Case No.

1429

Application, Transcript,
Small Exhibits, Etc.

[redacted]

Spec. Trans.
Letter

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EXAMINER HEARING
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 6, 1958

IN THE MATTER OF: Case No. 1429

TRANSCRIPT OF PROCEEDINGS

DEARNLEY - MEIER & ASSOCIATES
INCORPORATED
GENERAL LAW REPORTERS
ALBUQUERQUE, NEW MEXICO
3-6691 5-9546

EXAMINER HEARING
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
May 6, 1958

IN THE MATTER OF:

Application of Standard Oil Company of Texas for a dual completion and for permission to commingle the production from two common sources of supply. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its V. L. Leavitt No. 2 Well, located 1650 feet from the North line and 2310 feet from the West line of Section 13, Township 18 South, Range 26 East, Eddy County, New Mexico, in such a manner as to permit the production of oil from the Atoka-Grayburg Pool and oil from the Atoka (San Andres Pool through parallel strings of tubing; and further, for permission to commingle the production from the said V. L. Leavitt No. 2 Well from both of the above-described pools in common tankage after separately measuring the oil from each of said pools by means of volume type meters. Case 1429

BEFORE: Daniel S. Nutter, Examiner

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: We will take next Case 1429.

MR. PAYNE: Case 1429: Application of Standard Oil Company of Texas for a dual completion and for permission to commingle the production from two common sources of supply.

MR. ELLIOTT: I am R. A. Elliott, attorney for the Applicant, Standard Oil Company of Texas, and we will offer one witness, Mr. R. H. Stewart.

(Witness sworn.)

R. H. STEWART

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

DIRECT EXAMINATION

By MR. ELLIOTT:

Q Will you please state your full name, the company by whom you are employed, and your occupation or profession?

A I am R. H. Stewart, employed by Standard Oil Company of Texas, Houston, Texas, as petroleum engineer.

MR. ELLIOTT: Mr. Stewart has previously testified before the Commission as an expert witness. Will he be accepted?

MR. NUTTER: Yes, sir, he is.

MR. ELLIOTT: We will offer four exhibits in support of our application at the conclusion of the testimony.

Q (By Mr. Elliott) Mr. Stewart, are you familiar with the Atoka Field and the application under consideration at this hearing, Case No. 1429?

A Yes.

(Standard's Exhibit No. 1 marked for identification.)

Q Have you a map marked Exhibit No. 1, which was prepared by you or under your supervision?

A Yes, I have.

Q Will you describe, please, the map, and point out the lease and well involved?

A On Exhibit No. 1 Standard Oil Company of Texas lease is colored red. The Leavitt No. 2 Well for which dual completion application is being made is indicated in red. It's located on an 80-acre lease, the east end of the Leavitt lease. Two wells are circled which indicate that they are Grayburg producers. The other wells produce from the San Andres.

Q Mr. Stewart, by what method do we propose to complete the Leavitt No. 2 Well?

(Standard's Exhibit No. 2 marked for identification.)

A We propose to dual complete the Leavitt No. 2 with two strings of 2-1/16 inch tubing. It is shown on Exhibit 2, a diagrammatic sketch. There will be a packer separating the two zones, a seating nipple will be located near the bottom of each of the two strings to provide for pumping the well. We feel that that will be necessary before long. The productive capacity doesn't indicate continued flow.

Q Mr. Stewart, you have indicated that two strings of tubing will be used. Is this a recognized and an effective method of dual completion?

A Yes, it is. I would like to point out, too, that the perforations for the two zones are in the Grayburg, 990 feet to 1,000 feet, and in the San Andres from 1731 feet to 56 feet.

Q You, I believe, also mentioned that you anticipate that in the very near future it will be necessary to pump the well?

A Yes, we feel it will be.

(Standard's Exhibit No. 3 marked for identification.)

Q Mr. Stewart, do you have a temperature log of the well, which has been marked Exhibit 3, showing the top of the cement?

A Yes, that has been submitted.

Q Will you explain Exhibit 3 to the Commission?

A The temperature log indicates the top of the cement to be at 708 feet, which, of course, is above the upper producing zone.

(Standard's Exhibit No. 4 marked for identification.)

Q Do you have marked Exhibit 4, an electrical log of this well, the Leavitt No. 2?

A Yes. On the electrical log are marked the tops of the various zones with the interval perforated.

Q Mr. Stewart, have these two zones been designated by the Commission as separate sources of supply?

A Yes, they have.

Q Mr. Stewart, have you estimated the oil reserve underlying the 40-acre tract upon which the well is completed which is allocated to the well?

A Yes, we estimate the reserves in the Grayburg of 54,000 barrels, and in the San Andres 32,000 barrels.

Q Mr. Stewart, have you made an analysis of the cost of development of the reservoirs and other economic factors pertaining thereto?

A Yes.

Q Will you briefly describe the economics involved in developing these reservoirs?

A It's felt to complete a well in the San Andres would cost approximately $58,000, with the reserves I gave, the rate of return is approximately seven percent, which is low. The cost of development is approximately $2.00 per barrel. Now to dual a single well in the San Andres and the Grayburg, an additional sum would be required, but the cost to dual we estimate to be $64,000. That raises the rate of return to 34 percent, approximately, which of course presents a much more attractive picture. It also lowers the cost of development to something like seventy-five cents per barrel.

Q In your opinion, Mr. Stewart, would the economics justify the drilling of an independent and separate well to the San Andres?

A No.

Q Mr. Stewart, what is the usual production history of wells in the area of the Leavitt No. 2 Well?

A Well, the nearest well is the Leavitt No. 1, which is completed in the San Andres. It's a capacity producer and for the past year has produced at a rate approximately 20 barrels per month of oil.

Q You mean 20 barrels per day, per month?

A Yes, excuse me. 20 barrels per day.

Q Well, Mr. Stewart, the application requests permission to

produce into common tankage production from the San Andres and Grayburg after computing the production from each reservoir separately by volume type meters. Will you explain the method proposed to be used to account for the commingled production?

A It is proposed to install a single volume meter to measure production from the Grayburg zone. The production from the San Andres will be determined by the subtraction of Grayburg production from total production.

Q Is it proposed to check the accuracy of the meter by monthly tank test?

A Yes, as a matter of fact, it is a company policy that the meters are checked more often than that; however, it's proposed to submit test forms once a month.

Q Mr. Stewart, in your opinion will the granting of this application prevent waste?

A Yes, we feel that it will prevent both physical and economical waste; as I said earlier, I don't feel that it's a wise economic venture to drill a well for San Andres production with the indicated reserves. We feel that by a dual completion, we will be able to prevent waste by producing the oil, the recoverable oil from both of the intervals, and at the same time have an economic, wise economic investment.

Q Mr. Stewart, in your opinion would the granting of this application in any manner impair correlative rights?

A No. No. We see no reason why the granting of this

application should impair correlative rights, and the other operator would be free to dually complete one of his wells in the two zones if he saw fit.

Q Do you have any recommendations to make to the Commission?

A We recommend that the Commission approve the application with provision for metering production from a single zone and subtracting production from that zone, from total production, to determine production from each of the individual zones.

MR. ELLIOTT: We now offer the four exhibits as heretofore identified, No. 1 through 4.

MR. NUTTER: Is there objection to the introduction of Standard's Exhibits 1 through 4? If not, they will be received. Anyone have any questions of the witness? Mr. Cooley.

CROSS EXAMINATION

By MR. COOLEY:

Q Mr. Stewart, what is the underlying purpose behind your application to commingle production from the two separate pools?

