CASE 6820: BOYD OPERATING CO. FOR A DUAL COMPLETION AND UNORTHODOX WELL LOCATION, CHAVES COUNTY, NEW MEXICO

Case No.

Application

Transcripts

Small Exhibits



Other

STATE OF NEW MEXICO ENERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

POST OFFICE BOX 2088 STATE LAND OFFICE BUILDING SANTA IF, NEW MEXICO 87501 (505) 827-2434

6820

March 14, 1980

Mr. William F. Carr	Re:	CASE NO. ORDER NO.	6820 R-6289	_
Campbell and Black Attorneys at Law Post Office Box 2208 Santa Fe, New Mexico		Applicant:		
		Boyd Ope	rating Co.	_
Dear Sir:				
Enclosed herewith are two cop Division order recently enter				
JOE D. RAMEY Director				
JDR/fd				
Copy of order also sent to:				
Hobbs OCD x Artesia OCD x Aztec OCD				

STATE OF NEW MEXICO EMERGY AND MINERALS DEPARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

> CASE NO. 6620 Order No. R-6289

APPLICATION OF BOYD OPERATING CO. FOR A DUAL COMPLETION AND UNORTHODOX WELL IOCATION, CHAVES COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on February 27, 1980, at Santa Fe, New Mexico, before Examiner Richard L. Stamets.

NOW, on this 13th day of March, 1980, the Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Boyd Operating Co., seeks authority to complete its Blakemore Federal Well No. 1 at an unorthodox Wolfcamp location 660 feet from the North line and 660 feet from the West line of Section 20, Township 9 South, Range 26 East, NMPM, Chaves County, New Mexico, as a dual completion (conventional) to produce gas from the Wolfcamp and Abo formations.
- (3) That the applicant seeks the dismissal of that portion of this case for an unorthodox location, the actual well location being in Unit D rather than Unit A as advertised.
- (4) That the application for unorthodox location should be dismissed without prejudice.

-2-Case No. 6820 Order No. R-6289

- That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.
- That approval of the subject application will prevent waste and protect correlative rights.

IT IS THEREFORE ORDERED:

That the applicant, Boyd Operating Co., is hereby authorized to complete its Blakemore Federal Well No. 1, located in Unit D of Section 20, Township 9 South, Range 26 East, NMPM, Chaves County, New Mexico, as a dual completion (conventional) to produce gas from the Wolfcamp formation through a string of 2 3/8-inch tubing and gas from the Abo formation through the casing-tubing annulus with separation of the zones by means of a packer set at approximately 5218 feet.

PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Division Rules and Regulations insofar as said rule is not inconsistent with this order;

PROVIDED FURTHER, that the applicant shall take packer leakage tests upon completion and annually thereafter during the Annual Shut-In Pressure Test Period for gas wells in Southeast New Mexico.

- (2) That that portion of this case seeking approval of an unorthodox location for said Blakemore Federal Well No. 1 is hereby dismissed.
- That the applicant must obtain separate approval for the unorthodox location of the subject well at a point 660 feet from the North line and 660 feet from the West line of the aforesaid Section 20.
- (4) That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary.

Santa Fe, New Mexico, on the day and year herein-

STATE OF NEW MEXICO OIL CONSERVATION DIVISION

JOE D. RAMEY

Director

- CASE 6819: Application of V-F Petroleum, Inc. for compulsory pooling, Lea County, New Mexico.

 Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the McKee or Devonian formations, or both, unferlying four 40-acre units, being the SE/4 SE/4, NE/4 SL/4, NW/4 SE/4, and SW/4 SE/4 of Section 21. Township 23 South, Pages 37 Fast, North Toague Field, each to be dedicated to a well to be drilled at a standard location thereon. Also to be considered will be the cost of drilling and completing said wells and the allocation of the cost thereof as well as actual operating costs and charges for supervision. Also to be considered will be the designation of applicant as operator of the wells and a charge for risk involved in drilling said wells.
- CASE 6373: (Reopened and Readvertised) (Continued from January 30, 1980, Examiner Rearing)

In the matter of Case 6373 being reopened pursuant to the provisions of Order No. R-5875 which order created the East High Hope-Abo Gas Pool with temporary special rules therefor providing for 320-acre spacing. All interested parties may appear and show cause why the East High Hope-Abo Gas Pool should not be developed on 160-acre spacing units.

- CASE 6820: Application of Boyd Operating Co. for a dual completion and unorthodox well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Blakemore Federal Well No. 1 at an unorthodox Wolfcamp location in the center of Unit A of Section 20, Township 9 South, Range 26 East, to produce gas from the Wolfcamp and Abo formations.
- CASE 6821: Application of Shell Oil Company for downhole commingling, Lea County, New Mexico.

 Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blinebry and Drinkard production in the wellbore of its Andrews Well No. 1 located in Unit F of Section 14, Township 21 South, Range 37 East.
- Application of Mesa Petroleum Co. for a gas well classification and unorthodox location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the classification of its Jog State Well No. 1 as a retrograde gas condensate well with 320-acre spacing; applicant further seeks approval for the unorthodox location of said well in the center of Unit L of Section 2, Township 24 South, Range 32 East, the S/2 of said Section 2 to be dedicated to the well.
- CASE 6767: (Continued from February 13, 1980, Examiner Hearing)

Application of Alpha Twenty-One Production Company for two non-standard gas proration units, unorthodox well location, and approval of infill drilling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval of a 40-acre non-standard proration unit comprising the NW/4 MW/4 of Section 27, Township 25 South, Range 37 East, Jalmat Gas Pool, to be dedicated to El Paso Natural Gas Company's Harrison Well No. 2, and also a 200-acre unit comprising the S/2 N/2 and NE/4 NW/4 of said Section 27 to be dedicated to a well to be drilled at an unorthodox location 1980 feet from the North line and 560 feet from the West line of Section 27. Applicant further seeks a finding that the drilling of the latter well is necessary to effectively and efficiently drain that portion of an existing proration unit which cannot be so drained by the existing well.

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STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
SANTA FE, NEW MEXICO
27 February 1980

EXAMINER HEARING

IN THE MATTER OF:

Application of Boyd Operating Company
for a dual completion and unorthodox
well location, Chaves County, New Mexico.

)

BEFORE: Richard L. Stamets

TRANSCRIPT OF HEARING

APPEARANCES

For the Oil Conservation Ernest L. Padilla, Esq.
Division: Legal Counsel to the Division
State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant: William F. Carr, Esq. CAMPBELL & BLACK P. A. P. O. Box 2208

Santa Fe, New Mexico 87501

I N D E X

T. M. BOYD, JR.

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Direct Examination by Mr. Carr Cross Examination by Mr. Stamets

EXHIBITS

Applicant Exhibit One, C-107 Applicant Exhibit Two, Waiver Applicant Exhibit Three, Waiver Applicant Exhibit Four, Plat Applicant Exhibit Five, Log Applicant Exhibit Six, Sketch Applicant Exhibit Seven, C-122 Applicant Exhibit Eight, C-122 Applicant Exhibit Nine, Affidavit

SALLY W. BOYD, C.S.R.

Rt. 1 Box 193-B

Santa Fe, New Mexico 87301

Phone (505) 455-7409

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MR. STAMETS: We'll call next Case 6820.

MR. PADILLA: Application of Boyd Operating Company for a dual completion and unorthodox well location, Chaves County, New Mexico.

MR. STAMETS: Call for appearances.

MR. CARR: May it please the Examiner,
I am William F. Carr, Campbell and Black, P. A., appearing
on behalf of the applicant. I have one witness who needs
to be sworn.

(Witness sworn.)

MR. CARR: Initially, Mr. Examiner, there was an error in the ad. The ad shows that the well is to be drilled in Unit A of Section 20, and actually it will be drilled in Unit E.

The unorthodox location does qualify for administrative approval. We are going to be able to obtain waivers from all offsetting operators and will file an application this week for administrative approval.

Therefor we ask that the portion of this case relating to the unorthodox well location be dismissed.

MR. STAMETS: That portion of this case will be dismissed.

T. M. BOYD, JR.

being called as a witness and having been duly sworn upon his oath, testified as follows, to-wit:

DIRECT EXAMINATION

BY MR. CARR:

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Q Will you state your name and place of residence?

A. Tom Boyd, Roswell, New Mexico.

0. Mr. Boyd, by whom are you employed and in

what capacity?

A. President of Boyd Operating Company.

Q. Have you previously testified before this Commission and had your credentials accepted and made a matter of record?

A. Yes.

 Ω . Are you familiar with the application in this case?

A. Yes.

Q. And the subject area?

A. Yes.

MR. CARR: Are the witness' qualifications

acceptable?

MR. STAMETS: For the edification of the

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Examiner, did you qualify in the past as an engineer, geologist, or practical oil man?

> A. Engineer.

> > MR. STAMETS: Thank you, Mr. Boyd.

Yes, the witness is considered qualified.

Mr. Boyd, have you prepared for introduction in this case certain exhibits?

Yes, sir.

Will you please refer to what has been marked for identification as Exhibit Number One, which is Oil Conservation Commission form C-107, and review the information contained thereon for the Examiner?

It's the standard C-107 from, showing the perforations in the Abo and the Wolfcamp, both gas wells, and all the questions have been answered yes. Two offset operators are Pennzoil and Margene Blakemore Estate Trust.

Will you now identify what has been marked Exhibits Two and Three?

Exhibit Two is a waiver from Pennzoil and Exhibit Three -- this is a waiver on the application for dual completion. Exhibit Three is a waiver from Margene Blakemore Estate Trust on our application for dual completion.

And I believe you stated there are no other offsetting operators?

A. None.

Q Will you now refer to what has been marked for identification as Boyd's Exhibit Number Four and review this for Mr. Stamets?

A. This is a plat of this township, showing the location of this well, Unit D, Section 20, 9 South, 26 East.

There are three additional Abo wells in

the area; one in Section 3; one in 10; and one in Section 31.

The McConkey Well in Section 10 was originally announced as a Wolfcamp discovery. That is not correct. It's an Abo producer.

Q. And the acreage you plan to dedicate to this well is outlined in red, is that correct?

A. Right, the west half of Section 20.

Q Are there any other wells in the immediate area which are downhole commingled in the fashion you propose?

A. No.

Q In this application?

A. To my knowledge there is no Welfcamp production within twenty or thirty miles of this well.

Q. Mr. Boyd, will you now refer to what has been marked for identification as Exhibit Number Five and explain to the Examiner what it shows?

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A I just brought one log, Dick, I'm short a log. Or Mr. Examiner, pardon me.

MR. STAMETS: That's all right.

Is there anything in particular --

A. I have marked the tops of all the zones in there and shown the perforations on the Abo and the Wolfcamp.

Abo perforations are 4198 to 4210; 4272 to 76; 4323 to 4333; 4340 to 4344.

Wolfcamp is 5334 to 44; and 5376 to 80.

Q. Mr. Boyd, will you now refer to what has been marked Exhibit Number Six and summarize the information contained thereon for Mr. Stamets?

A. This is a diagrammatic sketch of the wellbore showing the 13-3/8ths set at 312 feet, cement circulated; 8-5/8ths at 1576 with cement circulated. The 4-1/2 inch was set at 5700.

The Granite Wash was perforated, tested, we plugged back, set a bridge plug at 5560 with 35 sacks of cement on top of it. The plugged back TD on the well right now is 5525.

Next are the Wolfcamp perforations; a

Baker Lok-Set Packer at 5218 with an on-and-off tool on

top of that, a Mandrel, and a sliding sleeve at 5190 with

two profiles in there, one at 5189, above the sliding sleeve;

one at 5217, which is in the packer.

2-3/8ths inch tubing; top of the cement 3600 on the 4-1/2 inch.

Mr. Boyd, why are you proposing to complete this well in this fashion?

A Well, it was a wildcat well. We weren't sure what we had in the Abo, Wolfcamp, or Granite Wash.

We elected to run 4-1/2 inch, ended up with the Wolfcamp zone, and Abo zone, and felt like this was the only feasible way to complete the well and produce both zones.

Q In your opinion does this method of completion conform with good engineering practices and insure the separation of the two zones and insure that there will be no commingling downhole between the zones?

A. That's correct.

Q In your opinion is this proposed method of dual completion the best possible from which to recover the hydrocarbons from the two producing zones?

