Case No.

1513

Application, Transcript,
Small Exhibits, Etc.

[redacted]

Dan middle
dictate letter

Bobby Ruth Letter
Redo spec sheet
of transmitted
(ck meters)

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

IN THE MATTER OF:

CASE NO. 1503

TRANSCRIPT OF HEARING

SEPTEMBER 10, 1958

DEARNLEY - MEIER & ASSOCIATES
GENERAL LAW REPORTERS
ALBUQUERQUE NEW MEXICO
Phone CHapel 3-6691

BEFORE THE
OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO
SEPTEMBER 10, 1958

IN THE MATTER OF:

CASE 1503 Application of The Pure Oil Company for permission to commingle the production from two separate oil pools. Applicant, in the above-styled cause, seeks an order authorizing the commingling of oil produced from the Kemnitz-Cisco Pool and the Kemnitz-Wolfcamp Pool on its State Lea "E" Lease located in Section 21, Township 16 South, Range 34 East, Lea County, New Mexico. The applicant proposes to separately meter the production from each pool prior to commingling.

BEFORE:

Mr. Daniel S. Nutter, Examiner.

T R A N S C R I P T O F P R O C E E D I N G S

MR. NUTTER: We will take Case 1503 next.

MR. PAYNE: Application of The Pure Oil Company for permission to commingle the production from two separate oil pools.

HARRY C. WELLS,

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

DIRECT EXAMINATION

BY MR. PAYNE:

Q Will you state your name?

A Harry C. Wells.

Q Are you the same Harry C. Wells who testified in Case 1502?

A I am.

Q Please proceed.

A The Pure Oil Company is owner and operator of the State Lea "E" Lease, which covers the E/2 of Section 21, Township 16 South, Range 34 East, Lea County, New Mexico. This lease currently has two producing wells. The State Lea "E" No. 1 located 1980 feet south of the north line, and 1980 feet west of the east line of Section 21, and completed in the Kemnitz-Cisco Pool, through perforations in 5 1/2 inch casing, 11,410 to 11,476. On the latest test taken September 6th, 1958, this well flowed 92 barrels of oil in twenty-four hours through a 13/64 inch choke with a tubing pressure of 310 pounds, and approximately gas-oil ratio of 1400 cubic feet per barrel.

The State Lea "E" No. 2 located 1980 feet west of the east line, and 760 feet north of the south line of Section 21, is completed in the Kemnitz-Wolfcamp Pool through perforations in 5 1/2 inch casing from 10,681 to 10,696 -- 97 -- I am sorry. On the latest test taken September 6th, 1958, this well produced 134 barrels of oil and 270 barrels of water in twenty-four hours, with a gas-oil ratio of approximately 1700 cubic feet per barrel through the use of a Kobe hydraulic pump. These wells are presently being produced into two separate tank batteries. The flowing pressure on Well No. 1 has been steadily declining in recent months, and the

well will soon be to the point of requiring artificial lift equipment. Kobe pump equipment will be used on this well when this point is reached. We propose to use the same power oil tank and pump now in use serving Well No. 2. This will necessitate the commingling of oil from the Kemnitz-Cisco Pool and the Kemnitz-Wolfcamp Pool. Exhibit A is a schematic diagram of the proposed system which will be used in each of the two reservoirs. The production from Well No. 1 will pass through a separator, then through a dump type meter into the power oil tank. The production from Well No. 2 will pass through a heater treator to eliminate the water, and through a similar dump meter to the power oil tank. The overflow from the power oil tank will go into the stock tanks to the pipeline. From a second line in the power oil tank, a triplex pump will pump the power oil through separate meters to each of the wells. These meters will be a nutating disk, or would be an all plate type. We believe that the proposed system will provide accurate allocation of production to each reservoir. And since this system involves the commingling of production from two separate pools, we request exceptions to Rule 303. It is our belief that the approval of this application will not cause waste or impair correlative rights. I would like to offer Exhibit A.

MR. NUTTER: Without objection, Pure Oil Company's Exhibit A will be received in evidence in Case 1503.

CROSS EXAMINATION

BY MR. NUTTER:

Q Mr. Wells, the production from Well No. 1 will pass through a separator, but production from Well No. 2 will not. Is there no gas produced from Well No. 2?

A The treater being used on this lease is of a type which acts both as a water eliminator and gas separator.

Q It is a dual function treater, then?

A Yes.

Q The separator that is on Well No. 1 will remove any water that may be produced with the well, or is that strictly a gas separator?

A That is strictly a gas separator, no water is now being produced.

Q And you don't anticipate that it will be in the foreseeable future?

A If it does, we will simply put a treater in that place instead of a separator.

Q What particular make of dump type meter do you propose to install down stream from the separator and the treater?

A We haven't decided definitely yet. It will either be a National Tank Company dump meter or a Rolo dump meter.

Q Now, what about this wobble type meter in the other installations, just what is that?

A That is a -- you are familiar with a Pittsburg meter which measures fluid by means of a plate, which is -- has an axis on the center, and wobbles around. I don't know exactly how to explain it.

Q Is that what you refer to sometimes as a positive displacement meter?

A No, sir, it is not a positive displacement meter.

Q Can you obtain some literature on these wobble meters?

A It is an old type of meter that has been used for years and which is very efficient for measuring fluid, if you do not have any intrain gas which will be the case in the power oil system. Niagara also makes a meter. Niagara Five Point Meter, they call them, which are the same type.

Q You will furnish us a brochure or something to put on the file for this type of meter?

A Yes, sir.

MR. NUTTER: Does anyone have any questions of Mr. Wells?

QUESTIONS BY MR. FISCHER:

Q What type of heater treater is that, Mr. Wells?

A It is a National Tank Company I C P. Four foot by twenty-four, something like that.

Q And the first place that production from both those wells will come together is the power tank?