A Well, principally economic. Of course, by dually completing this well and commingling production, the cost to develop will be less.

Q This is aside from the dual completion facet of it. The only purpose for commingling the oil would be the economic saving that you will realize thereby?

A It will prevent the installation of separate battery facilities, which would prevent waste in the long run because of

the ultimate pay-out period of the well.

Q Lower operating costs --

A (Interrupting) Yes.

Q -- would permit longer production?

A That's right.

Q What is the approximate cost of tank battery installations in the event you were required to install two separate facilities?

A Well, I'm sorry, I haven't that information. We don't have proposed battery installations worked out, and I have nothing here on it.

Q Can't you approximate a cost of a tank battery and the separator and the other installations necessary to equip a well for production in this area?

A Based on the expended amount for our Leavitt 1 job, I would estimate the cost of a battery would be something like possibly nine or ten thousand dollars.

Q This is for a single well?

A Yes.

Q Now, would the cost of that be doubled in the event you were required to install two separate tank batteries for each horizon and each individual piece of equipment would have to be duplicated?

A Yes, the requirement would be double there.

Q Would the cost of the single battery be increased if you were allowed to commingle it, and would the cost of the single battery

in which you propose to commingle production be any greater than the single battery which you have just described?

A No, I feel possibly by a single tank; however, as I said, I haven't the plans here. I don't know what has been planned for the battery. It would be slightly reduced, I would say.

Q What type meters do you propose to install?

A At the present time we propose to install a Rolochek type volume meter.

Q Is that what has been previously referred to in this Commission as the "positive displacement" type meter?

A No.

Q Is it the dump type meter?

A It is a dump type meter, yes. We feel that this type meter is as accurate or possibly more accurate than positive displacement type meter.

Q Would the oil be metered after any water had been knocked out of it?

A The oil would be metered downstream from separation.

Q Downstream?

A Yes.

Q In your application, Mr. Stewart, paragraph 4 thereof, you state that the applicant requests permission to produce into common tankage production from the San Andres and Grayburg reservoir after accounting for production from each reservoir separately by the use of volume type meters?

A Yes.

Q In the plural. Do you feel that this, your proposal at the hearing is in accord with the application, seeing that you propose the installation of two meters, one for each horizon?

A I would say that it isn't the way that reads, no, sir; I have proposed the use of a single meter.

Q The case was also advertised in that fashion, taken directly from the application;"and further,"I quote from the advertisement, "and further for permission to commingle the production from the said V. L. Leavitt No. 2 Well from both of the above-described Pools in common tankage after separately measuring the oil from each of said pools by means of volume type meters". In view of your application and the manner in which this case was advertised, I feel that maybe it is jurisdictional, because we claim jurisdiction in the case only by virtue of our advertisement. It might well be that some operator in the pool would have objection to the subtraction method that you here propose.

A Yes, I understand.

Q In the event the Commission sees fit to grant the application in all other respects, would Standard Oil Company of Texas be willing to revert to its original application and install meters for each of the two horizons?

A I feel it would, yes.

MR. COOLEY: That's all the questions I have.

MR. NUTTER: Mr. Porter.

By MR. PORTER:

Q Have you had experience with this type meter?

A Yes, sir, I have.

Q Has it proven satisfactory?

A Yes, sir.

MR. NUTTER: Any further questions? Mr. Utz.

By MR. UTZ:

Q What is the cost of this type of meter?

A I don't have that information.

Q Do you have any idea? It would be less than another tank battery, wouldn't it?

A I beg your pardon?

MR. PORTER: It would be less than another tank battery, wouldn't it?

A I hope so.

Q (By Mr. Utz) What is the I.D. of the 2-1/16 inch tubing?

A 1-3/4 inches.

MR. UTZ: That's all I have.

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

By MR. NUTTER:

Q Would you give me the interval of perforations in the Grayburg zone, please?

A Yes, sir, 985 feet to a thousand.

Q 985 to 1,000?

A Yes.

Q What is the interval of perforation in the San Andres?

A 1731 to 1756.

Q What is the gravity of the oil from the Grayburg?

A Approximately 40.

Q What is the gravity from the San Andres?

A I think that that is about the same. I would say it's about the same.

Q What is the bottom-hole pressure in the Grayburg zone?

A Based on a drill stem test, the bottom-hole pressure was, this is shut-in, 450 pounds.

Q What about the Grayburg -- that was the San Andres, is that correct?

A That was Grayburg. I don't have it for the San Andres.

Q There have been bottom-hole pressures taken in this area in the San Andres formation, have there not?

A I'm sure there have in the area; however, I haven't those here.

Q Would you provide us with the bottom-hole pressures for the San Andres formation?

A Yes.

MR. UTZ: Also the gravity.

A All right.

Q (By Mr. Nutter) What about the GOR's in the two zones, Mr. Stewart?

A The only production which we have had at this time in the

San Andres in this well has followed a frac of the zone and there will not be a GOR for that. I don't have that information with me here. I would like to say that the well has been producing since the 23rd of March, and that explains my lack of production history.

Q What formation?

A Grayburg.

Q It's producing from the upper zone?

A It's producing at this time from the Grayburg.

Q You can obtain the GOR for the Grayburg and San Andres?

A I can't at this time for the San Andres; after it is put on production, of course.

Q How about the adjoining San Andres wells, do you have GOR's on them?

A Yes, I have that for the Leavitt No. 1.

Q What is the GOR on that?

A Approximately 1170.

Q Do you have any GOR's for any Grayburg wells in this area?

A No, I haven't.

Q How long have your No. 1 and 3 wells east of this No. 2 well been completed in the Grayburg?

A Those are not Standard wells, Mr. Nutter. Those are Illinex wells, listed that way on the proration schedule. They're not operated by Standard. Standard has that acreage below 2474 feet.

Q Mr. Stewart, I noticed on your Exhibit No. 2 that you have

used a Baker Model "H" packer, in this dual completion. Would you describe the Baker Model "H" packer to me, please?

A The Model "H" packer is one in which the tubing is sealed; when the tubing is removed from the packer a flapper valve-type arrangement closes, thereby isolating the lower zone.

Q Is this the type of a packer that is commonly known as a permanent-type packer, or can it be removed?

A I believe this type can be removed. I believe this type can be removed, yes, sir.

Q It would be classified as a retrievable type packer?

A Would you let me check on that?

Q Please do.

A Mr. Nutter, I'm going to have to reverse and say that I feel this is a permanent-type packer. I don't believe it can be removed.

Q Are you aware of any dual completions having been authorized for completion with the retrievable type packer?

A No, I can't think of any right now.

Q Would you confirm your statement that you believe this is a permanent-type packer?

A Yes, sir, I will.

Q Mr. Stewart, you stated, I believe, that it would cost $64,000 to dually complete this well?

A Yes, I think that's our estimate.

Q What is the estimate for a single completion in the Grayburg?

A Fifty-one thousand.

Q What is the estimate for a single completion in the San Andres?

A Fifty-eight thousand.

Q What would the total cost of two single completions to each of the two zones be, then?

A One hundred nine thousand.

Q So a dual completion would represent a saving of how much money?

A Approximately forty-five thousand dollars.

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

By MR. PORTER:

Q That drilling cost seems a little high for those depths.

A We have based those, Mr. Porter, on the final cost for drilling and completing the Leavitt No. 1 for the Grayburg. We have reduced it by the difference in depth with the resulting drilling cost reduction and pipe reduction.

Q Your Grayburg is approximately 900 feet?

A Approximately.

Q And the San Andres between seventeen and eighteen hundred?

A Yes, approximately seventeen hundred feet.

