

FOR GAS
HONOLULU, HONOLULU COUNTY, NEW

CASE NO.

6858

APPLICATION,
TRANSCRIPTS,
SMALL EXHIBITS,

ETC.

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

EXAMINER HEARING

IN THE MATTER OF:

Application of H. L. Brown, Jr., for
gas well commingling, Roosevelt County,
New Mexico.

CASE
6858

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation
Division:

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

For the Applicant:

W. Thomas Kellahin, Esq.
KELLAHIN & KELLAHIN
500 Don Gaspar
Santa Fe, New Mexico 87501

SALLY W. BOYD, C.S.R.

Rt. 1 Box 193-B

Santa Fe, New Mexico 87501

PH 005 (303) 455-7409

I N D E X

ARTHUR R. BROWN

Direct Examination by Mr. Kellahin 3

E X H I B I T S

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Applicant Exhibit Four, Diagram	9
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SALLY W. BOYD, C.S.R.

St. 1 Box 174-B
Riverside, New Mexico 87101
Ph 505 (505) 635-7400

1 MR. NUTTER: We'll call next Case Number
2 6858.

3 MR PADILLA: Application of H. L. Brown,
4 Jr., for gas well commingling, Roosevelt County, New Mexico.

5 MR. KELLAHIN: I'm Tom Kellahin of Santa
6 Fe, New Mexico, appearing on behalf of the applicant, and
7 I have one witness.

8
9 (Witness sworn.)

10
11 ARTHUR R. BROWN
12 being called as a witness and having been duly sworn upon
13 his oath, testified as follows, to-wit:

14
15 DIRECT EXAMINATION

16
17 BY MR. KELLAHIN:

18 Q Mr. Brown, would you please state your
19 name, by whom you're employed, and in what capacity?

20 A My name is Arthur R. Brown. I'm employed
21 by H. L. Brown, Jr., as a consultant.

22 Q Mr. Brown, have you previously testified
23 before the Oil Conservation Division?

24 A No, I haven't.

25 Q For the benefit of the Examiner, would
you explain to him when and where you obtained your degree?

SALLY W. BOYD, C.S.R.

St. 1 Box 195-B
Santa Fe, New Mexico 87501
Phone (505) 455-7419

1 A I graduated from the University of Texas
2 with a BS degree in engineering in 1935, and went to work
3 for Stanoline Oil and Gas Company.

4 I resigned from Stanoline in 1951 to go
5 into business for myself.

6 I was employed by the USGS in 1960 as a
7 regulatory engineer and was District Engineer in the Hobbs
8 District from 1963 until December of 1977, when I retired.
9 But I was re-employed by the USGS on a part time basis and
10 continued to work there until November, 1979, when I re-
11 tired again.

12 Q With regards to the preparation of this
13 case, Mr. Brown, have you prepared and studied the facts
14 surrounding this application?

15 A Yes, sir, I have.

16 MR. KELLAHIN: We tender Mr. Brown as an
17 expert witness.

18 MR. NUTTER: Mr. Brown, do you intend to
19 make that last retirement stick?

20 A Yes, sir, I sure do.

21 MR. NUTTER: The witness is qualified.

22 Q Mr. Brown, let me show you what I've
23 marked as Applicant Exhibit Number One, have you identify
24 that for us, and explain what the applicant is seeking to
25 accomplish.

SALLY W. BOWD, C.S.A.

Rt. 1 Box 100-B
Santa Fe, New Mexico 87501
Phone (505) 435-7409

1 A Exhibit A is a plat showing H. L. Brown's
2 wells in the Bluett-Wolfcamp Gas Pool.

3 Q And how many wells are involved in this
4 project?

5 A There's 11 wells. There's 10 Federal
6 wells and 1 fee well.

7 Q And what do you intend to do with these
8 wells?

9 A H. L. Brown, Junior, seeks authority to
10 commingle gas and condensate production from these wells
11 in the Bluett-Wolfcamp Gas Pool of Roosevelt County, New
12 Mexico.

13 The Federal -- do you want the location
14 of them?

15 Q No, sir, they are correctly identified
16 on Exhibit Number One, are they not, Mr. Brown?

17 A Yes, they are.

18 Q All right.

19 MR. NUTTER: I believe there's one well
20 that is different in ownership from all the rest of the
21 wells. Why don't you point that one well out, Mr. Brown?

22 A That B well is the No. 1 Perkins. It's
23 located in Unit letter D of Section 10.

24 MR. NUTTER: And that's on the lease
25 that's outlined in green.

DALLY W. BOYD, C.E.R.

111 E. 1st St. N.W.

San Antonio, Texas 78201

Phone (512) 435-7409

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25

A In green, right.

MR. NUTTER: Okay. Now all the rest are Federal wells.

A All the rest are Federal wells. These other colors on here just show leases involved and communitization agreements involved.

Q Let's go to what I've marked as Exhibit Number Two, which is your drawing of how you're going to commingle the production, and have you describe for us generally how you're going to do this.

A This shows the proposed method of commingling. The gas and liquids will be separated at the well and the gas measured by a gas meter and the liquids will be measured by a positive displacement meter. The gas and liquids will then be recombined into the gathering system and delivered to the plant site.

A second separation of condensate from the gas stream will be made at the plant and the condensate will be stabilized by pressure reduction.

Q What's the advantage of establishing this method of production as opposed to the way the wells are set up now?

A Well, at the present time this gas is sold at the wellhead and the condensate is collected in tanks and sold to Permian. And when this condensate is

WILLIAM W. NUTTER, C.E.R.

No. 1 Box 100-3
Dallas, Texas 75201
Phone (214) 457-7409

1 dumped into the tanks there's a lot of gas flashed off,
2 and that's vented to the air and lost. And with this method,
3 why, there won't be any losses of gas.

4 Q How are you going to measure the amount
5 of condensate recovered from each of the wells?

6 A That will be measured through a positive
7 displacement meter, as shown on Exhibit Two, before -- and
8 then it will be recombined into the gas stream.

9 Q So am --

10 MR. NUTTER: Excuse me. Mr. Brown, this
11 Exhibit C, this is the layout that you would have for each
12 of these 11 wells, is that it?

13 A That's right. That's correct, except --
14 it will be this way on the 10 Federal wells, and on the D
15 Well, in addition to this, they will have a three-phase
16 separator instead of a two-phase separator, to separate the
17 water from the condensate before it's metered, and there
18 will also be a sampler on the D Well. That's to give us
19 accurate measurement of the free production.

20 MR. NUTTER: Do the wells here make much
21 water?

22 A They make -- average a barrel or less
23 per day.

24 MR. NUTTER: And so the positive dis-
25 placement meter here at the Federal wells would be measuring

SALLY W. HOTO, C.E.R.

121 E. 1st St. N.E.
Ottawa, Ont. K1P 1H5
Phone: (613) 461-7400

1 the condensate and the water.

2 A That is correct.

3 MR. NUTTER: That would be knocked out
4 at the separator.

5 A And to correct for that, the water will
6 be collected to the plant from all of the Federal wells and
7 it will be measured and these water volumes will be allo-
8 cated back to each Federal well and the reading -- and the
9 volume deducted from the positive displacement meter reading.

10 MR. NUTTER: Well, actually, the water
11 from all of the wells will be measured at the plant, won't
12 it? Not the water from the Federal wells.

13 A No, the fee well, we're going to install
14 a three-phase separator and the water will be removed in
15 that separator before it's measured.

16 MR. NUTTER: Oh, it's not going to be
17 recombined, then.

18 A The water won't be.

19 MR. NUTTER: Okay. Okay, go ahead.

20 Q Mr. Brown, in your opinion will approval
21 of this method of commingling result in the protection of
22 the overriding royalty and working interest owners in each
23 well so that they are paid in accordance with the production
24 from each of the wells?

25 A That's true. I think that's right.

SALLY W. BOWEN, C.S.R.

R.L. Box 194-B

Delta Pk. New Mexico 87501

Phone (505) 433-7408

1 Q Let me ask you to identify Exhibit Number
2 Three, which is also labeled Exhibit B, and have you tell
3 me what information is contained on that exhibit.

4 A That's -- it lists all of the wells in-
5 volved and some individual well data, like the completion
6 date and the lease number, the royalty rate, and average
7 production, and we have some calculations on the amount of
8 vapor that will be recovered by this commingling, or the
9 proposed commingling.

10 Q Directing your attention to the last
11 column on the far right of your exhibit, would you indicate
12 to the Examiner the total volumes of condensate preserved
13 by this method of commingling?

14 A We -- the calculations that were made
15 indicate that about a million -- I mean 1000 Mcf of gas
16 will be conserved each month. Now these calculations were
17 made before the two most recent wells were completed, the
18 No. 1 Federal "G" and the No. 1 Federal "J", so there would
19 be some venting there that's not indicated in these calcu-
20 lations. Those two wells were just put on the line in
21 January and February of this year.

22 Q Would you turn to Exhibit Number Four now
23 and identify that for us?

24 A Exhibit Four shows the gathering system
25 and the sales line after commingling is accomplished, and

SALES & MARKETING, C.A.B.

Box 1, New York, N.Y.
Sales & Marketing, C.A.B.
Phone (212) 697-7000

1 it shows that all the wells will be interconnected into a
2 gathering system and there will be one sales point at the
3 plant in Unit letter I of Section 5.

4 MR. NUTTER: I presume, then, that red
5 line is a -- it would belong to Transwestern.

6 A Right, yes, sir.

7 MR. KELLAHIN: If the Examiner please,
8 Exhibit Number Five constitutes the approval by the USGS
9 of the proposed commingling, insofar as the Federal leases
10 are involved.

11 Q Mr. Brown, were Exhibits One through Five,
12 or the attachment to Exhibit Five, and Exhibits One through
13 Four prepared by you or compiled under your direction and
14 supervision?

15 A Yes, they were.

16 Q And in your opinion, Mr. Brown, will
17 approval of this application be in the best interests of
18 conservation, the prevention of waste, and the protection
19 of correlative rights?

20 A Yes, it will.

21 MR. KELLAHIN: That concludes our exa-
22 mination of Mr. Brown. We move the introduction of Exhibits
23 One through Five.

24 MR. NUTTER: Exhibits One through Five
25 will be admitted in evidence.

SALLY W. BOYD, C.S.R.

Rt. 1 Box 199-B
Santa Fe, New Mexico 87501
Pho 46 (505) 455-7409

Are there any questions of Mr. Brown?

He may be excused.

Does anyone have anything they wish to
offer in Case Number 6856?

We'll take the case under advisement.

(Hearing concluded.)

SALLY V. BOYD, C.S.R.

R. 1 Box 193-B

Santa Fe, New Mexico 87501

Phone (505) 455-7409

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, C. S. R., DO HEREBY CERTIFY THAT
the foregoing Transcript of Hearing before the Oil Conserva-
tion 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.

SALLY W. BOYD, C.S.R.
Rt. 1 Box 175-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

i do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 44-3
heard by me on 7/9 1980
[Signature], Examiner
Oil Conservation Division



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

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

April 24, 1980

Mr. Thomas Kellahin
Kellahin & Kellahin
Attorneys at Law
Post Office Box 1769
Santa Fe, New Mexico

Re: CASE NO. 6858
ORDER NO. R-6321

Applicant:

H. L. BROWN, JR.

Dear Sir:

Dear Sir:

Enclosed herewith are two copies of the above-referenced Division order recently entered in the subject case.

Yours very truly,

JOE D. RAMEY
Director

JDR/fd

Copy of order also sent to:

Robbs OCD	<u>X</u>
Artesia OCD	<u>X</u>
Artec OCD	<u> </u>

On the

STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION
STATE LAND OFFICE BLDG.
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EXAMINER HEARING

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Division:

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State Land Office Bldg.
Santa Fe, New Mexico 87501

For the Applicant:

W. Thomas Kellahin, Esq.
KELLAHIN & KELLAHIN
500 Don Gaspar
Santa Fe, New Mexico 87501

SALLY W. BOYD, C.I.R.

El. 1 Box 100-3
Santa Fe, New Mexico 87501
Phone (505) 455-7409

I N D E X

ARTHUR R. BROWN

Direct Examination by Mr. Kellahin

E X H I B I T S

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Applicant Exhibit Five, Document	10

BALDY W. BOYD, C.S.R.
Rt. 1 Box 150-B
Lima Pa. 16801
Phone (814) 435-7400

1 MR. NUTTER: We'll call next Case Number
2 6858.

3 MR. PADILLA: Application of H. L. Brown,
4 Jr., for gas well commingling, Roosevelt County, New Mexico.

5 MR. KELLAHIN: I'm Tom Kellahin of Santa
6 Fe, New Mexico, appearing on behalf of the applicant, and
7 I have one witness.

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9 (Witness sworn.)

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

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18 name, by whom you're employed, and in what capacity?

19 A My name is Arthur R. Brown. I'm employed
20 by H. L. Brown, Jr., as a consultant.

21 Q Mr. Brown, have you previously testified
22 before the Oil Conservation Division?

23 A No, I haven't.

24 Q For the benefit of the Examiner, would
25 you explain to him when and where you obtained your degree?

SALLY W. BOYD, C.S.R.

St. 1 Bnt 195-8

Santa Fe, New Mexico 87501

Phone (505) 455-7409

1 A I graduated from the University of Texas
2 with a BS degree in engineering in 1935, and went to work
3 for Stanoline Oil and Gas Company.

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5 into business for myself.

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7 regulatory engineer and was District Engineer in the Hobbs
8 District from 1963 until December of 1977, when I retired.
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11 tired again.

12 Q With regards to the preparation of this
13 case, Mr. Brown, have you prepared and studied the facts
14 surrounding this application?

15 A Yes, sir, I have.

16 MR. KELLAHIN: We tender Mr. Brown as an
17 expert witness.

18 MR. NUTTER: Mr. Brown, do you intend to
19 make that last retirement stick?

20 A Yes, sir, I sure do.

21 MR. NUTTER: The witness is qualified.

22 Q Mr. Brown, let me show you what I've
23 marked as Applicant Exhibit Number One, have you identify
24 that for us, and explain what the applicant is seeking to
25 accomplish.

SALLY W. BOYD, C.S.R.

El. 1 Box 199-B
Santa Fe, New Mexico 87501
Phone (505) 455-7419

1 A Exhibit A is a plat showing H. L. Brown's
2 wells in the Bluett-Wolfcamp Gas Pool.

3 Q And how many wells are involved in this
4 project?

5 A There's 11 wells. There's 10 Federal
6 wells and 1 fee well.

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8 wells?

9 A H. L. Brown, Junior, seeks authority to
10 commingle gas and condensate production from these wells
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12 Mexico.

13 The Federal -- do you want the location
14 of them?

15 Q No, sir, they are correctly identified
16 on Exhibit Number One, are they not, Mr. Brown?

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18 Q All right.

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20 that is different in ownership from all the rest of the
21 wells. Why don't you point that one well out, Mr. Brown?

22 A That B well is the No. 1 Perkins. It's
23 located in Unit letter D of Section 10.

24 MR. NUTTER: And that's on the lease
25 that's outlined in green.

GALLY W. BOYD, C.S.R.

Box 1 Box 193-B

Santa Fe, New Mexico 87501

Phone (505) 435-7409

1 A In green, right.

2 MR. NUTTER: Okay. Now all the rest are
3 Federal wells.

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5 other colors on here just show leases involved and communi-
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13 well and the gas measured by a gas meter and the liquids
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16 system and delivered to the plant site.

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18 the gas stream will be made at the plant and the condensate
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SALLY W. BOYD, C.S.R.

El. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 415-7409

1 dumped into the tanks there's a lot of gas flashed off,
2 and that's vented to the air and lost. And with this method,
3 why, there won't be any losses of gas.

4 Q How are you going to measure the amount
5 of condensate recovered from each of the wells?

6 A That will be measured through a positive
7 displacement meter, as shown on Exhibit Two, before -- and
8 then it will be recombined into the gas stream.

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10 MR. NUTTER: Excuse me. Mr. Brown, this
11 Exhibit C, this is the layout that you would have for each
12 of these 11 wells, is that it?

13 A That's right. That's correct, except --
14 it will be this way on the 10 Federal wells, and on the D
15 Well, in addition to this, they will have a three-phase
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17 water from the condensate before it's metered, and there
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23 per day.

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SALLY W. BOYD, C.S.R.

Rt. 1 Box 193-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

1 the condensate and the water.

2 A That is correct.

3 MR. NUTTER: That would be knocked out
4 at the separator.

5 A And to correct for that, the water will
6 be collected to the plant from all of the Federal wells and
7 it will be measured and these water volumes will be allo-
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12 it? Not the water from the Federal wells.