A. Well, with 4-1/2 inch casing we had set, the only other solution would have been run a string of inch and a half and one inch or two strings of inch and a quarter.

This would have to be hy-drilled. We didn't feel like that we could sustain the flow after large frac jobs, get the wells cleaned up, sustain the flow, and

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get them under production with the small tubing.

Q. Will you now refer to Boyd Exhibits
Seven and Eight and review the data contained therein?

A. Seven and Eight are -- well, they are essentially identical.

I have included in here AOF calculations, gas sample. We ran a 72-hour bottom hole pressure buildup on each zone. All the bottom hole pressures are shown on a graph and also listed. During the buildup as well as the AOF test.

Q. Will you please identify what has been marked for identification as Boyd Operating Company Exhibit Number Nine?

A. Exhibit Number Nine is a packer setting affidavit, or packer setting report, stating that the packer was set at 5218 on November the 28th.

Q. In your opinion will granting this application be in the interest of conservation, the prevention of waste, and the protection of correlative rights?

A. It will.

Q. Were Exhibits One through Nine either prepared by you or under your direction and supervision?

A. Yes, they were.

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MR. CARR: At this time, Mr. Examiner, we would offer Applicant's Exhibits One through Nine into evidence.

MR. STAMETS: These exhibits are admitted.

MR. CARR: And we have nothing further

on direct.

CROSS EXAMINATION

BY MR. STAMETS:

Mr. Boyd, it would appear from looking at Exhibits Seven and Eight that neither of these zones produces liquids.

A. After it cleaned up, they're both dry gas. It takes awhile to clean them up because of the large frac job with water.

Q. Has the Abo cleaned up at this point?

A. Yes.

Q. Okay, so it's producing dry gas?

How about the other Abo wells in the area are they producing any liquids?

A. Well, none of these wells are on production. Transwestern is -- they were supposed to get the first wells on, which are four wells that Jack McClellan, McClellan Oil Corporation has southwest of me that were supposed to be turned on yesterday.

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ŷ. If the Abo for any reason started producing liquids and caused a production problem, could you run a string of inch, inch and a quarter, pipe in there to take care of the liquids?

No. I would set a profile, or plug in one of the profiles, open up the sliding sleeve, and clean it up, swab it in and clean it up.

Talking about later, though, after it's been on production for a year or so?

Not unless we changed out both -- we'd have to go with two small strings of tubing. There's no physical way we can do it, or would want to.

In all likelihood what would you do in that case?

What would we do? Plug off the Wolfcamp and produce the Abo, or shut off the Abo and produce the Wolfcamp.

MR. STAMETS: Any other questions of the witness? He may be excused.

> Anything further in this case? The case will be taken under advisement.

(Hearing concluded.)

SALLY W. BOYD, C.S.R. Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (305) 455-7409

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, C.S.R., DO HEREBY CERTIFY that the foregoing Transcript of Hearing before the Oil Conservation Division was reported by me; that the said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability.

Surry les. Boyd C.S. P.

I do hereby conside that the foregoing is 682U

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe. New Mexico 87501
Phone (505) 435-7409

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TENNITHER PEACHS

IN THE MATTER OF:

Application of Boyd Operation Company and on the same and an artist of well location, Chaves County, New Mex-

CASE 6320

BRFORD: Richard L. Stamets

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For the Oil Coasserv Line Division:

Note to L. Padilla, Esq. Legal Counsel to the Division State Dand Office Bldg. Santa Fe, New Mexico 87501

For the Applicant:

William F. Carr, Esq. CAMPBELL & BLACK P. A. P. O. Box 2208 Santa Fe, New Mexico 87501

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Cross Examination by ma. Standis

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The Properting Claves County, New York

TO DESCRIPTION OF SPECIAL SERVICES. N. C. Min. May it ; who the Mnaminer, I am William F. Carr, Complete and Ad ck, F. A., appearing on behalf of the applicant. I have one ulthous who needs to be sworn.

(Mitakon Sworm.)

FR. CREE: Initially, Mr. Examiner, there was an error in the ad. The ad shows that the well is to be drilled in Unit A of Section 20, and actually it will be drilled in Unit T.

the unorthodox location does qualify for administrative approval. We are going to be able to obtain waivers from all offsetting operators and will file an application this week for administrative approval.

Therefor we ask that the portion of this case relating to the unorthodox well location be dismissed.

IR. STAMMIS: That portion of this case will be dismissed.

SALLY W. BOYD, C.S.R. Rt. 1 Box 193-B Santa Fe, New Mexico 87301 Phone (503) 455-7409

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SALLY W. BOYD, C.S.R.
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Santa Fe, New Mexico 87501
Phone (505) 455-7409

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DY MR. CARR:

will you state your mass and place of residence?

Ton Mayd, Roswell, New Mexico.

in. Soys, by whom are you employed and in

what capacity?

Tresident of Doyd Operating Company.

Have you proviously testified before this Commission and and your credentials accepted and made a matter of record?

Tus.

Are you familiar with the application

in this case?

Yes.

And the subject area?

Yes.

MR. CARR: Are the witness' qualifications

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MR. STAMETS: For the edification of the

SALLY W. BOYD, C.S.R. Rt. 1 Box 193-B Sunta Fe, New Mexico 87301

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SALLY W. BOYD, C.S.R. Rt. 1 Box 153-B Santa Fe, New Mexico 87501 Phone (505) 455-7409

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SALLY W. BOYD, C.S.R.

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SALLY W. BOYD, C.S.R Rt. 1 Box 193-B Santa Fe, New Mexico 87501 2

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SAILY W. BOYD, C.S.R. Rt. 1 Box 193-B Santa Fe, New Mexico 87501

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Milli gram please identify what has been marked for identification as Boyd Operating Company Exhibit Number Nine?

A Dehibit Number Nine is a packer setting affidavit, or packer setting report, stating that the packer was set at 5218 on Hovember the 28th.

In your opinion will granting this application be in the interest of conservation, the prevention of waste, and the protection of correlative rights?

It will.

Q Were Tabibits One through Nine either prepared by you or under your direction and supervision?

A. Yes, they were.

SALLY W. BOYD, C.S.R.

Rt. 1 Box 193-B

Santa Fc, New Mexico 87501

Phone (505) 455-7409

MR. CARRY At this time, Mr. Francher, we would offer Applicantle Publishe One Personal Wine into evidence.

TR. CARR. And we have nothing funther on direct.

COOSE EVAMINATION

BY MR. STAMETS:

O Mr. Boyd, it would appear from looking at Exhibits Seven and Hight that neither of these zones produces liquids.

A. After it cleaned up, they're both dry gas. It takes awhile to clean them up because of the large frac job with water.

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A. Ves.

Okay, so it's producing dry qas?

Yow about the other Abo wells in the area
are they producing any liquids?

A Well, none of these wells are on production. Transwestern is -- they were supposed to get the first wells on, which are four wells that Jack McClellan, McClellan Oil Corporation has southwest of me that were supposed to be turned on yesterday.

SALLY W. BOYD, C.S.R.

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have to go with two small strings of tubins. There's no physical way we can do it, or would want to.

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A. What would we do? Plug off the Wolfcamp and produce the Abo, or shut off the Abo and produce the Wolfcamp.

WR. STAMETS: Any other questions of the witness? He may be excused.

Anything further in this case?

The case will be taken under advisement.

(Mearing concluded.)

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to a fair, thus, and therefore thereof the actually, prepared
by as to the bost of my abstract.

SALLY W. BOYD, C.S.R.
Rt. 1 Box 193-B
Santa Fe, New Mexico 8750;
Phone (305) 455-7409

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I do hardly cartily that the forecoing is a complete a manifest the forecoing is the branches that heard by me on 19.

Oil Conservation Division Examiner

NEW MEXICO OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO APPLICATION FOR MULTIPLE COMPLETION

otics. Unit		PANY	CHAVES	1/10/80
auc.:	56, Roswell,	, New Mexico 88201	Blakemore Federal	#1
We11 D		20 7cw	9 S	Hande 26E
ones within one m	ile of the subjec	cwell? YES	NO X	a well in these same pools of in the sam
he following facts	are submitted:	Upper Zonc	Intermediate Zone	Lower Zone
. Name of Pool an	id Formation	Abo		Wolfcamp
. Top and Bottom	of			
Pay Section		4198-4210		5334-44
(Perforations)		4272-76, 4323-33, 43	3 4 0 -	5376-80
. Type of producti		Gas		Cas
. Method of Produ				
(Flowing or A	rtificial Lift)	Flowing		Flowing
izer dian X	is and/or turboli- meters and setting t showing the lo- operators of all li- vers consenting thave been furn ctrical log of the	zers and location thereof, quant depth, location and type of cation of all wells on applicates offsetting applicant's lates such multiple completion ished copies of the applicate well or other acceptable lo	antities used and top of cement, per f packers and side door chokes, and s ant's lease, all offset wells on off case. from each offset operator, or in lie ion.*	ing diameters and setting depths, central forated intervals, tubing strings, including uch other information as may be pertined set leases, and the names and addressed thereof, evidence that said offset oper ing zones and intervals of perforation in the submitted as provided by Rule 112-A
Pennzoil Co	mpany; P.	on which this well is located. O. Drawer 1828, Mid	ed together with their correct mailin	ng address.
Attention:			vacional bank building, is	indiand, Texas 75701
Were all operators late of such notific	F-1	above notified and furnished oruary 1, 1980	a copy of this application? YFS	X NO If answer is yes, giv
late of such notific	ration Feb	oruary 1, 1980	·	
late of such notific	the undersigned	oruary 1, 1980 For that I am the (company), and that I am auth	 Presidentof t	he Boyd Operating Company
late of such notific	the undersigned	oruary 1, 1980 For that I am the (company), and that I am auth	President of the	he Boyd Operating Company s report; and that this report was prepare

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: if the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in One or of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.

PENNZOIL COMPANY

WESTERN DIVISION

WHE AND DISTRICT GRBALTAR CANNOG BUILDING + GENERAL TAIA
MAILING ADDRESS PLO DRAWER 1428 MIDLAND TEXAS 73702

E CHARLES MARQUART District Product on Manager

February 5, 1980

Energy and Minerals Department Oil Conservation Division P.O. Box 2088 Santa Fe, New Mexico 87501

Re: Boyd Operating Company
Blakemore Federal No. 1
Application for Dual Completion

Gentlemen:

Pennzoil as offset operator to the above referenced well hereby consents to the Application for Multiple Completion (C-107) as submitted by Boyd Operating Company.

The Wolfcamp zone (5334'-5380') will consist of a 320 acre proration unit and the Abo zone (4198'-4344') will consist of a 160 acre proration unit as set out in Rule 104, B, 1 (a).

The Abo will be produced through the tubing annulus and the Wolfcamp through the 2-3/8" tubing.

FETON E FILM EMERICIPALAETS
CHI CO FE VILLE A DON

Boul 100 6820

Selection 17 Tom Bound

Misselection 2/27/80

Very truly yours,

PENNZOIL COMPANY WESTERN DIVISION

L. Charles Marquart
District Production Manager

LCM/afb

February 21, 1980

Energy and Minerals Department Oil Conservation Division F. O. Box 2088 Santa Fe, New Mexico 87501

RE: Boyd Operating Company
Blakemore Federal #1
Application for Dual Completion

Gentlemen:

9

Permzoil (Blakemore Estate) as offset operator to the above referenced well hereby consents to the Application for Multiple Completion (C-107) as submitted by Boyd Operating Company.

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The Abo will be produced through the tubing annulus and the Wolfcamp through the 2 3/8" tubing.

