

CASE 6522: PETROLEUM CORPORATION OF  
TEXAS FOR DOWNHOLE COMMINGLING, SAN JUAN  
COUNTY, NEW MEXICO

CASE NO.

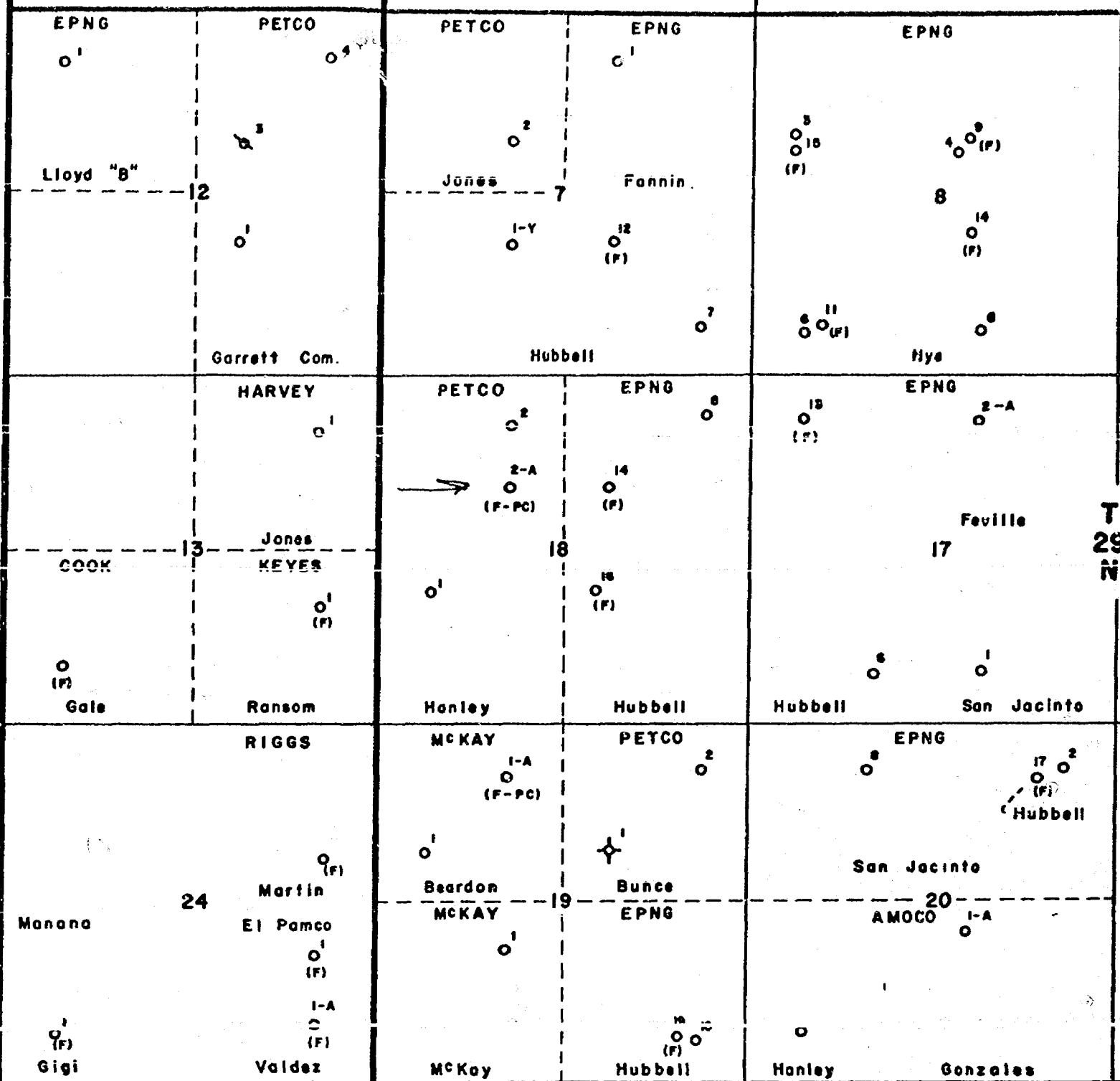
6522

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APPLICATION,  
TRANSCRIPTS,  
SMALL EXHIBITS,  
ETC.

RIIW

RIOW



**LEGEND**

- PICTURED CLIFFS WELL
- FRUITLAND WELL
- FRUITLAND - PICTURED CLIFFS WELL,  
DOWNHOLE COMMINGLED

APRIL 11, 1979

**PETROLEUM CORPORATION OF TEXAS**  
**CASE NO. 6522, EXHIBIT NO. 1**  
**OFFSET OPERATORS**

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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101  
Revised 1-1-65

5A. Indicate Type of Lease	
STATE <input type="checkbox"/>	FEL <input checked="" type="checkbox"/>
5. State Oil & Gas Lease No.	

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work		7. Unit Agreement Name	
b. Type of Well OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>		8. Farm or Lease Name Hanley	
2. Name of Operator Petroleum Corporation of Texas		9. Well No. 2-A	
3. Address of Operator P.O. Box 911 Breckenridge, Texas 76024		10. Field and Pool, or Wildcat Aztec Pictured Cliffs	
4. Location of Well UNIT LETTER F LOCATED 1780 FEET FROM THE North LINE AND 1700 FEET FROM THE West LINE OF SEC. 18 TWP. 29N R. 10W NMPM		12. County San Juan	
19. Proposed Depth 2130'		19A. Formation Pictured Cliffs	
21. Elevations (Show whether DF, RT, etc.) 5603' G.L.		20. Rotary or C.T. Rotary	
21A. Kind & Status Plug. Bond Statewide		22. Approx. Date Work will start To Be Determined	
21B. Drilling Contractor To Be Determined			

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12-1/4"	8-5/8"	24.0	120'	125 Sks.	Surface
7-7/8"	4-1/2"	10.50	2130'	To Be Determined By Caliper	Surface

It is proposed to drill this well with rotary tools and using drilling mud as a circulating medium. The well will be completed in the Productive Intervals in the Pictured Cliffs Formation. Production casing will be cemented in such a manner to protect all possible productive intervals and watersands.

Estimated Formation Tops:

Ojo Alamo - 690'      Fruitland - 1510'  
Kirtland - 840'      Pictured Cliffs- 1930'

The NW/4 of section 18 will be dedicated to this well.

The natural gas from this well is committed.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM: IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed \_\_\_\_\_ Title President, Walsh Engineering & Production Corporation Date 10-6-78  
(This space for State Use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-102  
Supersedes C-101  
Effective 1-1-77

All distances must be from outer boundaries of the section

Operator <b>PETROLEUM CORPORATION OF TEXAS</b>			Lease <b>HANLEY</b>		Well No. <b>2-A</b>
Unit Letter <b>F</b>	Section <b>18</b>	Township <b>29N</b>	Range <b>10W</b>	County <b>SAN JUAN</b>	

Actual Footage Location of Well:

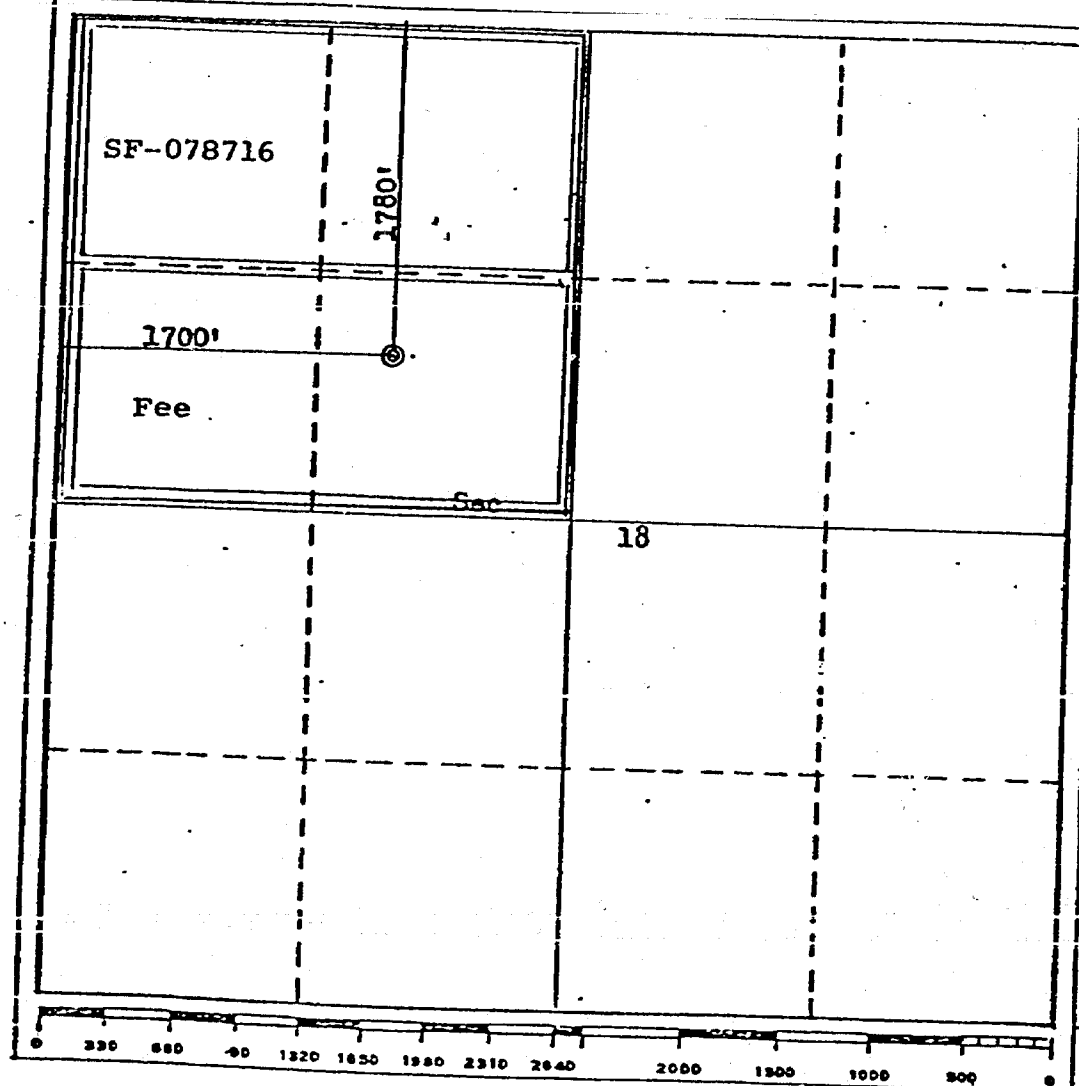
<b>1780</b>	feet from the North	line and	<b>1700</b>	feet from the West	line
Ground Level Elev. <b>5603</b>	Producing Formation <b>Pictured Cliffs</b>	Pool <b>Aztec Pictured Cliffs</b>	Dedicated Acreage <b>151.41</b>		

1. Outline the acreage dedicated to the subject well by colored pencil or hachure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). See Attached Schedule "A"
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes," type of consolidation Approved Communitization Agreement

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.  
FOR: Petroleum Corp. of Texas

Name  
**Ewell N. Walsh, P.E.**  
Position  
**President**  
Company  
**Walsh Engin. & Prod. Corp.**  
Date  
**October 6, 1978**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that it is true and correct to the best of my knowledge and belief.

Date Surveyed  
**September 29, 1978**  
Surveyed by  
**Fred H. Kerr, Jr.**  
Certified by  
**Fred H. Kerr, Jr.**  
**3950**

NEW MEXICO OIL CONSERVATION COMMISSION

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OPERATOR	

5a. Indicate Type of Lease	<input type="checkbox"/> State <input checked="" type="checkbox"/> Other
5. State Oil & Gas Lease No.	

<p align="center"><b>SUNDY NOTICES AND REPORTS ON WELLS</b></p> <p align="center"><small>(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)</small></p>		
1. OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/>	7. Unit Agreement Name	
2. Name of Operator PETROLEUM CORPORATION OF TEXAS	8. Farm or Lease Name Hanley	
3. Address of Operator P.O. Box 911 Breckenridge, Texas 76024	9. Well No. 2-A	
4. Location of Well UNIT LETTER <u>F</u> <u>1780</u> FEET FROM THE <u>North</u> LINE AND <u>1700</u> FEET FROM <u>West</u> THE <u>18</u> LINE, SECTION <u>29N</u> TOWNSHIP <u>10W</u> RANGE <u>10W</u> NMPM.	10. Field and Pool, or Wildcat Aztec Fruitland and Pictured Cliffs	
15. Elevation (Show whether DF, RT, GR, etc.) 5603' GR	12. County San Juan	

<p align="center">Check Appropriate Box To Indicate Nature of Notice, Report or Other Data</p>			
NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	OTHER <input type="checkbox"/>

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

It is proposed to complete the well in such a manner as to down hole commingle the gas from the Fruitland and Pictured Cliffs Formation.