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18 A The water won't be.

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21 of this method of commingling result in the protection of
22 the overriding royalty and working interest owners in each
23 well so that they are paid in accordance with the production
24 from each of the wells?

25 A That's true. I think that's right.

SALLY W. BOYD, C.S.R.

El. 1 Box 190-B

Santa Fe, New Mexico 87501

Phone (505) 433-7409

Q Let me ask you to identify Exhibit Number Three, which is also labeled Exhibit B, and have you tell me what information is contained on that exhibit.

A That's -- it lists all of the wells involved and some individual well data, like the completion date and the lease number, the royalty rate, and average production, and we have some calculations on the amount of vapor that will be recovered by this commingling, or the proposed commingling.

Q Directing your attention to the last column on the far right of your exhibit, would you indicate to the Examiner the total volumes of condensate preserved by this method of commingling?

A We -- the calculations that were made indicate that about a million -- I mean 1000 Mcf of gas will be conserved each month. Now these calculations were made before the two most recent wells were completed, the No. 1 Federal "G" and the No. 1 Federal "J", so there would be some venting there that's not indicated in these calculations. Those two wells were just put on the line in January and February of this year.

Q Would you turn to Exhibit Number Four now and identify that for us?

A Exhibit Four shows the gathering system and the sales line after commingling is accomplished, and

BALLY W. BOY, C.S.R.

21. 1 Box 18-11

Santa Fe, New Mexico 87501

Phone (505) 431-7409

1 it shows that all the wells will be interconnected into a
2 gathering system and there will be one sales point at the
3 plant in Unit letter I of Section 5.

4 MR. NUTTER: I presume, then, that red
5 line is a -- it would belong to Transwestern.

6 A Right, yes, sir.

7 MR. KELLAHIN: If the Examiner please,
8 Exhibit Number Five constitutes the approval by the USGS
9 of the proposed commingling, insofar as the Federal leases
10 are involved.

11 Q Mr. Brown, were Exhibits One through Five
12 or the attachment to Exhibit Five, and Exhibits One through
13 Four prepared by you or compiled under your direction and
14 supervision?

15 A Yes, they were.

16 Q And in your opinion, Mr. Brown, will
17 approval of this application be in the best interests of
18 conservation, the prevention of waste, and the protection
19 of correlative rights?

20 A Yes, it will.

21 MR. KELLAHIN: That concludes our exa-
22 mination of Mr. Brown. We move the introduction of Exhibits
23 One through Five.

24 MR. NUTTER: Exhibits One through Five
25 will be admitted in evidence.

GALLY W. BOYD, C.E.R.

Rt. 1 Box 190-B
Santa Fe, New Mexico 87501
Phone (505) 455-7409

Are there any questions of Mr. Brown?

He may be excused.

Does anyone have anything they wish to offer in Case Number 6858?

We'll take the case under advisement.

(Hearing concluded.)

SALLY W. BOYD, C.S.R.

St. 1 Box 194-B
Sarasota, FL 34237
Phone (813) 455-7400

REPORTER'S CERTIFICATE

I, SALLY W. BOYD, C. S. R., DO HEREBY CERTIFY THAT
the foregoing Transcript of Hearing before the Oil Conserva-
tion 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.

Sally W. Boyd C.S.R.

SALLY W. BOYD, C.S.R.

At. 1 Box 195-B
Santa Fe, New Mexico 87501
Phone (505) 435-7409

I do hereby certify that the foregoing is
a complete record of the proceedings in
the Examiner hearing of Case No. 6858
heard by me on 4/9 1980.

[Signature], Examiner
Oil Conservation Division

STATE OF NEW MEXICO
ENERGY 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. 6858
Order No. R-6321

APPLICATION OF H. L. BROWN, JR.
FOR GAS WELL COMINGLING,
ROOSEVELT COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on April 9, 1980,
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 24th day of April, 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, H. L. Brown, Jr., seeks authority
to commingle Bluit-Wolfcamp gas and condensate production from
ten federal wells located as follows: Units K and P of Section
33 and L of Section 34, Township 7 South, Range 37 East, WMPM;
Units D and L of Section 3, C and J of Section 4, I of Section
5, C of Section 9 and G of Section 10; and one fee well in Unit
D of Section 10, all in Township 8 South, Range 37 East, WMPM,
Roosevelt County, New Mexico.

(3) That the applicant would separate and meter the gas
and condensate production from each well and then recombine the
well's stream and commingle all wells into a small gasoline
plant to be constructed by the applicant in Unit I of Section
5, Township 8 South, Range 37 East, WMPM.

(4) That allocation of gas and condensate to each well
would be on the basis of wellhead meter readings, and allocation

-2-

Case No. 6858
Order No. R-6321

of gasoline plant production would be on the basis of gas production and BTU content at each well.

(5) That the commingling and processing of gas and condensate as proposed by the applicant will conserve and permit the recovery of substantial volumes of vapors now being lost, thereby preventing waste, will not impair correlative rights, and should be approved, provided however, provision should be made to administratively approve the inclusion of additional wells in the system as they may be drilled, provided the same technique for measurement and allocation of production would be used.

IT IS THEREFORE ORDERED:

(1) That the applicant is hereby authorized to commingle gas and condensate production from the following wells in the Blitt-Wolfcamp Gas Pool, Roosevelt County, New Mexico:

TOWNSHIP 7 SOUTH, RANGE 37 EAST, NMPM

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT LETTER</u>	<u>SECTION</u>
Federal	1	K	33
Federal "A"	1	P	33
Federal "B"	1	L	34

TOWNSHIP 8 SOUTH, RANGE 37 EAST, NMPM

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT LETTER</u>	<u>SECTION</u>
Federal "F"	1	L	3
Federal "G"	1	D	3
Federal "H"	1	J	4
Federal "C"	1	C	4
Federal "H"	1	I	5
Federal "D"	1	C	9
Federal "J"	1	G	10
Perkins "D"	1	D	10

(2) That there shall be installed at each of the aforesaid wells a production separator, positive displacement meter for the measurement of condensate produced, gas meter for the measurement of gas produced, BTU meter for the determination of BTU content of the gas, and such other pertinent equipment as is necessary to determine the quantity and quality of the well's production.

Case No. 6858
Order No. R-6321

(3) That after being separated and measured, the effluent from each well shall be recombined and commingled with the recombined effluent from other wells and again passed through a production separator installed in conjunction with a small gasoline plant to be built by the applicant in Unit I of Section 5, Township 8 South, Range 37 East, NMPM.

(4) Condensate recovered at the plant shall be allocated to the individual wells on the basis of volumes of condensate produced at each well as measured by positive displacement meter.

(5) Dry gas recovered at the plant shall be allocated to the individual wells on the basis of gas production from each well as measured by the gas meter at the well head.

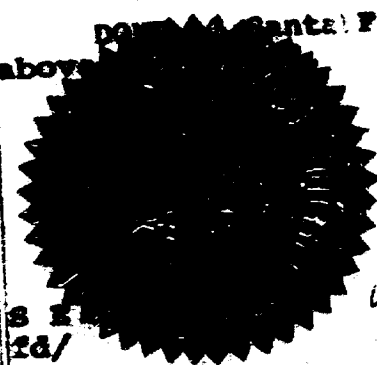
(6) Gasoline and LPG products produced at the plant shall be allocated to the individual wells on the basis of gas production and BTU content as measured at the well head.

(7) That individual gas production and condensate production from each well shall be reported monthly to the Oil Conservation Division on Form C-115, Operator's Monthly Report; Form C-111, Gas Purchaser's Monthly Report, shall also be filed monthly by the applicant, including thereon the applicable data, including well production, plant production, product disposition and storage, etc.

(8) That the applicant may obtain approval for the inclusion of additional wells to his gas gathering and commingling system authorized herein by submitting to the Division Director a request therefor, including a map showing the location of all wells connected and proposed to be connected to the system, a schematic diagram of the separation and measurement facilities to be installed at the well head of the proposed to be connected well(s), and a letter of consent from the royalty owner thereof.

(9) 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.



STATE OF NEW MEXICO
OIL CONSERVATION DIVISION
Joe D. Ramey
JOE D. RAMEY
Director

S. E.
Id/

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION

H. Brown EXHIBIT NO. 1

CASE NO. 6858

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION

HL Brown EXHIBIT NO. 2

CASE NO. 6858

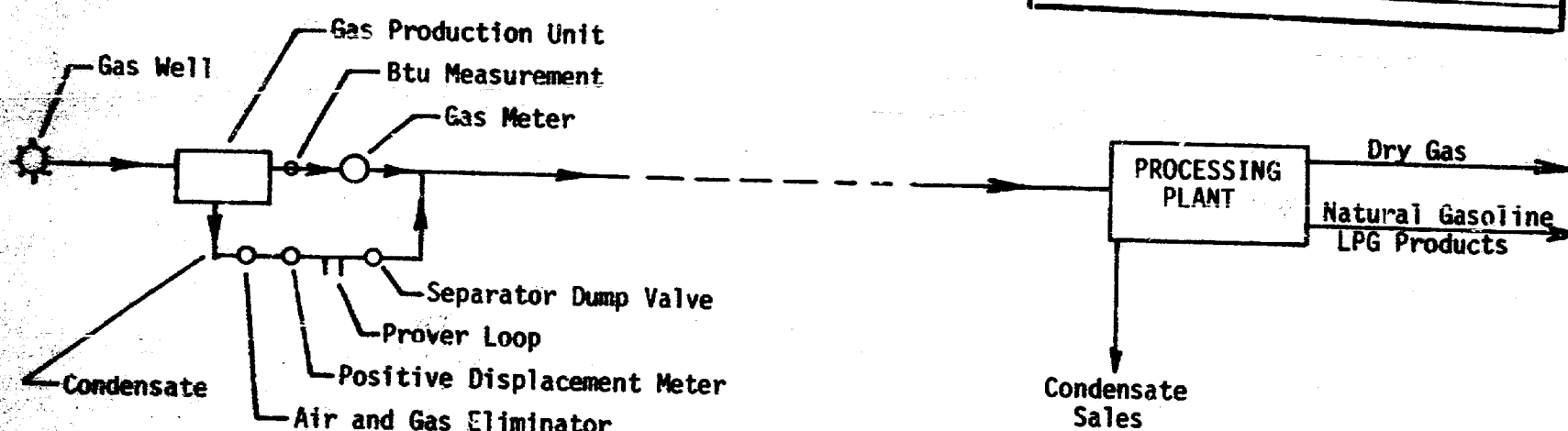


EXHIBIT "C"

H. L. BROWN, JR.
PROPOSED COMINGLING PROJECT
BLUITT WOLF CAMP GAS POOL
ROOSEVELT COUNTY, NEW MEXICO

Ex 2 C 6858

WELL DATA BLUITT WOLF CAMP GAS POOL

Well Name and Number	Location	Well Compl. Date	Lease No.	Comm. Agr. No.	Royalty Rate	Average Monthly Production			Calculated Gas Vapor Per Bbl. of Stock Tank Liquid-MCF		Calc. Vapor Loss per Month - MCF
						Oil-Bbl.	Gas-MCF	Wtr.-Bbl.	"X"	"Y"	
U. I. FEDERAL	K-33-7-37	10-7-59	NH021077-A	-	12%	107	6668	TR	0.519	0.397	42.5
U. I. FEDERAL "A"	P-33-7-37	6-7-61	NH0474	-	12%	103	5470	TR	0.706	1.015	109.5
U. I. FEDERAL "B"	X J-4-8-37	8-15-75	NH10474	-	12%	150	9148	30	0.378	0.526	48.9
U. I. FEDERAL "C"	X C-4-8-37	7-31-75	NH21513	SW-1007	12%	548	30108	30	0.505	0.610	334.3
U. I. FEDERAL "D"	X C-9-8-37	9-12-75	NH10474	-	12%	233	14765	31	0.423	0.399	93.0
U. I. FEDERAL "E"	/ L-34-7-37	11-21-75	NH13740	SW-1023	"B"	184	9125	31	0.457	0.615	113.2
U. I. FEDERAL "F"	X L-3-8-37	12-18-75	NH18240-A	-	12%	76	4973	15	0.526	0.568	43.2
U. I. FEDERAL "G"	X D-3-8-37	9-21-79	NH23018	SRM-1365	"B"	360	30100	TR	-	-	-
U. I. FEDERAL "H"	X I-5-8-37	2-21-77	NH28054	SRM-1127	"B"	204	17394	15	0.699	0.623	128.7
U. I. FEDERAL "J"	G-10-8-37	11-27-79	NH23018	-	"B"	900	37,500	TR	-	-	-
U. I. PERKINS	D-10-8-37	12-6-74	FEE	-	12%	203	11575	TR	0.321	0.609	123.6
TOTAL										1032.1	

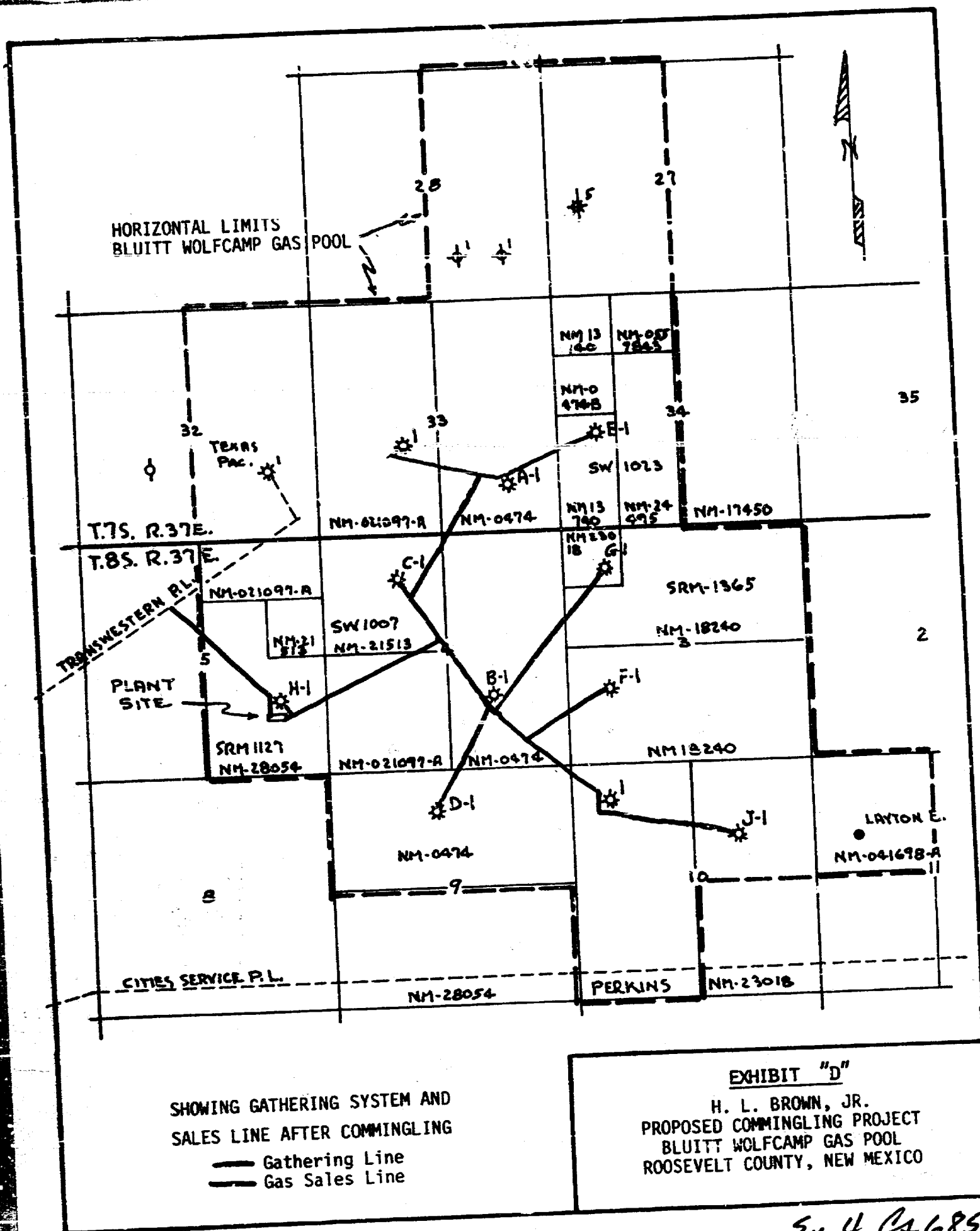
"X" = Calculated flash gas per barrel of stock tank liquid based on chromatograph data from sample of separator product.

"Y" = Calculated flash gas per barrel of stock tank liquid based on chromatograph data from samples of both separator and stock tank products.

