

#2519



COMMERCIAL RESOURCES
(505)-827-3724

SURFACE RESOURCES
(505)-827-5793

MINERAL RESOURCES
(505)-827-5744

ROYALTY
(505)-827-5772

State of New Mexico
Commissioner of Public Lands

Ray Powell, M.S., D.V.M.
310 Old Santa Fe Trall, P. O. Box 1148
Santa Fe, New Mexico 87504-1148
Phone (505)-827-5760, Fax (505)-827-5766

PUBLIC AFFAIRS
(505)-827-3765

ADMINISTRATIVE MGMT.
(505)-827-5700

LEGAL
(505)-827-5715

PLANNING
(505)-827-5752

August 31, 1998

Central Resources, Inc.
2600 Mellon Center, 1775 Sherman Street
Denver, Colorado 80203-4313

Attn: Ms. Irene Martinez

Re: 1998 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Dear Ms. Martinez:

The Commissioner of Public Lands has, of this date, approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the unit area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

If you have any questions or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY:
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm
pc: Reader File

OCD

BLM

"WE WORK FOR EDUCATION"



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(505)-827-5700

LEGAL
(505)-827-5715

PLANNING
(505)-827-5752

November 5, 1997

Central Resources, Inc.
P.O. Box 2810
Farmington, New Mexico 87499

Attn: Ms. Victoria K. Parise

Re: 1997 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Dear Ms. Parise:

The Commissioner of Public Lands has, of this date, approved the above-captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the unit area and the need for further development of the unit may exist. You may be contacted at a later date regarding these possibilities.

If you have any questions or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

A handwritten signature in cursive script, appearing to read "Jami Bailey".

BY:
JAMI BAILEY, Director
Oil, Gas and Minerals Division
(505) 827-5744

RP/JB/cpm
xc: Reader File

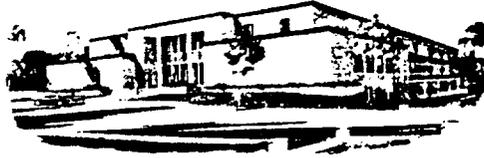
OCD

BLM

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

#2519

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

SLO REF NO. OG-1057

March 27, 1989

Arco Oil & Gas Company
Attn: D.M. Thomas
P.O. Box 1610
Midland, Texas 79702

Re: 1989 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development.

Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

cc: OCD
BLM

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

SLO REF NO. OG-1057

March 27, 1989

Arco Oil & Gas Company
Attn: D.M. Thomas
P.O. Box 1610
Midland, Texas 79702

Re: 1989 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development.

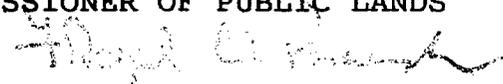
Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

cc: OCD
BLM

ARCO Oil and Gas Company
Central District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 688 5200



February 22, 1989

Bureau of Land Management (4)
P. O. Box 6770
Albuquerque, NM 87197-6770
Attn: Agreements Section

Oil Conservation Commission
of the State of New Mexico (4)
310 Old Santa Fe Trail
Room 206
Santa Fe, NM 87503

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, NM 87501

All Working Interest Owners
(see Attached List)

Re: Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development for 1989 and Review of Operations for 1988 are submitted for your information. If future reservoir, operations, or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current production and injection plots for the subject Unit.

Very truly yours,


D. M. Thomas
Production Superintendent

DMT/CDM/lal
Attachment

HORSESHOE GALLUP UNIT
15 WIO'S

J R ABRAHAM
5517 WILLOW LANE
DALLAS TX 75230

MARGARET SPIEGEL COLLISTER
‡ BEN FISHER FIDC TR CO OF NY
TWO WORLD TRADE CENTER
NEW YORK NY 10048

HELBING & PODPECHAN
P O BOX 549
CLAREMORE OK 74107

REYNOLDS METALS COMPANY
OIL AND GAS DIVISION
P O BOX 9936
CORPUS CHRISTI TX 78469

PRESIDIO EXPLORATION INC
ATTN JOHN HAGEDORN
3131 TURTLE CREEK BLVD
SUITE 400
DALLAS TX 75219

MERIDIAN OIL COMPANY
P O BOX 4289
FARMINGTON NM 87499

RICHARD W DAMMANN
60 E 42ND STREET
NEW YORK NY 10017

J FELIX HICKMAN
ATTN DONNA ERWIN
‡ SUNWEST BK TRUST DEPT
P O BOX 25500
ALBUQUERQUE NM 87125

ROBERT D SNOW
2000 NATL BNK OF TULSA BLDG
TULSA OK 74103

ARTHUR H SPIEGEL III
239 CENTRAL PARK WEST #4-B
NEW YORK NY 10024

J DOUGLAS COLLISTER
4203 AVENIDA LA RESOLANA NE
ALBUQUERQUE NM 87110

EPROC ASSOCIATES
ATTN ROBERT E LAUTH
P O BOX 776
DURANGO CO 81301

MERLE N HICKMAN
ATTN DONNA ERWIN
‡ SUNWEST BK TRUST DEPT
P O BOX 25500
ALBUQUERQUE NM 87125

JOSEPH F SPIEGEL
‡ ANNE MARIANI FDIC TR CO OF NY
TWO WORLD TRADE CENTER
NEW YORK NY 10048

AMOCO PRODUCTION COMPANY
ATTN DIVISION OPERATIONS MANAGER
P O BOX 800
DENVER CO 80201

Horseshoe Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1989
ARCO Oil and Gas Company
Unit Operator

Review of Operations - 1988

In 1988, no additions or contractions of either the Unit Area or the Participating Area were made. Daily average oil production increased from 250 BOPD during 1987 to 262 BOPD during 1988. Water injection for the year averaged 9,060 BWPD while produced water maintained a 7,072 BWPD average.

Operations were only changed slightly in 1988. Six producers (HSGU Nos. 157, 163, 165, 170, 172, and 181) and two injectors (HSGU Nos. 11 and 12) were reactivated. No wells were drilled, recompleted, or converted.

Plan of Development for 1989

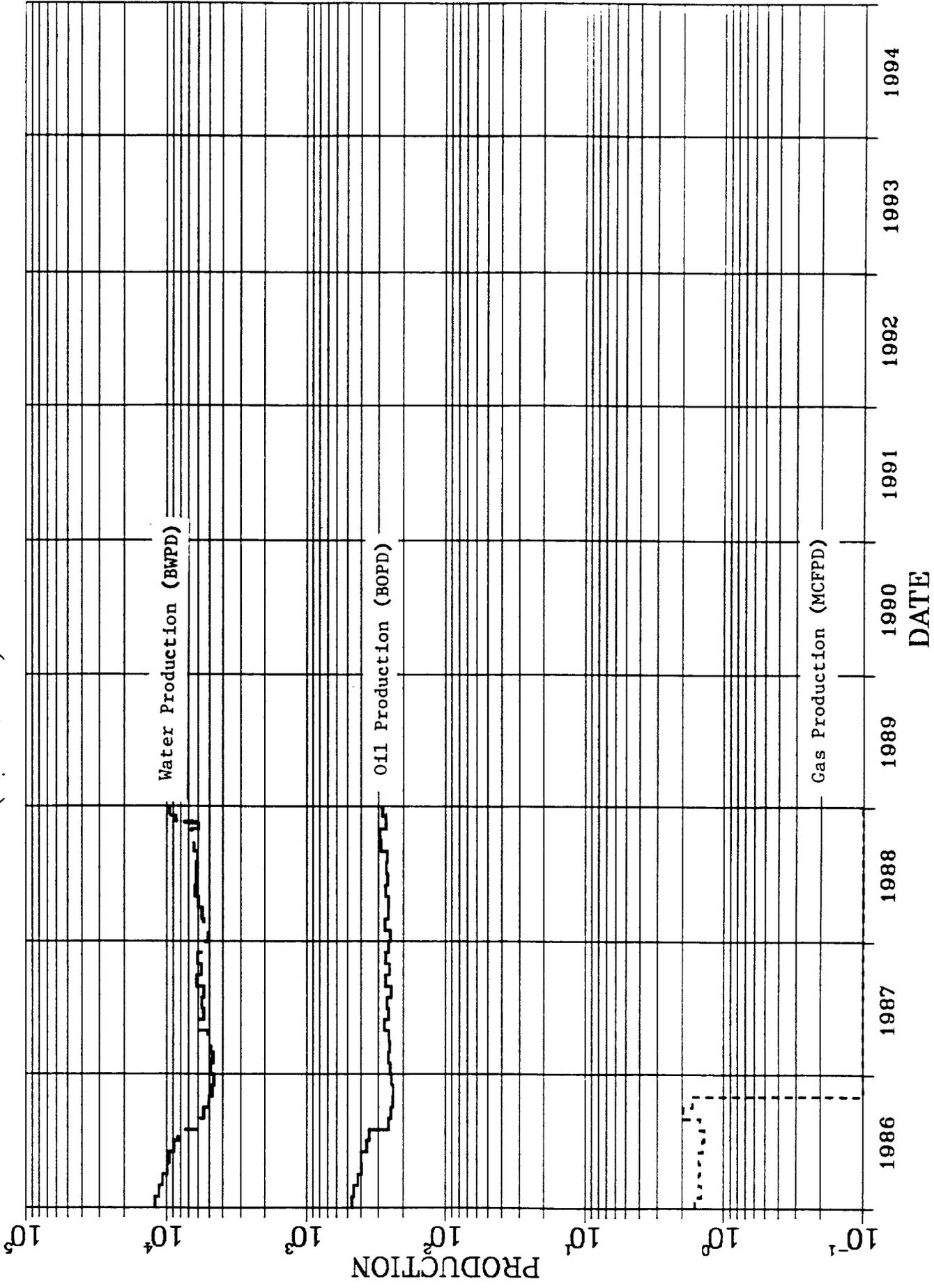
The HSGU No. 1 will be converted over to water injection and four wells will be plugged and abandoned (Nos. 67, 241, 251, and 260). In addition, field operations will continue to be reviewed in an effort to maximize unit production. We will file an amended Plan of Development if any major changes are planned.

STATISTICAL SUMMARY
HORSESHOE GALLUP UNIT

<u>Well Status</u>	<u>1-1-89</u>
Active:	
Producing	60
Injection	23
Water Supply	1
Shut-In:	
Producing	89
Injection	49
Water Supply	<u>4</u>
TOTAL	226
Plugged and Abandoned:	
Producers	18
Plugged and Abandoned:	
Injectors	50
 <u>Oil Production (S.T.B.)</u>	
Daily (12/88)	281
Total for Year	95,709
Cumulative	30,173,287
 <u>Gas Production (MCF)</u>	
Daily (12/88)	0
Total for Year	0
Cumulative	6,255,003
 <u>Water Production (S.T.B.)</u>	
Daily (12/88)	9,500
Total for Year	2,581,249
Cumulative	119,512,643
 <u>Water Injection (S.T.B.)</u>	
Daily (12/88)	11,000
Total for Year	3,306,916
Cumulative	231,736,909

STATE: NEW MEXICO COUNTY: SAN JUAN
 FIELD: HORSESHOE GALLUP
 LEASE: ALL WELL# ALL
 (GALLUP) OPERATOR: ALL

LEGEND
 OIL PRODUCTION, STBO/D
 GAS PRODUCTION, MCF/D
 WATER PRODUCTION, STBW/D



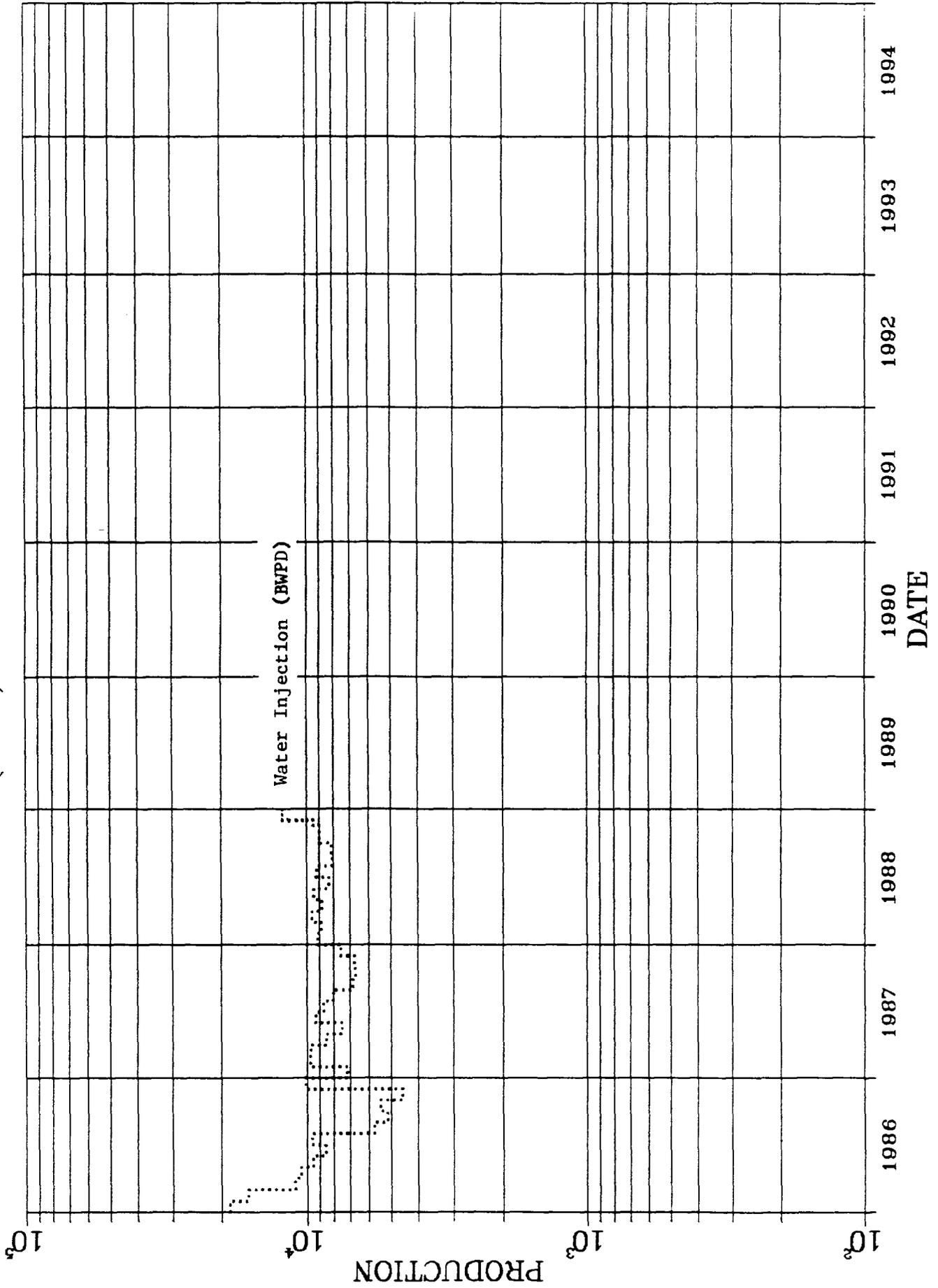
WATER INJECTION, STB/D...

STATE: NEW MEXICO COUNTY: SAN JUAN

FIELD: HORSESHOE GALLUP

LEASE: ALL WELLS# ALL

(ALL) OPERATOR: ALL



ARCO Oil and Gas Company
Central District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 688 5200

2519



March 25, 1988

Bureau of Land Management (4)
P. O. Box 6770
Albuquerque, New Mexico 87197-6770
Attn: Agreements Section

Oil Conservation Commission
of the State of New Mexico (4)
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

Re: Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development for 1988 and Review of Operations for 1987 are submitted for your information. If future reservoir, operations or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current production and injection plots for the subject Unit.

Very truly yours,


J. M. McCarthy
District Production Superintendent

JMM:WCS/1a1
Attachment

Horseshoe Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1988
ARCO Oil and Gas Company
Unit Operator

Review of Operations - 1987

In 1987, no additions or contractions of either the Unit Area or the Participating Area were made. Daily average oil production increased from 241 BOPD during 1986 to 250 BOPD during 1987. Water injection for the year averaged 8,700 BWPD while produced water maintained an 8,500 BWPD average.

Operations were only changed slightly in 1987. Six producers were reactivated and six producers' status was changed from shut-in to temporarily abandoned. Four wells were plugged: Horseshoe Gallup Unit Nos. 180, 190, 192 and 201. No wells were drilled, recompleted or converted.

Plan of Development for 1988

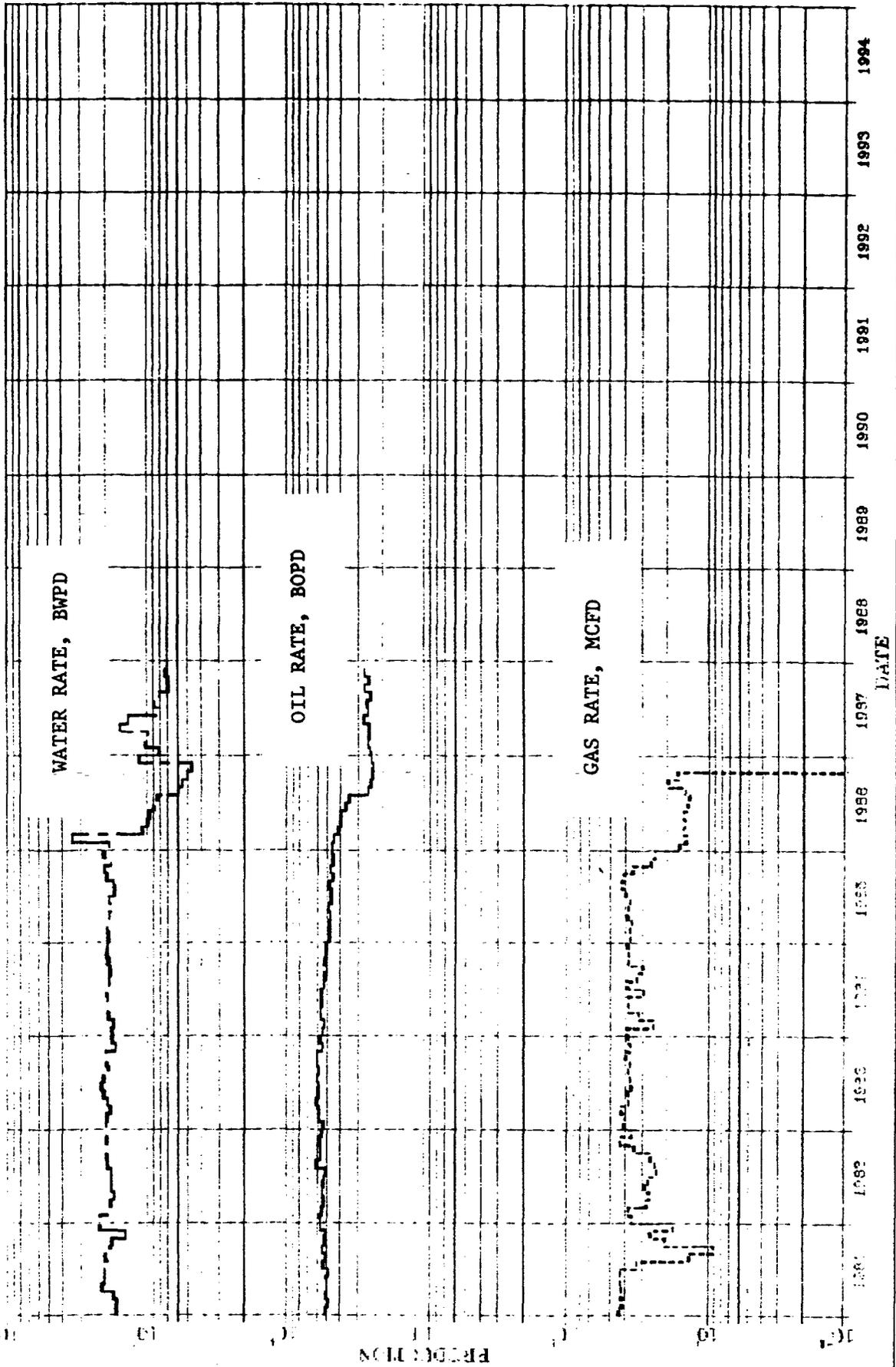
Field operations will continue to be reviewed in an effort to maximize unit production. We will file an amended Plan of Development if any major changes are planned.

STATISTICAL SUMMARY
HORSESHOE GALLUP UNIT

<u>Well Status</u>	<u>1-1-87</u>
Active:	
Producing	54
Injection	21
Water Supply	1
Shut-In:	
Producing	89
Injection	52
Water Supply	4
Temporarily Abandoned:	
Producers	<u>6</u>
TOTAL	227
Plugged and Abandoned:	
Injectors	4
 <u>Oil Production (S.T.B.)</u>	
Daily (12/87)	253
Total for Year	91,376
Cumulative	30,077,578
 <u>Gas Production (MCF)</u>	
Daily (12/87)	0
Total for Year	0
Cumulative	6,255,003
 <u>Water Production (S.T.B.)</u>	
Daily (12/87)	8,500
Total for Year	3,102,500
Cumulative	116,931,394
 <u>Water Injection (S.T.B.)</u>	
Daily (12/87)	9,600
Total for Year	3,504,000
Cumulative	228,429,993

FIELD: NEW MEXICO COUNTY: SAN JUAN
 FIELD: HORSESHOE GALLUP
 LEASE: ALL WELLS# ALL
 (577) OPERATOR: ALL

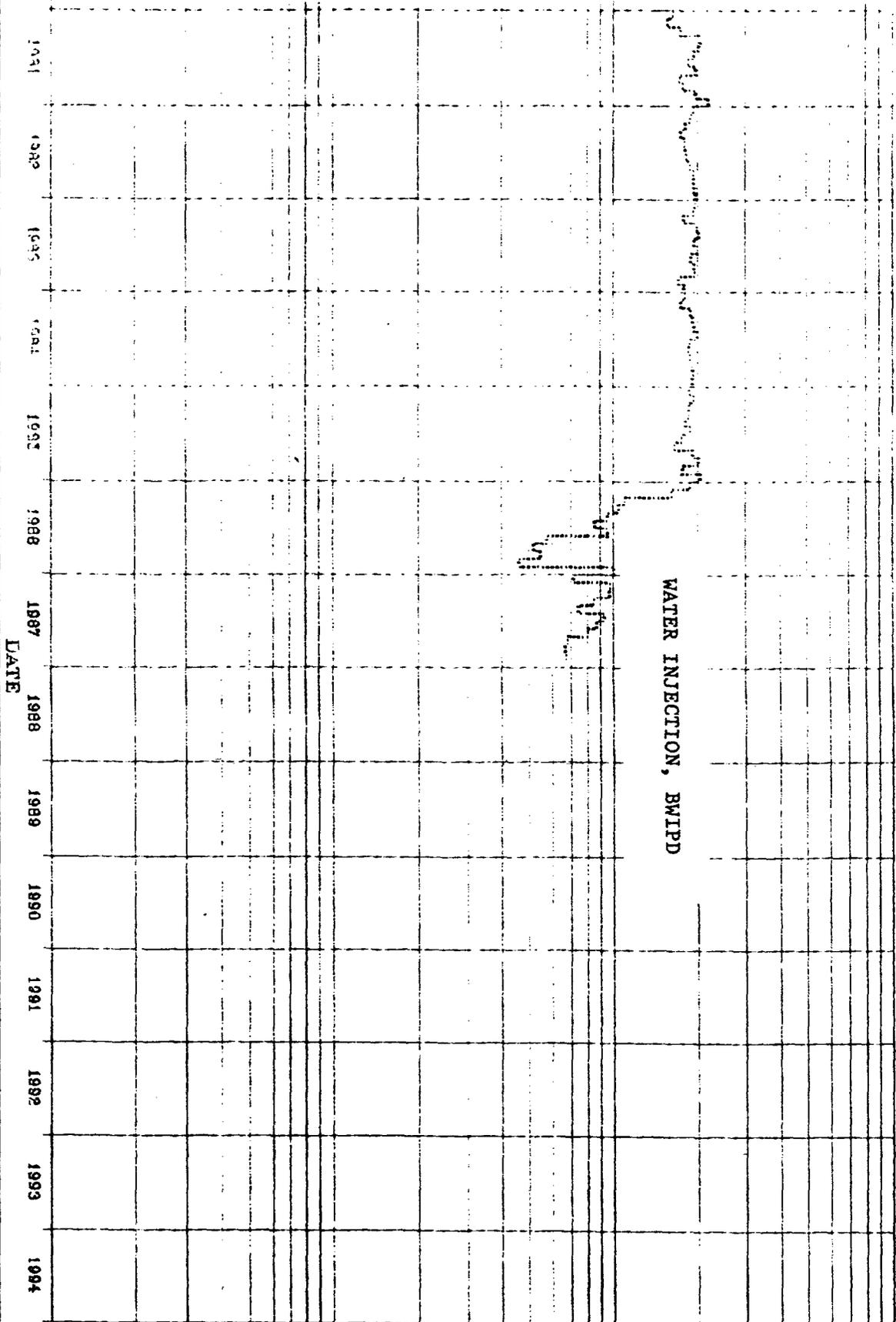
OIL PRODUCTION STEAD
 GAS PRODUCTION MCKD
 WATER PRODUCTION SUBWZD



WATER INJECTION, STB/W/D

SUMMER WELLS FIELD COUNTY: SAN JUAN
FIELD: HOKSTISHOE GALLUP
FEAST: ALL WELLS # ALL
(ALL) OPERATOR: ALL

PRODUCTION



HORSESHOE GALLUP UNIT
16 WID'S

J R ABRAHAM
5517 WILLOW LANE
DALLAS TX 75230

MERIDIAN OIL COMPANY
P O BOX 4289
FARMINGTON NM 87499

J DOUGLAS COLLISTER
4203 AVENIDA LA RESOLANA NE
ALBUQUERQUE NM 87110

MARGARET SPIEGEL COLLISTER
% BEN FISHER FIDC TR CO OF NY
TWO WORLD TRADE CENTER
NEW YORK NY 10048

RICHARD W DAMMANN
60 E 42ND ST
NEW YORK NY 10017

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P O BOX 776
DURANGO CO 81301

HELRING & PODPECHAN
P O BOX 549
CLAREMORE OK 74017

J FELIX HICKMAN
ATTN DONNA ERWIN
% SUNWEST BK TRUST DEPT
P O BOX 25500
ALBUQUERQUE NM 87125

MERLE M HICKMAN
ATTN DONNA ERWIN
% SUNWEST BK TRUST DEPT
P O BOX 25500
ALBUQUERQUE NM 87125

REYNOLDS METALS COMPANY
OIL AND GAS DIVISION
P O BOX 9936
CORPUS CHRISTI TX 78469

ROBERT D SNOW
2000 NATL BNK OF TULSA BLDG
TULSA OK 74103

STANDARD OIL PRODUCTION CO
ATTN D R HOLCOMB
P O BOX 4587
HOUSTON TX 77210

JOSEPH F SPIEGEL
% ANNE MARIANI FIDC TR CO OF NY
TWO WORLD TRADE CENTER
NEW YORK NY 10048

ARTHUR H SPIEGEL III
239 CENTRAL PARK WEST #4-B
NEW YORK NY 10024

TENNECO OIL COMPANY
JOINT INTEREST
WESTERN ROCKY MOUNTAIN DIV
P O BOX 85100
DALLAS TX 75285

VACK VENTURES
% COTTLE & COTTLE
120 S LASALLE ST
CHICAGO IL 60603

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

SLO REF NO OG-759

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

April 20, 1988

ARCO Oil and Gas Co.
Attn: Mr. J. M. McCarthy
P. O. Box 1610
Midland, Texas 79702

Re: 1988 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Gentlemen: .

The Commissioner of Public Lands has this date approved your 1988 Plan of Development for the above captioned unit area.

Our approval is subject to like approval by all other appropriate agencies.

Enclosed is an approved copy for your files.

If we may be of further help please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

WRH/FOP/pm
encls.
cc: OCD
BLM

ARCO Oil and Gas Company
Permian District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 684 0100

#2519



March 25, 1987

Bureau of Land Management (4)
P. O. Box 6770
Albuquerque, New Mexico 87197-6770
Attn: Agreements Section

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

RE: Plan of Development
Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development for 1987 and Review of Operations for 1986 are submitted for your information. If future reservoir, operations or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current production and injection plots for the subject Unit.

Very truly yours,

J. M. McCarthy
District Production Superintendent

JMM:WCS:lu

Attachment

RECEIVED
MAR 29 1987

Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1987
ARCO Oil and Gas Company
Unit Operator

Review of Operations - 1986

In 1986, no additions or contractions of either the Unit Area or the Participating Area were made. Daily average oil production declined from 472 BOPD during 1985 to 241 BOPD during 1986. Water injection for the year averaged 8,315 BWPD while produced water maintained a 7,711 BWPD average.

In response to sharply lower oil prices, field operations were significantly changed. A total of 126 wells (82 producers and 44 injectors) were shut-in, and operations at three oil batteries and one injection plant were discontinued. One well, the HSGU #188, was plugged.

Plan of Development for 1987

Field operations will continue to be reviewed in an effort to maximize unit production. No drilling is planned for 1987. Should our plans change, we will file an amended Plan of Development.

STATISTICAL SUMMARY
HORSESHOE-GALLUP UNIT

<u>Well Status</u>	<u>1-1-87</u>
Active:	
Producing	48
Injection	21
Water Supply	1
Shut-In:	
Producing	101*
Injection	56
Water Supply	4
TOTAL	<u>231</u>

Oil Production (S.T.B.)

Daily (12/86)	241
Total for Year	117,811
Cumulative	29,986,202

Gas Production (MCF)

Daily (12/86)	11
Total for Year	3,886
Cumulative	6,255,003

Water Production (S.T.B.)

Daily (12/86)	7,256
Total for Year	2,814,515
Cumulative	113,828,894

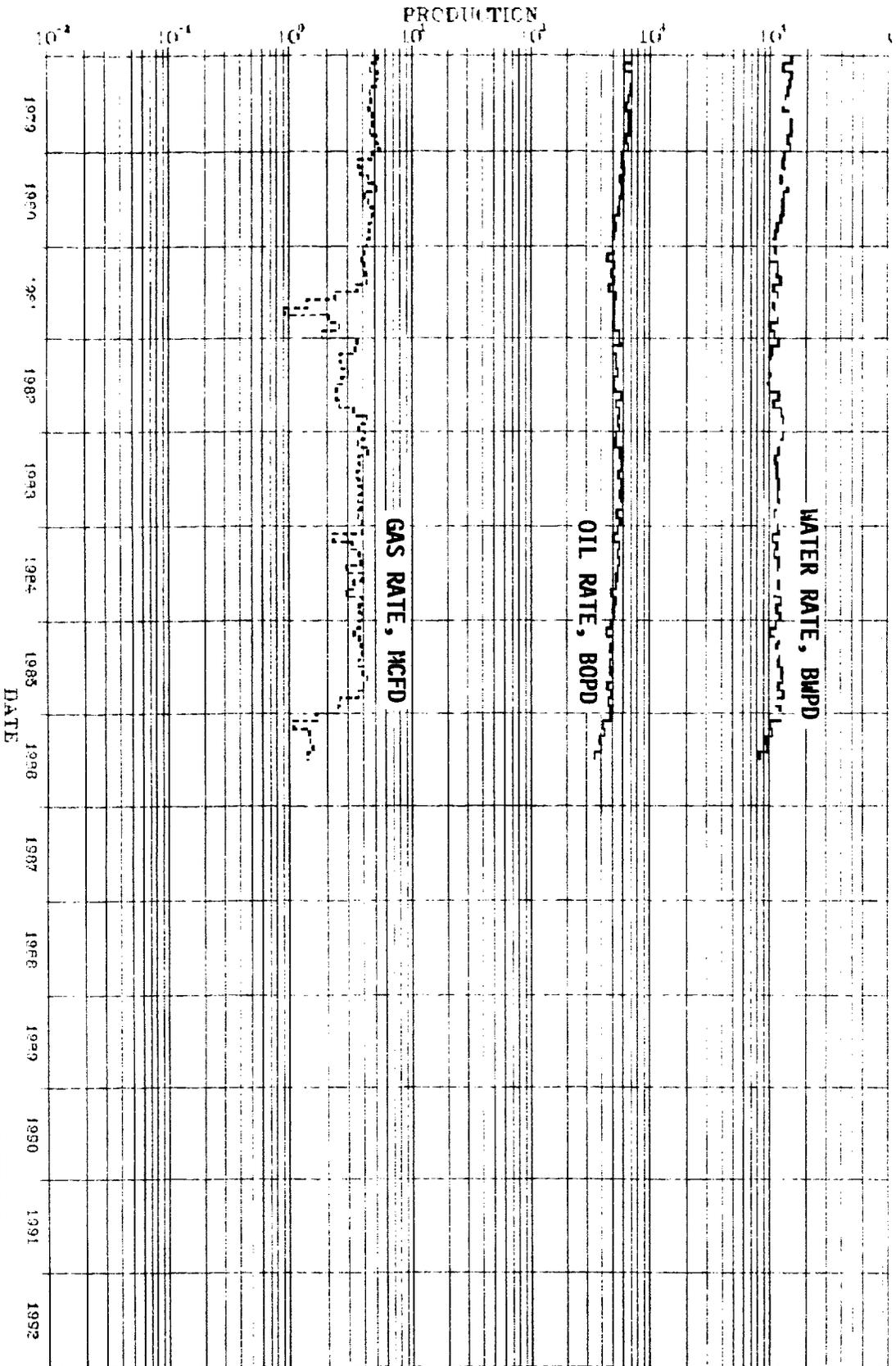
Water Injection (S.T.B.)

Daily (12/86)	10,200
Total for Year	3,034,892
Cumulative	224,925,993

* HSGU #188 was plugged in December, 1986.