A It will be at a "T" downstream off each meter, and upstream off the power oil tank.

Q The first tank that will be together is the power tank, then?

A Right.

MR. FISCHER: That's all I have. Thank you.

REDIRECT EXAMINATION

BY MR. PAYNE:

Q Mr. Wells, what are the gravities from each of these wells, do you know?

A Something just over forty degrees, forty to forty-two degrees, I think.

Q In each one of them, I mean, they are relatively close, are they?

A I think so. I hesitate to say because I haven't checked it recently.

Q The way you have this installation set up, it would be impossible to physically commingle this production from these two pools prior to having been separately metered, wouldn't it, or would it?

A It would be impossible if you did not bypass the meters.

Q Yes, that's what I meant.

A Yes.

MR. PAYNE: That is all.

RECROSS EXAMINATION

BY MR. NUTTER:

Q Could you determine the exact gravities of the oil from the different zones and report them to us, and also what you expect the mixed gravity of the two oils after they have been combined in the stock tank will be, taking into account the proportions of the two tanks mentioned?

A I am sorry I didn't do that, but I will furnish that.

MR. NUTTER: Does anyone have any further questions of Mr. Wells? Mr. Fischer?

MR. FISCHER: I have a few more questions.

MR. NUTTER: You may proceed.

QUESTIONS BY MR. FISCHER:

Q Will you have a bypass around each meter that will efficiently meter the production from each well?

A No, there will not be a bypass around the meters. I don't know exactly what you mean.

Q These meters coming off here. I guess it could come out of the separator through the meter?

A Right.

Q And from the prover to the meter?

A Right.

Q Do you contemplate that you will have a bypass set up around those meters?

A No, we won't. There are two meters, one for each string.

Q So when those meters meter that production from each zone, they will be metering power oil plus production?

A Right.

Q And you'll get a power oil factor for your power oil each month? Will you have to do that?

A Our power oil volume will be measured by the nutating disk type meters downstream of the Kobe pump, and we will simply subtract

that power oil from the total measured by the dump type meter in each case to determine the production from the well.

MR. FISCHER: That's all.

A I might say that we will have a self check on this system because the stock tank production can be added to the power -- let me change that. The total of the production in the stock tank plus the power oil pressurement in the power oil meters must equal the total production from the wells, and if it doesn't, then you know that one of your meters is off.

Q Don't you have to get a meter factor for each meter? Or is it required on each type of power meter?

A We will calibrate the meters, yes. We will calibrate the meters periodically, but like I say, we can tell by adding these figures whether the meters are correct or not. With four meters in there, we will be able to tell if all of the meters are functioning properly.

MR. FISCHER: That's all I have.

MR. NUTTER: Any further questions of Mr. Wells? If not, he may be excused.

(Witness excused)

MR. NUTTER: Does anyone have anything further they wish to offer in this case? If there is nothing further, we will take Case 1503 under advisement.

C E R T I F I C A T E

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/or 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 24th day of Sept. 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

J. 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. 1503 heard by me on 9-10, 1958.

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

DEARNLEY - MEIER & ASSOCIATES
GENERAL LAW REPORTERS
ALBUQUERQUE NEW MEXICO
Phone CHapel 3-6691

THE PURE OIL COMPANY

GENERAL OFFICES: 35 EAST WACKER DRIVE, CHICAGO

TEXAS PRODUCING DIVISION
P. O. BOX 2107
FORT WORTH 1, TEXAS

October 1, 1959

Case 1503
File in
Case Order 1746

Mr. Eric P. Engbrecht
Oil Conservation Commission of New Mexico
P. O. Box [illegible]
Hobbs, New Mexico

Dear Mr. Engbrecht:

The Pure Oil Company requested authority to commingle production from their State Lea "QP" Well Nos. 1 and 2 in Section 21, Township 16 South, Range 34 East, which produce from the Kemnitz-Ohmo Pool and Kemnitz-Wolfcamp Pool respectively.

The request was occasioned by the "workming" of Well No. 2. It was anticipated that artificial lift equipment would have to be installed in this well. Well No. 1 is being artificially lifted by Rabo equipment. By commingling it would be possible to utilize the presently installed central power pump to artificially lift Well No. 2.

At the time of the hearing "step-rock" equipment had been installed on Well No. 2. This equipment has prolonged the flowing life of Well No. 2 beyond our expectations and at present this well is still flowing. With this well flowing we have maintained two separate tank batteries and have not started commingling. It is anticipated that it will be necessary to install artificial lift as originally contemplated late this year or early next year and at such time monthly reports on meter report forms will be filed.

Very truly yours,

J. T. Burns
Chief Div. Prod. Engr.

JTB:ig

cc: Mr. R. S. Hatch, Chief Engineer, Santa Fe
Mr. R. F. Montgomery, Production Manager, Hobbs

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

October 17, 1958

COPY

Mr. Harry C. Wells
The Pure Oil Company
P.O. Box 2107
Fort Worth 1, Texas

Dear Mr. Wells:

We enclose two copies of Order R-1246 issued October 16, 1958, by the Oil Conservation Commission in Case 1503, which was heard on September 10th at Santa Fe before an examiner.

Please note that this order requires that each meter installed in the subject system shall be tested for accuracy at intervals and in a manner satisfactory to the Commission. It will be necessary for you to run a series of tests of sufficient duration to determine that the meters are functioning properly immediately following installation. Thereafter, tests should be made at intervals not to exceed one month and a report of said calibration filed with the Commission. The meters shall be calibrated against a master meter or against a test tank of measured volume.

Very truly yours,

A. L. Porter, Jr.
Secretary - Director

ALP/DSN:bp
Encls.

