

E X H I B I T "B"

OWNERSHIP SCHEDULE  
INITIAL FRUITLAND PARTICIPATING AREA  
GALLEGOS CANYON UNIT  
SAN JUAN COUNTY, NEW MEXICO  
EFFECTIVE JUNE 14, 1966

Tract No.	Description of Land	Serial No. & Lease Date	Basic Royalty			Overrides	Working Interest		Acres	Percent Participat
			Owner	% of 8/8	Owner of Record		Owner	% of Lease		
Pt 46R	W/2 SE/4, SE/4 SE/4, Sec. 13- T28N-R12W	E-2447 2-10-49	State of New Mexico	12.50	Skelly Oil Co.	10.00	Pan American Petroleum Corp.	100.00	120.00	37.50000
56	N/2 NE/4, Sec. 13- T28N-R12W	E-1065-1 1-7-51	State of New Mexico	12.50	El Paso Natural Gas Co.	None	El Paso Natural Gas Co.	100.00	80.00	25.000000
58	S/2 NE/4, Sec. 13- T28N-R12W	E-3156-2 12-15-49	State of New Mexico	12.50	Pan American Petroleum Corp.	5.00	Pan American Petroleum Corp.	100.00	80.00	25.0000
59	NE/4 SE/4, Sec. 13- T28N-R12W	B-9145-36 5-15-41	State of New Mexico	12.50	Pan American Petroleum Corp.	3.50	Pan American Petroleum Corp.	100.00	40.00	12.50000
			<u>Type of Acreage</u>		<u>Committed Acres</u>		<u>Per Cent Participation</u>			
			State of New Mexico		320.00		100.00000			
			TOTAL		320.00		100.00000			

OWNERSHIP SCHEDULE  
FIRST ENLARGEMENT FRUITLAND PARTICIPATING AREA  
GALLEGOS CANYON UNIT  
SAN JUAN COUNTY, NEW MEXICO  
EFFECTIVE OCTOBER 1, 1966

Tract No.	Description of Land	Serial No. & Lease Date	Basic Royalty			Overrides	Working Interest			Acres	Perc Particip
			Owner	% of 8/8	Owner of Record		Owner	% of Lease			
Pt 46	Lot 3, SE/4 SW/4 Sec. 18-T28N-R11W	E-2447 2-10-49	State of New Mexico	12.50	Skelly Oil Co.	None	Skelly Oil Co.	100.00		78.93	12.41663
Pt 46R	W/2 SE/4, SE/4 SE/4, Sec. 13- T28N-R12W, E/2 NW/4, Sec. 18- T28N-R11W	E-2447 2-10-49	State of New Mexico	12.50	Skelly Oil Co.	10.00	Pan American Petroleum Corp.	100.00		200.00	31.46237
Pt 47	Lots 1 and 2 Sec. 18-T28N-R11W	B-10870 10-20-53	State of New Mexico	12.50	Texas & Pacific Coal & Oil Co.	None	Texas & Pacific Coal & Oil Co.	100.00		77.80	12.23886
52	NE/4 SW/4 Sec. 18-T28N-R11W	OG-1045 7-16-57	State of New Mexico	12.50	Pan American Petroleum Corp.	None	Pan American Petroleum Corp.	100.00		40.00	6.29247
53	Lot 4, Sec. 18- T28N-R11W	OG-1531 11-19-57	State of New Mexico	12.50	Pan American Petroleum Corp.	None	Pan American Petroleum Corp.	100.00		38.95	6.12730
56	N/2 NE/4, Sec. 13- T28N-R12W	E-1065-1 1-7-51	State of New Mexico	12.50	El Paso Natural Gas Co.	None	El Paso Natural Gas Corp.	100.00		80.00	12.58495
58	S/2 NE/4, Sec. 13- T28N-R12W	E-3156-2 12-15-49	State of New Mexico	12.50	Pan American Petroleum Corp.	5.00	Pan American Petroleum Corp.	100.00		80.00	12.58495
59	NE/4 SE/4, Sec. 13- T28N-R12W	B-9145-36 5-15-41	State of New Mexico	12.50	Pan American Petroleum Corp.	3.50	Pan American Petroleum Corp.	100.00		40.00	6.29247

OWNERSHIP SCHEDULE  
 FIRST ENLARGEMENT FRUITLAND PARTICIPATING AREA  
 PAGE 2

<u>Type of Acreage</u>	<u>Committed Acres</u>	<u>Per Cent Participation</u>
State of New Mexico	635.68	100.00000
TOTAL	635.68	100.00000

E X H I B I T    "B"

OWNERSHIP SCHEDULE  
SECOND ENLARGEMENT FRUITLAND PARTICIPATING AREA  
GALLEGOS CANYON UNIT  
SAN JUAN COUNTY, NEW MEXICO  
EFFECTIVE JANUARY 1, 1967

Tract No.	Description of Land	Serial No. & Lease Date	Basic Royalty			Working Interest			Acres	Percent Participation
			Owner	% of 8/8	Owner of Record	Overrides	Owner	% of Lease		
Pt 20	W/2 NW/4, SW/4 Sec. 13-T28N-R12W	SF-078905 7-1-48	USA	12.50	Pan American Petroleum Corp. George J. Darneille	2.00	Pan American Petroleum Corp. National Drlg. Co.	50.00	240.00	25.11301
Pt 46	Lot 3, SE/4 SW/4 Sec. 18-T28N-R11W	E-2447 2-10-49	State of New Mexico	12.50	Skelly Oil Co.	None	Skelly Oil Co.	100.00	78.93	8.25904
Pt 46R	SE/4 NW/4, W/2 SE/4, SE/4 SE/4, Sec. 13-T28N-R12W, E/2 NW/4, Sec. 18-T28N-R11W	E-2447 2-10-49	State of New Mexico	12.50	Skelly Oil Co.	10.00	Pan American Petroleum Corp.	100.00	240.00	25.11301
Pt 47	Lots 1 and 2 Sec. 18-T28N-R11W	B-10870 12-10-53	State of New Mexico	12.50	Texas & Pacific Coal & Oil Co.	None	Texas & Pacific Coal & Oil Co.	100.00	77.80	8.14080
52	NE/4 SW/4 Sec. 18-T28N-R11W	OG-1045 7-16-57	State of New Mexico	12.50	Pan American Petroleum Corp.	None	Pan American Petroleum Corp.	100.00	40.00	4.18550
53	Lot 4, Sec. 18-T28N-R11W	OG-1531 11-19-57	State of New Mexico	12.50	Pan American Petroleum Corp.	None	Pan American Petroleum Corp.	100.00	38.95	4.07563
56	N/2 NE/4, Sec. 13-T28N-R12W	E-1065-1 1-7-51	State of New Mexico	12.50	El Paso Natural Gas Co.	None	El Paso Natural Gas Co.	100.00	80.00	8.37100
57	NE/4 NW/4, Sec. 13-T28N-R12W	B-11513-16 10-2-44	State of New Mexico	12.50	Pan American Petroleum Corp.	5.00	Pan American Petroleum Corp.	100.00	40.00	4.18550
58	S/2 NE/4, Sec. 13-T28N-R12W	E-3156-2 12-15-49	State of New Mexico	12.50	Pan American Petroleum Corp.	5.00	Pan American Petroleum Corp.	100.00	80.00	8.37101
59	NE/4 SE/4, Sec. 13-T28N-R12W	B-9145-36 5-15-41	State of New Mexico	12.50	Pan American Petroleum Corp.	3.50	Pan American Petroleum Corp.	100.00	40.00	4.18550