If well is completed in the above manner a hearing will be requested to obtain approval of the completion.

FOR: PETROLEUM CORPORATION OF TEXAS

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Walsh Engin. & Prod. Corp.  
President, Walsh Engin. & Prod. Corp.

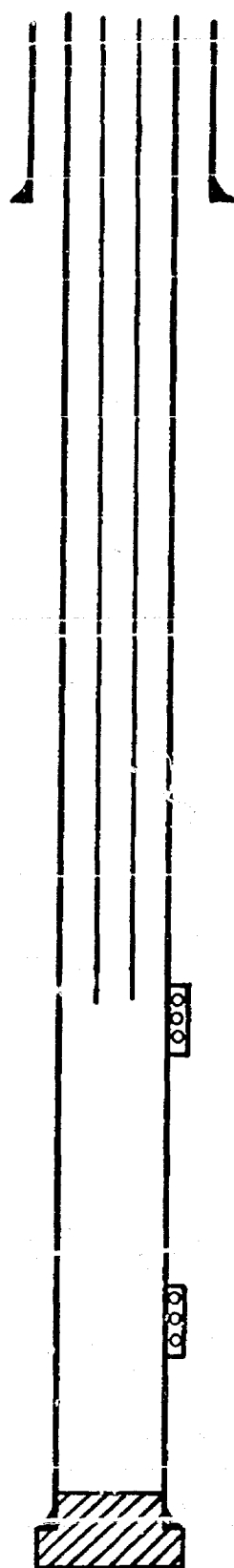
SIGNED Walsh Engin. & Prod. Corp. TITLE President DATE 3/8/79

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_

CONDITIONS OF APPROVAL, IF ANY:

PETROLEUM CORPORATION OF TEXAS  
CASE NO. 6522, EXHIBIT NO. 4

HANLEY NO. 2-A  
SCHEMATIC OF WELL EQUIPMENT



8 5/8" CASING - 141' / 125 Sxs.

1 1/4" TUBING - 1731'

FRUITLAND - Perforations, 1725'-1745' (1 per foot)  
Sandwater Frac, 37,460 gallons water  
50,000 lbs. sand

PICTURED CLIFFS - Perforations, 1932'-1952' (1 per foot)  
Sandwater Frac, 39,250 gallons water  
50,000 lbs. sand

P.B.T.D. - 2050'  
4 1/2" CASING - 2102' / 460 Sxs. (cement to surface)  
Total Depth - 2130'

April 11, 1979

PETROLEUM CORPORATION OF TEXAS

HANLEY NO. 2-A

PICTURED CLIFFS

After formation cleaned up of frac water.

14 Hour Shut in pressure - 290 psig.

Flow for 9 hours - 280 MCFPD

Flowing casing pressure - 80 psig.

FRUITLAND

After formation cleaned up of frac water.

14 Hour Shut in pressure - 515 psig.

Flow for 9 hours - 850 MCFPD

Flowing casing pressure - 250 psig.

FLOW RATE

Pictured Cliffs	-	280 MCFPD	25.0%
Fruitland	-	850 MCFPD	75.0%
TOTAL	-	1,130 MCFPD	

Case No. 6522

Exhibit No. 5

April 11, 1979

**Walsh** ENGINEERING & PRODUCTION CORP.



Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special		Test Date 4/2/79	
Company Petroleum Corporation of Texas		Connection Waiting on Pipeline	
Pool Aztec Fruitland and Aztec Pictured Cliffs		Formation Fruitland & Pictured Cliffs	
Completion Date 3/20/79		Total Depth 2130'	Plug Back TD 2050'
		Elevation 5618' KB	Form or Lease Name Hanley
Csg. Size 4.50	Wt. 9.50 & d 10.50	Set At 4.090	2102'
Perforations From 1725' To 1745' and		Well No. 2-A	
Thq. Size 1.660	Wt. 2.40	Set At 1.380	1731'
Perforations From 1729' To 1731'		Unit Sec. Twp. Rge. F 18 29N 10W	
Type Well - Single - Brodenhood - G.C. or G.O. Multiple Single - Downhole Corringled		Packer Set At None	County San Juan
Producing Thru Tubing	Reservoir Temp. °F 89 @ 2130	Mean Annual Temp. °F 60°	Baro. Press. - P <sub>g</sub> 12.0
State New Mexico			
L 1729	H 1729	G <sub>g</sub> 0.600	% CO <sub>2</sub> --- % N <sub>2</sub> --- % H <sub>2</sub> S ---
Provel		Meter Run	Taps
FLOW DATA			
NO.	Provel Line Size	X	Orifice Size
Si			
1.	3/4" THC		
2.			
3.			
4.			
5.			
TUBING DATA			
NO.	Press. p.s.i.g.	Temp. °F	Duration of Flow
1.	465		8 days
2.	100		3 Hrs.
3.			
4.			
5.			
CASING DATA			
NO.	Press. p.s.i.g.	Temp. °F	Rate of Flow Q, Mcid
1.	465		1,385
2.	375		
3.			
4.			
5.			
RATE OF FLOW CALCULATIONS			
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>
1.	12.3650		112
2.			
3.			
4.			
5.			
NO.	R <sub>g</sub>	Temp. °R	T <sub>g</sub>
1.			
2.			
3.			
4.			
5.			
Gas Liquid Hydrocarbon Ratio _____ Mc/(bbl.)			
A.P.I. Gravity of Liquid Hydrocarbons _____ Deg.			
Specific Gravity Separator Gas _____ XXXXXXXXXX			
Specific Gravity Flowing Fluid _____ XXXXX			
Critical Pressure _____ P.S.I.A. _____ P.S.I.A.			
Critical Temperature _____ R _____ R			
$P_c = 477$ $P_c^2 = 227,529$			
NO.	P <sub>1</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>
1.		387	149,769
2.			
3.			
4.			
5.			
$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{2.9260}{}$ $(2) \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{2.4907}{}$			
$AOF = Q \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3,450$			
Absolute Open Flow 3,450 Mcid @ 15.025 Angle of Slope @ _____ Slope, n 0.85			
Remarks: _____			
Approved By Commission: _____ Conducted By: Jerold Brooks			
Calculated By: Ewell N. Walsh			
Checked By: _____			

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

CASE NO. 5672  
Order No. R-5212

APPLICATION OF HORACE F. MCKAY, JR.  
FOR DOWNHOLE COMMINGLING AND SIMULTANEOUS  
DEDICATION, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 28, 1976, at Santa Fe, New Mexico, before Examiner, Richard L. Stamets.

NOW, on this 18th day of May, 1976, the Commission, a quorum being present, 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 Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Horace F. McKay, Jr., is the owner and operator of the Beardon Well No. 1A, located in Unit C of Section 19, Township 29 North, Range 10 West, NMPM, San Juan County, New Mexico.

(3) That the applicant seeks authority to commingle Aztec-Fruitland and Aztec-Pictured Cliffs gas production within the wellbore of the above-described well.

(4) That applicant further seeks approval for the simultaneous dedication of the NW/4 of said Section 19 to the above-described well and to his Beardon Well No. 1 in Unit E of said Section 19.

(5) That from the Aztec-Fruitland zone, the subject well is capable of low rates of production only.

(6) That from the Aztec-Pictured Cliffs zone, the subject well is capable of low rates of production only.

(7) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(8) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(9) That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Commission any time the subject well is shut-in for 7 consecutive days.

(10) That in order to allocate the commingled production to each of the commingled zones in the subject well, 10 percent of the commingled production should be allocated to the Aztec-Fruitland zone, and 90 percent of the commingled production to the Aztec-Pictured Cliffs zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, Horace F. McKay, Jr., is hereby authorized to commingle Aztec-Fruitland and Aztec-Pictured Cliffs production within the wellbore of the Beardon Well No. 1A, located in Unit C of Section 19, Township 29 North, Range 10 West, NMPM, San Juan County, New Mexico.

(2) That 10 percent of the commingled production shall be allocated to the Aztec-Fruitland zone and 90 percent of the commingled production shall be allocated to the Aztec-Pictured Cliffs zone.

(3) That applicant is further authorized to simultaneously dedicate the NW/4 of said Section 19 to the above-described well and to his Beardon Well No. 1 in Unit E of said Section 19.

(4) That the operator of the subject well shall immediately notify the Commission's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Commission, a plan for remedial action.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

-3-

Cape No. 5672  
Order No. R-5212

DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Phil R. Lucero*

PHIL R. LUCERO, Chairman

*Emery C. Arnold*

EMERY C. ARNOLD, Member

*Joe D. Ramey*

JOE D. RAMEY, Member & Secretary

S E A L

3x/

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION  
State Land Office Building  
Santa Fe, New Mexico  
11 April 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Petroleum Corporation  
of Texas for downhole commingling,  
San Juan County, New Mexico.

CASE  
6522

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation  
Division:

Lynn Teschendorf, Esq.  
Legal Counsel for the Division  
State Land Office Bldg.  
Santa Fe, New Mexico 87503

For the Applicant:

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

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
2020 Plaza Elaneca (SOS) 471-2462  
Santa Fe, New Mexico 87501

I N D E X

EWELL N. WALSH

Direct Examination by Mr. Kellahin 3

Cross Examination by Mr. Nutter 9

E X H I B I T S

Applicant Exhibit One, Map 4

Applicant Exhibit Two, C-101 5

Applicant Exhibit Three, C-103 6

Applicant Exhibit Four, Schematic 7

Applicant Exhibit Five, Summary 7

Applicant Exhibit Six, C-122 8

Applicant Exhibit Seven, Order R-5212 8

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CERTIFIED SHORTHAND REPORTER  
3020 Plaza Blanca (505) 471-2162  
Santa Fe, New Mexico 87501

MR. NUTTER: Call Case Number 6522.

MS. TESCHENDORF: Case 6522. Application of Petroleum Corporation of Texas for downhole commingling, San Juan County, New Mexico.

MR. KELLAHIN: Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of the Applicant, and I have one witness.

(Witness sworn.)

EWELL N. WALSH

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Walsh, would you please state your name and occupation?

A My name is Ewell N. Walsh. I'm the president of Walsh Engineering and Production Corporation, Farmington, New Mexico.

Q Mr. Walsh, have you previously testified before the Oil Conservation Division?

A Yes, I have.

Q And had your qualifications as an expert

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1 engineer accepted and made a matter of record?

2 A. They were.

3 Q. What is your relationship with Petroleum  
4 Corporation of Texas with regards to this application?

5 A. I'm appearing as a consultant on behalf of  
6 Petroleum Engineering -- or Petroleum Corporation of Texas  
7 in regards to requesting approval of a downhole commingling  
8 of the Fruitland and Pictured Cliff formations in their  
9 Hanley No. 2-A Well.

10 Q. Mr. Walsh, in your capacity as a consultant,  
11 have you made a study of and are you familiar with the  
12 facts surrounding this application?

13 A. I am.

14 MR. KELLAHIN: We tender Mr. Walsh as an  
15 expert.

16 MR. NUTTER: Mr. Walsh is considered qual-  
17 ified.

18 Q. (Mr. Kellahin continuing.) Would you refer  
19 to Exhibit Number One and identify that?

20 A. Exhibit Number One is a map of a portion of  
21 Township 29 North, Range 10 and 11 West, San Juan County,  
22 New Mexico. On the map are indicated the Pictured Cliffs  
23 wells, Fruitland wells, and downhole commingling Fruitland-  
24 Pictured Cliffs wells.

25 The well of which this hearing concerns, is



1 the well indicated by the red arrow, the Petroleum Corpor-  
2 ation of Texas Hanley No. 2-A, located in the northwest  
3 quarter of Section 18, Township 29 North, Range 10 West.

4 All --

5 Q Excuse me, I was going to ask you, what is  
6 the spacing or proration unit assigned for the Fruitland  
7 and Pictured Cliffs formations for this well?

8 A It is 160 acres.

9 Q And that is the northwest quarter of Section  
10 18?

11 A 18, of Section 18.

12 Q All right.

13 A Also, I'd like to bring to the Examiner's  
14 attention that one mile, less than one mile due south of  
15 the Petroleum Corporation of Texas well, there is a down-  
16 hole commingled Fruitland-Pictured Cliffs well, the McKay  
17 Bearden No. 1-A, which is, as I stated, downhole commingled  
18 and has been approved by the Commission in hearing, at the  
19 hearing as being a commingled well.

20 Q Let's refer to Exhibit Number Two and have  
21 you identify that.

22 A Exhibit Number Two is the copy of the ap-  
23 plication for permit to drill, deepen, or plug back, Form  
24 Number C-101, and attachment of the well location and  
25 acreage dedication plat for this well.

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Santa Fe, New Mexico 87501

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Santa Fe, New Mexico 87501

1 Q The attached acreage dedication plat indi-  
2 cates that we have 151.41 acres dedicated to the well?

3 A It does, and we'd also request approval for  
4 the Fruitland and Pictured Cliffs, the acreage dedication  
5 for this well, to be a non-standard proration unit of 151.41  
6 acres.