Very truly yours,

Tructoo

TP/ej

BEFORE EXAMINER STAMETS
OIL CONSE VATION DIVISION

CASE NO. 6820

Submilled by

Hearing Daie 2/27/80

BOYD OPERATING COMPANY
BLAKEMORE FEDERAL # I
660 FNL, 660 FWL, T9S, R26E
Chaves County, New Mexico

6820

6820 Tom Bond 2/27/80

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BOYD OPERATING COMPANY BLAKEMORE FEDERAL #1 Sec. 20, T-9-S, R-26-E Chaves County, New Mexico .13 3/8", 48# (centralizer-btm joint) set @ 312' K.B. Cemented w/300 sx. Class C w/2% CaCl₂. Circulated 75 sx. 8 5/8", 24# (3centralizers, 2 baskets) set @1576' K.B. Cemented w/775 sx. HowcoLite & Class "C". Circulated Top of cement @ 3600'. Abo Perforations - 2 jets/ft. 4198-4210 4272-4276 4323-4333 4340-4344 2 3/8" E.U.E. Tubing. 1.87" Profile Nipple @ 5189'. Baker Sliding Sleeve @ 5190'. Baker on-Off Mandrel @ 5217 w/1.78" Profile. Baker Lok-Set Packer @ 5218'. Wolfcamp Perforations - 2 jets/ft. 5334-5344 5376-5380 P.B.T.D. - 5525'. Bridge Plug at 5560' w/35' cement. 4 1/2" 10.5# set @ 5700'. Centralizers & scratchers from 4150-4350, 5300-5350 & 5600-5650. Baskets @ 4200 ε 5100'. Cemented w/625 sx. Class C 50-50 Pozmix, 8# Salt, 2# gel & 1/4# flocele.

*	TANK TO STORY
·	NIA.
Boyd	7
_	6820
	Tou Boy
1	
Hickory :	2/21/80

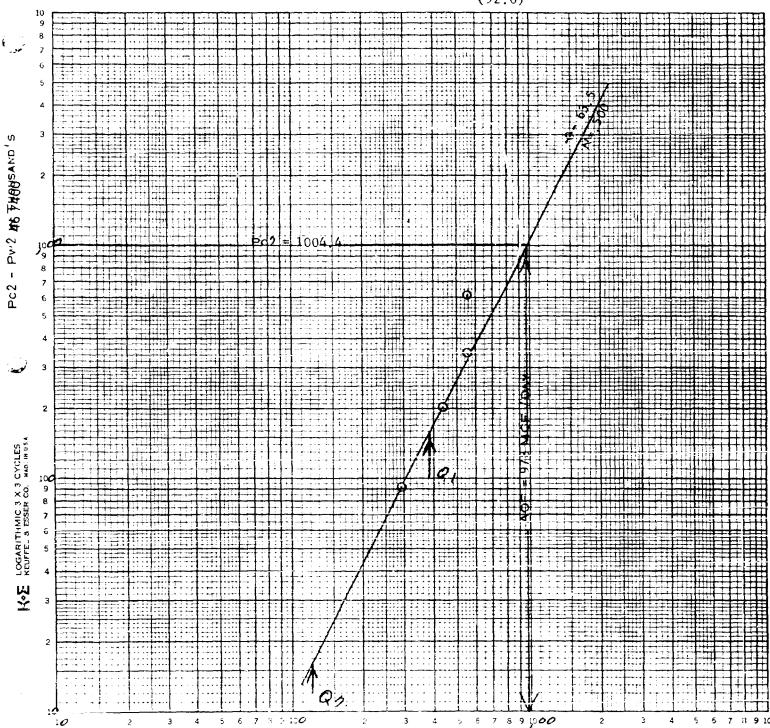
NEW MEXICO OIL CONSERVATION COMMSSION
MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122 Revised 9-1-65

Туре	- Test										Test Do	ite	1			
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Boyd Operating Company Blakemore Federal No. 1

CAOF = 978 (1004.4) = 978 MCF / DAY (92.0)





CERTIFICATE OF ANALYSIS

No	1991
Run No	
Date of Run	12-13-79
Date Secured_	

A Sample of Secured from	Boyd	Blakemore	Federal				
Secured from	West E	ngineering	<u> </u>	agent and the second of the se			_
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FRACTIONAL ANALYSIS

Percentage Composition

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	MOL % LIQ.	% G.P.M.		
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			Calc. Vapor Press.—	PS
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drogen thane			Propane Calc. G.P.M. Butanes Catc. G.P.M.	.261
ane	11	1.129	Pentanes Plus. G.P.M.	.453
pane		. 524	Ethane Calc. G.P.M.	1.129
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n by	Deane Simpson	Checked by	Approved	by mycor-
				· /)
		Additional l	Data and Remarks	-

1050 45 750 300 WI TITHS . OLOCK No. : NOTE: SEE FOLLOWING PAGE FOR TABULATION OF TIMES AND PRESSURES. ELEMENT NO. : TEST DEPTH: TEST DATE: TIME - IN HOURS C = 3600 PSI 11798 14659N 5200 FEET 120 Hours DECEMBER 6, TO DECLMBER 10, 1979 JOHN W WEST ENGINEERING CO.

Date: 12-12-7 Drawn by LCH Scale: POTTOM HOLE PRESSURE BUILD- " TEST, & 4-POINT BACK PRESSURE TEST BCYD OPERATING COMPANY BLAKEMORE FEDERAL No. 1 SOPEN CHUKE SEND RATE! S END RATE !! TA-SEND RATE IV HORIS, NEW MINIOR

BOYD OPERATING COMPANY
BLAKEMORE FEDERAL NO. 1
BOTTOM HOLE PRESSURE BUILD-UP TEST,
& 4-POINT BACK PRESSURE TEST
TABULATION OF TIME AND PRESSURES

TEST DATE:

DECEMBER 6, TO DECEMBER 10, 1979

TEST DEPTH:

5**20**0 FEET 14659N

ELEMENT No,:
OPERATOR:

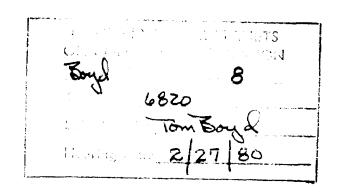
M,B,

DATE	TIME	CUM, HR	S./MIN.	<u>PS10</u>	6 @ 5200 FEET
12-6-79	1:00 PM			254	GAUGE REACHED 52001; FLOWING
	1:15 PM			221	ower waterial seed of the seed
	1:30 PM			207	
	1:45 PM			201	
12-6-79	2:00 PM	00 Hrs.	00 MIN.	190	SHUT-IN; BEGIN BUILD-UP
	2:15 PM	00	15	301	Onot in, Dealth Build OF
	2:30 PM	00	30	362	
	2:45 PM	00	45	460	
	3:00 PM	01	00	546	
	3:15 PM	01	15	591	
	3:30 PM	01	30	63 5	
	3:45 PM	01	45	677	
	4:00 PM	02	00	7 2 3	
12-6-79	4:30 PM	02	30	779	
	5:00 PM	03	00	834	
	5:30 PM	03	30	891	
	6:00 PM	04	00	916	
12-6-79	7:00 PM	05	00	951	
	8:00 PM	96	00	985	
12-6-79	10:00 PM	08	00	1028	
12-7-79	12:00 MIDNIGHT	10	00	1055	
12-7-79	5:00 AM	15	00	1086	
	10:00 AM	20	00	1099	
	3:00 PM	2 5	00	1108	
	8:00 PM	30	00	1114	
12-8-79	6:00 AM	40	00	1121	
	4:00 PM	50	00	112 5	
12-9-79	2:00 AM	60	00	1130	
	12:00 Noon	70	00	1132	
	10:00 PM	80	00	1134	
12-10-79	8:00 AM	90	00	1136	
12-10-79	11:20 AM	91	20	1136	END BUILD-UP
12-10-79	11:20 AM	91	2 0	1136	OPEN CHOKE
	11:35 AM	91	35	1114	BEGIN 4-POINT
	11:50 AM	91	50	1104	
	12:05 PM	92	05	1099	
	12:20 PM	92	20	1092	END RATE I
12-10-79	12:35 PM	92	35	1068	
	12:50 PM	9 2	50	1050	
	1:05 PM	93	05	1040	
	1:20 PM	93	20	1026	END RATE !!

BOYD OPERATING COMPANY
BLAKEMORE FEDERAL NO. 1
BUTTOM HOLE PRESSURE BUILD-UP YEST.
& 4-POINT BACK PRESSURE TEST
TABULATION OF TIMES AND PRESSURES

CONTINUED FROM PAGE 1

DATE	TIME	CUM, HRS	. / MIN.	PSIG	@ 5200 FEET
12-10-79	1:35 PM 1:50 PM 2:05 PM	93 HRs. 93	35 Min. 50 05	987 964 956	
	2:20 PM	94	20	925	END RATE III
12-10-79	2:35 PM 2:50 PM	94 94	35 50	878 823	
	3:05 PM	95	05	770	
	3:20 PM	95	20	723	END RATE IV; END 4-POINT; GAUGE OUT; END TEST



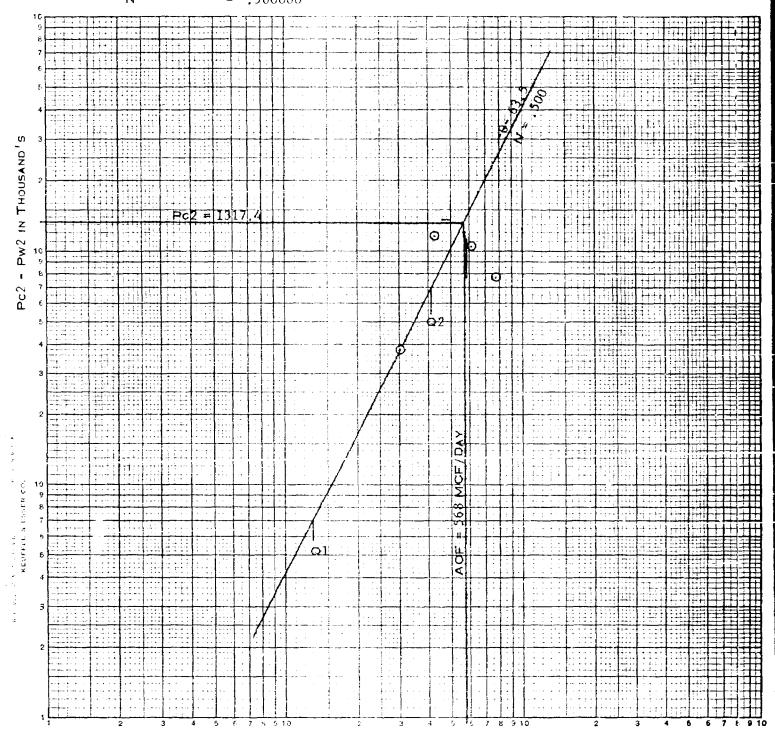
NEW MEXICO OU CONSERVATION COMMISSION MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122 Revised 9-1-65

Tu-	7																
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Соп.р	cany				•	1 time	•1 4.										
		OPER	ATING	COMPAN	Y		To	AIR									
Pool						l strut	10 To						T.	'nit			
Com	pletion Date		IL.DC	AT Ictil Lepto		l		OLFCAM			F31						
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	Size		Size	p.s.i.g.		<u>м</u> и		•F	p. s. i	.g.	• • • •		p. 8.1.9).	• F		Flow
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1. 2.	$\frac{2 \times 1}{2 \times 3}$	/8		850				61	961		 						HR
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5.								<u> </u>			1						
						RATE	E 01	FFLOW	CALCU	LATI	ONS						
	Coelii	cient		,	_	Press	sure	Flor	w Temp.		Gravity	,	Su	per	В	ate of	Flow
NO.	(24 H	our)	-	—Vh _w P _m		Pn	_	F	actor FL		Foctor Fg	Į	-	oress. ir, Ppv		Q, M	:14
-	. 264	0	+		-+	863.			990	+	238		1.07		30	,	
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4.	2,378					143.	2	.99	962	1	238		1.01	2	42	5	
5.			1			····		ᆜ									
NO.	F _t	Temp	R	$T_{\mathcal{I}}$		z	Gas	Liquid Hy	qtocatpon	Ratio							Mci/bbl.
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4.	.20	524		1,44		77		toal Tempe						F	1		R
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	alute Cara	ert e		568 MCF	/ r	na ∨			6 14 200			0	63	5			500
ADS	otare Ober														Slope	, n —	
Rem	orks:	CAL	CULA	TED FROM	4 KN	OWN 5	HP	P. BHE	MEASI	IRED	WITH	Kuste	R.GA	UGE.			
App.	roved By Co	mmission	n;	Conduc	ted B	y :			Calculat	ed By:			To	hecked	By:		
						TCR_			i I	RI	R		<u> </u>		ww		
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BOYD OPERATING COMPANY BLAKEMORE FEDERAL NO. 1

ABS SLOPE (N) = Q1 = 411 = 2.613943Q2 = 130 = 2.113943N = .500000 CAOF = $.304 \frac{(1317.4)^{500}}{(377.9)} = 568 \text{ MCF/ DAY}$



NORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (A) or P.,)

Adopted 9-1-65

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COMPANY BOYE	LEASE	Rinder Full WELL NO.	DATE 3 6
LOCATION: Unit	Section	20 Township 9	w c
L 5357 H 5357	LVH /	5357 H 5357 L/H / OB G 1/252 8002 3,11/2 8N2	4,300 % H2S
	G H	GH 2093 P 307 T 565	

2 8 8 C	1 1 1
500 500 500	5 7 8 8 5
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WORK SHEET FOR CALCULATION OF WELLHEAD PRIESSURES (P or P.)