OWNERSHIP SCHEDULE  
SECOND ENLARGEMENT FRUITLAND PARTICIPATING AREA  
PAGE 2

<u>Type of Acreage</u>	<u>Committed Acres</u>	<u>Per Cent Participation</u>
Federal	240.00	25.11301
State of New Mexico	<u>715.68</u>	<u>74.88699</u>
TOTAL	955.68	100.00000

OWNERSHIP SCHEDULE  
THIRD ENLARGEMENT FRUITLAND PARTICIPATING AREA  
GALLEGOS CANYON UNIT  
SAN JUAN COUNTY, NEW MEXICO  
EFFECTIVE MAY 1, 1967

Tract No.	Description of Land	Serial No. & Lease Date	Basic Royalty		Owner of Record	Overrides	Working Interest		Acres	Percent Participat
			Owner	% of 8/8			Owner	% of Lease		
Pt 2	SE/4 NE/4, SW/4 SE/4 Sec. 18-T28N-R11W	SF-047019B 3-6-36	USA	12.50	Southern Union Gas Co.	None	Southern Union Gas Co.	100.00	80.00	6.27117
Pt 15	NE/4 NE/4, E/2 SE/4 Sec. 18-T28N-R11W	SF-078780 3-1-51	USA	12.50	John J. Redfern, Jr.	3.00	John J.Christman Jack Markham J. Robert Jones Robert D.Fitting Estate of Ralph Fitting Redfern & Herd Pan American Petroleum Corp. National Drilg Co.	22½ 22½ 2½ 2½ 5 45 50.00 50.00 50.00	120.00	9.40675
Pt 20	W/2 NW/4, SW/4 Sec. 130T28N-R12W	SF-078905 7-1-48	USA	12.50	Pan American Petroleum Corp. George J.Darnelle	2.00	Redfern & Herd Pan American Petroleum Corp. National Drilg Co.	45 50.00 50.00 50.00	240.00	18.81349
Pt 46	Lot 3, SE/4 SW 4 Sec. 18-T28N-R11W	E-2447 2-10-49	State of New Mexico	12.50	Skelly Oil Co.	None	Skelly Oil Co.	100.00	78.93	6.18729
Pt 46 R	NW/4 SE/4, SE/4 NW/4, W/2 SE/4, SE/4 SE/4, Sec. 13-T28N-R12W, E/2 NW/4, Sec. 18-T28N-R11W	E-2447 2-10-49	State of New Mexico	12.50	Skelly Oil Co.	10.00	Pan American Petroleum Corp.	100.00	280.00	21.94908
Pt 47	Lots 1 and 2, NW/4 NE/4 Sec. 18-T28N-R11-W	B-10870 12-10-53	State of New Mexico	12.50	Texas & Pacific Coal & Oil Co.	None	Texas & Pacific Coal & Oil Co.	100.00	117.80	9.23429
51	SW/4 NE/4 Sec. 18-T28N-R11W	E-397-2 6-11-50	State of New Mexico	12.50	Aztec Oil & Gas Co.	None	Aztec Oil & Gas Co.	100.00	40.00	3.13558
52	NE/4 SW/4 Sec. 18-T28N-R11W	OG-1045 7-16-57	State of New Mexico	12.50	Pan American Petroleum Corp.	None	Pan American Petroleum Corp.	100.00	40.00	3.13558

OWNERSHIP SCHEDULE  
THIRD ENLARGEMENT FRUITLAND PARTICIPATING AREA  
PAGE 2

Tract No.	Description of Land	Serial No. & Lease Date	Basic Royalty		Owner of Record	Overrides	Working Interest		Acres
			Owner	% of 8/8			Owner	% of Lease	
53	Lot 4, Sec. 18-T28N-R11W	OG-1531 11-19-57	State of New Mexico	12.50	Pan American Petroleum Corp.	None	Pan American Petroleum Corp.	100.00	38.9
56	N/2 NE/4, Sec. 13-T28N-R12W	E-1065-1 1-7-51	State of New Mexico	12.50	El Paso Natural Gas Co.	None	El Paso Natural Gas Co.	100.00	80.0
57	NE/4 NW/4, Sec. 13-T28N-R12W	B-11513-16 10-2-44	State of New Mexico	12.50	Pan American Petroleum Corp.	5.00	Pan American Petroleum Corp.	100.00	40.0
58	S/2 NE/4, Sec. 13-T28N-R12W	E-3156-2 12-15-49	State of New Mexico	12.50	Pan American Petroleum Corp.	5.00	Pan American Petroleum Corp.	100.00	80.0
59	NE/4 SE/4, Sec. 13-T28N-R12W	B-9145-36 5-15-41	State of New Mexico	12.50	Pan American Petroleum Corp.	3.50	Pan American Petroleum Corp.	100.00	40.0
<u>Type of Acreage</u>									
Federal					<u>Committed Acres</u>		<u>Per Cent Participation</u>		
					440.00		34.49141		
State of New Mexico					835.68		65.50859		
TOTAL					1,275.68		100.00000		

GEOLOGICAL AND ENGINEERING REPORT  
TO SUPPORT THE  
INITIAL PARTICIPATING AREA  
AND THE FIRST, SECOND AND THIRD ENLARGEMENTS  
FOR THE FRUITLAND FORMATION  
GALLEGOS CANYON UNIT  
SAN JUAN COUNTY, NEW MEXICO

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The proposed Initial Participating Area and the First, Second and Third Enlargements thereof for the Fruitland formation are based on information obtained from the completion of Gallegos Canyon Unit Wells No. 220, 255, 256, and 261, located in Section 13 - T28N-R12W, and Section 18 - T28N-R11W, San Juan County, New Mexico. Pertinent well completion data for Unit Well Nos. 220, 255, 256, and 261 are furnished as Attachments No. 1, 2, 3, and 4.