7 Q Does the shortage in acres simply result  
8 from an undersized section?

9 A Yes, it does.

10 MR. NUTTER: Before we get any further,  
11 Red, you're going to have to file for that administratively.  
12 That wasn't included in the notice of this particular  
13 hearing.

14 A I'm aware of that but I wanted to bring it  
15 up.

16 Q Let's look at Exhibit Number Three and  
17 have you identify that.

18 A Exhibit Number Three is a copy of Form  
19 C-103 filed with the Commission stating a notice of inten-  
20 tion to change plans. The intention to drill indicated  
21 to drill a Pictured Cliffs well and we filed this form to  
22 indicate that we're going to complete in both the Aztec  
23 Fruitland and Aztec Pictured Cliffs zones in a downhole  
24 commingled manner.

25 Q This well has not yet been spudded, has it?

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3030 Plaza Blanca (006) 471-2462  
Santa Fe, New Mexico 87501

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A. It has been completed.

Q. Oh, I'm sorry.

A. Drilled and completed.

Q. All right, and how is it currently equipped?

A. Exhibit Number Four is a schematic of the downhole well equipment for this well, indicating that the Pictured Cliffs formation perforations from 1932 to 1952 feet, and the Fruitland perforations from 1725 to 1745 feet; both of these zones were stimulated separately and also tested separately.

And then our production tubing, 1-1/4 inch tubing being landed at 1731 feet.

Q. And would you refer to Exhibit Number Five and identify that?

A. Exhibit Number Five is a summary of the tests of each separate zone after they were stimulated by sand/water fracture treatment.

The zones were cleaned up as much as possible, given a shut-in time, and then flowed -- were flowed to the atmosphere and the gas volumes gauged in both cases after the end of nine hours.

Indicated there is a gas measurement for both the Pictured Cliffs and Fruitland.

Q. Excuse me, do you have a recommendation to the Examiner with regards to a percentage allocation of

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3030 Plaza Blanca (G05) 471-3462  
Santa Fe, New Mexico 87501

1 production between the Pictured Cliffs and Fruitland?

2 A The recommendation is as indicated under  
3 the portion that indicates the flow rate on Exhibit Five,  
4 utilizing these two gauges and the Pictured Cliffs would  
5 be allocated 25 percent of the production and the Fruitland  
6 formation 75 percent of the production.

7 Q Do either of these zones make any fluids?

8 A None, other than connate water. No hydro-  
9 carbons.

10 Q To your knowledge, is there any incompati-  
11 bility between the gases produced from the Fruitland and  
12 Pictured Cliffs?

13 A No.

14 Q In your opinion is a downhole commingling  
15 of the Pictured Cliffs and Fruitland most effective and  
16 efficient way to produce those two zones?

17 A In this well, yes, sir.

18 Q All right, sir.

19 Would you look at Exhibit Number Six and  
20 identify that?

21 A Exhibit Number Six is Form C-122, Multipoint  
22 1-point back pressure test for gas wells, indicating the  
23 test after the well was completed. This was conducted in  
24 accordance with the Commission rules and regulations.

25 Q All right, sir, and Exhibit Number Seven?

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CERTIFIED SHORTHAND REPORTER  
2020 Plaza Blanca (505) 471-2462  
Santa Fe, New Mexico 87501

A Exhibit Number Seven is a copy of Order Number R 5212 issued by the Commission approving the application of Horace McKay for downhole commingling of the Pictured Cliffs and Fruitland formations in his Bearden No. 1-A Well.

Q In your opinion, Mr. Walsh, will approval of this application in any way take an unfair advantage of any offset operator?

A No.

Q All right. Will approval of the application be in the best interests of conservation and prevention of waste?

A It will.

Q Were Exhibits One through Six compiled by you or under your direction and supervision?

A Yes, they were.

MR. KELLAHIN: If the Examiner please, we move the introduction of Exhibits One through Seven.

MR. NUTTER: Applicant's Exhibits One through Seven will be admitted in evidence.

MR. KELLAHIN: That concludes our examination.

# CROSS EXAMINATION

BY MR. NUTTER:

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3030 Plaza Blanca (001) 471-3462  
Santa Fe, New Mexico 87501

1 Q Mr. Walsh, I notice that on the plat which  
2 was filed with the drilling permit, it was for dedicated  
3 acreage in the Aztec-Pictured Cliffs only, and there was  
4 an approved communitization agreement --

5 A That is correct.

6 Q -- for that formation. Does that communiti-  
7 zation agreement also cover the Fruitland?

8 A Yes, it does.

9 Q So the ownership throughout both of these  
10 zones is identical throughout?

11 A It is.

12 Q Okay.

13 A There has subsequently been new acreage  
14 dedication plats filed with the information for both pools.

15 Q For both pools?

16 A That's right.

17 Q You weren't thinking about Fruitland when  
18 you filed the original drilling permit.

19 A This was -- we were going to look at it  
20 but we didn't know exactly how we were going -- we weren't  
21 considering it for downhole commingling.

22 Q But it turned out that the Fruitland was  
23 considerably better than the Pictured Cliffs.

24 A Well, it's a -- the Fruitland was better  
25 than some of the other areas in this well. I believe you

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3020 Plaza Blanca (O.S.) 471-3462  
Santa Fe, New Mexico 87501

1 are aware of how the Fruitland formation is, and it just  
2 came in real good.

3 Q Now the Fruitland is not prorated and I  
4 don't think the Aztec-Pictured Cliffs is any longer pro-  
5 rated.

6 A That is correct.

7 Q So we're talking about two non-prorated  
8 zones being commingled.

9 A Two non-prorated zones.

10 MR. NUTTER: Are there any other questions  
11 of the witness? He may be excused.

12 Do you have anything further, Mr. Kellahin?

13 MR. KELLAHIN: No, sir.

14 MR. NUTTER: Does anyone have anything they  
15 wish to offer in Case Number 6522?

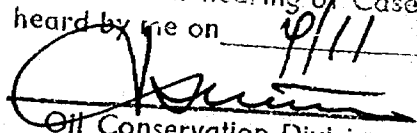
16 Take the case under advisement.

17 (Hearing concluded.)  
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## REPORTER'S CERTIFICATE

I, SALLY WALTON BOYD, a Court Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6522 heard by me on 9/11 1979.  
 Examiner  
Oil Conservation Division

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3020 Plaza Blanca (S96) 471-2462  
Santa Fe, New Mexico 87501





BRUCE KING  
GOVERNOR  
LARRY KEHOE  
SECRETARY

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION

December 5, 1979

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

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

Re: CASE NO. 6522  
ORDER NO. R-6182

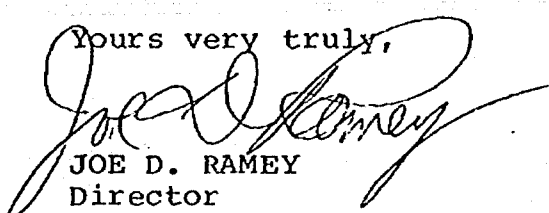
Applicant:

Petroleum Corporation of Texas

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:

Hobbs OCD ☒  
Artesia OCD ☒  
Aztec OCD ☒

Other \_\_\_\_\_

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. 6522  
Order No. R-6182

APPLICATION OF PETROLEUM CORPORATION  
OF TEXAS FOR DOWNHOLE COMMINGLING,  
SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on April 11, 1979,  
at Santa Fe, New Mexico, before Examiner Daniel S. Nutter.

NOW, on this 28th day of November, 1979, 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, Petroleum Corporation of Texas,  
is the owner and operator of the Hanley Well No. 2-A, located  
in Unit F of Section 18, Township 29 North, Range 10 West, NMPM,  
San Juan County, New Mexico.

(3) That the applicant seeks authority to commingle  
Aztec-Fruitland and Aztec-Pictured Cliffs production within the  
wellbore of the above-described well.

(4) That from the Fruitland zone, the subject well is  
expected to be capable of marginal production only.

(5) That from the Pictured Cliffs zone, the subject well  
is capable of a low rate of production only.

(6) That the proposed commingling may result in the recovery  
of additional hydrocarbons from each of the subject pools, thereby  
preventing waste, and will not violate correlative rights.

-2-

Case No. 6522  
Order No. R-6182

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, 75 percent of the commingled production should be allocated to the Fruitland zone, and 25 percent of the commingled production to the Pictured Cliffs zone.

IT IS THEREFORE ORDERED:

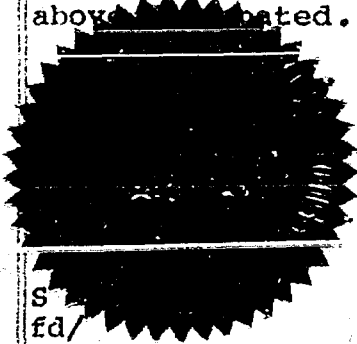
(1) That the applicant, Petroleum Corporation of Texas, is hereby authorized to commingle Aztec-Fruitland and Aztec-Pictured Cliffs production within the wellbore of the Hanley Well No. 2-A, located in Unit F of Section 18, Township 29 North, Range 10 West, NMPM, San Juan County, New Mexico.

(2) That 75 percent of the commingled production shall be allocated to the Fruitland zone and 25 percent of the commingled production shall be allocated to the Pictured Cliffs zone.

(3) That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present to the Division, a plan for remedial action.

(4) 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 stated.



STATE OF NEW MEXICO  
OIL CONSERVATION DIVISION

*Joe D. Ramey*  
JOE D. RAMEY  
Director

S  
fd/

STATE OF NEW MEXICO  
ENERGY AND MINERALS DEPARTMENT  
OIL CONSERVATION DIVISION  
State Land Office Building  
Santa Fe, New Mexico  
11 April 1979

EXAMINER HEARING

IN THE MATTER OF:

Application of Petroleum Corporation ) CASE  
of Texas for downhole commingling, ) 6522  
San Juan County, New Mexico. )

BEFORE: Daniel S. Nutter

TRANSCRIPT OF HEARING

A P P E A R A N C E S

For the Oil Conservation  
Division:

Lynn Teschendorf, Esq.  
Legal Counsel for the Division  
State Land Office Bldg.  
Santa Fe, New Mexico 87503

For the Applicant:

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

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3030 Plaza Ilanica (99) 471-2462  
Santa Fe, New Mexico 87501

## I N D E X

## EWELL N. WALSH

Direct Examination by Mr. Kellahin

3

Cross Examination by Mr. Nutter

9

## E X H I B I T S

Applicant Exhibit One, Map

4

Applicant Exhibit Two, C-101

5

Applicant Exhibit Three, C-103

6

Applicant Exhibit Four, Schematic

7

Applicant Exhibit Five, Summary

7

Applicant Exhibit Six, C-122

8

Applicant Exhibit Seven, Order R-5212

8

SALLY WALTON BOYD  
CERTIFIED shorthand reporter  
3020 Plaza Ilanca (806) 471-3463  
Santa Fe, New Mexico 87501

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3020 Plaza Blanca (SOS) 471-2462  
Santa Fe, New Mexico 87501

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MR. NUTTER: Call Case Number 6522.

MS. TESCHENDORF: Case 6522. Application of Petroleum Corporation of Texas for downhole commingling, San Juan County, New Mexico.

MR. KELLAHIN: Tom Kellahin of Santa Fe, New Mexico, appearing on behalf of the Applicant, and I have one witness.

(Witness sworn.)

EWELL N. WALSH

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

DIRECT EXAMINATION

BY MR. KELLAHIN:

Q Mr. Walsh, would you please state your name and occupation?

A My name is Ewell N. Walsh. I'm the president of Walsh Engineering and Production Corporation, Farmington, New Mexico.

Q Mr. Walsh, have you previously testified before the Oil Conservation Division?

A Yes, I have.

Q And had your qualifications as an expert

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
2020 Plaza Blanca (505) 471-2462  
Santa Fe, New Mexico 87501

1 engineer accepted and made a matter of record?

2 A. They were.

3 Q. What is your relationship with Petroleum  
4 Corporation of Texas with regards to this application?

5 A. I'm appearing as a consultant on behalf of  
6 Petroleum Engineering -- or Petroleum Corporation of Texas  
7 in regards to requesting approval of a downhole commingling  
8 of the Fruitland and Pictured Cliff formations in their  
9 Hanley No. 2-A Well.

10 Q. Mr. Walsh, in your capacity as a consultant,  
11 have you made a study of and are you familiar with the  
12 facts surrounding this application?

13 A. I am.

14 MR. KELLAHIN: We tender Mr. Walsh as an  
15 expert.

16 MR. NUTTER: Mr. Walsh is considered qual-  
17 ified.

18 Q. (Mr. Kellahin continuing.) Would you refer  
19 to Exhibit Number One and identify that?

20 A. Exhibit Number One is a map of a portion of  
21 Township 29 North, Range 10 and 11 West, San Juan County,  
22 New Mexico. On the map are indicated the Pictured Cliffs  
23 wells, Fruitland wells, and downhole commingling Fruitland-  
24 Pictured Cliffs wells.