Q Your figure here is based on the experience you have had with the other well?

A Yes, sir.

MR. PORTER: All right.

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

(Witness excused.)

MR. NUTTER: Does anyone have anything further they wish to offer in Case 1429? If not, we will take the case under advisement.

* * * * * * *

C E R T I F I C A T E

STATE OF NEW MEXICO)
) ss
COUNTY OF BERNALILLO)

I, ADA DEARNLEY, Notary Public in and for the County of Bernalillo, State of New Mexico, do hereby certify that the foregoing and attached Transcript of 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 and Seal this 12th day of May, 1958, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Ada Dearnley
NOTARY PUBLIC

My commission expires:

June 19, 1959.

I do hereby certify that the foregoing is a complete [illegible] of the proceedings in the Examiner hearing of Case No. 1429, heard by me on May 6, 1958.

[signature], Examiner
New Mexico Oil Conservation Commission

DEARNLEY-MEIER REPORTING SERVICE
General Law Reporting
ALBUQUERQUE, NEW MEXICO
Phone CHapel 3-6691

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 1429
Order No. R-1178

APPLICATION OF STANDARD OIL COMPANY
OF TEXAS FOR AN OIL-OIL DUAL COMPLETION
AND FOR PERMISSION TO COMMINGLE THE
PRODUCTION FROM TWO COMMON SOURCES OF
SUPPLY.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on May 6, 1958, at Santa Fe, New Mexico, before Daniel S. Nutter, Examiner duly appointed by the New Mexico Oil Conservation Commission, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 26th day of May, 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, Standard Oil Company of Texas, is the owner and operator of the V. L. Leavitt No. 2 Well, located 1650 feet from the North line and 2310 feet from the West line of Section 13, Township 18 South, Range 26 East, NMPM, Eddy County, New Mexico.

(3) That the applicant proposes to dually complete its V. L. Leavitt No. 2 Well in such a manner as to permit the production of oil from the Atoka-Grayburg Pool and oil from the Atoka (San Andres) Pool through parallel strings of 2 1/16-inch tubing.

(4) That the applicant further proposes to commingle the Grayburg and San Andres production from the said V. L. Leavitt No. 2 Well in common tankage after separately measuring the oil from each of said pools by means of dump-type meters.

(5) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(6) That the applicant should be permitted to commingle the Grayburg and San Andres production from the said V. L. Leavitt No. 2 Well in common tankage after said production has been separately measured by means of dump-type meters, provided said meters are periodically checked for accuracy.

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

IT IS THEREFORE ORDERED:

(1) That the applicant, Standard Oil Company of Texas, be and the same is hereby authorized to dually complete its V. L. Leavitt No. 2 Well, located 1650 feet from the North line and 2310 feet from the West line of Section 13, Township 18 South, Range 26 East, NMPM, Eddy County, New Mexico, in such a manner as to permit the production of oil from the Atoka Grayburg Pool and oil from the Atoka (San Andres) Pool through parallel strings of 2 1/16-inch tubing.

PROVIDED HOWEVER, That subject well shall be completed and thereafter produced in such a manner that there will be no commingling within the well-bore, either within or outside the casing, of gas, oil and gas, or oil produced from either or both of the separate strata,

PROVIDED HOWEVER, That prior to the actual dual completion the operator shall make pressure tests of the casing to prove that no casing leaks exist. In the event a casing leak is apparent the operator shall take appropriate steps to adequately repair the leak. The results of these tests shall be reported to the Commission on Form C-103.

PROVIDED FURTHER, That upon the actual dual completion of such subject well applicant shall submit to the appropriate District Office of the Commission copies of Oil Conservation Commission Form C-103, Form C-104, Form C-110, and Form C-122, outlining the information required on those forms by existing Rules and Regulations, and two copies of the electric log of the well.

PROVIDED FURTHER, That said subject well for dual completion and production shall be equipped in such a way that reservoir pressures may be determined separately for each of the two specified strata, and further, be equipped with all necessary connections required to permit recording meters to be installed and used at any time as may be required by the Commission or its representatives, in order that natural gas, oil, or oil and gas from each separate stratum may be accurately measured and the gas-oil or gas-liquid ratio thereof determined, and

PROVIDED FURTHER, That the operator shall make any and all tests, including segregation and packer-leakage tests upon completion and annually thereafter, and whenever the packer is disturbed, but not excluding any other tests and/or determinations as deemed necessary by the Commission; the original and all subsequent tests shall be witnessed by representatives of offset

operators if any there be at their election, and the results of each test, properly attested to by the applicant herein and all witnesses, shall be filed with the Commission within fifteen (15) days after the completion of such tests, and further, that applicant shall file with the Commission in duplicate a packer-setting affidavit, which affidavit shall be due within fifteen (15) days of the dual completion or whenever the packer is disturbed, and

PROVIDED FURTHER, That upon the actual dual completion of such subject well, applicant shall submit to the Commission a diagrammatic sketch of the mechanical installation which was actually used to complete and produce the seal between the strata, and a special report of production, gas-oil ratio or gas-liquid ratio, and reservoir pressure determination for each producing zone or stratum immediately following completion.

IT IS FURTHER ORDERED, That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order after proper notice and hearing the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

(2) That the applicant be and the same is hereby authorized to commingle the Grayburg and San Andres production from the said V. L. Leavitt No. 2 Well in common tankage provided the oil produced from each of said pools is separately measured by means of dump-type meters prior to being commingled.

(3) That the above-described meters should be checked 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
P. O. BOX 871
SANTA FE, NEW MEXICO

May 27, 1958

Mr. R. A. Elliott
Standard Oil Co. of Texas
P.O. Box 1249
Houston, Texas

Dear Mr. Elliott:

We enclose herewith two copies of Order No. R-1178 issued May 26, 1958, by the Oil Conservation Commission in Case No. 1429, which was heard on May 6th at Santa Fe.

You will note that this order, in granting permission to commingle the production from two separate pools, requires that the dump-type meters shall be checked for accuracy at intervals and in a manner satisfactory to the Commission. Standard Oil Company of Texas is hereby directed to calibrate said dump-type meters at intervals not to exceed one month and to file the report of said calibrations 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.

No. 12-58

DOCKET: EXAMINER HEARING MAY 6, 1958

OIL CONSERVATION COMMISSION 9 a.m., MABRY HALL, STATE CAPITOL, SANTA FE, NM

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

CASE 1425: Application of Continental Oil Company for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 160-acre non-standard gas proration unit in the Tubb Gas Pool consisting of the E/2 E/2 of Section 14, Township 21 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Lockhart B-14 "A" Well No. 2, located 660 feet from the South and East lines of said Section 14.

CASE 1426: Application of Neville G. Penrose for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 120-acre non-standard gas proration unit in the Blinebry Gas Pool consisting of the S/2 SE/4 and SE/4 SW/4 of Section 17, Township 21 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Percy Hardy No. 1 Well, located 660 feet from the South line and 1980 feet from the West line of said Section 17.

CASE 1427: Application of Pan American Petroleum Corporation for approval of a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 480-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the N/2 and SE/4 of Section 24, Township 20 South, Range 36 East, Lea County, New Mexico, said unit to be dedicated to the applicant's O. J. Gillully "A" No. 4 Well, located 660 feet from the North line and 1980 feet from the East line of said Section 24.

CASE 1428: Application of E. G. Rodman for the approval of a communitization agreement and for a forced pooling order. Applicant, in the above-styled cause, seeks an order approving a communitization agreement embracing the NW/4 and the W/2 NE/4 of Section 20, Township 21 South, Range 37 East, Lea County, New Mexico, as to dry gas and associated liquid hydrocarbons produced from said tract from the Eumont Gas Pool; and further, for an order force pooling the interests of all persons in the above-described tract who have not voluntarily subscribed to above-referenced communitization agreement.