EXHIBIT "B"

H. L. BROWN, JR.
PROPOSED COMMINGLING PROJECT
BLUITT WOLF CAMP GAS POOL
ROOSEVELT COUNTY, NEW MEXICO

Ex 3 Ca 6858



Ex 4 C46858

BEFORE EXAMINER NUTTER
OIL CONSERVATION DIVISION

HL Brown EXHIBIT NO. 4

CASE NO. 6858



United States Department of the Interior

GEOLOGICAL SURVEY

P. O. Box 26124
Albuquerque, New Mexico 87125

H. L. Brown, Jr.
323 West Missouri
P. O. Box 2237
Midland, Texas 79702

Dear Mr. Brown:

Your letter of March 4, 1980, requests approval to commingle production from ten Federal wells and one fee well producing from the Bluit-Wolfcamp Gas Pool, Roosevelt County, New Mexico, and located as follows:

Lease	Location	Well
NM 0474	Sec. 33, T. 7 S., R. 37 E.	No. 1 Federal "A"
NM 0474	Sec. 4, T. 8 S., R. 37 E.	No. 1 Federal "B"
NM 0474	Sec. 9, T. 8 S., R. 37 E.	No. 1 Federal "D"
NM 021097-A	Sec. 33, T. 7 S., R. 37 E.	No. 1 Federal
NM-13740	Sec. 34, T. 7 S., R. 37 E.	No. 1 Federal "E"
NM-18240-A	Sec. 3, T. 8 S., R. 37 E.	No. 1 Federal "F"
NM-21513	Sec. 4, T. 8 S., R. 37 E.	No. 1 Federal "C"
NM-23018	Sec. 3, T. 8 S., R. 37 E.	No. 1 Federal "G"
NM-23018	Sec. 10, T. 8 S., R. 37 E.	No. 1 Federal "J"
NM-28054	Sec. 5, T. 8 S., R. 37 E.	No. 1 Federal "H"
W. L. Perkins	Sec. 10, T. 8 S., R. 37 E.	No. 1 W. L. Perkins

The commingling system described in your letter is hereby approved. This approval does not relieve you from any legal obligations regarding consent from other interest holders or from the New Mexico Oil Conservation Division. Any wells or leases proposed to be added to this commingling system must be approved by the Conservation Manager prior to being included in the facility. Your Lessee's Monthly Report of Sales and Royalty, form 9-361, should show all computations used in allocating production to each of the affected leases.

Sincerely yours,

Jack Willock
for Acting Conservation Manager

BEFORE EXAMINER NUTTER	
OIL CONSERVATION DIVISION	
<i>H. L. Brown</i>	EXHIBIT NO. <u>5</u>
CASE NO. <u>6858</u>	

APPLICATION

FOR

LEASE COMMINGLING

BLUITT WOLFCAMP GAS POOL

ROOSEVELT COUNTY, NEW MEXICO

PROPOSED BY

H. L. BROWN, JR.

P. O. BOX 2237
Midland, Texas 79702

H. L. BROWN, JR.

COMMINGLING PROPOSAL

PROPOSAL:

To commingle production from ten Federal wells and one fee well operated by H. L. Brown, Jr. in the Bluit Wolfcamp Gas Pool, Roosevelt County, New Mexico.

REASONS FOR PROPOSAL:

1. To permit collection and conservation of stock tank vapors not economically feasible on an individual well basis.
2. To permit construction of a gas plant to process production from these wells. Condensate would be separated at the plant and stabilized by pressure reduction. Wet gas would be stripped of gasoline and LPG products. The dry gas would be sold to Transwestern Pipeline Company, the present purchaser of wet gas at the well head.
3. To reduce losses from weathering of stock tank liquids. Fluid production is small at each well and tank storage time is correspondingly great.

PRESENT OPERATIONS:

The eleven gas wells operated by H. L. Brown, Jr. in the Bluit Wolfcamp Gas Pool are listed on Exhibit "A", together with individual well data. These wells are also shown on Exhibit "B".

Gas is presently sold to Transwestern Pipeline Company based on volumes metered at the well head with Btu adjustment. Transwestern's gathering lines are shown on Exhibit "B". Condensate is separated and stored in tanks at each well and sold to Permian Corporation.

Average monthly production data is shown on Exhibit "A" for nine wells based on production figures for July, August and September 1979. Production data is not shown for the two Federal wells most recently completed. Production history is not available for them but their producing rates are expected to be in the range of other pool wells.

Average production for the nine wells during the three-month period is as follows:

109,225 MCF gas and 1810 bbls. condensate per month
or, 396 MCF gas and 6.6 bbls. condensate per well per day

Well No. 1 Federal "C" has the highest production rate of all wells involved, and averaged 982 MCF of gas and 18 barrels of condensate per day.

Average production from the fee well was 377 MCF of gas and 6.6 barrels of condensate per day.

All wells make a small amount of water, varying from a trace to about one barrel per day.

Inasmuch as the gravity of condensate from this pool ranges between 65 and 70 degrees, the stock tank vapor loss is considerable. This loss results both from liberation of flash gas when dumping into the storage tanks and to extensive weathering in the tanks because of the low condensate production rate.

To arrive at an approximation of the amount of vapor loss, two different estimates were made for each well. One estimate is the result of calculating flash gas using gas chromatograph data from the separator product at separator conditions. These values are shown in the "X" column of Exhibit "A". The other estimate involved the use of gas chromatograph data from samples of both the separator and storage tank products, and these values are shown in the "Y" column of Exhibit "A". Both methods of estimating indicate appreciable losses. The reason some of the "Y" values are higher than the "X" values may be attributed to weathering. The calculated vapor loss per month for each well, as shown on Exhibit "A", was obtained by multiplying the "Y" column by the average condensate production. The methods used for estimating vapor losses indicate the total vapor loss for the nine wells may be as much as 1000 MCF of gas per month. Sample data and the method used in estimating flash gas for a typical well are shown in Exhibits "C", "D", "E", "F" and "G".

Oil and gas leases involved are shown on Exhibits "A" and "B". Exhibit "A" shows the lease the well is on and lists seven Federal leases and one fee lease. Four of the wells are on communitized tracts, and the additional leases involved by communitization are shown on Exhibit "B".

All of the Federal leases involved have royalty rates that are

either 12-1/2 percent or Schedule "B". Since the producing rate for each one of the Federal wells is well below the "break-point" for the Schedule "B" royalty rate, the actual effective royalty rate for all of the Federal wells is the same, i.e., 12-1/2 percent. The royalty rate for the fee lease is also 12-1/2 percent.

PROPOSED METHOD OF COMMINGLING:

The existing gas sales lines from each well will be modified as necessary to convert them to a common gathering system with one sales point at the central battery and plant site near well No. 1 Federal "H" in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T.8 S., R.37 E. A plant will be constructed at this site to process the commingled gas stream for natural gasoline and LPG products, and deliver the dry gas to Transwestern.

The method of commingling production from a typical well is shown in Exhibit "H". Both gas production and liquid production from each well will be measured and then recombined into the common gathering system for delivery to the plant. A second separation of condensate from the gas stream will be made at the plant and the condensate stabilized by pressure reduction.

Measuring equipment at the fee well will include, in addition to the gas meter and positive displacement meter, a three-phase separator to remove any free water from the liquid stream prior to measurement, a proportional flow sampling device with the sampling point located upstream of the meter, and a sample container. This additional equipment will assure accurate measurement of production.

Water produced by the Federal wells will be collected and measured at the plant and volumes allocated to each Federal well on the basis of well tests. These water volumes will be deducted from the metered volumes so all liquid meter measurements will be equitable.

PROPOSED METHOD OF ALLOCATION:

Condensate recovered at the plant will be allocated to individual wells on the basis of volumes of condensate produced at each well as measured by positive displacement meter.

Dry gas will be allocated on the basis of gas production from each well as measured by gas meter at the well head.

Gasoline and LPG products will be allocated on the basis of gas production and Btu content as measured at each well.

H. L. BROWN, JR.

WELL DATA BLUITT WOLF CAMP GAS POOL

Well Name and Number	Well Location	Well Compl. Date	Lease No.	Com. Agr. No.	Royalty Rate	Average Monthly Production			Calculated Gas Vapor Per Bbl. of Stock Tank Liquid-MCF		Calc. Vapor Loss per Month - MCF
						Oil-Bbl.	Gas-MCF	Wtr.-Bbl.	"X"	"Y"	
No. 1 FEDERAL	K-33-7-37	10-7-59	NH0210974	-	12%	107	6668	TR	0.579	0.397	102.5
No. 1 FEDERAL "A"	P-33-7-37	6-7-61	NH0474	-	12%	103	5970	TR	0.706	1.013	102.5
No. 1 FEDERAL "B"	J-4-8-37	8-15-75	NH0474	-	12%	150	9148	30	0.328	0.326	80.9
No. 1 FEDERAL "C"	C-4-8-37	7-31-75	NH21513	SW-1007	12%	548	30108	30	0.505	0.610	398.3
No. 1 FEDERAL "D"	C-9-8-37	9-12-75	NH0474	-	12%	233	14765	31	0.423	0.399	92.0
No. 1 FEDERAL "E"	L-34-7-37	11-21-75	NH13740	SW-1023	"B"	184	9125	31	0.457	0.625	113.2
No. 1 FEDERAL "F"	L-3-8-37	12-18-75	NH18240-A	-	12%	76	4973	15	0.526	0.568	43.2
No. 1 FEDERAL "G"	D-3-8-37	9-21-79	NH13018	SW-1345	"B"						
No. 1 FEDERAL "H"	I-5-8-37	2-21-77	NH28654	SW-1127	"B"	204	11394	15	0.699	0.623	80.9
No. 1 FEDERAL "J"	G-4-8-37	11-25-79	NH23013	-	"B"						
No. 1 PERKINS	D-12-37	12-6-74	FC	-		203	11575	TR	0.321	0.609	122.6
										TOTAL	1002.1

"X" - Calculated flash gas per barrel of stock tank liquid based on chromatograph data from sample of separator product.

"Y" - Calculated flash gas per barrel of stock tank liquid based on chromatograph data from sample of separator and stock tank products.

EXHIBIT "A"

WELL DATA
PROPOSED COMINGLING PROJECT
BLUITT WOLF CAMP GAS POOL
ROOSEVELT COUNTY, NEW MEXICO

WPC, INC.

Subject Federal E&I

P.O. BOX 1068
MIDLAND, TEXAS 79702

Page no. _____
By _____ Date _____

Component	mol% Separator	mol% tank	
C ₁	10.10	0.00	letting the total mol% separator
C ₂	4.24	0.33	product take on a 100 mole feed
C ₃	7.12	2.32	basis, and assuming no C ₇ + losses,
IC ₄	2.47	1.70	we used a tie component to
NC ₄	9.12	7.76	express tank values in
IC ₅	5.15	6.22	mole liquid / 100 moles feed
NC ₅	8.32	10.68	37.83 moles = 75.60 moles liquid
C ₆	15.65	20.95	50.84 mol% 100 moles feed
C ₇ +	37.83	50.84	mole tank = (mol% tank) 75.60
	100	100	$\left(\frac{\text{moles}}{\text{tank}} \right) \times \left(\frac{90.1 \text{ gal}}{\text{mole}} \right) = \frac{321 \text{ tank liquid}}{100 \text{ moles feed}}$
C ₁	0.00	6.40	0.00
C ₂	0.24	10.12	2.42
C ₃	1.75	10.42	18.24
IC ₄	1.28	12.38	15.84
NC ₄	5.86	11.93	69.90
IC ₅	4.70	13.85	65.10
NC ₅	8.01	13.71	110.64
actual value (15.83) C ₆	15.65	15.57	243.67
C ₇ +	37.83	18.43	197.20
	75.56		1223.03

$$\frac{100 \text{ moles}}{100 \text{ moles feed}} = \frac{75.56 \text{ moles}}{100 \text{ moles feed}} = \frac{24.44 \text{ moles vapor}}{100 \text{ moles feed}}$$

$$\left(\frac{377 \text{ SCF}}{\text{mole}} \right) \left(\frac{24.44 \text{ moles vapor}}{100 \text{ moles feed}} \right) = \frac{9,262.76 \text{ SCF}}{100 \text{ moles feed}}$$

$$\frac{1223.03 \text{ gal} \times 6.61}{100 \text{ moles feed}} = \frac{28.44 \text{ bbl}}{100 \text{ moles feed}}$$

$$\frac{9,262.76 \text{ SCF}}{100 \text{ moles feed}} = \frac{325.66 \text{ SCF loss}}{100 \text{ moles feed}}$$

$$\frac{28.44 \text{ bbl}}{100 \text{ moles feed}} = \frac{\text{Tank bbl}}{100 \text{ moles feed}}$$

① value higher than feed value; assumed no C₆ loss
 ② from table of physical properties in GPSA manual

112203

EEF 6/9 1/2/80

PALS / 11 L Brown Jr
Federal B#1
Feed Separator Liquid
Federal B#1

Component	moles/100 moles	K
	10.10	165
C ₁	4.24	28.0
C ₂	7.12	7.20
C ₃	2.47	2.78
iC ₄	9.12	1.87
nC ₄	5.15	0.695
iC ₅	8.32	0.520
nC ₅	15.65	0.141
C ₆	37.83	0.0282
C ₇₊	100.00	

moles/100 moles feed
Liquid Gas

72.13688 27.86312

Component of liquid	moles of Stock Tank liquid	x	gallons per mole	=	gallons Stock Tank liquid per 100 moles feed
			6.4		1.00
C ₁	0.156		10.12		3.63
C ₂	0.359		10.42		19.62
C ₃	1.883		12.38		14.74
iC ₄	1.191		11.93		63.17
nC ₄	5.295		13.85		56.23
iC ₅	4.060		13.71		94.98
nC ₅	6.928		15.57		231.07
C ₆	14.842		18.43		689.69
C ₇₊	37.422				1174.15 ÷ 42 = 27.96

Volume of flash gas = $\left(379 \frac{\text{SCF}}{\text{mole}} \right) (27.86 \text{ moles}) = 10,559 \text{ SCF}$

$\frac{10,559 \text{ SCF}}{27.96 \text{ bbl}} = 378 \frac{\text{SCF}}{\text{bbl Stock Tank liquid}}$

EXHIBIT
"D"

FEED

10.10000
4.24000
7.12000
2.47000
9.12000
5.15000
8.32000
15.65000
37.83000
0.00000
0.00000
0.00000
100.00000

Federal
B#1

K
165.000000
28.000000
7.200000
2.780000
1.870000
0.695000
0.520000
0.141000
0.028200
1.000000
1.000000
1.000000

60°F
13.2 psia

LIO

0.15603
0.35886
1.88309
1.19106
5.29526
4.06009
6.92842
14.84170
37.42238
0.00000
0.00000
0.00000
72.13688

Stock
Tank
Liquid

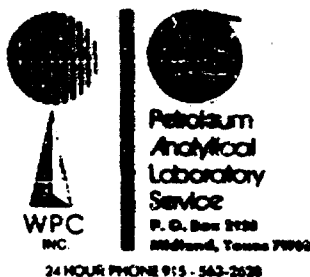
GAS

9.94397
3.88114
5.23691
1.27894
3.82474
1.08991
1.39158
0.80830
0.40762
0.00000
0.00000
0.00000
27.86312

Flashed
Vapors

EXHIBIT
"E"

Air Monitoring
Complete Gas Service
Consulting Chemists
Corrosion Fatigue Testing
Pollution Control
Water Analysis



NO.
RUN No.
DATE OF RUN
DATE SECURED 12/7/78

A SAMPLE OF FEDERAL #1 CONDENSATE FROM SEPARATOR BEFORE WEATHERING
SECURED FROM H.L. BROWN
AT MIDLAND, TEXAS SECURED BY PAIS JOE DAWSON
SAMPLING CONDITIONS PRESS. TEMP. TIME DATE

FRACTIONAL ANALYSIS @ 14.696 & 60 DEG. F.