25 The well of which this hearing concerns, is

1 the well indicated by the red arrow, the Petroleum Corpor-  
2 ation of Texas Hanley No. 2-A, located in the northwest  
3 quarter of Section 18, Township 29 North, Range 10 West.

4 All --

5 Q Excuse me, I was going to ask you, what is  
6 the spacing or proration unit assigned for the Fruitland  
7 and Pictured Cliffs formations for this well?

8 A It is 160 acres.

9 Q And that is the northwest quarter of Section  
10 18?

11 A 18, of Section 18.

12 Q All right.

13 A Also, I'd like to bring to the Examiner's  
14 attention that one mile, less than one mile due south of  
15 the Petroleum Corporation of Texas well, there is a down-  
16 hole commingled Fruitland-Pictured Cliffs well, the McKay  
17 Bearden No. 1-A, which is, as I stated, downhole commingled  
18 and has been approved by the Commission in hearing, at the  
19 hearing as being a commingled well.

20 Q Let's refer to Exhibit Number Two and have  
21 you identify that.

22 A Exhibit Number Two is the copy of the ap-  
23 plication for permit to drill, deepen, or plug back, Form  
24 Number C-101, and attachment of the well location and  
25 acreage dedication plat for this well.

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3030 Plaza Blanca (666) 471-2462  
Santa Fe, New Mexico 87501



1 Q The attached acreage dedication plat indi-  
2 cates that we have 151.41 acres dedicated to the well?

3 A It does, and we'd also request approval for  
4 the Fruitland and Pictured Cliffs, the acreage dedication  
5 for this well, to be a non-standard proration unit of 151.41  
6 acres.

7 Q Does the shortage in acres simply result  
8 from an undersized section?

9 A Yes, it does.

10 MR. NUTTER: Before we get any further,  
11 Red, you're going to have to file for that administratively.  
12 That wasn't included in the notice of this particular  
13 hearing.

14 A I'm aware of that but I wanted to bring it  
15 up.

16 Q Let's look at Exhibit Number Three and  
17 have you identify that.

18 A Exhibit Number Three is a copy of Form  
19 C-103 filed with the Commission stating a notice of inten-  
20 tion to change plans. The intention to drill indicated  
21 to drill a Pictured Cliffs well and we filed this form to  
22 indicate that we're going to complete in both the Aztec  
23 Fruitland and Aztec Pictured Cliffs zones in a downhole  
24 commingled manner.

25 Q This well has not yet been spudded, has it?

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CERTIFIED SHORTHAND REPORTER  
3020 Plaza Blanca (SOS) 471-4662  
Santa Fe, New Mexico 87501

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3030 Plaza Blanca (505) 471-2462  
Santa Fe, New Mexico 87501

1 A. It has been completed.

2 Q. Oh, I'm sorry.

3 A. Drilled and completed.

4 Q. All right, and how is it currently equipped?

5 A. Exhibit Number Four is a schematic of the  
6 downhole well equipment for this well, indicating that the  
7 Pictured Cliffs formation perforations from 1932 to 1952  
8 feet, and the Fruitland perforations from 1725 to 1745 feet;  
9 both of these zones were stimulated separately and also  
10 tested separately.

11 And then our production tubing, 1-1/4 inch  
12 tubing being landed at 1731 feet.

13 Q. And would you refer to Exhibit Number Five  
14 and identify that?

15 A. Exhibit Number Five is a summary of the  
16 tests of each separate zone after they were stimulated by  
17 sand/water fracture treatment.

18 The zones were cleaned up as much as pos-  
19 sible, given a shut-in time, and then flowed -- were flowed  
20 to the atmosphere and the gas volumes gauged in both cases  
21 after the end of nine hours.

22 Indicated there is a gas measurement for  
23 both the Pictured Cliffs and Fruitland.

24 Q. Excuse me, do you have a recommendation to  
25 the Examiner with regards to a percentage allocation of

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3020 Plaza Blanca (605) 471-2462  
Santa Fe, New Mexico 87501

1 production between the Pictured Cliffs and Fruitland?

2 A. The recommendation is as indicated under  
3 the portion that indicates the flow rate on Exhibit Five,  
4 utilizing these two gauges and the Pictured Cliffs would  
5 be allocated 25 percent of the production and the Fruitland  
6 formation 75 percent of the production.

7 Q. Do either of these zones make any fluids?

8 A. None, other than connate water. No hydro-  
9 carbons.

10 Q. To your knowledge, is there any incompati-  
11 bility between the gases produced from the Fruitland and  
12 Pictured Cliffs?

13 A. No.

14 Q. In your opinion is a downhole commingling  
15 of the Pictured Cliffs and Fruitland most effective and  
16 efficient way to produce those two zones?

17 A. In this well, yes, sir.

18 Q. All right, sir.

19 Would you look at Exhibit Number Six and  
20 identify that?

21 A. Exhibit Number Six is Form C-122, Multipoint  
22 1-point back pressure test for gas wells, indicating the  
23 test after the well was completed. This was conducted in  
24 accordance with the Commission rules and regulations.

25 Q. All right, sir, and Exhibit Number Seven?

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3020 Plaza Blanca (603) 471-2462  
Santi, Fe, New Mexico 87501

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A. Exhibit Number Seven is a copy of Order Number R-5212 issued by the Commission approving the application of Horace McKay for downhole commingling of the Pictured Cliffs and Fruitland formations in his Bearden No. 1-A Well.

Q. In your opinion, Mr. Walsh, will approval of this application in any way take an unfair advantage of any offset operator?

A. No.

Q. All right. Will approval of the application be in the best interests of conservation and prevention of waste?

A. It will.

Q. Were Exhibits One through Six compiled by you or under your direction and supervision?

A. Yes, they were.

MR. KELLAHIN: If the Examiner please, we move the introduction of Exhibits One through Seven.

MR. NUTTER: Applicant's Exhibits One through Seven will be admitted in evidence.

MR. KELLAHIN: That concludes our examination.

# CROSS EXAMINATION

BY MR. NUTTER:

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3020 Plaza Blanca (0.05) 471-2423  
Santa Fe, New Mexico 87501

- 1 Q Mr. Walsh, I notice that on the plat which
- 2 was filed with the drilling permit, it was for dedicated
- 3 acreage in the Aztec-Pictured Cliffs only, and there was
- 4 an approved communitization agreement --
- 5 A That is correct.
- 6 Q -- for that formation. Does that communiti-
- 7 zation agreement also cover the Fruitland?
- 8 A Yes, it does.
- 9 Q So the ownership throughout both of these
- 10 zones is identical throughout?
- 11 A It is.
- 12 Q Okay.
- 13 A There has subsequently been new acreage
- 14 dedication plats filed with the information for both pools.
- 15 Q For both pools?
- 16 A That's right.
- 17 Q You weren't thinking about Fruitland when
- 18 you filed the original drilling permit.
- 19 A This was -- we were going to look at it
- 20 but we didn't know exactly how we were going -- we weren't
- 21 considering it for downhole commingling.
- 22 Q But it turned out that the Fruitland was
- 23 considerably better than the Pictured Cliffs.
- 24 A Well, it's a -- the Fruitland was better
- 25 than some of the other areas in this well. I believe you

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
3020 Plaza Blanca (505) 471-2462  
Santa Fe, New Mexico 87501

1 are aware of how the Fruitland formation is, and it just  
2 came in real good.

3 Q Now the Fruitland is not prorated and I  
4 don't think the Aztec-Pictured Cliffs is any longer pro-  
5 rated.

6 A That is correct.

7 Q So we're talking about two non-prorated  
8 zones being commingled.

9 A Two non-prorated zones.

10 MR. NUTTER: Are there any other questions  
11 of the witness? He may be excused.

12 Do you have anything further, Mr. Kellahin?

13 MR. KELLAHIN: No, sir.

14 MR. NUTTER: Does anyone have anything they  
15 wish to offer in Case Number 6522?

16 Take the case under advisement.

17 (Hearing concluded.)  
18  
19  
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REPORTER'S CERTIFICATE

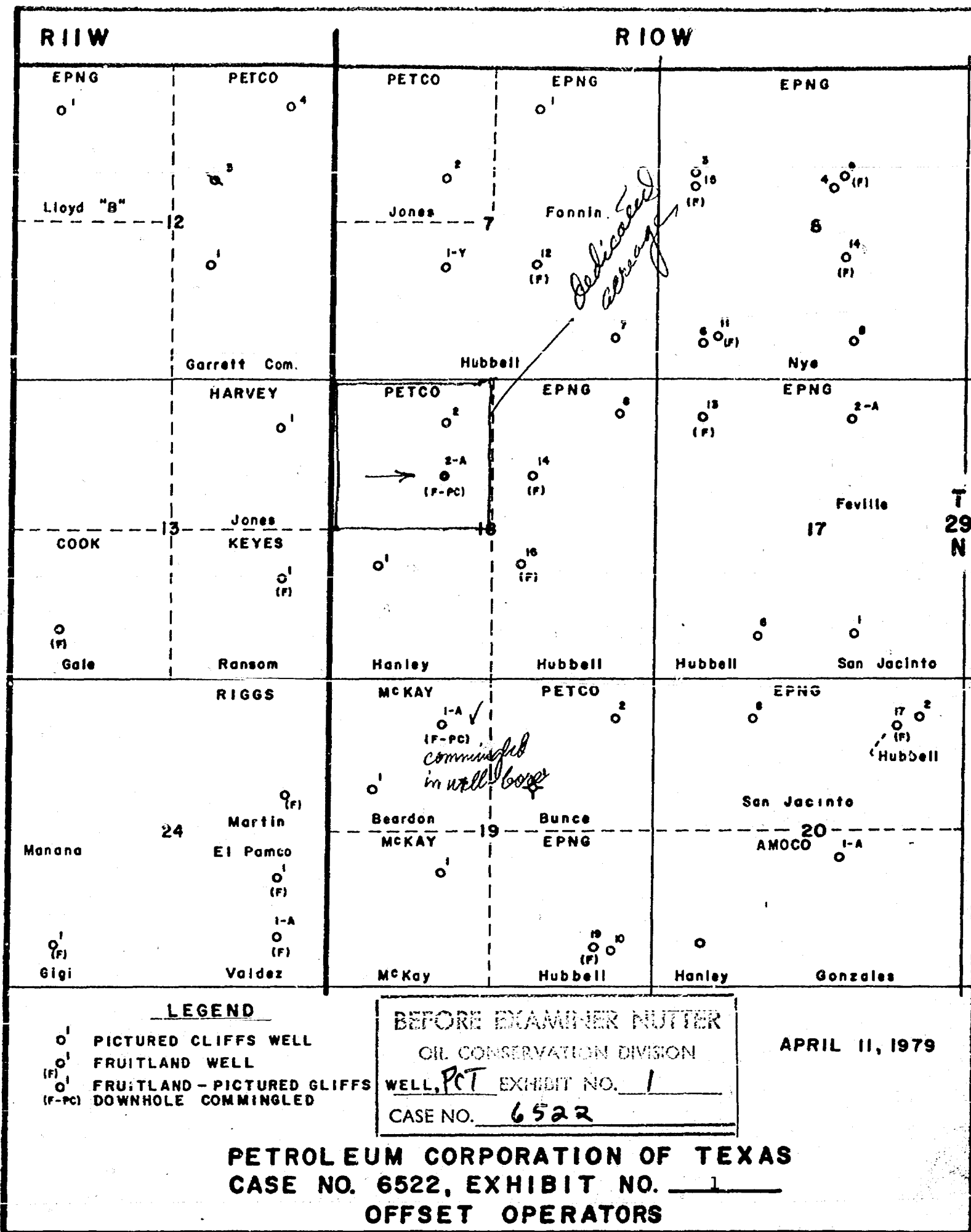
I, SALLY WALTON BOYD, a Court Reporter, DO HEREBY CERTIFY that the foregoing and attached Transcript of Hearing before the Oil Conservation Division was reported by me; that said transcript is a full, true, and correct record of the hearing, prepared by me to the best of my ability, knowledge, and skill, from my notes taken at the time of the hearing.

Sally W. Boyd  
Sally W. Boyd, C.S.R.

I do hereby certify that the foregoing is a complete record of the proceedings in the Examiner hearing of Case No. 6527 heard by me on 4/11 1979.

[Signature], Examiner  
Oil Conservation Division

SALLY WALTON BOYD  
CERTIFIED SHORTHAND REPORTER  
2020 Plaza Blanca (505) 471-3462  
Santa Fe, New Mexico 87501





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NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101  
Revised 1-1-65

5A. Indicate Type of Lease	
STATE <input type="checkbox"/>	FEL <input checked="" type="checkbox"/>
5. State Oil & Gas Lease No.	