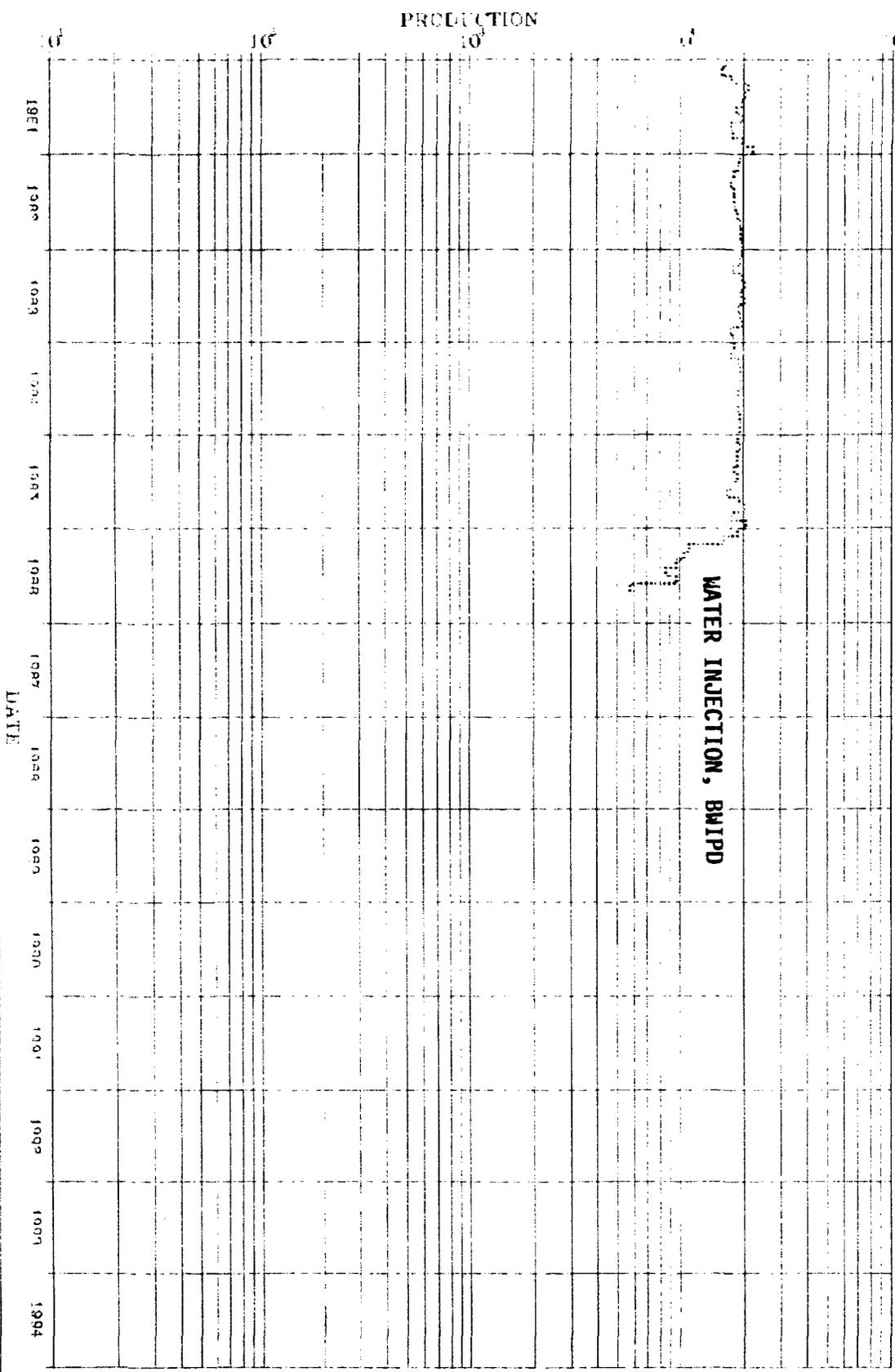
OIL PRODUCTION STBO/D
 GAS PRODUCTION MCF/D
 WATER PRODUCTION BWD

STATE: NEW MEXICO COUNTY: SAN JUAN
 FIELD: HORSESHOE GALLUP
 LEASE: HORSESHOE GALLUP UNIT WELLS ALL
 OPERATOR: ARCO OIL & GAS CO



WATER INJECTION, STBW/D.

STATE NEW MEXICO COUNTY: SAN JUAN
FIELD: HORSESHOE GULCH
LEASE: ALL WELLS# ALL
(ALL) OPERATOR: ARCO OIL AND GAS COMPANY



ARCO Oil and Gas Company
Permian District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 684 0100



March 25, 1987

Bureau of Land Management (4)
P. O. Box 6770
Albuquerque, New Mexico 87197-6770
Attn: Agreements Section

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

RE: Plan of Development
Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development for 1987 and Review of Operations for 1986 are submitted for your information. If future reservoir, operations or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current production and injection plots for the subject Unit.

Very truly yours,


J. M. McCarthy
District Production Superintendent

JMM:WCS:lu

Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1987
ARCO Oil and Gas Company
Unit Operator

Review of Operations - 1986

In 1986, no additions or contractions of either the Unit Area or the Participating Area were made. Daily average oil production declined from 472 BOPD during 1985 to 241 BOPD during 1986. Water injection for the year averaged 8,315 BWPD while produced water maintained a 7,711 BWPD average.

In response to sharply lower oil prices, field operations were significantly changed. A total of 126 wells (82 producers and 44 injectors) were shut-in, and operations at three oil batteries and one injection plant were discontinued. One well, the HSGU #188, was plugged.

Plan of Development for 1987

Field operations will continue to be reviewed in an effort to maximize unit production. No drilling is planned for 1987. Should our plans change, we will file an amended Plan of Development.

STATISTICAL SUMMARY
HORSESHOE-GALLUP UNIT

<u>Well Status</u>	<u>1-1-87</u>
Active:	
Producing	48
Injection	21
Water Supply	1
Shut-In:	
Producing	101*
Injection	56
Water Supply	4
TOTAL	<u>231</u>

Oil Production (S.T.B.)

Daily (12/86)	241
Total for Year	117,811
Cumulative	29,986,202

Gas Production (MCF)

Daily (12/86)	11
Total for Year	3,886
Cumulative	6,255,003

Water Production (S.T.B.)

Daily (12/86)	7,256
Total for Year	2,814,515
Cumulative	113,828,894

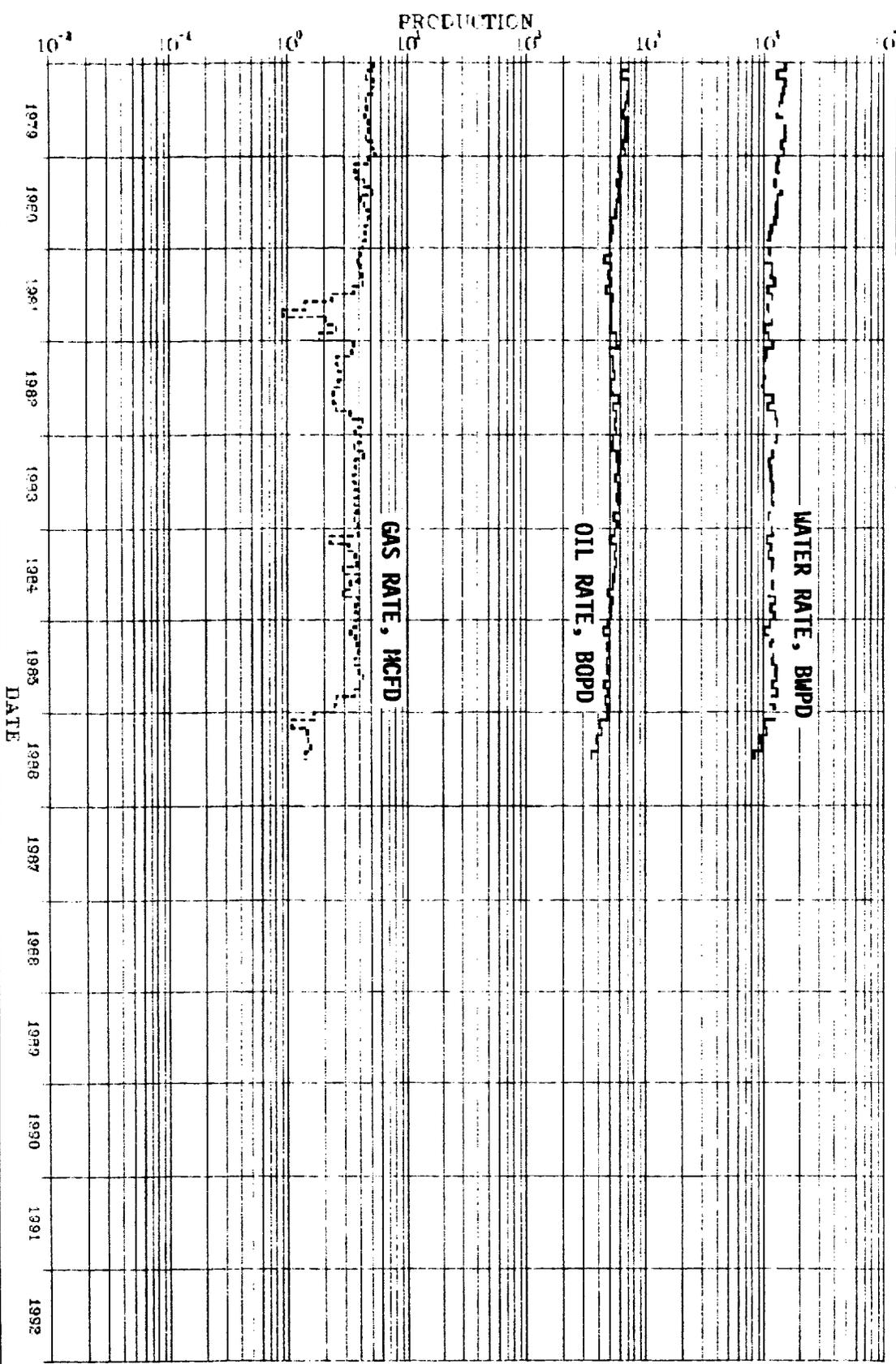
Water Injection (S.T.B.)

Daily (12/86)	10,200
Total for Year	3,034,892
Cumulative	224,925,993

* HSGU #188 was plugged in December, 1986.

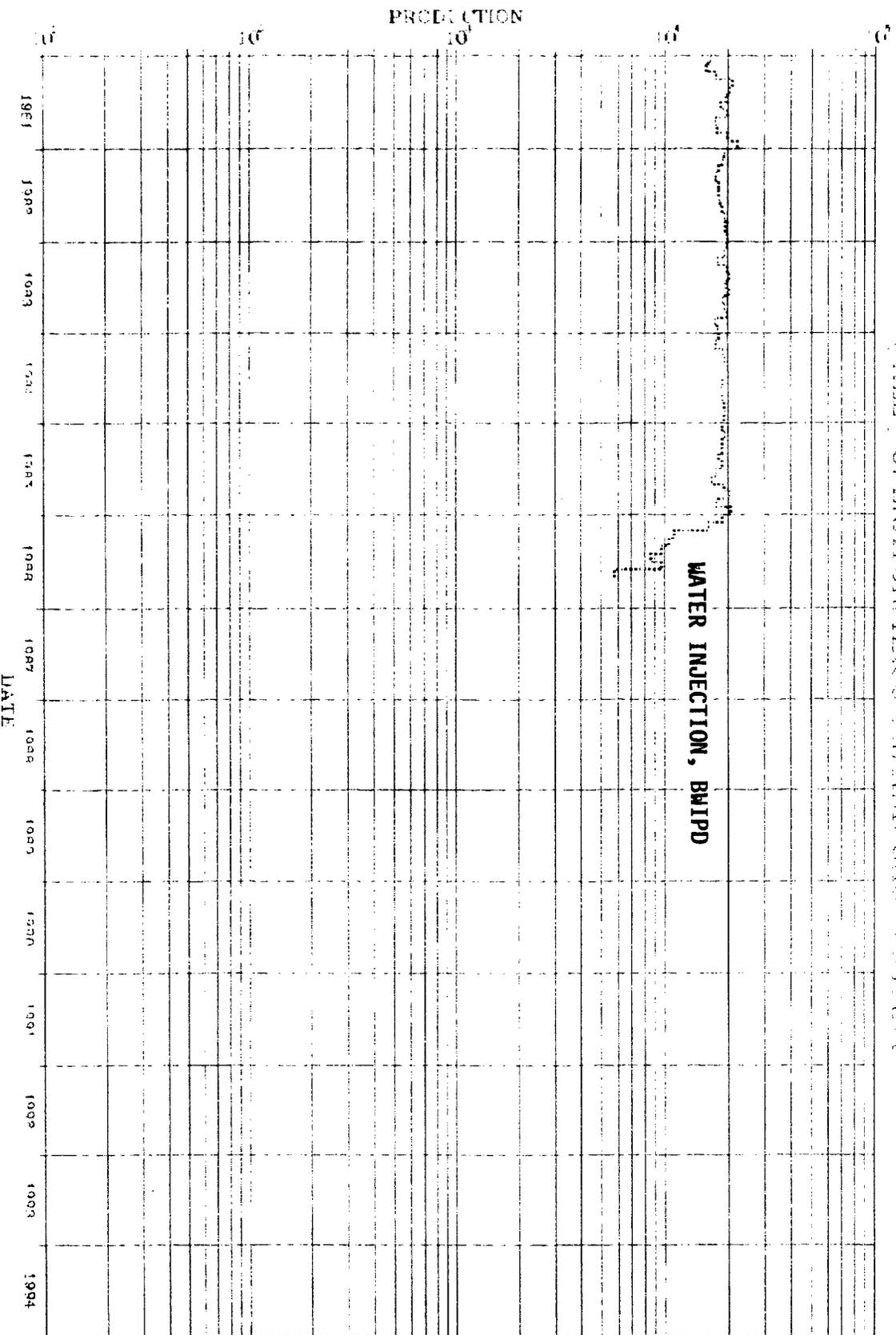
OIL PRODUCTION STB/D
 GAS PRODUCTION MCF/D
 WATER PRODUCTION BWP/D

STATE: NEW MEXICO COUNTY: SAN JUAN
 FIELD: HORSESHOE GALLUP GP
 LEASE: HORSESHOE GALLUP UNIT WELLS ALL
 () OPERATOR: ARCO OIL & GAS CO



WATER INJECTION STR/W/D

STATE: NEW MEXICO COUNTY: SAN JUAN
FIELD: HORSESHOE GULCH
LEASE: ALL WELLS# ALL
(ALL) OPERATOR: ARCO OIL AND GAS COMPANY



ARCO Oil and Gas Company
Permian District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 684 0100



March 25, 1987

Bureau of Land Management (4)
P. O. Box 6770
Albuquerque, New Mexico 87197-6770
Attn: Agreements Section

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

RE: Plan of Development
Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development for 1987 and Review of Operations for 1986 are submitted for your information. If future reservoir, operations or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current production and injection plots for the subject Unit.

Very truly yours,


J. M. McCarthy
District Production Superintendent

JMM:WCS:lu

Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1987
ARCO Oil and Gas Company
Unit Operator

Review of Operations - 1986

In 1986, no additions or contractions of either the Unit Area or the Participating Area were made. Daily average oil production declined from 472 BOPD during 1985 to 241 BOPD during 1986. Water injection for the year averaged 8,315 BWPD while produced water maintained a 7,711 BWPD average.

In response to sharply lower oil prices, field operations were significantly changed. A total of 126 wells (82 producers and 44 injectors) were shut-in, and operations at three oil batteries and one injection plant were discontinued. One well, the HSGU #188, was plugged.

Plan of Development for 1987

Field operations will continue to be reviewed in an effort to maximize unit production. No drilling is planned for 1987. Should our plans change, we will file an amended Plan of Development.

STATISTICAL SUMMARY
HORSESHOE-GALLUP UNIT

<u>Well Status</u>	<u>1-1-87</u>
Active:	
Producing	48
Injection	21
Water Supply	1
Shut-In:	
Producing	101*
Injection	56
Water Supply	4
TOTAL	<u>231</u>

Oil Production (S.T.B.)

Daily (12/86)	241
Total for Year	117,811
Cumulative	29,986,202

Gas Production (MCF)

Daily (12/86)	11
Total for Year	3,886
Cumulative	6,255,003

Water Production (S.T.B.)

Daily (12/86)	7,256
Total for Year	2,814,515
Cumulative	113,828,894

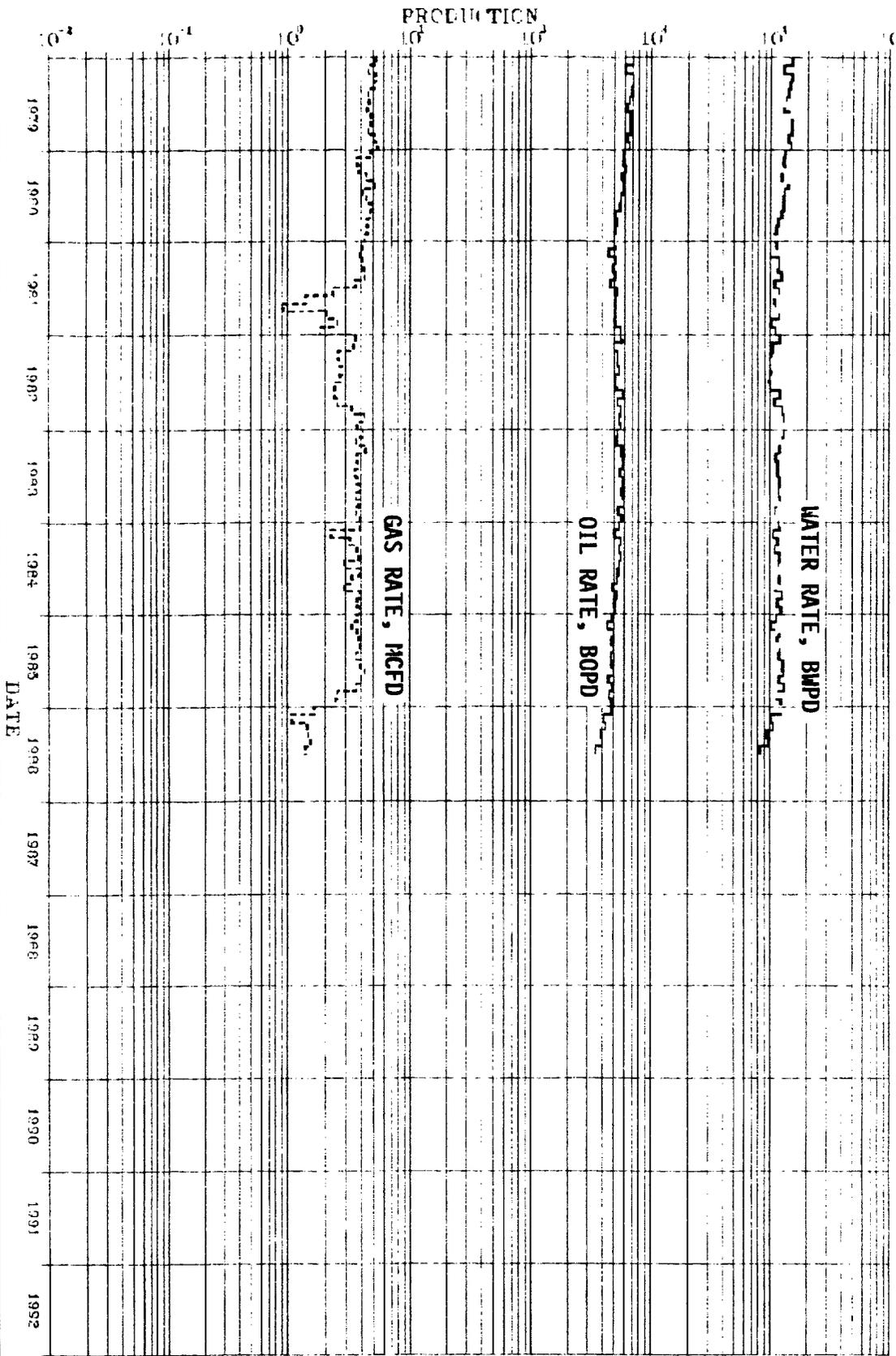
Water Injection (S.T.B.)

Daily (12/86)	10,200
Total for Year	3,034,892
Cumulative	224,925,993

* HSGU #188 was plugged in December, 1986.

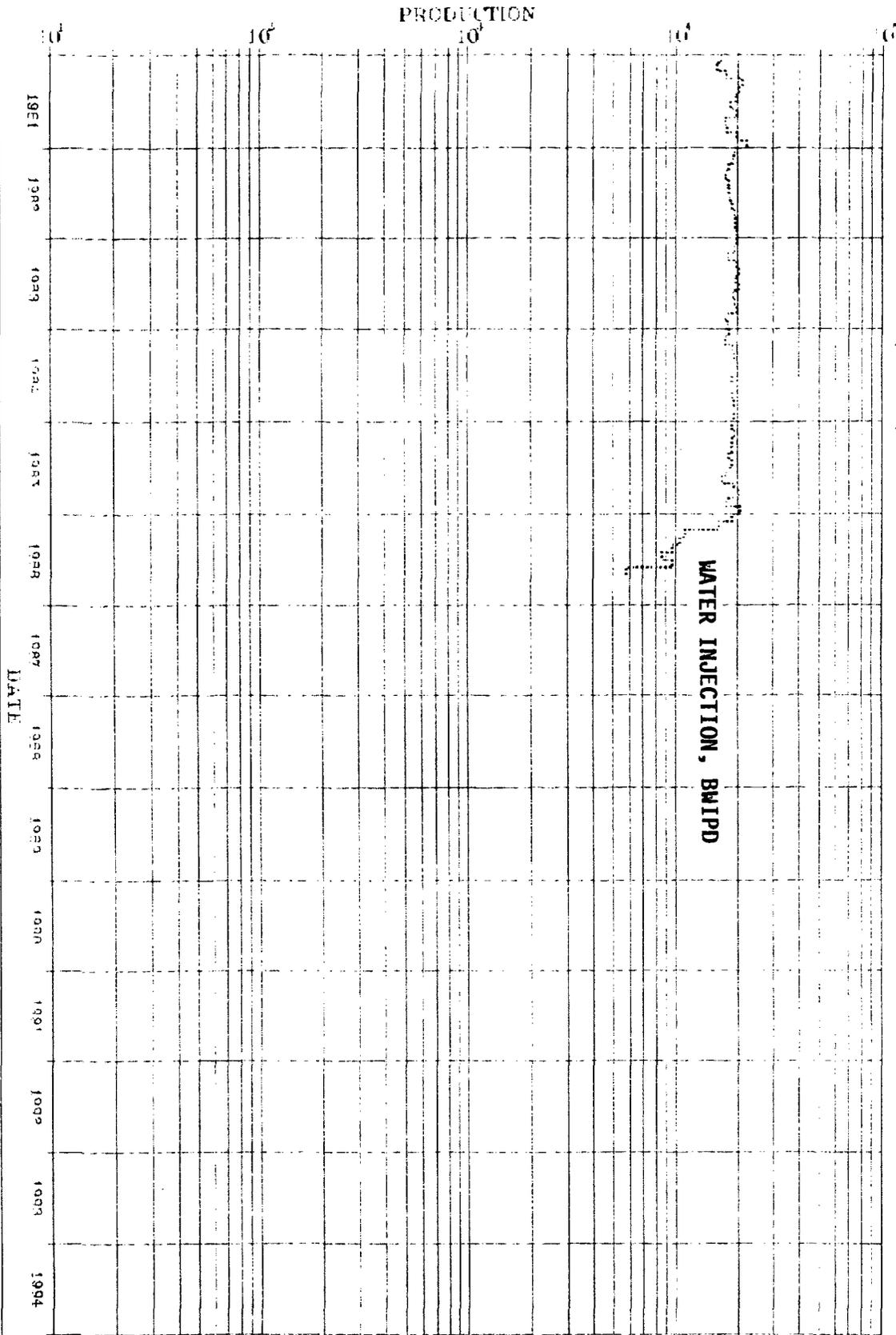
OIL PRODUCTION STB/D
 GAS PRODUCTION MCF/D
 WATER PRODUCTION BWT/D

STATE: NEW MEXICO COUNTY: SAN JUAN
 FIELD: HORSESHOE GALLUP GP
 LEASE: HORSESHOE GALLUP UNIT WELLS ALL
 () OPERATOR ARCO OIL & GAS CO



WATER INJECTION STEW/D

STATE: NEW MEXICO COUNTY: SAN JUAN
FIELD: HORSESHOE GULLUP
LEASE: ALL WELLS ALL
(ALL) OPERATOR: ARCO OIL AND GAS COMPANY



ARCO Oil and Gas Company
Permian District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 684 0100



March 25, 1987

Bureau of Land Management (4)
P. O. Box 6770
Albuquerque, New Mexico 87197-6770
Attn: Agreements Section

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

RE: Plan of Development
Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development for 1987 and Review of Operations for 1986 are submitted for your information. If future reservoir, operations or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current production and injection plots for the subject Unit.

Very truly yours,

A handwritten signature in cursive script, appearing to read 'J. M. McCarthy'. The signature is written in black ink and is positioned above the printed name.

J. M. McCarthy
District Production Superintendent

JMM:WCS:lu

Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1987
ARCO Oil and Gas Company
Unit Operator

Review of Operations - 1986

In 1986, no additions or contractions of either the Unit Area or the Participating Area were made. Daily average oil production declined from 472 BOPD during 1985 to 241 BOPD during 1986. Water injection for the year averaged 8,315 BWPD while produced water maintained a 7,711 BWPD average.

In response to sharply lower oil prices, field operations were significantly changed. A total of 126 wells (82 producers and 44 injectors) were shut-in, and operations at three oil batteries and one injection plant were discontinued. One well, the HSGU #188, was plugged.

Plan of Development for 1987

Field operations will continue to be reviewed in an effort to maximize unit production. No drilling is planned for 1987. Should our plans change, we will file an amended Plan of Development.

STATISTICAL SUMMARY
HORSESHOE-GALLUP UNIT

<u>Well Status</u>	<u>1-1-87</u>
Active:	
Producing	48
Injection	21
Water Supply	1
Shut-In:	
Producing	101*
Injection	56
Water Supply	4
TOTAL	<u>231</u>

Oil Production (S.T.B.)

Daily (12/86)	241
Total for Year	117,811
Cumulative	29,986,202

Gas Production (MCF)

Daily (12/86)	11
Total for Year	3,886
Cumulative	6,255,003

Water Production (S.T.B.)

Daily (12/86)	7,256
Total for Year	2,814,515
Cumulative	113,828,894

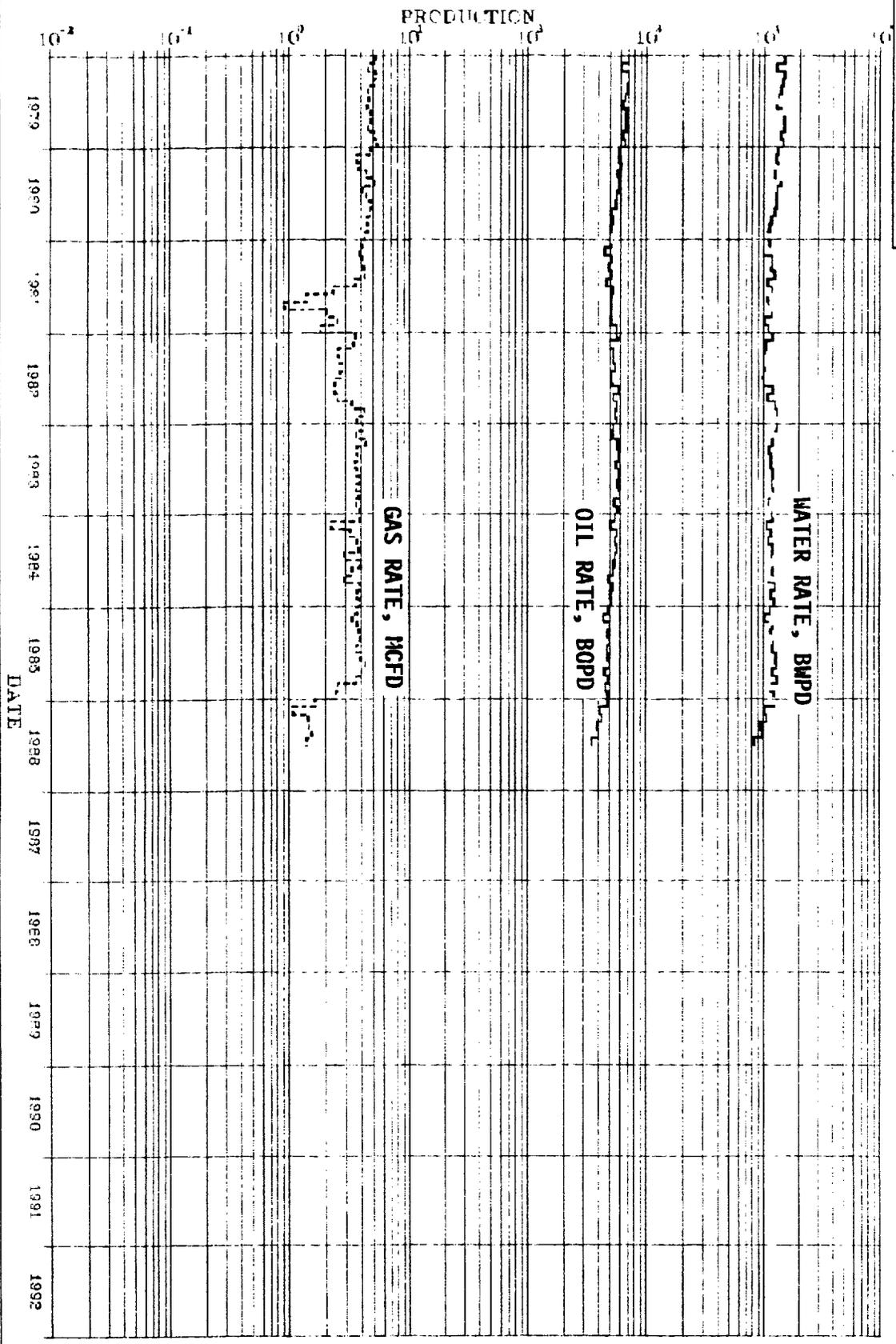
Water Injection (S.T.B.)

Daily (12/86)	10,200
Total for Year	3,034,892
Cumulative	224,925,993

* HSGU #188 was plugged in December, 1986.

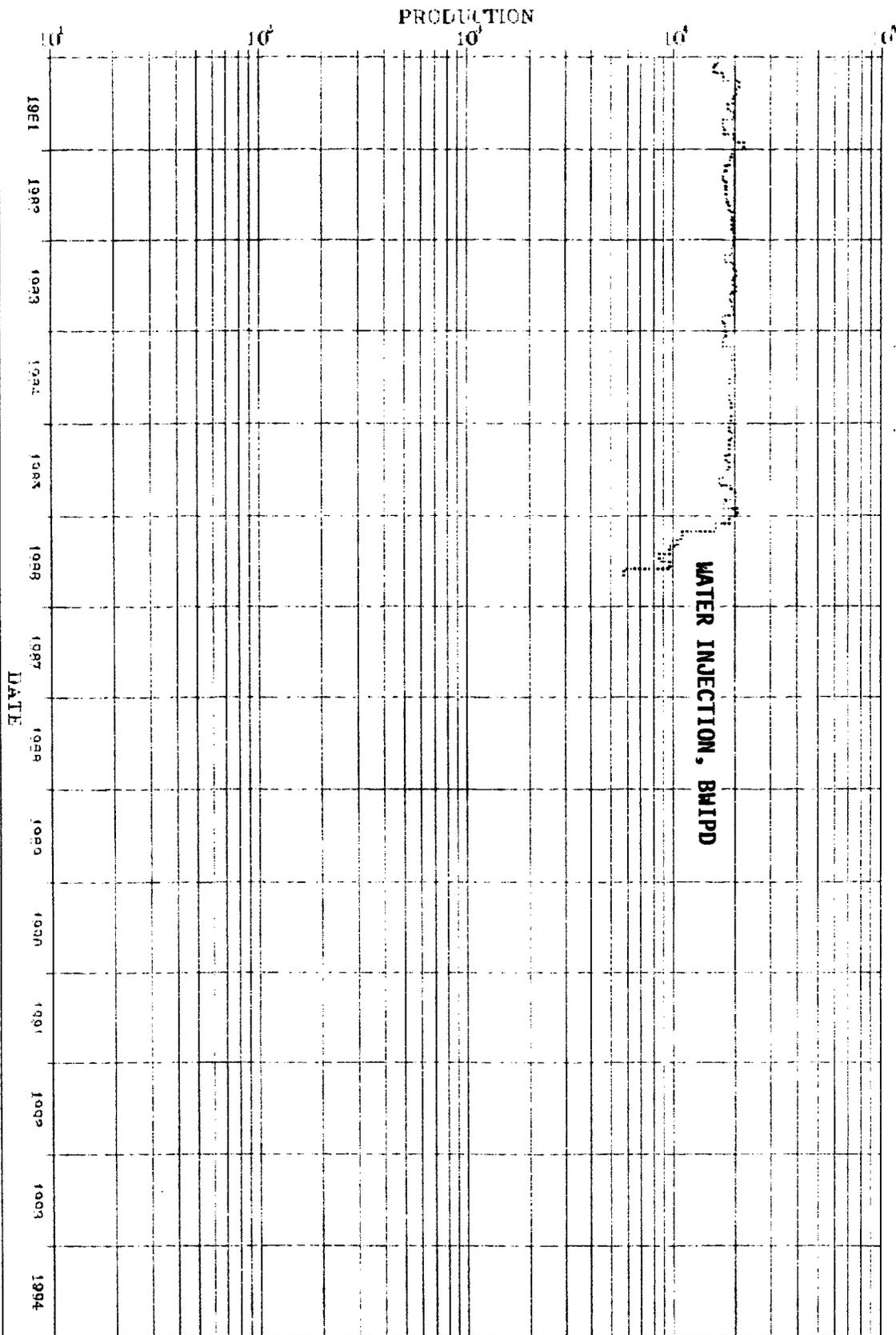
OIL PRODUCTION STB/D
 GAS PRODUCTION MCF/D
 WATER PRODUCTION STB/D

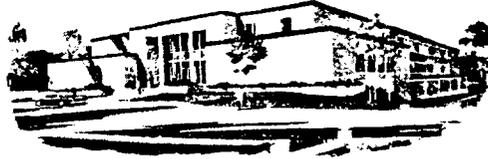
STATE: NEW MEXICO COUNTY: SAN JUAN
 FIELD: HORSESHOE GALLUP
 LEASE: HORSESHOE GALLUP UNIT WELL# ALL
 () OPERATOR: ARCO OIL & GAS CO



WATER INJECTION, STEW/D.....

STATE: NEW MEXICO COUNTY: SAN JUAN
FIELD: HORSESHOE GALLUP
LEASE: ALL WELLS# ALL
(ALL) OPERATOR: ARCO OIL AND GAS COMPANY





SLO REF. NO. OG-395

W.R. HUMPHRIES
COMMISSIONER

Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

September 2, 1987

Arco Oil & Gas Co.
Attention: J.M. McCarthy
P. O. Box 1610
Midland, Texas 79702

Re: Horseshoe Gallup Unit
1987 Plan of Development

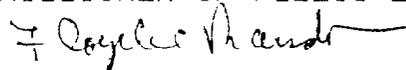
Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all appropriate agencies.

If we may be of further help, please do not hesitate to call on us.

Very truly yours,

W. R. HUMPHRIES
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil & Gas Division
(505) 827-5744

WRH/FOP/ams
enclosure
cc: Bureau of Land Management
Oil Conservation Division

ARCO Oil and Gas Company
Permian District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 684 0100



April 21, 1986

Bureau of Land Management (4)
P. O. Box 6770
Albuquerque, New Mexico 87197-6770
Attn: Agreements Section

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

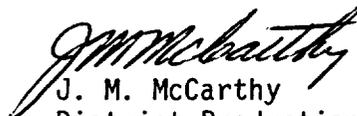
All Working Interest Owners
(See Attached List)

RE: Plan of Development
Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation for the subject property is submitted for your information. If future reservoir, operations or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached is the most current production plot for the subject Unit.

Very truly yours,


J. M. McCarthy
District Production Superintendent

JMM:WCS:tis

Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1986
ARCO Oil and Gas Company
Unit Operator

Review of the Last Plan of Development Period

In 1985, no additions or contractions of either the Unit Area or the Participating Area were made. Daily average oil production declined from 527 BOPD during 1984 to 472 BOPD during 1985. Water injection for the year averaged 18,643 BWPB while produced water maintained a 11,989 BWPB average.