Form C-12:1F Adopted 9-1-63

FROM KNOWN BOTTOM HOLE PRESSURE (Fig or By)

	L	LOCATION: Unit	COMPANY Ecycl	•
GH 3493 Per 699 Ter 363	L [53 57 L/H 1,00 G 1/45 2 % CO2 3,11/6 % 42 4,30 4 % H2S	Section 20 Township 9 Range 36	LEASE BRENC'S WELL NO	
		•		

12 P.(13 Pr.:				11 Pc	10 P _C 2	g P _f 2	9 to	7 e ⁵ (େଜ୍ୟ	5 72	4 2 (8	3 7=(2 T ₅ (1 T _w (E N	
•	$T_r = (T/T_{col})$	$P_{r} = (P/P_{cr})$	$P:(\frac{P_W + P_S}{2}) \text{ or } (\frac{P_C + P_S}{2})$	P _C or R _{ef}	$P_c^2 = P_f^2/e^s$ or $P_w^2 = P_s^2/e^s$	P _f ² or P _s ²	Pf or Ps	e ^S (Table XIV)	GH/TZ		Z (Est.)	$T=\left(\frac{T_{W}+T_{S}}{2}\right)$	T ₅ (B.H. •R)	T _{-x} (V'.H'R)		
\ -	1	1.76	1232.7 1253,5			1.740,3	13152	1.524	7,493	466.2	.831	561	588	5.30 (5.00)	-	
	\ \ \ \	1.76	1233,5	(1147.8)	13125	1740.3	13152	1,321	7.921	476.7	.839	561	5 20	UT VI K	N	
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	NEW-TEX LAB
	P. O. BOX 1101 HOBBS, N.M. 88240

CERTIFICATE OF ANALYSIS

No	1912
Run No.	
Date of Run	11-20-79
Date Secured	11-19-79

Sample of	Boyd Operating West Engineering	e a la la compansión de	
	412 N. Dal Paso	Secured by	Date
mpling conditions	PressPress		

FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	UQ. %	G.P.M.		
				Calc. Sp. Gr.— 0.6517	,
				Calc. A.P.I.—	
				Calc. Vapor Press.—	
rbon Dioxide	3.116			Sp. Gr	
				Mol. Wt.	
trogen	4.304				
ygen	···· 			LIQUID CON	TENT (GAL/MCF)
•					
drogen				Propane Calc. G.P.M.	.326
	86,408			Butanes Calc. G.P.M.	.206
	3.592			Pentanes Plus, G.P.M.	.296
•	1.182		326	Ethane Calc. G.P.M.	. 948
tan es				RVP Gasoline G.P.M.	
	193		063		
Butan e	456		143	B.T.U./Cu. Fr. @ 14,696 P.S.I.A.	1.022
				Dry Basis	<u>1023</u> 1005
ntanes			.052	Wet Basis	
Penlane	4 - 4		.061	Sulfur Analysis by Titration	
Pentane	422		.068	Gr./100 Cu. Ft.	
oxan es	.270		.115	Hydrogen Sulfide	
			• • • • •	Mercoptans Sulfides	
ranes				Residual Sulfur	
TAL	100.000		1.786	Total Sulfur	
				•	
	Decre Cima				
о Бу	Deane Simpsor	<u> </u>	Checked by	Approved	by mpen-

Additional Data and Remarks

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 		 		 	 	 ·		

TEST DATE: TEST DEPTH: 5357 FEET NOVEMBER 16, TO NOVEMBER 19, 1979

ELEMENT NO. 17711

CLOCK No. : RANGE 0 - 2550 **PSI** 22509

DANGET RANGE: 77 Hours 21389

NOTE: SHE FOILOWING PAGE FOR TABULATION OF TIMES AND PRESSURES.

24 Hours

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Borro:		90\					
BOTTOM HOL PRESSURE BUT D-LIP TO ST. & 4-POINT BACK PRESSURE T ST. WEST ENGINEERING CO. HOBBS NET	BLAK	BOYD OPERATING COMPANY					j
BOTTOM HOL PRESSURE B & 4-POINT BACK PRESSUR B JOHN W. WEST ENGINEERING CO.	BLAKEMORE FIDERAL NO. 1	RATIZ					
SURE BUI RESSURT T G CO.	= DERAL	G COM					
H 088 8	No	PANY					
HOBBS NEW MEXICO							
SIX IW							Į

TEST CONDUCTED BY: JOHN WEST ENGINEERING COMPANY

BOYD OPERATING COMPANY
BLAKEMORE FEDERAL NO. 1
BOTTOM HOLE PRESSURE BUILD-UP TEST,
& 4-POINT BACK PRESSURE TEST
TABULATION OF TIMES AND PRESSURES

TEST DATE:

NOVEMBER 16, TO NOVEMBER 19, 1979

TEST DEPTH: ELEMENT No.: 5357 FERT 17711

OPERATOR:

₽.J.T.

DATE	TIME	CUM, HR	5. / MIN.	PSIG @ 5357 FEET			
11-16-79	3:00 PM			111	GAUGE REACHED 5357' FLOWING		
11-16-79	3:15 PM	00 Hrs.	00 MIN.		SHUT-IN; BEGIN BUILD-UP		
	3:30 PM	00	15	214			
	3:45 PM	60	30	301			
	4:00 PM	00	45	367			
	4:15 PM	01	00	43 5			
	4:30 PM	01	15	480			
	4:45 PM	01	30	526			
	5:00 PM	01	45	562			
	5:15 PM	02	00	617			
	5:30 PM	02	15	657			
	5:45 PM	02	30	682			
	6:00 PM	02	45	724			
	6:15 PM	03	00	756			
11-16-79	6:45 PM	03	30	795			
	7:15 PM	04	00	836			
	7:45 PM	04	30	866			
	8:15 PM	05	00	896			
11-16-79	9:15 PM	06	00	945			
	10:15 PM	07	00	981			
	11:15 PM	08	00	1009			
11-17-79	1:15 AM	10	00	1056			
	3:15 AM	12	00	1095			
	5:15 AM	14	00	1122			
	7:15 AM	16	00	1144			
	9:15 AM	18	00	1162			
	11:15 AM	20	ΰĊ	1176			
11-17-79	4:15 PM	25	00	1 2 04			
	9:15 PM	30	00	1228			
11-18-79	7:15 AM	40	00	1262			
	5:15 PM	50	00	1280	•		
11-19-79	3:15 AM	60	00	1 2 91			
11-19-79	10:45 AM	67	30	1306	GAUGE OUT; CHANGE CHARTS		
11-19-79	11:30 AM	68	15	1306	GAUGE RETURNED TO 5357'; OPEN CHOKE		
11-19-79	12:00 Noon	68	45	1300	OFF BOTTOM TO DE-ICE CHOKE		
11-19-79	12:40 PM	69	25		BACK TO 5357' AFTER DE-ICE		
11-19-79	12:45 PM	69	30		OPEN CHOKE		
-	1:00 PM	69	45	1236	BEGIN 4-POINT		
	1:15 PM	70	00	1178			
	1:30 PM	70	15	1133			
	1:45 PM	70	30	1097	END RATE !		

BOYD OPERATING COMPANY
BLAKEMORE FEDERAL NO. 1
BOTTOM HOLE PRESSURE BUILD-UP TEST.
& 4-POINT BACK PRESSURE TEST
TABULATION OF TIMES AND PRESSURES

CONTINUED FROM PAGE 1

DATE	TIME	CUM, HRS	. / MIN.	PSIG	(5357 FEET
11-19-79	2:00 PM	70 Hrs,	45 MIN.	1054	
	2:15 PM	71	00	962	
	2:30 PM	71	15	893	
	2:45 PM	71	30	836	END RATE !!
11-19-79	3:00 PM	71	4 5	812	
	3:15 PM	72	00	711	
	3:30 PM	72	1 5	639	
	3:45 PM	72	30	588	END RATE !!!
11-19-79	4:00 PM	72	45	581	
	4:15 PM	73	00	503	
	4:30 PM	73	15	468	
	4:45 PM	73	30	448	END RATE IV; GAUGE OUT; END TEST

PACKER SETTING REPORT

I, J. Michael Kelly being of lawful age and having full knowledge of the facts hereinbelow set out do state:

That I was employed by Boyd Operating Company in the capacity of Consulting Engineer, that on November 28, 1979, I personally supervised the setting of a Baker Lok-Set Packer in Boyd Operating Company, Blakemore Federal Well No. I, located in undesignated field, Chaves County, State of New Mexico, at a subsurface depth of 5218', said depth measurement was taken from a tubing tally. That the purpose of setting this packer was to effect a seal in the annular space between the casing and tubing and the packer was set so as to prevent the commingling, in the bore of this well, of gas produced from a stratum below the packer with gas produced from a stratum above the packer; that this packer was properly set and that it did, when set, effectively and absolutely seal off the annular space between the two strings of pipe where it was set in such manner as that it prevented any movement of fluids across the packer.