The attached isopach map of the sand from which these unit wells are producing shows: (1) that all of the acreage included in the proposed Initial Fruitland Participating Area and First, Second and Third Enlargements lies within the productive limits of the respective pool; (2) that the producing formation is continuous; and, (3) that the acreage is reasonably proved productive of unitized substances in paying quantities and should be included in the Fruitland Participating Area.

Also attached is a cross section A-A', which shows the sand from which Unit Wells No. 220, 255, 256, and 261 are producing to be continuous and in communication with the sand in other wells in the area. The sand thicknesses used in the isopach map and the cross section were obtained from logs on the wells completed in the Fruitland sand and also those which penetrated the Fruitland but were completed in the Dakota formation.

#### Initial Participating Area

Acreage proposed for inclusion in the Initial Participating Area for the Fruitland formation consists of the E/2 of Section 13 - T28N-R12W. These lands are proven to be productive by the following:

Gallegos Canyon Unit Well No. 220 was completed as a commercial gas well in the Fruitland formation on June 14, 1966, with an initial potential of 4300 MCFPD from perforation at 1242 - 1252'. The top of the Fruitland formation was encountered at a depth of 1228'. Core and log data indicate the well to contain approximately 15' of pay.

The effective date of the Initial Participating Area for the Fruitland formation will be June 14, 1966, the date of first production of Unit Well No. 220, the discovery well.

### First Enlarged Participating Area

Acreage proposed for inclusion in the First Enlargement of the Fruitland Participating Area consists of the W/2 Section 18 - T28N-R11W. These lands are proven to be productive by the following:

Gallegos Canyon Unit Well No. 255 was completed as a commercial gas well in the Fruitland formation on September 22, 1966 with an initial potential of 3,659 MCFD from perforations 1166'-1180' and 1190'-1204'. The top of the Fruitland formation was encountered at a depth of 1160'. Log data indicate the well to contain approximately 32' of pay.

The effective date of the First Enlargement of the Fruitland Participating Area will be October 1, 1966, the first day of the month following completion.

### Second Enlarged Participating Area

Acreage proposed for inclusion in the Second Enlargement of the Fruitland Participating Area consists of the W/2 Section 13 - T28N-R12W. These lands are proven productive by the following:

Gallegos Canyon Unit Well No. 256 was completed as a commercial gas well in the Fruitland formation on December 27, 1966 with an initial potential of 2,472 MCFD from perforations 1204'-22'. The top of the Fruitland formation was encountered at a depth of 1203'. Log data indicate the well to contain approximately 18' of pay.

The effective date of the Second Enlargement of the Fruitland Participating Area will be January 1, 1967, the first day of the month following completion.

### Third Enlarged Participating Area

Acreage proposed for inclusion in the Third Enlargement of the Fruitland Participating Area consists of the E/2 Section 18 - T28N-R11W. These lands are proven productive by the following:

Gallegos Canyon Unit Well No. 261 was completed as a commercial gas well in the Fruitland Formation on April 4, 1967 with an initial potential of 5,266 MCFD from perforations 1260'-70' and 1280'-84'. The top of the Fruitland formation was encountered at a depth of 1256'. Log data indicate the well to contain approximately 22' of pay.

The effective date of the Third Enlargement of the Fruitland Participating Area will be May 1, 1967, the first day of the month following completion.

ATTACHMENT NO. 1

PERTINENT WELL COMPLETION DATA  
INITIAL FRUITLAND PARTICIPATING AREA  
GALLEGOS CANYON UNIT  
SAN JUAN COUNTY, NEW MEXICO

GALLEGOS CANYON UNIT WELL NO. 220

Location - 1850' FSL and 790' FEL Section 13, T28N-R12W, San Juan County, New Mexico.

Elevation - 5587' RDB, 5577' GL

Total Depth - 1332' Plugged Back Depth - 1289'

Top Pay - 1228' (Fruitland)

Casing Program - 7" CSA 300' and cemented with 150 sacks Type "A" with 2% calcium chloride. Circulated cement to surface. 4-1/2" CSA 1332' and cemented with 100 sacks 50-50 Pozmix followed by 50 sacks of Class "C" neat.

Tubing - 1-1/4" landed at 1248'.

Perforations - 1242 - 52' with 4 SPF.

Stimulation - Spearheaded treatment with 500 gallons of 15% acid. Sand-water fractured with 30,000 gallons water containing 0.8% potassium chloride, and 2-1/2 pounds FR - 8 per 1000 gallons, 20,000 pounds 20-40 mesh sand, and 10,000 pounds - 10-20 mesh sand. BDP 3100 psi AIR 61 BPM @ 1550 psi.

Potential - Flowed 4300 MCFPD 3/4" choke CPF 350 psi TPF 360 psi.

Completion Date - June 14, 1966.

ATTACHMENT NO. 2

PERTINENT WELL COMPLETION DATA  
FIRST ENLARGED FRUITLAND PARTICIPATING AREA  
GALLEGOS CANYON UNIT  
SAN JUAN COUNTY, NEW MEXICO

GALLEGOS CANYON UNIT WELL NO. 255

Location - 990' FNL 1850' FWL Section 18 - T28N-R11W, San Juan County, New Mexico

Elevation - 5480' RDB                      5469' GL

Total Depth - 1294'                      Plugged Back Depth - 1267'

Top Pay - 1160' (Fruitland)

Casing Program - 7" CSA 318' with 175 sacks Type "A" containing 2% calcium chloride.  
Did not circulate. Cemented down outside of casing with 35 sacks  
Type "A" containing 2% calcium chloride.  
4-1/2" CSA 1294' with 100 sacks 50-50 pozmix Type "C" followed by  
50 sacks Type "C" neat.