CASE 1429: Application of Standard Oil Company of Texas for a dual completion and for permission to commingle the production from two common sources of supply. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its V. L. Leavitt No. 2 Well, located 1650 feet from the North line and 2310 feet from the West line of Section 13, Township 18 South, Range 26 East, Eddy County, New Mexico, in such a manner as to permit the production of oil from the Atoka-Grayburg Pool and oil from the Atoka (San Andres Pool through parallel strings of tubing; and further, for permission to commingle the production from the said V. L. Leavitt No. 2 Well from both of the above-described pools in common tankage

CASE 1429
Continued after separately measuring the oil from each of said pools by means of volume type meters.

CASE 1430: Application of El Paso Natural Gas Company for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 331-acre non-standard gas proration unit in the Blanco Mesaverde Gas Pool consisting of the W/2 of Partial Section 6 and the NW/4 of Partial Section 7, Township 30 North, Range 8 West, San Juan County, New Mexico, said unit to be dedicated to the applicant's Howell No. 2-G Well located 990 feet from the South and West lines of said Section 6.

CASE 1431: Application of Skelly Oil Company for a dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its P. L. Davis Well No. 1, located 990 feet from the North and East lines of Section 26, Township 26 North, Range 11 West, San Juan County, New Mexico, in such a manner as to permit the production of gas from an undesignated Gallup gas pool and gas from an undesignated Dakota gas pool underlying the above-described area.

CASE 1432: Application of King Oil Company for approval of three unorthodox gas well locations. Applicant, in the above-styled cause, seeks an order authorizing the unorthodox gas well locations for the following described wells:

Navajo A-1 Well, located 2310 feet from the South line and 2310 feet from the West line of Section 4, Township 30 North, Range 17 West;

Navajo A-2 Well, located 1650 feet from the North line and 330 feet from the East line of Section 4, Township 30 North, Range 17 West;

Navajo B-2 Well, located 660 feet from the South line and 660 feet from the East line of Section 34, Township 31 North, Range 17 West,

all in San Juan County, New Mexico.

ir/

CASE 1433: Application of Graridge Corporation to expand a pilot water flood project in the Caprock Queen Pool, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order permitting the expansion of the pilot water flood project authorized by Order No. R-972 in the North Caprock Queen Unit in the Caprock-Queen Pool, Lea County, New Mexico, to include eight additional water injection wells in Sections 30, 31, and 32 of Township 12 South, Range 32 East, Lea County, New Mexico.

CASE 1434: Application of Tidewater Oil Company for an oil-oil dual completion. Applicant, in the above-styled cause, seeks an order authorizing the dual completion of its Coates "C" Well No. 11, located 1980 feet from the North line and 1650 feet from the West line of Section 24, Township 25 South, Range 37 East, Lea County, New Mexico, in such a manner as to permit the production of oil from the Drinkard formation adjacent to the Justis-Drinkard Pool and oil from the Justis-Fusselman Pool through parallel strings of tubing.

CASE 1435: Application of Continental Oil Company for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 320-acre non-standard gas proration unit in the Eumont Gas Pool consisting of the SE/4 of Section 5 and the NE/4 of Section 8, all in Township 21 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Hawk A-8 No. 2 Well located 660 feet from the North line and 1980 feet from the East line of said Section 8.

CASE 1436: Application of Amerada Petroleum Corporation for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 320-acre non-standard gas proration unit in the Bagley-Upper Pennsylvanian Gas Pool consisting of the SE/4 of Section 3 and the NE/4 of Section 10, all in Township 12 South, Range 33 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Amerada Mathers No. 2 Well located in the SE/4 SE/4 of said Section 3.

CASE 1437: Application of Continental Oil Company for a non-standard gas proration unit. Applicant, in the above-styled cause, seeks an order establishing a 320-acre non-standard gas proration unit in the Jalmat Gas Pool consisting of the N/2 of Section 7, Township 23 South, Range 37 East, Lea County, New Mexico, said unit to be dedicated to the applicant's Stevens B-7 Unit Well No. 1 located 990 feet from the North and West lines of said Section 7.

CASE 1438: Application of Monsanto Chemical Company for an unorthodox gas well location. Applicant, in the above-styled cause, seeks an order authorizing an unorthodox gas well location for its Viersen Well No. 1 at a point 660 feet from the North and East lines of Section 19, Township 30 North, Range 13 West, San Juan County, New Mexico.

ir/

STANDARD OIL COMPANY OF TEXAS
P. O. BOX 1249 · HOUSTON 1 · TEXAS

May 9, 1958

New Mexico Oil Conservation Commission
Box 871
Santa Fe, New Mexico

Attention: Mr. Dan Nutter

Gentlemen:

Reference is made to our telephone conversation May 8, 1958, concerning Standard Oil Company of Texas' Case 1429. To complete your file, the following data are furnished:

GOR for the Grayburg formation is 42 CFPB. As given during the hearing the initial BHP was 450 psi, and gravity of both the Grayburg and San Andres production is 40° API. No BHP is available for the San Andres and the GOR averages approximately 1150 CFPB for this formation.

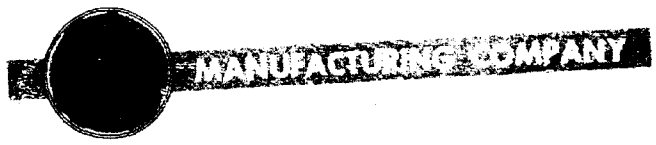
The packer to be used is a Baker Model D utilizing a Model H permanent completion production tube. To confirm the testimony, the packer is a permanent type equipped for seal rings and with flapper valve.

If additional information is desired, please advise.

Yours very truly,

R. H. Stewart

RHS:rem



PAT A. CLOWER

REGIONAL SALES MANAGER

MOHAWK 4-3421
P. O. BOX 6763
HOUSTON 5, TEXAS

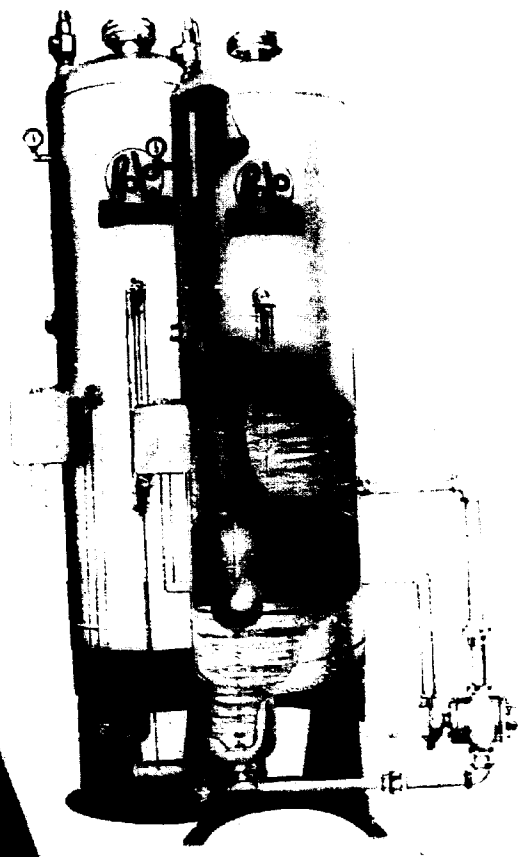
J. W. MASSEY, JR.
MUTUAL 4-4151
MIDLAND, TEXAS
TIA MOGFORD