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. 1503
Order No. R-1246

APPLICATION OF THE PURE OIL COMPANY
FOR PERMISSION TO COMMINGLE THE
PRODUCTION FROM TWO SEPARATE POOLS
IN LEA COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on September 10, 1958, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 16th day of October, 1958, the Commission, a quorum being present, having considered the application, the evidence adduced, and the recommendations of the Examiner, Daniel S. Nutter, 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, The Pure Oil Company, is the owner of the State-Lea "E" Lease located in Section 21, Township 18 South, Range 34 East, NMPM, Lea County, New Mexico.

(3) That applicant has two producing wells on this lease, to-wit: the State-Lea "E" Well No. 1 completed in the Kemnitz-Cisco Pool and the State-Lea "E" Well No. 2 completed in the Kemnitz-Wolfcamp Pool.

(4) That applicant seeks an order authorizing the commingling of production from its State-Lea "E" Well No. 1 and State-Lea "E" Well No. 2, said wells being completed in the Kemnitz-Cisco Pool and the Kemnitz-Wolfcamp Pool respectively.

(5) That applicant proposes to separately measure the production from each of said pools prior to commingling.

(6) That approval of the subject application will not cause waste nor impair correlative rights.

IT IS THEREFORE ORDERED:

That the applicant, The Pure Oil Company, be and the same is hereby authorized to commingle the production from its State-Lea "Z" Well No. 1 and its State-Lea "Z" Well No. 2, both located on the State-Lea "Z" Lease in Section 21, Township 16 South, Range 34 East, NMPM, Lea County, New Mexico, and producing from the Kemnitz-Cisco Pool and Kemnitz-Wolfcamp Pool respectively, provided that production from each of said pools is separately measured by means of either positive displacement meters or dump-type meters prior to being commingled.

PROVIDED FURTHER, That the applicant shall check such meters for accuracy at intervals and in a manner satisfactory to the Commission.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

EDWIN L. MECHEM, Chairman

MURRAY E. MORGAN, Member

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

ir/

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date September 11, 1958

CASE NO. 1503 HEARING DATE 9/10/58 9 a.m. OSN Santa Fe

My recommendations for an order in the above numbered case(s) are as follows:

Enter an order authorizing The Pure Oil Company to commingle the production from two separate oil pools in exception to Rule 303, provided that applicant shall separately meter the production from each pool prior to commingling and that tests of meters shall be taken in a manner and at intervals satisfactory to the Oil Conservation Commission.

Applicant has requested this authority for this lease because there are two wells on the lease, one completed in the Kemnitz-Cisco Pool and the other completed in the Kemnitz-Wolfcamp Pool.

Applicant intends to install hydraulic pumping equipment on the lease, and to be permitted to commingle the production will eliminate the need for additional oil treating equipment, and oil pumping equipment for the Kobe system, as well as the separate storage facilities normally required.

No serious differences in gravity are present which would cause the total value of the oil to be lessened as a result of commingling.

Staff Member
DANIEL S. NUTTER

ir/

THE PURE OIL COMPANY
GENERAL OFFICES: 35 EAST WACKER DRIVE, CHICAGO.
TEXAS PRODUCING DIVISION
P. O. BOX 2307
FORT WORTH 1, TEXAS

File
Case
1503

September 12, 1958

New Mexico Oil Conservation Commission
Santa Fe, New Mexico

Attention: Mr. Daniel S. Nutter

Dear Mr. Nutter:

In reference to Cases #1502 and 1503 held September 10, 1958, you asked several questions which I was not able to answer at the time and requested additional information concerning these points.

In Case #1502, concerning The Pure Oil Company's application to dispose of produced salt water in our State Lea "E" No. 1, you asked if there were any dry holes in the area which could be utilized for disposal purposes. The nearest dry hole is a distance of 1.7 miles away. We do not own this well, and it is unknown whether or not this well would be available to us for disposal purposes. You also asked if we had investigated the possibility of drilling a salt water disposal well. I have checked with our Geological Department and they inform me that the information they have available at this time does not indicate that there is a porous salt water bearing zone above the San Andres formation of sufficient quality to warrant drilling a test well for disposal purposes. We do not feel justified in drilling a well to the San Andres formation at 4500' solely for the purpose of salt water disposal, because of the cost of drilling such a well and the uncertainty of the future life of Well No. 2 which produces the water.

In Case No. 1503 you requested a brochure containing information on "nutating disk" meters concerning commingling on this lease. The attached literature published by Pittsburg Equitable Meter Division of Rockwell Manufacturing Company explains the operation of this type meter. The latest gravity of the crude produced from Well No. 1 (Cisco) is 42.3° API at 60° F. The gravity on Well No. 2 (Wolfcamp) is 38.3° API at 60° F.

Please advise if we can furnish any additional information in regard to these two cases.

Very truly yours,

Harry C. Wells
Ass't. Div. Prod. Engr.

HCW:c
att.

No. 24-58

DOCKET: EXAMINER HEARING SEPTEMBER 10, 1958

Oil Conservation Commission 9 a.m., Mabry Hall, State Capitol, Santa Fe, New Mexico

The following cases will be heard before Daniel S. Nutter, Examiner:

CASE 1196: Application of The Ibex Company for permission to expand a pilot water flood project in the Artesia Pool, Eddy County, New Mexico, and for six unorthodox well locations. Applicant, in the above-styled cause, seeks an order permitting the expansion of its Artesia Pilot Water Flood project No. 2, authorized by Order No. R-966 in the Artesia Pool, Eddy County, New Mexico, to include eight additional water injection wells in Sections 21 and 28 of Township 18 South, Range 28 East, Eddy County, New Mexico. Applicant further seeks an order authorizing six unorthodox well locations in said Sections 21 and 28.