The proposed infill well, HSGU #302, was not drilled due to an unfavorable economic review.

Economic review of the currently shut-in water injection wells #29, #126, #180, #192, #201 and #211 determined they should not be reactivated. Additionally, economic conditions did not warrant conversion of producing wells #1 and #118 to water injectors.

Plug and abandonment operations have been delayed for the following wells because of an ongoing review of field-wide operations: #149, #179, #190, #212, #224, #226, #237, #239, #241, #247, #249, #251, #260, and #272.

Plan of Development for 1986

A field wide review of current HSGU operations is being conducted. Depending upon economic analysis, changes in field operations may be recommended.

Eight water injectors and one producer will be plugged and abandoned: WI #69, #126, #134, #180, #192, #201, #253, #267; producer #247.

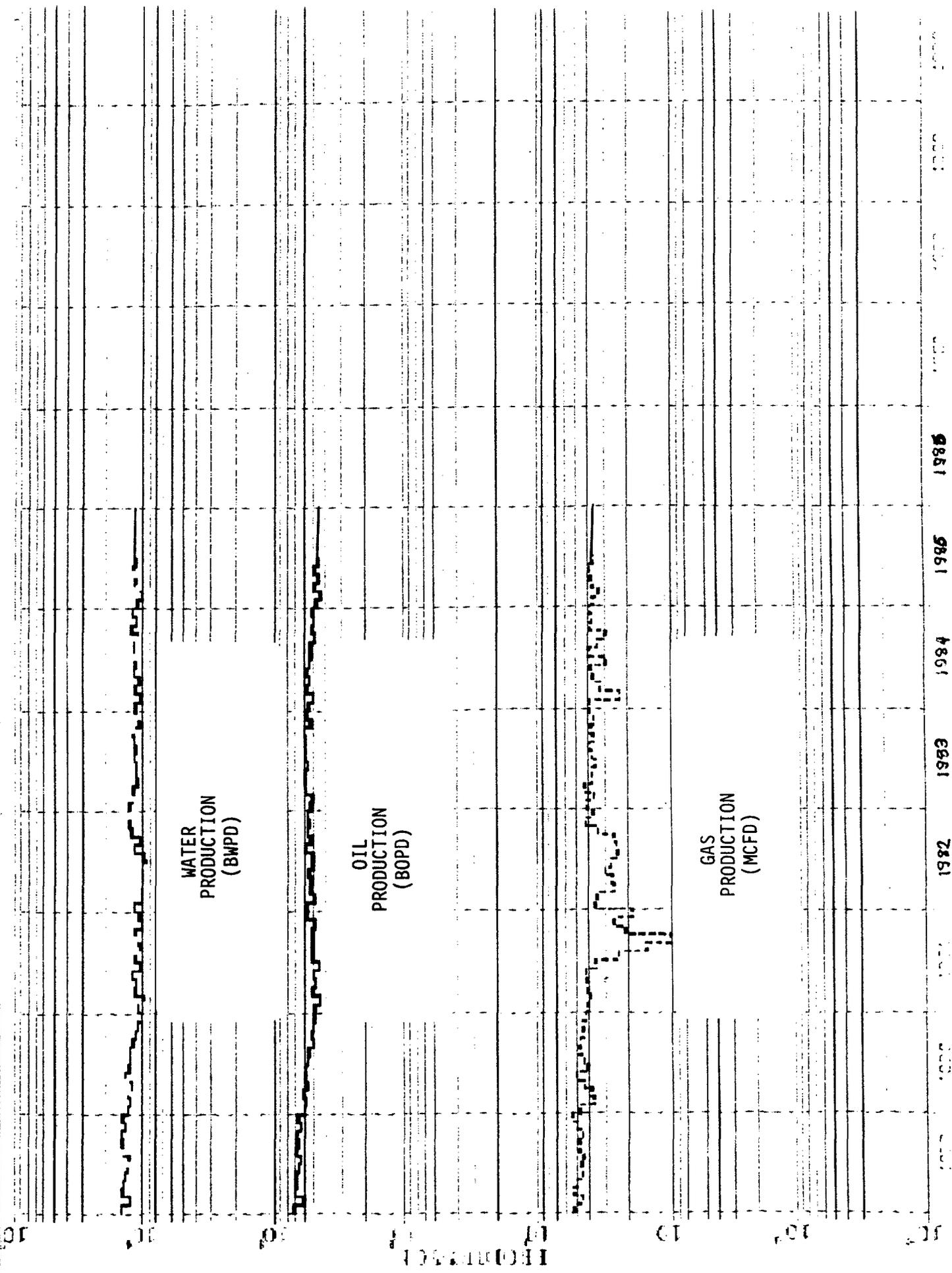
Statistical Summary
Horseshoe-Gallup Unit

<u>Well Status</u>	<u>1-1-85</u>	<u>1-1-86</u>
Active:		
Producing	130	130
Injection	65	65
Water Supply	1	1
Shut-In:		
Producing	20	20
Injection	12	12
Water Supply	<u>4</u>	<u>4</u>
TOTAL	232	232
<u>Oil Production (S.T.B.)</u>	<u>1985</u>	<u>Cum. to 1-1-86</u>
Daily Average	472	----
Total for Year	172,412	29,868,391
Since Unitization	----	19,046,892
<u>Gas Production (MCF)</u>		
Daily Average	5	----
Total for Year	1,250	6,251,117
Since Unitization	----	1,705,307
<u>Water Production (S.T.B.)</u>		
Daily Average	11,989	----
Total for Year	4,376,322	111,014,386
Since Unitization	----	106,815,021
<u>Water Injection (S.T.B.)</u>		
Daily Average	18,643	----
Total for Year	6,804,517	221,891,101
Since Unitization	----	212,686,579

OIL PRODUCTION, STBO/D
 GAS PRODUCTION, MCF/D
 WATER PRODUCTION, STBW/D

UNITED STATES DEPARTMENT OF ENERGY
 ENERGY INFORMATION ADMINISTRATION

WATER PRODUCTION (BWP/D)
 OIL PRODUCTION (BOP/D)
 GAS PRODUCTION (MCF/D)

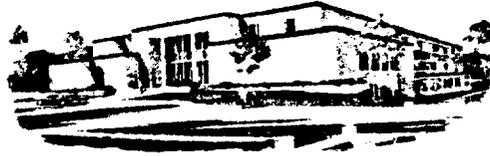


UNITED STATES DEPARTMENT OF ENERGY
 ENERGY INFORMATION ADMINISTRATION
 OIL PRODUCTION (BOP/D)
 GAS PRODUCTION (MCF/D)
 WATER PRODUCTION (BWP/D)

State of New Mexico



JIM BACA
COMMISSIONER



Commissioner of Public Lands

May 8, 1986

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148
Express Mail Delivery Uses
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

ARCO Oil and Gas Company
Attention: Mr. J. M. McCarthy
P. O. Box 1610
Midland, Texas 79702

Re: 1986 Plan of Development
Horseshoe-Gallup Unit
San Juan County, New Mexico

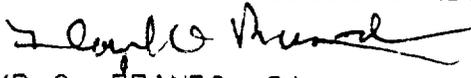
Gentlemen:

The Commissioner of Public Lands has this date approved your 1986 Plan of Development for the Horseshoe-Gallup Unit Area, San Juan County, New Mexico. Such plan proposes to plug and abandon eight water injectors and one producer. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil and Gas Division
AC (505) 827-5744

JB/FOP/pm
encs.

cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico



State of New Mexico
Commissioner of Public Lands

RAY POWELL, M.S., D.V.M.
COMMISSIONER

310 OLD SANTA FE TRAIL P.O. BOX 1148

(505) 827-5760
FAX (505) 827-5766

SANTA FE, NEW MEXICO 87504-1148

October 1, 1996

Central Resources Inc.
2600 Mellon Center
1775 Sherman Street
Denver, Colorado 80203-4313

Attn: Ms. Irene Martinez

Re: Resignation/Designation of Successor Unit Operator
Horseshoe Gallup Unit
San Juan County, New Mexico

Dear Ms. Martinez:

We are in receipt of your letter of March 29, 1996, together with a self-certification statement from Central Resources, Inc. who is designated as successor unit operator for the Horseshoe Gallup Unit.

The Commissioner of Public Lands has this date approved the resignation/designation described herein. This change in operators is effective June 1, 1995. In accordance with this approval, Central Resources, Inc. is now responsible for all operations and the reporting of all production from the unit. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

RAY POWELL, M.S., D.V.M.
COMMISSIONER OF PUBLIC LANDS

BY: 
LARRY KEHOE, Director
Oil, Gas & Minerals Division
(505) 827-5744

RP/LK/cpm
Enclosure

cc: Reader File OCD-Roy Johnson TRD Convest Energy Corporation



Vantage Point Energy

#2519

OIL CONSERVATION DIVISION
5801 E. 41st Street
Suite 1001
Tulsa, Oklahoma 74135
918-664-2100

June 25, 1991

Bureau of Land Management - CERTIFIED MAIL
Attn: Agreements Section
P.O. Box 6770
Albuquerque, NM 87197-6770

New Mexico Oil Conservation Commission - CERTIFIED MAIL ✓
310 Old Santa Fe Trail, Rm. 206
Santa Fe, NM 87503

Commission of Public Lands - CERTIFIED MAIL
The State of New Mexico
State Land Office Building
Santa Fe, NM 87501

Working Interest Owners

SUBJECT: Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Gentlemen:

Enclosed please find the Plan of Development for 1991 and the Review of Operations of 1990. Please note that Arco Oil and Gas Company was the operator during 1990. Vantage Point Energy, Inc. took over operations on January 19, 1991.

Very truly yours,

Jeff L. Pankow
Senior Petroleum Engineer

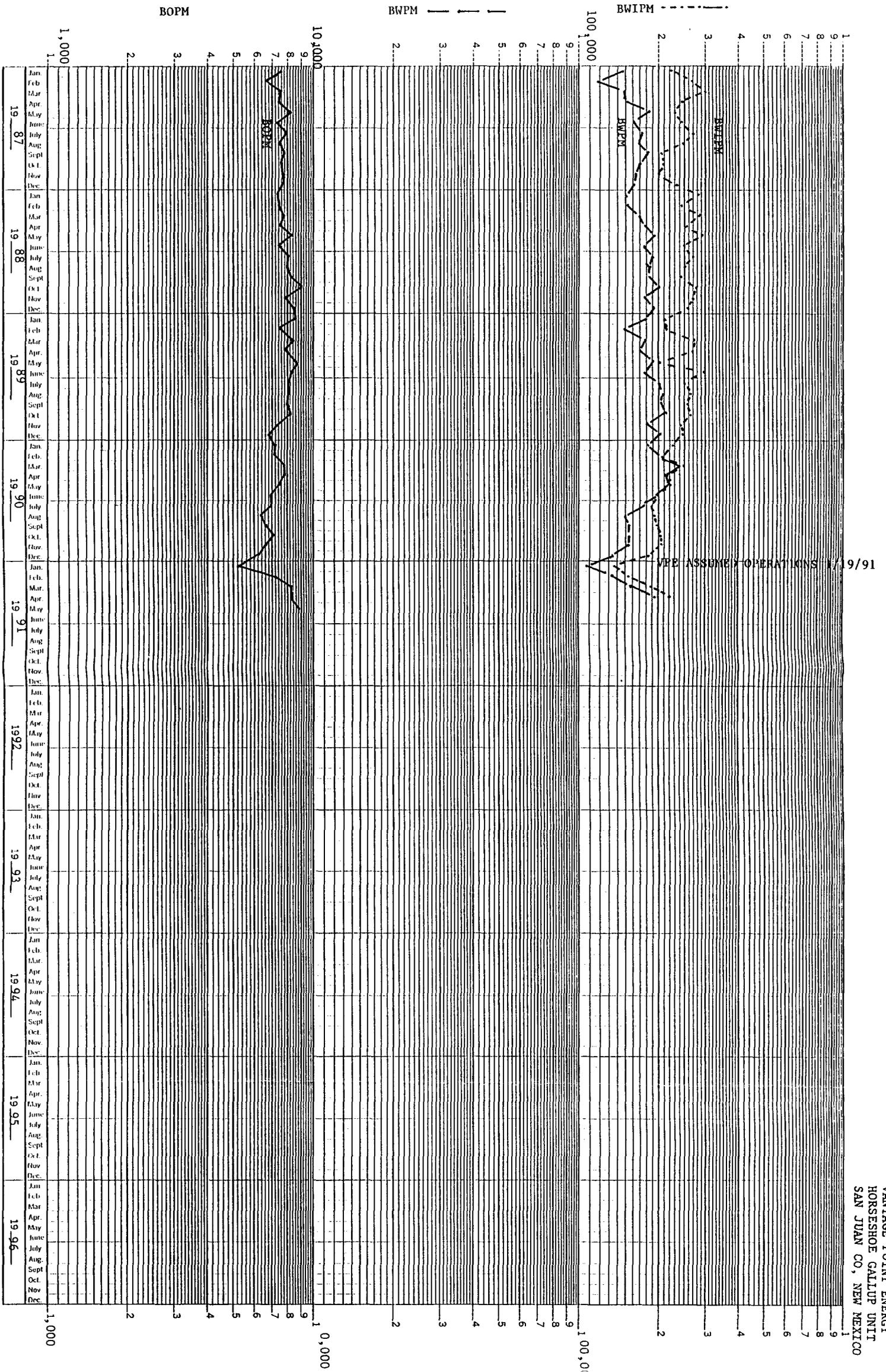
JLP/gmk
jlp6009

Enclosures

**STATISTICAL SUMMARY
HORSESHOE GALLUP UNIT**

Well Status	1-1-91
Active:	
Producing	62
Injection	20
Water Supply	1
Shut-in:	
Producing	84
Injection	51
Water Supply	4
TOTAL	
Plugged and Abandoned: Producers	21
Plugged and Abandoned: Injectors	51
Oil Production (STB)	
Daily (12/90)	201
Total for Year	84,263
Cumulative	30,449,163
Gas Production (MCF)	
Daily (12/90)	0
Total for Year	0
Cumulative	6,255,003
Water Production (STB)	
Daily (12/90)	4,507
Total for Year	2,196,893
Cumulative	123,788,881
Water Injection (STB)	
Daily (12/90)	5,929
Total for Year	2,486,591
Cumulative	236,821,167

JLP6009
6/25/91





JIM BACA
COMMISSIONER

State of New Mexico

OFFICE OF THE

Commissioner of Public Lands

Santa Fe

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

#2519

SLO REF NO. OG-1106

March 23, 1992

Vantage Point Energy
5801 E. 41st Street, Ste. 1001
Tulsa, OK 74135

Attn: Mr. Jeff L. Pankow

Re: 1991 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Gentlemen:

The Commissioner of Public Lands has this date approved the above captioned Plan of Development. Our approval is subject to like approval by all other appropriate agencies.

The possibility of drainage by wells outside of the Unit Area and the need for further development of the unit may exist. You will be contacted at a later date regarding these possibilities.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil and Gas Division
(505) 827-5744

JB/FOP/pm
cc: OCD
BLM



JIM BACA
COMMISSIONER

State of New Mexico
OFFICE OF THE
Commissioner of Public Lands
Santa Fe

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

September 1, 1992

Vantage Point Energy
5801 E. 41st Street, Suite 1001
Tulsa, Oklahoma 74135

Attn: Mr. Mathew L. Pride

Re: Change of Operator
Approval of 1992 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Dear Mr. Pride:

This office is in receipt of your letter of August 19, 1992 requesting our approval of Vantage Point Operating Company as the Successor Unit Operator to the Horseshoe Gallup Unit, San Juan County, New Mexico.

Please be advised that the Commissioner of Public Lands has this date approved the resignation of Atlantic Richfield Company and the Designation of Vantage Point Operating Company as the Successor Unit Operator of the Horseshoe-Gallup Unit, San Juan County, New Mexico. The effective date is January 19, 1991.

Please also be advised that your 1992 Plan of Development for the above captioned unit area has this date been approved.

Our approval is subject to like approval by the Bureau of Land Management.

If you have any questions, or if we may be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Director
Oil/Gas and Minerals Division
(505) 827-5744
JB/FOP/pm
encls.

cc: Reader File
OCD-Santa Fe



JIM BACA
COMMISSIONER

State of New Mexico
OFFICE OF THE
Commissioner of Public Lands
Santa Fe

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

June 3, 1992

ARCO Oil and Gas Company
P. O. Box 1610
Midland, Texas 79702

Attn: Mr. James M. Perkins, Jr.

Re: Horseshoe Gallup Unit - Change of Operator

Dear Mr. Perkins:

On January 22, 1991, Atlantic Richfield Company notified this office of their resignation as Unit Operator of the Horseshoe Gallup Unit Area effective January 19, 1991. We were also notified in this same letter that Vantage Point Energy would be seeking our approval to become the successor Unit Operator. As of this date we have not received said request. Since Vantage Point Operating Company has not been approved as the successor Unit Operator for this unit, ARCO, is still considered the operator of record and is responsible for the current unit operations.

Section 6 of the Horseshoe Gallup Unit Area provides that "whenever the Unit Operator shall tender his or its resignation as Unit Operator, or shall be removed as hereinabove provided, the working interest owners shall by affirmative vote of at least Sixty-Five per cent (65%) of the voting interests remaining after excluding the voting interest of the Unit Operator to be succeeded, select a successor Unit Operator."

Please submit copies of the voting interest ballots together with a copy of updated Exhibit "B" to the Unit Agreement. Also, the successor Unit Operator (Vantage Point Operating Co.) needs to accept in writing the duties and responsibilities of the Unit Operator.

In addition, as per Section 10 of the unit agreement, please submit a Plan of Development for the period of January 1, through December 31, 1992. The Plan of Development shall contain a current unit map showing all existing wells and their status together with decline curves and/or production data in statistical form for the 1991 calendar year. These plans should also include a summary of the anticipated unit activity for 1992 including the wells to be drilled, worked over, shut-in or converted to injection wells.

ARCO Oil and Gas Co.
P. O. Box 1610
Midland, Texas 79702

If you have any questions, or if we can be of further help, please contact Pete Martinez at (505) 827-5791.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS
BY *Floyd O. Prando*
FLOYD O. PRANDO, Director
Oil/Gas and Minerals Division
(505) 827-5744
JB/FOP/pm
encls.

cc: Reader File
OCD-Santa Fe
BLM-Farmington
Vantage Point Operating Company

ARCO Oil and Gas Company ◆

Central District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 688 5200

191 JAN 25 10 9 22

January 22, 1991

#2519

State of New Mexico
Oil Conservation Division
P.O. Box 2088
Santa Fe, New Mexico 87501

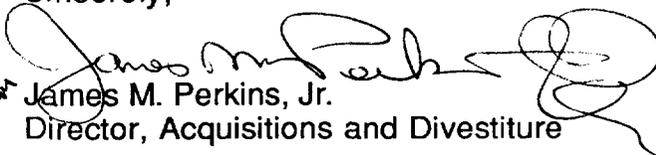
Attn: Roy Johnson

RE: Notice of Resignation of Operator of
Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

Atlantic Richfield Company ("ARCO") hereby resigns, effective 7:00 a.m. January 19, 1991, as Unit Operator of the Horseshoe Gallup Unit Area pursuant to the sale of its interest to Vantage Point Operating Company ("Vantage"). Vantage is seeking to become successor Unit Operator and should be requesting your approval shortly.

Sincerely,


James M. Perkins, Jr.
Director, Acquisitions and Divestiture

JMP/PSM:nt

cc: Vantage Point Operating Company
Ute Mountain Ute Agency
Ute Mountain Ute Tribe
Bureau of Indian Affairs
The Navajo Nation

State of New Mexico



W.R. HUMPHRIES
COMMISSIONER



Commissioner of Public Lands

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

November 19, 1990

ARCO Oil & Gas Company
Central District
P.O. Box 1610 Midland, TX 79702

Attn: H. W. Johnson
District Production Superintendent

Re: Horseshoe Gallup Unit
San Juan County, New Mexico
1990 Plan of Development

Dear Mr. Johnson:

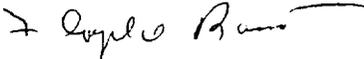
The Commissioner of Public Lands this date approved the 1990 Plan of Development for the Horseshoe Gallup Unit. Our approval is subject to like approval by all other appropriate agencies. Please forward to this office current copies of both Exhibits A & B.

The possibility of drainage by wells outside of the Unit Area and the need for further development may exist. You will be contacted at a later date regarding these possibilities.

If we may be of further help, please do not hesitate to contact Clyde Langdale at (505) 827-5791.

Sincerely,

W. R. HUMPHRIES

BY: 
Floyd O. Prando, Director
Oil, Gas & Minerals Division

cc: OCD
Unit Corresp.
Unit POD

OIL CONSERVATION DIVISION
RECEIVED

'90 JUL 2 AM 9 33

Horseshoe Gallup (POD)
3180 (019)

JUN 25 1990

Arco Oil and Gas Company
P. O. Box 1610
Midland, TX 79702

Gentlemen:

One approved copy of your 1990 Plan of Development for the Horseshoe Gallup area, San Juan County, New Mexico are enclosed. Such plan, proposing no drilling activity, was approved on this date (subject to like approval by the appropriate officials of the State of New Mexico).

The possibility of drainage by wells outside of the unit boundary may exist. You will be contacted at a later date about this possibility.

If you have any questions, please contact Kenny Howell, Petroleum Engineer, at the above address or telephone (505) 327-5344.

Sincerely,


for John L. Keller, Chief
Branch of Mineral Resources

cc: BIA, Window Rock
Unit File
NMOCD
Commissioner of Public Lands
3180
Fluids
019:KHowell:sjl:6-19-90

ARCO Oil and Gas Company
Central District
Post Office Box 1610
Midland, Texas 79702
Telephone 915 688 5200



May 30, 1990

Bureau of Land Management (4)
ATTN: AGREEMENTS SECTION
P. O. Box 6770
Albuquerque, NM 87197-6770

New Mexico Oil Conservation Commission (4)
310 Old Santa Fe Trail, Rm 206
Santa Fe, NM 87503

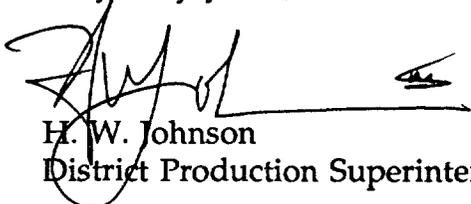
Commission of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, NM 87501

**RE: Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico**

Gentlemen:

As required, the attached Plan of Development for 1990 and Review of Operations of 1989 are submitted for your information. If future reservoir, operations, or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current production and injection plots for the subject unit.

Very truly yours,



H. W. Johnson
District Production Superintendent

HWJ:CDM/ebg
Attachments

J R ABRAHAM
5517 WILLOW LANE
DALLAS TX 75230

MERIDIAN OIL COMPANY
P O BOX 4289
FARMINGTON NM 87499

J DOUGLAS COLLISTER
4203 AVENIDA LA RESOLANA NE
ALBUQUERQUE NM 87110

MARGARET SPIEGEL COLLISTER
& BEN FISHER FIDC TR CO OF NY
TWO WORLD TRADE CENTER
NEW YORK NY 10048

RICHARD W DANMANN
60 E 42ND STREET
NEW YORK NY 10017

EPROC ASSOCIATES
ATTN ROBERT E LAUTH
P O BOX 776
DURANGO CO 81301

HELBIG & PODPECHAN
P O BOX 549
CLAREMORE OK 74107

J FELIX HICKMAN
ATTN DONNA ERWIN
& SUNWEST BK TRUST DEPT
P O BOX 25500
ALBUQUERQUE NM 87125

MERLE H HICKMAN
ATTN DONNA ERWIN
& SUNWEST BK TRUST DEPT
P O BOX 25500
ALBUQUERQUE NM 87125

REYNOLDS METALS COMPANY
OIL AND GAS DIVISION
P O BOX 9936
CORPUS CHRISTI TX 78469

ROBERT D SNOW
2000 NATL BNK OF TULSA BLDG
TULSA OK 74103

JOSEPH F SPIEGEL
& ANNE MARIANI FIDC TR CO OF NY
TWO WORLD TRADE CENTER
NEW YORK NY 10048

PRESIDIO EXPLORATION INC
ATTN JOHN HAGEDORN
3131 TURTLE CREEK BLVD
SUITE 400
DALLAS TX 75219

ARTHUR H SPIEGEL III
239 CENTRAL PARK WEST #4-B
NEW YORK NY 10024

AMOCO PRODUCTION COMPANY
ATTN DIVISION OPERATIONS MANAGER
P O BOX 800
DENVER CO 80201

HORSESHOE GALLUP UNIT

San Juan County, New Mexico

**Plan of Development and Operation
For the Year 1990
ARCO Oil and Gas Company
Unit Operator**

REVIEW OF OPERATIONS - 1989

In 1989, no additions or contractions of either the Unit Area or the Participating Area were made. Daily average oil production remained basically stable at 263 BOPD during 1989. Water injection for the year averaged 7,117 BWPD while produced water decreased to 5,697 BWPD average.

Operations were only changed slightly in 1989. Three producers (HSGU Nos. 191, 200, and 202) were reactivated. Four wells (HSGU Nos. 241, 251, 260 and 67) were plugged and abandoned and one well (HSGU No. 14) has been shut-in. No wells were drilled, recompleted, or converted.

PLAN OF DEVELOPMENT FOR 1990

ARCO Oil and Gas Company does not plan to drill any wells on the acreage and to the formations covered by this unit in 1990. It is understood that if this plan is modified to meet changing conditions, a revised plan will be submitted.

STATISTICAL SUMMARY

HORSESHOE GALLUP UNIT

Well Status 1-1-90

Active:

Producing	63
Injection	22
Water Supply	1

Shut-in:

Producing	83
Injection	49
Water Supply	4

TOTAL 222

Plugged and Abandoned:

Producers	21
-----------	----

Plugged and Abandoned:

Injectors	51
-----------	----

Oil Production (STB)

Daily (12/89)	222
Total for Year	96,113
Cumulative	30,364,900

Gas Production (MCF)

Daily (12/89)	0
Total for Year	0
Cumulative	6,255,003

Water Production (STB)

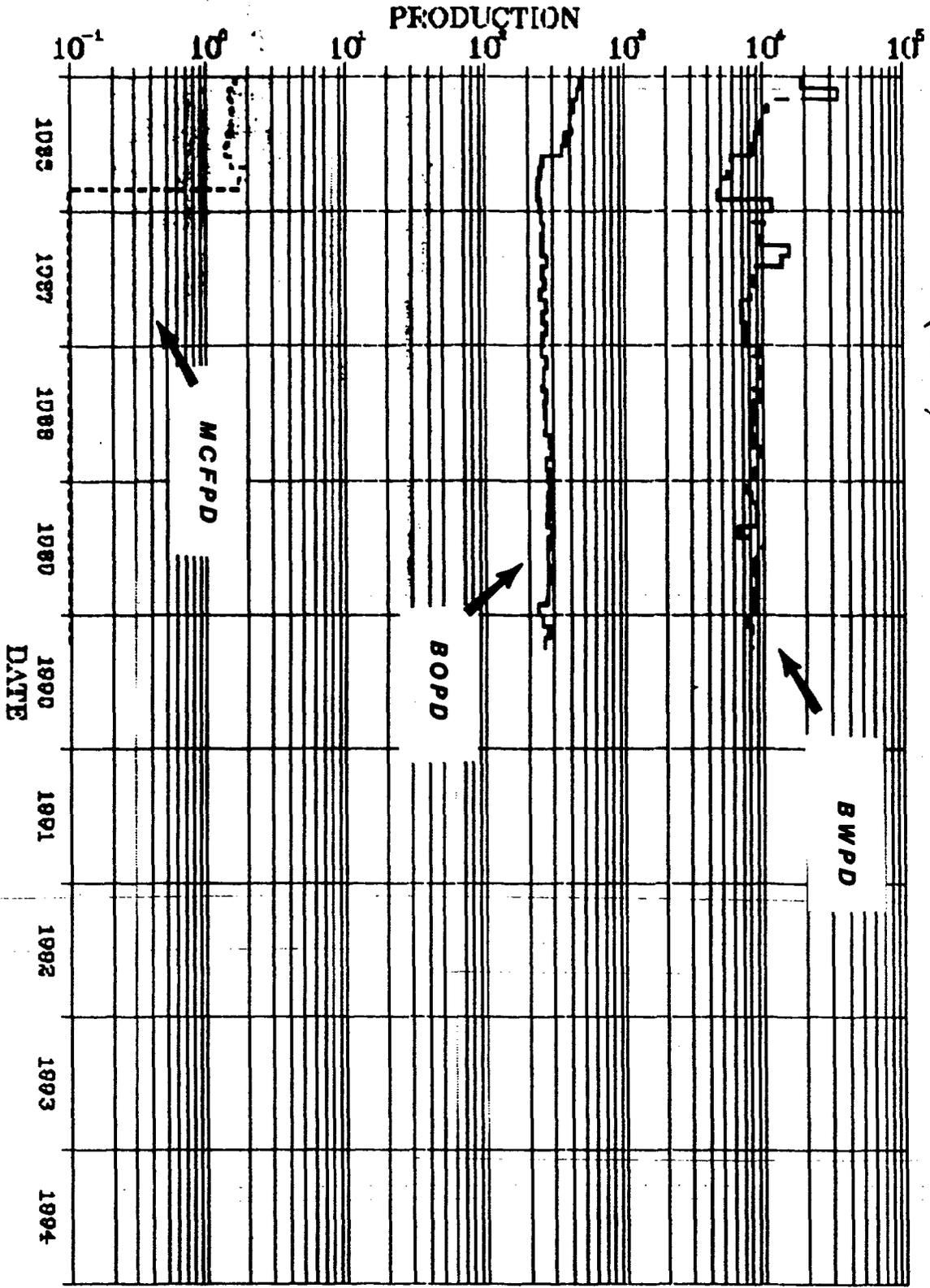
Daily (12/89)	7,971
Total for Year	2,079,345
Cumulative	121,591,988

Water Injection (STB)

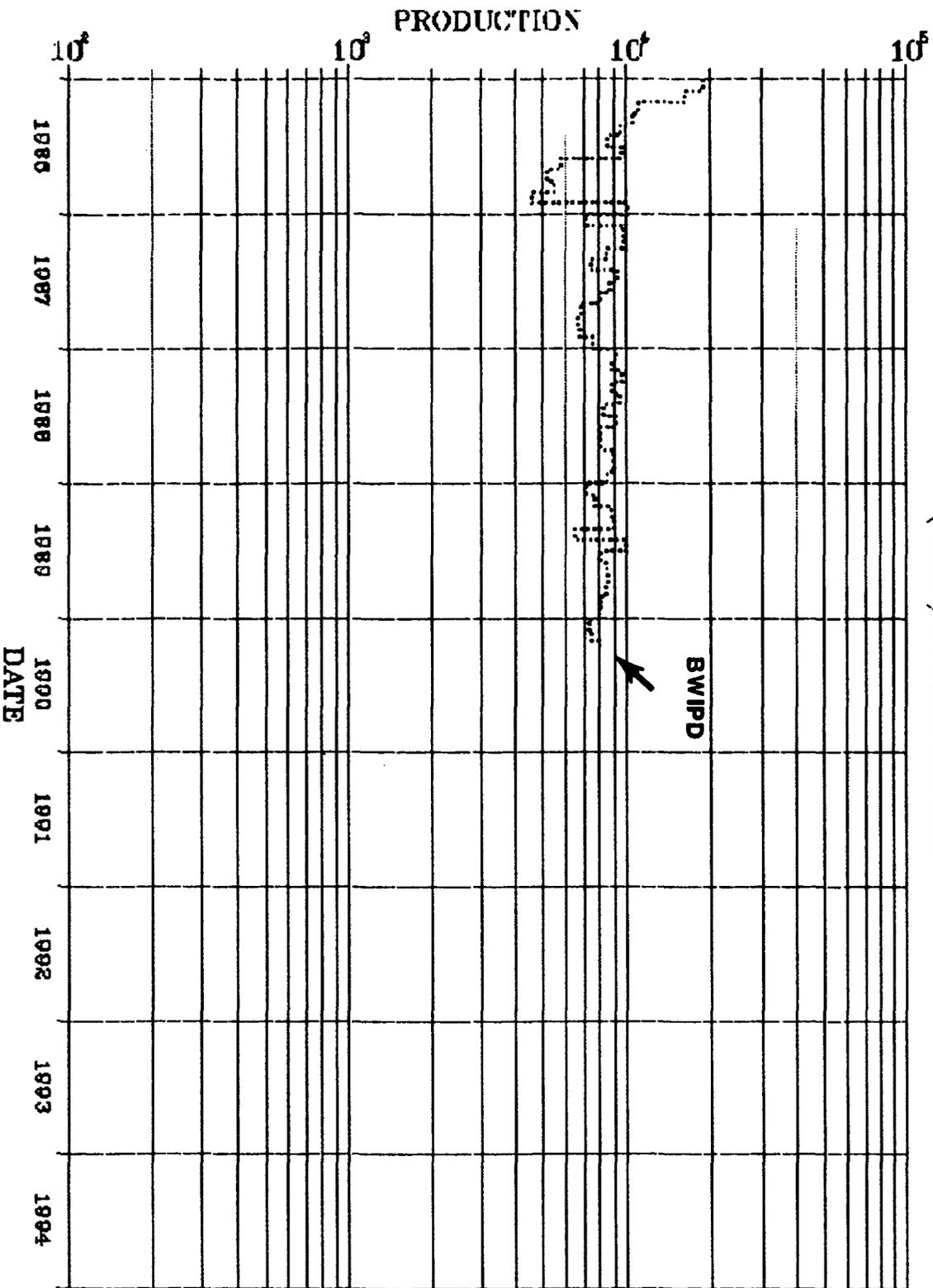
Daily (12/89)	9,267
Total for Year	2,597,667
Cumulative	234,334,576

Oil Production Standard
Water Production Standard
Gas Production Standard

STATE: NEW MEXICO COUNTY: SAN JUAN
FIELD: HORSESHOE GALLUP
LEASE: ALL WELLS ALL
(ALL) OPERATOR: ARCO OIL AND GAS COMPANY



STATE: NEW MEXICO COUNTY: SAN JUAN
FIELD: HORSESHOE GALLUP
LEASE: ALL WELL# ALL
(ALL) OPERATOR: ALL





United States Department of the Interior

GEOLOGICAL SURVEY
Conservation Division
P. O. Box 26124
Albuquerque, New Mexico 87126

April 7, 1977

Atlantic Richfield Company
Attention: Mr. W. A. Walther, Jr.
1860 Lincoln Street - Suite 501
Denver, Colorado 80203

Gentlemen:

The 1977 plan of development submitted for the Horseshoe Gallup unit area, San Juan County, New Mexico was approved on this date subject to like approval by the appropriate officials of the State of New Mexico.

Such plan proposes continuation of present waterflood operations with no significant operational changes. Two approved copies are enclosed.

It is requested that you provide this office with a copy of waterflood injection and projection data in graphical form at your earliest convenience and include an updated copy of such graph with all subsequent plans of development.