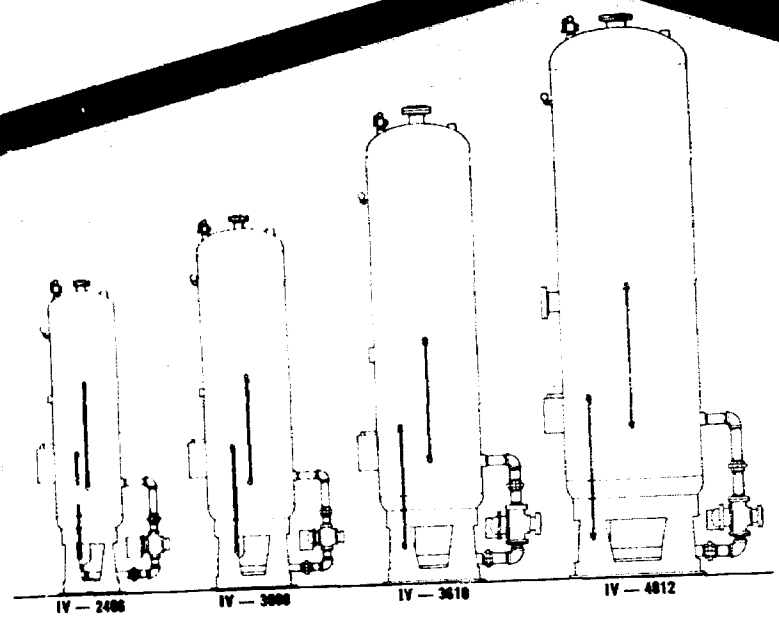
Bulletin 56MS

it's more economical than ever to meter each well's production accurately . . .

with Rolocheck®

Metering Separators



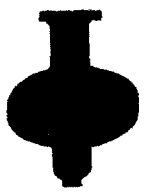


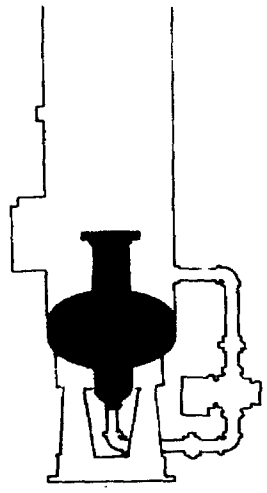
Rolo Manufacturing Company

P. O. Box 6763 Houston 5, Texas

BRANCHES: Corpus Christi • Midland • Kilgore • Tulsa • Lafayette • New Orleans • Los Angeles • Bakersfield • Ventura • Casper Mt. Vernon • Mexico City • Caracas • Maracaibo • Anaco • **EXPORT OFFICE:** R. S. Stokvis & Sons, Inc., 17 Battery Place, N.Y.C.

A ROLOCHECK METER . . . . . .





built right into a Separator . . . . . .

that's the ROLOCHECK *Metering Separator**

Now, for very little more than you'd pay for a separator alone, you can get an efficient separator and a genuine ROLOCHECK Meter - built as one unit - at no sacrifice in efficiency or metering accuracy.

*Patents issued and pending.

Here's what you get with a ROLOCHECK Metering Separator:

check these features..

LOW COST. You get a separator and the proven oil field meter at a low price that will amaze you! And there is no expensive meter maintenance.

AN EFFICIENT SEPARATOR. Rolo employs stainless steel mesh mist extractors and other internals to afford maximum efficiency in oil and gas separation. Vessels are Code labeled.

ABSOLUTE METERING ACCURACY. In the Rolocheck Meter, upper and lower liquid levels are controlled in reduced-diameter necks, not in a uniform-diameter cylinder. The difference? Consistent accuracy.

> Example: In a 1 bbl. size meter, 24" diameter, a variation of ½ inch in the upper or lower liquid level control point could mean an error of only 1/5th of 1% in a Rolocheck Meter. In a straight cylindrical vessel without reduced necks, the same variation would mean an error of over 2%—ten times as much!

You can rely on Rolocheck Meters for *accuracy—consistent accuracy.*

THE NEW NEUTRAL POSITION 3-WAY OIL VALVE. This is the greatest advancement for oil metering since Rolo introduced the Rolocheck Meter—a 3-way meter valve with a dead-center position. With this valve, only one of the two inner ports is open at any time—both ports cannot be open at once, even during the valve switching operation. *With two 2-way valves, and with all other types of 3-way valves, there are instantaneous periods, during* the valve switching operation, when both valves are open at the same time, allowing slippage around the meter, causing varying inaccuracies. With the neutral position 3-way valve, this can't happen—the meter filling cycle is always stopped before the dumping cycle begins, and vice-versa. (See page 5 for operation of this valve.)

MAINTENANCE-FREE OPERATION. The Rolocheck Meter internals are only a float and a float guide rod—no close clearances to wear and bind with sediment. And the neutral position 3-way valve has sturdy rubber-to-metal inner valves, assuring positive shutoff and long life.

NEW, IMPROVED COUNTER SYSTEM. A new, rugged, larger counter, with a minimum of moving parts, employed only on Rolocheck equipment. Positive counting—no misses.

NO MINIMUM METERING RATE. Rolocheck Meters have no minimum rate—there is no slippage. Also, gas cannot "blow through" a Rolocheck Meter—only liquid is passed by the meter.

A COMPACT, SPACE-SAVING UNIT — ALL ON ONE PURCHASE ORDER.

Note: This bulletin describes equipment developed since the last issue of Composite Catalog.

