

BEFORE THE
OIL CONSERVATION COMMISSION
Santa Fe, New Mexico
July 28, 1960.

-----)
)
IN THE MATTER OF:)
)

APPLICATION OF BENSON-MONTIN-GREER DRILLING)
CORPORATION for an order authorizing the)
dual completion of the Jones Well No. 1,)
located in Unit P, Section 17, Township)
28 North, Range 13 West, San Juan County,)
New Mexico, in such a manner as to permit)
the production of oil from an undesignated)
Gallup Pool and the production of gas from)
the West Kutz-Dakota Pool through parallel)
strings of 1½-inch OD tubing.)
-----)

CASE
NO. 2038

BEFORE:

Hon. Daniel S. Nutter, Examiner.

TRANSCRIPT OF PROCEEDINGS

MR. NUTTER: Hearing will come to order, please. Case
No. 2038.

MR. PAYNE: Case 2038. Application of Benson-Montin-
Greer Drilling Corporation for an order authorizing a dual com-
pletion.

MR. KELLAHIN: Jason Kellahin, of Kellahin and Fox,
Santa Fe, New Mexico, representing the Applicant. We have one
witness, Mr. Stanley.

(Witness sworn.)

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S T A N L E Y J. S T A N L E Y, a witness, called by the Applicant, having been first duly sworn, was examined and testified as follows:

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Will you state your name, please?

A My name is Stanley J. Stanley.

Q By whom are you employed, and in what position?

A I am employed by Benson-Montin-Greer Drilling Corporation, Farmington, New Mexico.

Q What is your position with Benson-Montin and Greer?

A I am an engineer.

Q Have you testified before this Commission as a petroleum engineer, and had your qualifications accepted?

A Yes, sir, they have.

MR. KELLAHIN: Are the witness' qualifications acceptable?

MR. NUTTER: Well, there is a mistake, they are not in the record. Yes, they are.

Q (By Mr. Kellahin) Mr. Stanley, are you familiar with the application which has been filed in Case 2038?

A Yes, I am.

Q Would you state briefly what Benson-Montin and Greer proposed in this application?

A Benson-Montin and Greer on their Jones Number 1, located in the SE/4 of Section 17, Township 28 North, Range 13 West, San

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Juan County, New Mexico, propose to dually complete an oil well from the Gallup formation, and a gas well from the Dakota formation.

(Whereupon, Applicant's Exhibit 1 marked for identification.)

Q Now, referring to Exhibit 1, and with reference to the first page in that exhibit, would you discuss the information shown there?

A Yes, sir. Page 1 of Exhibit Number 1 shows the present boundary of the Totah-Gallup Pool, and our well is located, namely the Jones Number 1, approximately 10,000 feet from the boundary line of the Totah-Gallup.

Q It is then not in any designated Gallup Oil Pool as designated by this application?

A That is correct. It is a non-designated oil well in the non-designated oil pool.

Q In your opinion, it is a step-out from the Totah-Gallup?

A Yes, sir, it is, and subsequent drilling may prove, or may not prove that the two fields are connected.

Q Now, referring to the second page of the exhibit, would you discuss that information?

A The second page of the exhibit shows the present boundary of the West Kutz-Dakota Pool, and our Jones Number 1 is located within the boundaries of the West Kutz-Dakota Pool.

Q So your completion would then be in the designated pool



for Dakota production, and undesignated pool for Gallup production?

A That is correct.

Q Now, referring to page 3 and 4 of the exhibit, would you discuss those?

A Page 3 and page 4 of Exhibit Number 1 are namely, also written by Albert R. Greer, vice president of Benson-Montin-Greer Drilling Corporation, these also and forms were completed by Mr. Greer applying for a dual completion for the Dakota gas well and Gallup oil well.

Q Now, with reference to the next page of the exhibit, would you discuss the completion of the well, but first let me ask you what is the present status of this well?

A The present status of the well is dually completed, and we are waiting on the Commission to give us an allowable. I might mention that at this particular time that we need the allowable rather urgently. We do have several wells drilling on the lease at the present time, and we need frack oil for the purposes of completion.

Q Now, referring to the diagrammatic sketch which I believe is page 5 of the exhibit, discuss that.

A This page 5 is a schematic drawing of a Model K. D. Packer. I feel reasonably sure the Commission has received this exhibit many times in dual completions. The reason we have drawn the packers in this particular well, as you will see on the following page, is the fact we will run a packer on both the

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Oil Conservation Commission
P. O. Box 871
Santa Fe, New Mexico

Re: Case Nos. 2038, 2039 and 2040

Gentlemen:

Enclosed are the originals and copies of the above numbered cases before the Oil Conservation Commission on July 28, 1960.