	MOL %	WT. %	LIQ %	CALC. SP. GR.	0.6281	PROPANE CALC.	G.P.M.
CARBON DIOXIDE	0.00	0.00	0.00	CALC. A.P.I.		BUTANES CALC.	G.P.M.
AIR				CALC. MOL. WT.	73.843	PENTANES PLUS	G.P.M.
NITROGEN				Calc. Vapor Press.	562.70	ETHANE CALC.	G.P.M.
OXYGEN				SF. GR. Σ	0.6882	TOTAL	G.P.M.
H ₂ S				MOL. WT. Σ	+100.205		
METHANE	10.10	2.19	4.58	VAP. PRESS. Σ	+1.620	B.T.U./CU. FT.	
ETHANE	4.24	1.73	3.03	GAL/# MO Σ	+17.864	DRY BASIS	
PROPANE	7.12	4.25	5.26	CF/GAL Σ	+21.729	WET BASIS	
ISO-BUTANE	2.47	1.94	2.17	LB/GAL Σ	+5.738	26# PRODUCT	
N-BUTANE	9.12	7.17	7.71	26.0 R.V.P. Gasoline		12# PRODUCT	
ISO-PENTANE	5.15	5.03	5.06	EXCESS C ₂		% BUTANES INCLUDED	
N-PENTANE	8.32	8.13	8.09	EXCESS C ₃			
HEXANES	15.65	18.26	17.28	EXCESS C ₄ 's		Sulfur Analysis (Gr./100 Cu.Ft.)	
HEPTANES	37.83	51.30	46.82	EXCESS C ₃		HYDROGEN SULFIDE	
				EXCESS C ₂		MERCAPTANS	
				EXCESS C ₂		SULFIDES	
				12.0 R.V.P. Gasoline		RESIDUAL SULFUR	
				EXCESS C ₄ 's		Moisture Content, #/MM Cu. Ft.	
				EXCESS C ₃			
				EXCESS C ₂			

TOTAL 100.00 100.00 100.00

RUN BY BARNETT CHECKED BY DAWSON APPROVED BY James L. Barnett

ADDITIONAL DATA AND REMARKS

COPIES TO: _____

EXHIBIT
"F"

Air Monitoring
Complete Gas Service
Consulting Chemists
Corrosion Fatigue Testing
Pollution Control
Water Analysis



Petroleum
Analytical
Laboratory
Service
P. O. Box 2700
Midland, Texas 79700
24 HOUR PHONE 915 - 543-2628

NO. 12259
RUN No.
DATE OF RUN
DATE RECEIVED

A SAMPLE OF FEDERAL B #1 CONDENSATE FROM TANK
SECURED FROM H.L. BROWN
AT MIDLAND, TEXAS SECURED BY PALS JOE DAWSON
SAMPLING CONDITIONS PRESS TEMP TIME DATE

FRACTIONAL ANALYSIS
@ 14.696 & 40 DEG. F.

	MOL %	WT. %	LIQ %	CALC. SP. GR.	0.6631	PROPANE CALC.	G.P.M.
CARBON DIOXIDE	0.00	0.00	0.00	CALC. A.P.I.	87.009	BUTANES CALC.	G.P.M.
AIR				CALC. MOL. WT.	17.13	PENTANES PLUS	G.P.M.
NITROGEN				Calc. Vapor Press.	0.6842	ETHANE CALC.	G.P.M.
OXYGEN				SP. GR. ⁷ C +	100.205	TOTAL	G.P.M.
CS				MOL. WT. ⁷ C +	1.620	B.T.U./CU. FT.	
ETHANE	0.00	0.00	0.00	VAP. PRESS. ⁷ C +	17.464	DRY BASIS	
THANE	0.33	0.12	0.21	GAL/# MOL. C +	21.729	WET BASIS	
PROPANE	2.32	1.14	1.54	LB/GAL ⁷ +	5.738	20# PRODUCT	
ISO-BUTANE	1.70	1.13	1.34	26.0 R.V.P. Gasoline		12# PRODUCT	
N-BUTANE	7.76	5.18	5.88	EXCESS C4's		% BUTANES INCLUDED	
ISO-PENTANE	6.22	5.16	5.47	EXCESS C3		Sulfur Analysis (Gr./100 Cu.Ft.)	
N-PENTANE	10.68	8.85	9.30	EXCESS C2		HYDROGEN SULFIDE	
HEXANES	20.95	20.75	20.73	14.0 R.V.P. Gasoline		MERCAPTANS	
HEPTANES	50.04	57.63	55.53	EXCESS C4's		SULFIDES	
				EXCESS C3		RESIDUAL SULFUR	
				EXCESS C2		Moisture Content, #/MMA Cu. Ft.	
				12.0 R.V.P. Gasoline			
				EXCESS C4's			
				EXCESS C3			
				EXCESS C2			
TOTAL	100.00	100.00	100.00				

RUN BY BARNETT CHECKED BY DAWSON APPROVED BY J. R. Dawson

ADDITIONAL DATA AND REMARKS

COPIES TO

EXHIBIT
"G"

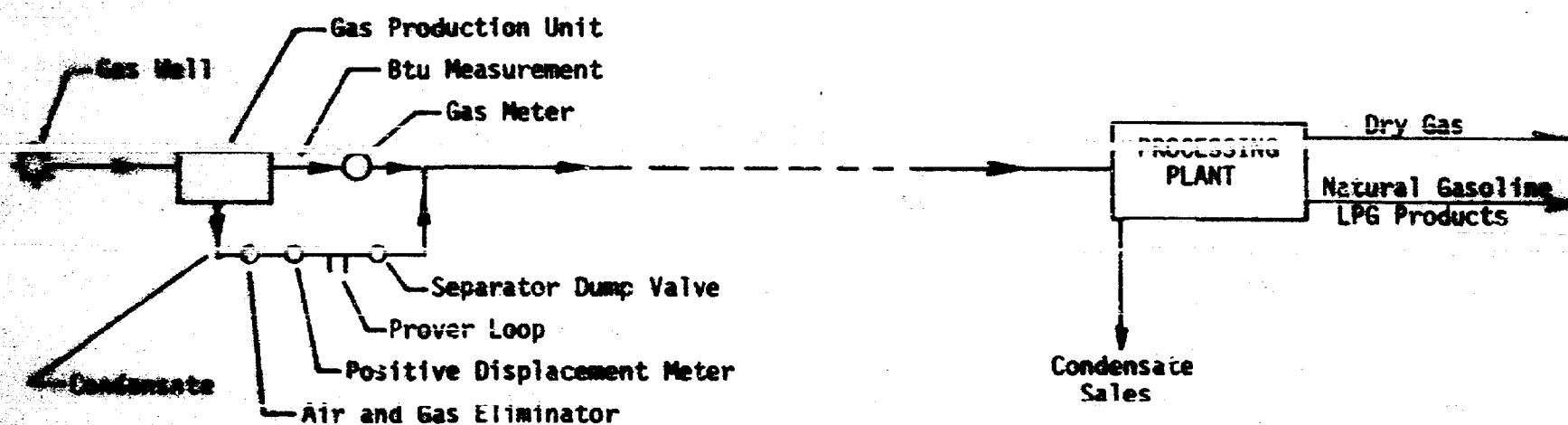
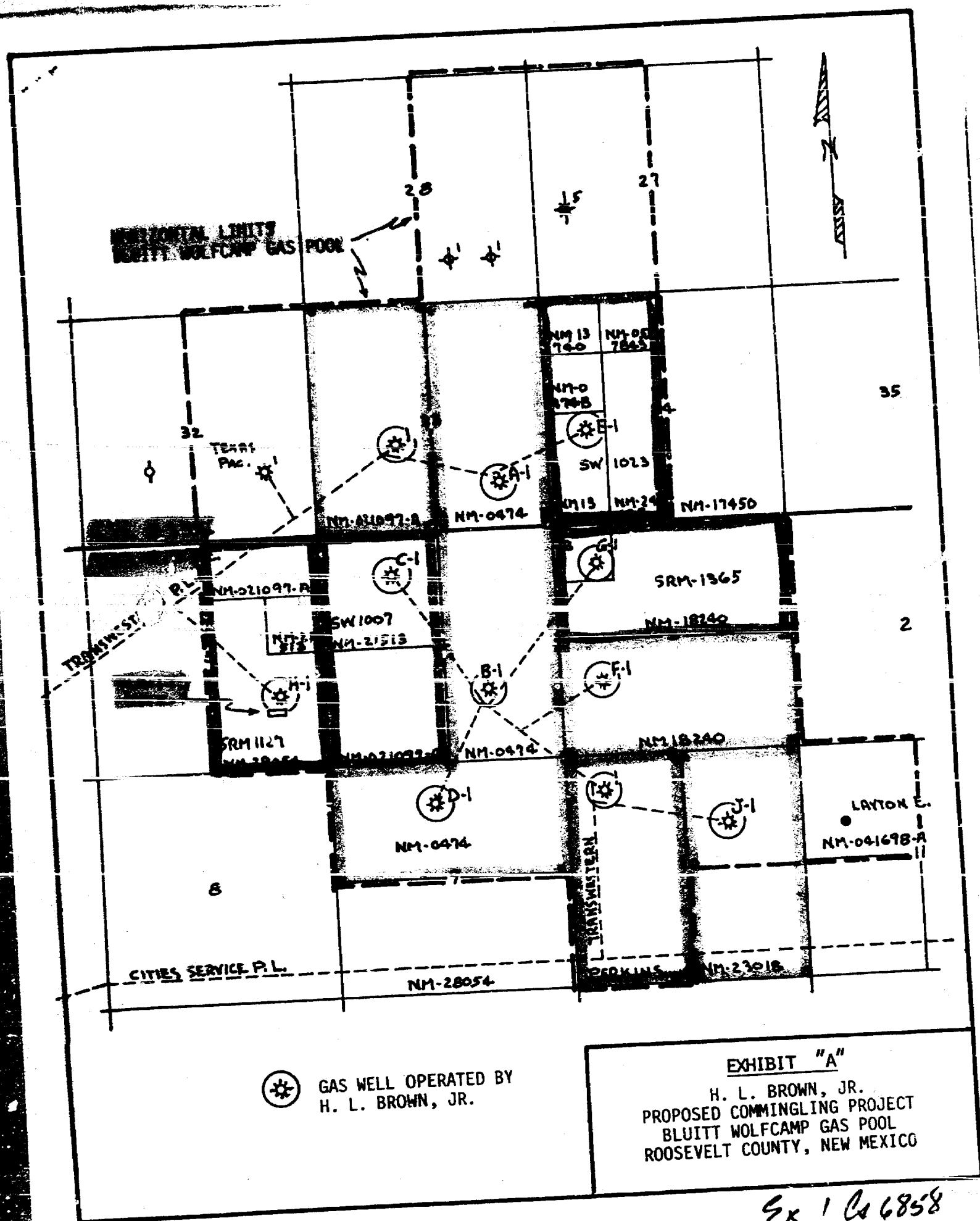


EXHIBIT "H"
 FLOW DIAGRAM FOR TYPICAL WELL
 PROPOSED COMINGLING PROJECT
 BLUITT WOLFCAMP GAS POOL
 ROOSEVELT COUNTY, NEW MEXICO



Ex 1 Ca 6858

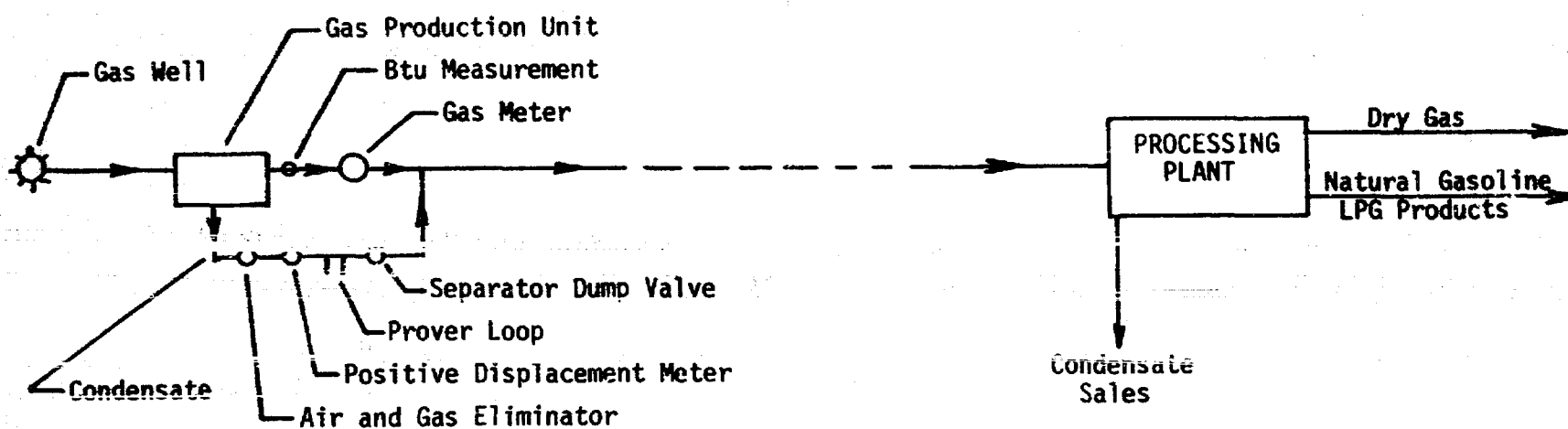


EXHIBIT "C"

H. L. BROWN, JR.
 PROPOSED CUMPLING PROJECT
 BLUITT WOLFCAMP GAS POOL
 ROOSEVELT COUNTY, NEW MEXICO

WELL DATA BLUITT WOLFCAMP GAS POOL

Well Name and Number	Well Location	Well Compl. Date	Lease No.	Com. Agr. No.	Royalty Rate	Average Monthly Production			Calculated Gas Vapor Per Bbl. of Stock Tank Liquid-MCF		Caic. Vapor Loss per Month - MCF
						Oil-Bbl.	Gas-MCF	Wtr.-Bbl.	"X"	"Y"	
N. 1 FEDERAL	K-33-7-37	10-7-57	NH0210924	-	12 1/2	107	6668	TR	0.519	0.397	62.5
N. 1 FEDERAL "A"	P-33-7-37	6-7-61	NH0474	-	12 1/2	103	5470	TR	0.706	1.015	104.5
N. 1 FEDERAL "B"	J-4-8-37	8-15-75	NH0974	-	12 1/2	150	9148	30	0.328	0.326	48.7
N. 1 FEDERAL "C"	C-4-8-37	7-31-75	NH21513	SW-1007	12 1/2	548	30108	30	0.505	0.610	338.3
N. 1 FEDERAL "D"	G-9-8-37	7-12-75	NH0974	-	12 1/2	293	14765	31	0.423	0.399	73.6
N. 1 FEDERAL "E"	L-34-7-37	11-21-75	NH1374	SW-1023	"B"	184	9125	31	0.457	0.615	113.2
N. 1 FEDERAL "F"	L-3-8-37	12-18-75	NH18240-A	-	12 1/2	76	4973	15	0.526	0.568	43.2
N. 1 FEDERAL "G"	D-3-8-37	9-21-79	NH23018	SRM-1345	"B"	360	30100	TR	-	-	-
N. 1 FEDERAL "H"	I-5-8-37	2-21-77	NH28054	SRM-1127	"B"	204	17394	15	0.694	0.623	128.9
N. 1 FEDERAL "J"	G-10-8-37	11-27-79	NH23018	-	"B"	900	37,500	TR	-	-	-
N. 1 PERKINS	D-10-8-37	12-2-74	FEE	-	12 1/2	203	11575	TR	0.321	0.609	123.6
										TOTAL	1032.1

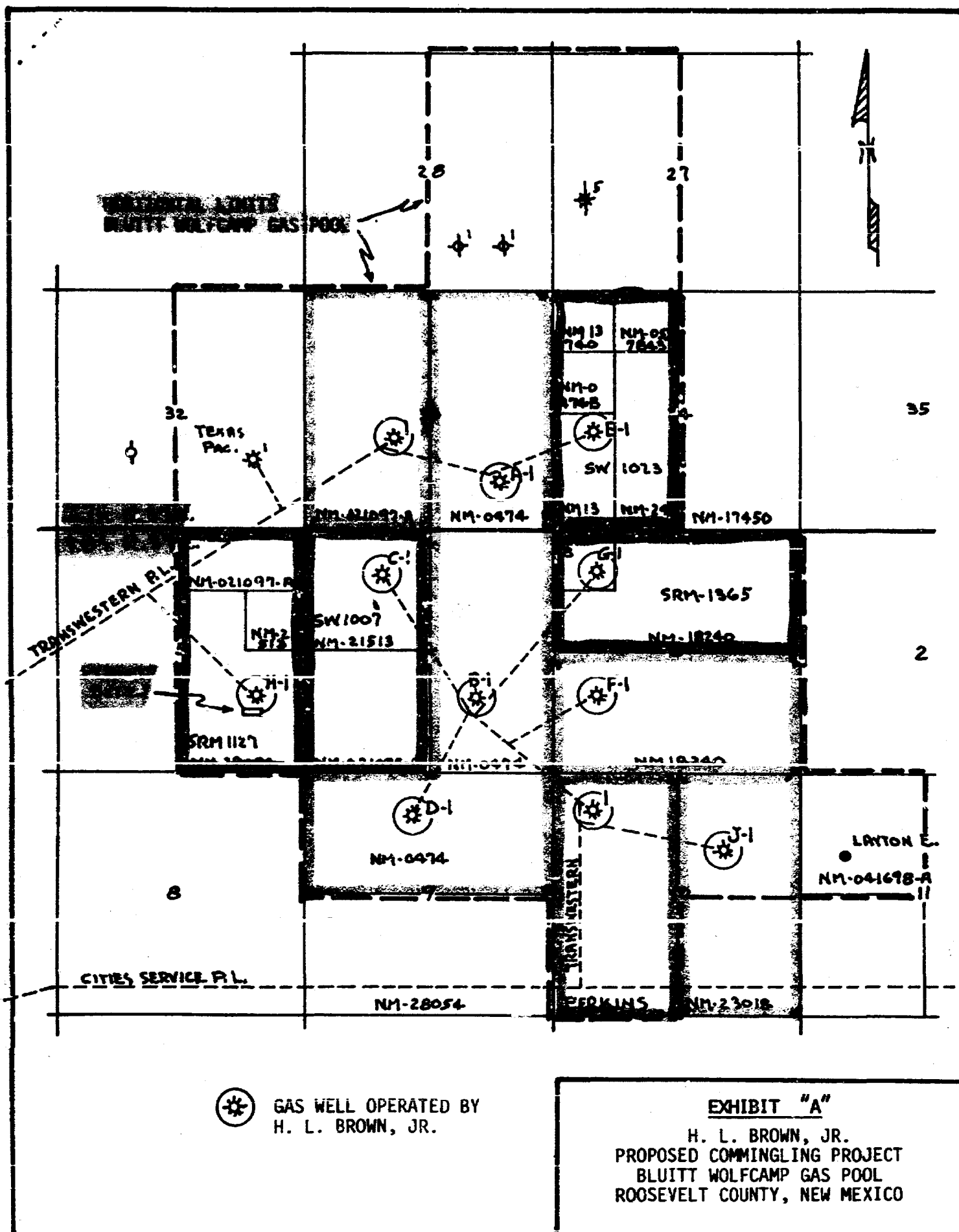
"X" = Calculated flash gas per barrel of stock tank liquid based on chromatograph data from sample of separator product.

