test line?

A No, sir, not without a fairly thorough knowledge of electrical fan panels.

Q Would it be possible?

A Yes, sir, inside the panels it would, if you could get inside there with a wire and do it.

Q At least if a person was of a mind, even if it required a jumper switch wire, it could, because these lease reroute valves are wired together, one is open,the other one closed?

A No, sir. They are electrically connected with the -- in other words, the McKinley "A" reroute valve is electrically interlocked with the McKinley "A" header so that unless a McKinley "A" well is energized, the McKinley "A" reroute valve is closed. The only way it can be opened is for the McKinley "A" valve to be energized.

Q These two valves are wired together?

A Right, yes, sir.

Q Can these electrically controlled valves be manually operated? By that, I mean at the valve itself without referring

back to the switchboards and panel?

A The well seal, in other words, are available where operators have sometimes installed with initial starter of the system to facilitate continued operation in any malfunction out of the system. They are desirable, but should the Commission not want these on, we'll sure not have them on. They are desirable, should we have an electrical power failure, we can still operate without impairing our system any.

Q (By Mr. Nutter) Now, getting back to this business of your not treating the oil at all prior to the time it's commingled --

A I would say no, sir.

Q You are taking it from a free water knockout?

A Yes, sir.

Q Is it similar to the Pearl Queen?

A Very similar to oil in the Pearl, approximately the same gravity, a little above 34-35 degrees.

Q Now, your two month total for the Pearl Queen, the sum of the meter readings on the fourteen leases were 636,617 barrels?

A Yes, sir.

Q And the ACT meter?

A Yes, sir.

Q These fourteen leases were reading oil emulsion?

A Yes, sir. Net value, with the emulsion and the meter factor applied.

Q These meters actually read considerably more and you de-

ducted the emulsion from it?

A Yes, sir.

Q Where is the extra thousand concerned, or the 1200 barrels?

A Just through error.

Q Allocated back through each?

A Even though 1200 over these, allocated back on each to any individual leases on it.

Q What was the total amount of emulsion that was metered by those fourteen?

A I don't have those figures. I have the averages approximately from two percent to eight percent, and we keep it below fifteen percent.

Q How often does the pumper switcher determine what percentage of emulsion is in the oil that is passing through the lease meter?

A Normally, once a month. He will check it around the 25th so he will know about how he is running on the flow lease, and once he has some history, it becomes less difficult to operate after the meters have proven correct where he can start checking his lease out at the end of the month.

Q Does he also test these meters for accuracy?

A Yes, sir.

Q Then he tests it through identically for percent with the BS&W?

A Yes, sir. We try to take two samples to get a representative sample, and two or three shakeouts, and then we have a master test meter which he installs, we have meter proving loops, and at each meter he takes the master reading and develops the factor.

Q During the present time, the compass is the factor for error in the meter plus the percentage of emulsion in this?

A No, sir. Two separate factors. By the Engineering Meter Plan, every three months they calculate it and send us a factor to use the next three months.

Q How much did they charge for laboratory calculating?

A Thirty dollars, plus mailing.

Q Then I believe it's seventy-five dollars for engineers to come on these leases and tests?

A It runs approximately from Midland to New Mexico.

Q Now, what facilities will be used to test the meter in Lact Units?

A This is going to Shell Pipeline, and then they have a portable prober which they come around and prove the meter with each month.

Q I presume that test is conducted by Shell Pipeline and

A Electrically energized by gas solenoid.

Q The gas supplies energy to operate the valve?

A Yes, sir. The valve runs about three hundred twenty-two dollars and fifty cents, in that neighborhood.

Q Mr. Somerwell, on Exhibit No. 2, the automatic header valves on the McKinley "A" lease, do they have the manual feature on them?

A Like I said, Mr. Nutter, we would like to have them, but should the Commission desire this not be on --

Q You desire them on the automatic header valves as well as the lease reroute valves?

A I don't think we would put them on the lease reroute valves, but on our header valves we would like to -- well, on our lease reroute, if we had a power failure, we would like to be able to continue to operate without tearing into our system.

Q With a manual reset or manual operating feature on these valves, would there be a possibility of commingling the "A" lease and "B" lease when "A" lease is on test?

A It would be possible to, inadvertently, yes, sir.

Q Is there any possibility when you have an "A" lease well on test of the "B" lease reroute valve being accidentally opened?

A No, sir.

Q It is wired with the "B" lease header?

A On this, yes, sir.

Q The only possibility of that would be if you had a manual feature on it?

A Yes, sir.

Q Now, on your heater threater, does all of the oil after it leaves the lease meters go through the heater treater?

A If our treating system will handle it, we like to put the free water back on the gun barrel to prevent any accidental dumpage of oil to salt water system. My personal opinion, more or less, where your testing system is adequate to bring the water back to gun barrel, it is less likely of spilling oil into the disposal system.

Q It would be treated then?

A Yes, sir. From the water station.

Q It would be treated from the free water knockouts?

A If we can handle it.

Q How big a treater?

A A No heater treater, we will have the 750-barrel wash tank and the heater is, I believe, a 7 foot 6-inch by 8 foot jumper type heater.