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work		7. Unit Agreement Name	
b. Type of Well DRILL <input checked="" type="checkbox"/> DEEPEN <input type="checkbox"/> PLUG BACK <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER <input type="checkbox"/> SINGLE ZONE <input type="checkbox"/> MULTIPLE ZONE <input type="checkbox"/>		8. Farm or Lease Name Hanley	
2. Name of Operator Petroleum Corporation of Texas		9. Well No. 2-A	
3. Address of Operator P.O. Box 911 Breckenridge, Texas 76024		10. Field and Pool, or Wildcat Aztec Pictured Cliffs	
4. Location of Well UNIT LETTER F LOCATED 1780 FEET FROM THE North LINE AND 1700 FEET FROM THE West LINE OF SEC. 18 TWP. 29N REC. 10W NMPM		12. County San Juan	
19. Proposed Depth 2130'		19A. Formation Pictured Cliffs	
20. Rotary or C.T. Rotary		21. Elevations (Show whether DF, RT, etc.) 5603' G.L.	
21A. Kind & Status Plug. Bond Statewide		21B. Drilling Contractor To Be Determined	
22. Approx. Date Work will start To Be Determined			

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12-1/4"	8-5/8"	24.0	120'	125 Sks.	Surface
7-7/8"	4-1/2"	10.50	2130'	To Be Determined By Caliper	Surface

It is proposed to drill this well with rotary tools and using drilling mud as a circulating medium. The well will be completed in the Productive Intervals in the Pictured Cliffs Formation. Production casing will be cemented in such a manner to protect all possible productive intervals and watersands.

Estimated Formation Tops:

Ojo Alamo - 690'  
Kirtland - 840'

Fruitland - 1510'  
Pictured Cliffs - 1930'

The NW/4 of section 18 will be dedicated to this well.

The natural gas from this well is committed.

BEFORE EXAMINER NUTTER	
OIL CONSERVATION DIVISION	
PCT	EXHIBIT NO. 2
CASE NO.	6522

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM; IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Ernest H. Walsh, P.E. Title President, Walsh Engineering & Production Corporation Date 10-6-78  
(This space for State Use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-103  
Supersedes C-102  
Effective 1-1-78

All distances must be from the outer boundaries of the section

Operator <b>PETROLEUM CORPORATION OF TEXAS</b>			Lease <b>HANLEY</b>		Well No. <b>2-A</b>
Unit Letter <b>F</b>	Section <b>18</b>	Township <b>29N</b>	Range <b>10W</b>	County <b>San Juan</b>	
Actual Footage Location of Well: <b>1780</b> feet from the <b>North</b> line and <b>1700</b> feet from the <b>West</b> line					
Ground Level Elev. <b>5603</b>	Producing Formation <b>Pictured Cliffs</b>		Pool <b>Aztec Pictured Cliffs</b>	Dedicated Acreage <b>151.41</b>	

- Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
- If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). See Attached Schedule "A"
- If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?
 

☒ Yes ☐ No If answer is "yes," type of consolidation Approved Communitization Agreement

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.

**CERTIFICATION**

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

FOR: Petroleum Corp. of Texas

Name  
**Ewell N. Walsh, P.E.**

Position  
**President**

Company  
**Walsh Engin. & Prod. Corp.**

Date  
**October 6, 1978**

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
**September 29, 1978**

Recorded & Indexed  
**3018**

Filed  
**October 11, 1978**

Certified  
**W. KERR, Jr.**

NEW MEXICO OIL CONSERVATION COMMISSION

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SANTA FE	
FILE	
U.S.G.S.	
LAND OFFICE	
OPERATOR	

5a. Indicate Type of Lease
State <input type="checkbox"/> Fee <input checked="" type="checkbox"/>
5. State Oil & Gas Lease No.

**SUNDY NOTICES AND REPORTS ON WELLS**  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR.  
USE "APPLICATION FOR PERMIT - 1" (FORM C-101) FOR SUCH PROPOSALS.)

1. <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER	7. Unit Agreement Name
2. Name of Operator PETROLEUM CORPORATION OF TEXAS	8. Farm or Lease Name Hanley
3. Address of Operator P.O. Box 911 Breckenridge, Texas 76024	9. Well No. 2-A
4. Location of Well UNIT LETTER F 1780 FEET FROM THE North LINE AND 1700 FEET FROM West THE LINE, SECTION 18 TOWNSHIP 29N RANGE 10W NMPM.	10. Field and Pool, or Wildcat Aztec Fruitland and Aztec Pictured Cliffs
15. Elevation (Show whether DF, RT, GK, etc.) 5603' GR	12. County San Juan

Check Appropriate Box To Indicate Nature of Notice, Report or Other Data  
NOTICE OF INTENTION TO: SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOB <input type="checkbox"/>	

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 1103.

It is proposed to complete the well in such a manner as to down hole commingle the gas from the Fruitland and Pictured Cliffs Formation.

If well is completed in the above manner a hearing will be requested to obtain approval of the completion.

BEFORE EXAMINER NUTTER  
OIL CONSERVATION DIVISION  
PCT EXHIBIT NO. 3  
CASE NO. 6522

OR: PETROLEUM CORPORATION OF TEXAS

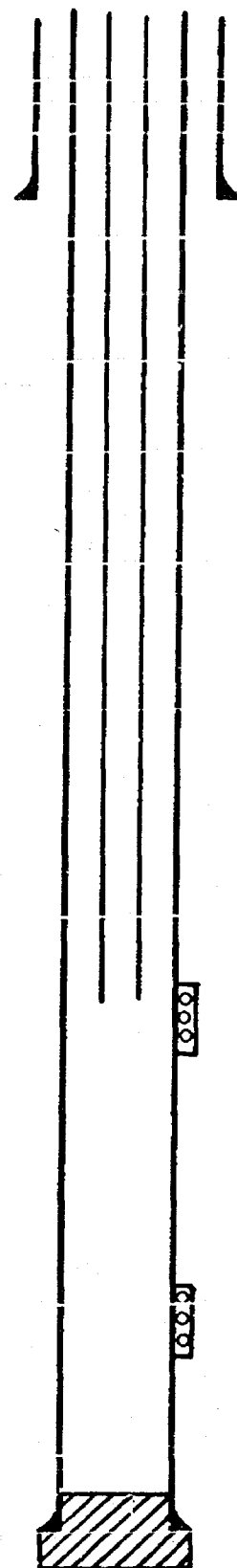
18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Ewell N. Walsh Title President, Walsh Engin. & Prod. Corp. DATE 3/8/79

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

PETROLEUM CORPORATION OF TEXAS  
CASE NO. 6522, EXHIBIT NO. 4

HANLEY NO. 2-A  
SCHEMATIC OF WELL EQUIPMENT



8 5/8" CASING - 141' / 125 Sxs.

BEFORE EXAMINER MUTTER	
OIL CONSERVATION DIVISION	
PCT	EXHIBIT NO. <u>4</u>
CASE NO.	<u>6522</u>

1 1/4" TUBING - 1731'

FRUITLAND - Perforations, 1725' - 1745' (1 per foot)  
Sandwater Frac, 37,460 gallons water  
50,000 lbs. sand

PICTURED CLIFFS - Perforations, 1932' - 1952' (1 per foot)  
Sandwater Frac, 39,250 gallons water  
50,000 lbs. sand

P.B.T.D. - 2050'  
4 1/2" CASING - 2102' / 460 Sxs. (cement to surface)  
Total Depth - 2130'

April 11, 1979

PETROLEUM CORPORATION OF TEXAS

HANLEY NO. 2-A

PICTURED CLIFFS

After formation cleaned up of frac water.

14 Hour Shut in pressure - 290 psig.

Flow for 9 hours - 280 MCFPD

Flowing casing pressure - 80 psig.

FRUITLAND

After formation cleaned up of frac water.

14 Hour Shut in pressure - 515 psig.

Flow for 9 hours - 850 MCFPD

Flowing casing pressure - 250 psig.

FLOW RATE

Pictured Cliffs	-	280 MCFPD	25.0%
Fruitland	-	850 MCFPD	75.0%
TOTAL	-	1,130 MCFPD	

Case No. 6522

Exhibit No. 5

April 11, 1979

BEFORE EXAMINER NUTTER  
OIL CONSERVATION DIVISION  
PCT EXHIBIT NO. 5  
CASE NO. 6522

Walsh ENGINEERING & PRODUCTION CORP.

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special		Test Date 4/2/79	
Company Petroleum Corporation of Texas		Connection Waiting on Pipeline	
Pool Aztec Fruitland and Aztec Pictured Cliffs		Formation Fruitland & Pictured Cliffs	
Completion Date 3/20/79	Total Depth 2130'	Plug Back TD 2050'	Elevation 5618' KB
Form or Lease Name Hanley		Well No. 2-A	
Csg. Size 4.50	Wt. 9.50 & d 10.50	Set At 4.090	2102'
Perforations From 1932'	To 1952'	1745' and	
Tkg. Size 1.660	Wt. 2.40	Set At 1.380	1731'
Perforations From 1729'	To 1731'		
Type Well - Single - Bradenhead - G.G. or G.O. Multiple Single - Downhole Commingled		Packer Set At None	
Producing Thru Tubing		Reservoir Temp. °F 89	Mean Annual Temp. °F 60°
Baro. Press. - P <sub>0</sub> 12.0		State New Mexico	
L 1729	H 1729	G <sub>g</sub> 0.600	% CO <sub>2</sub> --
% N <sub>2</sub> --	% H <sub>2</sub> S --	Prover --	Meter Run --
Taps --			

FLOW DATA						TUBING DATA		CASING DATA		Duration of Flow	
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.		Temp. °F
1.	3/4" THC						465		465		8 days
2.							100		375		3 Hrs.
3.											
4.											
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{h_w P_m}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>sp</sub>	Rate of Flow Q, Mcfd
1	12.3650		112	1.0000	1.0000	1.0000	1,385
2.							
3.							
4.							
5.							

NO.	P <sub>t</sub>	Temp. °R	T <sub>t</sub>	Z	Gas Liquid Hydrocarbon Ratio	Mcf/bbl.
1.					A.P.I. Gravity of Liquid Hydrocarbons	Deg.
2.					Specific Gravity Separator Gas	XXXXXXX
3.					Specific Gravity Flowing Fluid	XXXXX
4.					Critical Pressure	P.S.I.A.
5.					Critical Temperature	R

P <sub>c</sub> 477	P <sub>c</sub> <sup>2</sup> 227,529	
NO.	P <sub>1</sub> <sup>2</sup>	P <sub>w</sub> <sup>2</sup>
1	387	149,769
2		77,760
3		
4		
5		

(1)  $\frac{P_c^2}{P_c^2 - P_w^2} = 2.9260$

AOF = Q  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3,450$

(2)  $\left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 2.4907$

Absolute Open Flow	3,450	Mcf/d @ 15.025	Angle of Slope @	Slope, n. 0.85
Remarks:				
Approved By Commission:	Conducted By: Iernold Brooks	Calculated By: Ewell N. Walsh	Checked By:	

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

CASE NO. 5672  
Order No. R-5212

APPLICATION OF HORACE F. MCKAY, JR.  
FOR DOWNHOLE COMMINGLING AND SIMULTANEOUS  
DEDICATION, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 28, 1976,  
at Santa Fe, New Mexico, before Examiner, Richard L. Stamets.

NOW, on this 18th day of May, 1976, the Commission, a  
quorum being present, 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 Commission has jurisdiction of this cause and the subject  
matter thereof.

(2) That the applicant, Horace F. McKay, Jr., is the owner  
and operator of the Beardon Well No. 1A, located in Unit C of  
Section 19, Township 29 North, Range 10 West, NMPM, San Juan  
County, New Mexico.

(3) That the applicant seeks authority to commingle Aztec-  
Fruitland and Aztec-Pictured Cliffs gas production within the  
wellbore of the above-described well.

(4) That applicant further seeks approval for the simul-  
taneous dedication of the NW/4 of said Section 19 to the above-  
described well and to his Beardon Well No. 1 in Unit E of said  
Section 19.

(5) That from the Aztec-Fruitland zone, the subject well is  
capable of low rates of production only.

(6) That from the Aztec-Pictured Cliffs zone, the subject  
well is capable of low rates of production only.

(7) That the proposed commingling may result in the recovery  
of additional hydrocarbons from each of the subject pools, thereby  
preventing waste, and will not violate correlative rights.

(8) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(9) That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Commission any time the subject well is shut-in for 7 consecutive days.

(10) That in order to allocate the commingled production to each of the commingled zones in the subject well, 10 percent of the commingled production should be allocated to the Aztec-Fruitland zone, and 90 percent of the commingled production to the Aztec-Pictured Cliffs zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, Horace F. McKay, Jr., is hereby authorized to commingle Aztec-Fruitland and Aztec-Pictured Cliffs production within the wellbore of the Beardon Well No. 1A, located in Unit C of Section 19, Township 29 North, Range 10 West, NMPM, San Juan County, New Mexico.