"Y" = Calculated flash gas per barrel of stock tank liquid based on chromatograph data from samples of both separator and stock tank products.

EXHIBIT "B"

H. L. BROWN, JR.
PROPOSED COMMINGLING PROJECT
BLUITT WOLFCAMP GAS POOL
ROOSEVELT COUNTY, NEW MEXICO





Ex 1 C 6858

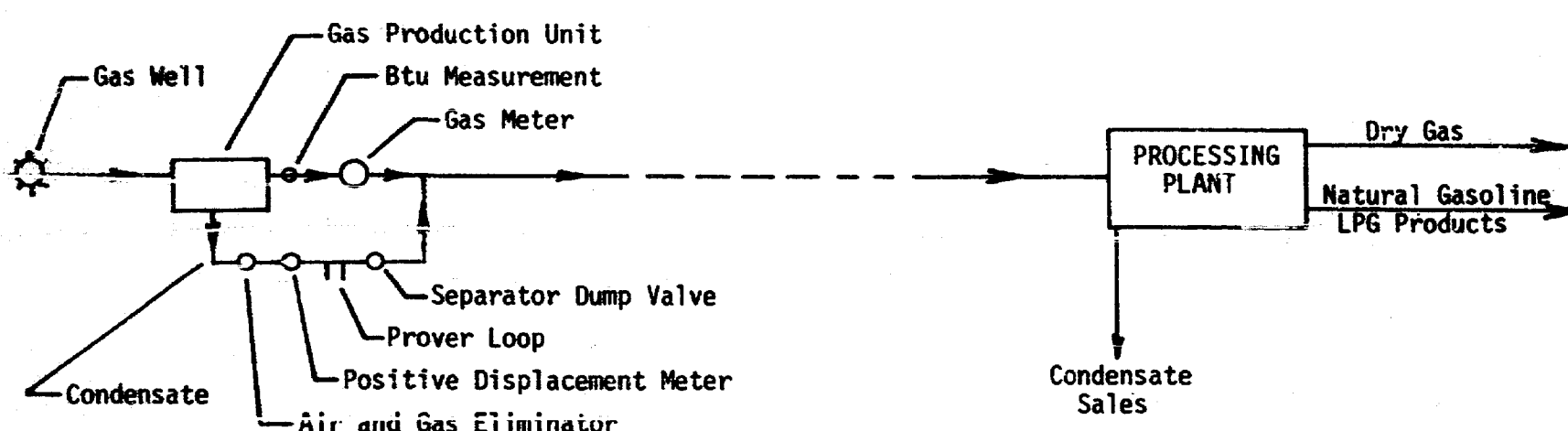


EXHIBIT "C"

H. L. BROWN, JR.
 PROPOSED COMINGLING PROJECT
 BLUITT WOLFCAMP GAS POOL
 ROOSEVELT COUNTY, NEW MEXICO

WELL DATA BLUITT WOLFCAMP GAS POOL

Well Name and Number	Well Location	Well Compl. Date	Lease No.	Com. Agr. No.	Royalty Rate	Average Monthly Production			Calculated Gas Vapor Per Bbl. of Stock Tank Liquid-MCF		Calc. Vapor Loss per Month - MCF
						Oil-Bbl.	Gas-MCF	Wtr.-Bbl.	"X"	"Y"	
N. FEDERAL	K-33-7-37	10-7-59	NH021097A	-	12 1/2	107	6668	TR	0.519	0.391	42.5
N. FEDERAL "A"	P-33-7-37	6-7-61	NH0474	-	12 1/2	103	5470	TR	0.706	1.015	104.5
N. FEDERAL "B"	J-4-8-37	8-15-75	NH0474	-	12 1/2	100	9142	30	0.372	0.326	42.9
N. FEDERAL "C"	C-4-8-37	7-31-75	NH21513	SW-1007	12 1/2	548	30108	30	0.505	0.610	338.3
N. FEDERAL "D"	C-9-8-37	9-12-75	NH0474	-	12 1/2	233	14765	31	0.423	0.399	93.0
N. FEDERAL "E"	L-34-7-37	11-21-75	NH13740	SW-1023	"B"	184	9125	31	0.457	0.615	113.2
N. FEDERAL "F"	L-3-8-37	12-18-75	NH18240A	-	12 1/2	76	4973	15	0.526	0.568	43.2
N. FEDERAL "G"	D-3-8-37	9-21-79	NH23018	SRM-1365	"B"	360	30100	TR	-	-	-
N. FEDERAL "H"	I-5-8-37	2-21-77	NH28054	SRM-1127	"B"	204	17394	15	0.699	0.623	122.9
N. FEDERAL "J"	G-10-8-37	11-24-79	NH23018	-	"B"	900	37,500	TR	-	-	-
PERKINS	D-10-8-37	12-6-76	FEE	-	12 1/2	203	11575	TR	0.321	0.609	123.6
										TOTAL	1052.1

"X" = Calculated flash gas per barrel of stock tank liquid based on chromatograph data from sample of separator product.

"Y" = Calculated flash gas per barrel of stock tank liquid based on chromatograph data from samples of both separator and stock tank products.

EXHIBIT "B"

H. L. BROWN, JR.
PROPOSED COMMINGLING PROJECT
BLUITT WOLFCAMP GAS POOL
ROOSEVELT COUNTY, NEW MEXICO



Docket No. 9-80

Dockets Nos. 12-80 and 13-80 are tentatively set for April 23 and May 7, 1980. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 9, 1980

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

The following cases will be heard before Daniel S. Mutter, Examiner, or Richard L. Stamets, Alternate Examiner:

- CASE 6850:** In the matter of the hearing called by the Oil Conservation Division on its own motion to permit Jack F. Grimm, N. B. Hunt, George R. Brown, Am-Arctic, Ltd., The Travelers Indemnity Company, and all other interested parties to appear and show cause why the Mobil 32 Well No. 1 located in Unit D of Section 32, Township 25 South, Range 1 East, Dona Ana County, should not be plugged and abandoned in accordance with a Division-approved plugging program.
- CASE 6851:** In the matter of the hearing called by the Oil Conservation Division on its own motion to consider amendments to its SPECIAL RULES FOR APPLICATIONS FOR WELLHEAD PRICE CEILING CATEGORY DETERMINATIONS as promulgated by Division Order No. R-5878 and amended by R-5878-A. The proposed amendments would make said SPECIAL RULES conform to FERC Order No. 65 which promulgated final regulations implementing filing requirements of the Natural Gas Policy Act of 1978.
- CASE 6852:** In the matter of the hearing called by the Oil Conservation Division on its own motion to consider special rules and procedures for the designation of "tight formations" or "tight sands" as outlined in the FERC interim rules and regulations issued February 20, 1980, relating to Section 107(b) of the Natural Gas Policy Act of 1978.
- CASE 6853:** Application of Caribou Four Corners, Inc. for compulsory pooling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Cha Cha-Gallup Pool underlying the N/2 NE/4 of Section 18, Township 29 North, Range 14 West, 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 well 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 well and a charge for risk involved in drilling said well.
- CASE 6854:** Application of Jack A. Cole for an unorthodox gas well location, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of his Apache Hills Well No. 6, 1326 feet from the North line and 1843 feet from the West line of Section 17, Township 21 North, Range 3 West, Ballard-Pictured Cliffs Pool, the NW/4 of said Section 17 to be dedicated to the well.
- CASE 6841:** (Continued from March 26, 1980, Examiner Hearing)
- Application of CIG Exploration, Inc. for two non-standard gas proration units, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval of two non-standard gas proration units in Township 16 South, Range 28 East, the first being 219.6 acres comprising Lots 1 thru 8 of Section 1 and the second being 219.92 acres comprising Lots 1 thru 8 of Section 2, for the Wolfcamp, Pennsylvanian, and Mississippian formations, each unit to be dedicated to a well to be drilled at a standard location thereon.
- CASE 6855:** Application of Dome Petroleum Corporation for an unorthodox well location, McKinley County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Santa Fe 3 Well No. 1 to be drilled 1220 feet from the North line and 900 feet from the West line of Section 3, Township 21 North, Range 10 West.
- CASE 6856:** Application of Texaco Inc. for downhole commingling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Blinbry, Tubb-Drinkard, and Fusselman production in the wellbore of its C. C. Fristoe "B" Federal NCT-2 Well No. 6 located in Unit B of Section 34, Township 24 South, Range 37 East, Justis Field.
- CASE 6857:** Application of Holly Energy, Inc. for an unorthodox gas well location, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its State 14 Well No. 1, a Morrow test to be drilled 660 feet from the South line and 990 feet from the East line of Section 14, Township 18 South, Range 28 East, the S/2 of said Section 14 to be dedicated to the well.

CASE 6843: (Continued from March 26, 1980, Examiner Hearing)

Application of Yates Petroleum Corporation for two compulsory poolings, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Yeso formation underlying two 40-acre proration units, the first being the SE/4 SE/4 and the second being the SW/4 SE/4 of Section 6, Township 19 South, Range 25 East, Penasco Draw Field, each unit 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 6858:

Application of H. L. Brown, Jr. for gas well commingling, Roosevelt County, New Mexico. Applicant, in the above-styled cause, seeks authority to commingle Bluit-Wolfcamp gas and condensate production from ten federal wells located as follows: Units K and P of Section 33 and L of 34, Township 7 South, Range 37 East; Units D and L of Section 3, C and J of 4, I of 5, C of 9 and G of 10; and one fee well in D of 10, all in Township 8 South, Range 37 East. Applicant would separate and meter the gas and condensate production from each well, then recombine the well's stream and commingle all wells into a small gasoline plant. Allocation of gas and condensate to each well would be on the basis of wellhead meter readings and allocation of gasoline plant production would be on the basis of gas production and BTU content at each well.

CASE 6859:

Application of R & G Drilling Company for an unorthodox gas well location, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of a well to be drilled 1850 feet from the North line and 1830 feet from the East line of Section 28, Township 28 North, Range 11 West, Kutz-Fruitland Pool, the NE/4 of said Section 28 to be dedicated to the well.

CASE 6860:

Application of Flag-Redfern Oil Company for an exception to Order No. R-3221, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks an exception to Order No. R-3221 to permit disposal of produced brine into an unlined surface pit located in Unit P of Section 3, Township 19 South, Range 31 East.

CASE 6861:

Application of Zia Energy, Inc. for pool creation, special pool rules, and an NGPA determination, Lea County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new San Andres oil pool for its State "C" Well No. 1 located in Unit F of Section 17, Township 22 South, Range 37 East, and special rules therefor, including a provision for a limiting gas-oil ratio of 10,000 to 1. Applicant further seeks a new onshore reservoir determination for said State "C" Well No. 1.

CASE 6837: (Continued from March 26, 1980, Examiner Hearing)

Application of Curtis Little for compulsory pooling, Rio Arriba County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Dakota formation underlying the W/2 of Section 7, Township 25 North, Range 3 West, 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 well 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 well and a charge for risk involved in drilling said well.

CASE 6862:

Application of ARCO Oil and Gas Company for an unorthodox oil well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its State 157 "D" Well No. 11 drilled 2123 feet from the South line and 1644 feet from the East line of Section 12, Township 22 South, Range 36 East, Brinkard Pool, the NW/4 SE/4 of said Section 12 to be dedicated to the well.

CASE 6863:

Application of Bass Enterprises Production Co. for a dual completion, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the dual completion (conventional) of its Big Eddy Unit Well No. 72 located in Unit R of Section 3, Township 21 South, Range 28 East, to produce undersaturated Atoka and Morrow gas thru parallel strings of tubing.

CASE 6864:

Application of Grace Petroleum Corporation for an unorthodox gas well location, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Smith Ranch Well No. 11, to be drilled 1980 feet from the North line and 660 feet from the West line of Section 11, Township 20 South, Range 33 East, Teas-Penn Gas Pool, the W/2 of said Section 11 to be dedicated to the well.

CASE 6846: (Amended)

In the matter of Case No. 6846 being amended to reflect that the location for the unorthodox location of the well on the second unit is 330 feet from the North line and 2310 feet from the East line of Section 13, Township 21 South, Range 36 East, Lea County.

CASE 6846: (Continued from March 26, 1980, Examiner Hearing)

Application of Doyle Martman for two compulsory poolings, two non-standard gas proration units, and two unorthodox well locations, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Eumont Gas Pool underlying two 80-acre non-standard gas proration units, the first being the S/2 NE/4 of Section 13, Township 21 South, Range 36 East, to be dedicated to a well to be drilled at an unorthodox location 1650 feet from the North line and 2310 feet from the East line of said Section 13, and the second being the N/2 NE/4 of said Section 13 to be dedicated to a well to be drilled at an unorthodox location 330 feet from the North line and 2310 feet from the East line of said Section 13. 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 6663: Application of Getty Oil Company to reopen Case No. 6606, Lea County, New Mexico. Applicant, in the above-styled cause, seeks to reopen Case No. 6608 for consideration of the establishment of maximum efficient rates of withdrawal from the Grama Ridge-Wolfcamp Gas Pool.

Docket No. 10-80

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 16, 1980

8:45 A.M. - OIL CONSERVATION DIVISION CONFERENCE ROOM,
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

The following cases will be heard before Richard L. Stamets, Examiner, or Daniel S. Nutter, Alternate Examiner:

- ATTENDANCE:**
- (1) Consideration of the allowable production of gas for May, 1980, from fifteen prorated pools in Lea, Eddy, and Chaves Counties, New Mexico.
 - (2) Consideration of the allowable production of gas for May, 1980, from four prorated pools in San Juan, Rio Arriba, and Sandoval Counties, New Mexico.

Docket No. 11-80

DOCKET: COMMISSION HEARING - WEDNESDAY - APRIL 16, 1980

OIL CONSERVATION COMMISSION - 9 A.M. - ROOM 205
STATE LAND OFFICE BUILDING, SANTA FE, NEW MEXICO

CASE 6699: (DE NOVO) (Continued from March 11, 1980, Commission Hearing)

Application of Napeco Inc. for pool creation and special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the creation of a new Strawn oil pool for its Benson Deep Unit Well No. 1 located in Unit O of Section 33, Township 18 South, Range 30 East, and special rules therefor, including 160-acre spacing and standard well locations.

Upon application of Yates Petroleum Corporation and Napeco Inc. this case will be heard De Novo pursuant to the provisions of Rule 1220. Applicants allege this is not an "oil" pool but is a "volatile" oil pool.