ROLOCHECK *Two-Phase*
METERING SEPARATOR

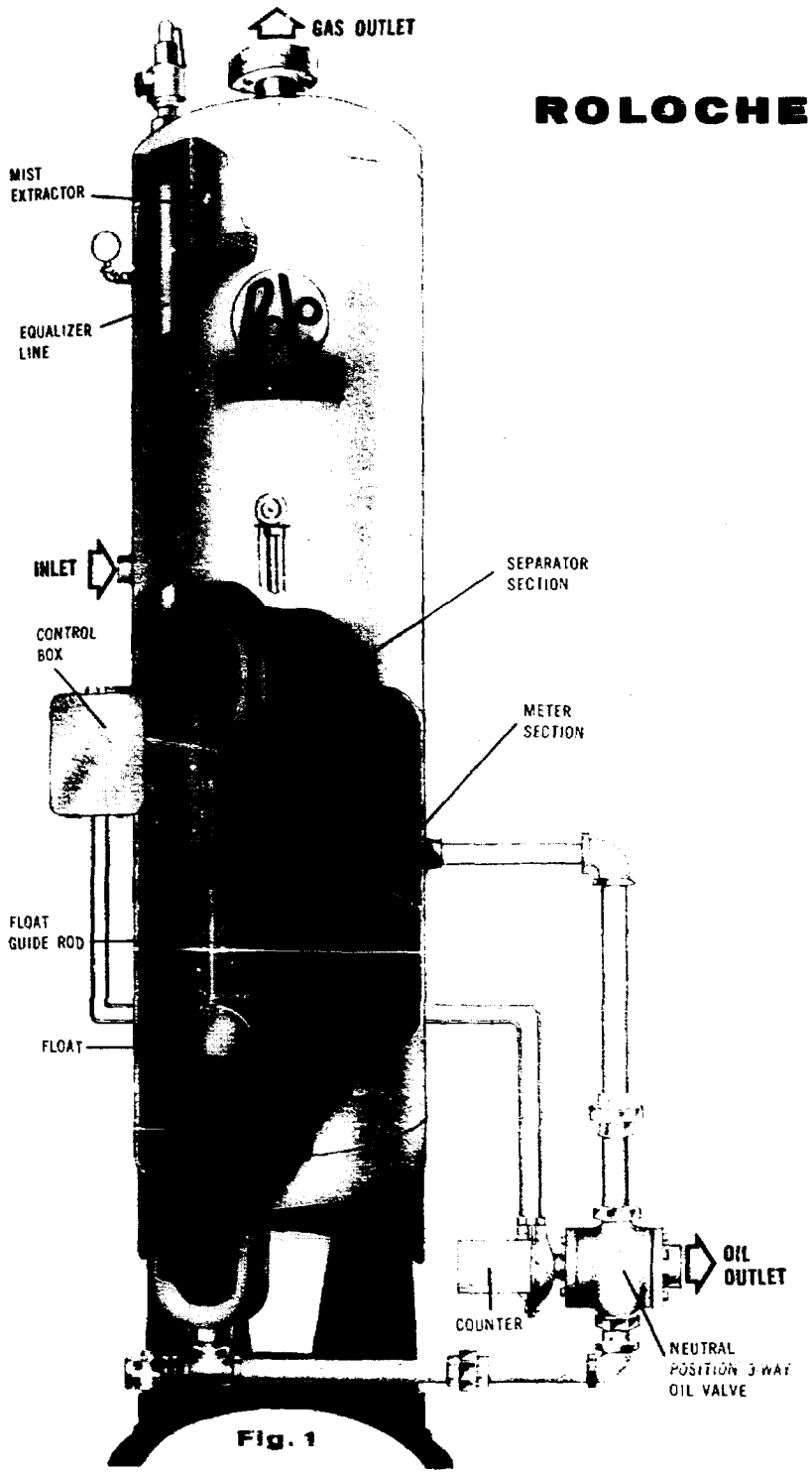


Fig. 1

Operation:

Oil and gas, entering inlet, are separated in separator section, gas traveling through mist extractor and gas outlet. Oil flows by gravity through neutral position 3-way valve into meter section.

As oil level rises in meter section, float (traveling on float guide rod as a guide) moves upward, until liquid level reaches upper reduced-diameter neck of meter section. The float then contacts upper stop on float guide rod, pushing upward on this stop and causing the pilot in control box to reverse 3-way oil valve. (See page 5 for operation of the neutral position 3-way valve.)

The porting of 3-way oil valve reverses, closing off flow between separator and meter sections, then opening port between meter section and oil outlet. The meter section and separator section being equalized in pressure through equalizer line, oil in meter section is discharged under pressure through oil outlet until liquid level in meter section reaches lower reduced-diameter neck. The float then contacts lower stop on float guide rod, pulling downward and causing pilot to reverse porting of 3-way oil valve. This allows meter section to fill again from separator section, and the cycle is repeated.

Each volume discharged from the meter section is an exactly calibrated volume, and each discharge cycle is counted on the counter, which is actuated by the 3-way oil valve.

ROLOCHECK TWO-PHASE METERING SEPARATORS

Type	W. P. (psi)	Size (o.d. x total height)	Meter Size	Meter Valve Size*	Capacity Oil (bpd)	Capacity Gas (MCFD)
1V-2406	125	24" x 8'	1 bbl.	2"	900	3000
1V-3008	125	30" x 12'	1 bbl.	2"	1100	5000
1V-3008	125	30" x 12'	1 bbl.	3"	2000	5000
1V-3610	125	36" x 14'	2 bbl.	3"	2250	8000
1V-3610	125	36" x 14'	2 bbl.	4" x 3"**	2700	8000
1V-4812	125	48" x 17'	5 bbl.	3"	2500	10000
1V-4812	125	48" x 17'	5 bbl.	4" x 3"**	3500	10000
1V-4812	125	48" x 17'	5 bbl.	4" x 4"**	4400	10000

300, 600 and 1200 psi or higher w.p. units are available. Also, higher capacity units available. Write for information.

All vessels Code labeled. Basic unit includes companion flanges, relief valve, pressure gauge and separator gauge glass. Optional items include meter gauge glass and other items listed on page 5.

*2" valves screwed, 3" and 4" flanged.

**Special units with two 2-way valves instead of one 3-way valve, with special sequencing equipment to control timing of valves.

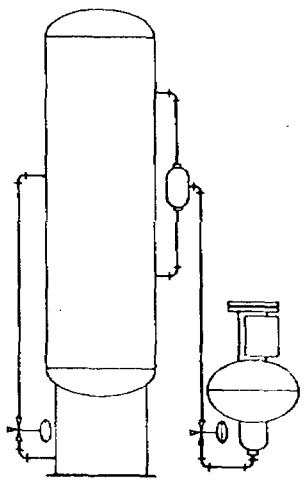


Fig. 2

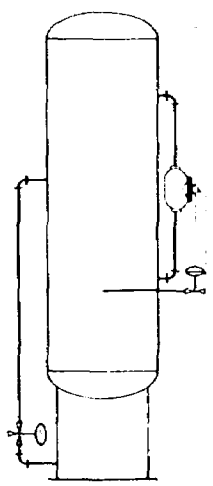


Fig. 3

A Free Water Knockout can be added later! All two-phase ROLOCHECK Metering Separators have extra couplings installed in the vessel so that when free water is produced, either of two systems to remove the free water can be added.

For maximum accuracy and minimum maintenance in water measurement, an external ROLOCHECK Water Meter can be added, by installing an outside water box (Fig. 2) to the separator section. The separator water level is automatically controlled, and only free water is sent to the outside ROLOCHECK Water Meter.

If free water metering is not desired, or if a positive-displacement water meter is to be used, an outside float chamber (Fig. 3), with float and pilot, can be installed, along with a water dump valve, to discharge the free water.

Both types can be purchased from ROLO later, and can easily be added in the field.