Consulting Engineer

Dated: February 25, 1980

ESPONS BY CALABREA STAMETS

CHECCHO BOND TOWN ON PROPERTY OF THE PROPERTY OF T

NEW MEXICO OIL CONSERVATION COMMISSION SANTA FE, NEW MEXICO APPLICATION FOR MULTIPLE COMPLETION

BOYD OPERATING COM	FANT	,	CHAVES	1/10/80		
P. O. Box 1756, Roswell	New Mexico 8820	ni teme	Blakemore Federal	Wei) it.		
a con linear process and the contract of the contract was a section of	estien	l Townstii	Stakemore rederat	#1 Range		
(Well D	20	9:	S	26E		
Has the New Mexico Oil Conservat	ion Commission heretofor	: re authorized	the multiple completion of	a well in these same pools or in the sam		
zones within one mile of the subject			X	, , , , , , , , , , , , , , , , , , , ,		
f answer is yes, identify one such			- "	d Well No.:		
			and the second s			
The following facts are submitted:	Upper		Intermediate	Lower		
(B)) 11	Zone	Marie aparticus Sant decress caper commence suppress	Zonc	Zene		
a. Name of Pool and Formation	Abo			Wolfcamp		
Top and Bettom of	4198-4210			5334-44		
Pay Section	4272-76,4323-33	. 4340-111		5376-80		
(Perforations)	Gas	,, 1310 11		<u> </u>		
. Type of production (Oil or Gas) d. Method of Production	1 003			Gas		
(Flowing or Artificial Lift)	Flowing			Flowing		
The following are attached. (Please			Andrew State Control of the Control	Howing		
ies No						
of operators of all 1	ocation of all wells on ap eases offsetting applican	oplicant's le it's lease.	ase, all offset wells on of	(set leases, and the names and addresse		
of operators of all 1 C. Waivers consenting tors have been furr d. Electrical log of the dicated thereon. (If	eases offsetting applican to such multiple comple nished copies of the appl ne well or other acceptab such log is not available se on which this well is 1 O. Drawer 1828, i tate Trust; 2100 1s	opplicant's lease. etion from ea lication.* ble log with e at the time located toget Midland,	ase, all offset wells on of ch offset operator, or in lie tops and bottoms of production application is filed it shalt her with their correct mailinexas 79702	·		
of operators of all 1 X c. Waivers consenting tors have been furr d. Electrical log of the dicated thereon. (If List all offset operators to the lea Pennzoil Company; P. Margene Blakemore Est Attention: Mr. Ron So	eases offsetting applican to such multiple comple nished copies of the appl ne well or other acceptab such log is not available se on which this well is I O. Drawer 1828, I tate Trust; 2100 Is owders	opplicant's lease. etion from ea lication.* lee log with e at the time located toget Midland, st Nation	ase, all offset wells on of this application? YES	(set leases, and the names and addressed up thereof, evidence that said offset operating zones and intervals of perforation in the submitted as provided by Rule 112-Ang address. Midland, Texas 79701		
of operators of all I c. Waivers consenting tors have been furred. d. Electrical log of the dicated thereon. (If the list all offset operators to the load the pennzoil Company; P. Margene Blakemore Established in Item 5 date of such notification Felloceration Fello	cation of all wells on appears offsetting applicant to such multiple completished copies of the application will be well or other acceptabilities acceptabilities and the secondary will be secondary with this well is 10. Drawer 1828, it atte Trust; 2100 Is the secondary will be secondary with the secondary	pplicant's lease. etion from ea lication.* sle log with e at the time located toget Midland, st Nation shed a copy Presid a authorized lease in arc true	ase, all offset wells on of this application? YES_ dent	Iset leases, and the names and addressed to thereof, evidence that said offset operating zones and intervals of perforation in the submitted as provided by Rule 112-A mag address. Midland, Texas 79701 X NO . If answer is yes, give the Boyd Operating Company is report; and that this report was prepare the best of my knowledge.		
of operators of all IX c. Waivers consenting tors have been furn dicated thereon. (If dicated thereon. (If List all offset operators to the Ica Pennzoil Company; P. Margene Blakemore Est Attention: Mr. Ron Solution: Mr. Ron Solution Fel CERTIFICATE: I, the undersigned	cation of all wells on appears offsetting applicant to such multiple completished copies of the application will be well or other acceptabilities acceptabilities and the secondary will be secondary with this well is 10. Drawer 1828, it atte Trust; 2100 Is the secondary will be secondary with the secondary	pplicant's lease. etion from ea lication.* sle log with e at the time located toget Midland, st Nation shed a copy Presid a authorized lease in arc true	ase, all offset wells on of the choffset operator, or in lie tops and bottoms of product application is filed it shalt her with their correct mailing Texas 79702 all Bank Building, Mail	Iset leases, and the names and addressed to thereof, evidence that said offset operating zones and intervals of perforation in the submitted as provided by Rule 112-A mag address. Midland, Texas 79701 X NO . If answer is yes, give the Boyd Operating Company is report; and that this report was prepare the best of my knowledge.		

*Should waivers from all offset operators not accompany an application for administrative approval, the New Mexico Oil Conservation Commission will hold the application for a period of twenty (20) days from date of receipt by the Commission's Santa Fe office. If, after said twenty-day period, no protest nor request for hearing is received by the Santa Fe office, the application will then be processed.

NOTE: If the proposed multiple completion will result in an unorthodox well location and/or a non-standard proration unit in One or or of the producing zones, then separate application for approval of the same should be filed simultaneously with this application.



MIDLAND DISTRICT GIBRALTAR CAVINGS BUILDING + 1915 682 7316 MAILING ADDRESS P O DRAWER 1825 MIDLAND TEXAS 79702

L CHARLES MARQUART
District Production Manager

February 5, 1980

Energy and Minerals Department Oil Conservation Division P.O. Box 2088 Santa Fe, New Mexico 87501

Re: Boyd Operating Company

Blakemore Federal No. 1 Application for Dual Completion

Gentlemen:

Pennzoil as offset operator to the above referenced well hereby consents to the Application for Multiple Completion (C-107) as submitted by Boyd Operating Company.

The Wolfcamp zone (5334'-5380') will consist of a 320 acre proration unit and the Abo zone (4198'-4344') will consist of a 160 acre proration unit as set out in Rule 104, B, 1 (a).

The Abo will be produced through the tubing annulus and the Wolfcamp through the 2-3/8" tubing.

Very truly yours,

PENNZOIL COMPANY WESTERN DIVISION

LCM/afb

CIL (

Sulmin

BEFORE EXAMINED OF VIETS

2

L. Charles Marquart

District Production Manager

February 21, 1980

Energy and Minerals Deparment Oil Conservation Division F. O. Box 2088 Santa Fe, New Mexico 87501

RE: Boyd Operating Company
Blakemore Federal #1
Application for Dual Completion

Gentlemen:

Pennzoi: (Blakemore Estate) as offset operator to the above referenced well hereby consents to the Application for Multiple Completion (C-107) as submitted by Boyd Operating Company.

The Wolfcamp zone (5334'-5380') will consist of a 320 acre proration unit and the Abo zone (4198'-4344') will consist of a 160 acre proration unit as set out in Rule 104, B, 1 (a).

The Abo will be produced through the tubing annulus and the Wolfcamp through the 2 3/8" tubing.

Very truly yours,

Tommy Phipps Trustee

TP/ej

Set ming Date 2 27 80

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80 Orpco,inc Cepto Inc Yotes 1-1-67 2-21 Yotes 0 1 - 96 20170 Yates LG49ra 422 16 199 1_ Yc1es 8 - 1 - 86 28/71 Fennsoil 9 - 1 - 81 - 14794 JEKIT MA 2 Yafes 8-1-86 28171 (30785) 7 27-62) w.s.-Stele state Prostor Yates 8 · 1 · 86 28171 VCClellon Dine Pknntbil 9 - 1 - 81 13294 Yotes 8 · 1 · 86 28170 Yates 8 · 1 · 87 16 · 4 · 429 10 2 ± Yates ID - E - Br L BITZ 3 G Pennzoil 9 - 1 - 81 14294 Post Abo 8 (I 12 Yotes 104918 12<u>9</u>0 Simila Del-Lea, elo!
1.20 80
1.40.42
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.6853 144
Votr R.N. McCinkey Hra U.S. Yates |Pet ero! |7-1-86 | 27751 Pennzoil 9 1 8 14294 Ara Resource Phillips - St TD 620A CAB-27-EB Yotes 8 · 1 · 86 28171 Eastfund Oil ^Mar iz - t - Bi i 6773 i 24 Fortson A. Carpieta 17 - i 6 -13 Pennicol (2 0) (68)2 (159 Yoles Fel. elai 7 - 1 - 86 2773; រ េកវ Pennzoid 4 (-0) (80)2 9 26 State Pronzoil 12- 1 - 32 16 901 27 98 l Yates ElkDile VendeVista I = 1 - 8 L: 8958 - 154 Yates 12-1-87 164920 4593 **⊕**¹ Te 4:7 Bayd Open. ^{Mil} Blakemore — Fed. WC E, Abo Disc. Pennzoil

Pennzoil

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TO 812
DWE 5 73 - 21 - ... Penarai! 2-1 - 82 2-506 - - - 139 19 Yates 2 1 88 10 5078 45 <u>83</u> 70,00 ·⊗' State 8.31)

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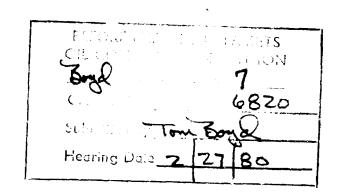
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Corl Engwall

30 12 - 21 - 62 Carl Pennzoil
Engwoil Pennzoil
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Marshallewinston
6: 1: 82
David McCreo
Marshallewinstanine.
J. V. Tafarhiller, efal | Pennzoil | 3 - 6 - 6 | 1 | 5 - 5 - 6 | 1 | 1 | 2 | 1 Yotes 1 1 43 10 939 Yotes 12 -1 81 164920 451 No.Nat.Gas 2 - 1 - 50 LG-7642 127 <u>17</u> Depco 12-1-87 16-4921 34-38 28 | Penazoil | 2-1- 02 | 1361 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 | 1365 26 25 erie It Dovid MECroe^ME(S) Mars nall-Winsten J. W. Tefer tillar, etal Depco 12:1:67 1 LG4521 34 38 Pennapil LSZSE I Stete Depco 13-1-87 154-21 34-2 U. 5. McCielles Off 1 (2010) Read E. Stevens 8-15-80 1-4842 378 SI Company Massieston 36 horper : Oil : 11 - 1 - 50 : 5 - 420 : 65 - 2 Yates
124222
1011-01
1011-01
1157-220 Yates_ Toler & McCallon And Callon And C ennzoil -- 20-20 --- 20-20 --8 0-4

1

BOYD OPERATING COMPANY BLAKEMORE FEDERAL #I Sec. 20, T-9-S, R-26-E Chaves County, New Mexico 13 3/8", 48# (centralizer-btm joint) set @ 312' K.B. Cemented w/300 sx. Class C w/2% CaCl₂. Circulated 75 sx. 8 5/8", 24# (3centralizers, 2 baskets) set @ 1576' K.B. Cemented w/775 sx. HowcoLite & Class "C". Circulated 30 sx. Top of cement @ 3600'. Abo Perforations - 2 jets/ft. 4198-4210 4272-4276 4323-4333 4340-4344 2 3/8" E.U.E. Tubing. 1.87" Profile Nipple @ 5189'. Baker Sliding Sleeve @ 5i90'. Baker on-Off Mandre! @ 5217 w/1.78" Profile. Baker Lok-Set Packer @ 5218'. Wolfcamp Perforations - 2 jets/ft. 5334-5344 5376-5380 P.B.T.D. - 5525'. Bridge Plug at 5560' w/35' cement. 4 1/2" 10.5# set @ 5700'. Centralizers ε scratchers from 4150-4350, 5300-5350 & 5600-5650. Baskets @ 4200 & 5100'. Cemented w/625 sx. Class C 50-50 Pozmix, 8# Salt, 2# gel ε 1/4# flocele.



NEW MEXICO OIL CONSERVATION COMMISSION MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