(2) That 10 percent of the commingled production shall be allocated to the Aztec-Fruitland zone and 90 percent of the commingled production shall be allocated to the Aztec-Pictured Cliffs zone.

(3) That applicant is further authorized to simultaneously dedicate the NW/4 of said Section 19 to the above-described well and to his Beardon Well No. 1 in Unit E of said Section 19.

(4) That the operator of the subject well shall immediately notify the Commission's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Commission, a plan for remedial action.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.



-3-  
Case No. 5672  
Order No. R-5212

DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

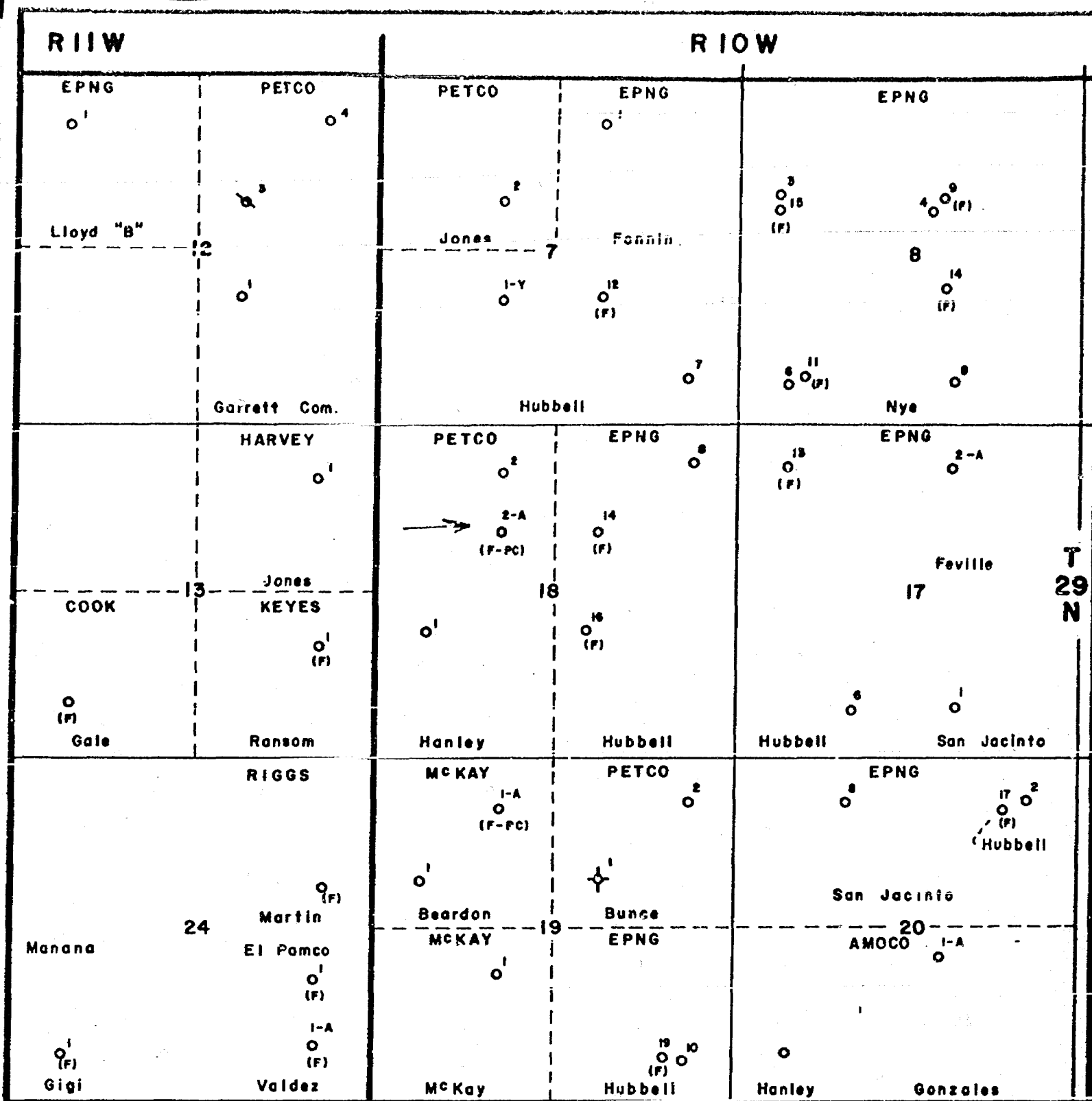
*Phil R. Lucero*  
PHIL R. LUCERO, Chairman

*Emery C. Arnold*  
EMERY C. ARNOLD, Member

*Joe D. Ramey*  
JOE D. RAMEY, Member & Secretary

S E A L

jr/



# LEGEND

- O<sup>1</sup> PICTURED CLIFFS WELL
- O<sup>1</sup> FRUITLAND WELL
- (F) FRUITLAND - PICTURED CLIFFS WELL,
- (F-PC) DOWNHOLE COMMINGLED

APRIL 11, 1979

PETROLEUM CORPORATION OF TEXAS  
CASE NO. 6522, EXHIBIT NO. 1  
OFFSET OPERATORS

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LAND OFFICE	
OPERATOR	

NEW MEXICO OIL CONSERVATION COMMISSION

Form C-101  
Revised 1-1-65

5A. Indicate Type of Lease STATE <input type="checkbox"/> FEDERAL <input checked="" type="checkbox"/>
5. State Oil & Gas Lease No.
7. Unit Agreement Name
8. Farm or Lease Name Hanley
9. Well No. 2-A
10. Field and Pool, or Wildcat Aztec Pictured Cliffs
12. County San Juan
19. Proposed Depth 2130'
19A. Formation Pictured Cliffs
20. Rotary or C.T. Rotary
21. Elevations (Show whether DF, RT, etc.) 5603' G.L.
21A. Kind & Status Plug. Bond Statewide
21B. Drilling Contractor To Be Determined
22. Approx. Date Work will start To Be Determined

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work  
b. Type of Well DRILL ☒ DEEPEN ☐ PLUG BACK ☐  
OIL WELL ☐ GAS WELL ☒ OTHER ☐ SINGLE ZONE ☐ MULTIPLE ZONE ☐

2. Name of Operator  
Petroleum Corporation of Texas

3. Address of Operator  
P.O. Box 911 Breckenridge, Texas 76024

4. Location of Well UNIT LETTER F LOCATED 1780 FEET FROM THE North LINE  
AND 1700 FEET FROM THE West LINE OF SEC. 18 TWP. 29N RGE. 10W NMPM

21. Elevations (Show whether DF, RT, etc.)  
5603' G.L.

21A. Kind & Status Plug. Bond  
Statewide

21B. Drilling Contractor  
To Be Determined

22. Approx. Date Work will start  
To Be Determined

PROPOSED CASING AND CEMENT PROGRAM

SIZE OF HOLE	SIZE OF CASING	WEIGHT PER FOOT	SETTING DEPTH	SACKS OF CEMENT	EST. TOP
12-1/4"	8-5/8"	24.0	120'	125 Sks.	Surface
7-7/8"	4-1/2"	10.50	2130'	To Be Determined By Caliper	Surface

It is proposed to drill this well with rotary tools and using drilling mud as a circulating medium. The well will be completed in the Productive Intervals in the Pictured Cliffs Formation. Production casing will be cemented in such a manner to protect all possible productive intervals and watersands.

Estimated Formation Tops:

Ojo Alamo - 690' Fruitland - 1510'  
Kirtland - 840' Pictured Cliffs- 1930'

The NW/4 of section 18 will be dedicated to this well.

The natural gas from this well is committed.

IN ABOVE SPACE DESCRIBE PROPOSED PROGRAM; IF PROPOSAL IS TO DEEPEN OR PLUG BACK, GIVE DATA ON PRESENT PRODUCTIVE ZONE AND PROPOSED NEW PRODUCTIVE ZONE. GIVE BLOWOUT PREVENTER PROGRAM, IF ANY.

I hereby certify that the information above is true and complete to the best of my knowledge and belief.

Signed Emell H. Walsh, P.E. Title President, Walsh Engineering & Production Corporation Date 10-6-78  
(This space for State Use)

APPROVED BY \_\_\_\_\_ TITLE \_\_\_\_\_ DATE \_\_\_\_\_  
CONDITIONS OF APPROVAL, IF ANY:

NEW MEXICO OIL CONSERVATION COMMISSION  
WELL LOCATION AND ACREAGE DEDICATION PLAT

Form C-101  
Supersedes C-100  
Effective 1-1-74

All distances must be from the outer boundaries of the Section

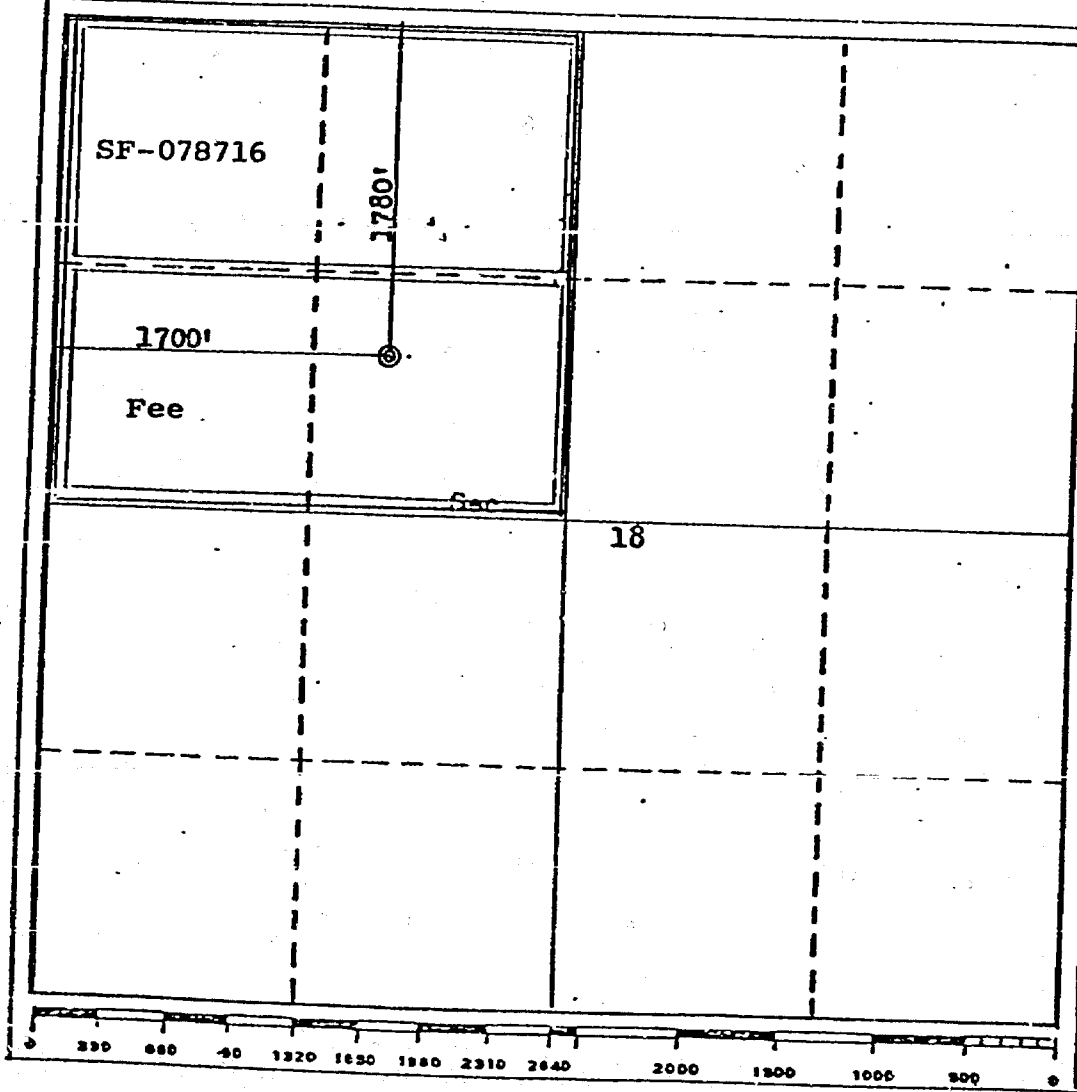
Operator <b>PETROLEUM CORPORATION OF TEXAS</b>			Lease <b>HANLEY</b>		Well No. <b>2-23</b>
Unit Letter <b>F</b>	Section <b>18</b>	Township <b>29N</b>	Range <b>10W</b>	County <b>San Juan</b>	
Actual Footage Location of Well <b>1780</b> feet from the <b>North</b> line and <b>1700</b> feet from the <b>West</b> line					
Ground Level Elev. <b>5603</b>	Producing Formation <b>Pictured Cliffs</b>		Pool <b>Aztec Pictured Cliffs</b>		Dedicated Acreage <b>151.41</b>

1. Outline the acreage dedicated to the subject well by colored pencil or hatchure marks on the plat below.
2. If more than one lease is dedicated to the well, outline each and identify the ownership thereof (both as to working interest and royalty). See Attached Schedule "A"
3. If more than one lease of different ownership is dedicated to the well, have the interests of all owners been consolidated by communitization, unitization, force-pooling, etc?