Sincerely yours,

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By Mardi Proctor

August 16, 1960

mp/enc.

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Gallup formation and Dakota formation for one purpose only.

MR. NUTTER: The R.D. Packer, Mr. Stanley?

A The R.D. Packer. The reason we are going to run this packer is to provide an annular space for a gas lift system. We feel that the Gallup and its characteristics throughout the San Juan Basin, is that the fact it is very short-lived as far as flowing characteristics are concerned, and we anticipate in the near future this particular well, producing from the oil from the Gallup formation, will have to be artificially lifted. I might make a notation at this time, Benson-Montin and Greer has signed a contract with El Paso Natural Gas. Our company is going to spend considerable sums of money into laying a closed gas lift system. We will take the casinghead gas from the Gallup formation, compress, use it to artificially lift the Gallup oil, and then go ahead and sell any excess gas we have to El Paso Natural Gas under pressure of 500 pounds, namely, the Dakota gas gathering system. Our equipment is now coming into Farmington; I noticed before I left most of it is there, and we anticipate this program very shortly.

Q If this well goes on gas lift, there will be no gas flared?

A No gas flared at all.

Q Referring to the next page, which is page 7, would you discuss that?

A Page 7 is a bigger model R. D. Packer, and the Commission



has probably received this exhibit many times in dual completions. They are some of the more popular packers used in the oil field.

MR. NUTTER: These packers, you will rely on them for separation between the two zones?

A That is correct.

Q (By Mr. Kellahin) Referring to the diagram on page 8 of the exhibit, has the completion been made?

A Yes, sir, that is correct, all the details are here. We are running two dual strings, inch and a half in diameter. I might add here, we are contemplating bottom hole pressures in the Gallup zone, prior to putting on gas lift. We have installed artificial Gas lift valves at the depth on this particular well at 1800, 3250, 4530, and 5600. We will, with these valves, artificially lift the Gallup oil zone.

Q The production will be through, partly through strings of tubing as indicated on the exhibit, is that correct?

A That is correct.

Q Has this type of completion, which is shown here, has it heretofore been approved by this Commission?

A Yes, sir, it has been approved by this Commission many times. I might add that on page 1 you will note that the Commission has granted Tennessee Gas and Transmission Company under Callow leases, four dually completed wells. I believe that on the first well Tennessee Gas Transmission Company, I believe on their California Number 8-D, had a hearing, Case Number 1784, and the



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Commission issued an order Number 1497, allowing Tennessee Gas and Transmission Company to go ahead and dually complete their well; and then the subsequent wells, namely Number 9, Number 11, and Number 12, they were given administrative orders DC-861, 887, and 908, and these were completed in the Dakota.

Q All in the Gallup formation?

A Yes, sir, they are.

Q Now, in your opinion, does this type of completion achieve effective separation with the producer?

A Yes, sir, it has in this particular well, and has in many cases, and our subsequent testimony will show we have effective separation between the Dakota and Gallup zones.

Q What is the cementing program on this well?

A We cemented this well through the Dakota, and then took a temperature survey to determine the top of our cement, which was at 4500 feet. I might enter into the record, the Gallup was perforated at 5655, 5660, and 5665, with an abrassojet; and again I might state that the top of the cement was located at 4500 feet, and its perforation in the Dakota and Gallup was a routine operation.

Q Would that effectively prevent communication behind the pipe?

A Yes, sir, it will effectively prevent any communication between the zones.

Q Now, have you run some packer tests on this well since



completion?

A Yes, sir, we have. On page 7, you may note a letter written by Mr. Albert R. Greer, vice president of Benson-Montin-Greer, to the New Mexico Oil Conservation Commission, 1,000 Rea Road in Aztec, New Mexico, for the attention of Mr. Arnold, we outline a daily schedule, day by day, at 8:00 o'clock in the morning to conduct certain tests to prove to the Commission that the two zones were effectively separated, and we invited the Commission by this letter to witness these tests. And we diligently followed this schedule day by day, and every day at 8:00 o'clock in the morning, to provide testimony and invite witnesses to witness this particular test.

Q Do you have the results of those tests?