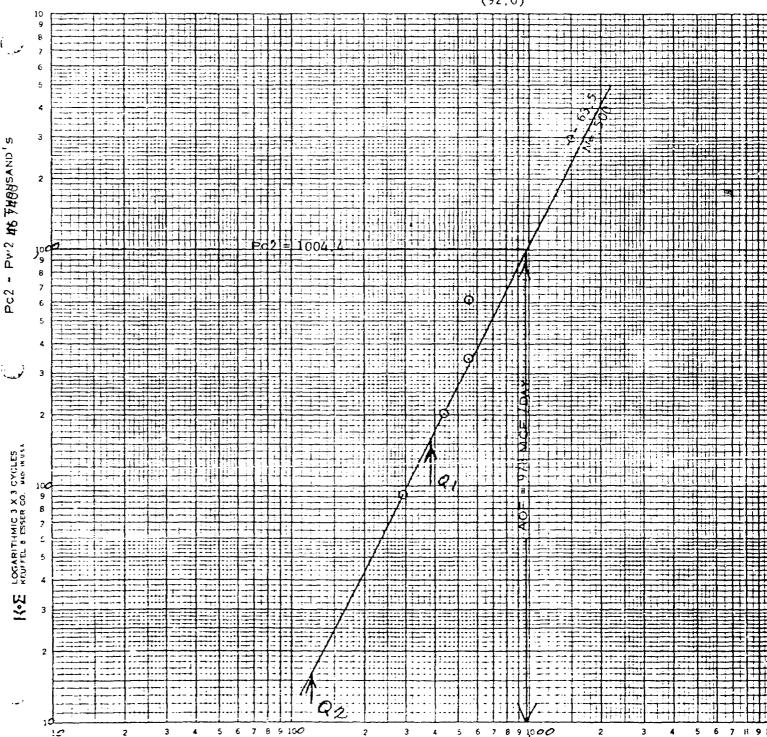
Form C-122 Revised 9-1-65

Тур	e Test										Test Lore	>				
	<u></u>	Initio	<u> </u>			Annual			Spec	cial	12-10	-79				
Cem	pany					Cente	ection	•								
		PERAT	ING C	OMPANY		_		TO AIR					<u> </u>			
Pool	ļ					Гетп.	_						Unit			
								ВО					<u> </u>			
	pletion Date			Total Depth				Flug Hack			Elevation		Farm or	Lease No	ime	
	2-10-79	WL.		5700		1 A1		550 Perforation			3	744GL	BLAL	EMORE	FED	ERAL
			٠,	1	ļ			From		То	134	,	Well No	•		
Tha.	1/2 " . Size	Wt.	50	4-090	Se	5700		Perforatio	4198 na:		434	1	Unit	Sec.	Twp.	Rye.
2	3/8"	4	60	2.375		5183		From c	LIDING S	T <u></u>) Mer		D	20	95	26E
Typ	e Well - Sind	le - Dro	denhea	d - G.G. or G.	О. М	ultiple			Packer Se	I At	VF		County			
	DUAL (Ссмрі	ETIO	N					5	217	KB			CHAVES		
F,toq	lucing Thru		Reser	voir Temp. *F		Mean A	nnual	Temp. *F	Baro. Pre	88	P _G		State			
	TEG.			i i			60	0		13.2			į	New M	FXICO)
	Ļ	н		Gq		% CO 2		% N 2		<u>13.2</u> ж н ₂ s		Provet	Meter	Hun	Taps	
				.706		5	226	5	918			6" P	OSITIVI	Е СНОК	Ē	
			F	LOW DATA	١				TUB	ING	DATA		ASING			Duralion
NO.	Prover Line	x	Ortifice	1		DIII	•	Temp.	Press		Temp	1	.88.	Temp.	Ì	of
	Size		Size	p.s.l.g.	\dashv	h _w		•F	p. s.1.	7.	• Γ	p. 8.	.1.9.	• F		Flow
SI			1/8	 					871		ļ	989				
1.			/8	832				57	832_		 	942				1_Hr
2.			/32	782	-			62	782		ļ	883				I HR.
3.	<u>.</u>		/16	685	_}			65	685			798				l_HR,_
4.			/32_	500	\dashv			62	500		 	607	·			1 HR.
5.			·	1				5 51 0 11	CA1 C!!!	A 7 10			i			
	 -			·		HAI	E 0		CAL CUL	. A. 1.10						
	Coeffic	cient	_	-√h _w P _m	-	Pres	Buto		acioi acioi		Gravity Factor		Super ompress.	1	lo etof	Flow
NO.	(24 H	ont)		▼ w. w		F	m	'	Fi.	ĺ	Fq	i)	ctor, Fpv		Q, Mc	:Id
1	.2618			· · · · · · · · · · · · · · · · · · ·		845.	2	1.0	03	1	238	1	.078	2	96	
2.	.4173		T			795.			981		238		071		30	
3.	.6101					698,			952	-	238	1	.061	5	57	
4.	8419					513	2	. 9	981	1.3	238	1	.045	5	58	
5.			Ш.,													
NO.	Pt	Tem	p. •R	T_r		z	Gos	Liquid Hy	drocarbon i	anio.						McI/bbl.
							A.P	.I. Gravity	of Liquid l	łydroc	arbons _					Deg.
1	1.25	517		1.44		60	1		y Separato	_				XX	<u> </u>	XXX
2.	1.18	522		1.45		71						XXXX				
3.	1.03	525		1 46		89			11.0					1		P.S.I.A.
5.	76	522		1.45	9	15	Crit	ical Tempe	rature	339				R		ħ
9. 1 Fc	1002,2	P_ 2	1004	4 4			<u> </u>									
וליי ולסא			w 1	. P _w ²	P. 2	- P _w ²	(1)	Pe 2	= _	10	917	(2)	Pc 2	_ n = _	_3.	304
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3		811				4	j	[F _C 2	7 " -	. c	178				
4		620				. 8] ~``	· ' -	$\frac{F_c^2}{P_c^2 - P_a^2}$	- -						
5							<u> </u>			<u>۔۔</u>						
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Abs	clute Open i	riow _		978				Mcld	€ 15.025	Angl	of Slope	· e	63_5	Slop	e, n	500_
Hem	ork s:															
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ינע		·/#***							20,000	- 57.	22			-		
						MB					RR		L	TMM_		

BOYD OPERATING COMPANY BLAKEMORE FEDERAL NO. 1

ABS (N) = Q1 = 386 = 2.586359 Q2 = 122 = 2.086359 N = .500000

CAOF = 978 (1004.4) = 978 MCF / DAY (92.0)



i	
NEW	TEX
₩ A	R
	BOX 1181
HOBB	S, N.M. 88240
1	
•	~

CERTIFICATE OF ANALYSIS

No	1991
Run No	12-13-79
Date Secured_	

A Sample of	Boyd West E	Blakemore ngineering	Federal		
AI	412 N.	Dal Paso		Date	
Sampling conditions		Press			

FRACTIONAL ANALYSIS

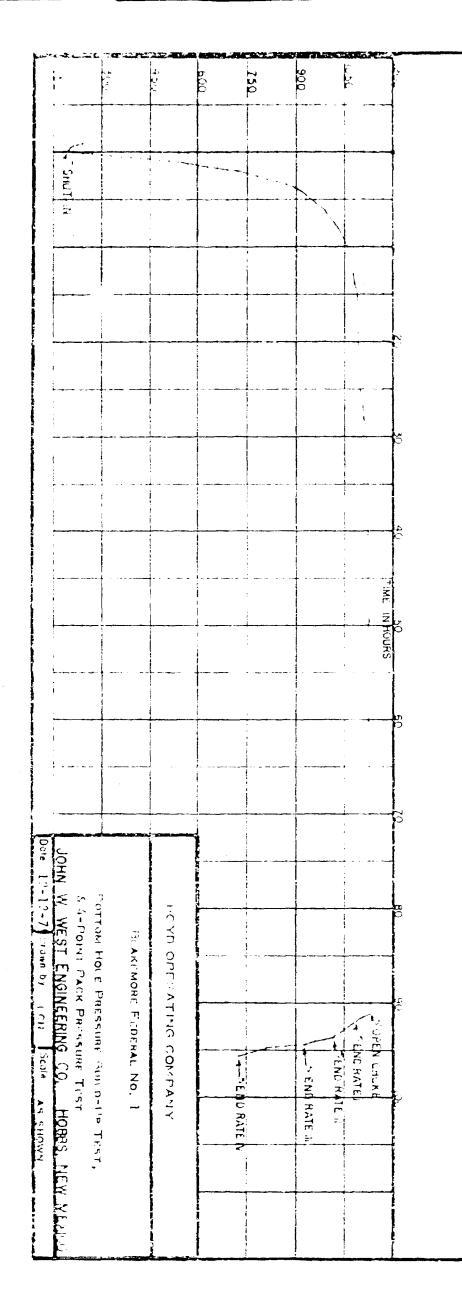
Percentage Composition

	MOL %	UQ. %	G.P.M.		
				Calc. Sp. Gr.— 0.7058	
••				Calc. A.P.I.—	
				Calc. Vapor Press.—	
Carbon Dioxide	5.226			Sp. Gr.	
Air				Mol. Wt. 20.48	
Nilrogen	.5.918				
Oxygen				LIQUID CONTI	ENT (GAL/MCF)
Hydrogen	00 202			Propone Calc. G.P.M.	. 524
Methane	4. 001.		4 4 20	Butanes Colc. G.P.M.	.261
Ethone			1.129	Pentones Plus, G.P.M.	.453
Propone			. 524	Ethane Calc. G.P.M.	1.129
Bulanes	317		103	RVP Cosoline G.P.M	
	~^~		158	B.T.U./Cu. Ft. @ 14.696 P.S.I.A.	
N-Bulane	<u>- •) • t</u> _			Dry Basis	1017
Pentanes				Wet Basis	999
Iso-Pentane	220		.084	Sulfur Analysis by Titration	
N-Pentone	.228		.082	Gr./100 Cu. Fl.	
Hexanes	.235		.096	Hydrogen Sulfide	
Heptones	.448		.191	Mercapians	
Octanes	· <u></u> -			Sulfides	
	100 000		2 262	Residual Sulfur	
101AL	100.000		2.367	Total Sulfur	
	Deane Simpsor	, ,		A 3 1	of Danier Mary
Run by	negue armbaoi	ī	hecked by	Approved b	by Company
					U

	Additional Data and Remarks	•

CLOCK No. : ELEMBER No. : ANG TEST DEFIN: TEST DATE: **≯**11.14 (- 3500 est 11798 14659N 5200 FEET 120 Hours DECEMBER 6, TO ес мв. в 11, 1 79

NOTE: SEE FOLIOVING PAGE FOR TA JULATION OF TIMES AND PRESSURES.



BOYD OPERATING COMPANY
BLAKEMORE FEDERAL NO. 1
BOTTOM HOLE PRESSURE BUILD-UP TEST,
& 4-POINT BACK PRESSURE TEST
TABULATION OF TIME AND PRESSURES

TEST DATE:

DECEMBER 6, TO DECEMBER 10, 1979

TEST DEPTH: ELEMENT NO.: 5200 FEET 14659N

OFERATOR:

M.B.

DATE	TIME	CUM, HR	s. / MIN.	PSIC	G @ 5200 FEET
12-6-79	1:00 PM			254	GAUGE REACHED 5200'; FLOWING
	1:15 PM			221	-
	1:30 PM			207	
	1:45 PM			201	
12-6-79	2:00 PM	00 Hrs.	00 MIN.		SHUT-IN; BEGIN BUILD-UP
	2:15 PM	00	15	301	
	2:30 PM	00	30	362	
	2:45 PM	00	45	460	
	3:00 PM	01	00	546	
	3:15 PM	01	15	591	
	3:30 PM	01	30	635	
	3:45 PM	01	45	677	
	4:00 PM	02	00	723	
	4.00 F W	02	00	; L J	
12-6-79	4:30 PM	02	30	779	
	5:00 PM	03	00	834	
	5:30 PM	03	30	891	
	6:00 PM	04	00	916	
10 (70	7.00	0.5	•	051	
12-6-79	7:00 PM	05	00	951	
	8:00 PM	06	00	985	
12-6-79	10:00 PM	08	00	1028	
1 2-7- 79	12:00 MIDNIGHT	10	00	1055	
12-7-79	5:00 AM	15	00	1086	
	10:00 AM	20	00	1099	
	3:00 PM	25	00	1108	
	8:00 PM	30	00	1114	
12-8-79	6:00 AM	40	00	1121	•
	4:00 PM	50	00	1125	
12-9-79	2:00 AM	60	00	1130	
12 / //	12:00 Noon	70	00	1132	
	10:00 PM	80	00	1134	
12-10-79	8:00 AM	90	00 .	1136	
12-10-79	11:20 AM	91	20	1136	END BUILD-UF
12-10-79	11:20 AM	91	20	1136	Open Choke
12-10-77	11:35 AM	91	35		BEGIN 4-POINT
					BEGIN 4-POINT
	11:50 AM	91	50	1104	
	12:05 PM	92	05	1099	
	12:20 PM	92	20	1092	END RATE !
12-10-79	12:35 PM	92	35	1068	
	12:50 PM	92	50	1050	
	1:05 PM	93	05	1040	
	1:20 PM	93	20		END RATE II

BOYD OPERATING COMPANY
BLAKEMORE'FEDURAL NO, 1
BOTTOM HOLE PRESSURE BUILD-UP TEST,
& 4-POINT BACK PRESSURE TEST
TABLE ATION OF TIMES AND PRESSURES

CONTINUED FROM PAGE 1

DATE TIME		CUM, HR	S. / MIN.	PSIG	PSIG @ 5200 FEET				
12-10-79	1:35 PM	93 HRS.	35 MIN.	987					
	1:50 PM	93	50	964					
	2:05 PM	94	05	956					
	2:20 PM	94	20	925	END RATE III				
12-10-79	2:35 PM	94	35	878					
	2:50 PM	94	50	823					
	3:05 PM	95	05	770					
	3:20 PM	95	20	723	END RATE IV; END 4-POINT;				
					GAUGE OUT: END TEST				