Tubing - 1-1/2" landed at 1173'

Perforation - 1166 - 80' and 1190 - 1204' with 2 SPF

Stimulation - Spearheaded frac with 500 gallons Reg. 15% HCl. Sand-Water fractured  
with 30,450 gallons water containing 0.8% potassium chloride, 2-1/2  
pounds FR-2 per 1000 gallons, and 30,000 pounds 20-40 mesh sand and  
10,000 pounds 10-20 mesh sand. AIR 61 BPM at 1800 psi.

Potential Test - Flowed 3659 MCFD, 3/4" choke, TPF 287 psig, CPF 516 psig.

Completion Date - September 22, 1966

ATTACHMENT NO. 3

PERTINENT WELL COMPLETION DATA  
SECOND ENLARGED FRUITLAND PARTICIPATING AREA  
GALLEGOS CANYON UNIT  
SAN JUAN COUNTY, NEW MEXICO

GALLEGOS CANYON UNIT WELL NO. 256

Location - 1815' FNL and 1850' FWL Section 13 - T28N-R12W, San Juan County,  
New Mexico

Elevation - 5565' RDB                      5554 GL

Total Depth - 1352'                      Plugged Back Depth - 1317'

Top Pay - 1203' (Fruitland)

Casing Program - 7" CSA 297' with 100 sacks Type "A" cement containing 2% calcium chloride. Circulated. 4-1/2" CSA 1352' with 125 sacks 50-50 pozmix containing 2% gel followed by 50 sacks neat cement.

Tubing - 1-1/2" landed at 1203'

Perforations - 1204-22 with 4 SPF

Stimulation - Spearheaded frac with 500 gallons 15% HCl.  
Sand-Water fractured with 26,040 gallons water containing 0.8% potassium chloride, 2-1/2 pounds FR-2 per 1000 gallons, and 25,000 pounds 20-40 mesh sand and 5000 pounds 10-20 mesh sand. AIR 62 BPM at 1800 psi.

Potential Test - Flowed 2472 MCFD, 3/4" choke, TPF 189 psig, CPF 184 psig.

Completion Date - December 27, 1966.

ATTACHMENT NO. 4

PERTINENT WELL COMPLETION DATA  
THIRD ENLARGED FRUITLAND PARTICIPATING AREA  
GALLEGOS CANYON UNIT  
SAN JUAN COUNTY, NEW MEXICO

GALLEGOS CANYON UNIT WELL NO. 261

Location - 1650' FSL and 1100' FEL, Section 18, T28N-R11W, San Juan County, New Mexico

Elevation - 5578' RDB      5567' GL

Total Depth - 1346'      Plugged Back Depth - 1309'

Top Pay - 1256' (Fruitland)

Casing Program - 7" CSA 302' with 175 sacks Type "A" cement containing 2% calcium chloride. Circulated. 4-1/2" CSA 1345' with 175 sacks Type "A" 50-50 Diamix followed by 50 sacks Type "C" neat cement.

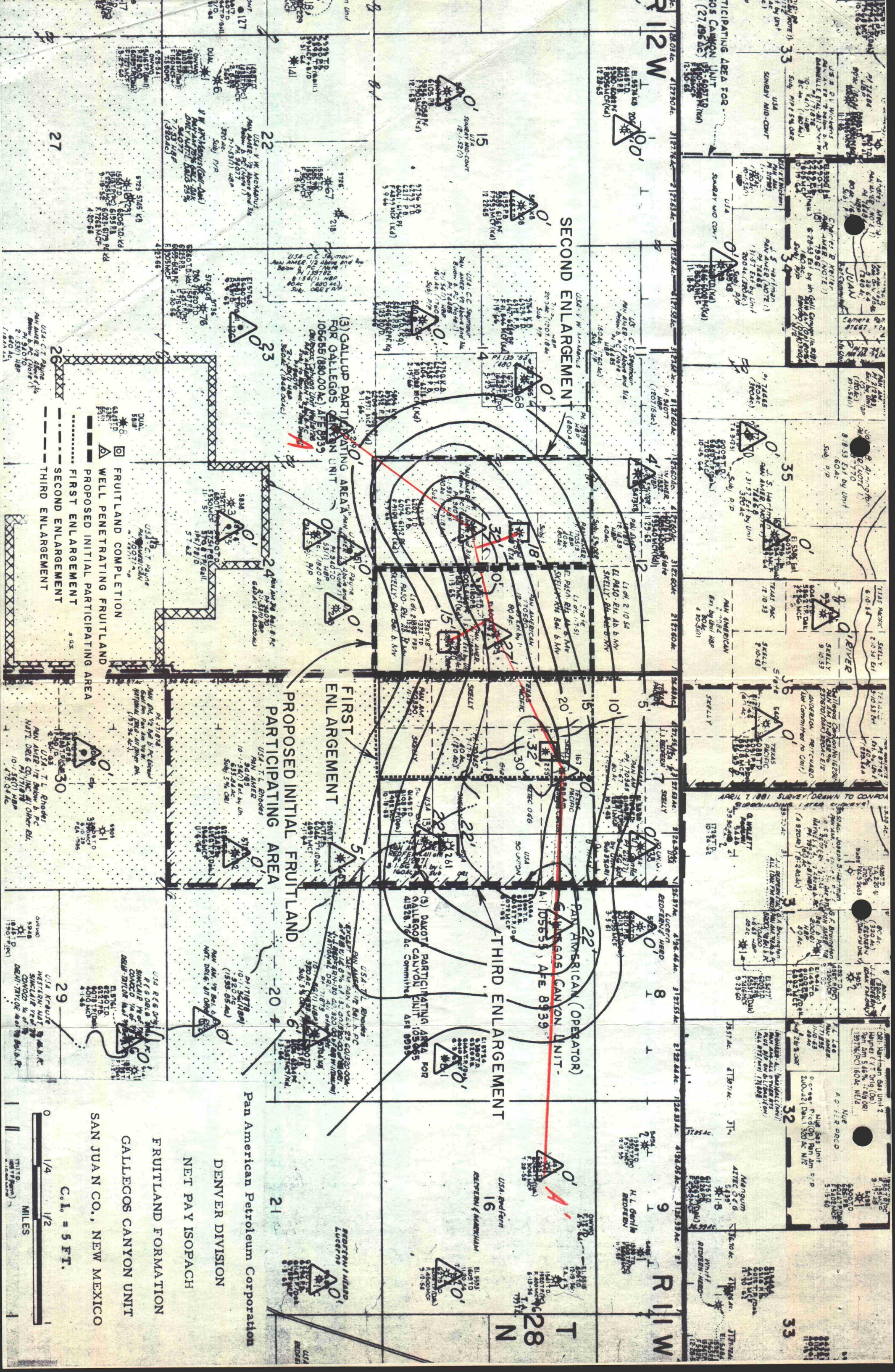
Tubing - 1-1/2" landed at 1245'