CASE 1498: Application of El Paso Natural Gas Company for permission to conduct maximum pressure build-up tests and for the non-cancellation and/or transfer of allowables for test wells. Applicant, in the above-styled cause, seeks an order authorizing it to conduct maximum pressure build-up tests on seventeen gas wells in the Aztec-Pictured Cliffs, Ballard-Pictured Cliffs, Fulcher Kutz-Pictured Cliffs, South Blanco-Pictured Cliffs, and Blanco Mesaverde Gas Pools in San Juan and Rio Arriba Counties, New Mexico. Applicant further requests the non-cancellation of allowable accruing to test wells during the test period and for authority to transfer said allowables to other wells on the same basic lease, and for such other relief as is necessary to properly conduct said tests.

CASE 1499: Application of Sinclair Oil and Gas Company for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order authorizing a 240-acre non-standard gas proration unit in the Tubb Gas Pool consisting of the SW/4 and the S/2 SE/4 of Section 26, Township 21 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to applicant's J. R. Cone "A" Well No. 1, located 660 feet from the South and West lines of said Section 26.

CASE 1500: Application of Sinclair Oil and Gas Company for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order authorizing a 200-acre non-standard gas proration unit in the Blinebry Gas Pool consisting of the SW/4 and the SW/4 SE/4 of Section 26, Township 21 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's J. R. Cone "A" Well No. 2, located 1980 feet from the South line and 660 feet from the West line of said Section 26.

CASE 1501: Application of Continental Oil Company for a dual completion and for permission to commingle the liquids produced from two separate pools. Applicant, in the above-styled cause, seeks an order authorizing a gas-gas dual completion for its Britt B-15 Well No. 9, located 1980 feet from the South and East lines of Section 15, Township 20 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of gas from an undesignated Tubb Gas pool and the production of gas from an undesignated Blinebry gas pool. Applicant further seeks permission to commingle the liquids produced from said well from the two above-named pools.

CASE 1502: Application of The Pure Oil Company for an order authorizing a salt water disposal well. Applicant, in the above-styled cause, seeks an order authorizing the disposal of salt water through its State Lea "E" No. 1 Well, located 1980 feet from the North and East lines of Section 21, Township 16 South, Range 34 East, Lea County, New Mexico. Said well is a producing oil well in the Kemnitz-Cisco Pool and the applicant proposes to inject salt water through the annulus between the 8 5/8" and 5 1/2" casing. The proposed injection zone is from 4,527 feet to 9,450 feet.

CASE 1503: Application of The Pure Oil Company for permission to commingle the production from two separate oil pools. Applicant, in the above-styled cause, seeks an order authorizing the commingling of oil produced from the Kemnitz-Cisco Pool and the Kemnitz-Wolfcamp Pool on its State-Lea "E" Lease located in Section 21, Township 16 South, Range 34 East, Lea County, New Mexico. The applicant proposes to separately meter the production from each pool prior to commingling.

CASE 1504: Application of Gulf Oil Corporation for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Learcy McBuffington Well No. 8, located 330 feet from the South line and 1980 feet from the West line of Section 13, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Fusselman formation adjacent to the Justis-Fusselman Pool and oil from an undesignated Montoya pool through parallel strings of tubing.

CASE 1505: Application of Gulf Oil Corporation for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Learcy McBuffington Well No. 9, located 1650 feet from the South line and 1980 feet from the West line of Section 13, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Fusselman formation adjacent to the Justis-Fusselman Pool and oil from an undesignated Montoya pool through parallel strings of tubing.

CASE 1506: Application of Gulf Oil Corporation for the creation of two non-standard gas proration units in the Tubb Gas Pool and two non-standard gas proration units in the Blinebry Gas Pool. Applicant, in the above-styled cause, seeks an order authorizing the creation of a 160-acre non-standard gas proration unit in both the Blinebry Gas Pool and in the Tubb Gas Pool, each to comprise the NE/4 SW/4, and W/2 SE/4 of Section 28 and the NW/4 NE/4 of Section 33, and to be dedicated to applicant's J. N. Carson "A" Well No. 4, located 554 feet from the South line and 2086 feet from the East line of said Section 28 and J. N. Carson "A" Well No. 6, located 2086 feet from the South and East lines of said Section 28 respectively. Applicant further seeks an order authorizing the creation of a 120-acre non-standard gas proration unit in both the Blinebry Gas Pool and in the Tubb Gas Pool, each to comprise the E/2 SE/4 of Section 28 and the NE/4 NE/4 of Section 33, and to be dedicated to applicant's J. N. Carson "C" Well No. 6, located 330 feet from the South line and 965 feet from the East line of said Section 28 and J. N. Carson "C" Well No. 3, located 640 feet from the South line and 660 feet from the East line of said Section 28 respectively, all of the above being in Township 21 South, Range 37 East, Lea County, New Mexico.

CASE 1507: Application of Lea County Drip Company, Inc., for authority to construct and operate two waste oil treating plants. Applicant, in the above-styled cause, seeks an order authorizing it to construct and operate two treating plants in Lea County, New Mexico, to treat waste oil and tank bottoms collected from leases in Lea, Eddy, Chaves and Roosevelt Counties, New Mexico, said plants to be located at the following points:

(1) Adjacent to the Shell Pipeline Company's Pipeline approximately three miles South of Hobbs, New Mexico.

(2) Adjacent to the Shell Pipeline Company's Eunice Station approximately five miles West of Eunice, New Mexico.

August 25, 1958
ga

Case 1523

THE PURE OIL COMPANY

GENERAL OFFICES, 35 EAST WACKER DRIVE, CHICAGO.