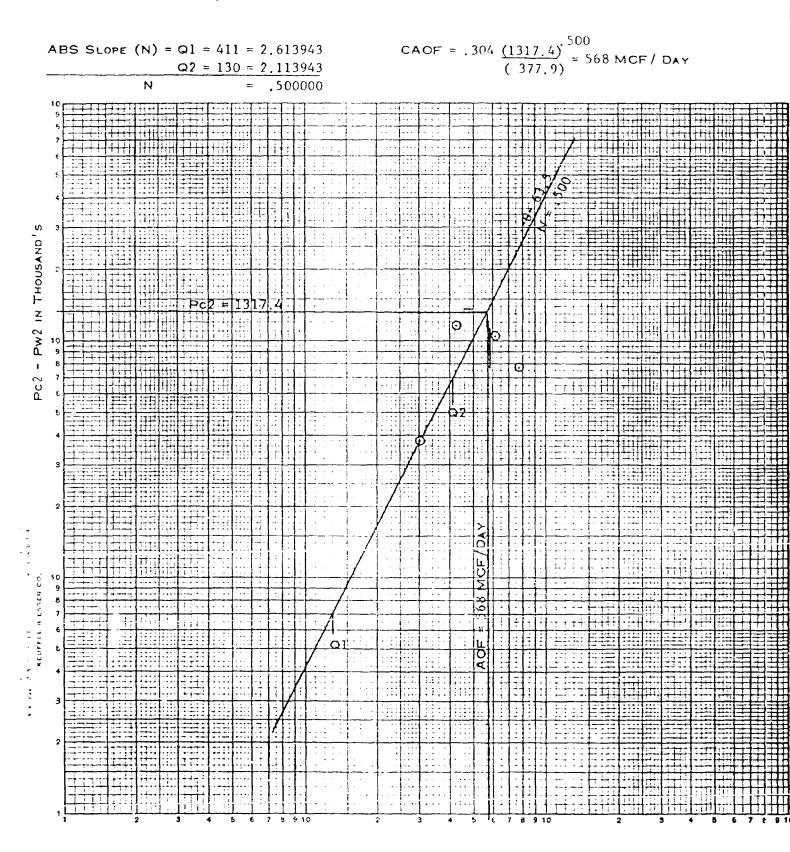
		15
; ;	Tond	8
1	m. Q.	6820
1	• 1	Tom Bourd
	Hooding	2/21/80

NEW MEXICO OIL CONSERVATION COMMSSION MULTIPOINT AND ONE POINT BACK PRESSURE TEST FOR GAS WELL

Form C-122 Revised 9-1-65

Type Test										T	Test Date		<u> </u>			
1	X	Initial]] A	·1;.1:::1			Spr.	a; al 📗			ļ			
Com	pany					T. San				<u>-</u> i			 			
	Boyn	OPERA	TING	COMPAN	v		Υ.	ΔIR					Ì			i
BOYD OPERATING COMPANY TO							Unit									
WILDCAT W Completion Date Total Per th							OLECAM	D				1				
Com	pletion Date		1	Total Depth		-/	ij	Iller Hack	7;		Elevation		Farm or	Lense Non	140	
l	11	-15-79					- }				27/	<i>t</i> e.	B	/E140DE		
Cag	Size	W1.	·	570 a	Set	AL	-	Perloration	<u> </u>		7/9	4 GL	Well No	. KEMORE	FEDERAL	
4	1/2"	9.50) [4.090	1 5	700		From 5	334	To	538	in.	١,			
The	. S120	WI.		ढ	Set	At		Perloration					Unit	Sec.	Twp. Rgs	
2 :	3/8'	4.60	- {	2,375 -G.G. or G.e		5290	ł	From	OPEN	T	° En	ח	į	20	9S 3	6E
Typ	e V/ell - Sing	ie - Finde	nhead	- G.G. or G.	D. Mu	ltipie			Packer Se	I AL		ш	County			ببع
1		Si	NGLE	•					No	NF				HAVEC	1	
F'100	lucing Thru	F	deserv	oir Temp. *F		Mean Ann	nual	Temp. *E	Baro, Pre		P _o		State	HAVES		
1	TUBING		128	5357									Ne	W MEXI	co	
	L	н	- . — — —	Gq	$\neg \uparrow$	> CO₂		% N 2		H ₂ S	Р	Lovet	Meter	Run	Tops	
1 3	5357	5357	7	652	i	3.11	6		304		ļ	211				
				OW DATA						NG	DATA		ASING I	DATA	Duration	
NO.	Prover	x o	rifice	Press.	\top	Diff.		Temp.	Press		Temp.	- 		Temp.	of	
	Line Size		Size	p.s.i.g.	1	h₩	ļ	*F	p.s.1.	7.	• • •	p.8.	i.g.	• F	Flow	
SI				1					1102		1	1			<u> </u>	
1.	2 x 1	/8		850	1			61	961		1				1 HR.	
2.	2 x 1 2 x 3	1/16		680				61	729		 	1] HR	
3.	2 × 1			425	1			62	483		1				1 HR	-
4.	2 x 3			130				64	315		1				1 HR	
5.							\neg	<u> </u>			1		<u></u>			
				· · · · · · · · · · · · · · · · · · ·		RATE	01	FFLOW	CALCUL	ATIO	ONS					
			}		1				r Temp.		Gravity		Super	<u> </u>		
	Coellie	cient		√h _w P _m	.	Pressure Fa			actor	}	Factor		mpress.	Re	te of Flow	
NO.	(24 H	our)		- W III	1	P _m	ı	Ft.			Fq	Fac	tor, Fpv		Q, McId	
1	.264	8			1	863.2	2	9990 1			238	1 3	077	30	<u></u>	
2	.608					693.2			990	0 1.236			061	76		
3	1.087					438 2)				1 238		1.039		612	
4	2.378					143.2			62 1.238		1.	1,012		425		
5.																
	P,	Temp.		_		2	Сзь	Liquid Hy	drocartion F	imin					McI/bi	<u></u>
NO.		1 emp.		Ţ,		-									De	ec.
	1.23	521		1.44	. 8	/ A	A.P.I. Gravity of Liquid Hydrocarbons								K	
2.	.99	521		1.44	8	88	Spec	rille Gravit	y Flowing	Fluid		XXXX	X			
3.	, 63	522		1.44	و			ical Pressi						۸.	P.S.1.	.A.
4.	.20	524		44	9	I		ical Tempe						R		
5		<u></u>														
Fc	1147.8	- Pc 2	1317					P_ 2		_		٦	p 2	7 n		
NO	P ₁ ²	Pur		P. 2	Pc 2	- F _w ²	(1)	- 62 - 1	,		486	(2) _	°c	-} ·	1,867	
1		969		939.5	_2/	7.3		16* - 14				L	Pc* - Ruf	١		
2		744		554.7	76	2.7		-		٦.						
3		529	5 /	280.4	103	7.0	A :	_	F _C 2	_ n _	=56	58				
4		407	2 1	165.8	115	1.6		i	1; 2 - 12,2	}						
5		1														
					1 -								2 5	T -		. –
Absolute Open Flow 568 MCF / DAY Meld # 15.005 Angle of Slope # 63.5 Slope, n 500																
Hem	orts:	CAL	CULA	JED FROM	ΓKΝ	OWN B	HE	ВНР	MEASI	RED	WITH KI	USTER O	AUGE		-	
-				·····												
App	roved H/ Co	mmlasion	•	Conduct	ed its	r:			Calculate	d Pry:			Checked	BY:		
						TCH			L	RR	·			JWW		

BOYD OPERATING COMPANY
BLAKEMORE FEDERAL NO. 1



NORK SHEET FOR CALCULATION OF WELLHEAD PRESSURES (Page or Pw)

FROM KNOWN BOTTOM HOLE PRESSURE (R) or Ps)

GH 3493 PCT 697 TCT 363	5357 H 5357 LM LOD G 1/252 8002 3.1/6 8N2	LOCATION: Unit Section 3 O Township 9Range	COMPANY BOXO LEASE Rh benieve Feel WELL NO.
	4,304 % H2S	36	DATE
	1		

;	14	13	12	=	5	9	68	7	6	თ	4	w	2	-	LINE
4 (m. L) 0 3/11	$T_r = (T/T_{Cr})$	$P_f = (P/P_{Cf})$	$P_{1}(\frac{P_{11}+P_{5}}{2}) \text{ or } (\frac{P_{C}+P_{5}}{2})$	Fe or Pw	$P_c^2 = P_i^2/e^s$ or $P_w^2 = P_s^2/e^s$	Pl2 or Ps2	Pf or Ps	e ^S (Table XIV)	GH/TZ	12	Z (Est.)	$T=(\frac{T_W+T_S}{2})$	T ₅ (B.H. •R)	T _w (W.H. •R)	
,	1.55	1.49		!	9321	12325	1110.2	1.315	2.30	カフク	.972	561	5 88	U. W. C.	-
	1.55	1.49			939.5	12325	1110:2	1,312	2,04	たるか	1.2/50	561	588	534	2
	155		796.6	$ \wedge $	553,6	72).2		1,303	200	764	. 8 <i>0</i> 3	561	5.28	534	ω
	.7 22	1, 14	75%	k /	559.7	75).1	2.648	1.300	6.99	046	, 850	541	882	755	4
	1.55	.81	5662.	539,2	280.0	361,4	60/12	1041	6.800	バ/ JI	325	531	588	534	5
	1.55	,81	565.3	5,865	280,3	361.4	601,2	1,289	1.775	516	313	561	5.28	534	6
	15.5	. 62	439.1) 407. E	17.226	212.7	719/1		6,666	Ut Ut	K S.E.	195.	500	534	7
; 	1.1.	79.	434,2	407.2	8:17	ひび、ソ	27.76	1,263	1.64.	526	237	:3)		スカペ	8

Porm C-1::2F
Adopted '9-1-65

WORK SHEET FOR CALCULATION OF WELLHEAD FRESSURES (Pc or Pa)

Form C-122F
Adepted 9-1-65

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KNOWN
BOTTOM HOLE
HOLE
PRESSURE
(Pf or PL

-	2 3 116 8 N2 4.30 5	Section 20 Town	COMPANY BOYCH LEASE Baboance WELL NO. DATE
	× % H ₂ S	6	DATE

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Z (Table XI)	$T_{\Gamma} = (T/T_{CT})$	$P_{\rm f} = (P/P_{\rm CT})$	$P_{1}(\frac{P_{11}+P_{5}}{2})$ or $(\frac{P_{5}+P_{5}}{2})$	P _C or P _m	$P_c^2 = P_f^2/e^s$ or $P_w^2 = P_s^2/e^s$	P ₁ ² or P _s ²	P; or Ps	e ^s (Table XIV)	GH/TZ	77	Z (Est.)	$T=(\frac{T_w+T_s}{2})$	T ₅ (B.H. •R)	T _w (₩.H. •R)	
	1.55	1.76	1232.7 1233,5	i .	13140	1.740,3	13152	1,324	7,453	466.2	.831	561	588	530	1
,	157	1.76	1233,5	1147.8			1315.2	1.321	7.421	470.7	558:	361	الم الم الم	534	2
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CERTIFICATE OF ANALYSIS

No	1912
Run No	
Date of Run	11-20-79
Date Secured	11-19-79

Sample of	Boyd O	perati	ng	er ook i ook aan oo		 	
erured from	West E	nginee:	ring			 	
;	412 N.	Dal P	aso		Secured by	 	
	Hobbs,	N. M.	88240				
ampling conditions.		Press_				 	
		Temp.				 	
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FRACTIONAL ANALYSIS

Percentage Composition

	MOL %	บQ. %	G.P.M.		
				Calc. Sp. Gr.—0.6517	
				Colc. A.P.I.—	
***				Calc. Vapor Press.—	PSIA
rbon Dioxide	3.116			Sp. Gr	
,				Mol. WI	
trogen	4.304				
				LIQUID CONT	ENT (GAL/MCF)
drogen sullide					
drogen	86,408			Propane Calc. G.P.M.	.326
				Butanes Calc. G P.M.	.206
	3.592		958_	Pentanes Plus, G.P.M.	.296
pane	1.182		326	Ethane Calc. G.P.M	.958
				fRVP Casoline G.P.M	
	193		063		
Bulane	456		143	B.T.U./Cu. Ft. @ 14.696 P.S.I.A.	1000
				Dry Basis	1023
nlanes			0.50	Wet Basis	1005
-Pentane	.143		.052	Sulfur Analysis by Titration	
Pentane	170			Gr./100 Cu. Ft,	•
×an6\$.166		.068	Hydrogen Sulfide	
	.270		.115	Mercapians _	
tanes				Sulfides _	
7.4.1	100.000		1.786	Residual Sulfur Total Sulfur	
1AL	100.000		1.700	10191 301101	
n by	Deane Simpso	n ,	Checked by	Approved l	by Can more on

Additional Data and Remarks

TEST DEPTH: TEST DATE: NOVEMBER 16, TO NOVEMBER 19, 1979 5357 FEET

ELEMENT 40.