☒ Yes ☐ No If answer is "yes," type of consolidation Approved Communitization Agreement

If answer is "no," list the owners and tract descriptions which have actually been consolidated. (Use reverse side of this form if necessary.)

No allowable will be assigned to the well until all interests have been consolidated (by communitization, unitization, forced-pooling, or otherwise) or until a non-standard unit, eliminating such interests, has been approved by the Commission.



CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief.

FOR: Petroleum Corp. of Texas

Name <b>Dwight N. Walsh, P.E.</b>
Position <b>President</b>
Company <b>Walsh Engin. &amp; Prod. Corp.</b>
Date <b>October 6, 1978</b>

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my knowledge and belief.

Date Surveyed  
**September 29, 1978**

Reviewed & Approved by  
**[Signature]**

Certified by  
**[Signature]**

**3950**

NEW MEXICO OIL CONSERVATION COMMISSION

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LAND OFFICE	
OPERATOR	

30. Indicate Type of Lease	
State <input type="checkbox"/>	Fee <input checked="" type="checkbox"/>
3. State Oil & Gas Lease No.	

SUNDRY NOTICES AND REPORTS ON WELLS  
(DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR.  
USE "APPLICATION FOR PERMIT -" (FORM C-101) FOR SUCH PROPOSALS.)

1. <input type="checkbox"/> OIL WELL <input checked="" type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER	7. Unit Agreement Name
2. Name of Operator PETROLEUM CORPORATION OF TEXAS	8. Farm or Lease Name Hanley
3. Address of Operator P.O. Box 911 Breckenridge, Texas 76024	9. Well No. 2-A
4. Location of Well UNIT LETTER F 1780 FEET FROM THE North LINE AND 1700 FEET FROM West THE LINE, SECTION 18 TOWNSHIP 29N RANGE 10W NMPM.	10. Field and Pool, or Wildcat Aztec Fruitland and Aztec Pictured Cliffs
15. Elevation (Show whether DF, RT, GR, etc.) 5603' GR	12. County San Juan

16. Check Appropriate Box To Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
PERFORM REMEDIAL WORK <input type="checkbox"/>	PLUG AND ABANDON <input type="checkbox"/>	REMEDIAL WORK <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
TEMPORARILY ABANDON <input type="checkbox"/>	CHANGE PLANS <input checked="" type="checkbox"/>	COMMENCE DRILLING OPNS. <input type="checkbox"/>	PLUG AND ABANDONMENT <input type="checkbox"/>
PULL OR ALTER CASING <input type="checkbox"/>	OTHER <input type="checkbox"/>	CASING TEST AND CEMENT JOBS <input type="checkbox"/>	OTHER <input type="checkbox"/>

17. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work) SEE RULE 103.

It is proposed to complete the well in such a manner as to down hole commingle the gas from the Fruitland and Pictured Cliffs Formation.

If well is completed in the above manner a hearing will be requested to obtain approval of the completion.

FOR: PETROLEUM CORPORATION OF TEXAS

18. I hereby certify that the information above is true and complete to the best of my knowledge and belief.

SIGNED: Ewell N. Walsh, P.E.

President, Walsh Engin. & Prod. Corp.

TITLE

DATE 3/8/79

APPROVED BY

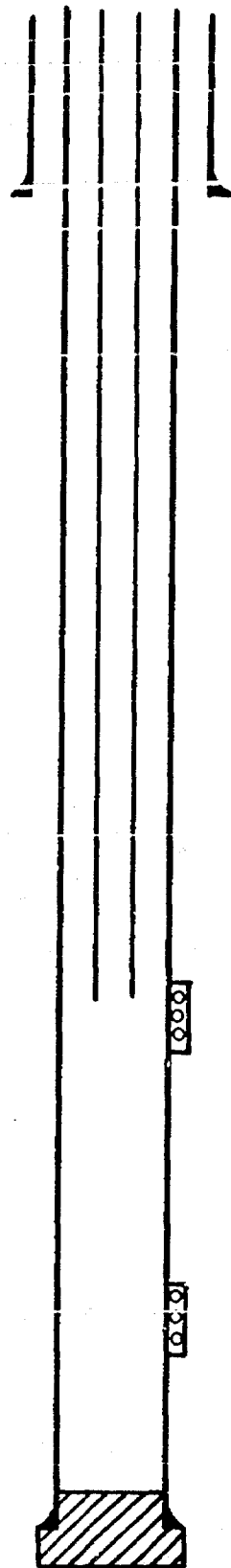
TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

PETROLEUM CORPORATION OF TEXAS  
CASE NO. 6522, EXHIBIT NO. 4

HANLEY NO. 2-A  
SCHEMATIC OF WELL EQUIPMENT



6 5/8" CASING - 1417' 125 Sxs.

1 1/4" TUBING - 1731'

FRUITLAND - Perforations, 1725'-1745' (1 per foot)  
Sandwater Frac, 37,460 gallons water  
50,000 lbs. sand

PICTURED CLIFFS - Perforations, 1932'-1952' (1 per foot)  
Sandwater Frac, 39,250 gallons water  
50,000 lbs. sand

P.B.T.D. - 2050'  
4 1/2" CASING - 2102' 460 Sxs. (cement to surface)  
Total Depth - 2130'

April 11, 1979

PETROLEUM CORPORATION OF TEXAS

HANLEY NO. 2-A

PICTURED CLIFFS

After formation cleaned up of frac water.

14 Hour Shut in pressure - 290 psig.

Flow for 9 hours - 280 MCFPD

Flowing casing pressure - 80 psig.

FRUITLAND

After formation cleaned up of frac water.

14 Hour Shut in pressure - 515 psig.

Flow for 9 hours - 850 MCFPD

Flowing casing pressure - 250 psig.

FLOW RATE

Pictured Cliffs	-	280 MCFPD	25.0%
Fruitland	-	850 MCFPD	75.0%
TOTAL	-	1,130 MCFPD	

Case No. 6522

Exhibit No. 5

April 11, 1979

**Walsh** ENGINEERING & PRODUCTION CORP.

Type Test <input checked="" type="checkbox"/> Initial <input type="checkbox"/> Annual <input type="checkbox"/> Special				Test Date 4/2/79	
Company Petroleum Corporation of Texas				Connection Waiting on Pipeline	
Pool Aztec Fruitland and Aztec Pictured Cliffs				Formation Fruitland & Pictured Cliffs	
Completion Date 3/20/79		Total Depth 2130'		Plug Back TD 2050'	
		Elevation 5618' KB		Farm or Lease Name Hanley	
Csg. Size 4.50	Wt. 9.50 & d 10.50	Set At 4.090	2102'	Perforations 1725' 1745' and From 1932' To 1952'	
Thg. Size 1.660	Wt. 2.40	d 1.380	Set At 1731'	Perforations: From 1729' To 1731'	
Type Well - Single - Blindhead - G.G. or G.O. Multiple Single - Downhole Commingled				Packer Set At None	
Producing Thru Tubing		Reservoir Temp. °F 89 @ 2130		Mean Annual Temp. °F 60°	
		Baro. Press. - P <sub>0</sub> 12.0		State New Mexico	
L 1729	H 1729	G <sub>g</sub> 0.600	% CO <sub>2</sub> --	% N <sub>2</sub> --	% H <sub>2</sub> S --
		Prover --		Meter Run --	
		Taps --			

FLOW DATA							TUBING DATA		CASING DATA		Duration of Flow
NO.	Prover Line Size	X	Orifice Size	Press. p.s.i.g.	Diff. h <sub>w</sub>	Temp. °F	Press. p.s.i.g.	Temp. °F	Press. p.s.i.g.	Temp. °F	
51							465		465		8 days
1.	3/4" IHC						100		375		3 Hrs.
2.											
3.											
4.											
5.											

RATE OF FLOW CALCULATIONS							
NO.	Coefficient (24 Hour)	$\sqrt{\frac{1}{h_w P_m}}$	Pressure P <sub>m</sub>	Flow Temp. Factor F <sub>t</sub>	Gravity Factor F <sub>g</sub>	Super Compress. Factor, F <sub>sp</sub>	Rate of Flow Q, Mcfd
1	12.3650		112	1.0000	1.0000	1.0000	1,385
2.							
3.							
4.							
5.							

NO.	P <sub>t</sub>	Temp. °R	T <sub>r</sub>	Z	Gas Liquid Hydrocarbon Ratio _____ Mcf/bbl.
1.					A.P.J. Gravity of Liquid Hydrocarbons _____ Deg.
2.					Specific Gravity Separator Gas _____ XXXXXXXXXX
3.					Specific Gravity Flowing Fluid _____ XXXXXX
4.					Critical Pressure _____ P.S.I.A. _____ P.S.I.A.
5.					Critical Temperature _____ R _____ R

P <sub>c</sub> 477    P <sub>c</sub> <sup>2</sup> 227,529			
NO.	P <sub>i</sub> <sup>2</sup>	P <sub>w</sub>	P <sub>w</sub> <sup>2</sup>
1		387	149,769
2			
3			
4			
5			

$$(1) \frac{P_c^2}{P_c^2 - P_w^2} = \frac{2.9260}{P_c^2 - P_w^2}$$

$$AOF = Q \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = 3,450$$

$$(2) \left[ \frac{P_c^2}{P_c^2 - P_w^2} \right]^n = \frac{2.4907}{P_c^2 - P_w^2}$$

Absolute Open Flow	3,450	Mcf @ 15.025	Angle of Slope @	Slope, n 0.85
Remarks:				

Approved By Commission:	Conducted By: Jerold Brooks	Calculated By: Ewell N. Walsh	Checked By:
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IN THE MATTER OF THE HEARING  
CALLED BY THE OIL CONSERVATION  
COMMISSION OF NEW MEXICO FOR  
THE PURPOSE OF CONSIDERING:

CASE NO. 5672  
Order No. R-5212

APPLICATION OF HORACE F. MCKAY, JR.  
FOR DOWNHOLE COMMINGLING AND SIMULTANEOUS  
DEDICATION, SAN JUAN COUNTY, NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 a.m. on April 28, 1976, at Santa Fe, New Mexico, before Examiner, Richard L. Stamets.

NOW, on this 18th day of May, 1976, the Commission, a quorum being present, 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 Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, Horace F. McKay, Jr., is the owner and operator of the Beardon Well No. 1A, located in Unit C of Section 19, Township 29 North, Range 10 West, NMPM, San Juan County, New Mexico.

(3) That the applicant seeks authority to commingle Aztec-Fruitland and Aztec-Pictured Cliffs gas production within the wellbore of the above-described well.

(4) That applicant further seeks approval for the simultaneous dedication of the NW/4 of said Section 19 to the above-described well and to his Beardon Well No. 1 in Unit E of said Section 19.

(5) That from the Aztec-Fruitland zone, the subject well is capable of low rates of production only.

(6) That from the Aztec-Pictured Cliffs zone, the subject well is capable of low rates of production only.

(7) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(8) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(9) That to afford the Commission the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Commission any time the subject well is shut-in for 7 consecutive days.

(10) That in order to allocate the commingled production to each of the commingled zones in the subject well, 10 percent of the commingled production should be allocated to the Aztec-Fruitland zone, and 90 percent of the commingled production to the Aztec-Pictured Cliffs zone.

IT IS THEREFORE ORDERED:

(1) That the applicant, Horace F. McKay, Jr., is hereby authorized to commingle Aztec-Fruitland and Aztec-Pictured Cliffs production within the wellbore of the Beardon Well No. 1A, located in Unit C of Section 19, Township 29 North, Range 10 West, NMPM, San Juan County, New Mexico.

(2) That 10 percent of the commingled production shall be allocated to the Aztec-Fruitland zone and 90 percent of the commingled production shall be allocated to the Aztec-Pictured Cliffs zone.

(3) That applicant is further authorized to simultaneously dedicate the NW/4 of said Section 19 to the above-described well and to his Beardon Well No. 1 in Unit E of said Section 19.

(4) That the operator of the subject well shall immediately notify the Commission's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Commission, a plan for remedial action.

(5) That jurisdiction of this cause is retained for the entry of such further orders as the Commission may deem necessary.

-3-  
Case No. 5672  
Order No. R-5212

DONE at Santa Fe, New Mexico, on the day and year herein-  
above designated.