Perforations - 1260-70 and 1280-84 with 4 SPF

Stimulation - Spearheaded frac with 500 gallons 15% HCL sand-water fractured with 30,000 gallons water containing 0.8% potassium chloride, 2-1/2 pounds J-100 per 1000 gallons, and 25,000 pounds 20-40 sand and 5,000 pounds 10-20 sand. AIR 65 BPM at 2000 psi

Potential Test - Flowed 5,266 MCFD, 3/4" choke, TPF 424 psig, CPF 413 psig

Completion Date - April 4, 1967





IN REPLY REFER TO:

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY

Drawer 1857  
Roswell, New Mexico 88201

July 14, 1967

Pan American Petroleum Corporation  
Security Life Building  
Denver, Colorado 80202

Attention: Mr. S. B. Richards

Gentlemen:

In accordance with our telephone conversation of July 12, with Mr. Dewey Parrott of your office, we are returning all copies of your application dated February 16, 1967, for the initial Fruitland participating area, Gallegos Canyon unit agreement, San Juan County, New Mexico.

Sincerely yours,

(ORIGINAL FILED IN) ANDERSON

JOHN A. ANDERSON  
Regional Oil and Gas Supervisor

cc:  
Com. Pub. Lands, Santa Fe  
✓ Oil Cons. Comm., Santa Fe

MAIL ROOM

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OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

247

April 27, 1967

Pan American Petroleum Corporation  
Security Life Building  
Denver, Colorado 80202

Attention: Mr. T. M. Curtis

Re: 1967 Plan of Development  
Gallegos Canyon Unit, San  
Juan County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the 1967 Plan of Development dated February 13, 1967 for the Gallegos Canyon Unit, San Juan County, New Mexico, subject to like approval of the State of New Mexico.

Two approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/JEK/esr  
Enclosures

cc: Commissioner of Public Lands  
Santa Fe, New Mexico

United States Geological Survey  
Roswell, New Mexico



IN REPLY REFER TO:

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
GEOLOGICAL SURVEY  
Drawer 1857  
Roswell, New Mexico 88201

April 25, 1967

Pan American Petroleum Corporation  
Security Life Building  
Denver, Colorado 80202

Attention: Mr. T. M. Curtis

Gentlemen:

Your 1967 plan of development for the Gallegos Canyon unit area, San Juan County, New Mexico, proposing the drilling of four water injection wells in the Gallup "D" participating area has been approved on this date subject to like approval by the appropriate State officials.

Three approved copies of the plan are enclosed.

Sincerely yours,

(Orig.Sgd.) CARL C. TRAYWICK

**CARL C. TRAYWICK**  
Acting Oil and Gas Supervisor

cc:  
Washington (w/cy of plan)  
Farmington (w/cy of plan)  
NMOCC - Santa Fe (ltr. only) ✓  
Com. of Public Lands - Santa Fe (ltr. only)

State of New Mexico



Commissioner of Public Lands



April 28, 1967

GUYTON B. HAYS  
COMMISSIONER

P. O. BOX 1148  
SANTA FE, NEW MEXICO

Pan American Petroleum Corporation  
Security Life Building  
Denver, Colorado, 80202

Re: Gallegos Canyon Unit  
San Juan County, New Mexico  
1967 Plan of Development

ATTENTION: Mr. T. M. Curtis

Gentlemen:

The Commissioner of Public Lands has this date approved your 1967 Plan of Development for the Gallegos Canyon Unit, San Juan County, New Mexico, proposing the drilling of four water injection wells in the Gallup "D" Participating Area.

This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission

We are retaining two copies for our files and returning one copy surplus to our need.

Very truly yours,

GUYTON B. HAYS  
COMMISSIONER OF PUBLIC LANDS

BY:

(Mr.) Eddje Lopez, Supervisor  
Unit Division

GBH/TE/EL/s  
encl. 1.

cc: USGS-Roswell, New Mexico  
OCC-Santa Fe, New Mexico

# PAN AMERICAN PETROLEUM CORPORATION

SECURITY LIFE BUILDING

DENVER, COLORADO 80202

PRODUCING DEPARTMENT

H. T. HUNTER  
DIVISION PRODUCTION  
MANAGER

February 13, 1967

File: TMC-82-416

RE: 1967 Plan of Development  
Gallegos Canyon Unit  
San Juan County, New Mexico

DISTRICT SUPERINTENDENTS

W. M. JONES  
A. E. PIPER  
T. M. CURTISJOINT INTEREST  
SUPERINTENDENT

S. B. RICHARDS

Director (6)  
United States Geological Survey  
P. O. Drawer 1857  
Roswell, New Mexico

Commissioner of Public Lands (3)  
The State of New Mexico  
State Land Office Building  
Santa Fe, New Mexico

Oil Conservation Commission of (3)  
The State of New Mexico  
P. O. Box 2088  
Santa Fe, New Mexico

All Working Interest Owners  
Gallegos Canyon Unit  
(See Attached Addressee List)

Gentlemen:

In compliance with Section 9 of the Gallegos Canyon Unit Agreement dated November 1, 1950, designated I-Sec. No. 844, Pan American Petroleum Corporation, as Unit Operator, respectfully submits for your approval a Plan of Development for the calendar year of 1967. The proposed plan has been approved by the Working Interest Owners as provided by the Unit Operating Agreement.