H. L. BROWN, JR.
323 WEST MISSOURI
POST OFFICE BOX 2237
MIDLAND, TEXAS 79702
915 683-5216

March 4, 1980

New Mexico Oil Conservation Division
P. O. Box 2088
Santa Fe, New Mexico 87501
Attn: Mr. Joe D. Ramey

Case 6858

Gentlemen:

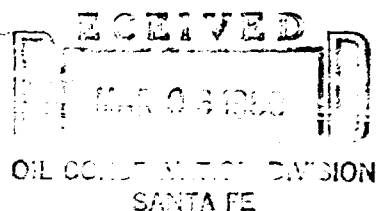
H. L. Brown, Jr. respectfully requests administrative approval to commingle production from ten Federal wells and one fee well on the following described leases in the Bluitt Wolfcamp Gas Pool, Roosevelt County, New Mexico.

LEASE	LOCATION	WELL
NM-0474	Sec. 33, T.7 S., R.37 E.	No. 1 Federal "A"
"	Sec. 4, T.8 S., R.37 E.	No. 1 Federal "B"
"	Sec. 9, T.8 S., R.37 E.	No. 1 Federal "D"
NM-021097-A	Sec. 33, T.7 S., R.37 E.	No. 1 Federal
NM-13740	Sec. 34, T.7 S., R.37 E.	No. 1 Federal "E"
NM-18240-A	Sec. 3, T.8 S., R.37 E.	No. 1 Federal "F"
NM-21513	Sec. 4, T.8 S., R.37 E.	No. 1 Federal "C"
NM-23018	Sec. 3, T.8 S., R.37 E.	No. 1 Federal "G"
"	Sec. 10, T.8 S., R.37 E.	No. 1 Federal "J"
NM-28054	Sec. 5, T.8 S., R.37 E.	No. 1 Federal "H"
W. L. Perkins	Sec. 10, T.8 S., R.37 E.	No. 1 W. L. Perkins

The reasons for this request, and supporting data, are attached.

All interest owners and the purchaser of such commingled production will be notified of the intent to commingle production from the above leases.

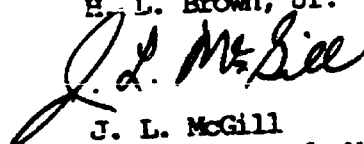
The royalty owners under the fee lease are being notified of the proposed commingling of production from the separate leases and a written consent is requested.



Royalty should not be reduced by the proposed commingling, but should be increased as a result of the conservation of stock tank vapors and the sale of additional liquid products.

Very truly yours,

H. L. Brown, Jr.



J. L. McGill
Drlg. and Prod. Mgr.

JLM:jw

enclosures

APPLICATION

FOR

LEASE COMMINGLING

BLUITT WOLFCAMP GAS POOL

ROOSEVELT COUNTY, NEW MEXICO

PROPOSED BY

H. L. BROWN, JR.

P. O. BOX 2237
Midland, Texas 79702

H. L. BROWN, JR.

COMMINGLING PROPOSAL

PROPOSAL:

To commingle production from ten Federal wells and one fee well operated by H. L. Brown, Jr. in the Bluit Wolfcamp Gas Pool, Roosevelt County, New Mexico.

REASONS FOR PROPOSAL:

1. To permit collection and conservation of stock tank vapors not economically feasible on an individual well basis.
2. To permit construction of a gas plant to process production from these wells. Condensate would be separated at the plant and stabilized by pressure reduction. Wet gas would be stripped of gasoline and LPG products. The dry gas would be sold to Transwestern Pipeline Company, the present purchaser of wet gas at the well head.
3. To reduce losses from weathering of stock tank liquids. Fluid production is small at each well and tank storage time is correspondingly great.

PRESENT OPERATIONS:

The eleven gas wells operated by H. L. Brown, Jr. in the Bluit Wolfcamp Gas Pool are listed on Exhibit "A", together with individual well data. These wells are also shown on Exhibit "B".

Gas is presently sold to Transwestern Pipeline Company based on volumes metered at the well head with Btu adjustment. Transwestern's gathering lines are shown on Exhibit "B". Condensate is separated and stored in tanks at each well and sold to Permian Corporation.

Average monthly production data is shown on Exhibit "A" for nine wells based on production figures for July, August and September 1979. Production data is not shown for the two Federal wells most recently completed. Production history is not available for them but their producing rates are expected to be in the range of other pool wells.

Average production for the nine wells during the three-month period is as follows:

109,225 MCF gas and 1810 bbls. condensate per month
or, 396 MCF gas and 6.6 bbls. condensate per well per day

Well No. 1 Federal "C" has the highest production rate of all wells involved, and averaged 982 MCF of gas and 18 barrels of condensate per day.

Average production from the fee well was 377 MCF of gas and 6.6 barrels of condensate per day.

All wells make a small amount of water, varying from a trace to about one barrel per day.

Inasmuch as the gravity of condensate from this pool ranges between 65 and 70 degrees, the stock tank vapor loss is considerable. This loss results both from liberation of flash gas when dumping into the storage tanks and to extensive weathering in the tanks because of the low condensate production rate.

To arrive at an approximation of the amount of vapor loss, two different estimates were made for each well. One estimate is the result of calculating flash gas using gas chromatograph data from the separator product at separator conditions. These values are shown in the "X" column of Exhibit "A". The other estimate involved the use of gas chromatograph data from samples of both the separator and storage tank products, and these values are shown in the "Y" column of Exhibit "A". Both methods of estimating indicate appreciable losses. The reason some of the "Y" values are higher than the "X" values may be attributed to weathering. The calculated vapor loss per month for each well, as shown on Exhibit "A", was obtained by multiplying the "Y" column by the average condensate production. The methods used for estimating vapor losses indicate the total vapor loss for the nine wells may be as much as 1000 MCF of gas per month. Sample data and the method used in estimating flash gas for a typical well are shown in Exhibits "C", "D", "E", "F" and "G".

Oil and gas leases involved are shown on Exhibits "A" and "B". Exhibit "A" shows the lease the well is on and lists seven Federal leases and one fee lease. Four of the wells are on communitized tracts, and the additional leases involved by communitization are shown on Exhibit "B".

All of the Federal leases involved have royalty rates that are

either 12-1/2 percent or Schedule "B". Since the producing rate for each one of the Federal wells is well below the "break-point" for the Schedule "B" royalty rate, the actual effective royalty rate for all of the Federal wells is the same, i.e., 12-1/2 percent. The royalty rate for the fee lease is also 12-1/2 percent.

PROPOSED METHOD OF COMINGLING

The existing gas sales lines from each well will be modified as necessary to convert them to a common gathering system with one sales point at the central battery and plant site near well No. 1 Federal "H" in the NE 1/4 SE 1/4 sec. 5, T.8 S., R.37 E. A plant will be constructed at this site to process the commingled gas stream for natural gasoline and LPG products, and deliver the dry gas to Transwestern.

The method of comingling production from a typical well is shown in Exhibit "H". Both gas production and liquid production from each well will be measured and then recombined into the common gathering system for delivery to the plant. A second separation of condensate from the gas stream will be made at the plant and the condensate stabilized by pressure reduction.

Measuring equipment at the fee well will include, in addition to the gas meter and positive displacement meter, a three-phase separator to remove any free water from the liquid stream prior to measurement, a proportional flow sampling device with the sampling point located upstream of the meter, and a sample container. This additional equipment will assure accurate measurement of production.

Water produced by the Federal wells will be collected and measured at the plant and volumes allocated to each Federal well on the basis of well tests. These water volumes will be deducted from the metered volumes so all liquid meter measurements will be equitable.

PROPOSED METHOD OF ALLOCATION:

Condensate recovered at the plant will be allocated to individual wells on the basis of volumes of condensate produced at each well as measured by positive displacement meter.

Dry gas will be allocated on the basis of gas production from each well as measured by gas meter at the well head.

Gasoline and LPG products will be allocated on the basis of gas production and Btu content as measured at each well.

H. L. BROWN, JR.

WELL DATA BLUITT WOLF CAMP GAS POOL

Well Name and Number	Well Location	Well Compl. Date	Lease No.	Com. Agr. No.	Royalty Rate	Average Monthly Production			Calculated Gas Vapor Per Bbl. of Stock Tank Liquid-MCF		Calc. Vapor Loss per Month - MCF
						Oil-Bbl.	Gas-MCF	Wtr.-Bbl.	"X"	"Y"	
No. 1 FEDERAL	K-33-7-37	10-7-59	NM 021072-A	-	12%	107	6668	TR	0.519	0.397	42.5
No. 1 FEDERAL "A"	P-33-7-37	6-7-61	NM 0474	-	12%	103	5470	TR	0.706	1.015	104.5
No. 1 FEDERAL "B"	J-4-8-37	8-15-75	NM 0474	-	12%	150	9148	30	0.378	0.326	48.9
No. 1 FEDERAL "C"	C-4-8-37	7-31-75	NM 21513	SW-1007	12%	548	30108	30	0.505	0.610	334.3
No. 1 FEDERAL "D"	C-9-8-37	9-12-75	NM 0474	-	12%	233	14765	31	0.423	0.399	93.0
No. 1 FEDERAL "E"	L-34-7-37	11-21-75	NM 13740	SW-1023	"B"	184	9125	31	0.457	0.615	113.2
No. 1 FEDERAL "F"	L-3-8-37	12-18-75	NM 18240-A	-	12%	76	4973	15	0.526	0.568	43.2
No. 1 FEDERAL "G"	D-3-8-37	9-21-79	NM 23018	SRM-1365	"B"						
No. 1 FEDERAL "H"	L-3-8-37	2-21-77	NM 20057	SW-1127	"B"	204	17314	15	0.699	0.623	128.9
No. 1 FEDERAL "J"	G-10-8-37	11-24-79	NM 23018	-	"B"						
No. 1 PERKINS	D-10-8-37	12-6-74	FEE	-		203	11575	TR	0.321	0.609	123.6
										TOTAL	1032.1

Calculated flash gas per barrel of stock tank liquid based on chromatograph data from sample of separator product.

Calculated flash gas per barrel of stock tank liquid based on chromatograph data from samples of both separator and stock tank products.

EXHIBIT "A"

WELL DATA
PROPOSED COMMINGLING PROJECT
BLUITT WOLF CAMP GAS POOL
ROOSEVELT COUNTY, NEW MEXICO

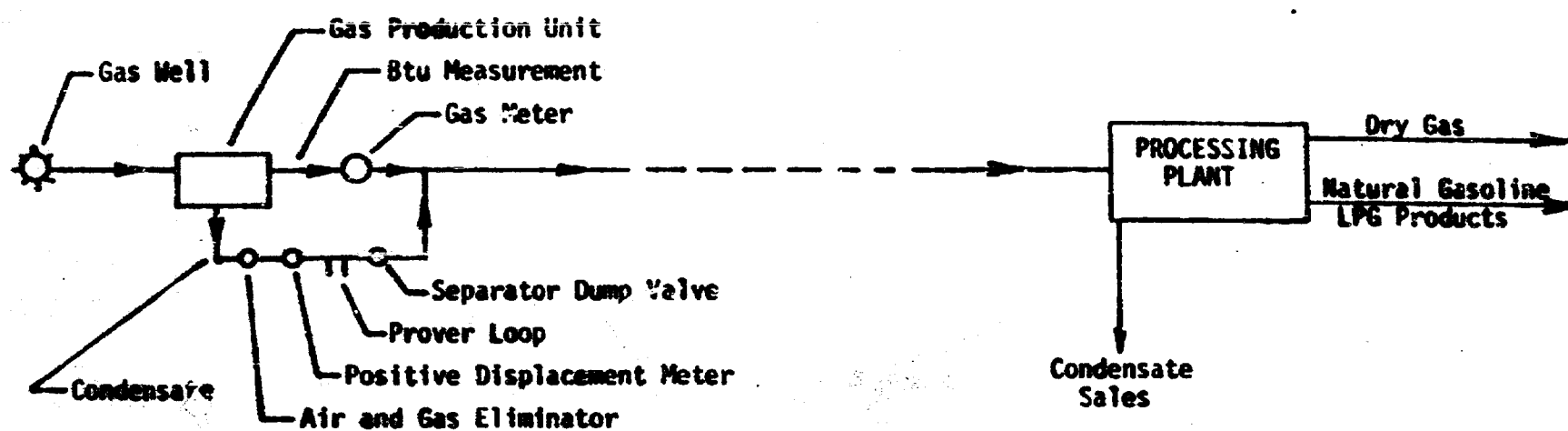


EXHIBIT "H"
 FLOW DIAGRAM FOR TYPICAL WELL
 PROPOSED COMINGLING PROJECT
 BLUITT WOLFCAMP GAS POOL
 ROOSEVELT COUNTY, NEW MEXICO

WPC, INC.

Subject Federal B#1

Page no. _____

By _____ Date _____

Component	mol% Separator	mol% Tank	Letting the total mol% separator product take on a 100 mole feed basis, and assuming no C ₇ losses, we used a tie component to express tank values in moles liquid / 100 moles feed
C ₁	10.10	0.00	
C ₂	4.24	0.33	
C ₃	7.12	2.32	
IC ₄	2.47	1.70	
NC ₄	9.12	7.26	
IC ₅	5.15	6.22	$37.83 \text{ moles} = \frac{75.60 \text{ moles liquid}}{100 \text{ moles feed}}$
NC ₅	8.32	10.68	
C ₆	15.65	20.95	50.04 mol\%
C ₇	<u>37.83</u>	<u>50.04</u>	$\text{moles tank} = (\text{mol\% tank}) \frac{75.60}{100}$
	100	100	

	(moles tank)	$\times \left(\frac{901^*}{\text{mole}} \right)$	$= \frac{901 \text{ tank liquid}}{100 \text{ moles feed}}$
C ₁	0.00	6.40	0.00
C ₂	0.24	10.12	2.42
C ₃	1.75	10.42	18.24
IC ₄	1.28	12.38	15.84
NC ₄	5.86	11.93	69.90
IC ₅	4.70	13.85	65.10
NC ₅	8.07	13.71	110.64
actual value (15.83) C ₆	15.65	15.57	243.67
C ₇	<u>37.83</u>	18.43	<u>697.20</u>
	75.56		1223.03

$$\frac{100 \text{ moles} - 75.56 \text{ moles}}{100 \text{ moles feed}} = \frac{24.44 \text{ moles vapor}}{100 \text{ moles feed}}$$

$$\left(\frac{379 \text{ SCF}}{\text{mole}} \right) \left(\frac{24.44 \text{ moles vapor}}{100 \text{ moles feed}} \right) = \frac{9,262.76 \text{ SCF}}{100 \text{ moles feed}}$$

$$\frac{1223.03 \text{ gal} \times 6.61}{100 \text{ moles feed}} = \frac{28.44 \text{ bbl}}{100 \text{ moles feed}}$$

$$\frac{9,262.76 \text{ SCF}}{100 \text{ moles feed}} = \frac{325.66 \text{ SCF loss}}{\text{Tank 661}}$$

$$\frac{28.44 \text{ bbl}}{100 \text{ moles feed}}$$

EXHIBIT "C"

- ① value higher than feed value; assumed no C₆ loss
 ② from table of physical properties in GPSA manual

1008

PALS / H. L. Brown Jr
Federal B#1

EEF 6/9 1/2/80

Feed Separator Liquid

Federal B#1

Component	moles/100 moles	K	moles/100 moles feed Liquid	Gas
C ₁	10.10	165		
C ₂	4.74	28.0		
C ₃	7.12	7.20		
iC ₄	2.47	2.78		
nC ₄	9.12	1.87		
iC ₅	5.15	0.695		
nC ₅	8.32	0.520		
C ₆₊	15.15	0.141		
	37.83	0.0282		
	100.00		72.13688	27.86312

Component of liquid	moles of Stock Tank liquid	x gallons per mole	= gallons Stock Tank liquid per 100 moles feed
C ₁	0.156	6.4	1.00
C ₂	0.359	10.12	3.63
C ₃	1.883	10.42	19.62
iC ₄	1.191	12.38	14.74
nC ₄	5.295	11.93	63.17
iC ₅	4.060	13.25	53.73
nC ₅	6.928	13.71	94.98
C ₆₊	14.842	15.57	231.09
	37.422	18.43	689.69
			1174.15 ÷ 42 = 27.96661

$$\text{Stock gas} = \left(379 \frac{\text{SCF}}{\text{mole}} \right) (27.86 \text{ moles}) = 10,559 \text{ SCF}$$

$$\frac{10,559 \text{ SCF}}{661 \text{ Stock Tank liquid}} = 378 \frac{\text{SCF}}{\text{mole}}$$

EXHIBIT "D"

FEED

10.10000
4.24000
7.12000
2.47000
9.12000
5.15000
8.32000
15.65000
37.83000
0.00000
0.00000
0.00000
100.00000

Federal
B#1

K

165.000000
28.000000
7.200000
2.780000
1.870000
0.695000
0.520000
0.141000
0.028200
1.000000
1.000000
1.000000

60°F
13.2psia

LIO

0.15603
0.35886
1.88309
1.19106
5.29526
4.06009
6.92842
14.84170
37.42238
0.00000
0.00000
0.00000
72.13688

Stock
Tank
Liquid

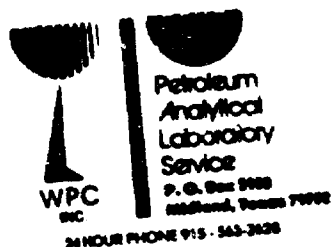
GAS

9.94397
2.99114
5.23691
1.27894
3.82474
1.08991
1.39158
0.80830
0.40762
0.00000
0.00000
0.00000
27.86312

Flashed
Vapors

EXHIBIT "E"

Air Monitoring
Complete Gas Service
Consulting Chemists
Corrosion Fatigue Testing
Pollution Control
Water Analysis



NO. 12208
RUN No.
DATE OF RUN
DATE SECURED 12/7/73

A SAMPLE OF FEDERAL B#1 CONDENSATE FROM SEPARATOR BEFORE WEATHERING
SECURED FROM H.L. BRUN
AT MIDLAND, TEXAS
SAMPLING CONDITIONS PRESS. TEMP. SECURED BY PAIS JOE DAWSON DATE TIME

FRACTIONAL ANALYSIS @ 14.696 & 60 DEG. F.