Sincerely yours,

CARL C TRAYWICK
Acting Area Oil and Gas Supervisor

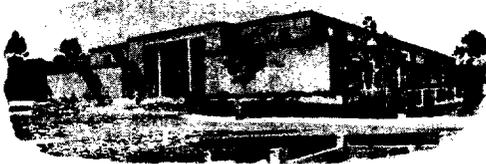
Enclosures

cc: NMOCC, Santa Fe (ltr. only) ← This Copy for
Com. Pub. Lands, Santa Fe (ltr. only)

237

State of New Mexico

TELEPHONE
505-827-2748



PHIL R. LUCERO
COMMISSIONER

Commissioner of Public Lands

June 9, 1976

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

Atlantic Richfield Company
1860 Lincoln St.- Suite 501
Denver, Colorado 80203

Re: Supplemental Plan of Development
for 1976
Horseshoe-Gallup Unit
San Juan County, New Mexico

ATTENTION: Mr. W. A. Walther, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your supplemental Plan of Development for the Horseshoe-Gallup Unit, San Juan County, New Mexico. This plan proposes the drilling of seven wells to the Lower Gallup zone. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

Please remit a Three (\$3.00) Dollar filing fee.

Enclosed is one approved copy for your files.

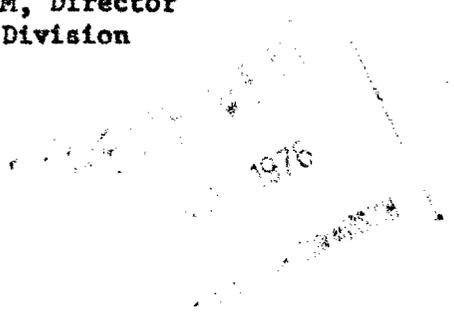
Very truly yours,

PHIL R. LUCERO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

PRL/RDG/s
encl.
cc:

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

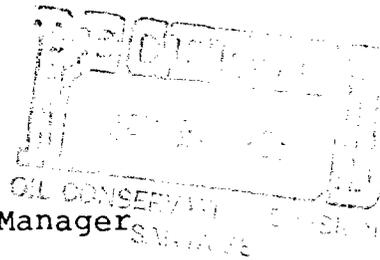


ARCO Oil and Gas Company
Rocky Mountain District
707 17th Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 4600



May 14, 1985

Mr. David J. Miller, Area Manager
Bureau of Land Management
San Juan Resources Area
Federal Building
701 Camino del Rio
Durango, Colorado 81301



Re: Horseshoe Gallup Unit Wells
San Juan County, New Mexico
Lease No. 14-20-604-1951
3160-(163)

~~2519~~

Dear Mr. Miller:

Please refer to your letter of March 13, 1985, concerning various wells which you indicate have been temporarily abandoned for an extended period of time.

Well Nos. 160, 162, and 169 - These wells are presently being injected into and Sundry Notices reflecting the current status are attached.

Following is a summary of the status of the remaining named wells and our plans for abandonment of same:

Well Nos. 180, 192, and 201 - A review of these potential injectors indicates that the expected incremental recovery would not justify the cost of activation. Therefore, we plan to proceed with plugging and abandoning operations as soon as Working Interest Owners approval has been received.

Well Nos. 149, 179, 190, 212, and 214 - These wells are producers which have reached their economic limit. We plan to proceed with P & A operations as soon as Working Interest Owners approval is received.

Enclosed is the Sundry Notice (with P & A procedure) requesting your approval to P & A Well #180. As agreed to by your Mr. Dennis Carpenter in a telephone conversation this date, we will forward Sundry Notices to P & A Well Nos. 192, 201, 149, 179, 190, 212 and 214 as soon as the P & A Procedures are finalized.

Mr. D. J. Miller
May 14, 1985
Page 2

If you have any other questions, please let me know.

Very truly yours,

Stephen Rose by D. R. Still
S. C. Rose
District Production Superintendent

SCR/BRS:af

Enclosure

cc: New Mexico Oil Conservation Division



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
San Juan Resource Area
Federal Building
701 Camino del Río
Durango, Colorado 81301

IN REPLY
REFER TO:

3160 (163)

MAR 13 1985

CERTIFIED--RETURN RECEIPT REQUESTED

ARCO Oil and Gas Company
P. O. Box 5540
Denver, Colorado 80217

Re: Horseshoe Gallup Unit Wells
San Juan County, New Mexico
Lease No. 14-20-604-1951

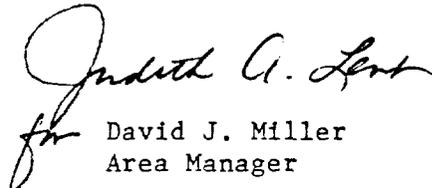
Dear Sir:

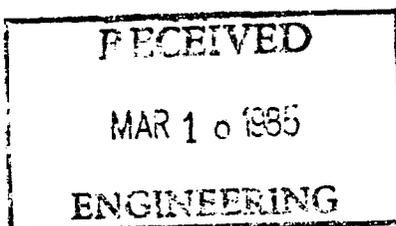
The below mentioned wells have been temporarily abandoned for an extended period of time. Please send to this office five copies of Sundry Notices (Form No. 3160-5) for each well, entitled Notice of Intent to Abandon, within 60 days from receipt of this letter. Plugging operations must commence within 60 days of approval of the Sundry Notices.

Well No. 162, Sec. 27, T.31N., R.16W
Wells No. 149, 160, 169, Sec. 28, T.31N., R.16W.
Wells No. 179, 190, Sec. 33, T.31N., R.16W.
Wells No. 180, 192, 201, 212, 214, Sec. 34, T.31N., R.16W.

If you have any questions, please contact Dennis Carpenter at (303) 247-4082.

Sincerely yours,


David J. Miller
Area Manager



RECEIVED
MAR 18 1985
BUREAU OF LAND MANAGEMENT

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

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—" for such proposals.)

1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER X - Water Injection		5. LEASE DESIGNATION AND SERIAL NO. 14-20-604-1951
2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Ute Mountain
3. ADDRESS OF OPERATOR 707- 17th Street, P.O. Box 5540, Denver, Colorado 80217		7. UNIT AGREEMENT NAME Horseshoe Gallup Unit
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface Unit "J", 1980' FSL & 1980' FEL, Section 28 (No API # Assigned)		8. FARM OR LEASE NAME Horseshoe Gallup Unit
14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, GR, etc.) 5763' GR	9. WELL NO. 160
		10. FIELD AND POOL, OR WILDCAT Horseshoe Gallup
		11. SEC., T., R., M., OR BLEK. AND SURVEY OR AREA Sec. 28-31N-16W
		12. COUNTY OR PARISH San Juan
		13. STATE New Mexico

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) Resumed Active Injection <input checked="" type="checkbox"/>	
(Other) <input type="checkbox"/>		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Change of Status:

This is to advise that the subject well resumed active injection in July, 1984, and is presently being injected into.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Durango, Colorado, dated March 13, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose TITLE Dist. Prod. Supt. DATE May 8, 1985
S. C. Rose / BRS

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

SUNDRY NOTICES AND REPORTS ON WELLS

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<p>15. ELEVATIONS (Show whether OP, ST, OR, etc.) 5763' GR</p>	

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

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SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <u>Resumed Active Injection</u> <input checked="" type="checkbox"/>	

(Note: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

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S. C. Rose BRS

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**UNITED STATES
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BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

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<p>15. ELEVATIONS (Show whether DP, ST, GR, etc.) 5763' GR</p>	

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SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDISING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) Resumed Active Injection <input checked="" type="checkbox"/>	

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BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

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3. ADDRESS OF OPERATOR 707- 17th Street,
P.O. Box 5540, Denver, Colorado 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
Unit "L", 1650' FSL & 330' FWL, Section 27
(No API # Assigned)

14. PERMIT NO. _____ 15. ELEVATIONS (Show whether DF, RT, GR, etc.)
5622'

5. LEASE DESIGNATION AND SERIAL NO.
14-20-604-1951

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Ute Mountain

7. UNIT AGREEMENT NAME
Horseshoe Gallup Unit

8. FARM OR LEASE NAME
Horseshoe Gallup Unit

9. WELL NO.
162

10. FIELD AND POOL, OR WILDCAT
Horseshoe Gallup

11. SEC., T., S., E., OR SWK. AND SURVEY OR ABRA
Sec. 27-31N-16W

12. COUNTY OR PARISH 13. STATE
San Juan New Mexico

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S.C. Rose / BRS

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UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
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Budget Bureau No. 1004-0135
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Ute Mountain

7. UNIT AGREEMENT NAME
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Horseshoe Gallup Unit

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162

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FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) Resumed Active Injection <input checked="" type="checkbox"/>	

(Other) _____

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(Do not use this form for proposals to drill or to deepen or plug back to a different reservoir.
Use "APPLICATION FOR PERMIT—" for such proposals.)

1. OIL WELL GAS WELL OTHER - Water Injection

2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company

3. ADDRESS OF OPERATOR 707- 17th Street,
P.O. Box 5540, Denver, Colorado 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
Unit "L", 1650' FSL & 330' FWL, Section 27
(No API # Assigned)

14. PERMIT NO. 15. ELEVATIONS (Show whether OP, ST, CR, etc.)
5622'

5. LEASE DESIGNATION AND SERIAL NO.
14-20-604-1951

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Ute Mountain

7. UNIT AGREEMENT NAME
Horseshoe Gallup Unit

8. FARM OR LEASE NAME
Horseshoe Gallup Unit

9. WELL NO.
162

10. FIELD AND POOL, OR WILDCAT
Horseshoe Gallup

11. SEC., T., R., M., OR BLM. AND SURVEY OR AREA
Sec. 27-31N-16W

12. COUNTY OR PARISH 13. STATE
San Juan New Mexico

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <u>Resumed Active Injection</u> <input checked="" type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Change of Status:
This is to advise that the subject well resumed active injection in July, 1984, and is presently being injected into.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Durango, Colorado, dated March 13, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose TITLE Dist. Prod. Supt. DATE May 8, 1985
S.C. ROSE / BRS

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

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—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER - Water Injection		3. LEASE DESIGNATION AND SERIAL NO. 14-20-604-1951
2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Ute Mountain
3. ADDRESS OF OPERATOR 707- 17th Street, P.O. Box 5540, Denver, Colorado 80217		7. UNIT AGREEMENT NAME Horseshoe Gallup Unit
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements. See also space 17 below.) At surface Unit "P", 660' FSL & 660' FEL, Section 28 (No API # Assigned)		8. FARM OR LEASE NAME Horseshoe Gallup Unit
14. PERMIT NO.	15. ELEVATIONS (Show whether OF, ET, GS, etc.) 5578'	9. WELL NO. 169
		10. FIELD AND POOL, OR WILDCAT Horseshoe Gallup
		11. SEC., T., R., N., OR S.E. AND SURVEY OR AREA Sec. 28-31N-16W
		12. COUNTY OR PARISH San Juan
		13. STATE New Mexico

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) Resumed Active Injection

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.) *

Change of Status:

This is to advise that the subject well resumed active injection in July, 1984, and is presently being injected into.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Durango, Colorado, dated March 13, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose TITLE Dist. Prod. Supt. DATE May 8, 1985
S.C. Rose / BRS

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
 CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

14-20-604-1951

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Ute Mountain

7. UNIT AGREEMENT NAME

Horseshoe Gallup Unit

8. FARM OR LEASE NAME

Horseshoe Gallup Unit

9. WELL NO.

169

10. FIELD AND POOL, OR WILDCAT

Horseshoe Gallup

11. SEC., T., R. M., OR B.L.K. AND SURVEY OR AREA

Sec. 28-31N-16W

12. COUNTY OR PARISH

San Juan

13. STATE

New Mexico

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—" for such proposals.)

1. OIL WELL GAS WELL OTHER - Water Injection

2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company

3. ADDRESS OF OPERATOR 707- 17th Street,
P.O. Box 5540, Denver, Colorado 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

Unit "P", 660' FSL & 660' FEL, Section 28
(No API # Assigned)

14. PERMIT NO.

15. ELEVATIONS (Show whether DF, ST, GR, etc.)

5578'

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other)

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other) Resumed Active Injection

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting and proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Change of Status:

This is to advise that the subject well resumed active injection in July, 1984, and is presently being injected into.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Durango, Colorado, dated March 13, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED

Stephen Rose
S. C. Rose / BRS

TITLE

Dist. Prod. Supt.

DATE

May 8, 1985

(This space for Federal or State office use)

APPROVED BY

TITLE

DATE

CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

3. LEASE DESIGNATION AND SERIAL NO.
14-20-604-1951

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Ute Mountain

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—" for such proposals.)

1. OIL WELL GAS WELL OTHER - Water Injection
2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of
Atlantic Richfield Company
3. ADDRESS OF OPERATOR 707- 17th Street,
P.O. Box 5540, Denver, Colorado 80217

7. UNIT AGREEMENT NAME
Horseshoe Gallup Unit

8. FARM OR LEASE NAME
Horseshoe Gallup Unit

9. WELL NO.
169

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
Unit "P", 660' FSL & 660' FEL, Section 28
(No API # Assigned)

10. FIELD AND POOL, OR WILDCAT
Horseshoe Gallup

11. SEC., T., R., M., OR BLM. AND
SURVEY OR AREA
Sec. 28-31N-16W

14. PERMIT NO.
15. ELEVATIONS (Show whether DP, RT, OR, etc.)
5578'

12. COUNTY OR PARISH 13. STATE
San Juan New Mexico

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF
FRACTURE TREAT
SHOOT OR ACIDIZE
REPAIR WELL
(Other)
PULL OR ALTER CASING
MULTIPLE COMPLETE
ABANDON*
CHANGE PLANS

SUBSEQUENT REPORT OF:

WATER SHUT-OFF
FRACTURE TREATMENT
SHOOTING OR ACIDIZING
(Other) Resumed Active Injection
REPAIRING WELL
ALTERING CASING
ABANDONMENT*

(NOTE: Report results of multiple completion on Well
Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any
proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones perti-
nent to this work.)*

Change of Status:

This is to advise that the subject well resumed active injection in July,
1984, and is presently being injected into.

(This is in compliance with the requirements set forth in a letter from
the Bureau of Land Management, Durango, Colorado, dated March 13, 1985,
copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose
S.C. Rose / BRS

TITLE Dist. Prod. Supt.

DATE May 8, 1985

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

*See Instructions on Reverse Side

HORSESHOE GALLUP #180

CURRENT WELL STATUS

History

The HGU #180 located in San Juan County, New Mexico was drilled to a depth of 1556' and completed as a Gallup oil well in June 1959. This well was converted to a water injection well in April 1963 as part of the Unit "D" secondary recovery program and was shut-in during October 1972 due to an uneconomical operation.

Existing Well Status

Casing:

Surface:	7-5/8", 26.4#/ft, J-55 ST&C set @ 133' cemented to surface w/100 sx cement.
Production:	5-1/2", 15.5#/ft, J-55 STC set @ 1555' cemented w/50 sx Pozmix. Temp survey indicated TOC @ 700.
Tubing:	2-3/8", J-55, EUE 8rd
Packer:	Baker 2-3/8" x 5-1/2" Model "A" type packer set @ 1362'.
Perforations:	1383' - 1416' @ 2 SPF within the Gallup formation.
Proposed Plugs:	1st Plug: 1275' - 1425' 2nd Plug: 75' - 185' 3rd Plug: 0' - 30'

HORSESHOE GALLUP UNIT WELLS
PLUGGING AND ABANDONMENT PROCEDURE

1. MIRU.
2. Release packer and pull tubing and packer out of hole.
3. RIH with tbg open-ended to below the bottom perforation and pump sufficient cement to cover top perforation by 100' inside the casing.
4. POH w/tbg. GIH w/wireline and shoot enough holes in production casing opposite a point 50' below the surface casing shoe to allow squeezing cement.
5. RIH w/tbg open-ended and perform a braden-head squeeze of the perforations. Use sufficient cement for a 100' column behind the casing and a 100' plug inside the casing.
6. POH, cut casing one foot below ground level, place a 30' cement plug inside casing, weld on a steel plate, weld a dry hole marker on the steel plate, fill hole and move off.
7. Rehabilitate location and access road using stipulations supplied by the surface management agency.

NOTE: BOPs will not be needed in most cases because expected reservoir pressure of the Gallup in the area of abandonment is very low. If pressure does exist on any of the subject wells, bleed it off, install BOPs if needed, and commence with above procedure.

HORSESHOE GALLUP #180

CURRENT WELL STATUS

History

The HGU #180 located in San Juan County, New Mexico was drilled to a depth of 1556' and completed as a Gallup oil well in June 1959. This well was converted to a water injection well in April 1963 as part of the Unit "D" secondary recovery program and was shut-in during October 1972 due to an uneconomical operation.

Existing Well Status

Casing:

Surface:	7-5/8", 26.4#/ft, J-55 ST&C set @ 133' cemented to surface w/100 sx cement.
Production:	5-1/2", 15.5#/ft, J-55 STC set @ 1555' cemented w/50 sx Pozmix. Temp survey indicated TOC @ 700.
Tubing:	2-3/8", J-55, EUE 8rd
Packer:	Baker 2-3/8" x 5-1/2" Model "A" type packer set @ 1362'.
Perforations:	1383' - 1416' @ 2 SPF within the Gallup formation.
Proposed Plugs:	1st Plug: 1275' - 1425' 2nd Plug: 75' - 185' 3rd Plug: 0' - 30'

HORSESHOE GALLUP UNIT WELLS
PLUGGING AND ABANDONMENT PROCEDURE

1. MIRU.
2. Release packer and pull tubing and packer out of hole.
3. RIH with tbg open-ended to below the bottom perforation and pump sufficient cement to cover top perforation by 100' inside the casing.
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**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.
14-20-604-1951

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Ute Mountain

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—" for such proposals.)

1. OIL WELL GAS WELL OTHER X - Water Injection

2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company

3. ADDRESS OF OPERATOR 707- 17th Street,
P.O. Box 5540, Denver, Colorado 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
Unit "D", 730' FNL & 515' FWL, Section 34
(No API # Assigned)

14. PERMIT NO.

15. ELEVATIONS (Show whether OF, TO, OR, etc.)
5512'

7. UNIT AGREEMENT NAME
Horseshoe Gallup Unit

8. FARM OR LEASE NAME
Horseshoe Gallup Unit

9. WELL NO.
180

10. FIELD AND POOL, OR WILDCAT
Horseshoe Gallup

11. SEC., T., S., R., OR BLK. AND SUBST OR AREA
Sec. 34-31N-16W

12. COUNTY OR PARISH
San Juan

13. STATE
New Mexico

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDISE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

ARCO Oil and Gas Company, Operator, proposes to plug and abandon the subject well, as per the attached P & A Procedure.
A review of this well indicates that the expected incremental recovery would not justify the cost of activation.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Durango, Colorado, dated March 13, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose TITLE Dist. Prod. Supt. DATE May 8, 1985
S.C. Rose / BRS

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

HORSESHOE GALLUP #180

CURRENT WELL STATUS

History

The HGU #180 located in San Juan County, New Mexico was drilled to a depth of 1556' and completed as a Gallup oil well in June 1959. This well was converted to a water injection well in April 1963 as part of the Unit "D" secondary recovery program and was shut-in during October 1972 due to an uneconomical operation.

Existing Well Status

Casing:

Surface: 7-5/8", 26.4#/ft, J-55 ST&C set @ 133' cemented to surface w/100 sx cement.

Production: 5-1/2", 15.5#/ft, J-55 STC set @ 1555' cemented w/50 sx Pozmix. Temp survey indicated TOC @ 700.

Tubing: 2-3/8", J-55, EUE 8rd

Packer: Baker 2-3/8" x 5-1/2" Model "A" type packer set @ 1362'.

Perforations: 1383' - 1416' @ 2 SPF within the Gallup formation.

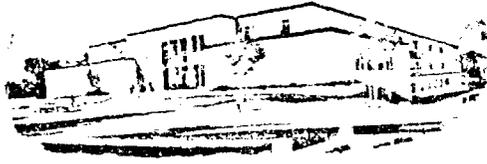
Proposed Plugs: 1st Plug: 1275' - 1425'
2nd Plug: 75' - 185'
3rd Plug 0' - 30'

HORSESHOE GALLUP UNIT WELLS
PLUGGING AND ABANDONMENT PROCEDURE

1. MIRU.
2. Release packer and pull tubing and packer out of hole.
3. RIH with tbg open-ended to below the bottom perforation and pump sufficient cement to cover top perforation by 100' inside the casing.
4. POH w/tbg. GIH w/wireline and shoot enough holes in production casing opposite a point 50' below the surface casing shoe to allow squeezing cement.
5. RIH w/tbg open-ended and perform a braden-head squeeze of the perforations. Use sufficient cement for a 100' column behind the casing and a 100' plug inside the casing.
6. POH, cut casing one foot below ground level, place a 30' cement plug inside casing, weld on a steel plate, weld a dry hole marker on the steel plate, fill hole and move off.
7. Rehabilitate location and access road using stipulations supplied by the surface management agency.

NOTE: BOPs will not be needed in most cases because expected reservoir pressure of the Gallup in the area of abandonment is very low. If pressure does exist on any of the subject wells, bleed it off, install BOPs if needed, and commence with above procedure.

State of New Mexico



2519



Commissioner of Public Lands

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

ALEX J. ARMIJO
COMMISSIONER

April 20, 1981

Arco Oil and Gas Company
P. O. Box 5540
Denver, Colorado 80217

Re: Horseshoe Gallup Unit
1981 Plan of Development
and Operation

ATTENTION: Mr. W. A. Walther, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your 1981 Plan of Development and Operation for the Horseshoe Gallup Unit, San Juan County, New Mexico. Such plan calls for no significant operational changes in 1981. Our approval is subject to like approval by the United States Geological Survey. The New Mexico Oil Conservation Division gave their approval April 13, 1981.

Enclosed is one approved copy for your files.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:

FLOYD O. PRANDO, Assistant
Director- Oil & Gas Division
AC 505-827-2748

AJA/FOP/s
encl.
cc:

OCD-Santa Fe, New Mexico
USGS-Albuquerque, New Mexico
USGS-Roswell, New Mexico



United States Department of the Interior

GEOLOGICAL SURVEY
South Central Region
P. O. Box 26124
Albuquerque, New Mexico 87125



23 APR 1981

ARCO Oil and Gas Company
Attention: W. A. Walther, Jr.
P. O. Box 5540
Denver, Colorado 80217

Gentlemen:

Your 1981 Plan of Development for the Horseshoe-Gallup Unit, San Juan County, New Mexico, has been reviewed by this office.

The 1981 plan as submitted proposes no significant operational changes and no present plans to convert any additional wells in 1981. Such plan is hereby approved on this date subject to like approval by the appropriate official of the State of New Mexico. However, you are requested to re-examine section 15, T. 31 N., R. 17 W., and sections 22 and 26, T. 31 N., R. 16 W., for drainage of unitized substances from the Gallup Formation.

It is further requested that you report to this office within 60 days your finding of such examination as a supplement to your 1981 Plan of Development.

Sincerely yours,

(ORIG. SGD.) GENE F. DANIEL

Gene F. Daniel
Deputy Conservation Manager
Oil and Gas

Enclosure

cc:
NMOCD, Santa Fe



SOLAR PETROLEUM, INC.
Oil and Gas Producers

RECEIVED
JUN 15 1982

June 10, 1982

Mr. Joe Ramey
State of N. M. - Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: Horseshoe Gallup Unit
San Juan County, New Mexico
1982 Plan of Development

Gentlemen:

2519

Solar Petroleum, Inc., as Unit Operator, drilled six infill development wells in the Horseshoe Gallup unit in 1981. These wells were proposed to evaluate the potential to increase reserves which, by analog field data were thought to be undeveloped. Although not as successful as was planned, these six wells increased proved reserves by 75,000 ±80 and are profitable under current operating conditions. One well has never been completed due to mechanical problems. We plan to work on that well in the near future. Solar believes these 75,000 ±80 reserves to be new reserves and not just accelerated reserves. Not enough historical production data is available from these new wells to prove this contention. However, analog field data supports this conclusion.

To date, the total number of wells drilled in the Horseshoe Gallup Unit on acreage committed to the unit is as follows:

Gallup - Producing	27
Gallup - Water Injectors	27
Gallup - Temp. Abandoned	0
Gallup - Plugged & Aband.	6
Gallup - Idle	2
	<hr/>
TOTAL WELLS DRILLED	62

Solar Petroleum, Inc., as Unit Operator has contacted all of the working interest owners and has received the necessary concurrence to propose the drilling of the following additional wells during the calendar year 1982.

<u>Well Number</u>	<u>Location</u>	<u>Formation</u>	<u>Type</u>
F-154	1245' FNL & 80' FEL Sec. 9, T31N R17W	Gallup	Producer
F-155	2630' FNL & 10' FEL Sec. 9, T31N R17W	Gallup	Producer
F-156	1100' FSL & 2630' FEL Sec. 10, T31N R17W	Gallup	Producer
F-157	1310' FNL & 1170' FWL Sec. 4, T31N R17W	Gallup	Producer
G-227	1330' FSL & 1310' FWL Sec. 11, T31N R17W	Gallup	Producer

Solar is proposing these five wells because the six wells drilled in 1981 have been shown to be profitable. Three of the proposed wells are further development of the area in the field with the best reservoir parameters and are offsets to the six wells drilled in 1981. Two of the wells are located close to the edge of the reservoir and are proposed to evaluate the profitability of more extensive infill development.

Solar Petroleum believes that without these wells potential reserves which could be recovered will never be recovered and a waste of our natural resources may occur. If this program is successful an additional 20 to 30 wells may be proposed.

If this plan of development is acceptable, please signify your approval in the space provided and return an approved copy to Solar Petroleum. Your timely execution of this document will be appreciated as all other requirements for the applications for Permit to Drill have been fulfilled.

Sincerely,

SOLAR PETROLEUM, INC.



David S. Cushman
Staff Petroleum Engineer

DSC/lo

APPROVED BY: _____



Date: _____

7/20/82



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR

July 21, 1982

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

Solar Petroleum, Inc.
One Denver Place
999 Eighteen Street
Suite 1300
Denver, Colorado, 80202

2519

Attention: David S. Cushman

Re: Horseshoe Gallup Unit
San Juan County, New
Mexico, 1982 Plan of
Development

Dear Mr. Cushman:

Enclosed please find an approved copy of the material referenced above. Such approval is contingent upon like approval by the Commissioner of Public Lands and the U. S. Minerals Management Service.

Sincerely,

W. PERRY PEARCE
General Counsel

WPP/dr

cc: Commissioner of Public Lands - Santa Fe
Minerals Management Service - Albuquerque
OCD District Office



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

BRUCE KING
GOVERNOR
LARRY KEHOE
SECRETARY

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

April 13, 1981

ARCO Oil and Gas Company
P. O. Box 5540
Denver, Colorado 80217

Attention: W. A. Walther, Jr.

Re: Case No. 2519
Horseshoe Gallup Unit
1981 Plan of Development
and Operation

Gentlemen:

We hereby approve the 1981 Plan of Development and Operation for the Horseshoe Gallup Unit, San Juan County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

Three approved copies of the Plan of Development and Operation are returned herewith.

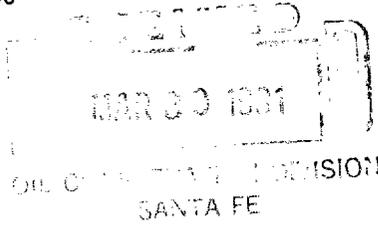
Yours very truly,

JOE D. RAMEY
Director

JDR/EP/fd
enc.

cc: U.S.G.S. - Albuquerque
Commissioner of Public Lands

ARCO Oil and Gas Company
Western District
717 - 17th Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 575 7031
W. A. Walther, Jr.
Operations Manager



March 12, 1981

United States Geological Survey
P. O. Box 26124 (4)
Albuquerque, New Mexico 87125
ATTN: Agreements Section

Oil Conservation Commission
of the State of New Mexico
P. O. Box 2088 (4)
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

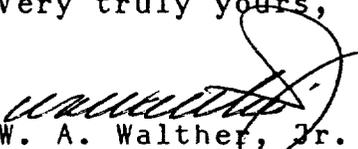
All Working Interest Owners
(See Attached List)

Re: Plan of Development
Horseshoe - Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation for the subject property is submitted for your information.

Very truly yours,


W. A. Walther, Jr.
Operations Manager

Attachment

WAW/RMR:dr

Horseshoe - Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1981
ARCO OIL AND GAS COMPANY
Unit Operator

Review of the Last Plan of Development Period

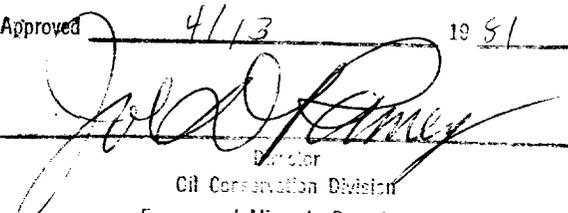
In 1980 no additions or contractions of either the Unit Area or the Participating Area were made. No existing wells were converted. Daily average oil production declined from 671 BOPD during 1979 to 558 BOPD during 1980.

Water injection for the year averaged 16,662 BWPB. Produced water has decreased from a 14,394 BWPB average in 1979 to 12,697 BWPB in 1980.

Plan of Development for 1981

No significant operational changes are planned for 1981. There are presently no plans to convert any additional wells in 1981.

As stated in our 1980 Plan of Development, ARCO Oil and Gas Company, as Unit Operator, proposed the Horseshoe Gallup Unit Well No. 298 to the working interest owners, for their approval of an AFE for drilling. Insufficient approval was obtained and as such we are unable to drill the well at this time.

Approved 4/13 19 81

Director
Oil Conservation Division
Energy and Minerals Department

Statistical Summary
Horseshoe - Gallup Unit

<u>Well Status</u>	<u>1-1-80</u>	<u>1-1-81</u>
Producing	125	127
Injection	63	54
Water Supply	2	2
Shut-In	---	---
Producing	40	38
Injection	58	67
Water Supply	<u>3</u>	<u>3</u>
TOTAL	291	291
<u>Oil Production (S.T.B.)</u>	<u>1980</u>	<u>Cum. to 1-1-81</u>
Daily Average	558	--
Total for Year	203,711	28,911,865
Since Unitization	--	18,288,955
<u>Gas Production (MMCF)</u>		
Daily Average	4	--
Total for Year	1596	6,245,078
Since Unitization	--	1,700,078*
<u>Water production (S.T.B.)</u>		
Daily Average	12,697	--
Total for Year	4,634,328	89,667,911
Since Unitization	--	89,631,421
<u>Water Injection (S.T.B.)</u>		
Daily Average	16,662	--
Total for Year	6,081,472	187,579,106
Since Unitization	--	185,209,506*

*Corrected cum.

WORKING INTEREST OWNER

Horseshoe - Gallup Unit

J. R. Abraham
5517 Willow Lane
Dallas, Texas 75230

Amax Petroleum Corp.
N. B. Gove
P. O. Box 42806
Houston, Texas 77042

J. Douglas Collister
4203 Avenida LaResolana NE
Albuquerque, New Mexico 87110

Continental Oil Company
L. P. Thompson
Box 460
Hobbs, New Mexico 88240

Richard W. Dammann
60 East 42nd Street
New York, New York 10017

EPROC Associates
Robert E. Lauth
Box 776
Durango, Colorado 81301

Helbing & Podpechan
Box 549
Claremore, Oklahoma 74017

J. Felix Hickman
Box 12307
El Paso, Texas 79912

Mobil Producing Texas & New Mexico, Inc.
Jt. Int. Manager
9 Greenway Plaza - Suite 2700
Houston, Texas 77046

Margaret Spiegel Collister
8616 LaSalla del Sur NE
Albuquerque, New Mexico 87111

Joseph F. Spiegel
104 Purser Place
Yonkers, New York 10705

EPX Company
John Strojek
Box 3908
Odessa, Texas 79760

Reynolds Metals Company
Oil & Gas Division
P. O. Box 9911
Corpus Christi, Texas 78408

Robert D. Snow
200 National Bank of Tulsa Building
Tulsa, Oklahoma 74103

Sohio Petroleum Co.
Mr. R. M. Lowe
50 Penn Place, Suite 1100
Oklahoma City, Oklahoma 73118

Tenneco Oil Company
D. D. Myers
720 S. Colorado Blvd.
Denver, Colorado 80222

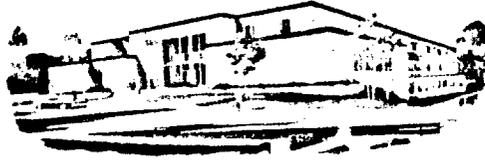
Texaco, Incorporated
J. C. White, Asst. Division Manager
Box 2100
Denver, Colorado 80201

Vack Ventures
c/o Cottle & Cottle
120 S. LaSalle Street
Chicago, Illinois 60603

Arthur H. Spiegel III
51 W. 81st Street - Apt. 12D
New York, New York 10024

F. Forsha Russell
French, Nelson, Russell, Incorporated
Box 1038
Kansas City, Missouri 64141

State of New Mexico



Commissioner of Public Lands

April 10, 1980

ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

2519

Arco Oil and Gas Company
P. O. Box 5540
Denver, Colorado 80217

Re: Plan of Development
Horseshoe-Gallup Unit
San Juan County, New Mexico

ATTENTION: Mr. W. A. Walther, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your 1980 Plan of Development for the Horseshoe-Gallup Unit, San Juan County, New Mexico. Such plan calls for no significant changes and no plans to convert any additional wells. Also, Well No. 298 in the NW/4NW/4 of Section 26, Township 31 North, Range 16 West might be drilled during 1980. Our approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Division.

Enclosed is one approved copy of the plan.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505-827-2748

AJA/RDG/s
encls.
cc:

OCD-Santa Fe, New Mexico ✓
USGS-Roswell, New Mexico
USGS-Albuquerque, New Mexico

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

May 29, 1980

ARCO Oil and Gas Company
P. O. Box 5540
Denver, Colorado 80217

Attention: W. A. Walther, Jr.

Re: Case No. 2519
Horseshoe-Gallup Unit
1980 Plan of Development

Gentlemen:

We hereby approve the 1980 Plan of Development for the Horseshoe-Gallup Unit, San Juan County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

Three approved copies of the Plan of Development are returned herewith.

Yours very truly,

JOE D. RAMEY
Director

JDR/EP/fd
enc.

cc: U.S.G.S. - Roswell
Commissioner of Public Lands

C
O
P
Y

ARCO Oil and Gas Company
Rocky Mountain District
717-17th Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 575 7031
W. A. Walther, Jr.
Operations Manager



2519
02
5/28/80
E/P

March 14, 1980

Mr. N. O. Frederick (4)
Area Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3) All Working Interest Owners
The State of New Mexico (See Attached List)
State Land Office Building
Santa Fe, New Mexico 87501

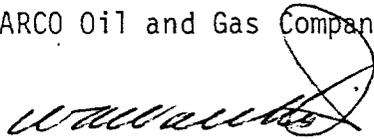
RE: Plan of Development
Horseshoe - Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation for the subject property is submitted for your information.

Very truly yours,

ARCO Oil and Gas Company


W. A. Walther, Jr.

WAW:RMR:mo

Attach

Horseshoe - Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1980
ATLANTIC RICHFIELD COMPANY
Unit Operator

Review of the Last Plan of Development Period

In 1979 no additions or contractions of either the Unit Area or the Participating Area were made. No existing wells were converted. Daily average oil production declined from 710 BOPD during 1978 to 671 BOPD during 1979.