History of Past Development - There has been a total of 246 wells drilled in the Gallegos Canyon Unit. Of these, 61 are Pictured Cliffs producers, 3 are Gallup-Dakota duals, 124 are single Dakotas, 24 are Gallup oil, 1 is a Gallup gas, 5 are Fruitland completions, 24 wells are dry holes and abandoned, and 4 are water injectors.

Participating areas have been formed for the Pictured Cliffs, the Dakota zone, and four separate Gallup pools inside the Unit. One water injection project is in operation on acreage comprising Gallup Area "C".

During 1966, Gallup Participating Area "D", encompassing the Pinon Gallup Pool development, was applied for and obtained. This Area now contains 5 Gallup producing wells. Plans are now underway for a waterflood project in this area. Approval of this project was obtained from the New Mexico Oil Conservation Commission.

Gallup Participating Area "B" waterflood operations were discontinued in 1966 and all producing wells abandoned. This action was taken after the Tenneco water injection pump, which supplied our pressured water for injection, failed. Due to poor performance at the Tenneco project, repair of the pump could not be justified and this project was also abandoned.

Submittal for Approval of the Initial Fruitland Participating Area will be made in 1967. Three Fruitland wells were drilled in 1966, indicating the need for this area.

The attached tabulation furnishes a statistical review of operations in the Gallegos Canyon Unit.

Proposed Additional Wells - The Dakota development program is now essentially complete. Evaluation of the remaining locations is underway and these will be submitted if deemed necessary and economical.

Four water injection wells will be drilled in Gallup Area "D" in 1967. These wells will be drilled by the Gallup Area "D" Owners. Additional producing wells are not anticipated unless indicated by future waterflood performance.

No other development in the Pictured Cliffs or Fruitland is anticipated at this time.

Well Casing Program - The well casing program will generally follow current programs used in similar wells in the San Juan Basin. Included will be surface casing and other casing as required by the United States Geological Survey and the State of New Mexico.

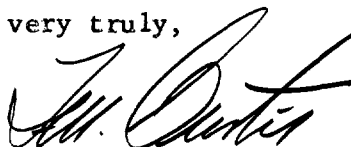
Offset Obligation - Appropriate measures will be taken to prevent drainage of unitized substances from lands subject to the Gallegos Canyon Unit Agreement, or, pursuant to applicable regulations, fair and reasonable compensatory royalty will be paid as provided in Section 15 of the Unit Agreement.

Further Development - This Plan of Development shall constitute the drilling obligation of the Unit Operator under terms of the Gallegos Canyon Unit Agreement for the period ending December 31, 1967.

Modifications - It is understood that this plan is dependent upon certain information to be obtained prior to and subsequent to drilling, therefore, it may be modified from time to time to meet changing conditions.

Effective Date - This Plan of Development shall be effective January 1, 1967.


Yours very truly,



Attachments

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
Director, United States Geological Survey  
(Subject to like approval by appropriate  
State Officials)

APPROVED: \_\_\_\_\_ DATE: \_\_\_\_\_  
Commissioner of Public Lands  
(Subject to like approval by U.S.G.S. and  
Oil Conservation Commission)

APPROVED:  DATE: April 27, 1967  
Oil Conservation Commission  
(Subject to like approval by U.S.G.S. and  
Commissioner of Public Lands)

MAILING LIST OF WORKING INTEREST OWNERS  
GALLEGOS CANYON UNIT AREA  
SAN JUAN COUNTY, NEW MEXICO

American Petrofina Co. of Texas  
P. O. Box 2159  
Dallas 21, Texas  
Attn: Mr. Deewall, Land Dept.

American Petrofina Co. of Texas  
P. O. Box 2159  
Dallas 21, Texas  
Attn: Mr. L. M. Thompson, Prod. Dept.

The Atlantic Refining Co. (3)  
P. O. Box 1978  
Roswell, New Mexico

Aztec Oil & Gas Company  
2000 First National Bank Building  
Dallas, Texas 75202  
Attn: Mr. H. L. Snider, Jr.

Mary Rovers Berry  
208 E. Washington Street  
Washington, Iowa

Bloomfield Royalty Corporation  
916 San Jacinto Building  
Houston, Texas

Brookhaven Oil Company  
P. O. Box 1267  
Scottsdale, Arizona

B. H. and Dyvena Crawford  
Bloomfield, New Mexico

El Paso Natural Gas Company  
P. O. Box 1492  
El Paso, Texas  
ATTN: Land Department

Olen F. Featherstone  
Roswell Petroleum Building  
Roswell, New Mexico

E. A. Hanson  
P. O. Box 1515  
Roswell, New Mexico 88201

L. B. Hodges  
P. O. Box 489  
Roswell, New Mexico 88201

Arthur B. Johnson  
1114 Laurel Drive  
Lafayette, California 94549

Harold K. Johnson  
1118 Laurel Drive  
Lafayette, California 94549

Marie C. Anderson  
357 Vernon Street  
Oakland, California 94610

Agnes L. Fuisaas  
1903 Adams Court  
Mountain View, California

Elma R. Jones  
c/o R. H. Klinger  
P. O. Box 1741  
Stockton, California 95201

Locke-Taylor Drilling Company  
801 Second Avenue  
Durango, Colorado

A. C. Pegg  
P. O. Box 8852  
Chicago, Illinois

E. I. Rydin  
P. O. Box 8852  
Chicago, Illinois

National Drilling Company, Inc.  
4810 North Kenneth Avenue  
Chicago 30, Illinois

Pubco Petroleum Corporation  
P. O. Box 1419  
Albuquerque, New Mexico

Skelly Oil Company  
P. O. Box 1650  
Tulsa 2, Oklahoma  
Attn: Mr. R. G. Hiltz

Skelly Oil Company  
P. O. Box 730  
Hobbs, New Mexico  
Attn: Mr. H. E. Aab

Southern Union Production Company  
Fidelity Union Tower Building  
1507 Pacific Avenue  
Dallas 1, Texas  
ATTN: Mr. A. M. Wiederkehr

Sunray DX Oil Company  
1101 Wilco Building  
Midland, Texas  
Attn: Mr. D. N. Williams

Texaso, Inc.  
P. O. Box 2100  
Denver, Colorado

Texas Pacific Oil Company  
P. O. Box 747  
Dallas, Texas 75221

John H. Trigg  
P. O. Box 520  
Roswell, New Mexico

Rip C. Underwood  
P. O. Box-2588  
First National Bank Building  
Amarillo, Texas