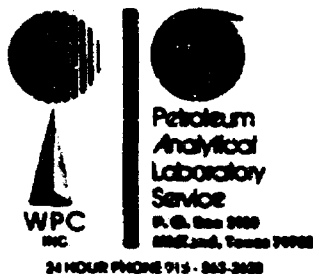
	MOL %	WT. %	LIQ %	CALC. SP. GR.	0.5281	PROPANE CALC.	G.P.M.
CARBON DIOXIDE	0.00	0.06	0.00	CALC. A.P.I.	73.443	BUTANES CALC.	G.P.M.
AIR				CALC. MOL. WT.	562.70	PENTANES PLUS.	G.P.M.
NITROGEN				Calc. Vapor Press.	0.6882	ETHANE CALC.	G.P.M.
OXYGEN				SP. GR. ρ +	100.205	TOTAL	G.P.M.
HS	10.10	2.19	4.58	MOL. WT. ρ +	1.620	B.T.U./CU. FT.	DRY BASIS
METHANE	4.24	1.73	3.03	VAP. PRESS. ρ +	17.464		WET BASIS
ETHANE	7.12	4.25	5.26	GAL/# MOFC	21.729	26# PRODUCT	
PROPANE	2.47	1.94	2.17	LB/GAL ρ +	5.738	12# PRODUCT	
ISO-BUTANE	9.12	7.17	7.71	26.0 R.V.P. Gasoline		% BUTANES INCLUDED	
N-BUTANE	5.15	5.03	5.06	EXCESS C4s		Sulfur Analysis (Gr./100 Cu. Ft.)	
ISO-PENTANE	8.32	8.13	8.89	EXCESS C3		HYDROGEN SULFIDE	
N-PENTANE	15.65	18.26	17.24	EXCESS C2		MERCAPTANS	
HEAVY	37.83	51.30	46.82	14.0 R.V.P. Gasoline		SULFIDES	
				EXCESS C4's		RESIDUAL SULFUR	
				EXCESS C3		(Moisture Content, #/MM Cu. Ft.)	
				EXCESS C2			
				12.0 R.V.P. Gasoline			
				EXCESS C4's			
				EXCESS C3			
				EXCESS C2			

CHECKED BY DAWSON APPROVED BY James L. Barnett

ADDITIONAL DATA AND REMARKS

EXHIBIT "F"

Air Monitoring
Complete Gas Service
Consulting Chemists
Corrosion Fatigue Testing
Pollution Control
Water Analysis



NO. 12259
RUN No.
DATE OF RUN
DATE RECEIVED

A SAMPLE OF **FEDERAL B #1 CONDENSATE FROM TANK**

SECURED FROM **H.L. BROWN**

AT **MIDLAND, TEXAS**

SECURED BY **PALS JOE DAWSON**

SAMPLING CONDITIONS **PRESS** **TEMP** **TIME** **DATE**

FRACTIONAL ANALYSIS
@ 14.696 & 60 DEG. F.

	MOL %	WT. %	LIQ %	CALC. SP. GR.	0.6631	PROPANE CALC.	G.P.M.
CARBON DIOXIDE	0.00	0.00	0.00	CALC. A.P.I.	87.009	BUTANES CALC.	G.P.M.
AIR				CALC. MOL. WT.	17.13	PENTANES PLUS.	G.P.M.
NITROGEN				Calc. Vapor Press.	0.6862	ETHANE CALC.	G.P.M.
OXYGEN				SP. GR. ⁷ C +	100.205	TOTAL	G.P.M.
H ₂				MOL. WT. ⁷ C +	1.620	B.T.U./CU. FT.	
METHANE	0.00	0.00	0.00	VAP. PRESS. ⁷ C +	17.464	DRY BASIS	
ETHANE	0.33	0.12	0.21	GAL/# MOL. ⁷ C +	21.729	WET BASIS	
PROpane	2.32	1.16	1.54	LB/GAL ⁷ C +	5.738	26# PRODUCT	
ISO-BUTANE	1.70	1.13	1.34	26.0 R.V.P. Gasoline		12# PRODUCT	
N-BUTANE	7.76	3.18	5.88	EXCESS C4's		% BUTANES INCLUDED	
ISO-PENTANE	6.22	5.16	5.47	EXCESS C3		Sulfur Analysis (Gr./100 Cu.Ft.)	
N-PENTANE	10.68	8.85	9.30	EXCESS C2		HYDROGEN SULFIDE	
HEXANES	20.95	20.75	20.73	14.0 R.V.P. Gasoline		MERCAPTANS	
HEPTANES	50.04	57.63	55.53	EXCESS C4's		SULFIDES	
				EXCESS C3		RESIDUAL SULFUR	
				EXCESS C2		Moisture Content, #/MM Cu. Ft.	
				12.0 R.V.P. Gasoline			
				EXCESS C4's			
				EXCESS C3			
				EXCESS C2			
TOTAL	100.00	100.00	100.00				

AN BY **BARNETT**

CHECKED BY **DAWSON**

APPROVED BY **J. P. A.**

ADDITIONAL DATA AND REMARKS

EXHIBIT "G"

APPLICATION

FOR

LEASE COMMINGLING

BLUITT WOLFCAMP GAS POOL

ROOSEVELT COUNTY, NEW MEXICO

PROPOSED BY

H. L. BROWN, JR.

P. O. BOX 2237
Midland, Texas 79702

H. L. BROWN, JR.

COMMINGLING PROPOSAL

PROPOSAL:

To commingle production from ten Federal wells and one fee well operated by H. L. Brown, Jr. in the Bluitt Wolfcamp Gas Pool, Roosevelt County, New Mexico.

REASONS FOR PROPOSAL:

1. To permit collection and conservation of stock tank vapors not economically feasible on an individual well basis.
2. To permit construction of a gas plant to process production from these wells. Condensate would be separated at the plant and stabilized by pressure reduction. Wet gas would be stripped of gasoline and LPG products. The dry gas would be sold to Transwestern Pipeline Company, the present purchaser of wet gas at the well head.
3. To reduce losses from weathering of stock tank liquids. Fluid production is small at each well and tank storage time is correspondingly great.

PRESENT OPERATIONS:

The eleven gas wells operated by H. L. Brown, Jr. in the Bluitt Wolfcamp Gas Pool are listed on Exhibit "A", together with individual well data. These wells are also shown on Exhibit "B".

Gas is presently sold to Transwestern Pipeline Company based on volumes metered at the well head with Btu adjustment. Transwestern's gathering lines are shown on Exhibit "B". Condensate is separated and stored in tanks at each well and sold to Permian Corporation.

Average monthly production data is shown on Exhibit "A" for nine wells based on production figures for July, August and September 1979. Production data is not shown for the two Federal wells most recently completed. Production history is not available for them but their producing rates are expected to be in the range of other pool wells.

Average production for the nine wells during the three-month period is as follows:

109,225 MCF gas and 1810 bbls. condensate per month
or, 396 MCF gas and 6.6 bbls. condensate per well per day

Well No. 1 Federal "C" has the highest production rate of all wells involved, and averaged 982 MCF of gas and 18 barrels of condensate per day.

Average production from the fee well was 377 MCF of gas and 6.6 barrels of condensate per day.

All wells make a small amount of water, varying from a trace to about one barrel per day.

Inasmuch as the gravity of condensate from this pool ranges between 65 and 70 degrees, the stock tank vapor loss is considerable. This loss results both from liberation of flash gas when dumping into the storage tanks and to extensive weathering in the tanks because of the low condensate production rate.

To arrive at an approximation of the amount of vapor loss, two different estimates were made for each well. One estimate is the result of calculating flash gas using gas chromatograph data from the separator product at separator conditions. These values are shown in the "X" column of Exhibit "A". The other estimate involved the use of gas chromatograph data from samples of both the separator and storage tank products, and these values are shown in the "Y" column of Exhibit "A". Both methods of estimating indicate appreciable losses. The reason some of the "Y" values are higher than the "X" values may be attributed to weathering. The calculated vapor loss per month for each well, as shown on Exhibit "A", was obtained by multiplying the "Y" column by the average condensate production. The methods used for estimating vapor losses indicate the total vapor loss for the nine wells may be as much as 1000 MCF of gas per month. Sample data and the method used in estimating flash gas for a typical well are shown in Exhibits "C", "D", "E", "F" and "G".

Oil and gas leases involved are shown on Exhibits "A" and "B". Exhibit "A" shows the lease the well is on and lists seven Federal leases and one fee lease. Four of the wells are on communitized tracts, and the additional leases involved by communitization are shown on Exhibit "B".

All of the Federal leases involved have royalty rates that are

either 12-1/2 percent or Schedule "B". Since the producing rate for each one of the Federal wells is well below the "break-point" for the Schedule "B" royalty rate, the actual effective royalty rate for all of the Federal wells is the same, i.e., 12-1/2 percent. The royalty rate for the fee lease is also 12-1/2 percent.

PROPOSED METHOD OF COMMINGLING

The existing gas sales lines from each well will be modified as necessary to convert them to a common gathering system with one sales point at the central battery and plant site near well No. 1 Federal "H" in the NE $\frac{1}{4}$ SE $\frac{1}{4}$ sec. 5, T.3 S., R.37 E. A plant will be constructed at this site to process the commingled gas stream for natural gasoline and LPG products, and deliver the dry gas to Transwestern.

The method of commingling production from a typical well is shown in Exhibit "H". Both gas production and liquid production from each well will be measured and then recombined into the common gathering system for delivery to the plant. A second separation of condensate from the gas stream will be made at the plant and the condensate stabilized by pressure reduction.

Measuring equipment at the fee well will include, in addition to the gas meter and positive displacement meter, a three-phase separator to remove any free water from the liquid stream prior to measurement, a proportional flow sampling device with the sampling point located upstream of the meter, and a sample container. This additional equipment will assure accurate measurement of production.

Water produced by the Federal wells will be collected and measured at the plant and volumes allocated to each Federal well on the basis of well tests. These water volumes will be deducted from the metered volumes so all liquid meter measurements will be equitable.

PROPOSED METHOD OF ALLOCATION:

Condensate recovered at the plant will be allocated to individual wells on the basis of volumes of condensate produced at each well as measured by positive displacement meter.

Dry gas will be allocated on the basis of gas production from each well as measured by gas meter at the well head.

Gasoline and LPG products will be allocated on the basis of gas production and Btu content as measured at each well.

H. L. BROWN, JR.

WELL DATA BLUITT WOLF CAMP GAS POOL

Well Name and Number	Well Location	Well Compl. Date	Lease No.	Com. Agr. No.	Royalty Rate	Average Monthly Production			Calculated Gas Vapor Per Bbl. of Stock Tank Liquid-MCF		Calc. Vapor Loss per Month = MCF
						Oil-Bbl.	Gas-MCF	Wtr.-Bbl.	"A"	"B"	
No. 1 FEDERAL	K-33-7-37	10-7-59	NH0210724	-	12%	107	6668	TR	0.519	0.397	42.5
No. 1 FEDERAL "A"	P-33-7-37	6-7-61	NH0474	-	12%	103	5470	TR	0.706	1.015	104.5
No. 1 FEDERAL "B"	J-4-B-37	8-15-75	NH0094	-	12%	150	9148	30	0.378	0.292	48.0
No. 1 FEDERAL "C"	C-4-B-37	7-31-75	NH21513	SW-1007	12%	548	30108	30	0.505	0.610	334.3
No. 1 FEDERAL "D"	C-9-B-37	9-12-75	NH0474	-	12%	253	14765	31	0.423	0.399	93.0
No. 1 FEDERAL "E"	L-34-7-37	11-21-75	NH13740	SW-1023	"B"	184	9125	31	0.457	0.615	113.2
No. 1 FEDERAL "F"	L-3-B-37	12-18-75	NH18240-A	-	12%	76	4973	15	0.526	0.548	43.2
No. 1 FEDERAL "G"	D-3-B-37	9-21-79	NH23018	SRM-1365	"B"						
No. 1 FEDERAL "H"	I-5-B-37	2-21-77	NH28054	SRM-1127	"B"	204	17394	15	0.699	0.623	128.9
No. 1 FEDERAL "J"	G-10-B-37	11-24-79	NH23018	-	"B"						
No. 1 FEDERAL	D-10-B-37	12-6-74	FEE	-		203	11575	TR	0.321	0.609	123.6
										TOTAL	1032.1

Calculated flash gas per barrel of stock tank liquid based on chromatograph data from sample of separator product.

Calculated flash gas per barrel of stock tank liquid based on chromatograph data from samples of both separator and stock tank products.

EXHIBIT "A"

WELL DATA
PROPOSED COMMINGLING PROJECT
BLUITT WOLF CAMP GAS POOL
ROOSEVELT COUNTY, NEW MEXICO

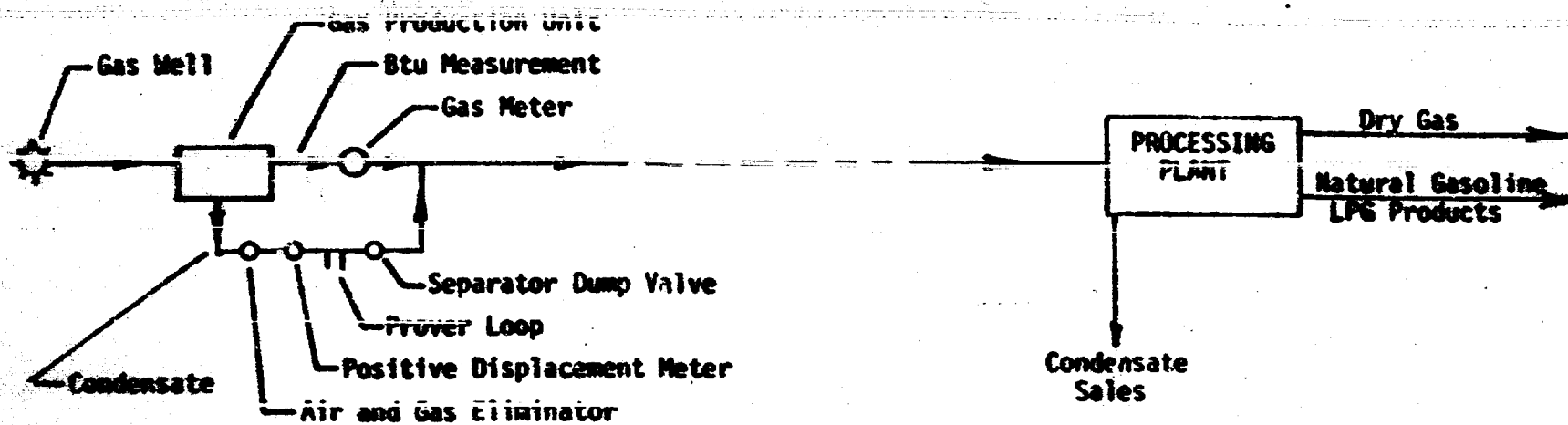


EXHIBIT "H"
FLOW DIAGRAM FOR TYPICAL WELL
PROPOSED COMINGLING PROJECT
BLUITT WOLF CAMP GAS POOL
ROOSEVELT COUNTY, NEW MEXICO

WPC, INC.