Water injection for the year averaged 20,430 BWPD. Produced water has decreased from a 15,885 BWPD average in 1978 to 14,394 BWPD in 1979.

Plan of Development for 1980

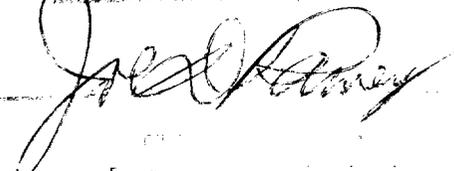
No significant operational changes are planned for 1980. There are presently no plans to convert any additional wells in 1980.

ARCO Oil and Gas Company, as Unit Operator, will propose to the working interest owners that the Horseshoe Gallup Unit Well No. 298 be drilled during 1980. This well would be located in the NW/4 NW/4 Section 26-31N-16W and would test the Gallup Formation. This well is proposed as a result of a drainage demand filed by the USGS.

Approved:

5/29

1980


Joe Roney
Unit Operator

Statistical Summary
Horseshoe-Gallup Unit

<u>Well Status</u>	<u>1-1-79</u>	<u>1-1-80</u>
Producing	133	125
Injection	66	63
Water Supply	2	2
Shut-In	---	---
Producing	32	40
Injection	55	58
Water Supply	<u>3</u>	<u>3</u>
TOTAL	291	291
 <u>Oil Production (S.T.B.)</u>	 <u>1979</u>	 Cum. to 1-1-80
Daily Average	671	
Total for Year	244,924	28,708,154
Since Unitization	---	18,085,244
 <u>Gas Production (M.C.F.)</u>		
Daily Average	5	---
Total for Year	1,759	6,243,482
Since Unitization	---	1,668,785
 <u>Water Production (S.T.B.)</u>		
Daily Average	14,394	---
Total for Year	5,253,371	85,033,583
Since Unitization	---	84,997,093
 <u>Water Injection (S.T.B.)</u>		
Daily Average	20,430	---
Total for Year	7,457,174	181,497,634
Since Unitization	---	167,418,905

WORKING INTEREST OWNER

Horseshoe - Gallup Unit

J. R. Abraham
5517 Willow Lane
Dallas, Texas 75230

Amax Petroleum
A. B. Gove
900 Town & Country Lane
Suite 400
Houston, Texas 77024

J. Douglas Collister
4203 Avenida LaResolana NE
Albuquerque, New Mexico 87110

Continental Oil Company
L. P. Thompson
Box 460
Hobbs, New Mexico 88240

Richard W. Dammann
60 East 42nd Street
New York, N. Y. 10017

EPROC Associates
Robert E. Lauth
Box 776
Durango, Colorado 81301

Helbing & Podpechan
Frank W. Podpechan
Box 549
Claremore, Oklahoma 74017

J. Felix Hickman
Box 12307
El Paso, Texas 79912

Mobil Oil Corporation
Division Reservoir Engineer
9 Greenway Plaza - Suite 2700
Houston, Texas 77046

Margaret Spiegel Collister
8616 LaSalla del Sur NE
Albuquerque, N.M. 87111

Joseph F. Spiegel
104 Purser Place
Yonkers, N. Y. 10705

Odessa Natural Corporation
John Strojek
Box 3908
Odessa, Texas 79760

Reynolds Metals Company
James K. Jones
Box 27003
Richmond, Virginia 23261

Robert D. Snow
200 National Bank of Tulsa Building
Tulsa, Oklahoma 74103

Sohio Petroleum Co.
R. E. Johnston
50 Penn Place, Suite 1100
Oklahoma City, Oklahoma 73118

Mrs. Eleanor F. Spiegel
Box 1042
Albuquerque, New Mexico 87103

Tenneco Oil Company
D. D. Myers
720 S. Colorado Blvd.
Denver, Colorado 80222

Texaco, Incorporated
J. C. White, Asst. Division Manager
Box 2100
Denver, Colorado 80201

Vack Ventures
c/o Cottle & Cottle
120 S. LaSalle Street
Chicago, Illinois 60603

Rocky Mountain District Prod. Manager
Clinton Oil Company
Box 3280
Casper, Wyoming 82601

Arthur H. Spiegel III
51 W. 81st Street - Apt. 12D
New York, N. Y. 10024

F. Forsha Russell
French, Nelson, Russell, Incorporated
Box 1038
Kansas City, Missouri 64141



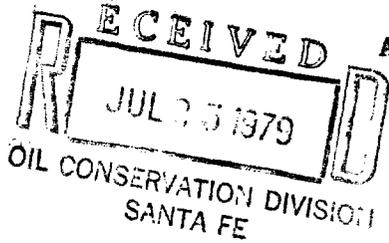
United States Department of the Interior

GEOLOGICAL SURVEY

Conservation Division

P. O. Box 26124

Albuquerque, New Mexico 87125



JUL 23 1979

2519

Atlantic Richfield Company
1860 Lincoln Street, Suite 501
Denver, Colorado 80203

Gentlemen:

Approval of your 1979 Plan of Development for the Horseshoe-Gallup Unit is being held pending results of our review concerning potential drainage of unitized Ute Mountain Tribal leases 14-20-604-1948-A and 14-20-604-1950.

These leases are presently being reviewed and you will be notified of our results as soon as possible.

Sincerely yours,

(ORIG. SGD.) GENE F. DANIEL

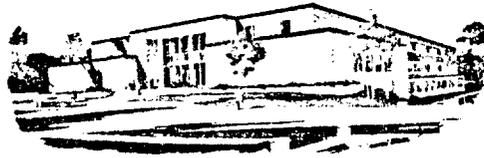
Gene F. Daniel
Acting Oil and Gas Supervisor, SRMA

cc:
NMOCD, Santa Fe New Mexico ✓
District Engineer, Farmington

Commissioner of Public Lands

RECEIVED
MAR 2 1979
Oil Conservation

State of New Mexico



Commissioner of Public Lands
March 1, 1979

ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

Atlantic Richfield Company
1860 Lincoln Street-Suite 501
Denver, Colorado 80203

2519

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
1979 PLAN OF DEVELOPMENT

ATTENTION: W. A. Walther, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your 1979 Plan of Development for the Horseshoe-Gallup Unit, San Juan County, New Mexico. No significant operational changes are planned for 1979. There are presently no plans to convert or drill any additional wells in 1979. This approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Division.

Enclosed is one approved copy for your files.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

AJA/RDG/s
encls.

cc: OCD-Santa Fe, New Mexico
USGS-Roswell, New Mexico
USGS-Albuquerque, New Mexico

OIL CONSERVATION DIVISION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

March 5, 1979

Atlantic Richfield Company
1860 Lincoln St. - Suite 501
Denver, Colorado 80295

Attention: W. A. Walther, Jr.

Re: Case No. 2519
Horseshoe - Gallup Unit
1979 Plan of Development

Gentlemen:

We hereby approve the 1979 Plan of Development for the Horseshoe - Gallup Unit, San Juan County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

Two approved copies of the Plan of Development are returned herewith.

Yours very truly,

JOE D. RAMEY
Director

JDR/LT/fd
enc.

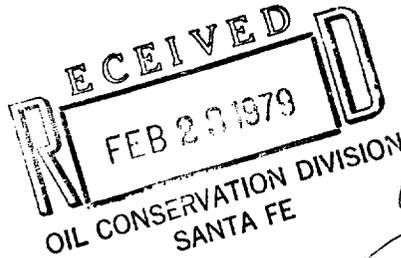
cc: U.S.G.S. - Roswell
Commissioner of Public Lands

C
O
P
Y

Atlantic Richfield Company

North American Producing Division
Rocky Mountain District
1800 Lincoln St. — Suite 501
Denver, Colorado 80295
Telephone 303 573-4049

W. A. Walther, Jr.
Operations Manager



Approve
No. 2519



February 6, 1979

Mr. N. O. Frederick (4)
Area Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

✓ Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

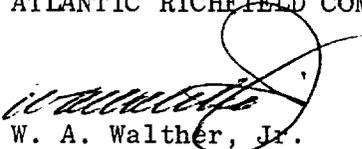
RE: Plan of Development
Horseshoe - Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation for the subject property is submitted for your information.

Very truly yours,

ATLANTIC RICHEFIELD COMPANY


W. A. Walther, Jr.

WAW:RMR:bb

Attach

Horseshoe - Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1979
ATLANTIC RICHFIELD COMPANY
Unit Operator

Review of the Last Plan of Development Period

In 1978 no additions or contractions of either the Unit Area or the Participating Area were made. No existing wells were converted. Daily average oil production declined from 885 BOPD during 1977 to 710 BOPD during 1978.

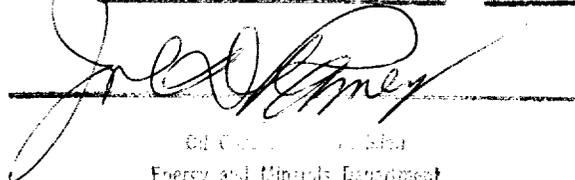
Water injection for the year averaged 22,340 BWPB. Produced water has decreased from a 17,787 BWPB average in 1977 to 15,885 BWPB in 1978.

Plan of Development for 1979

No significant operational changes are planned for 1979. There are presently no plans to convert or drill any additional wells in 1979.

It is understood that this plan may be modified at any time when changing conditions warrant it.

Approved March 6 19 79


Oil and Gas Division
Energy and Minerals Department

APPROVED: _____
DATE: _____

Statistical Summary

Horseshoe-Gallup Unit

<u>Well Status</u>	<u>1-1-78</u>	<u>1-1-79</u>
Producing	133	133
Injection	66	66
Water Supply	2	2
Shut-In	---	---
Producing	32	32
Injection	55	55
Water Supply	<u>3</u>	<u>3</u>
TOTAL	291	291
<u>Oil Production (S.T.B.)</u>	<u>1978</u>	<u>Cum. to 1-1-79</u>
Daily Average	710	---
Total for Year	259,001	28,440,708
Since Unitization	---	17,817,909
<u>Gas Production (M.C.F.)</u>		
Daily Average	7	---
Total for Year	2,377	6,241,723
Since Unitization	---	1,667,026
<u>Water Production (S.T.B.)</u>		
Daily Average	15,885	---
Total for Year	5,797,882	79,780,212
Since Unitization	---	79,743,722
<u>Water Injection (S.T.B.)</u>		
Daily Average	22,340	---
Total for Year	8,154,193	174,040,460
Since Unitization	---	159,961,731



United States Department of the Interior

GEOLOGICAL SURVEY
P. O. Box 26124
Albuquerque, New Mexico 87125

MAR 07 1978

Atlantic Richfield Company
Attention: Mr. W. A. Walther, Jr.
1860 Lincoln Street - Suite 501
Denver, Colorado 80203

Gentlemen:

Two approved copies of your 1978 plan of development for the Horseshoe Gallup unit area, San Juan County, New Mexico, are enclosed. Such plan, proposing continuation of current waterflood operations and the drilling of no additional wells, was approved on this date subject to like approval by the appropriate officials of the State of New Mexico.

Sincerely yours,

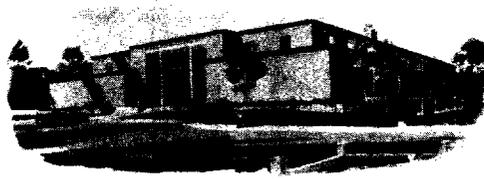
(ORIG. S&D.) GENE F. DANIEL

GENE F. DANIEL
Acting Area Oil & Gas Supervisor

Enclosures

cc:
NMOCC, Santa Fe (1tr. only)
Com. Pub. Lands, Santa Fe (1tr. only)

State of New Mexico



Commissioner of Public Lands



PHIL R. LUCERO
COMMISSIONER

February 14, 1978

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

Atlantic Richfield Company
1860 Lincoln St- Suite 501
Denver, Colorado 80203

No. 2519

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
1978 PLAN OF DEVELOPMENT

ATTENTION: Mr. W. A. Walther, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your 1978 Plan of Development for the Horseshoe-Gallup Unit, San Juan County, New Mexico. Your plan calls for no significant operational changes during 1978. This approval is subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Commission.

Enclosed is one approved copy for your files.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

PHIL R. LUCERO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

PRL/RDG/s
encls.
cc:

OCC-Santa Fe, New Mexico ✓
USGS-Roswell, New Mexico
USGS-Albuquerque, New Mexico

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

February 24, 1978

Atlantic Richfield Company
1860 Lincoln St. - Suite 501
Denver, Colorado 80203

Attention: W. A. Walther, Jr.

Re: Case No. 2519
Horseshoe-Gallup Unit
Plan of Development

Gentlemen:

We hereby approve the Plan of Development and Operation for the Horseshoe-Gallup Unit, San Juan County, New Mexico, subject to like approval by the United States Geological Survey and the Commissioner of Public Lands.

Three approved copies of the Plan of Development are returned herewith.

Very truly yours,

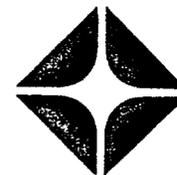
JOE D. RAMEY
Secretary-Director

JDR/fd

cc: U. S. G. S. - Roswell
Commissioner of Public Lands

COPY

North American Producing Division
Rocky Mountain District
1860 Lincoln St. — Suite 501
Denver, Colorado 80203
Telephone 303 573-4049



W. A. Walther, Jr.
Operations Manager

RECEIVED
JAN 17 1978
OPERATIONS

January 18, 1978

Mr. N. O. Frederick (4)
Area Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

RE: Plan of Development
Horseshoe - Gallup Unit
San Juan County, New Mexico

Handwritten: m. 517
G. J. [unclear]

Gentlemen:

As required, the attached Plan of Development and Operation for the subject property is submitted for your information.

Very truly yours,

ATLANTIC RICHFIELD COMPANY

Handwritten signature: W. A. Walther, Jr.
W. A. Walther, Jr.

WAW:RMR:bb

Attach

Horseshoe - Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1978
ATLANTIC RICHFIELD COMPANY
Unit Operator

Review of the Last Plan of Development Period

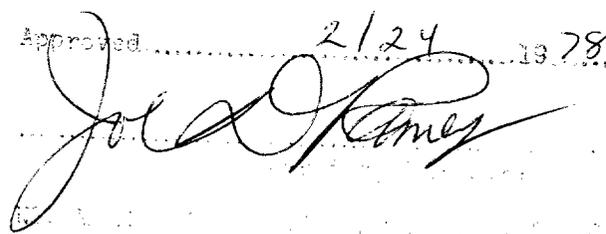
In 1977 no additions or contractions of either the Unit Area or the Participating Area were made. No existing wells were converted. Daily average oil production declined from 1017 BOPD during 1976 to 885 BOPD during 1977.

Water injection for the year averaged 23,559 BWPB. Produced water has increased from a 16,706 BWPB average in 1976 to 17,787 BWPB in 1977.

Plan of Development for 1978

No significant operational changes are planned for 1978. There are presently no plans to convert or drill any additional wells in 1978.

It is understood that this plan may be modified at any time when changing conditions warrant it.

Approved..... 2/24 1978


ATLANTIC RICHFIELD COMPANY
SAN JUAN COUNTY, NEW MEXICO
GALLUP, NEW MEXICO

Statistical Summary

Horseshoe-Gallup Unit

<u>Well Status</u>	<u>1-1-77</u>	<u>1-1-78</u>
Producing	135	133
Injection	65	66
Water Supply	2	2
Shut-In	---	---
Producing	29	32
Injection	56	55
Water Supply	<u>3</u>	<u>3</u>
TOTAL	290	291*
<u>Oil Production (S.T.B.)</u>	<u>1977</u>	<u>Cum. to 1-1-78</u>
Daily Average	885	-
Total for Year	323,144	28,181,707
Since Unitization	---	17,558,908
<u>Gas Production (M.C.F.)</u>		
Daily Average	9	-
Total for Year	3,143	6,239,346
Since Unitization	---	1,664,649
<u>Water Production (S.T.B.)</u>		
Daily Average	17,787	-
Total for Year	6,492,076	74,460,220
Since Unitization	---	74,423,730
<u>Water Injection (S.T.B.)</u>		
Daily Average	23,559	-
Total for Year	8,598,870	165,886,267
Since Unitization	---	151,807,538

*Corrected well count

WORKING INTEREST OWNER

Horseshoe - Gallup Unit

J. R. Abraham
5517 Willow Lane
Dallas, Texas 75230

Amax Petroleum
L. L. Parks
900 Town & Country Lane
Suite 400
Houston, Texas 77024

J. Douglas Collister
4203 Avenida LaResolana NE
Albuquerque, New Mexico 87110

Continental Oil Company
L. P. Thompson
Box 460 Hobbs, New Mexico 88240

Richard W. Dammann
380 Madison Ave.
New York, N. Y. 10017

EPROC Assoc.
Robert E. Lauth
Box 776
Durango, Colorado 81301

Helbing & Podpechan
Box 549 Claremore, Oklahoma 74017

J. Felix Hickman
Box 12307
El Paso, Texas 79912

Mobil Oil Corp.
H. C. Patton
3 Greenway Plaza
Houston, Texas 77046

Odessa Natural Corp.
John Strojek
Box 3908
Odessa, Texas 79760

V. J. Deaton
Reynolds Metals Co.
Oil & Gas Division
Box 9177
Corpus Christi, Texas 78408

Robert D. Snow
2000 National Bank of Tulsa Bldg.
Tulsa, Oklahoma 74103

Sohio Petroleum Co.
50 Penn Place, Suite 1100
Oklahoma City, Oklahoma 73118

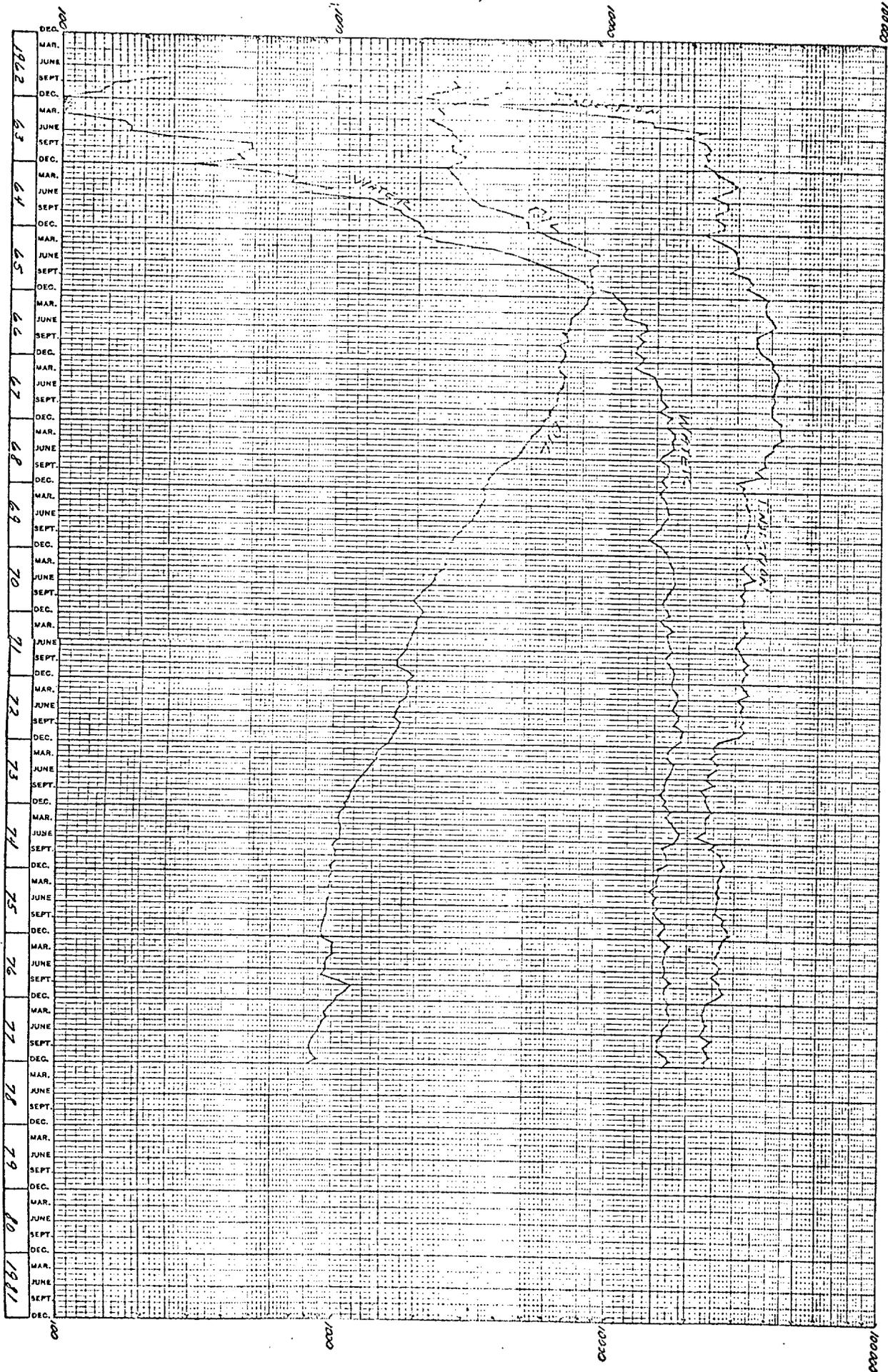
Mrs. Eleanor F. Spiegel
Box 1042
Albuquerque, New Mexico 87103

Tenneco Oil Co.
D. D. Myers
1200 Lincoln Tower Bldg.
1860 Lincoln St.
Denver, Colorado 80295

Texaco, Inc.
B. J. Willard
Box 2100
Denver, Colorado 80201

Vack Ventures
% Cottle & Cottle
120 S. LaSalle St.
Chicago, Ill 60603

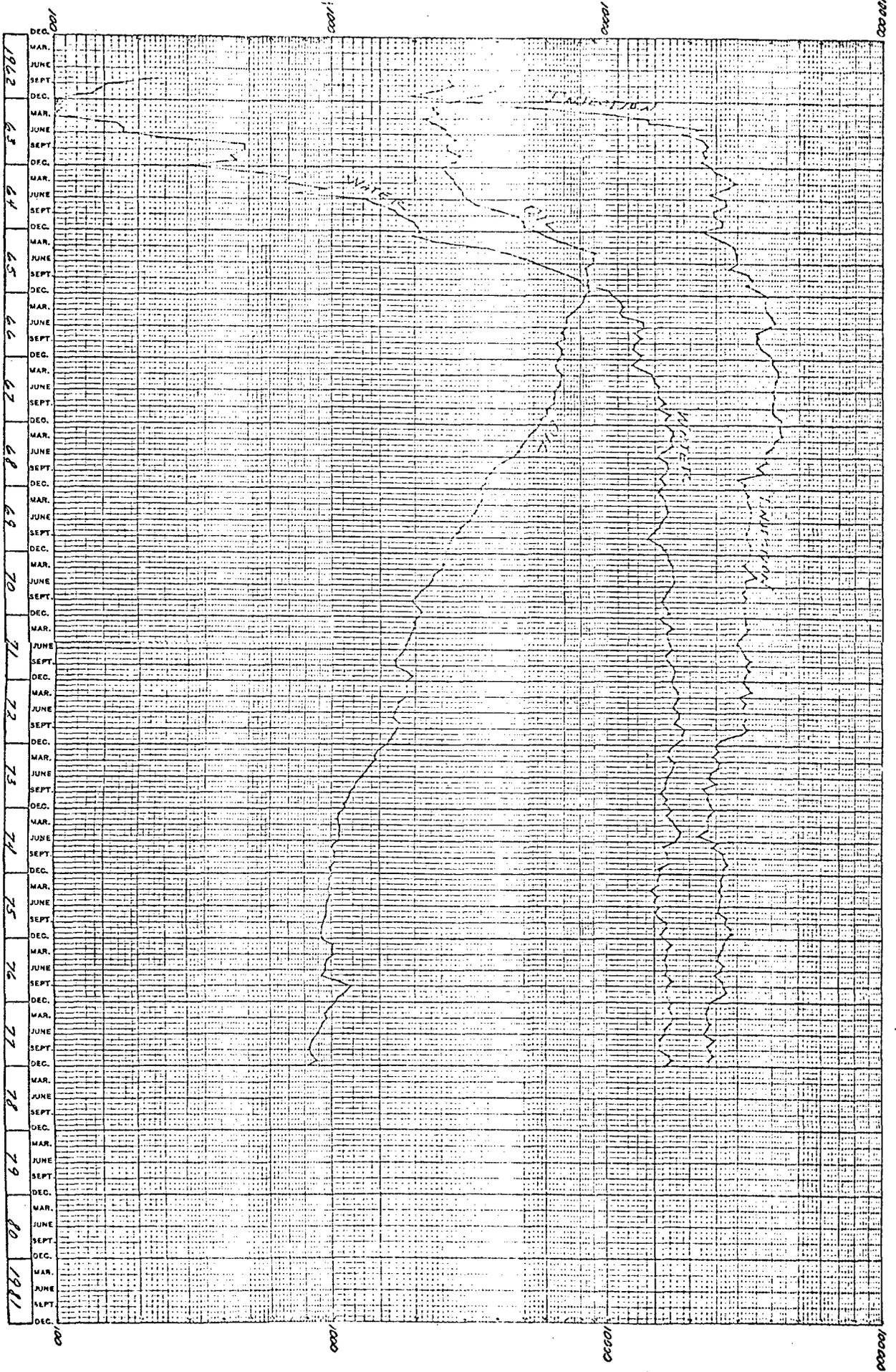
BILLS PER DAY



HORSESHOE GALLUP UNIT
UNIT TOTALS

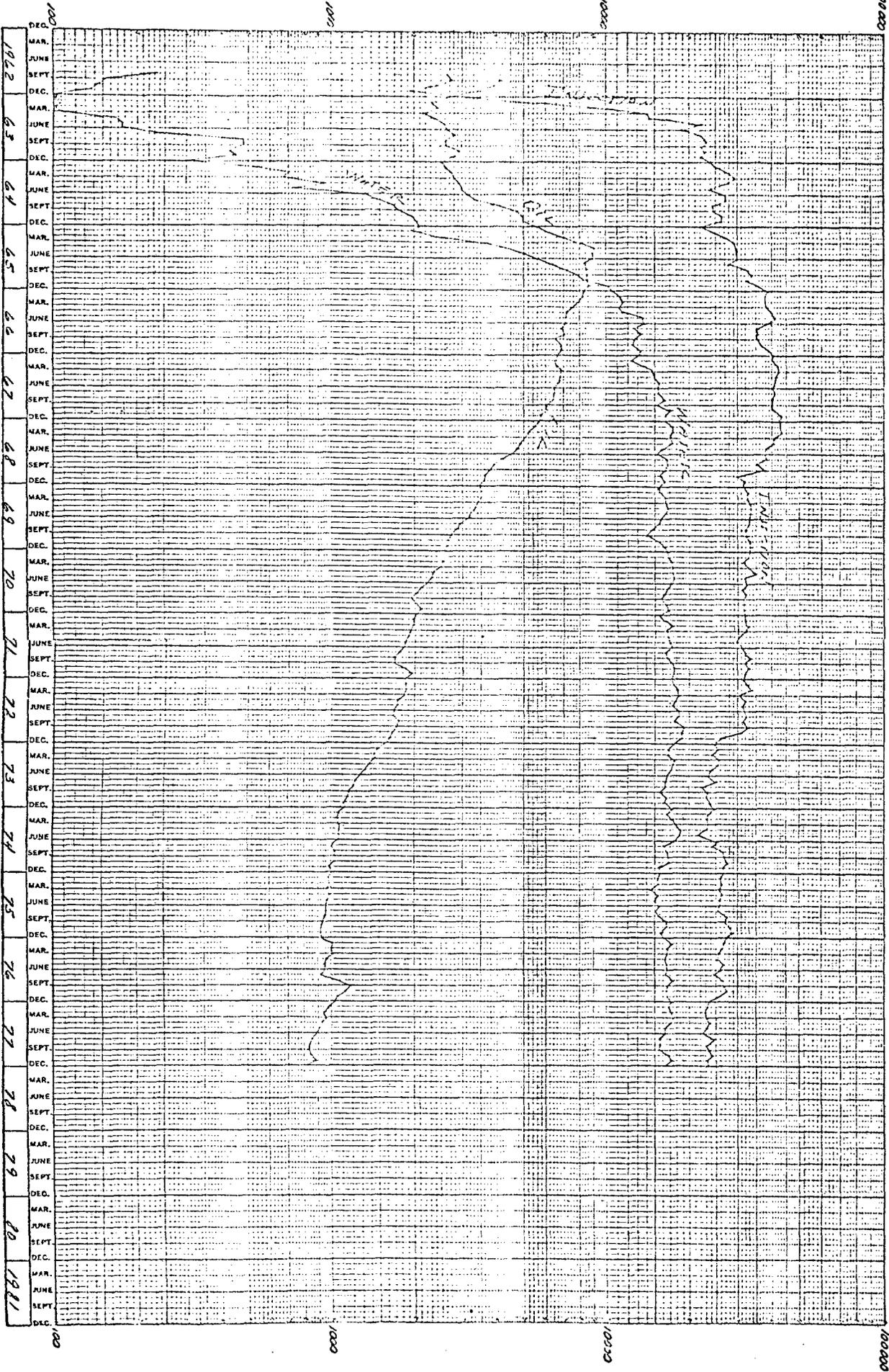
BLS PER DAY

HORSESHOE GALLUP UNIT
UNIT TOTALS



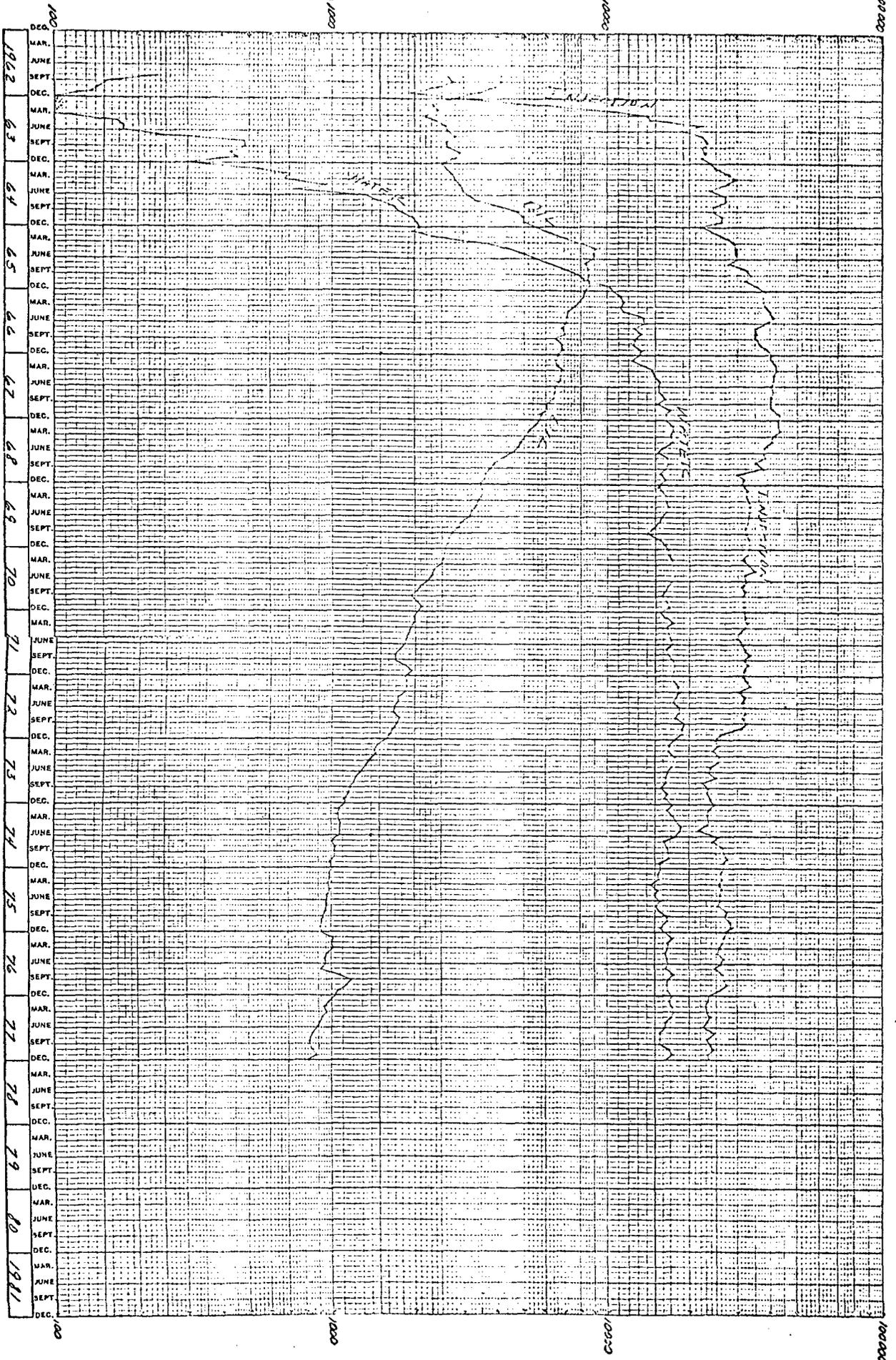
BALS PER DAY

HORSESHOE GULLUP UNIT
UNIT TOTALS



Bals PER Day

HORSESHOE GALLUP UNIT
UNIT TOTALS





DIRECTOR
JOE D. RAMEY

OIL CONSERVATION COMMISSION

STATE OF NEW MEXICO
P. O. BOX 2088 - SANTA FE
87501

LAND COMMISSIONER
PHIL R. LUCERO



STATE GEOLOGIST
EMERY C. ARNOLD

April 7, 1977

Atlantic Richfield Company
1860 Lincoln Street, Suite 501
Denver, Colorado 80203

Attention: Mr. W. A. Walther, Jr.

Re: Plan of Development
Horseshoe-Gallup Unit,
San Juan County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development for the calendar year 1977 for the Horseshoe-Gallup 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.

Two approved copies of the plan are returned herewith.

Very truly yours,

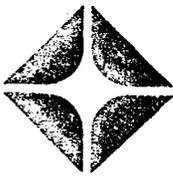
JOE D. RAMEY
Secretary-Director

JDR/JEK/og

cc: U. S. Geological Survey
Roswell, New Mexico

Commissioner of Public Lands
Santa Fe, New Mexico

North American Producing Division
Rocky Mountain District
1860 Lincoln St. — Suite 501
Denver, Colorado 80203
Telephone 303 573-4049



W. A. Walther, Jr.
Operations Manager

January 31, 1977

Mr. N. O. Frederick (4)
Area Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

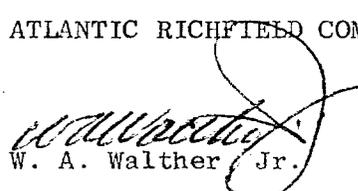
RE: Plan of Development
Horseshoe - Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation
for the subject property is submitted for your information.