Wood Oil Company  
Room 800 Midstates Building  
Tulsa, Oklahoma

M. H. and Eula Stark  
Route 3  
Farmington, New Mexico

John J. Christmann  
Great Plains Building  
Lubbock, Texas

Jack Markham  
Great Plains Building  
Lubbock, Texas

J. Robert Jones  
711 Petroleum Life Building  
Midland, Texas

Robert D. Fitting  
504 Vaughn Building  
Midland, Texas

Estate of Ralph Fitting  
P. O. Box 782  
Midland, Texas

Redfern & Herd  
P. O. Box 1747  
Midland, Texas

STATISTICAL REVIEW OF OPERATIONS  
GALLEGOS CANYON UNIT  
DECEMBER 1, 1966

Total wells drilled in Unit area	246
Total Unit acreage	43,146.82 acres

Pictured Cliffs Statistics

Pictured Cliffs Participating Area	27,496.46 acres
Total wells drilled	78
Producing wells	61
Current production:	
October, 1966	93,396 MCF
November, 1966	75,862 MCF
Cumulative production to 12/1/66	33,655,441 MCF

Dakota Statistics

Dakota Participating Area	43,146.62 acres
Total wells drilled	128 (includes 2 duals)
Producing wells	127 (includes 3 duals)
Current production:	
October, 1966	2,696,544 MCF
November, 1966	2,549,142 MCF
Cumulative production to 12/1/66	43,984,855 MCF

Gallup Statistics

Gallup Participating Area "A"	880 acres
Gallup Participating Area "B"	715.40 cares
Gallup Participating Area "C"	2,148.75 acres
Gallup Participating Area "D"	2,396.88 acres
Producing Wells (Includes 13 Non-Commercial)	28 (includes 3 duals, & 1 Gallup gas)
Total wells drilled	38
Current production:	
October, 1966	5,897 Bbls.
November, 1966	5,748 Bbls.
Cumulative production to 12/1/66	<u>1, 559,860 Bbls.</u>

Fruitland Statistics

Total wells drilled	5
Producing wells	2
Current production:	
October, 1966	2,143 MCF
November, 1966	1,583 MCF
Cumulative production to 12/1/66	<u>150,889 MCF</u>

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

247

February 28, 1967

C

O

Pan American Petroleum Corporation  
Security Life Building  
Denver, Colorado 80202

Attention: Mr. S. B. Richards

P

Re: Initial Participating Area  
Fruitland Formation, Gallegos  
Canyon Unit, San Juan County,  
New Mexico

Y

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Initial Participating Area for the Fruitland formation for the Gallegos Canyon Unit, San Juan County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands of the State of New Mexico.

Ten approved copies are being forwarded to the United States Geological Survey, Roswell, New Mexico.

Very truly yours,

A. L. PORTER, Jr.  
Secretary-Director

ALP/JEK/og

cc: Commissioner of Public Lands  
Santa Fe, New Mexico  
United States Geological Survey  
Drawer 1857, Roswell, New Mexico 88201

# State of New Mexico



## Commissioner of Public Lands

GUYTON B. HAYS  
COMMISSIONER



P. O. BOX 1148  
SANTA FE, NEW MEXICO

February 27, 1967

**Pan American Petroleum Corporation  
Security Life Building  
Denver, Colorado 80202**

**Re: Gallegos Canyon Unit  
San Juan County, New Mexico**

**Gentlemen:**

We have received by your letter dated February 16, 1967, thirteen (13) copies of the Initial Participating Area, Fruitland Formation, for the Gallegos Canyon Unit, San Juan County, New Mexico.

Although your application only requests approval by the Director, the Commissioner has approved this Participating Area as required by the Unit Agreement.

We are retaining two copies and handing eleven (11) copies to the Oil Conservation Commission for their approval and requesting that they forward ten (10) copies to the United States Geological Survey at Roswell for their consideration.

Very truly yours,

**GUYTON B. HAYS  
COMMISSIONER OF PUBLIC LANDS**

**BY:  
Ted Bilberry, Director  
Oil and Gas Department**

**GBH/MMR/v**

**cc: United States Geological Survey  
Roswell, New Mexico**

**Oil Conservation Commission  
Santa Fe, New Mexico**

# PAN AMERICAN PETROLEUM CORPORATION

SECURITY LIFE BUILDING

DENVER, COLORADO 80202

PRODUCING DEPARTMENT  
H. T. HUNTER  
DIVISION PRODUCTION  
MANAGER

DISTRICT SUPERINTENDENTS  
W. M. JONES  
A. E. PIPER  
T. M. CURTIS  
JOINT INTEREST  
SUPERINTENDENT  
S. B. RICHARDS

February 16, 1967

File: AMR-346-986.511

RE: Application for Approval of  
Initial Participating Area  
For Fruitland Formation  
Gallegos Canyon Unit  
San Juan County, New Mexico

## ALL WORKING INTEREST OWNERS

Attached is a revised Application we have submitted this date for approval of the Fruitland Participating Area, Gallegos Canyon Unit.

Our previous application, dated January 17, 1967, was returned by the Commissioners of Public Lands, since there was some question concerning the proper effective date of the participating area. The Commissioner has now advised that June 14, 1966, the date of the first production of well No. 220, is acceptable as the effective date of this participating area. We also detected a few minor errors in the legal description of several of the participating tracts as shown in Exhibit "B". A corrected and revised application is herewith being submitted.

Yours very truly,

*S. B. Richards*

Attachment

RECEIVED  
FEB 27 10 10 AM '67  
STATE LAND OFFICE  
SANTA FE, N.M.