A Yes, sir, I have the results; on the following page is shown the tabulated results, and then subsequently from this page some graphs were drawn which portray the penetration we received between the Gallup and Dakota well. You will notice that the Dakota pressures are rising; this is typical of the Dakota formation since it is very tight, and we produced the Gallup on July 16, 1960, with the Dakota formation shut in at the pressure of 1661 pounds surface pressures. The Gallup was produced at a rate of 128 barrels per day, that is, in the 24 hours, with the G.O.R. of 823 to 1; on the half-inch choke the pressure, casing pressure was 400 pounds, remaining constant at 400 pounds, due to the artificial gas lift valves that are installed in a similar

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string of tubing. The flowing tubing varied from 25 pounds to 40 pounds, and the Dakota pressures continued to rise because on the following day, which was July 17, 1960, the Dakota formation actually experienced an increase of 1 pound pressure, and remained at 1661 throughout the entire 24-hour test period.

Also on this tabulated sheet, on July 23, 1960, the Dakota was open to flow at 8:00 o'clock on that particular date, and we measured the pressures approximately every 15 minutes, but we did tabulate them here just on the hour bases. And the pressures on the first hour was 651, the second hour 626, and on the third hour 578; you will note, however, that the Gallup pressure remained constant at 790 pounds. It was our intent in flowing the Dakota to go ahead and lower the pressures below the shut in pressures of the Gallup formation.

Q That information has been presented in graphic form in the exhibit, has it not?

A Yes, sir, on the following two pages, you will note on page 9 and page 10, that this information has been plotted. I plotted this information, and on page 9 you might see that the Dakota shut in tubing pressure is constant at 1661 pounds; the Gallup casing pressure, due to the nature of the artificial valves that are installed in the well, remains constant at one hundred and some odd pounds, but the Gallup flowing tubing pressure varied from 25 to 40 pounds. And this is portrayed on page 9 on that particular graph, and on page 10 when we opened the Gallup --



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I mean, correction, I opened the Dakota with its initial shut in pressure of 1678 pounds, it immediately drops, which is very typical of the tight formation, and this curve shows where we had dropped the pressure below the Gallup shut in casing and tubing pressure, which were equalized.

Q There was no build-up of pressure in the Gallup zone during that test?

A No, sir, there was not.

Q Do you have pressure information on other wells in the area?

A Yes, sir, I do. On this particular exhibit Number 1, I have some bottom hole pressures. We have contemplated on taking some, but the only pressures that I was able to obtain was El Paso Natural Gas. You will note that El Paso Natural Gas drilled two wells, which are completed and, namely, the El Paso Natural Gas Ojo Amarillo Number 1, and 2, and they are drilling at the present time Number 3 and 4. El Paso Natural Gas stated they would give me these pressures and I could present them to the Commission to show the Commission the bottom hole pressures. Namely, I think our wells are approximately of the same pressure. The Number 1 well, the Ojo Amarillo well of El Paso Natural Gas was 1556 pounds, and the Number 2 well was 1547 pounds. I might add that, I left an exhibit at home, that the Dakota pressures in our particular area, after stabilization and shut in over a long period of time, are over 2,000 pounds. They are on the order,



actually, of 2100 pounds at the present time.

Q Then under shut in conditions you have a pressure of essentially approximately what?

A Under shut in conditions, we have a differential in pressure of 500 pounds.

Q Now, referring to the final page of the exhibit, would you discuss that?

A This is a gas-oil ratio report taken on our Gallup zone on July 16, 1960, submitted to the Commission for the potential of our Jones Number 1 flow on the half inch choke, and after testing 21 hours, and produced 9 -- 105 barrels of oil with an allowable of 94 barrels, and a G.O.R. of 123 to 1.

Q Now, referring to the final portion of the exhibit which is a Sun R. J. log, have you marked the tops of the formations on that exhibit?

A No, sir, I have not. I would like to read them into the record. This is an induction electro-log, Benson-Montin and Greer Jones Number 1. I would like to read into the record some of the formation tops in this particular well. The top Pictured Cliffs is 1580; Cliff House 2505; the Meniffee 2550; Point Look Out 4098; Mancos 4274; Gallup 5260; base of the Gallup 5705; top of the Senosity is 5747; Green Horn 6124; Gramerco is 6168; Dakota 6214. I might also read into the record the perforations that exist in this particular well, namely: In the Dakota, it is perforated from 6234 to 6244, and 6304 to 6318; it was abrasojetted in the

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Gallup zone, the abrasojet from 5655 to 5560, 5665.

Q Do you have anything to add to what you have testified to?

A No, sir, except the fact I do want to remind the Commission that we have a production problem in the fact that we want to go ahead and move some oil on the lease for completion; we would like to go ahead and get an allowable on the Jones Number 1 as soon as the Commission can give us one.

Q Was Exhibit 1 prepared by you, or under your direct supervision?

A Yes, sir, Exhibit 1 was prepared by me.

MR. KELLAHIN: I would like to offer in evidence Benson-Montin-Greer Exhibit Number 1.