Very truly yours,

ATLANTIC RICHFIELD COMPANY


W. A. Walther, Jr.

WAW:LJG:bb

Attachment

HORSESHOE - GALLUP UNIT

SAN JUAN COUNTY, NEW MEXICO

PLAN OF DEVELOPMENT AND OPERATION

FOR THE YEAR 1977

ATLANTIC RICHFIELD COMPANY
Unit Operator

Review of the Last Plan of Development Period

In 1976 no additions to or contractions of either the Unit Area or the Participating Area were made. No existing wells were converted. Development Wells Nos. 291, 292, 293, 294, 295, 296 and 297 were drilled and completed in August, 1976. Production from these seven wells is currently contributing about 190 BOPD to the Unit total. Daily average Unit oil production increased from the 957 BOPD for 1975 to 1017 BOPD for 1976. Development drilling has contributed the additional oil rate to help offset some of the decline in production of other unit wells.

Water injection for the year averaged 25830 BD which is down from the average in 1975 of 26,670 BD. Average daily water production increased from 15,395 Bbls to 16,706 Bbls.

Plan of Development for 1977

No significant operational changes are planned for 1977.

It is understood that this plan may be modified at anytime when changing conditions warrant it.

Approved..... *April 7* 19 *77*

Joe Ramirez
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

STATISTICAL SUMMARY

HORSESHOE-GALLUP UNIT

<u>Well Status</u>	<u>1-1-76</u>	<u>1-1-77</u>
Producing	125	135
Injection	65	65
Water Supply	2	2
Shut-In		
Producing	28	29
Injection	56	56
Water Supply	<u>3</u>	<u>3</u>
TOTAL	279	290
<u>Oil Production (S.T.B.)</u>	<u>1976</u>	<u>Cumulative 1-1-77</u>
Daily Average	1,017	--
Total for Year	372,151	27,858,563
Since Unitization	--	17,235,764
<u>Gas Production (M.C.F.)</u>		
Daily Average	10	--
Total for Year	3,510	6,236,203
Since Unitization	--	1,661,506
<u>Water Production (S.T.B.)</u>		
Daily Average	16,706	--
Total for Year	6,114,341	67,968,144
Since Unitization	--	67,931,654
<u>Water Injection (S.T.B.)</u>		
Daily Average	25,830	--
Total for Year	9,453,683	157,287,397
Since Unitization		143,208,668

WORKING INTEREST OWNERS
HORSESHOE - GALLUP UNIT

J. R. Abraham
5517 Willow Lane
Dallas, Texas 75230

H. C. Patton
Mobil Oil Corporation
Three Greenway Plaza East
Houston, Texas 77046

Amax Petroleum Corporation
Attn: Lloyd L. Parks
900 Town and Country Lane
Houston, Texas 77024

John J. Strojek
Odessa Natural Corporation
P. O. Box 3908
Odessa, Texas 79760

J. Douglas Collister
4203 Avenida La Resolana NE
Albuquerque, New Mexico 87110

V. J. Deaton
Reynolds Mining Corporation
Reynolds Metals Company
Oil and Gas Division
P. O. Box 9177
Corpus Christi, Texas 78408

L. P. Thompson
Continental Oil Company
Box 460
Hobbs, New Mexico 88240

Robert D. Snow
2000 National Bank of Tulsa Bldg.
Tulsa, Oklahoma 74103

Richard W. Dammann
380 Madison Avenue
New York, New York 10017

H. P. Dreher
Sohio Petroleum Company
1100 Penn Tower
Oklahoma City, Oklahoma 73118

Robert E. Lauth
EPROC Associates
Box 776
Durango, Colorado 81301

Mrs. Eleanor F. Spiegel
Box 1042
Albuquerque, New Mexico 87103

Helbing & Podpechan
Box 549
Claremore, Oklahoma 74017

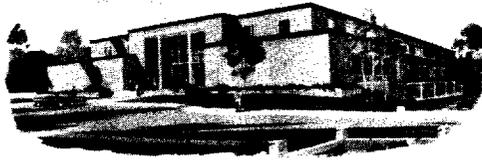
D. D. Myers
Tenneco Oil Company
1860 Lincoln St., Suite 1200
Denver, Colorado 80295

J. Felix Hickman
Box 12307
El Paso, Texas 79912

B. J. Willard
Box 2100
Denver, Colorado 80201

Vack Ventures
% Cottle & Cottle
120 South LaSalle Street
Chicago, Illinois 60603

State of New Mexico



Commissioner of Public Lands
April 1, 1977



PHIL R. LUCERO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

Atlantic Richfield Company
1860 Lincoln St.- Suite 501
Denver, Colorado 80203

Re: Plan of Development
Horseshoe-Gallup Unit
San Juan County, New Mexico

ATTENTION: Mr. W. A. Walther, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your Plan of Development for the Horseshoe-Gallup Unit, San Juan County, New Mexico, for the year 1977. Your plan calls for no significant operational changes during 1977. This approval is subject to like approval by the United States Geological Survey.

Enclosed is one approved copy for your files.

Please remit a Three (\$3.00) Dollar filing fee.

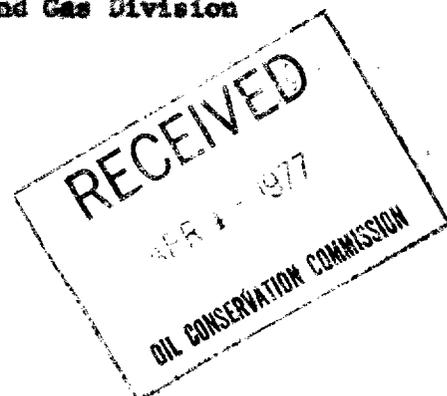
Very truly yours,

PHIL R. LUCERO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

FRL/KDG/s
encl.
cc:

USGS-Roswell, New Mexico
USGS-Albuquerque, New Mexico
OCC- Santa Fe, New Mexico

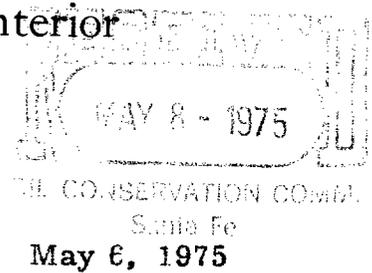




United States Department of the Interior

GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201



Atlantic Richfield Company
Attention: Mr. C. E. Cardwell, Jr.
P.O. Box 2197
Farmington, New Mexico 87401

2577

Gentlemen:

The 1975 plan of development submitted for the Horseshoe Gallup unit area, San Juan County, New Mexico, was approved on this date subject to like approval by the appropriate State officials.

Such plan proposes to continue present waterflood operations and two approved copies are enclosed.

Sincerely yours,

CARL C. TRAYWICK
Acting Area Oil and Gas Supervisor

cc:
✓ NMOCC, Santa Fe (ltr only)
Com. Pub. Lands, Santa Fe (ltr only)
Farmington (w/cy plan)

JAGillham:ds

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE NEW MEXICO 87501

2519

March 24, 1975

Atlantic Richfield Company
P. O. Box 2197
Farmington, New Mexico 87401

Attention: Mr. C. E. Cardwell, Jr.

Re: 1975 Plan of Development
Horseshoe-Gallup Unit,
San Juan County, New Mexico.

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the 1975 Plan of Development received March 5, 1975, for the Horseshoe-Gallup 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.

Three approved copies of the plan are returned herewith.

Very truly yours,

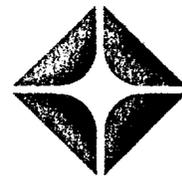
A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: United States Geological
Roswell, New Mexico

Commissioner of Public Lands
Santa Fe, New Mexico

C
O
P
Y



January 30, 1975

Mr. N. O. Frederick (4)
Area Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

Oil Conservation Commission(4)
of The State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands(3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

Re: Plan of Development
Horseshoe - Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation
for the subject property is submitted for your information.

Very truly yours,

C. E. Cardwell, Jr.

RWH/nc

Att.

Horseshoe - Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1975

ATLANTIC RICHFIELD COMPANY
Unit Operator

Review of the Last Plan of Development Period

During 1974 there were no additions or contractions of either the Unit Area or the Participating Area. No wells were converted with 5 new wells being drilled during this period. The oil production declined from 1068 BOPD in January, 1974 to 1015 BOPD in December, 1974. Decline was at a lower rate than previous years, and was helped slightly by the newly drilled wells that were placed on production.

The water injection rate remained fairly constant throughout the year at an average of 24,866 BWPD.

There were only minor changes made in well status since the report of last year.

Plan of Development for 1975

No significant operational changes are planned for 1975. There are presently no plans to convert or drill any additional wells in 1975.

It is understood that this plan may be modified at any time when changing conditions warrant it.

Approved *March 24* 19 *75*
A. L. Carter
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

Statistical Summary

Horseshoe - Gallup Unit

<u>Well Status</u>	<u>1-1-74</u>	<u>1-1-75</u>
Producing	115	124
Injection	67	66
Water Supply	2	2
Shut-in		
Producing	34	30
Injection	54	55
Water Supply	3	3
	<hr/>	<hr/>
TOTAL	275	280

<u>Oil Production (S.T.B.)</u>	<u>1974</u>	<u>Cumulative 1-1-75</u>
Daily Average	1,039	--
Total for Year	379,161	27,137,013
Since Unitization	--	16,514,214

<u>Gas Production (M.C.F.)</u>		
Daily Average	16	--
Total for Year	5,688	6,228,392
Since Unitization	--	1,653,695

<u>Water Production (S.T.B.)</u>		
Daily Average	16,925	--
Total for Year	6,177,609	56,234,751
Since Unitization	--	56,198,261

<u>Water Injection (S.T.B.)</u>		
Daily Average	24,866	--
Total for Year	9,075,988	138,099,219
Since Unitization	--	124,020,490

WORKING INTEREST OWNER

Horseshoe- Gallup Unit

Amax Petroleum
900 Town & Country Lane, Suite 400
Houston, Texas 77024

J. Douglas Collister
4203 Avenida LaResolana NE
Albuquerque, New Mexico 87110

Continental Oil Company
Attn: Mr. L.P.Thompson
P. O. Box 460
Hobbs, New Mexico 88240

Richard W. Dammann
380 Madison Avenue
New York, New York 10017

EPROC Associates
Box 776
Durango, Colorado 81301

Helbing & Podpechan
Box 549
Claremore, Oklahoma 74017

J. Felix Hickman
Box 12307
El Paso, Texas 79912

Mobil Oil Corporation
P. O. Box 633
Midland, Texas 79701

Odessa Natural Corp.
Box 3908
Attn: Mr. John Strojek
Odessa, Texas 79760

James K. Jones
Reynolds Metals Company
P. O. Box 27003
Richmond, Virginia 23261

Robert D. Snow
2000 National Bank of Tulsa Bldg.
Tulsa, Oklahoma 74103

Sohio Petroleum Company
970 First National Office Bldg.
Oklahoma City, Oklahoma 73102

Mrs. Eleanor F. Spiegel
Box 1042
Albuquerque, New Mexico 87103

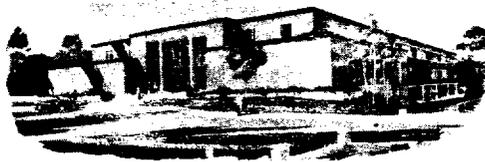
Tenneco Oil Company
Attn: D. D. Myers
Suite 1200, Lincoln Tower Bldg.
Denver, Colorado 80203

Texaco, Incorporated
Box 2100
Denver, Colorado 80201

Vack Ventures
c/o Cottle & Cottle
120 So. LaSalle Street
Chicago, Ill. 60603

State of New Mexico

TELEPHONE
505-827-2748



Commissioner of Public Lands
March 6, 1975

PHIL R. LUCERO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

Atlantic Richfield Company
P. O. Box 2197
Farmington, New Mexico 87401

Re: Horseshoe -Gallup Unit
1975 Plan of Development
San Juan County, New Mexico

ATTENTION: Mr. C. E. Cardwell, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your 1975 Plan of Development for the Horseshoe-Gallup Unit, San Juan County, New Mexico. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

Enclosed is one approved copy of the plan.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

PHIL R. LUCERO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

PRL/RDG/s
encl.

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

ARCO Oil and Gas Company
Rocky Mountain District
707 17th Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 4600

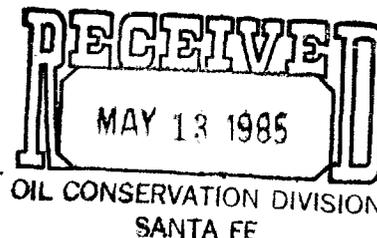


#2519

May 8, 1985

Bureau of Land Management
Attn: Area Manager
Caller Service 4104
Farmington, New Mexico 87499

Re: Horseshoe Gallup Unit Wells
San Juan County, New Mexico
Lease No. 14-20-603-734
3100 (016)



Gentlemen:

Please refer to your letter of April 10, 1985, concerning various wells which you indicate were approved by your office for temporary abandonment on October 17, 1982.

Following is a summary of the status and plans for these wells:

Well No. 26 - Injection into this well was recently attempted with no success. We believe that the well would probably not have an impact on oil displacement in this portion of the reservoir. Therefore, we plan to proceed with plugging and abandoning operations as soon as we receive Working Interest Owners approval. As you requested, enclosed is a Sundry Notice and P&A procedure for your approval to plug and abandon this well.

Well No. 29 - Injection into this well was resumed in May, 1984, and was being injected into until it was again shut-in on April 1, 1985. We are presently reviewing the status and future plans for this well. Therefore, we are enclosing a Sundry Notice requesting your approval for a 60-day extension of the shut-in status of this well.

Well No. 126 - A review of this potential injector indicates that the expected incremental recovery would not justify the cost of activation. Therefore, we are requesting your approval to plug and abandon this well, as stated in the enclosed Sundry Notice. Attached thereto, is our proposed P & A procedure.

Bureau of Land Management
May 8, 1985
Page 2

If you have any questions, please let me know.

Very truly yours,

A handwritten signature in cursive script that reads "Stephen Rose".

S. C. Rose
District Production Superintendent

SCR/BRS:rs

Encl.

✓cc: New Mexico Oil Conservation Commission

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.
14-20-603-734

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Navajo

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—" for such proposals.)

1. OIL WELL GAS WELL OTHER - Water Injection

2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company

3. ADDRESS OF OPERATOR 707 - 17th Street,
P. O. Box 5540, Denver, Colo. 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
Unit "B", 660' FNL & 1980' FEL, Section 29
(No API # Assigned)

14. PERMIT NO.

15. ELEVATIONS (Show whether DP, ST, GR, etc.)
5488' GL

7. UNIT AGREEMENT NAME
Horseshoe Gallup Unit

8. FARM OR LEASE NAME
Horseshoe Gallup Unit

9. WELL NO.
26

10. FIELD AND POOL, OR WILDCAT
Horseshoe Gallup

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA
Sec. 29-31N-16W

12. COUNTY OR PARISH 13. STATE
San Juan New Mexico

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

NOTICE OF INTENTION TO:

TEST WATER SHUT-OFF <input type="checkbox"/>	PLUG OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) <input type="checkbox"/>	

SUBSEQUENT REPORT OF:

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) <input type="checkbox"/>	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

ARCO Oil and Gas Company, Operator, proposes to plug and abandon the subject well, as per the attached P & A Procedure. Injection into this well was recently attempted with no success. We believe that the well would probably not have an impact on oil displacement in this portion of the reservoir.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Farmington, N. M. , dated April 10 , 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose
S.C. Rose/ BRS

TITLE Dist. Prod. Supt.

DATE May 8, 1985

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

*See Instructions on Reverse Side

HORSESHOE GALLUP #26

CURRENT WELL STATUS

History

The HGU #26 located in San Juan County, New Mexico was drilled to a depth of 1447' and completed as a Gallup oil well in March 1959. This well was converted to a water injection well in November 1960 as part of the Unit "B" secondary recovery program and was shut-in during June 1972 due to a low injection rate. Recently an attempt was made to inject into this well once again without success.

Existing Well Status

Casing:

Surface: 8-5/8", 24#/ft, J-55 set @ 92' cemented to surface w/115 sx cement.

Production: 4-1/2", 9.5#/ft, J-55 set @ 1347' cemented w/190 sx Pozmix.

Tubing: 2", J-55, EUE 8rd

Packer: Baker 2" x 4-1/2" Model "A" type packer set @ 1286'.

Perforations: 1296' - 1312' within the Gallup formation.

Proposed Plugs: 1st Plug: 1250' - 1375'
2nd Plug: 1050' - 1150'
3rd Plug: 30' - 150'
4th Plug 0' - 30'

SMB
JEO
T.K.D.

HORSESHOE GALLUP UNIT WELLS
PLUGGING AND ABANDONMENT PROCEDURE

1. MIRU.
2. Release packer and pull tubing and packer out of hole.
3. RIH with tbg open-ended to below the bottom perforation and pump sufficient cement to cover top perforation by 50' inside the casing.
4. POH w/tbg. GIH w/wireline and shoot 3 to 4 holes in production string opposite 150' above top perforation to allow cement squeezing of zone. (This may be necessary since the original cement job may not have covered the Gallup formation by 50'). Squeeze sufficient cement to place a 100' plug outside the casing. Also, leave a 100' plug inside the casing. If unable to squeeze plug outside the casing, leave a 100' plug inside the casing.
5. POH w/tbg. GIH w/wireline and shoot enough holes in production casing opposite a point 50' below the surface casing shoe to allow squeezing cement.
6. RIH w/tbg open-ended and perform a braden-head squeeze of the perforations. Use sufficient cement for a 100' column behind the casing and a 100' plug inside the casing.
7. POH, cut casing one foot below ground level, place a 30' cement plug inside casing, weld on a steel plate, weld a dry hole marker on the steel plate, fill hole and move off.
8. Rehabilitate location and access road using stipulations supplied by the surface management agency.

NOTE: BOP's will not be needed in most cases because expected reservoir pressure of the Gallup in the area of abandonment is very low. If pressure does exist on any of the subject wells, bleed it off, install BOP's if needed, and commence with above procedure.

SWB
T.K.P.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Caller Service 4104
Farmington, New Mexico 87499

IN REPLY REFER TO
3100 (016)
14-20-603-734

Barry

CERTIFIED--RETURN RECEIPT REQUESTED

APR 10 1985

Arco Oil and Gas Company
707 17th Street
P. O. Box 5540
Denver, CO 80217

Gentlemen:

Reference is made to the following wells:

1. No. 26 Horseshoe Gallup Unit, NW/4NE/4 sec. 29, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
2. No. 29 Horseshoe Gallup Unit, SE/4NW/4 sec. 31, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
3. No. 126 Horseshoe Gallup Unit, NW/4NW/4 sec. 5, T. 30 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-733.

Your request to temporarily abandon the above-mentioned wells was approved by this office on October 17, 1982, for a period not to exceed one year. To date, we have not received your plans for the above-mentioned wells. You are requested to supply this office within 30 days of receipt of this notice your plans for the above wells. Such plans are to include permanent plug and abandonment procedures or conditioning the wells for a useful purpose. Said plans are also to include a reasonable time frame for the accomplishment of this work.

Failure to comply with this notice may result in an assessment of liquidated damages pursuant to 43 CFR 3163.3. You are further advised that any instructions, orders and decisions issued by the Bureau of Land Management are subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

Sincerely yours,

Robert K. Hill

Area Manager

APR 15 1985

442501000

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved,
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.
14-20-603-734

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo

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—" for such proposals.)

1. OIL WELL GAS WELL OTHER X - Water Injection

2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of
Atlantic Richfield Company

3. ADDRESS OF OPERATOR 707 - 17th Street,
P. O. Box 5540, Denver, Colo. 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
Unit "B", 660' FNL & 1980' FEL, Section 29
(No API # Assigned)

14. PERMIT NO. _____ 15. ELEVATIONS (Show whether DP, ST, GR, etc.)
5488' GL

7. UNIT AGREEMENT NAME
Horseshoe Gallup Unit

8. FARM OR LEASE NAME
Horseshoe Gallup Unit

9. WELL NO.
26

10. FIELD AND POOL, OR WILDCAT
Horseshoe Gallup

11. SEC., T., R., M., OR BLK. AND
SURVEY OR AREA
Sec. 29-31N-16W

12. COUNTY OR PARISH 13. STATE
San Juan New Mexico

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>
(Other) _____	

WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
(Other) _____	

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

ARCO Oil and Gas Company, Operator, proposes to plug and abandon the subject well, as per the attached P & A Procedure. Injection into this well was recently attempted with no success. We believe that the well would probably not have an impact on oil displacement in this portion of the reservoir.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Farmington, N. M. , dated April 10 , 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose
S.C. Rose / BRS

TITLE Dist. Prod. Supt.

DATE May 8, 1985

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____ DATE _____

*See Instructions on Reverse Side

HORSESHOE GALLUP #26

CURRENT WELL STATUS

History

The HGU #26 located in San Juan County, New Mexico was drilled to a depth of 1447' and completed as a Gallup oil well in March 1959. This well was converted to a water injection well in November 1960 as part of the Unit "B" secondary recovery program and was shut-in during June 1972 due to a low injection rate. Recently an attempt was made to inject into this well once again without success.

Existing Well Status

Casing:

Surface:	8-5/8", 24#/ft, J-55 set @ 92' cemented to surface w/115 sx cement.
Production:	4-1/2", 9.5#/ft, J-55 set @ 1347' cemented w/190 sx Pozmix.
Tubing:	2", J-55, EUE 8rd
Packer:	Baker 2" x 4-1/2" Model "A" type packer set @ 1286'.
Perforations:	1296' - 1312' within the Gallup formation.
Proposed Plugs:	1st Plug: 1250' - 1375' 2nd Plug: 1050' - 1150' 3rd Plug: 30' - 150' 4th Plug: 0' - 30'

SMB
JEO
T.K.D.

HORSESHOE GALLUP UNIT WELLS
PLUGGING AND ABANDONMENT PROCEDURE

1. MIRU.
2. Release packer and pull tubing and packer out of hole.
3. RIH with tbg open-ended to below the bottom perforation and pump sufficient cement to cover top perforation by 50' inside the casing.
4. POH w/tbg. GIH w/wireline and shoot 3 to 4 holes in production string opposite 150' above top perforation to allow cement squeezing of zone. (This may be necessary since the original cement job may not have covered the Gallup formation by 50'). Squeeze sufficient cement to place a 100' plug outside the casing. Also, leave a 100' plug inside the casing. If unable to squeeze plug outside the casing, leave a 100' plug inside the casing.
5. POH w/tbg. GIH w/wireline and shoot enough holes in production casing opposite a point 50' below the surface casing shoe to allow squeezing cement.
6. RIH w/tbg open-ended and perform a braden-head squeeze of the perforations. Use sufficient cement for a 100' column behind the casing and a 100' plug inside the casing.
7. POH, cut casing one foot below ground level, place a 30' cement plug inside casing, weld on a steel plate, weld a dry hole marker on the steel plate, fill hole and move off.
8. Rehabilitate location and access road using stipulations supplied by the surface management agency.

NOTE: BOP's will not be needed in most cases because expected reservoir pressure of the Gallup in the area of abandonment is very low. If pressure does exist on any of the subject wells, bleed it off, install BOP's if needed, and commence with above procedure.

SNB
T.K.D.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Caller Service 4104
Farmington, New Mexico 87499

IN REPLY REFER TO
3100 (016)
14-20-603-734

BMF

CERTIFIED--RETURN RECEIPT REQUESTED

APR 10 1985

Arco Oil and Gas Company
707 17th Street
P. O. Box 5540
Denver, CO 80217

Gentlemen:

Reference is made to the following wells:

1. No. 26 Horseshoe Gallup Unit, NW/4NE/4 sec. 29, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
2. No. 29 Horseshoe Gallup Unit, SE/4NW/4 sec. 31, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
3. No. 126 Horseshoe Gallup Unit, NW/4NW/4 sec. 5, T. 30 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-733.

Your request to temporarily abandon the above-mentioned wells was approved by this office on October 17, 1982, for a period not to exceed one year. To date, we have not received your plans for the above-mentioned wells. You are requested to supply this office within 30 days of receipt of this notice your plans for the above wells. Such plans are to include permanent plug and abandonment procedures or conditioning the wells for a useful purpose. Said plans are also to include a reasonable time frame for the accomplishment of this work.

Failure to comply with this notice may result in an assessment of liquidated damages pursuant to 43 CFR 3163.3. You are further advised that any instructions, orders and decisions issued by the Bureau of Land Management are subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

Sincerely yours,

[Handwritten Signature]
Area Manager

APR 15 1985

43 CFR 4.700

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved
Budget Bureau No. 1004-0135
Expires August 31, 1985

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—" for such proposals.)

<p>1. OIL WELL <input type="checkbox"/> GAS WELL <input type="checkbox"/> OTHER <input checked="" type="checkbox"/> - Water Injection</p> <p>2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company</p> <p>3. ADDRESS OF OPERATOR 707 - 17th Street, P. O. Box 5540, Denver, Colo. 80217</p> <p>4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface Unit "B", 660' FNL & 1980' FEL, Section 29 (No API # Assigned)</p> <p>14. PERMIT NO. _____</p>	<p>5. LEASE DESIGNATION AND SERIAL NO. 14-20-603-734</p> <p>6. IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo</p> <p>7. UNIT AGREEMENT NAME Horseshoe Gallup Unit</p> <p>8. FARM OR LEASE NAME Horseshoe Gallup Unit</p> <p>9. WELL NO. 26</p> <p>10. FIELD AND POOL, OR WILDCAT Horseshoe Gallup</p> <p>11. SEC., T., S., R., OR BLK. AND SURVEY OR AREA Sec. 29-31N-16W</p> <p>12. COUNTY OR PARISH San Juan</p> <p>13. STATE New Mexico</p>
<p>15. ELEVATIONS (Show whether DP, ST, GR, etc.) 5488' GL</p>	

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	
(Other) _____		(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)	

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

ARCO Oil and Gas Company, Operator, proposes to plug and abandon the subject well, as per the attached P & A Procedure. Injection into this well was recently attempted with no success. We believe that the well would probably not have an impact on oil displacement in this portion of the reservoir.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Farmington, N. M. , dated April 10 , 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose TITLE Dist. Prod. Supt. DATE May 8, 1985
S.C. Rose / BRS

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

HORSESHOE GALLUP #26

CURRENT WELL STATUS

History

The HGU #26 located in San Juan County, New Mexico was drilled to a depth of 1447' and completed as a Gallup oil well in March 1959. This well was converted to a water injection well in November 1960 as part of the Unit "B" secondary recovery program and was shut-in during June 1972 due to a low injection rate. Recently an attempt was made to inject into this well once again without success.

Existing Well Status

Casing:

Surface: 8-5/8", 24#/ft, J-55 set @ 92'
cemented to surface w/115 sx
cement.

Production: 4-1/2", 9.5#/ft, J-55 set @ 1347'
cemented w/190 sx Pozmix.

Tubing: 2", J-55, EUE 8rd

Packer: Baker 2" x 4-1/2" Model "A" type
packer set @ 1286'.

Perforations: 1296' - 1312' within the Gallup
formation.

Proposed Plugs: 1st Plug: 1250' - 1375'
2nd Plug: 1050' - 1150'
3rd Plug: 30' - 150'
4th Plug 0' - 30'

SMB
JEO
T.K.D.

HORSESHOE GALLUP UNIT WELLS
PLUGGING AND ABANDONMENT PROCEDURE

1. MIRU.
2. Release packer and pull tubing and packer out of hole.
3. RIH with tbg open-ended to below the bottom perforation and pump sufficient cement to cover top perforation by 50' inside the casing.
4. POH w/tbg. GIH w/wireline and shoot 3 to 4 holes in production string opposite 150' above top perforation to allow cement squeezing of zone. (This may be necessary since the original cement job may not have covered the Gallup formation by 50'). Squeeze sufficient cement to place a 100' plug outside the casing. Also, leave a 100' plug inside the casing. If unable to squeeze plug outside the casing, leave a 100' plug inside the casing.
5. POH w/tbg. GIH w/wireline and shoot enough holes in production casing opposite a point 50' below the surface casing shoe to allow squeezing cement.
6. RIH w/tbg open-ended and perform a braden-head squeeze of the perforations. Use sufficient cement for a 100' column behind the casing and a 100' plug inside the casing.
7. POH, cut casing one foot below ground level, place a 30' cement plug inside casing, weld on a steel plate, weld a dry hole marker on the steel plate, fill hole and move off.
8. Rehabilitate location and access road using stipulations supplied by the surface management agency.

NOTE: BOP's will not be needed in most cases because expected reservoir pressure of the Gallup in the area of abandonment is very low. If pressure does exist on any of the subject wells, bleed it off, install BOP's if needed, and commence with above procedure.

SWB
T.K.D.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Caller Service 4104
Farmington, New Mexico 87499

IN REPLY REFER TO
3100 (016)
14-20-603-734

B. Kelly

CERTIFIED—RETURN RECEIPT REQUESTED

APR 10 1985

Arco Oil and Gas Company
707 17th Street
P. O. Box 5540
Denver, CO 80217

Gentlemen:

Reference is made to the following wells:

1. No. 26 Horseshoe Gallup Unit, NW/4NE/4 sec. 29, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
2. No. 29 Horseshoe Gallup Unit, SE/4NW/4 sec. 31, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
3. No. 126 Horseshoe Gallup Unit, NW/4NW/4 sec. 5, T. 30 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-733.

Your request to temporarily abandon the above-mentioned wells was approved by this office on October 17, 1982, for a period not to exceed one year. To date, we have not received your plans for the above-mentioned wells. You are requested to supply this office within 30 days of receipt of this notice your plans for the above wells. Such plans are to include permanent plug and abandonment procedures or conditioning the wells for a useful purpose. Said plans are also to include a reasonable time frame for the accomplishment of this work.

Failure to comply with this notice may result in an assessment of liquidated damages pursuant to 43 CFR 3163.3. You are further advised that any instructions, orders and decisions issued by the Bureau of Land Management are subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

Sincerely yours,

[Handwritten Signature]

Area Manager

APR 15 1985

3100 (016)

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPPLICATE*
(Other instructions on re-
verse side)

Form approved
Budget Bureau No. 1004-0135
Expires August 31, 1985

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—" for such proposals.)

1. OIL WELL GAS WELL OTHER X - Water Injection

2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company

3. ADDRESS OF OPERATOR 707 - 17th Street,
P. O. Box 5540, Denver, Colo. 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface
Unit "F", 1724' FNL & 2067' FWL, Section 31
(No API # Assigned)

14. PERMIT NO. 15. ELEVATIONS (Show whether DF, RT, CR, etc.)
5554' GL

5. LEASE DESIGNATION AND SERIAL NO.
14-20-603-734

6. IF INDIAN, ALLOTTEE OR TRIBE NAME
Navajo

7. UNIT AGREEMENT NAME
Horseshoe Gallup Unit

8. FARM OR LEASE NAME
Horseshoe Gallup Unit

9. WELL NO.
29

10. FIELD AND POOL, OR WILDCAT
Horseshoe Gallup

11. SEC., T., R., M., OR BLM. AND SURVEY OR AREA
Sec. 31-31N-16W

12. COUNTY OR PARISH 13. STATE
San Juan New Mexico

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF

FRACTURE TREAT

SHOOT OR ACIDIZE

REPAIR WELL

(Other) Request for 60-day extension of S.I. Status

PULL OR ALTER CASING

MULTIPLE COMPLETE

ABANDON*

CHANGE PLANS

WATER SHUT-OFF

FRACTURE TREATMENT

SHOOTING OR ACIDIZING

(Other)

REPAIRING WELL

ALTERING CASING

ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Change of Status:

This is to advise that the subject well resumed active injection in May, 1984, and was being injected into until it was again shut-in on April 1, 1985. We are presently reviewing the status and future plans. Therefore, we request approval of a 60-day extension of the shut-in status for this well.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Farmington, N.M., dated April 10, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose TITLE Dist. Prod. Supt. DATE May 8, 1985
S.C. Rose BRS

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Caller Service 4104
Farmington, New Mexico 87499

IN REPLY REFER TO
3100 (016)
14-20-603-734

Barry

CERTIFIED--RETURN RECEIPT REQUESTED

APR 10 1985

Arco Oil and Gas Company
707 17th Street
P. O. Box 5540
Denver, CO 80217

Gentlemen:

Reference is made to the following wells:

1. No. 26 Horseshoe Gallup Unit, NW/4NE/4 sec. 29, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
2. No. 29 Horseshoe Gallup Unit, SE/4NW/4 sec. 31, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
3. No. 126 Horseshoe Gallup Unit, NW/4NW/4 sec. 5, T. 30 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-733.

Your request to temporarily abandon the above-mentioned wells was approved by this office on October 17, 1982, for a period not to exceed one year. To date, we have not received your plans for the above-mentioned wells. You are requested to supply this office within 30 days of receipt of this notice your plans for the above wells. Such plans are to include permanent plug and abandonment procedures or conditioning the wells for a useful purpose. Said plans are also to include a reasonable time frame for the accomplishment of this work.

Failure to comply with this notice may result in an assessment of liquidated damages pursuant to 43 CFR 3163.3. You are further advised that any instructions, orders and decisions issued by the Bureau of Land Management are subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

Sincerely yours,

Robert H. Hill

Area Manager

APR 15 1985

4-15-85

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

SUBMIT IN TRIPLICATE
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

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-" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER - Water Injection		3. LEASE DESIGNATION AND SERIAL NO. 14-20-603-734
2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo
3. ADDRESS OF OPERATOR 707 - 17th Street, P. O. Box 5540, Denver, Colo. 80217		7. UNIT AGREEMENT NAME Horseshoe Gallup Unit
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface Unit "F", 1724' FNL & 2067' FWL, Section 31 (No API # Assigned)		8. FARM OR LEASE NAME Horseshoe Gallup Unit
14. PERMIT NO.	15. ELEVATIONS (Show whether DP, ST, CR, etc.) 5554' GL	9. WELL NO. 29
		10. FIELD AND POOL, OR WILDCAT Horseshoe Gallup
		11. SEC., T., R., M., OR BLEK. AND SURVEY OR AREA Sec. 31-31N-16W
		12. COUNTY OR PARISH San Juan
		13. STATE New Mexico

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDISING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) <input type="checkbox"/>	

Request for 60-day extension of S.I. Status

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Change of Status:

This is to advise that the subject well resumed active injection in May, 1984, and was being injected into until it was again shut-in on April 1, 1985. We are presently reviewing the status and future plans. Therefore, we request approval of a 60-day extension of the shut-in status for this well.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Farmington, N.M., dated April 10, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose TITLE Dist. Prod. Supt. DATE May 8, 1985
S.C. Rose BRS

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Caller Service 4104
Farmington, New Mexico 87499

IN REPLY REFER TO
3100 (016)
14-20-603-734

BRN

CERTIFIED--RETURN RECEIPT REQUESTED

APR 10 1985

Arco Oil and Gas Company
707 17th Street
P. O. Box 5540
Denver, CO 80217

Gentlemen:

Reference is made to the following wells:

1. No. 26 Horseshoe Gallup Unit, NW/4NE/4 sec. 29, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
2. No. 29 Horseshoe Gallup Unit, SE/4NW/4 sec. 31, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
3. No. 126 Horseshoe Gallup Unit, NW/4NW/4 sec. 5, T. 30 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-733.

Your request to temporarily abandon the above-mentioned wells was approved by this office on October 17, 1982, for a period not to exceed one year. To date, we have not received your plans for the above-mentioned wells. You are requested to supply this office within 30 days of receipt of this notice your plans for the above wells. Such plans are to include permanent plug and abandonment procedures or conditioning the wells for a useful purpose. Said plans are also to include a reasonable time frame for the accomplishment of this work.