# PAN AMERICAN PETROLEUM CORPORATION

SECURITY LIFE BUILDING

DENVER, COLORADO 80202

PRODUCING DEPARTMENT  
H. T. HUNTER  
DIVISION PRODUCTION  
MANAGER

DISTRICT SUPERINTENDENTS  
W. M. JONES  
A. E. PIPER  
T. M. CURTIS  
JOINT INTEREST  
SUPERINTENDENT  
S. B. RICHARDS

February 16, 1967

File: AMR-347-986.511

RE: Application for Approval of  
Initial Participating Area  
For the Fruitland Formation  
Gallegos Canyon Unit  
San Juan County, New Mexico

Director (6)  
United States Geological Survey  
Washington 25, D. C.  
THROUGH:  
Regional Oil and Gas Supervisor  
United States Geological Survey  
P. O. Box 1857  
Roswell, New Mexico

Commissioner of Public Lands (3)  
State of New Mexico  
Capital Annex Building  
Santa Fe, New Mexico

All Working Interest Owners  
Gallegos Canyon Unit  
(See Attached Addressee List)

Oil Conservation Commission (3)  
State of New Mexico  
Capital Annex Building  
Santa Fe, New Mexico

Gentlemen:

Pan American Petroleum Corporation, as Unit Operator for the Gallegos Canyon Unit Agreement, approved by the Director of the U. S. Geological Survey, effective July 25, 1951, pursuant to the provisions of Section 10 thereof, respectfully submits for the approval of said Director the selection of the following described lands to constitute the Initial Participating Area for the Fruitland formation, to wit:

Township 28 North, Range 11 West  
W/2 Section 18

Township 28 North, Range 12 West  
All: Section 13

In support of this Application, the following items are attached hereto and made a part hereof:

1. An ownership map showing thereon the boundaries of the Unit Area and the proposed Initial Participating Area.
2. A schedule, Exhibit "B", showing the lands entitled to participation in the unitized substances produced from the Fruitland formation, with the percentage of participating of each tract indicated thereon.

File: AMR-347-986.511  
February 16, 1967  
Page 2

Attached is a geological and engineering report with an accompanying geological map supporting and justifying the proposed selection of the participating area.

This proposed Initial Participating Area is predicated upon the knowledge and information obtained on the completion in paying quantities under the terms of the Unit Agreement on June 14, 1966, of Unit Well #220, in the NE/4 SE/4 Section 13, T28N-R12W, with an initial production of 4300 MCFPD from the Fruitland formation at a depth of 1242 to 1252'. The effective date of this initial area shall be June 14, 1966, pursuant to Section 10 of the Unit Agreement. Subsequent wells, Unit No. 255, in the NE/4 NW/4 Section 18-T28N-R11W, and Unit No. 256, in the SE/4 NW/4 Section 13-T28N-R12W, have confirmed this discovery and proven the existence of Fruitland gas pay under all lands in the proposed participating area.

Applicant respectfully requests that the Director approve the herein above selection of lands to constitute the Initial Fruitland Participating Area, to be effective June 14, 1966.

Dated this 16th day of February, 1967.

Respectfully submitted,

PAN AMERICAN PETROLEUM CORPORATION

*J. B. Richards*

Attachments

File: AMR-347-986.511  
February 16, 1967  
Page 3

APPROVED \_\_\_\_\_ Date \_\_\_\_\_  
Director, United States Geological  
Survey (Subject to like approval by  
appropriate State officials)

APPROVED *Graydon B. Hay* Date *February 27, 1967*  
Commissioner of Public Lands  
(Subject to like approval of USGS  
and Oil Conservation Commission)

APPROVED *A. L. Porter, Jr.* Date *Feb 28, 1967*  
Oil Conservation Commission  
(Subject to like approval of USGS  
and Commissioner of Public Lands)

MAILING LIST FOR GALLEGOS CANYON UNIT AREA  
SAN JUAN COUNTY, NEW MEXICO

American Petrofina Co. of Texas  
P. O. Box 2159  
Dallas, Texas  
Attention: Mr. L. M. Thompson Prod. Dept.

American Petrofina Co. of Texas  
P. O. Box 2159  
Dallas, Texas  
Attention: Mr. Deewall Land Dept.

The Atlantic-Richfield Co. (3)  
P. O. Box 1978  
Roswell, New Mexico

Aztec Oil & Gas Company  
2000 First National Bank Building  
Dallas, Texas  
Attention: Mr. P. R. Watts, Jr.

Mary Roberts Berry  
208 E. Washington Street  
Washington, Iowa

Bloomfield Royalty Corporation  
916 San Jacinto Building  
Houston, Texas

Brookhaven Oil Company  
P. O. Box 1267  
Scottsdale, Arizona

El Paso Natural Gas Company  
P. O. Box 1492  
El Paso, Texas 79999  
Attention: Mr. Harry Gevertz

El Paso Natural Gas Company  
P. O. Box 990  
Farmington, New Mexico  
Attention: Regional Land Manager

Olen F. Featherstone  
Roswell Petroleum Building  
Roswell, New Mexico

A. C. Pegg  
P. O. Box 8852  
Chicago, Illinois

E. I. Rydin  
P. O. Box 8852  
Chicago, Illinois

L. B. Hodges  
P. O. Box 489  
Roswell, New Mexico

Marie C. Anderson  
359 Vernon Street  
Oakland, California 94610

Agnes L. Fulsaas  
1903 Adams Court  
Mountain View, California

Arthur B. Johnson  
1114 Laurel Drive  
Lafayette, California

Harold K. Johnson  
1118 Laurel Drive  
Lafayette, California

Elma R. Jones  
c/o R. H. Klinger  
P. O. Box 1741  
Stockton, California

National Drilling Company, Inc.  
4810 N. Kenneth Avenue  
Chicago, Illinois

Pubco Petroleum Corporation  
P. O. Box 1419  
Albuquerque, New Mexico

Skelly Oil Company  
P. O. Box 1650  
Tulsa, Oklahoma 74102  
Attention: Mr. R. G. Hiltz

Southern Union Production Company  
Fidelity Union Tower Building  
Dallas, Texas 75201  
Attention: Mr. L. S. Muennink

Sunray DX Oil Company  
1101 Wilco Building  
Midland, Texas  
Attention: Mr. V. M. Williams

Texaco, Inc.  
P. O. Box 2100  
Denver, Colorado  
Attention: Mr. J. F. Neill

Texas Pacific Oil Company  
P. O. Box 747  
Dallas, Texas 75221  
Attention: Mr. L. B. Jeffers

John H. Trigg  
P. O. Box 520  
Roswell, New Mexico

Rip C. Underwood  
P. O. Box 2588  
First National Bank Building  
Amarillo, Texas

Wood Oil Company  
Room 800  
Midstates Building  
Tulsa, Oklahoma