TEXAS PRODUCING DIVISION
P. O. BOX 2107
FORT WORTH 1, TEXAS

Commingle pools
in one lease

RECEIVED
1958 AUG 13 AM 8:25
MAIN OFFICE OCC

August 12, 1958

New Mexico Oil Conservation Commission (3)
Santa Fe, New Mexico

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

Dear Sir:

It is requested that a hearing be scheduled to consider the application of The Pure Oil Company for an exception to Statewide Rule No. 303, governing commingling of oil, on our State-Lea "E" Lease located in Section 21, T-16-S, R-34-E, Lea County, New Mexico. This lease has two producing wells: the State-Lea "E" No. 1, which is completed in the Kemnitz-Bisco Pool, and the State-Lea "E" No. 2, which is completed in the Kemnitz-Wolfcamp Pool. We desire to artificially lift these wells using Kobe hydraulic pumping equipment. We propose to commingle the oil production from these two wells in order to make it possible for us to use one power oil system for both wells in connection with this hydraulic pumping equipment. The allocation of power oil pumped to each well and the allocation of total oil production from each well will be determined through use of volume meters.

It would be appreciated if this hearing could be scheduled at the same time as our application to dispose of salt water on our State-Lea "E" Lease, which application is attached herewith.

Yours very truly,

Harry C. Wells

Harry C. Wells
Ass't. Div. Prod. Engr.

HCW:c
att.

cc: Offset Operators:

Humble Oil & Refining Co.
P. O. Box 1600
Midland, Texas

Tennessee Gas Transmission Co.
P. O. Box 1031
Midland, Texas

The Ohio Oil Co.
P. O. Box 552
Midland, Texas

Sinclair Oil & Gas Co.
P. O. Box 1470
Midland, Texas

Sunray Mid-Continent Oil Co.
Wilco Building
Midland, Texas

Docket - Mailed
8-28-58

BULLETIN NO. OG 351

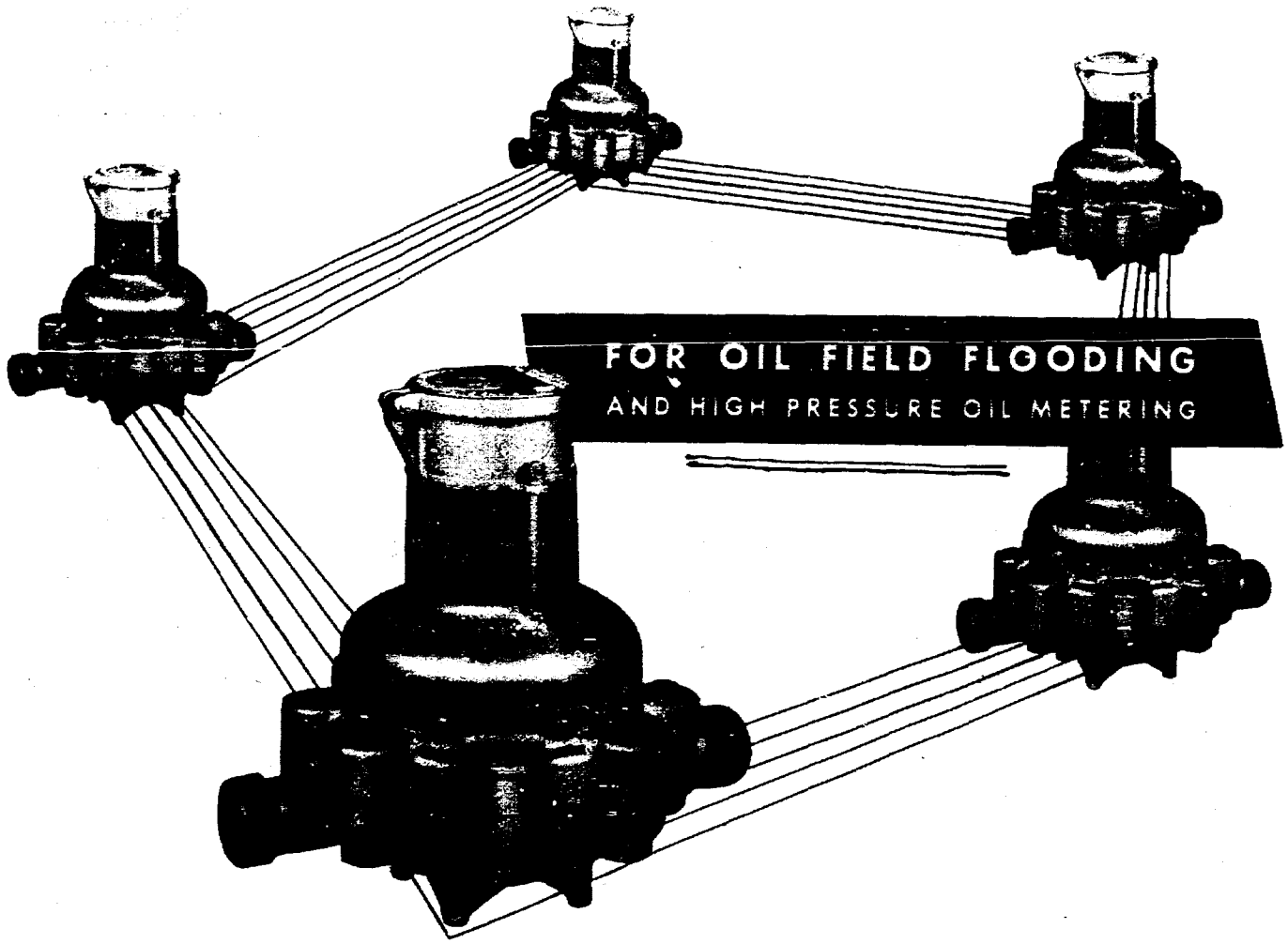
File Case
1503

rockwell

disc and piston types

five pointer

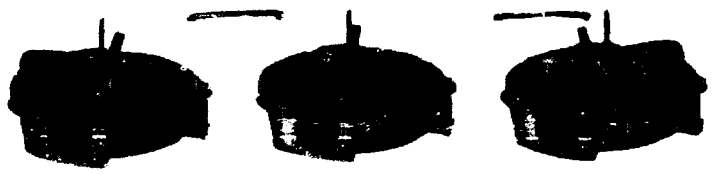
meters



rockwell

disc and piston type

five pointer meters



Disc piston, shown in bottom half of chamber, moves with nutating motion between inverted cones in bottom and top of chamber. Looking at View 1, note that the under side of the disc has line contact with the lower cone on the right hand side, making an enclosed space under the left side of the disc. When the top half of chamber is put on, there's another space like this over the top of the disc, but on the right side. These confined spaces move around as the disc nutates, (see Views 2 & 3) filling with liquid through the port on one side and forcing liquid out through the port on the other side of the vertical diaphragm. The top of the spindle describes a circle as the piston nutates, and transmits this motion through a gear train to register.