. . . and here's the ROLOCHECK

Three-Phase

Metering Separator

. . . it separates and meters oil and free water

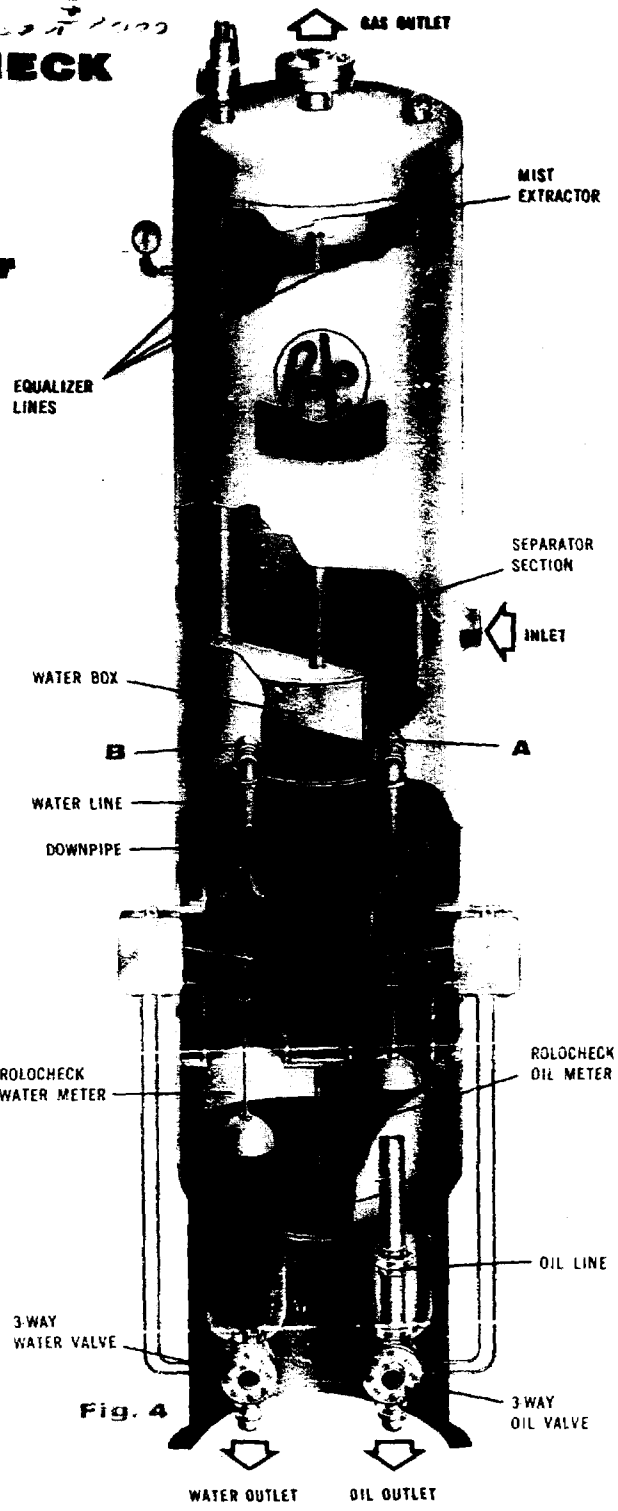


Fig. 4

Where free water is produced or anticipated, the ROLOCHECK Three-Phase Metering Separator offers a free water knockout, and two ROLOCHECK Meters, one for oil and one for free water, all in one vessel.

Here's how it works: Well fluids, entering the inlet, are separated in the separator section, gas exiting through the mist extractor and gas outlet.

Free water falls by gravity into the lower portion of the separator section, the oil and emulsion settling on top. Oil and emulsion leave the separator through connection A, and enter the oil line. The 3-way oil valve directs the oil and emulsion to and from the ROLOCHECK Oil Meter, where it is metered as in the two-phase metering separator. As meter dumps, oil exits through oil outlet.

Free water enters lower end of downpipe at bottom of separator section, and enters water box through downpipe. (Water box, as well as both ROLOCHECK Meters . . equalized in pressure with separator section through equalizer lines.) Water leaves the water box through connection B, entering the water line. The 3-way water valve directs the water to and from the ROLOCHECK Water Meter, where it is metered. As the water meter dumps, water exits through water outlet.

The ROLOCHECK Three-Phase Metering Separator is the answer where oil and free water are produced—no more accurate and efficient method of metering both liquids is possible.

ROLOCHECK THREE-PHASE METERING SEPARATORS

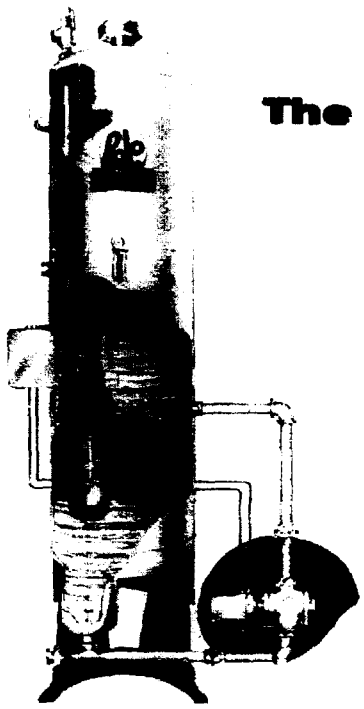
Type	W. P. (psi)	Size (o.d. x total height)	METER SIZES		Valve Size On Meters*	CAPACITY		
			Oil	Water		Oil (bpd)	Water (bpd)	Gas (MCFD)
1V-3088W	125	30" x 12'	½ bbl.	½ bbl.	2"	800	800	5000
1V-3610W	125	36" x 14'	1 bbl.	1 bbl.	2"	1000	1000	8000
1V-3610W	125	36" x 14'	1 bbl.	1 bbl.	3"	1500	1500	8000
1V-4812W	125	48" x 17'	2 bbl.	2 bbl.	3"	2000	2000	16000
1V-4812W	125	48" x 17'	2 bbl.	2 bbl.	4" x 4" **	3000	3000	16000

Special units for higher capacities available. Write for information.

All vessels Code labeled. Basic unit includes companion flanges, relief valve, pressure gauge and separator gauge glass. Optional items include meter gauge glasses and other items listed on page 5.

*2" valves screwed, 3" and 4" flanged.

**Special unit with 2-way valves instead of 3-way valves, with special sequencing equipment to control timing of valves.



The ROLO Neutral Position 3-Way Valve

is not just a 3-way valve—

With the new ROLO Neutral Position 3-Way Valve, oil cannot by-pass the meter—even when the valve is switching! Here's why this valve is different—why it means consistent metering accuracy:

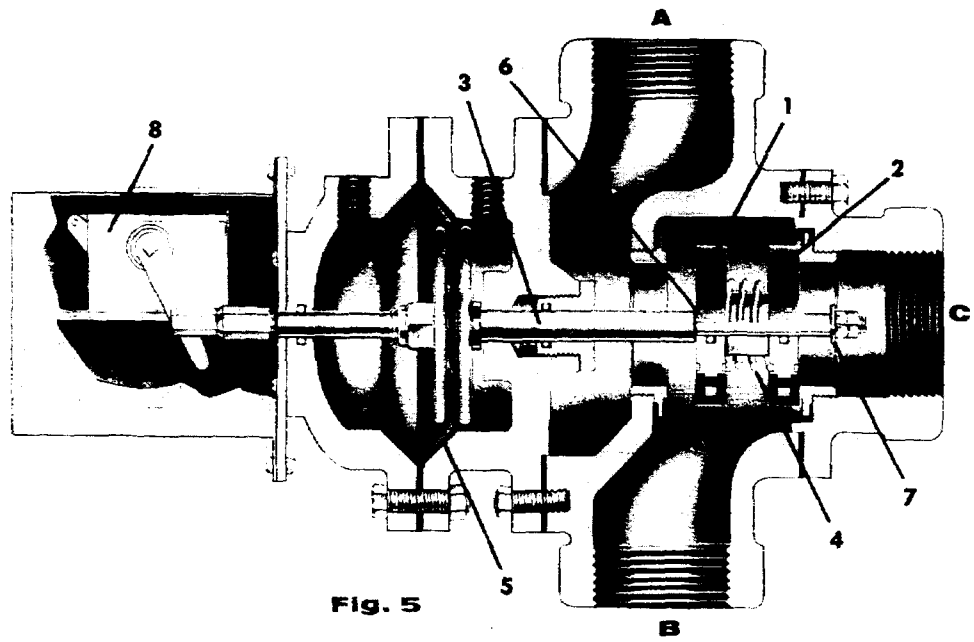


Fig. 5

Inner valves 1 and 2, not being rigidly attached to valve stem 3, can move relative to the valve stem. Inner valves 1 and 2 are separated by spring 4, which always tends to separate the inner valves.

When ROLOCHECK Meter pilot sends pressure above diaphragm 5, valve stem 3 moves to right, with lip 6 forcing inner valve 1 away from its seat, against pressure from spring 4. (Inner valve 2 is kept against its seat by spring 4 and by pressure differential.) Thus, oil flows *from port A to port B, filling meter* from separator.