Subject Federal B#1

Page no. _____

By _____

Date _____

Component	mol% Separator	mol% tank	Letting the total mol% separator product take on a 100 mole feed basis, and assuming no C ₇ + losses, we used a tie component to express tank values in moles liquid / 100 moles feed
C ₁	10.10	0.00	
C ₂	4.24	0.33	
C ₃	7.12	2.32	
IC ₄	2.47	1.70	
NC ₄	9.12	7.76	
IC ₅	5.15	6.22	37.83 moles = 75.60 moles liquid
NC ₅	8.32	10.68	50.04 mol% 100 moles feed
C ₆	15.85	20.95	moles tank = (mol% tank) 75.60
C ₇ +	37.83	50.04	
	100	100	$\left(\frac{\text{moles tank}}{\text{mole}}\right) \times \left(\frac{901 \text{ gal}}{\text{mole}}\right) = \frac{901 \text{ gal tank liquid}}{100 \text{ moles feed}}$
		C ₁ 0.00	6.40 0.00
		C ₂ 0.24	10.12 2.42
		C ₃ 1.75	10.42 18.24
		IC ₄ 1.28	12.38 15.84
		NC ₄ 5.86	11.93 69.90
		IC ₅ 4.70	13.86 65.10
		NC ₅ 8.07	13.71 110.64
		actual value (15.85) C ₆ [ⓐ]	15.65 15.57 243.67
		C ₇ +	37.83 18.43 697.20
			75.56 1223.03

$$\frac{100 \text{ moles} - 75.56 \text{ moles}}{100 \text{ moles feed}} = \frac{24.44 \text{ moles vapor}}{100 \text{ moles feed}}$$

$$\left(\frac{379 \text{ SCF}}{\text{mole}} \right) \left(\frac{24.44 \text{ moles vapor}}{100 \text{ moles feed}} \right) = \frac{9,262.76 \text{ SCF}}{100 \text{ moles feed}}$$

$$\frac{1223.03 \text{ gal} \times 6.61}{100 \text{ moles feed}} = \frac{28.44 \text{ bbl}}{100 \text{ moles feed}}$$

$$\frac{9,262.76 \text{ SCF}}{100 \text{ mol-}^3 \text{ feed}} = \frac{325.66 \text{ SCF loss}}{28.44 \text{ bbl Tank bbl}} \\ \frac{100 \text{ mol-}^3 \text{ feed}}$$

EXHIBIT "C"

- ⓐ value higher than feed value; assumed no C₆ loss
 ⓑ from table of physical properties in GPSA manual

10208

PALS / H L Brown Jr
Federal B#1

EEF 6/9 1/2/80

Feed: Separator Liquid
Federal B#1

Component	Federal B#1 moles/100 moles	K	moles/100 moles feed Liquid	Gas
C ₁	10.10	165		
C ₂	4.24	28.0		
C ₃	7.12	7.20		
iC ₄	2.47	2.78		
nC ₄	9.12	1.87		
iC ₅	5.15	0.695		
nC ₅	8.32	0.520		
C ₆	15.65	0.141		
C ₇₊	37.83	0.0282		
	100.00		72.13682	27.86312

Component of liquid	moles of Stock Tank liquid	x	gallons per mole	=	gallons Stock Tank liquid per 100 moles feed
C ₁	0.156		6.4		1.00
C ₂	0.359		10.12		3.63
C ₃	1.883		10.42		19.62
iC ₄	1.191		12.38		14.74
nC ₄	5.295		11.93		63.17
iC ₅	4.060		13.85		56.23
nC ₅	6.928		13.71		94.98
C ₆	14.842		15.57		231.09
C ₇₊	37.422		18.43		689.69
					1174.15 ÷ 42 = 27.96661

$$\text{Volume of flash gas} = \left(379 \frac{\text{SCF}}{\text{mole}} \right) (27.86 \text{ moles}) = 10,559 \text{ SCF}$$

$$\frac{10,559 \text{ SCF}}{27.96 \text{ bbl}} = 378 \frac{\text{SCF}}{\text{bbl Stock Tank liquid}}$$

EXHIBIT "D"

FEED

10.10000
4.24000
7.12000
2.47000
9.12000
5.15000
8.32000
15.65000
37.83000
0.00000
0.00000
0.00000
100.00000

*Federal
B#1*

K

165.000000
28.000000
7.200000
2.780000
1.870000
0.695000
0.520000
0.141000
0.028200
1.000000
1.000000
1.000000

*60°F
13.2psia*

LIQ

0.15603
0.35886
1.88309
1.19106
5.29526
4.06009
6.92842
14.84170
37.42238
0.00000
0.00000
0.00000
72.13688

*Stock
Tank
Liquid*

GAS

9.94397
3.88114
5.23691
1.27894
3.82474
1.08991
1.39158
0.80830
0.40762
0.00000
0.00000
0.00000
27.86312

*Flashed
Vapors*

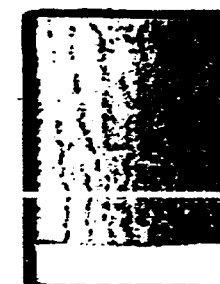
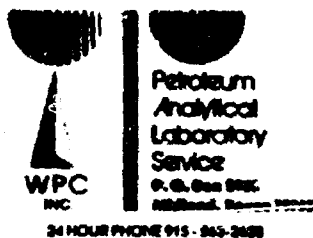


EXHIBIT "E"

Air Monitoring
Complete Gas Service
Consulting Chemists
Corrosion Pipeline Testing
Pollution Control
Water Analysis



NO. _____
RUN No. 12788
DATE OF RUN _____
DATE SECURED 12/7/78

A SAMPLE OF FEDERAL B#1 CONDENSATE FROM SEPARATOR BEFORE WEATHERING

SECURED FROM H.L. BROWN

AT MIDLAND, TEXAS

SECURED BY PALS JOE DAWSON

SAMPLING CONDITIONS PRESS TEMP TIME DATE

FRACTIONAL ANALYSIS
@ 14.696 & 60 DEG. F.

	MOL %	WT. %	LIQ %	CALC. SP. GR.	<u>0.6241</u>	PROPANE CALC.	G.P.M.
				CALC. A.P.I.		BUTANES CALC.	G.P.M.
CARBON DIOXIDE	<u>0.00</u>	<u>0.00</u>	<u>0.00</u>	CALC. MOL. WT.	<u>73.443</u>	PENTANES PLUS.	G.P.M.
AIR				Calc. Vapor Press.	<u>562.70</u>	ETHANE CALC.	G.P.M.
NITROGEN				SP. GR. @ 60	<u>+ 0.6442</u>	TOTAL	G.P.M.
OXYGEN				MOL. WT. @ 60	<u>+ 100.205</u>		
H ₂ S				VAP. PRESS. @ 60	<u>+ 1.420</u>	B.I.U./CU. FT.	
METHANE	<u>10.10</u>	<u>2.19</u>	<u>4.54</u>	GAL/# MCG/C	<u>+ 17.464</u>	DRY BASIS	
ETHANE	<u>4.24</u>	<u>1.73</u>	<u>3.03</u>	CF/GAL @ 60	<u>+ 21.729</u>	WET BASIS	
PROPANE	<u>7.12</u>	<u>4.25</u>	<u>5.26</u>	LB/GAL @ 60	<u>+ 5.738</u>		
ISO-BUTANE	<u>2.47</u>	<u>1.94</u>	<u>2.17</u>	26.0 R.V.P. Gasoline		26# PRODUCT	
N-BUTANE	<u>9.12</u>	<u>7.17</u>	<u>7.71</u>	EXCESS C ₄ s		12# PRODUCT	
ISO-PENTANE	<u>5.15</u>	<u>5.03</u>	<u>5.06</u>	EXCESS C ₃		% BUTANES INCLUDED	
N-PENTANE	<u>8.32</u>	<u>8.13</u>	<u>8.09</u>	EXCESS C ₂			
HEXANES	<u>15.65</u>	<u>14.24</u>	<u>17.25</u>	14.0 R.V.P. Gasoline		Sulfur Analysis (Gr./100 Cu.Ft.)	
HEPTANES	<u>37.83</u>	<u>51.30</u>	<u>46.32</u>	EXCESS C ₄ s		HYDROGEN SULFIDE	
				EXCESS C ₃		MERCAPTANS	
				EXCESS C ₂		SLURFIDE	
				12.0 R.V.P. Gasoline		RESIDUAL SULFUR	
				EXCESS C ₄ s		Moisture Content, #/MM Cu. Ft.	
				EXCESS C ₃			
				EXCESS C ₂			

TOTAL 100.00 100.00 100.00

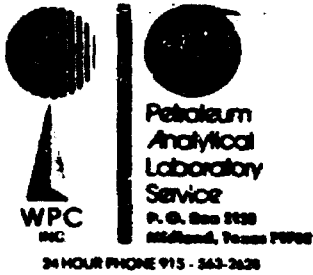
RUN BY BARNETT CHECKED BY DAWSON APPROVED BY James L. Barnett

ADDITIONAL DATA AND REMARKS

EXHIBIT "F"

COPIES TO: _____

Air Monitoring
Complete Gas Service
Consulting Chemists
Corrosion Pipeline Testing
Pollution Control
Water Analysis



NO. 1225
RUN No.
DATE OF RUN
PALS REQUIRED

A SAMPLE OF FEDERAL B #1 CONDENSATE FROM TANK
SECURED FROM H.L. BROWN
AT MIDLAND, TEXAS
SECURED BY PALS JOE DAWSON
SAMPLING CONDITIONS PRESS TEMP TIME DATE

FRACTIONAL ANALYSIS
@ 14.696 & 60 DEG. F.

	MOL %	WT. %	LIQ %	CALC. SP. GR.	0.6631	PROPANE CALC.	G.P.M.
CARBON DIOXIDE	0.00	0.00	0.00	CALC. A.P.I.	17.009	BUTANES CALC.	G.P.M.
AIR				CALC. MOL. WT.	17.13	PENTANES PLUS	G.P.M.
NITROGEN				Calc. Vapor Press.	0.6882	ETHANE CALC.	G.P.M.
OXYGEN				SP. GR. °C +	100.205	TOTAL	G.P.M.
HS				MOL. WT. °C +	1.620		
ETHANE	0.00	0.00	0.00	VAP. PRESS. °C +	17.464	B.T.U./CU. FT.	
PROPANE	0.33	0.12	0.21	CAL. # MC °C +	21.729	DRY BASIS	
ISO-BUTANE	2.32	1.18	1.54	CF/GAL °C +	5.738	WET BASIS	
N-BUTANE	1.70	1.13	1.34	LB/GAL °C +		26# PRODUCT	
ISO-PENTANE	7.76	5.18	5.88	26.0 R.V.P. Gasoline		12# PRODUCT	
N-PENTANE	6.22	5.16	5.47	EXCESS C4s		% BUTANES INCLUDED	
HEXANES	10.68	6.85	9.30	EXCESS C3		Sulfur Analysis (Gr./100 Cu.Ft.)	
HEPTANES	20.95	20.75	20.73	EXCESS C2		HYDROGEN SULFIDE	
	50.04	57.63	55.53	14.0 R.V.P. Gasoline		MERCAPTANS	
				EXCESS C4's		SULFIDES	
				EXCESS C3		RESIDUAL SULFUR	
				EXCESS C2		Maintenance Contam. #/MM Cu. Ft.	
				12.0 R.V.P. Gasoline			
				EXCESS C4's			
				EXCESS C3			
				EXCESS C2			

TOTAL 100.00 100.00 100.00

RUN BY BARNETT CHECKED BY DAWSON APPROVED BY Joe P. Dawson

ADDITIONAL DATA AND REMARKS

EXHIBIT "G"

COPIES TO:

Application of H.L. Brown, Jr
for gas well commingling,
Rockwell County, North Dakota

Applicant, in the above styled cause, seeks
authority to commingle Blount-Wafercamp gas
and condensate production from ten
1 federal wells located as follows: Units K and
D of Section 23 and D, E and F of Section 34, T. 1, S. 4, N.
Range 37 East; Units D and L of Section 3, C and
J of 4, I of 5, C of 9 and G of 10; and
one gas well in D of 10, all in Township 8
South, Range 37 East. Applicant would separate
and meter the gas and condensate production from
each well, then combine the water stream and
commingle all wells into a small gasoline plant.
Allocation of gas and condensate, ^{black oil} would be on the
basis of wellhead meter readings and allocation
of gasoline plant production would be on the basis of
BTU gas production and BTU content at each well.

ROUGH

dr/

STATE OF NEW MEXICO
ENERGY 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. 6858

Order No. R-6321

APPLICATION OF H. L. BROWN, JR. FOR
GAS WELL COMMINGLING, ROOSEVELT
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on April 9
19 80, at Santa Fe, New Mexico, before Examiner Daniel S. Kuttan.
NOW, on this _____ day of April, 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, H. L. Brown, Jr., seeks authority
to commingle Bluit-Wolfcamp gas and condensate production from ten

federal wells located as follows: Units K and P of Section 33 and L of Section 34, Township 7 South, Range 37 East, NMPM; Units D and L of Section 3, C and J of Section 4, I of Section 5, C of Section 9 and G of Section 10; and one fee well in Unit D of Section 10, all in Township 8 South, Range 37 East, NMPM, Roosevelt County, New Mexico.

(3) That the applicant would separate and meter the gas and condensate production from each well and then recombine the well's stream and commingle all wells into a small gasoline plant to be constructed by the applicant in Unit I of Section 5, Township 8 South, Range 37 East, NMPM.

(4) That allocation of gas and condensate to each well would be on the basis of wellhead meter readings, and allocation of gasoline plant production would be on the basis of gas production *and BTU content at each well.*

(5) That the commingling and processing of gas and condensate as proposed by the applicant will conserve and permit the recovery of substantial volumes of vapors now being lost, thereby preventing waste, will not impair correlative rights, and should be approved, provided however, provision should be made to administratively approve the inclusion of additional wells in the system as they may be drilled, provided the same technique for measurement and allocation of production would be used.

IT IS THEREFORE ORDERED:

(1) That the applicant is hereby authorized to commingle gas and condensate production from the following wells in the Bluff-Wolfcamp Gas Pool, Roosevelt County, New Mexico:

TOWNSHIP 7 SOUTH, RANGE 37 EAST, NMPM

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT LETTER</u>	<u>SECTION</u>
Federal	1	K	33
Federal "A"	1	P	33
Federal "E"	1	L	34

TOWNSHIP 8 SOUTH, RANGE 37 EAST, NMPM

<u>LEASE NAME</u>	<u>WELL NO.</u>	<u>UNIT LETTER</u>	<u>SECTION</u>
Federal "F"	1	L	3
Federal "G"	1	n	3
Federal "B"	1	J	4
Federal "C"	1	C	4
Federal "H"	1	I	5
Federal "D"	1	C	9
Federal "J"	1	G	10
Perkins "D"	1	D	10

(2) That there shall be installed at each of the aforesaid wells a production separator, positive displacement meter for the measurement of condensate produced, gas meter for the measurement of gas produced, BTU meter for the determination of BTU content of the gas, and such other pertinent equipment as is necessary to determine the quantity and quality of the well's production.

(3) That after being separated and measured, the effluent from each well shall be recombined and commingled with the recombined effluent from other wells and again passed through a production separator installed in conjunction with a small gasoline plant to be built by the applicant in Unit I of Section 5, Township 8 South, Range 37 East, NMPM.

(4) Condensate recovered at the plant shall be allocated to the individual wells on the basis of volumes of condensate produced at each well as measured by positive displacement meter.

(5) Dry gas recovered at the plant shall be allocated to the individual wells on the basis of gas production from each well as measured by the gas meter at the well head.

(6) Gasoline and LPG products produced at the plant shall be allocated to the individual wells on the basis of gas production and BTU content as measured at the well head.

(7) That individual gas production and condensate production from each well shall be reported monthly to the Oil Conservation Division on Form C-115, Operator's Monthly Report; and Form C-111, Gas ~~Purchaser's~~ Purchaser's Monthly Report, shall also be filed ~~monthly~~ by the applicant, including thereon the applicable data, including well production, plant production, product disposition and storage, etc.

(8) That the applicant may obtain approval for the inclusion of additional wells to his gas gathering and commingling system authorized herein by submitting to the Division Director a request therefor, including a map showing the location of all wells connected ^{and} or proposed to be connected to the system, a schematic diagram of the separation and measurement facilities to be installed at the well head of the proposed to be connected well(s), and a letter of consent from the royalty owner thereof.

(9) 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 designated.