Five Pointer Meters are high pressure water meters used in areas where oil is produced by the water flooding or oil repressurizing methods. Economic oil production can only be accomplished through accurate knowledge of the amount of water consumed at each of the flooding points. The Rockwell Five Pointer Meter not only fills this requirement, but is ruggedly designed to handle safely the extremely high pressures encountered in operation and to withstand exposure to unfavorable climatic conditions.

The Rockwell Five Pointer Meter is manufactured in two types; the disc type incorporating a measuring chamber based on the nutating disc meter principle and the piston type using a measuring chamber operating on the oscillating piston meter principle. (*See following page for detailed explanation.*)

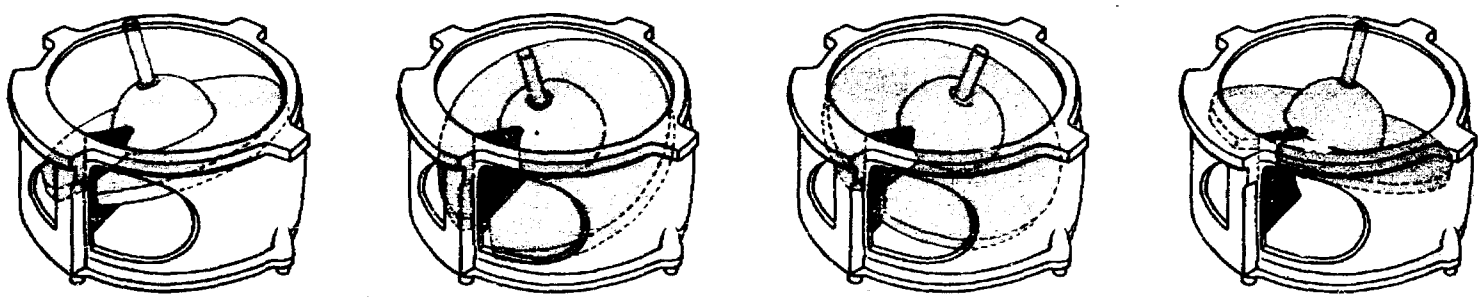
GENERAL SPECIFICATIONS . . .

TYPE	PISTON	DISC
SIZE:	½" and 1"	½" and 1"
CONNECTIONS:	½": ½" standard female pipe tap 1": 1" standard female pipe tap	½": 1¼ straight male pipe threads with connection pieces for ½", ¾" or 1" standard pipe. 1": 1" standard female pipe tap
RATE OF FLOW:	½": 20 gpm 1": 60 gpm	½": 20 gpm 1": 60 gpm
CASING CONSTRUCTION:	½": 5000# cast steel 1": 1500# cast iron 1": 5000# cast steel	½": 1500# bronze ½": 1500# cast iron 1": 1500# bronze
INTERNAL CONSTRUCTION:	bronze measuring chamber with rubber piston for the cast iron case and bronze measuring chamber with rubber piston for the steel case meters.	bronze measuring chamber with rubber disc for both cast iron and bronze case meters
UNITS OF MEASURE:	STRAIGHT READING REGISTERS IN GALLON OR BARREL UNITS	
TOTALIZER CAPACITY:	Five digits	
ACCESSORIES:	½", ¾" or 1" 1500# cast iron or bronze strainers.	

The models listed above present a wide range of adaptability. Installation of an aluminum piston in the piston type meter permits measuring oil at high pressure when such service is required.

BASIC DISC MEASUREMENT PROCESS . . .

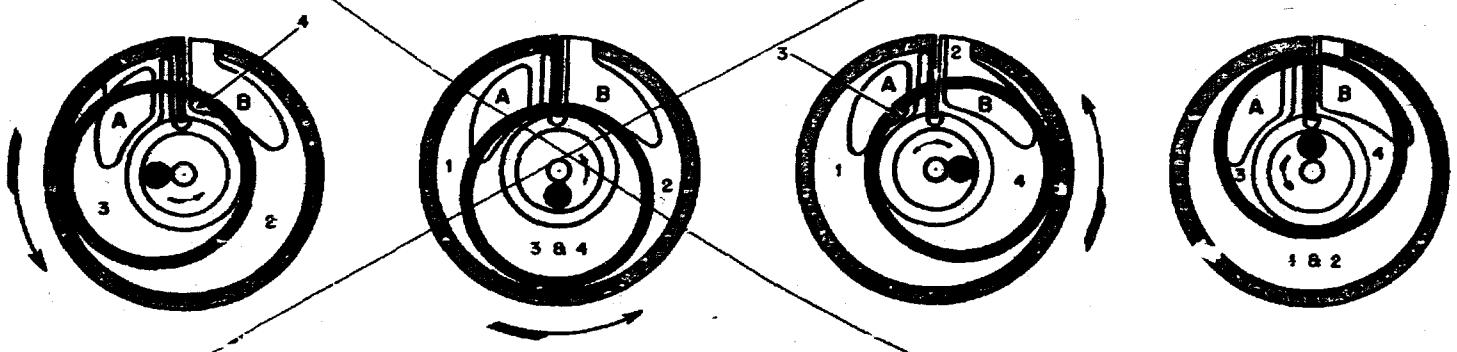
The measuring element of the nutating disc type Five Pointer Meter has a disc mounted in a circular chamber. A partition or division plate which extends in from the chamber wall separates the inlet and outlet ports. This division plate also fits in a slot in the disc and prevents rotation of the disc about its axis. The flow of liquid through the meter imparts a peculiar wobbling motion to the disc which is called nutation. The motion of the disc is such that the upper half of the shaft on which it is mounted generates a cone with the apex down. Connection between the disc shaft and spindle dog transmits the motion to the register.