When the ROLOCHECK Meter is full, pilot reverses pressure, sending pressure under diaphragm 5. Valve stem 3 moves to left, with spring 4 forcing inner valve 1 to follow until it seats. At this instant both inner valves are seated—there is no flow through the valve. Then, as valve stem 3 continues to left, washer 7 contacts inner valve 2 and moves it off its seat. Thus, oil flows from port B (meter) to port C (flow line). When meter has ended its dump, pilot again reverses pressure to diaphragm, causing valve stem 3 to move to right, spring 4 forcing inner valve 2 to follow it and seat. At this instant both inner valves are seated, and there is no flow.

Then, valve stem 3 continues to right, until lip 6 contacts inner valve 1, opening it, and allowing meter to fill again.

Counter 8 is operated by valve stem 3 through a direct connection (no spring) to count every cycle of the meter.

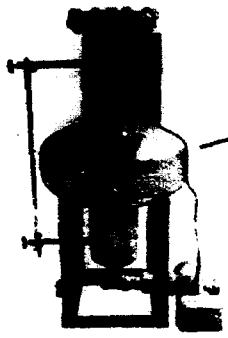
Note that at no time are both inner valves open at the same time—even when the valve is switching. This means oil cannot by-pass the meter. Every dump of the meter means an exactly calibrated volume—no more, no less! Another reason why you can't beat ROLOCHECK equipment.

Accessories For ROLOCHECK Metering Separators

• All ROLOCHECK *Metering Separators are available with ROLO Automatic Samplers in the oil lines* — to automatically obtain and collect representative samples for determination of water content and sediment in the oil • Cleanout and inspection manways are available in the separator section • Also available are completely piped gas lines, with orifice fittings and back pressure valves • Corrosion-resistant (anti-sulphurous) trim is available • Anti-paraffin deposition internal coating is available for oil meter and/or oil line • Other accessories are available — ROLO can furnish a complete unit to meet your needs.

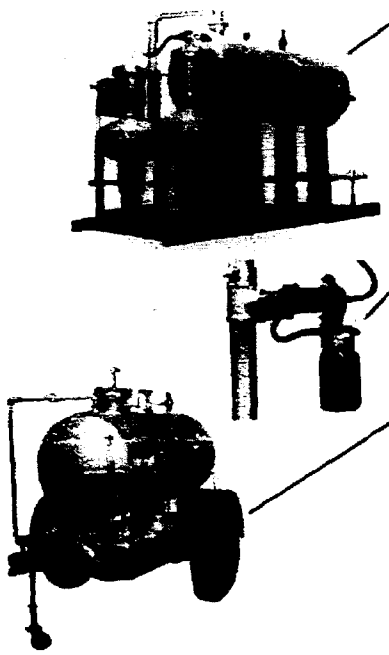
The ROLOCHECK Metering Separator is a notable addition to the famous line of metering equipment which has made ROLO the acknowledged leader in the field of oil well metering.

Among other ROLO products are:



- **ROLOCHECK METERS.** Complete with the Neutral Position 3-Way Valve as standard equipment. These meters serve equally well as oil or salt water meters, giving utmost accuracy and maintenance-free service. For installation on existing separators, treaters, tanks, etc.

- **ROLO WELLCHECKERS.** Completely piped oil and gas separators with ROLOCHECK Oil Meters and gas metering facilities. Optionally available are built-in free water knockouts, with ROLOCHECK Water Meters. Ready to operate, available on skids or trailers.



- **ROLO AUTOMATIC SAMPLERS.** Automatically obtain and collect samples of the metered liquid, so that water and sediment percentages can be determined. Operated by the ROLOCHECK Meter.

NOTE: *The above ROLO products are described in Catalog 56W. Write for your free copy.*

- **ROLO FREE WATER KNOCKOUT UNITS.** Designed especially for water flood and other areas where little or no gas is produced, these units separate and meter oil and free water by means of positive-displacement type meters. Gas is not metered. Available unmounted, or on trailer or skid bases. Write for descriptive literature.

Look to ROLO for the finest and most advanced oil well metering equipment. Contact your nearest representative, or contact ROLO direct.

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ROLO MANUFACTURING COMPANY
P. O. Box 6763
Houston 5, Texas

OIL CONSERVATION COMMISSION
SANTA FE, NEW MEXICO

Date 5/9/58

CASE 1429 Hearing Date 9 A.M. May 6 - DSN at SF

My recommendations for an order in the above numbered cases are as follows:

I recommend approval of the dual completion requested by Standard Oil Company of Texas. While the gravity of the two zones are very similar there is a considerable difference in the GOR's of the two zones and any packer leak that may occur should be readily observed by a change in the GOR.

In response to a request of the witness that he furnish certain information relative to the dual completion after the hearing, Bob Stuart, Standard of Texas, Houston, called at 2:25 P. M. 5/8/58 and advised that the packer to be used in this installation is a Model D Permanent type Baker Packer. Also that the GOR in the Grayburg is 42 to 1. No bottom hole pressures are available at this time for the San Andres formation. Stuart will furnish a letter to confirm the data which he gave over the telephone.

With regard to the 2nd portion of the application, to commingle the production from both zones of the dual completion, I recommend that it be granted with the provision that a metering separator be installed to receive the production from each zone prior to commingling said production.

Staff Member

Case 1429

NEW MEXICO
OIL CONSERVATION COMMISSION
P. O. Box 871
Santa Fe, New Mexico

Date April 18, 1958

Standard Oil Company of Texas
P.O. Box 1249
Houston, Texas

ATTENTION: C. N. Segnar

Gentlemen:

Your application for the dual completion of your V. L. Leavitt No. 2 Well and for permission to commingle production from two common sources of supply

dated/ received April 7, 1958 has been received, and has been tentatively scheduled for hearing before an examiner on May 6, 1958.

A copy of the docket will be forwarded to you as soon as the matter is advertised.

Very truly yours,

A. L. Porter, Jr.

A. L. PORTER, Jr.
Secretary-Director

ga

Exam. Hearing

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

IN THE MATTER OF THE APPLICATION OF STANDARD OIL COMPANY OF TEXAS FOR PERMISSION TO DUALLY COMPLETE THE V. L. LEAVITT #2 WELL, UNIT G, SECTION 13, T-18-S, R-26-E, EDDY COUNTY, NEW MEXICO, AS AN OIL-OIL PRODUCER, FROM THE SAN ANDRES AND GRAYBURG SEPARATE SOURCES OF SUPPLY, AND TO COMMINGLE PRODUCTION FROM THE TWO RESERVOIRS AFTER METERING.

Loco Grayburg Pool
Loco [illegible] Pool

A P P L I C A T I O N

In support of this application, the applicant, Standard Oil Company of Texas, submits the following:

Oil-oil Dual

1. That applicant has drilled the V. L. Leavitt #2 well, located 1650' from north line and 2310' from west line of Section 13, T-18-S, R-26-E, Eddy County, New Mexico.

2. That applicant requests approval to complete the V. L. Leavitt #2 well as a dual oil-oil producer in the San Andres formation from 1731-56 feet, and in the Grayburg formation from 990-1000 feet.

3. That applicant proposes to use parallel strings of 2-1/16" tubing and packer to accomplish the above-described dual completion.

Commingle prod from 2 pools

4. That applicant requests permission to produce into common tankage production from the San Andres and Grayburg reservoirs after accounting for production from each reservoir separately by the use of volume type meters. ?

5. That royalty interests of the two proposed producing zones are identical.

Therefore, applicant requests that this application be set for examiner hearing at a time convenient to the Commission.

STANDARD OIL COMPANY OF TEXAS

By C. N. Segnar
Chief Engineer