Failure to comply with this notice may result in an assessment of liquidated damages pursuant to 43 CFR 3163.3. You are further advised that any instructions, orders and decisions issued by the Bureau of Land Management are subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

Sincerely yours,

John H. ...

Area Manager

APR 15 1985

U.S. DEPARTMENT OF THE INTERIOR

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPPLICATE*
(Other instructions on reverse side)

Form approved
Budget Bureau No. 1004-0135
Expires August 31, 1985

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—" for such proposals.)

1. OIL WELL GAS WELL OTHER - Water Injection

2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company

3. ADDRESS OF OPERATOR 707 - 17th Street,
P. O. Box 5540, Denver, Colo. 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.*
See also space 17 below.)
At surface

Unit "F", 1724' FNL & 2067' FWL, Section 31
(No API # Assigned)

14. PERMIT NO. _____ 15. ELEVATIONS (Show whether OF, RT, GR, etc.)
5554' GL

5. LEASE DESIGNATION AND SERIAL NO.
14-20-603-734

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo

7. UNIT AGREEMENT NAME
Horseshoe Gallup Unit

8. FARM OR LEASE NAME
Horseshoe Gallup Unit

9. WELL NO.
29

10. FIELD AND POOL, OR WILDCAT
Horseshoe Gallup

11. SEC., T., R., W., OR BLK. AND SUBSTY OR AREA
Sec. 31-31N-16W

12. COUNTY OR PARISH
San Juan

13. STATE
New Mexico

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	

(Other) Request for 60-day Extension of S.I. Status

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Change of Status:
This is to advise that the subject well resumed active injection in May, 1984, and was being injected into until it was again shut-in on April 1, 1985. We are presently reviewing the status and future plans. Therefore, we request approval of a 60-day extension of the shut-in status for this well.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Farmington, N.M. , dated April 10, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose TITLE Dist. Prod. Supt. DATE May 8, 1985
S.C. Rose / BRS

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Caller Service 4104
Farmington, New Mexico 87499

IN REPLY REFER TO
3100 (016)
14-20-603-734

B.A.K.

CERTIFIED--RETURN RECEIPT REQUESTED

APR 10 1985

Arco Oil and Gas Company
707 17th Street
P. O. Box 5540
Denver, CO 80217

Gentlemen:

Reference is made to the following wells:

1. No. 26 Horseshoe Gallup Unit, NW/4NE/4 sec. 29, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
2. No. 29 Horseshoe Gallup Unit, SE/4NW/4 sec. 31, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
3. No. 126 Horseshoe Gallup Unit, NW/4NW/4 sec. 5, T. 30 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-733.

Your request to temporarily abandon the above-mentioned wells was approved by this office on October 17, 1982, for a period not to exceed one year. To date, we have not received your plans for the above-mentioned wells. You are requested to supply this office within 30 days of receipt of this notice your plans for the above wells. Such plans are to include permanent plug and abandonment procedures or conditioning the wells for a useful purpose. Said plans are also to include a reasonable time frame for the accomplishment of this work.

Failure to comply with this notice may result in an assessment of liquidated damages pursuant to 43 CFR 3163.3. You are further advised that any instructions, orders and decisions issued by the Bureau of Land Management are subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

Sincerely yours,

[Handwritten Signature]
Area Manager

APR 15 1985

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

5. LEASE DESIGNATION AND SERIAL NO.

14-20-603-733

6. IF INDIAN, ALLOTTEE OR TRIBE NAME

Navajo

7. UNIT AGREEMENT NAME

Horseshoe Gallup Unit

8. FARM OR LEASE NAME

Horseshoe Gallup Unit

9. WELL NO.

126

10. FIELD AND POOL, OR WILDCAT

Horseshoe Gallup

11. SEC., T., R., M., OR BLK. AND SURVEY OR AREA

Sec. 5-30N-16W

12. COUNTY OR PARISH

San Juan

13. STATE

New Mexico

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—" for such proposals.)

1. OIL WELL GAS WELL OTHER X - Water Injection

2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company

3. ADDRESS OF OPERATOR 707 - 17th Street, P. O. Box 5540, Denver, Colo. 80217

4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.)
At surface
Unit "D", 660' FNL & 660' FWL, Section 5
(No API # Assigned)

14. PERMIT NO.

15. ELEVATIONS (Show whether OP, RT, GR, etc.)
5384' GR

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

TEST WATER SHUT-OFF
FRACTURE TREAT
SHOOT OR ACIDIZE
REPAIR WELL
(Other)

PULL OR ALTER CASING
MULTIPLE COMPLETE
ABANDON*
CHANGE PLANS

WATER SHUT-OFF
FRACTURE TREATMENT
SHOOTING OR ACIDIZING
(Other)

REPAIRING WELL
ALTERING CASING
ABANDONMENT*

(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

ARCO Oil and Gas Company, Operator, proposes to plug and abandon the subject well, as per the attached P & A Procedure. A review of this well indicates that the expected incremental recovery would not justify the cost of activation.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Farmington, N. M. , dated April 10, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose
S. C. Rose / BRS

TITLE Dist. Prod. Supt.

DATE May 8, 1985

(This space for Federal or State office use)

APPROVED BY _____
CONDITIONS OF APPROVAL, IF ANY:

TITLE _____

DATE _____

*See Instructions on Reverse Side

HORSESHOE GALLUP #126

CURRENT WELL STATUS

History

The HGU #126 located in San Juan County, New Mexico was drilled to a depth of 1254' and completed as a Gallup oil well in June 1959. This well was converted to a water injection well in December 1962 as part of the Unit "C" secondary recovery program and was shut-in during June 1970 due to an uneconomical operation.

Existing Well Status

Casing:

Surface: 7-5/8", 24#/ft, J-55 set @ 137'
cemented to surface w/100 sx
cement.

Production: 5-1/2", 15.5#/ft, J-55 STC set @
1253' cemented w/190 sx Pozmix.

Tubing: 2-3/8", J-55 EUE 8rd

Packer: Baker 2" x 5-1/2" Model "A" type
packer set @ 1065'.

Perforations: 1093' - 1123' & 1143' - 1161' @
2 SPF within the Gallup formation.

Proposed Plugs: 1st Plug: 1040' - 1200'
2nd Plug: 850' - 950'
3rd Plug: 75' - 190'
4th Plug 0' - 30'

SMB
JEO
T.K.D.

HORSESHOE GALLUP UNIT WELLS
PLUGGING AND ABANDONMENT PROCEDURE

1. MIRU.
2. Release packer and pull tubing and packer out of hole.
3. RIH with tbg open-ended to below the bottom perforation and pump sufficient cement to cover top perforation by 50' inside the casing.
4. POH w/tbg. GIH w/wireline and shoot 3 to 4 holes in production string opposite 150' above top perforation to allow cement squeezing of zone. (This may be necessary since the original cement job may not have covered the Gallup formation by 50'). Squeeze sufficient cement to place a 100' plug outside the casing. Also, leave a 100' plug inside the casing. If unable to squeeze plug outside the casing, leave a 100' plug inside the casing.
5. POH w/tbg. GIH w/wireline and shoot enough holes in production casing opposite a point 50' below the surface casing shoe to allow squeezing cement.
6. RIH w/tbg open-ended and perform a braden-head squeeze of the perforations. Use sufficient cement for a 100' column behind the casing and a 100' plug inside the casing.
7. POH, cut casing one foot below ground level, place a 30' cement plug inside casing, weld on a steel plate, weld a dry hole marker on the steel plate, fill hole and move off.
8. Rehabilitate location and access road using stipulations supplied by the surface management agency.

NOTE: BOP's will not be needed in most cases because expected reservoir pressure of the Gallup in the area of abandonment is very low. If pressure does exist on any of the subject wells, bleed it off, install BOP's if needed, and commence with above procedure.

SMB
T.K.D.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Caller Service 4104
Farmington, New Mexico 87499

IN REPLY REFER TO
3100 (016)
14-20-603-734

B.A.P.

CERTIFIED--RETURN RECEIPT REQUESTED

APR 10 1985

Arco Oil and Gas Company
707 17th Street
P. O. Box 5540
Denver, CO 80217

Gentlemen:

Reference is made to the following wells:

1. No. 26 Horseshoe Gallup Unit, NW/4NE/4 sec. 29, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
2. No. 29 Horseshoe Gallup Unit, SE/4NW/4 sec. 31, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
3. No. 126 Horseshoe Gallup Unit, NW/4NW/4 sec. 5, T. 30 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-733.

Your request to temporarily abandon the above-mentioned wells was approved by this office on October 17, 1982, for a period not to exceed one year. To date, we have not received your plans for the above-mentioned wells. You are requested to supply this office within 30 days of receipt of this notice your plans for the above wells. Such plans are to include permanent plug and abandonment procedures or conditioning the wells for a useful purpose. Said plans are also to include a reasonable time frame for the accomplishment of this work.

Failure to comply with this notice may result in an assessment of liquidated damages pursuant to 43 CFR 3163.3. You are further advised that any instructions, orders and decisions issued by the Bureau of Land Management are subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

Sincerely yours,

[Handwritten Signature]
Area Manager

APR 15 1985

14-20-603-734

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions on reverse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

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—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER X - Water Injection		5. LEASE DESIGNATION AND SERIAL NO. 14-20-603-733
2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo
3. ADDRESS OF OPERATOR 707 - 17th Street, P. O. Box 5540, Denver, Colo. 80217		7. UNIT AGREEMENT NAME Horseshoe Gallup Unit
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface Unit "D", 660' FNL & 660' FWL, Section 5 (No API # Assigned)		8. FARM OR LEASE NAME Horseshoe Gallup Unit
14. PERMIT NO.	15. ELEVATIONS (Show whether DF, ST, GR, etc.) 5384' GR	9. WELL NO. 126
		10. FIELD AND POOL, OR WILDCAT Horseshoe Gallup
		11. SEC., T., R., M., OR BLM. AND SURVEY OR AREA Sec. 5-30N-16W
		12. COUNTY OR PARISH 13. STATE San Juan New Mexico

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	

*NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

ARCO Oil and Gas Company, Operator, proposes to plug and abandon the subject well, as per the attached P & A Procedure. A review of this well indicates that the expected incremental recovery would not justify the cost of activation.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Farmington, N. M. , dated April 10, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose TITLE Dist. Prod. Supt. DATE May 8, 1985
S. C. Rose / BRS

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

HORSESHOE GALLUP #126

CURRENT WELL STATUS

History

The HGU #126 located in San Juan County, New Mexico was drilled to a depth of 1254' and completed as a Gallup oil well in June 1959. This well was converted to a water injection well in December 1962 as part of the Unit "C" secondary recovery program and was shut-in during June 1970 due to an uneconomical operation.

Existing Well Status

Casing:

Surface: 7-5/8", 24#/ft, J-55 set @ 137'
cemented to surface w/100 sx
cement.

Production: 5-1/2", 15.5#/ft, J-55 STC set @
1253' cemented w/190 sx Pozmix.

Tubing: 2-3/8", J-55 EUE 8rd

Packer: Baker 2" x 5-1/2" Model "A" type
packer set @ 1065'.

Perforations: 1093' - 1123' & 1143' - 1161' @
2 SPF within the Gallup formation.

Proposed Plugs: 1st Plug: 1040' - 1200'
2nd Plug: 850' - 950'
3rd Plug: 75' - 190'
4th Plug 0' - 30'

SNB
JEO
T.K.D.

HORSESHOE GALLUP UNIT WELLS
PLUGGING AND ABANDONMENT PROCEDURE

1. MIRU.
2. Release packer and pull tubing and packer out of hole.
3. RIH with tbg open-ended to below the bottom perforation and pump sufficient cement to cover top perforation by 50' inside the casing.
4. POH w/tbg. GIH w/wireline and shoot 3 to 4 holes in production string opposite 150' above top perforation to allow cement squeezing of zone. (This may be necessary since the original cement job may not have covered the Gallup formation by 50'). Squeeze sufficient cement to place a 100' plug outside the casing. Also, leave a 100' plug inside the casing. If unable to squeeze plug outside the casing, leave a 100' plug inside the casing.
5. POH w/tbg. GIH w/wireline and shoot enough holes in production casing opposite a point 50' below the surface casing shoe to allow squeezing cement.
6. RIH w/tbg open-ended and perform a braden-head squeeze of the perforations. Use sufficient cement for a 100' column behind the casing and a 100' plug inside the casing.
7. POH, cut casing one foot below ground level, place a 30' cement plug inside casing, weld on a steel plate, weld a dry hole marker on the steel plate, fill hole and move off.
8. Rehabilitate location and access road using stipulations supplied by the surface management agency.

NOTE: BOP's will not be needed in most cases because expected reservoir pressure of the Gallup in the area of abandonment is very low. If pressure does exist on any of the subject wells, bleed it off, install BOP's if needed, and commence with above procedure.

SMB
T.K.P.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Caller Service 4104
Farmington, New Mexico 87499

IN REPLY REFER TO
3100 (016)
14-20-603-734

Barkley

CERTIFIED--RETURN RECEIPT REQUESTED

APR 10 1985

Arco Oil and Gas Company
707 17th Street
P. O. Box 5540
Denver, CO 80217

Gentlemen:

Reference is made to the following wells:

1. No. 26 Horseshoe Gallup Unit, NW/4NE/4 sec. 29, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
2. No. 29 Horseshoe Gallup Unit, SE/4NW/4 sec. 31, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
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Sincerely yours,

John F. Smith
Area Manager

APR 15 1985

U.S. DEPARTMENT OF THE INTERIOR

**UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT**

SUBMIT IN TRIPLICATE*
(Other instructions on re-
verse side)

Form approved.
Budget Bureau No. 1004-0135
Expires August 31, 1985

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—" for such proposals.)

1. <input type="checkbox"/> OIL WELL <input type="checkbox"/> GAS WELL <input checked="" type="checkbox"/> OTHER - Water Injection		5. LEASE DESIGNATION AND SERIAL NO. 14-20-603-733
2. NAME OF OPERATOR ARCO Oil and Gas Company, a Division of Atlantic Richfield Company		6. IF INDIAN, ALLOTTEE OR TRIBE NAME Navajo
3. ADDRESS OF OPERATOR 707 - 17th Street, P. O. Box 5540, Denver, Colo. 80217		7. UNIT AGREEMENT NAME Horseshoe Gallup Unit
4. LOCATION OF WELL (Report location clearly and in accordance with any State requirements.* See also space 17 below.) At surface Unit "D", 660' FNL & 660' FWL, Section 5 (No API # Assigned)		8. FARM OR LEASE NAME Horseshoe Gallup Unit
14. PERMIT NO.	15. ELEVATIONS (Show whether DF, RT, OR, etc.) 5384' GR	9. WELL NO. 126
		10. FIELD AND POOL, OR WILDCAT Horseshoe Gallup
		11. SEC., T., R., N., OR S.E. AND SURVEY OR AREA Sec. 5-30N-16W
		12. COUNTY OR PARISH San Juan
		13. STATE New Mexico

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

NOTICE OF INTENTION TO:		SUBSEQUENT REPORT OF:	
TEST WATER SHUT-OFF <input type="checkbox"/>	PULL OR ALTER CASING <input type="checkbox"/>	WATER SHUT-OFF <input type="checkbox"/>	REPAIRING WELL <input type="checkbox"/>
FRACTURE TREAT <input type="checkbox"/>	MULTIPLE COMPLETE <input type="checkbox"/>	FRACTURE TREATMENT <input type="checkbox"/>	ALTERING CASING <input type="checkbox"/>
SHOOT OR ACIDIZE <input type="checkbox"/>	ABANDON* <input checked="" type="checkbox"/>	SHOOTING OR ACIDIZING <input type="checkbox"/>	ABANDONMENT* <input type="checkbox"/>
REPAIR WELL <input type="checkbox"/>	CHANGE PLANS <input type="checkbox"/>	(Other) _____	

*(NOTE: Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

17. DESCRIBE PROPOSED OR COMPLETED OPERATIONS (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

ARCO Oil and Gas Company, Operator, proposes to plug and abandon the subject well, as per the attached P & A Procedure.
A review of this well indicates that the expected incremental recovery would not justify the cost of activation.

(This is in compliance with the requirements set forth in a letter from the Bureau of Land Management, Farmington, N. M. , dated April 10, 1985, copy attached.)

18. I hereby certify that the foregoing is true and correct

SIGNED Stephen Rose TITLE Dist. Prod. Supt. DATE May 8, 1985
S. C. Rose / BRS

(This space for Federal or State office use)

APPROVED BY _____ TITLE _____ DATE _____
CONDITIONS OF APPROVAL, IF ANY:

*See Instructions on Reverse Side

HORSESHOE GALLUP #126

CURRENT WELL STATUS

History

The HGU #126 located in San Juan County, New Mexico was drilled to a depth of 1254' and completed as a Gallup oil well in June 1959. This well was converted to a water injection well in December 1962 as part of the Unit "C" secondary recovery program and was shut-in during June 1970 due to an uneconomical operation.

Existing Well Status

Casing:

Surface: 7-5/8", 24#/ft, J-55 set @ 137'
cemented to surface w/100 sx
cement.

Production: 5-1/2", 15.5#/ft, J-55 STC set @
1253' cemented w/190 sx Pozmix.

Tubing: 2-3/8", J-55 EUE 8rd

Packer: Baker 2" x 5-1/2" Model "A" type
packer set @ 1065'.

Perforations: 1093' - 1123' & 1143' - 1161' @
2 SPF within the Gallup formation.

Proposed Plugs: 1st Plug: 1040' - 1200'
2nd Plug: 850' - 950'
3rd Plug: 75' - 190'
4th Plug 0' - 30'

SMB
JEO
T.K.D.

HORSESHOE GALLUP UNIT WELLS
PLUGGING AND ABANDONMENT PROCEDURE

1. MIRU.
2. Release packer and pull tubing and packer out of hole.
3. RIH with tbg open-ended to below the bottom perforation and pump sufficient cement to cover top perforation by 50' inside the casing.
4. POH w/tbg. GIH w/wireline and shoot 3 to 4 holes in production string opposite 150' above top perforation to allow cement squeezing of zone. (This may be necessary since the original cement job may not have covered the Gallup formation by 50'). Squeeze sufficient cement to place a 100' plug outside the casing. Also, leave a 100' plug inside the casing. If unable to squeeze plug outside the casing, leave a 100' plug inside the casing.
5. POH w/tbg. GIH w/wireline and shoot enough holes in production casing opposite a point 50' below the surface casing shoe to allow squeezing cement.
6. RIH w/tbg open-ended and perform a braden-head squeeze of the perforations. Use sufficient cement for a 100' column behind the casing and a 100' plug inside the casing.
7. POH, cut casing one foot below ground level, place a 30' cement plug inside casing, weld on a steel plate, weld a dry hole marker on the steel plate, fill hole and move off.
8. Rehabilitate location and access road using stipulations supplied by the surface management agency.

NOTE: BOP's will not be needed in most cases because expected reservoir pressure of the Gallup in the area of abandonment is very low. If pressure does exist on any of the subject wells, bleed it off, install BOP's if needed, and commence with above procedure.

SMB
T.K.P.



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Caller Service 4104
Farmington, New Mexico 87499

IN REPLY REFER TO
3100 (016)
14-20-603-734

Barry

CERTIFIED--RETURN RECEIPT REQUESTED

APR 10 1985

Arco Oil and Gas Company
707 17th Street
P. O. Box 5540
Denver, CO 80217

Gentlemen:

Reference is made to the following wells:

1. No. 26 Horseshoe Gallup Unit, NW/4NE/4 sec. 29, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
2. No. 29 Horseshoe Gallup Unit, SE/4NW/4 sec. 31, T. 31 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-734.
3. No. 126 Horseshoe Gallup Unit, NW/4NW/4 sec. 5, T. 30 N., R. 16 W., San Juan County, New Mexico, lease 14-20-603-733.

Your request to temporarily abandon the above-mentioned wells was approved by this office on October 17, 1982, for a period not to exceed one year. To date, we have not received your plans for the above-mentioned wells. You are requested to supply this office within 30 days of receipt of this notice your plans for the above wells. Such plans are to include permanent plug and abandonment procedures or conditioning the wells for a useful purpose. Said plans are also to include a reasonable time frame for the accomplishment of this work.

Failure to comply with this notice may result in an assessment of liquidated damages pursuant to 43 CFR 3163.3. You are further advised that any instructions, orders and decisions issued by the Bureau of Land Management are subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4 and 43 CFR 4.700.

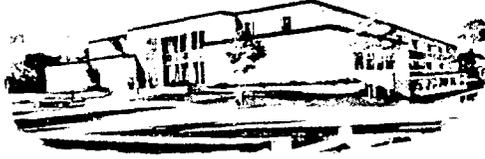
Sincerely yours,

John H. Kellum
Area Manager

APR 15 1985

14-20-603-734

State of New Mexico



JIM BACA
COMMISSIONER

Commissioner of Public Lands

May 7, 1985

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148
Express Mail Delivery Uses
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

ARCO Oil and Gas Company
P. O. Box 5540
Denver, Colorado 80217

Re: 1985 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

ATTENTION: Mr. L. B. Morse

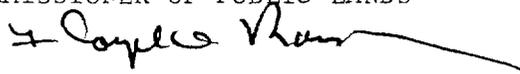
Gentlemen:

The Commissioner of Public Lands has this date approved your 1985 Plan of Development for the Horseshoe Gallup Unit Area, San Juan County, New Mexico. Such plan proposes to infill drill the HSGU Well No. 302, reactivate 6 currently shut-in water injection wells and plug and abandon 15 shut-in producers. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY: 
FLOYD O. PRANDO, Assistant Director
Oil and Gas Division
AC 505/827-5744

JB/FOP/pm
encls.
cc:

OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico Attn: Fluids Branch
BLM-Roswell, New Mexico Attn: Mr. Armando Lopez

ARCO Oil and Gas Company
Rocky Mountain District
707 Seventeenth Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 7031



L. B. Morse
Operations Manager

March 25, 1985

Bureau of Land Management (4)
P. O. Box 6770
Albuquerque, New Mexico 87197-6770
Attn: Agreements Section

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

Re: Plan of Development
—Horeseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation for the subject property is submitted for your information. If future reservoir, operations or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current plots of production and injection for the subject Unit, and a map showing the location of the proposed infill well to be drilled in 1985.

Very truly yours,

L. B. Morse
Operations Manager

LBM:RDT:sh

Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1985
ARCO Oil and Gas Company
Unit Operator

Review of the Last Plan of Development Period

In 1984, no additions or contractions of either the Unit Area or the Participating Area were made. Daily average oil production declined from 568 BOPD during 1983 to 527 BOPD during 1984. Water injection for the year averaged 19,244 BWPD while produced water maintained a 12,252 BWPD average.

The following previously shut-in water injection wells were reactivated in 1984: #26, #160, #162, #169, and #199.

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The pilot polymer injection project, which was commenced in November, 1983, was monitored during 1984. No conclusive results have yet been received as to whether unflooded portions of the reservoir are now being swept as a result of the injection profile modification of the eight injectors.

Plan of Development for 1985

The HSGU #302 is proposed as an infill development well to be drilled in 1985. The proposed location is 0' FEL, 2750' FSL, Section 32-T31N-R16W. In-house approval of this well is awaiting further economic analysis. Co-owner approval will be sought once an AFE for the well is prepared.

Pending further economic review, the currently shut-in water injection wells #29, #126, #180, #192, #201 and #211 will be reactivated. Additionally, producing wells #1 and #188 are scheduled to be converted to water injection.

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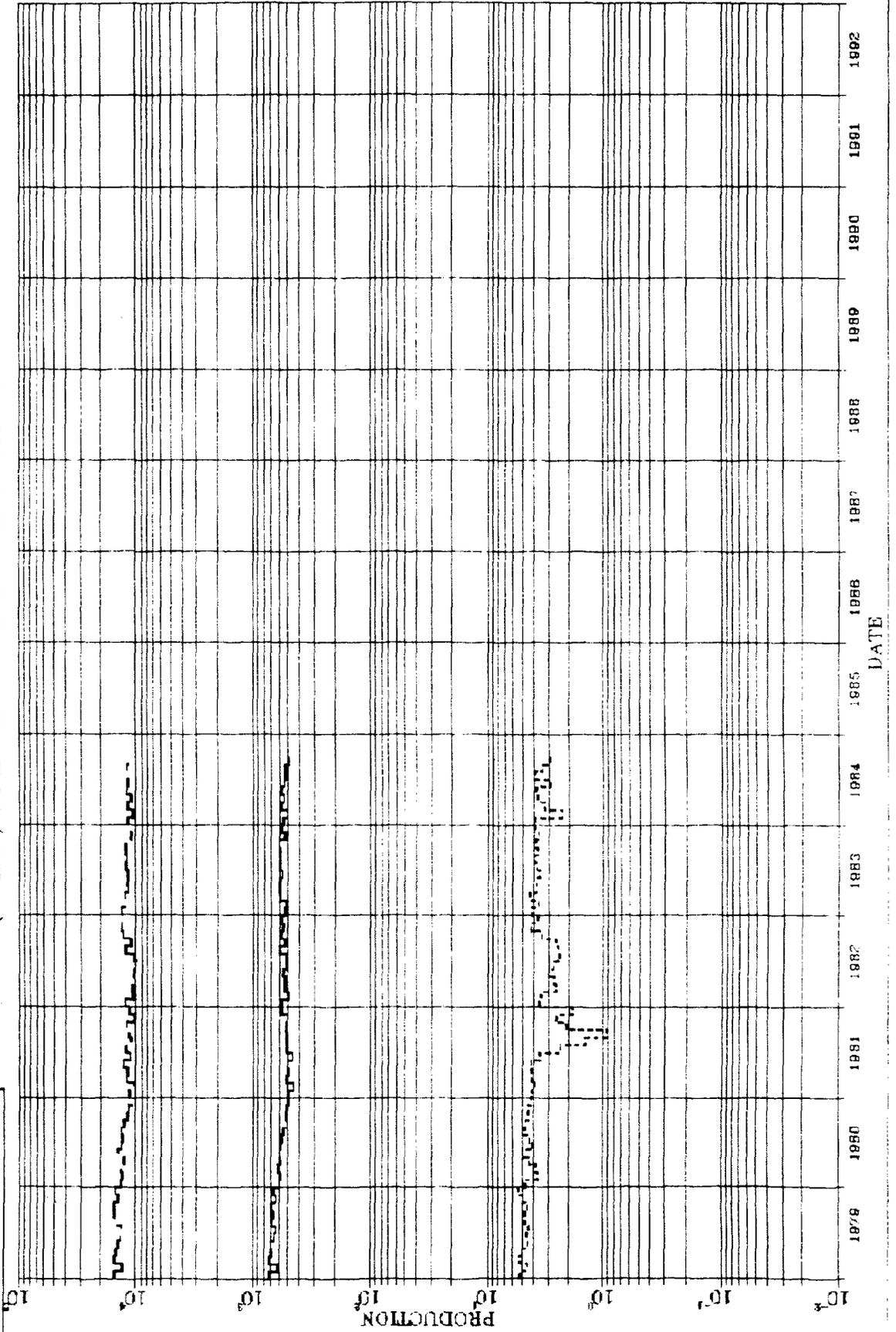
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Statistical Summary
Horseshoe-Gallup Unit

<u>Well Status</u>	<u>1-1-84</u>	<u>1-1-85</u>
Active:		
Producing	131	130
Injection	61	65
Water Supply	1	1
Shut-In:		
Producing	37	20
Injection	13	12
Water Supply	<u>4</u>	<u>4</u>
TOTAL	247	232
<u>Oil Production (S.T.B.)</u>	<u>1984</u>	<u>Cum. to 1-1-85</u>
Daily Average	527	----
Total for Year	193,374	29,695,979
Since Unitization	----	18,874,480
<u>Gas Production (MCF)</u>		
Daily Average	5	----
Total for Year	1,250	6,249,867
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<u>Water Production (S.T.B.)</u>		
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Since Unitization	----	102,438,699
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Total for Year	6,885,419	215,086,584
Since Unitization	----	205,882,062

STATE: NEW MEXICO COUNTY: SAN JUAN
FIELD: HORSESHOE GALLUP GP
LEASE: ALL WELLS ALL
(ALL) OPERATOR: ARCO OIL & GAS CO

OIL PRODUCTION STB/D
GAS PRODUCTION MCF/D
WATER PRODUCTION STB/D



MANY ROCKS
PROJECT AREA

Location of Proposed
HSGU #302 Infill Well
(Highlighted wells are
producers P&A'd in 1984)

NAVAJO INDIAN RESERVATION
UTE INDIAN RESERVATION

HORSESHOE GALLUP
UNIT AREA

Proposed HSGU #302

SAN AMERICAN
HORSESHOE UNIT
PARTICIPATION

LEGEND

- LOWER INJECTORS
- UPPER INJECTORS
- DUAL INJECTORS
- PARTICIPATION AREA
- PROPOSED LOCATION
- PROPOSED CONVERSION

MAP II

ARCO Oil and Gas Company

Division of Atlantic Richfield Company
ROCKY MOUNTAIN DISTRICT
DENVER, COLORADO

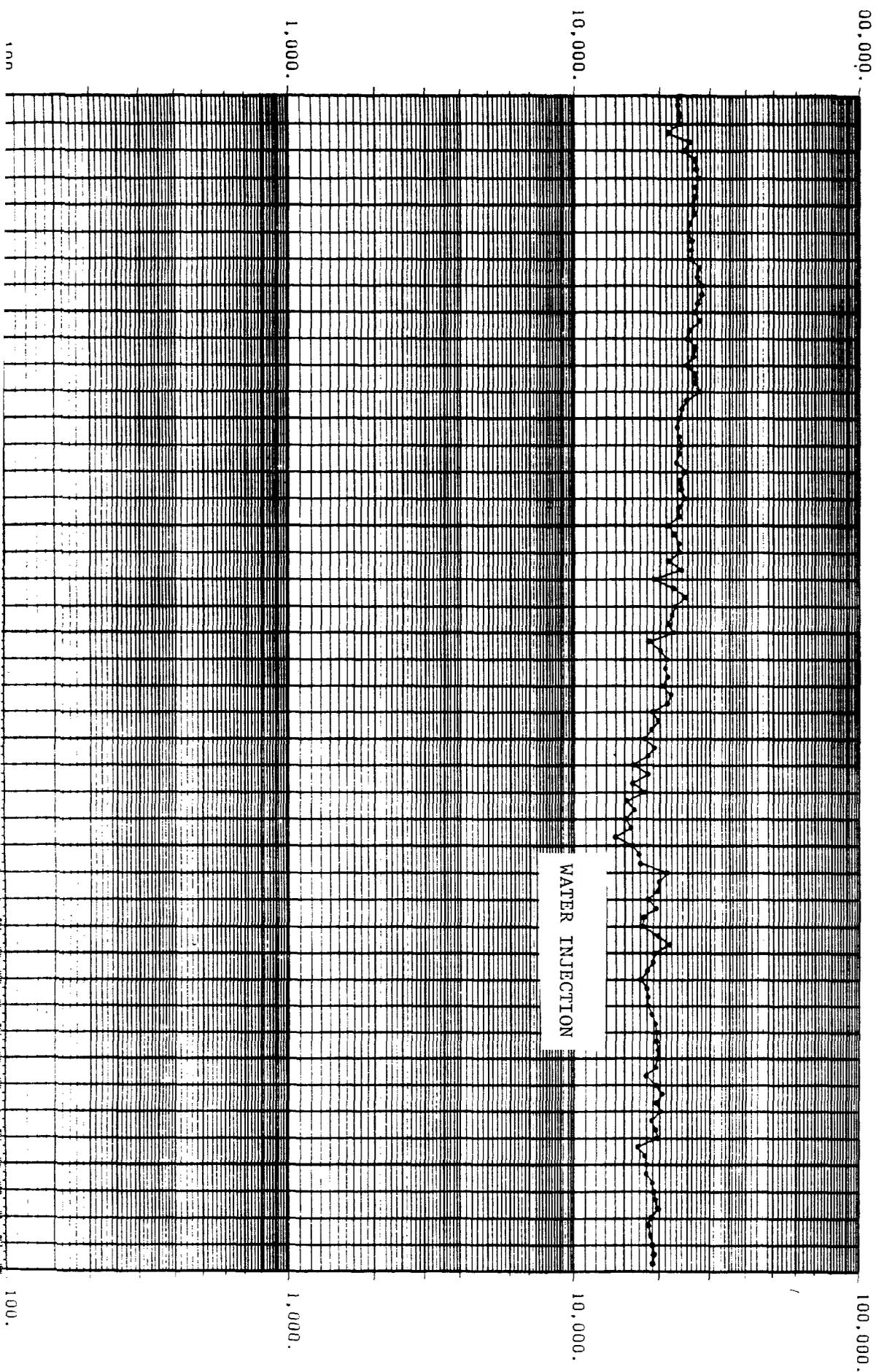
HORSESHOE - GALLUP UNIT
San Juan County, New Mexico

DRAFTED BY V.E.A.

DATE 8/30/81

SCALE 1" = 1 Mile

MAP NO. _____
FILE NO. _____



RESV. LEVEL PLOT, 83
 DIST.: 085 ROCKY MOUNTAIN
 SUBDIST, 69 - UTAH - EXCEPT FORXICOTI
 FIELD, 110 - HORSESHOE GULLUP
 RESV.: 83 - GULLUP WATERFLOOD
 WELL COUNT - 174

o -AVG. DRILLY H2O (BBL)

ARCO Oil and Gas Company
Rocky Mountain District
707 Seventeenth Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 7031



L. B. Morse
Operations Manager

March 25, 1985

Bureau of Land Management (4)
P. O. Box 6770
Albuquerque, New Mexico 87197-6770
Attn: Agreements Section

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(See Attached List)

Re: Plan of Development
Horeseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation for the subject property is submitted for your information. If future reservoir, operations or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current plots of production and injection for the subject Unit, and a map showing the location of the proposed infill well to be drilled in 1985.