The diagrams above show the nutating motion of the measuring disc. As can be seen, the lower face of the disc is always in contact with the bottom of the chamber on one side, and the upper face of the disc is always in contact with the top of the chamber on the opposite side. Thus the chamber is divided into separate compartments of known volume. As the flow of liquid actuates the disc, these compartments are successively filled and emptied, providing smooth, continuous measurement.

BASIC PISTON MEASUREMENT PROCESS . . .

The measuring element of the oscillating piston type Five Pointer Meter has a slotted ring called a piston which moves within the chamber in an eccentric-like motion. A partition or division plate which extends in from the chamber wall separates the inlet and outlet ports. This division plate also fits in a slot in the piston to prevent rotation of the piston about its axis. Connection between the piston and a spindle dog transmits the motion to the register.

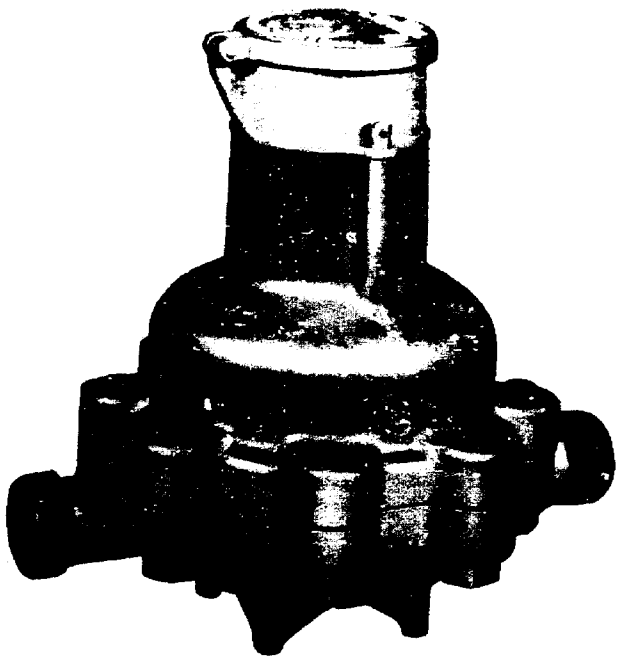


Spaces 1 and 3 are receiving water from the inlet port (A) and spaces 2 and 4 are discharging through the outlet port (B).

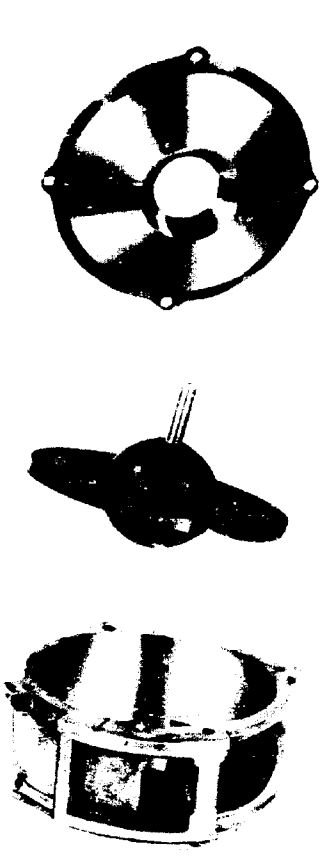
The piston has advanced and space 1, in connection with the inlet port, has enlarged; and space 2, in connection with the outlet port, has decreased, while spaces 3 and 4, which have combined, are about to move into position to discharge through the outlet port.

Space 1 is still admitting water from the inlet port and space 3 is just opening again to the inlet port, while spaces 2 and 4 are discharging through the outlet port.

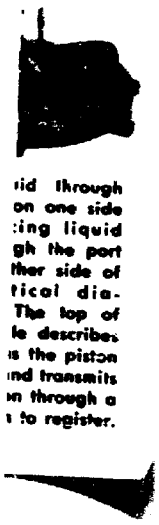
Water is being received into space 3 and discharged from space 4, while spaces 1 and 2 have combined and are about to begin discharging as piston moves forward again to occupy position as shown in Diagram 1.