BANGET CHOCK NO. : TANGE : 17711 6 - 2550 esi 22509

CANGIT DE OOK NO 72 Hours 21389 24 Hours

MOTER OF E FOLLOWING PAGE FOR TABULATION OF TIMES AND PRESSURES.

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JOHN W WEST ENGINEERING CO	Re T	7					
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WEST ENGINEERING TO HORRS ME	BLAKLMORE F DURAL NO. 1	BOYD OPERATING COMPANY					
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HOBBS, NEW MEXICO							
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TEST CONDUCTED BY:
JOHN WEST ENGINEERING COMPANY

BOYD OPERATING COMPANY
BLAKEMORE FEDERAL NO. 1
BOTTOM HOLE PRESSURE BUILD-UP TEST,
& 4-POINT BACK PRESSURE TEST
TABULATION OF TIMES AND PRESSURES

TEST DATE:

November 16, to November 19, 1979

TEST DEPTH:

5357 FEET 17711

ELEMENT No.: OPERATOR:

T.L.B

DATE	TIME	CUM, HR	s,/MIN.	P51G	@ 535 7 FEET
11-16-79	3:00 PM			111	GAUGE REACHED 5357 FLOWING
11-16-79	3:15 PM	00 HRS.	00 MIN.		SHUT-IN; BEGIN BUILD-UP
	3:30 PM	00	15	214	
	3:45 PM	00	30	301	•
	4:00 PM	00	45	367	
	4:15 PM	01	00	4 3 5	
	4:30 PM	01	15	480	
	4:45 PM	01	30	526	
	5:00 PM	01	45	562	
	5:15 PM	02	00	617	
	5:30 PM	02	15	657	
	5:45 PM	02	30	682	
	6:00 PM	02	45	724	
•	6:15 PM	03	00	756	
	0.13 FW	05	00	750	
11-16-79	6:45 PM	03	30	795	
	7:15 PM	04	00	836	
	7:45 PM	04	30	866	
	8:15 PM	05	00	896	
11-16-79	9:15 PM	06	00	945	
11 10 77	10:15 PM	07	00	981	
	11:15 PM	08	00	1009	
		• •		1056	
11-17-79	1:15 AM	10	00	1056	
	3:15 AM	12	00	1095	
	5:15 AM	14	00	1122	
	7:15 AM	16	00	1144	
	9:15 AM	18	00	1162	
	11:15 AM	ŽŨ	00	1176	
11-17-79	4:15 PM	25	00	1204	
	9:15 PM	30	00	1228	
11-18-79	7:15 AM	40	00	1262	
11 10 77	5:15 PM	50	00	1280	
11-19-79	3:15 AM	60	00	1291	
11-19-79	10:45 AM	67	30	1306	GAUGE OUT; CHANGE CHARTS
	11.20 ***4	4.0	15	1206	Cause 2571 - 52571 -
11-19-79	11:30 AM	68	1.)	1300	GAUGE RETURNED TO 53571; OPEN CHOKE
11-19-79	12:00 NOOR	68	45		OFF BOTTOM TO DE-ICE CHOKE
11-19-79	12:40 PM	69	25	1268	BACK TO 5357' AFTER DE-ICE
11-19-79	12:45 PM	69	30	1274	OPEN CHOKE
	1:00 PM	69	45	1236	BEGIN 4-POINT
	1:15 PM	70	00	1178	
	1:30 PM	70	15	1133	
	1:45 PM	70	30	1097	END RATE !

BOYD OPERATING COMPANY
BLAKEMORE FEDERAL NO. 1
BOTTOM HOLE PRESSURE BUILD-UP TEST,
& 4-POINT BACK PRESSURE TEST
TABULATION OF TIMES AND PRESSURES

CONTINUED FROM PAGE 1

DATE	TIME	CUM, HRS	5. / MIN.	PSIG @ 5357 FEET
11 10 20	2.00 m.	70.11-	15 54	105/
11-19-79	2:00 PM	70 Hrs.	45 MIN.	1054
	2:15 PM	71	00	962
	2:30 PM	71	15	893
	2:45 PM	71	30	836 END RATE II
11-19-79	3:00 PM	71	45	812
	3:15 PM	72	00	711
	3:30 PM	72	15	639
	3:45 PM	72	30	588 END RATE III
11-19-79	4:00 PM	72	45	581
	4:15 PM	73	00	503
	4:30 PM	73	15	468
	4:45 PM	73	30	448 END RATE IV; GAUGE OUT; END TEST

PACKER SETTING REPORT

I, J. Michael Kelly being of lawful age and having full knowledge of the facts hereinbelow set out do state:

That I was employed by Boyd Operating Company in the capacity of Consulting Engineer, that on November 28, 1979, I personally supervised the setting of a Baker Lok-Set Packer in Boyd Operating Company, Blakemore Federal Well No. I, located in undesignated field, Chaves County, State of New Mexico, at a subsurface depth of 5218', said depth measurement was taken from a tubing tally. That the purpose of setting this packer was to effect a seal in the annular space between the casing and tubing and the packer was set so as to prevent the commingling, in the bore of this well, of gas produced from a stratum below the packer with gas produced from a stratum above the packer; that this packer was properly set and that it did, when set, effectively and absolutely seal off the annular space between the two strings of pipe where it was set in such manner as that it prevented any movement of fluids across the packer.

Consulting Engineer

Dated: February 25, 1980

SEPERAL EXCAMENTA STAVETS
CHECOMERAVAL THE LANGTON

Sould The State 12 A 9

Chief the 6820

Selected by Tom Boyd

Hecome, Excell 2/27/80

CAMPBELL AND BLACK, P.A.

LAWYERS

JACK M. CAMPBELL BRUCE G. BLACK MICHAEL B. CAMPBELL WILLIAM F CARR PAUL R. CALDWELL POST OFFICE BOX 2208

JEFFERSON PLACE

SANTA FE, NEW MEXICO 87501

TELEPHONE (505) 988 442:

February 6, 1980

Mr. Joe D. Ramey Division Director Oil Conservation Division New Mexico Department of Energy & Minerals Post Office Box 2088 Santa Fe, New Mexico 87501 OIL CONSCRIPTION DIVISION SANTA FE

Re: Application of Boyd Drilling Co. for Dual Completion and Unorthodox Gas Well Location, Chaves County, New Mexico

Dear Mr. Ramey:

Enclosed in triplicate is the application of Boyd Operating Co. in the above-referenced matter.

The applicant requests that this case be included on the docket for the examiner hearing scheduled to be held on February 27, 1980.

Very truly yours,

William F. Carr

WFC:1r

Enclosures

cc: Mr. Tom Boyd

BEFORE THE

OIL CONSERVATION DIVISION'

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

IN THE MATTER OF THE APPLICATION OF BOYD OPERATING CO. FOR APPROVAL OF DUAL COMPLETION AND UNORTHODOX GAS WELL LOCATION, CHAVES COUNTY, NEW MEXICO.

No. 4820

APPLICATION

Comes now BOYD OPERATING CO., by and through its undersigned attorneys and hereby makes application for an order authorizing the dual completion of its Blakemore Federal Well No. 1 located 660 feet from the North and East lines of Section 20, Township 9 South, Range 26 East, N.M.P.M., Chaves County, New Mexico, for production from the Wolfcamp formation and the Abo formation and for approval of an unorthodox location for said well and in support thereof would show the Commission:

- 1. Applicant drilled the Blakemore Federal Well No. 1 to to the Granite Wash which was not productive of hydrocarbons and thereafter plugged back and proposes to recomplete the well as a gas-gas dual completion in the Wolfcamp and Abo formations.
- 2. The subject well will be completed in such a manner as to effectively prevent communication between the two producing horizons.
- 3. The subject well was previously drilled at an orthodox location but due to the proposed recompletion, is now located at an unorthodox location.

- 4. Approval of this application will result in a greater ultimate recovery of hydrocarbons from the Wolfcamp and Abo formations.
- 5. Approval of this application will be in the interest of conservation, the prevention of waste and the protection of correlative rights.

WHEREFORE, BOYD OPERATING CO. requests that this application be set for hearing before the Division's duly appointed examiner and that after notice and hearing as required by law, the Division enter its order approving this application and making such other and further provisions as may be proper in the premises.

Respectfully submitted,
CAMPBELL AND BLACK, P.A.

William F. Carr

Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Applicant

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

IN THE MATTER OF THE APPLICATION OF BOYD OPERATING CO. FOR APPROVAL OF DUAL COMPLETION AND UNORTHODOX GAS WELL LOCATION, CHAVES COUNTY, NEW MEXICO.

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Respectfully submitted,

CAMPBELL AND BLACK, P.A.

William F Carr

William F. Carr
Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Applicant

BEFORE THE

OIL CONSERVATION DIVISION

NEW MEXICO DEPARTMENT OF ENERGY AND MINERALS

IN THE MATTER OF THE APPLICATION OF BOYD OPERATING CO. FOR APPROVAL OF DUAL COMPLETION AND UNORTHODOX GAS WELL LOCATION, CHAVES COUNTY, NEW MEXICO.

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Respectfully submitted, CAMPBELL AND BLACK, P.A.

William F Carr

William F. Carr
Post Office Box 2208
Santa Fe, New Mexico 87501
Attorneys for Applicant

STATE OF NEW MEXICO ENERGY AND MINERALS DEFARTMENT OIL CONSERVATION DIVISION

IN THE MATTER OF THE HEARING CALLED BY THE OIL CONSERVATION DIVISION FOR THE PURPOSE OF CONSIDERING:

CONSIDERING:	Or .
	CASE NO. 6820
) 1	Order No. R- 6284
APPLICATION OF BOYD OPER	RATING CO.
FOR A DUAL COM	PLETION AND UNORTHODOX WELL LOCATION,
COUNTY, NEW MEXICO.	
ORDEI	R OF THE DIVISION
BY THE DIVISION:	Osu
This cause came or	n for hearing at 9 o'clock a.m. on
February 27 , 19	80 , at Santa Fe, New Mexico, before
[] (-	

CHAVES

BY THE DIVISION:

__, 19 ⁸⁰ February 27 Examiner Richard L. Stamets day of Much, 1980, the NOW, on this Division Director, having considered the testimony, the record, and the recommendations of the Examiner, and being fully advised in the premises,

FINDS:

- (1) That due public notice having been given as required by law, the Division has jurisdiction of this cause and the subject matter thereof.
- (2) That the applicant, Boyd Operating Co: seeks authority to complete its Blakemore Federal at an unorthodox Wolfcamp location 660 feet from the North ship 9 South , Range 26 East , NMPM, County, New Mexico, as a dual completion | (conventional) -(combination) ---(tubingless) produce gas from the Wolfcamp and Abo formations.

applicant location being (4) That the application for unorthodex location should be dismissed without prejudice.

(5) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices. (4) That approval of the subject application will prevent waste and protect correlative rights. , approve t for IT IS THEREFORE ORDERED: (1) That the applicant, Boyd Operating Co/ is hereby authorized to complete its Blakemore Federal Well No. 1/ , located in Unit D of Section Township 9 South , Range 26 East , NMPM, Chaves County, New Mexico, as a dual completion(conventional) (combination) Wolfcamp, and Abo formation to produce gas from the tubing end gus from the Abo formation through the casing-tubing separation of the PROVIDED HOWEVER, that the applicant shall complete, operate, and produce said well in accordance with the provisions of Rule 112-A of the Division Rules and Regulations insofar as said rule is not inconsistent with this order; PROVIDED FURTHER, that the applicant shall take tests upon completion and pucker leukage annually thereafter during the Annual Shat In Pressure Test Period for the gos wells in Southeast New Marico Pool That jurisdiction of this cause is retained for the entry of such further orders as the Division may deem necessary. DONE at Santa Fe, New Mexico, on the day and year hereinabove (2) That that portion of this Cose sections approval of an unorthodox location for soid Blakemore Federal well No! designated. - (3) That the applicant must whain approval for the unorthoday location of the subject well at at a point 660 feet from the North line and 660 feet from the west line of & the eforesail section 20.