Q Have any chemicals been used in that wash tank?

A I believe we are using chemical for scale control in the gun barrel right now.

Q And your emulsion, you removed most of that from your oil, but from your wash tank heater is charged back equal to, less, or a what was that?

A The water production.

Q Yes, sir.

A Any loss by BS&W backed by the well tests, no point to do

A Shell Pipeline Company.

Q How do you operate the sampler?

A On the lease meters in a very similar manner we have sample containers, and in the Pearl we have a portable pump, and take each sample, and, as I remember, take samples every fifteen minutes and withdraw, normally withdraw three samples, I believe, average the three samples, the shakeouts of each of the three samples to determine the cut for the lease.

Q What does that cut usually run percentagewise?

A We will not let it exceed fifteen percent of the test. On the Pearl right now, the average is between two and eight percent, I believe eight. As long as we can keep the fluid in emulsion form, we feel we can accurately sample it. We would like on the metered emulsions primarily to reduce the number of system expenses, such as lowering operating costs; and treating system is one of the big expense items in the lease operation of surface equipment.

Q On all your systems, you treat after it is metered?

A On the Pearl Queen and on this one we are proposing.

Q Do you ever foresee any reason to treat before sampling?

A No, sir, no reason, the accuracies in the past, no reason at all. It is a very equitable system, and fair to every one, and quite advantageous to us.

MR. UTZ: Any other questions?

BY MR. PAYNE:

Q Mr. Somerwell, does your schematic diagram show every line will be used to carry oil?

A I believe it does with the exception of water piping; we have not shown that on the diagram.

Q There will be no check valves installed; there will be none installed?

A There will be a number of check valves not shown on the diagram.

Q Where will those be?

A A check valve on each header; on each well we have a check valve downstream of each separator, we have a check valve downstream of both the oil and water outlets of test vessel. This is the only one I see right now that we will probably install.

MR. PAYNE: Thank you.

BY MR. MORRIS:

Q In view of the fact the industry has proposed to study commingling and come up with minimum standards, will Shell be willing to conform to this installation, if it is approved, to meet those standards?

A Yes, sir, we certainly would. We feel this is near the ultimate as far as trying to accurately meter. Certainly, any additional derived from this request, we are willing to go along with.

Q That would apply to your other mechanics and other installations that you are planning for today?

A Yes, sir, the ones we are planning for today, it certainly would.

MR. MORRIS: That's all.

BY MR. PORTER:

Q This sampling procedure integrated on your ACT, has it not been pretty well standardized by Shell Pipeline Company and all LACT installations?

A No, it hasn't -- the sampling?

Q Yes, sir.

A Normally, the operator, Shell Oil Company presented to the pipeline carrier the sampler we would like to install for economic reasons, though very probably, they will have minimum requirements. They have approved each individual skid.

MR. PORTER: That's all.

BY MR. NUTTER:

Q The flow, after the oil has been commingled, is such that is, I presume, the two valves and the heater loop, the two upper valves are open and lower valves are closed?

A Yes, sir.

Q Is the installation which Shell Pipeline proposes on Exhibit No. 4 technically the same one you submitted here on Exhibit No. 2? They mention a design for an ACT unit?

A Yes, sir.

Q By your Exhibit No. 4?

A Same one, yes, sir. It refers to the same request we are

going to present this morning.

MR. MUTTER: I believe that's all. Thank you.

MR. UTZ: Are the header valves on the McKinley "B" lease automatic?

A Yes, sir, they are. They will be controlled by a control wire 4,000 feet from the central battery there.

Q And the test line pump valve is an automatic valve?

A Yes, sir. They are not actually electrically controlled, they are interlocked neumatically with McKinley "B" valve. Any time the "B" valve is energized, gas will be placed on the pump valve.

Q To open it to separator?

A Right.

MR. UTZ: Any other questions? If not, the witness may be excused.

(Witness excused)

MR. SETH: We have nothing further.

MR. UTZ: Any statements in this case? If there are none, the case will be taken under advisement.

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I Patricia Gomia, Court Reporter, 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 machine shorthand 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 and Seal this, the 25 day of April, 1961, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Patricia A. Gomia
NOTARY PUBLIC

My Commission expires:

June 19, 1963

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2218, heard by me on March 22, 1961.

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

NEW MEXICO OIL CONSERVATION COMMISSION

Examiner Hearing - Elvis A. Utz

Santa Fe, NEW MEXICO

REGISTER

HEARING DATE March 22, 1961 TIME: 9 a.m.

NAME:	REPRESENTING:	LOCATION:
Wayne A. Harthorn	Shell Oil Co	Roswell, N.M.
[illegible] Seth	"	S. Fe
G. W. EATON, JR.	PAN AMERICAN	FARMINGTON
[illegible] Jr.	Pan American	[illegible]
R. L. [illegible]	Shell Oil Co	Roswell N.M.
Booker Kelly	[illegible]	SF
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C. D. [illegible]	Continental Oil Co.	Artesia
Jason Kellahin	Kellahin & Fox	Santa Fe
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R R MARMOK	" "	" "
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Lew Maylor	self	Roswell, N. M.