½" 1500# FIVE POINTER METER
BRONZE OR CAST IRON
Disc Type



DISC TYPE
MEASURING CHAMBER



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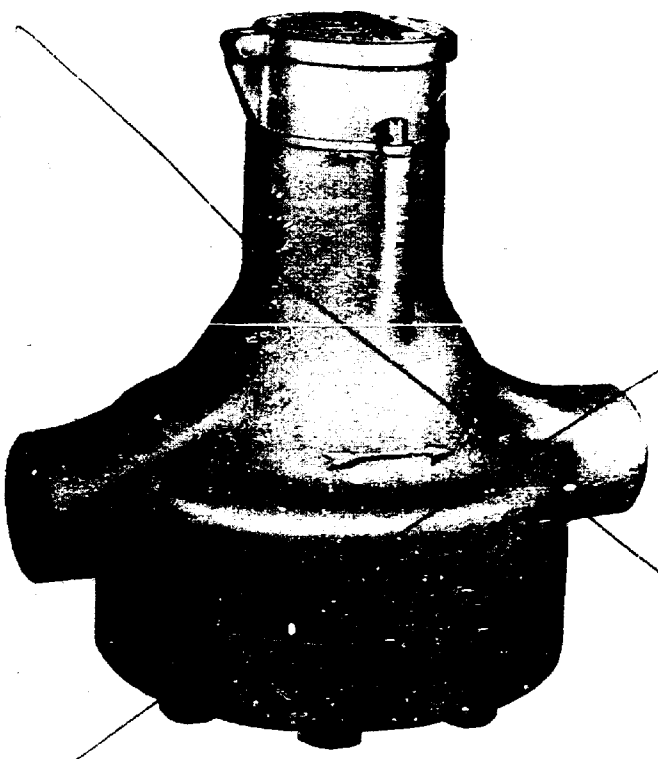
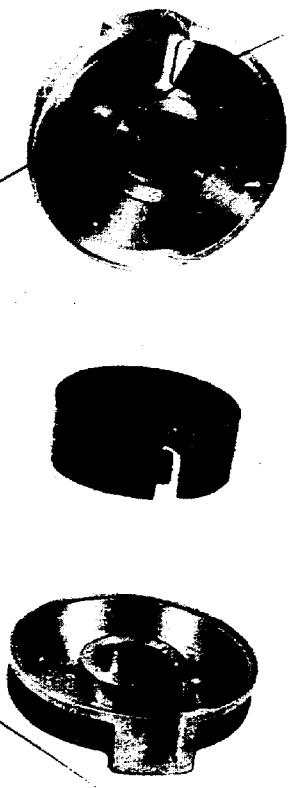
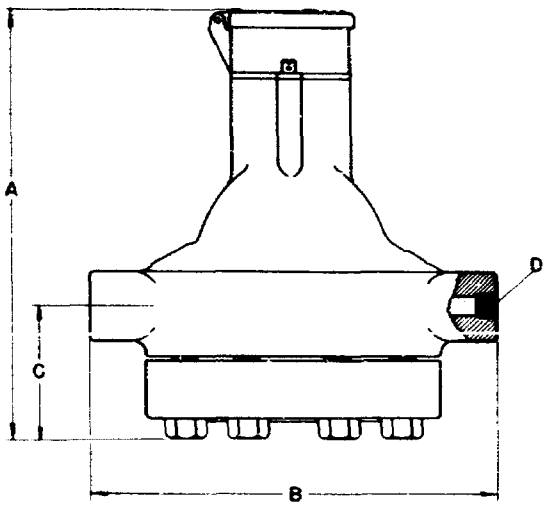


1" 5000# FIVE POINTER METER
CAST STEEL
Piston Type

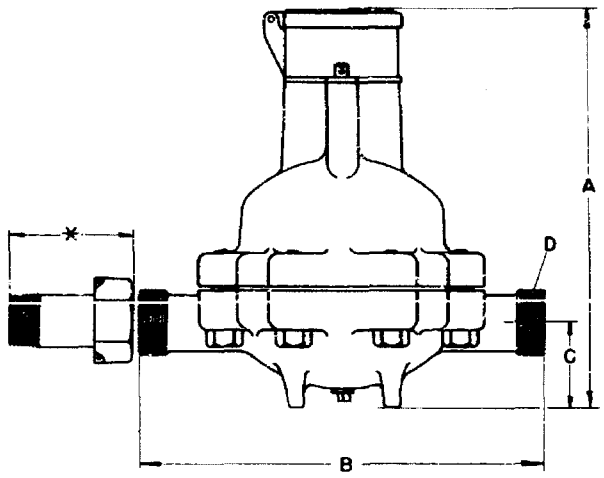


PISTON TYPE
MEASURING CHAMBER

DIMENSIONS . . .



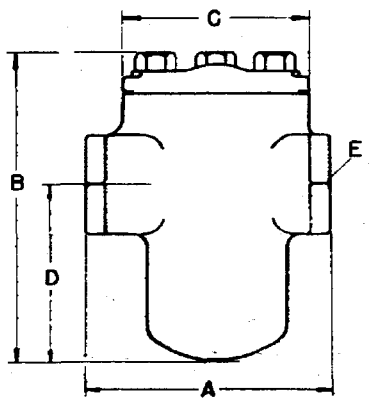
PISTON TYPE



DISC TYPE

TYPE	A	B	C	D
½" Disc 1500# cast iron	10"	10"	$2\frac{5}{32}$"	1¼" straight male pipe thd.
½" Disc 1500# bronze	$10\frac{1}{8}$"	10"	$2\frac{5}{32}$"	1¼" straight male pipe thd.
1" Disc 1500# bronze	$11\frac{1}{8}$"	10"	$2\frac{13}{16}$"	1" std. female pipe tap
½" Piston 5000# cast steel	$10\frac{5}{8}$"	10"	$3\frac{5}{16}$"	½" std. female pipe tap
1" Piston 1500# cast iron	$11\frac{11}{16}$"	12½"	4	1" std. female pipe tap
1" Piston 5000# cast steel	$11\frac{3}{4}$"	12½"	$4\frac{1}{16}$"	1" std. female pipe tap

*Add the following lengths for connections: ½"—$2\frac{3}{8}$"; ¾"—2½"; 1"—$2\frac{5}{8}$"



STRAINER

	A	B	C	D	E
1500# cast iron	4"	$5\frac{1}{8}$"	$3\frac{1}{8}$"	$2\frac{15}{16}$"	½", ¾", 1"
1500# cast iron	5"	$6\frac{11}{16}$"	4"	$3\frac{7}{8}$"	½", ¾", 1"
1500# bronze	5"	$6\frac{11}{16}$"	4"	$3\frac{7}{8}$"	½", ¾", 1"

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