MR. NUTTER: It will be admitted into evidence, Benson-Montin-Greer's Exhibit Number 1. Do you have anything else?

MR. KELLAHIN: That is all I have.

MR. NUTTER: Does anyone else have any questions of the witness?

CROSS-EXAMINATION

BY MR. PAYNE:

Q Do you anticipate any difficulty producing the Gallup oil through inch and a half tubing?

A No, sir, we do not. As a matter of fact, sometimes small tubing is more efficient than larger size. In this particular instance when we are going to lift with gas, it will be an



advantage to us.

MR. NUTTER: You are presently selling the gas of the Dakota?

A Yes, sir.

Q (By Mr. Payne) You are aware of the Commission's policy in the event of dual completion, and it has not been approved yet, that the operator can take his choice of either of the two zones that he wishes to produce?

A Yes, sir.

Q And shut one in and produce the other?

A I say we are producing from the Dakota; actually, we are not, we are waiting on the Commission order; at this time, we have not sold any gas from the Dakota since we have dually completed this.

Q I feel that pending it, the Aztec office of the Commission would authorize an allowable from one of the two zones. I presume that you would prefer the allowable from the Gallup since you need the oil for fracking the other wells?

A Yes, sir.

Q I think you can get that well approved, this dual would come out.

A I understand.

Q Mr. Stanley, is it your opinion that the Ojo-Amarillo lease of El Paso will prove to be a portion of the same field that Tennessee's Callow lease is on?

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A We do not know for sure whether it will or will not; I feel reasonably sure El Paso doesn't know. We do not know whether the two pools will connect, however, you will notice on that particular exhibit the Pan American is drilling a couple of wells in the area of the Ojo-Amarillo. Benson-Montin and Greer has a rig running now which may connect to the Callow lease of Tennessee Gas and Transmission, and it might be possible that all three leases, all three operations of Tennessee Gas, Benson-Montin and Greer, and El Paso may connect, but at the same time it is possible that they may not connect.

Q Did you or El Paso in Section 16 test the Gallup on your Holder lease?

A I might add that is a mistake; that is a Pan American Holder lease, and I do not know what they tested. I thought I changed that on this page 1 of Exhibit Number 1. Actually, that is Pan American's Holder Number 1. I do not know whether they tested the oil well or not.

Q You changed it on one page and not the other. I see.

A Yes, sir.

Q Mr. Stanley, how does the casing hold 400 pounds of pressure through these Merla Gas Lift valves, where is that pressure coming from?

A You will note that the pressure built up on the casing to approximately 790 pounds, and when it built up to that particular pressure, the valves are open and the tubing and the casing



are equalized.

Q In other words, if you have your Gallup shut in, and have pressure built up in the tubing, some of that pressure would bleed off from the tubing into the casing through those valves?

A Yes, sir. The pressure will -- the valves are delivery type of valves, and when they open at a certain pressure, determined pressure, prior to running into the hole, therefore, you will never be able to lower your pressure below 400 pounds.

Q In the casing?

A Yes, sir.

Q But that is not Gallup, I mean, Dakota that got into that casing?

A No, sir, that is actually the pressure derived from the Gallup formation.

Q But these valves are so fixed then, when you open the Gallup up on flow, the Gallup, that this pressure in the casing cannot bleed off into the tubing?

A It will bleed off to the tubing about 400 pounds, and then after that of course the annular space in the casing will be changed to the certain point, and the valves open due to the pressure inside the tubing, and when they open, of course, the gas in the annular space that is stored there from these compressors which we are installing, will go ahead and artificially lift the oil out.

MR. NUTTER: Does anyone have any further questions of



Mr. Stanley?

(No response.)

MR. NUTTER: You may be excused.

(Witness excused.)

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

MR. KELLAHIN: Nothing further.

MR. NUTTER: Well, does anyone have anything further for
Case 2038?

(No response.)

MR. NUTTER: We will take the case under advisement.

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

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

WITNESS My Hand and Seal, this the 6th day of August, 1960, in the City of Albuquerque, County of Bernalillo, State of New Mexico.

Llewellyn F. Nelson
 NOTARY PUBLIC.

My Commission Expires:

June 14, 1964.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 2038 heard by me on 7/28, 19 60.

[Signature], Examiner
 New Mexico Oil Conservation Commission

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I N D E XWITNESSPAGE

STANLEY J. STANLEY

Direct Examination by Mr. Kellahin

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Cross Examination by Mr. Payne

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<u>NUMBER</u>	<u>EXHIBIT</u>	<u>MARKED FOR IDENTIFICATION</u>	<u>OFFERED</u>	<u>ADMITTED</u>
App.#1	Map	3	12	12

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