STATE OF NEW MEXICO  
OIL CONSERVATION COMMISSION

*Phil R. Lucero*  
PHIL R. LUCERO, Chairman

*Emery C. Arnold*  
EMERY C. ARNOLD, Member

*Joe D. Ramey*  
JOE D. RAMEY, Member & Secretary

S E A L

jr/

Dockets Nos. 16-79 and 17-79 are tentatively set for hearing on April 25 and May 9, 1979. Applications for hearing must be filed at least 22 days in advance of hearing date.

DOCKET: EXAMINER HEARING - WEDNESDAY - APRIL 11, 1979

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. Nutter, Examiner, or Richard L. Stamets, Alternate Examiner:

- CASE 6517: Application of Managan Petroleum Corporation for special pool rules, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks the promulgation of special pool rules for the Avalon-Wolfcamp Gas Pool, Eddy County, New Mexico, to provide for 320-acre spacing rather than 160 acres. In the absence of objection, this pool will be placed on the standard 320-acre spacing for Wolfcamp gas pools rather than the present 160-acre spacing.
- CASE 6518: Application of McClellan Oil Corporation for an unorthodox gas well location, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks approval for the unorthodox location of its Federal Well No. 2, located 2310 feet from the North and East lines of Section 11, Township 14 South, Range 28 East, Sams Ranch-Grayburg Gas Pool, Chaves County, New Mexico, the NE/4 of said Section 11 to be dedicated to the well.
- CASE 6519: Application of Inexco Oil Company for a unit agreement, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for its Bison Wallow Unit Area, comprising 7,040 acres, more or less, of Federal and State lands in Townships 25 and 26 South, Range 29 East, Eddy County, New Mexico.
- CASE 6520: Application of Belco Petroleum Corporation for downhole commingling, Eddy County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Strawn and Morrow production in the wellbore of its Union Mead Com Well No. 1 located in Unit H of Section 8, Township 22 South, Range 27 East, Carlsbad Field, Eddy County, New Mexico.
- CASE 6521: Application of Adobe Oil Company for a unit agreement, Lea County, New Mexico. Applicant, in the above-styled cause, seeks approval for its East Tatum State Unit Area, comprising 2,560 acres, more or less, of State lands in Township 12 South, Range 36 East, Lea County, New Mexico.
- CASE 6522: Application of Petroleum Corporation of Texas for downhole commingling, San Juan County, New Mexico. Applicant, in the above-styled cause, seeks approval for the downhole commingling of Fruitland and Pictured Cliffs production in the wellbore of its Hanley Well No. 2-A located in Unit F of Section 18, Township 29 North, Range 10 West, San Juan County, New Mexico.
- CASE 6523: Application of Lonnie J. Buck for compulsory pooling, Lea County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the Yates formation underlying each of the following 40-acre tracts in Section 25, Township 25 South, Range 36 East, Lea County, New Mexico: NW/4 SW/4 to be dedicated to the Brown Well No. 6 located in Unit L and SW/4 SW/4 to be dedicated to the Brown Well No. 7 located in Unit M. Also to be considered will be the cost of recompleting 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 recompleting said wells.
- CASE 6502: (Continued from March 28, 1979, Examiner Hearing)
- Application of Stevens Oil Company for compulsory pooling, Chaves County, New Mexico. Applicant, in the above-styled cause, seeks an order pooling all mineral interests in the San Andres formation underlying the SW/4 SW/4 of Section 30, Township 8 South, Range 29 East, Chaves County, New Mexico, 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 6524: In the matter of the hearing called by the Oil Conservation Division on its own motion for an order creating, abolishing, and extending the vertical and horizontal limits of certain pools in Eddy and Lea Counties, New Mexico:
- (a) CREATE a new pool in Eddy County, New Mexico, classified as an oil pool for Seven Rivers production and designated as the Cave-Seven Rivers Pool. The discovery well is Kincaid and Watson Drilling Company Humble 8 Well No. 7 located in Unit D of Section 8, Township 17 South, Range 29 East, NMPM. Said pool would comprise:

TOWNSHIP 17 SOUTH, RANGE 29 EAST, NMPM  
Section 8: NW/4

KELLAHIN and KELLAHIN

ATTORNEYS AT LAW

800 DON GASPAR AVENUE

P. O. BOX 1769

SANTA FE, NEW MEXICO 87501

JASON W. KELLAHIN

W. THOMAS KELLAHIN

KAREN ALIBREY

TELEPHONE 982-4285

AREA CODE 505

March 15, 1979

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

Re: Downhole Commingling Application  
Petroleum Corporation of Texas

Dear Joe:

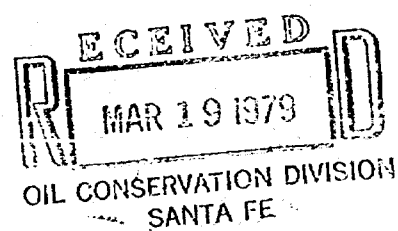
Please set this matter for examiner hearing on  
April 11, 1979.

Very truly yours,

  
W. Thomas Kellahin

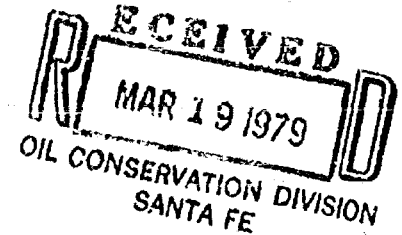
WTK:eps

cc: Mr. W. B. Walsh  
Mr. C. R. Anderson



STATE OF NEW MEXICO  
DEPARTMENT OF ENERGY AND MINERALS  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE  
APPLICATION OF PETROLEUM  
CORPORATION OF TEXAS FOR  
DOWNHOLE COMMINGLING,  
SAN JUAN COUNTY, NEW MEXICO



*Case 6522*

A P P L I C A T I O N

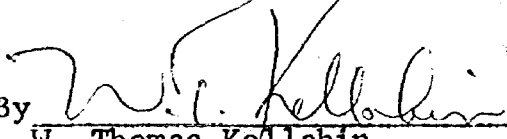
Comes now PETROLEUM CORPORATION OF TEXAS, by and through their attorneys and applies to the Oil Conservation Division for approval to downhole commingle production from the Fruitland and Pictured Cliffs formations and in support thereof would show the Division:

1. Applicant is the operator of the Hanley No. 2-A well located in Unit F. Section 18, T29N, R10W, NMPM, San Juan County, New Mexico.
2. Applicant seeks permission to downhole commingle production for the Fruitland and Pictured Cliffs formations in the wellbore of said well.
3. Approval of this application will be in the best interest of conservation, the prevention of waste and the protection of correlative rights.
4. Approval of this application will result in the recovery of additional hydrocarbons that would not otherwise be recovered and be a more effective and efficient method to produce both formations.

WHEREFORE applicant prays that its application be set for hearing before the Division's duly appointed Examiner and that after notice and hearing as provided by law, the Division enter its order approving the commingling as requested.

Respectfully submitted,

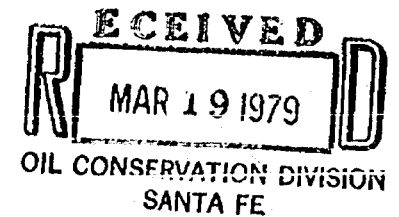
KELLAHIN & KELLAHIN

By   
W. Thomas Kellahin  
P. O. Box 1769  
Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

STATE OF NEW MEXICO  
DEPARTMENT OF ENERGY AND MINERALS  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE  
APPLICATION OF PETROLEUM  
CORPORATION OF TEXAS FOR  
DOWNHOLE COMMINGLING,  
SAN JUAN COUNTY, NEW MEXICO



Case 6522

A P P L I C A T I O N

Comes now PETROLEUM CORPORATION OF TEXAS, by and through their attorneys and applies to the Oil Conservation Division for approval to downhole commingle production from the Fruitland and Pictured Cliffs formations and in support thereof would show the Division:

1. Applicant is the operator of the Hanley No. 2-A well located in Unit F. Section 18, T29N, R10W, NMPM, San Juan County, New Mexico.
2. Applicant seeks permission to downhole commingle production for the Fruitland and Pictured Cliffs formations in the wellbore of said well.
3. Approval of this application will be in the best interest of conservation, the prevention of waste and the protection of correlative rights.
4. Approval of this application will result in the recovery of additional hydrocarbons that would not otherwise be recovered and be a more effective and efficient method to produce both formations.



WHEREFORE applicant prays that its application be set for hearing before the Division's duly appointed Examiner and that after notice and hearing as provided by law, the Division enter its order approving the commingling as requested.

Respectfully submitted,

KELLAHIN & KELLAHIN

By



W. Thomas Kellahin

P. O. Box 1769

Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

STATE OF NEW MEXICO  
DEPARTMENT OF ENERGY AND MINERALS  
OIL CONSERVATION DIVISION

IN THE MATTER OF THE  
APPLICATION OF PETROLEUM  
CORPORATION OF TEXAS FOR  
DOWNHOLE COMMINGLING,  
SAN JUAN COUNTY, NEW MEXICO

RECEIVED  
MAR 19 1979  
OIL CONSERVATION DIVISION  
SANTA FE  
Case 6522

A P P L I C A T I O N


Comes now PETROLEUM CORPORATION OF TEXAS, by and through their attorneys and applies to the Oil Conservation Division for approval to downhole commingle production from the Fruitland and Pictured Cliffs formations and in support thereof would show the Division:

1. Applicant is the operator of the Hanley No. 2-A well located in Unit F. Section 18, T29N, R10W, NMPM, San Juan County, New Mexico.
2. Applicant seeks permission to downhole commingle production for the Fruitland and Pictured Cliffs formations in the wellbore of said well.
3. Approval of this application will be in the best interest of conservation, the prevention of waste and the protection of correlative rights.
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WHEREFORE applicant prays that its application be set for hearing before the Division's duly appointed Examiner and that after notice and hearing as provided by law, the Division enter its order approving the commingling as requested.

Respectfully submitted,

KELLAHIN & KELLAHIN

By   
W. Thomas Kellahin  
P. O. Box 1769  
Santa Fe, New Mexico 87501

ATTORNEYS FOR APPLICANT

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. 6522

Order No. R-6759 6182

APPLICATION OF PETROLEUM CORPORATION OF TEXAS  
FOR DOWNHOLE COMMINGLING, SAN JUAN  
COUNTY, NEW MEXICO.

ORDER OF THE DIVISION

BY THE DIVISION:

This cause came on for hearing at 9 a.m. on April 11  
19 79, at Santa Fe, New Mexico, before Examiner Daniel S.  
Nutter.

NOW, on this April day of November, 19 79, 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, Petroleum Corporation of Texas, is  
the owner and operator of the Hanley Well No. 2-A,  
located in Unit F of Section 18, Township 29 North,  
Range 10 West, NMPM, San Juan County, New Mexico.

(3) That the applicant seeks authority to commingle  
Aztec-Fruitland and Aztec-Pictured Cliffs production  
within the wellbore of the above-described well.

(4) That from the Fruitland zone, the subject well is capable of <sup>*expected to be*</sup> ~~low~~ marginal production only.

(5) That from the Pictured Cliffs zone, the subject well is capable of <sup>*a rate of*</sup> ~~low~~ ~~marginal~~ production only.

(6) That the proposed commingling may result in the recovery of additional hydrocarbons from each of the subject pools, thereby preventing waste, and will not violate correlative rights.

(7) That the reservoir characteristics of each of the subject zones are such that underground waste would not be caused by the proposed commingling provided that the well is not shut-in for an extended period.

(8) That to afford the Division the opportunity to assess the potential for waste and to expeditiously order appropriate remedial action, the operator should notify the Aztec district office of the Division any time the subject well is shut-in for 7 consecutive days.

(9) That in order to allocate the commingled production to each of the commingled zones in the subject well, 75 percent of the commingled                      production should be allocated to the Fruitland zone, and 25 percent of the commingled                      production to the Pictured Cliffs zone.

(ALTERNATE)

~~(9) That in order to allocate the commingled production to each of the commingled zones in the wells, applicant should consult with the supervisor of the Aztec district office of the Division and determine an allocation formula for each of the production zones.~~

IT IS THEREFORE ORDERED:

Texas

(1) That the applicant, Petroleum Corporation of /, is hereby authorized to commingle Aztec-Fruitland and Aztec-Pictured Cliffs production within the wellbore of the Hanley Well No. 2-A, located in Unit F of Section 18, Township 29 North, Range 10 West, NMPM, San Juan County, New Mexico.

~~(2) That the applicant shall consult with the Supervisor of the Aztec district office of the Division and determine an allocation formula for the allocation of production to each zone in each of the subject wells.~~

(ALTERNATE)

(2) That 75 percent of the commingled        production shall be allocated to the Fruitland zone and 25 percent of the commingled        production shall be allocated to the Pictured Cliffs zone.

(3) That the operator of the subject well shall immediately notify the Division's Aztec district office any time the well has been shut-in for 7 consecutive days and shall concurrently present, to the Division, a plan for remedial action.

(4) 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.