Very truly yours,

L. B. Morse
Operations Manager

LBM:RDT:sh

Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1985
ARCO Oil and Gas Company
Unit Operator

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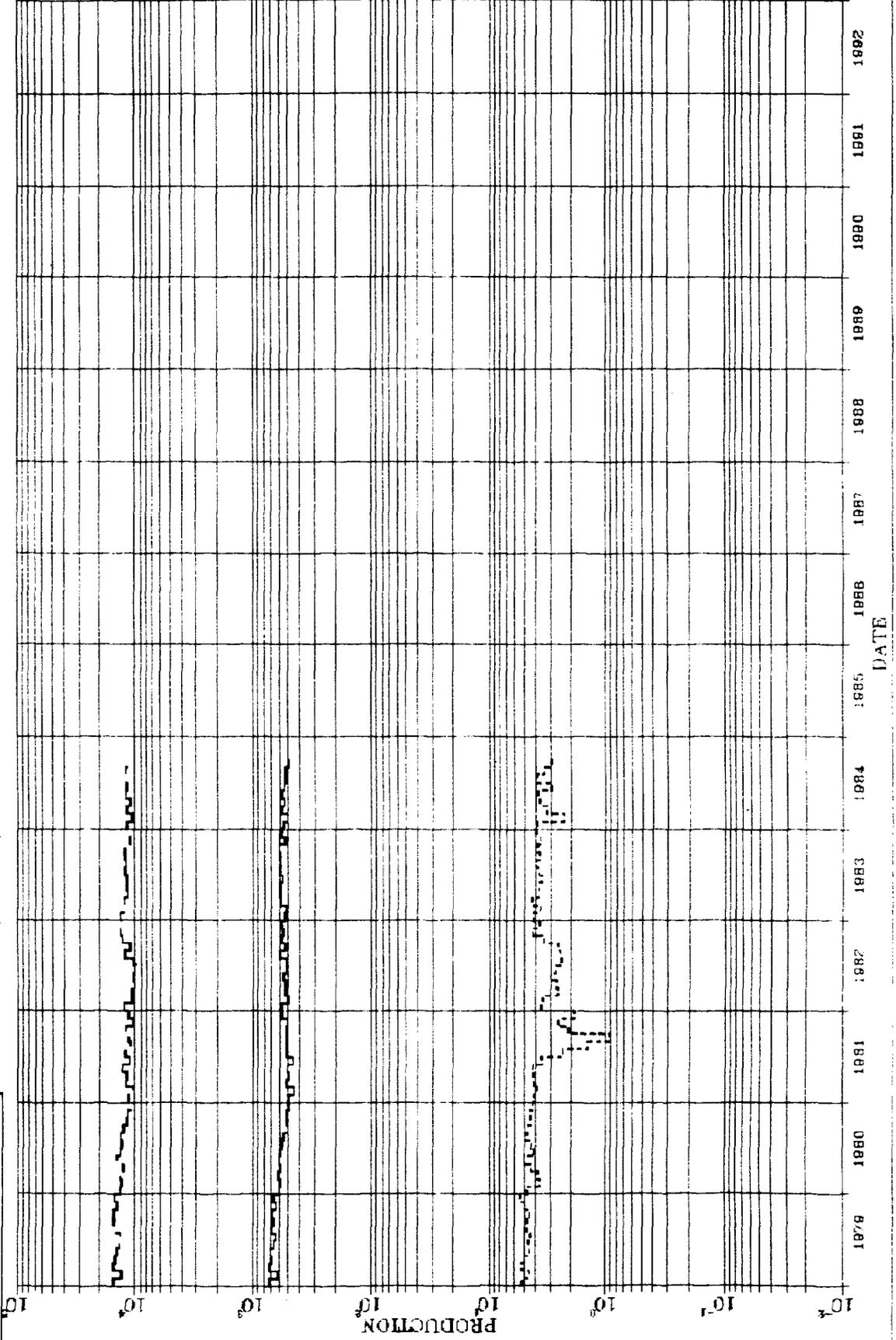
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Statistical Summary
Horseshoe-Gallup Unit

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Active:		
Producing	131	130
Injection	61	65
Water Supply	1	1
Shut-In:		
Producing	37	20
Injection	13	12
Water Supply	<u>4</u>	<u>4</u>
TOTAL	247	232
<u>Oil Production (S.T.B.)</u>	<u>1984</u>	<u>Cum. to 1-1-85</u>
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STATE: NEW MEXICO COUNTY: SAN JUAN
 FIELD: HORSESHOE GALLUP GP
 LEASE: ALL WELLS# ALL
 (ALL) OPERATOR: ARCO OIL & GAS CO

OIL PRODUCTION STBO/D
 GAS PRODUCTION MCF/D
 WATER PRODUCTION STBW/D



MANY ROCKS
PROJECT AREA

Location of Proposed
HSGU #302 Infill Well
(Highlighted wells are
producers P&A'd in 1984)

HORSESHOE GALLUP
UNIT AREA

Proposed HSGU #302

SAN AMERICAN
HOORSKOE UNIT
PARTICIPATION

LEGEND

- LOWER INJECTORS
- UPPER INJECTORS
- DUAL INJECTORS
- PARTICIPATION AREA
- PROPOSED LOCATION
- PROPOSED CONVERSION

MAP II

ARCO Oil and Gas Company
Division of Atlantic Richfield Company
ROCKY MOUNTAIN DISTRICT
DENVER, COLORADO

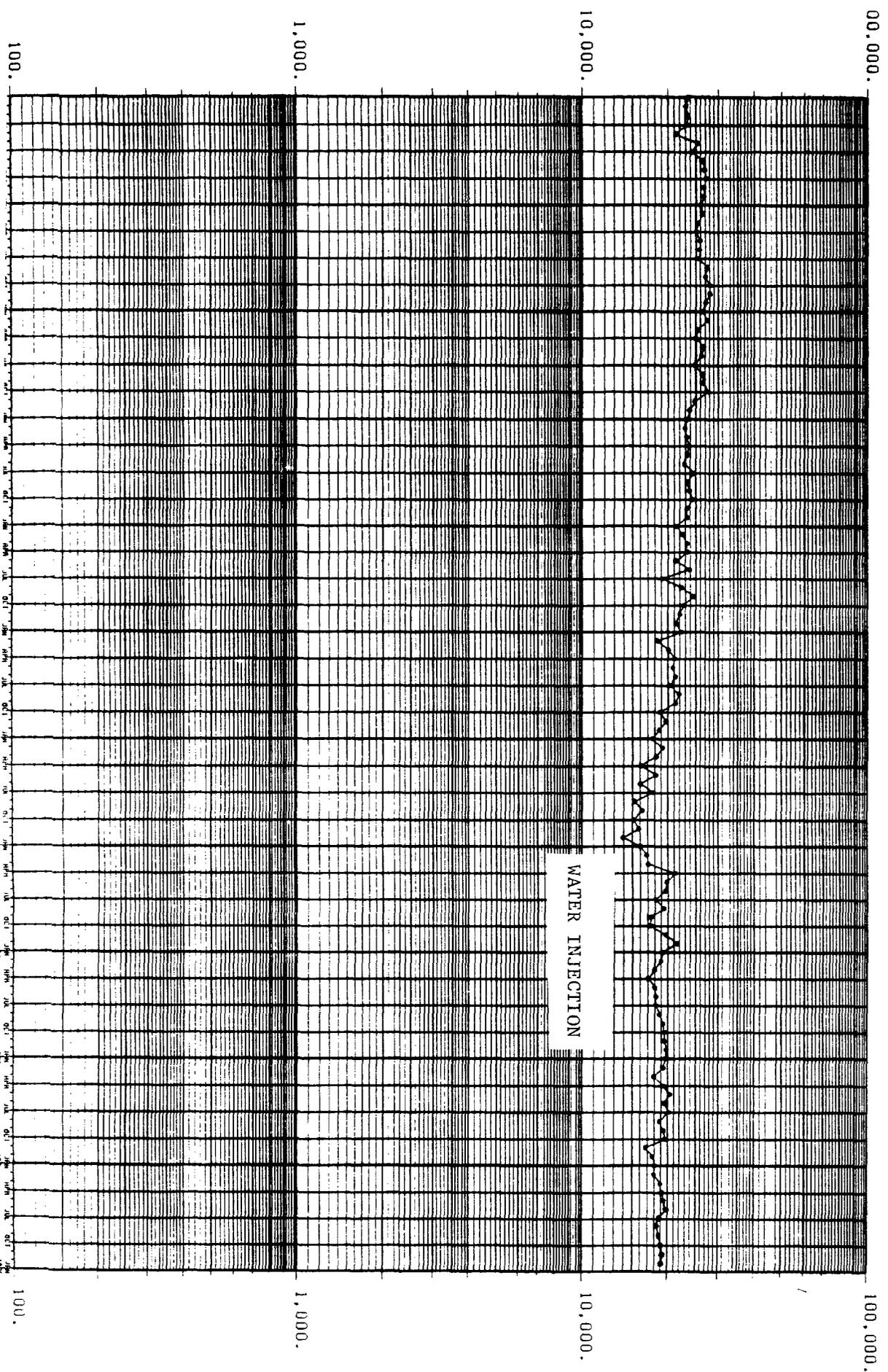
HORSESHOE - GALLUP UNIT
San Juan County, New Mexico

DRAFTED BY V.E.A.

DATE 8/30/82

SCALE 1" = 1 Mile

MAP NO. _____
FILE NO. _____



RESV. LEVEL PLOT, 83
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 RESV. 83 - GALLUP WATERFLOOD
 WELL COUNT - 174

o -AVG. DAILY H2O (BRL)

ARCO Oil and Gas Company
Rocky Mountain District
707 Seventeenth Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 7031



L. B. Morse
Operations Manager

March 25, 1985

Bureau of Land Management (4)
P. O. Box 6770
Albuquerque, New Mexico 87197-6770
Attn: Agreements Section

Oil Conservation Commission (4)
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Santa Fe, New Mexico 87501

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Very truly yours,

A handwritten signature in cursive script, reading "L. B. Morse".

L. B. Morse
Operations Manager

LBM:RDT:sh

Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1985
ARCO Oil and Gas Company
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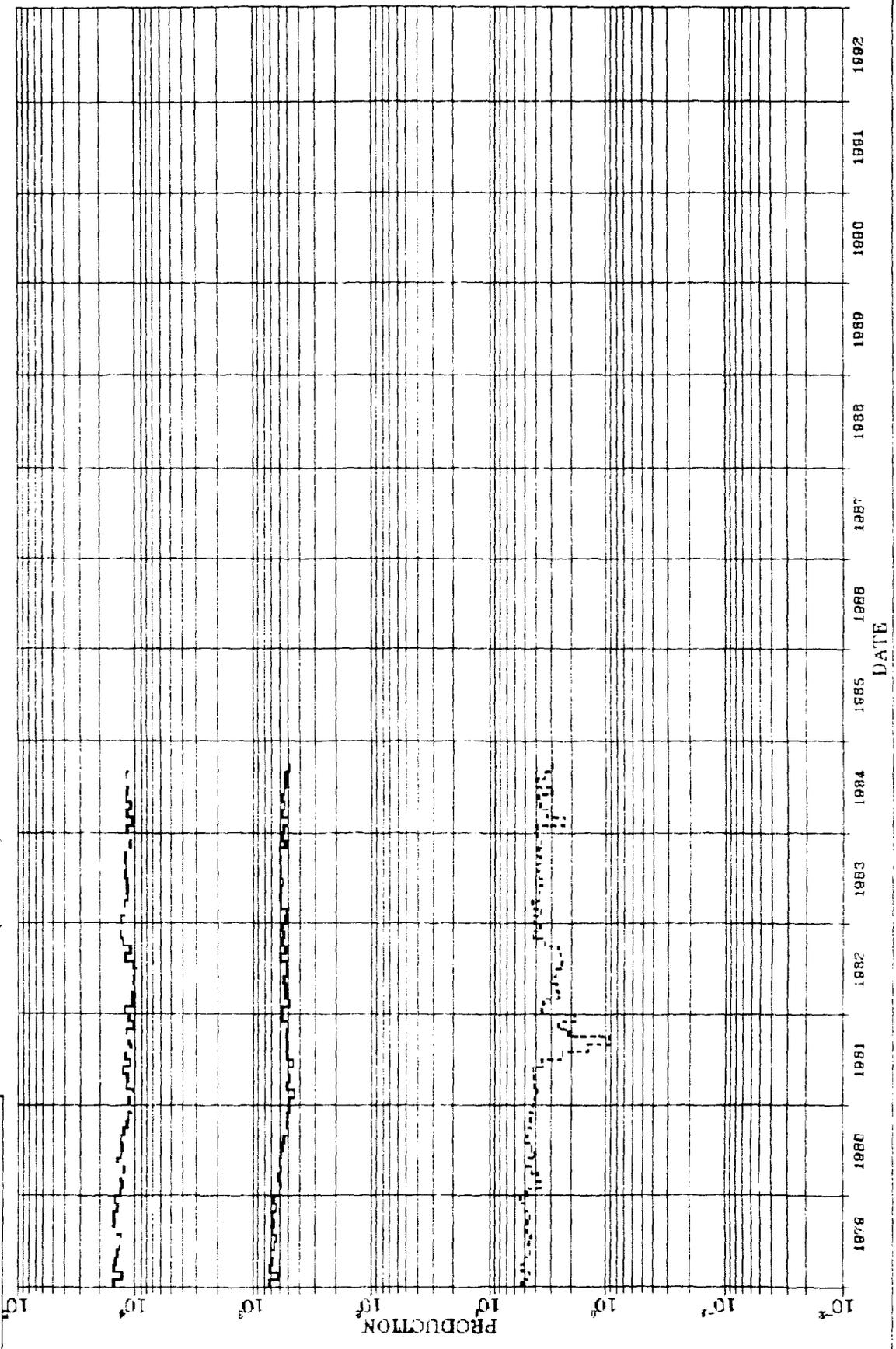
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STATE: NEW MEXICO COUNTY: SAN JUAN GP
 FIELD: HORSESHOE GALLUP
 LEASE: ALL WELLS# ALL
 (ALL) OPERATOR: ARCO OIL & GAS CO

OIL PRODUCTION: STRO/D
 GAS PRODUCTION: MCF/D
 WATER PRODUCTION: SUBW/D



MANY ROCKS PROJECT AREA

Location of Proposed HSGU #302 Infill Well
(Highlighted wells are producers P&A'd in 1984)

UTAH INDIAN RESERVATION
UTAH INDIAN RESERVATION

HORSESHOE GALLUP UNIT AREA

Proposed HSGU #302

SAN AMERICAN
HORSESHOE UNIT
PARTICIPATION

LEGEND

- LOWER INJECTORS
- UPPER INJECTORS
- DUAL INJECTORS
- PARTICIPATION AREA
- PROPOSED LOCATION
- PROPOSED CONVERSION

MAP II

ARCO Oil and Gas Company
Division of Atlantic Richfield Company
ROCKY MOUNTAIN DISTRICT
DENVER, COLORADO

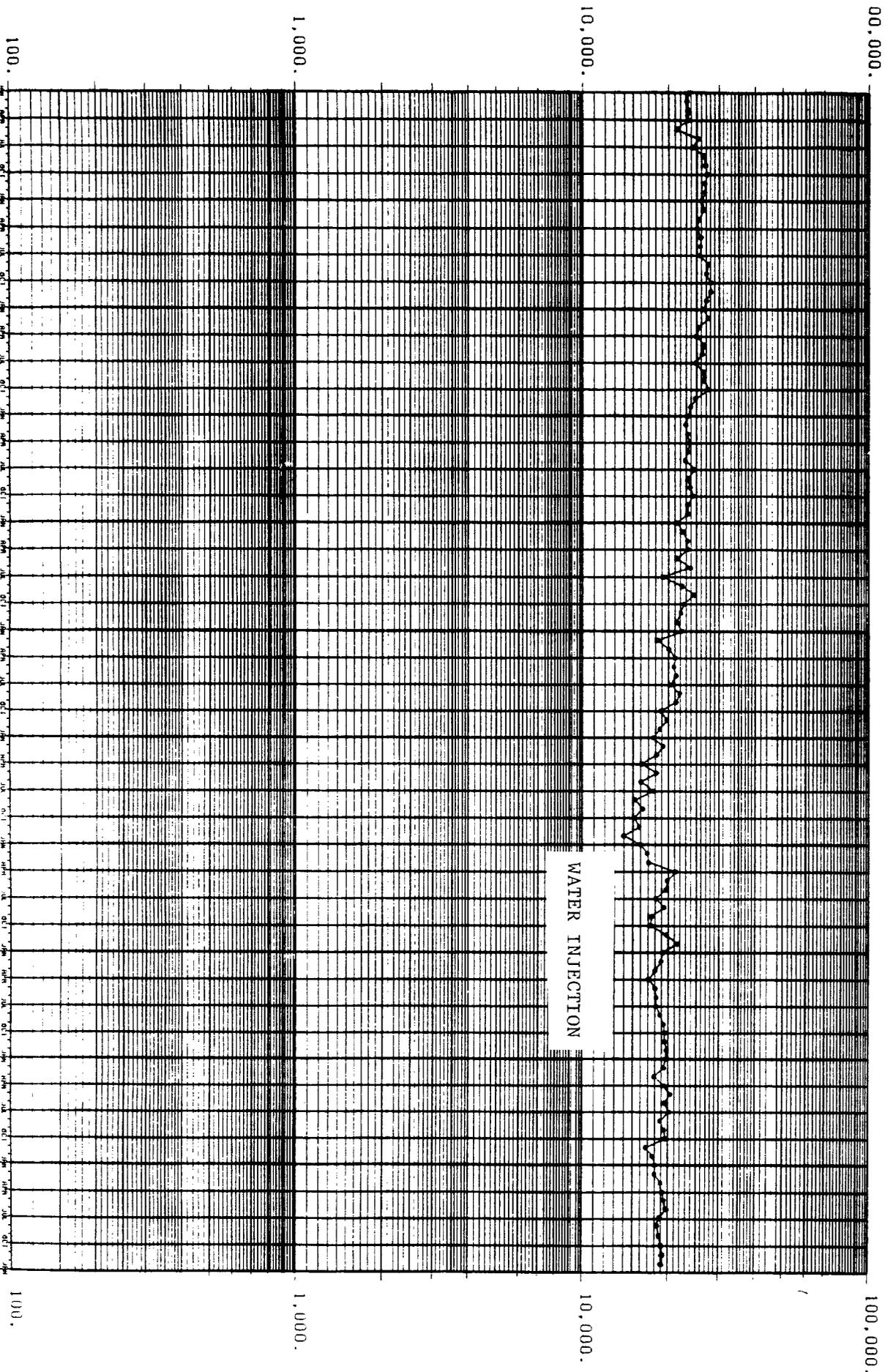
HORSESHOE - GALLUP UNIT
San Juan County, New Mexico

DRAFTED BY W.E.A.

DATE 8/30/81

SCALE 1" = 1 Mile

MAP NO. _____
FILE NO. _____



RESV. LEVEL PLOT, 83
 DIST., 085 - ROCKY MOUNTAIN
 SUBDIST, 69 - UTRH IEXCEPT FORXC011
 FIELD, 110 - HORSESHOE GALLUP
 RESV., 83 - GALLUP WATERFLOOD
 WELL COUNT - 174

o -AVG. DAILY H2O (BBL)

ARCO Oil and Gas Company
Rocky Mountain District
707 Seventeenth Street
Mailing address: P.O. Box 5540
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L. B. Morse
Operations Manager

March 25, 1985

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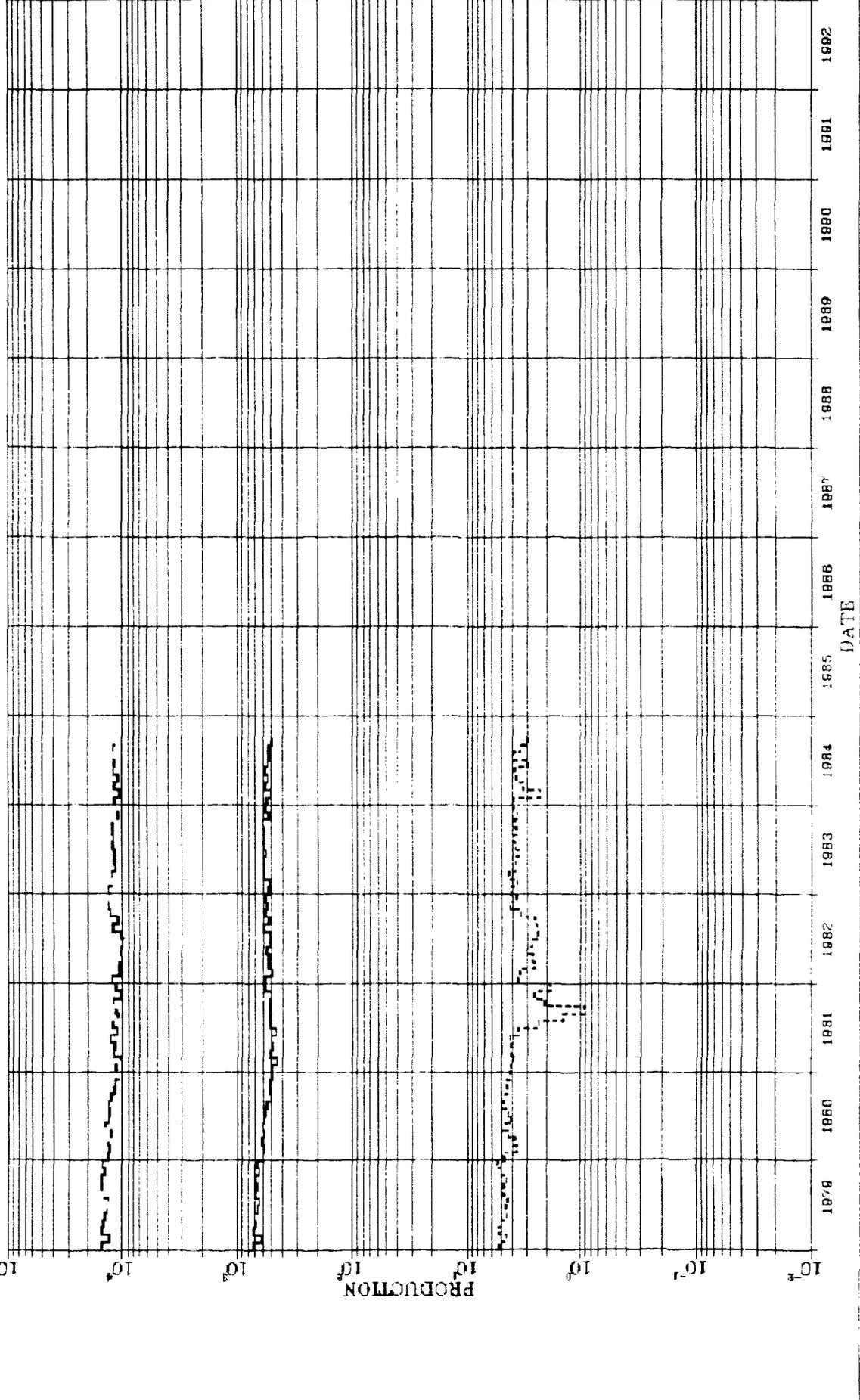
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STATE: NEW MEXICO COUNTY: SAN JUAN GP
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 LEASE: ALL WELLS# ALL
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OIL PRODUCTION STBO/D
 GAS PRODUCTION MCF/D
 WATER PRODUCTION SUBW/D



MANY ROCKS PROJECT AREA

Location of Proposed HSGU #302 Infill Well
(Highlighted wells are producers P&A'd in 1984)

INDIAN RESERVATION
INDIAN RESERVATION
UYE

HORSESHOE GALLUP UNIT AREA

Proposed HSGU #302

SAN AMERICAN
MOOREHEAD UNIT
PARTICIPATION

LEGEND

● LOWER INJECTORS

● UPPER INJECTORS

● DUAL INJECTORS

□ PARTICIPATION AREA

● PROPOSED LOCATION

● PROPOSED CONVERSION

MAP II

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Division of Atlantic Richfield Company
ROCKY MOUNTAIN DISTRICT
DENVER, COLORADO

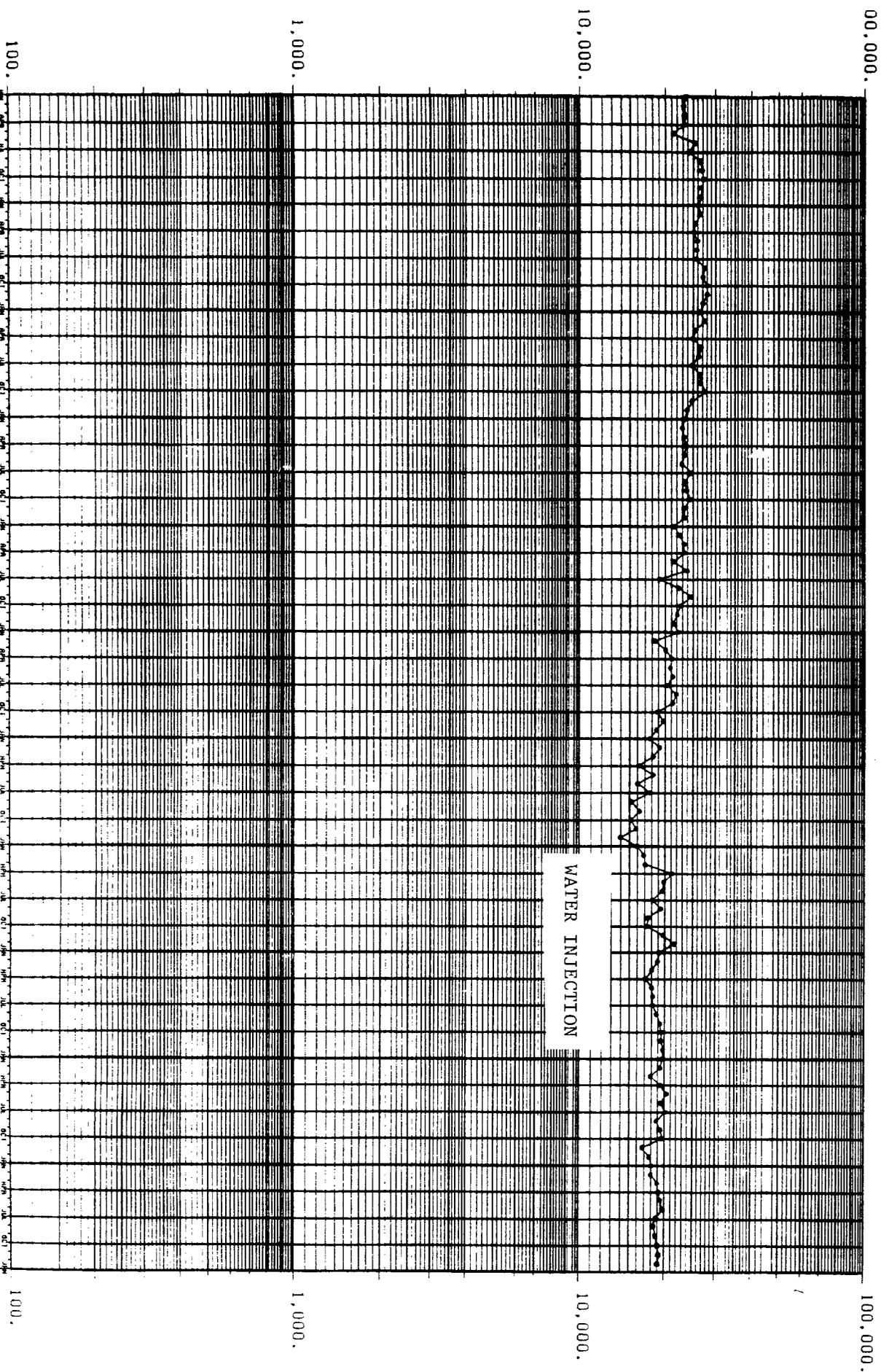
HORSESHOE - GALLUP UNIT
San Juan County, New Mexico

DRAFTED BY V.E.A.

DATE 8/30/82

SCALE: 1" = 1 Mile

MAP No. _____
FILE No. _____



RESV. LEVEL PLOT, 83
 DIST. 085 ROCKY MOUNTAIN
 SUBDIST. 69 - UTAH (EXCEPT FORKIC01)
 FIELD, 110 - HORSESHOE GULLUP
 RESV. 83 - GULLUP WATERFL000
 WELL COUNT - 174

o -AVG. DAILY H2O (BBL)

State of New Mexico

#2519



JIM BACA
COMMISSIONER

Commissioner of Public Lands

May 2, 1984

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148
Express Mail Delivery Used
310 Old Santa Fe Trail
Santa Fe, New Mexico 87501

ARCO Oil and Gas Company
P. O. Box 5540
Denver, Colorado 80217

Re: Horseshoe Gallup Unit
San Juan County, New Mexico
1984 Plan of Development

ATTENTION: Mr. W. A. Walther, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your 1984 Plan of Development for the Horseshoe Gallup Unit area, San Juan County, New Mexico. Such plan calls for reactivating 11 currently shut-in injection wells and converting 10 producers to injectors during 1984, with the possibility of expanding the polymer-injection project treatment to the entire field. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy of your plan for your files.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
BLM-Roswell, New Mexico

ARCO Oil and Gas Company
Rocky Mountain District
707 Seventeenth Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 7031

W. A. Walther, Jr.
Operations Manager



February 21, 1984

Bureau of Land Management (4)
P. O. Box 26124
Albuquerque, New Mexico 87125
Attn: Agreements Section

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

Re: Plan of Development
Horeseshoe-Gallup Unit
San Juan County, New Mexico

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

Gentlemen:

As required, the attached Plan of Development and Operation for the subject property is submitted for your information. If future reservoir, operations or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current plots of production and injection for the subject Unit, and a map showing the locations of the four infill wells drilled in 1983 and the conversion of well #3.

Very truly yours,


W. A. Walther, Jr.
Operations Manager

WAW:TMT:sh

Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1984
ARCO Oil and Gas Company
Unit Operator

Review of the Last Plan of Development Period

In 1983 no additions or contractions of either the Unit Area or the Participating Area were made. Well #3, Unit B, was converted from a producing oil well to a water injection well. Daily average oil production increased from 544 BOPD during 1982 to 568 BOPD during 1983.

Water injection for the year averaged 19,049 BWPD. Produced water has increased slightly from 11,405 BWPD average in 1982 to 11,960 BWPD in 1983.

The following infill development wells were drilled and completed in 1983:

- #298 - 1300' FSL, 100' FWL, Sec. 33-31N-16W
- #299 - 100' FSL, 1320' FEL, Sec. 30-31N-16W
- #300 - 1320' FNL, 1500' FEL, Sec. 4-30N-16W
- #301 - 100' FNL, 1500' FWL, Sec. 30-31N-16W

Five wells were recompleted into the Upper Gallup: #286, #288, #289, #290, and #296. This production was commingled with Lower Gallup production in these wells.

Forty-eight previously shut-in water injection wells were permanently plugged and abandoned.

A pilot polymer-injection project was commenced in November, 1983 with the injection of 12,000 pounds of polysaccharide into eight water injection wells: #128, #134, #219, #221, #232, #242, #244, and #253. It is hoped this will improve injection profiles so that unflooded parts of the reservoir can be enhanced.

Plan of Development for 1984

Reactivation of a few currently shut-in injection wells and conversion of a few producers to injectors is planned for 1984. The exact number of reactivations and conversions is dependent on final economic evaluation. (11 reactivations and 10 conversions are being considered.)

If favorable response from the pilot polymer-injection project is seen, then plans are to expand this treatment to the entire field (excluding Unit D) in late summer or early fall of 1984.

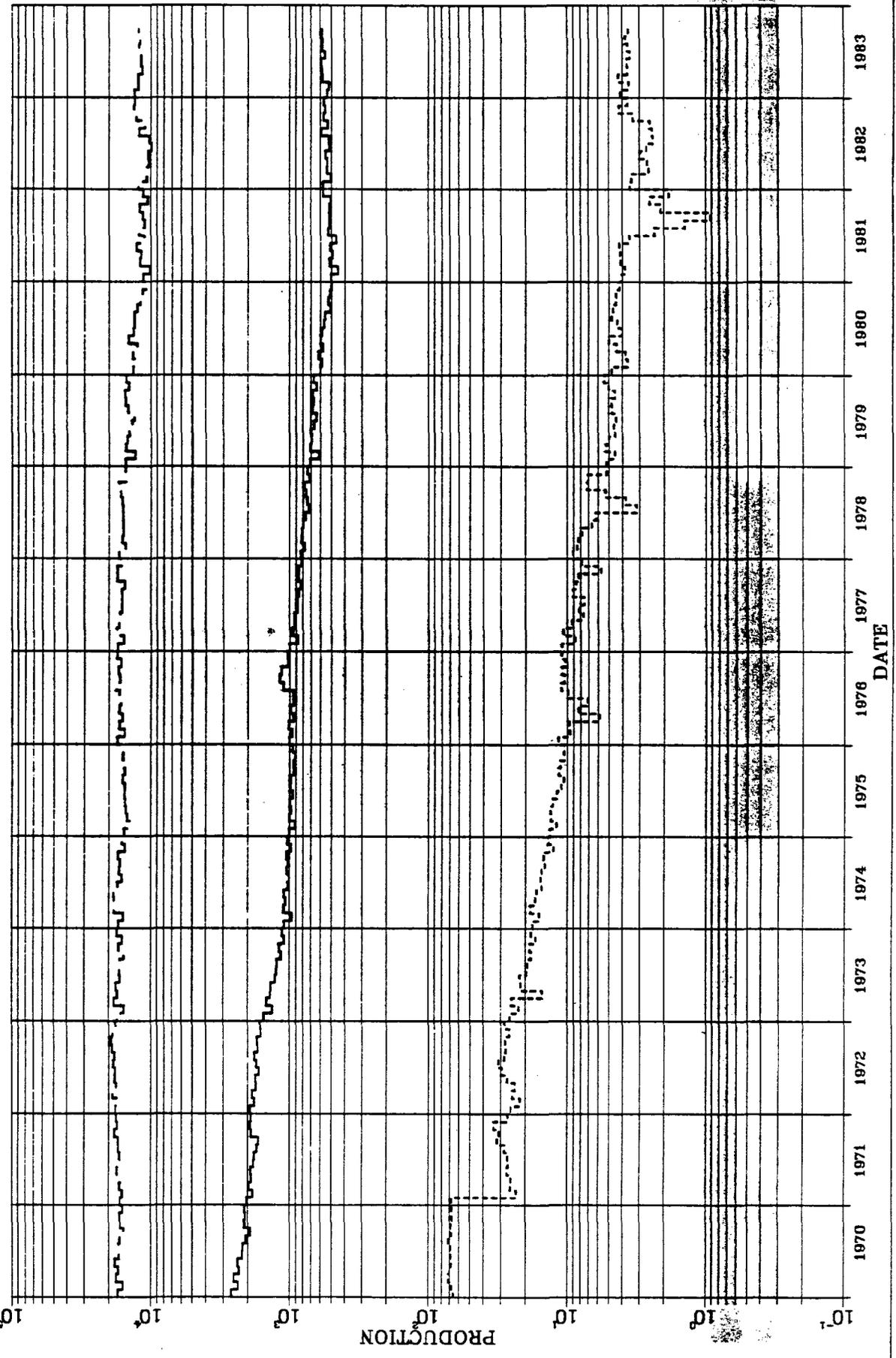
No drilling is planned for the Horseshoe Gallup Unit in 1984.

Statistical Summary
Horseshoe-Gallup Unit

<u>Well Status</u>	<u>1-1-83</u>	<u>1-1-84</u>
Active:		
Producing	128	131
Injection	60	61
Water Supply	1	1
Shut-In:		
Producing	37	37
Injection	61	13
Water Supply	<u>4</u>	<u>4</u>
TOTAL	291	247
<u>Oil Production (S.T.B.)</u>	<u>1983</u>	<u>Cum. to 1-1-84</u>
Daily Average	568	----
Total for Year	207,400	29,502,605
Since Unitization	----	18,681,106
<u>Gas Production (MCF)</u>		
Daily Average	4	----
Total for Year	1,478	6,248,617
Since Unitization	----	1,702,807
<u>Water Production (S.T.B.)</u>		
Daily Average	11,960	----
Total for Year	4,365,243	102,369,062
Since Unitization	----	98,169,697
<u>Water Injection (S.T.B.)</u>		
Daily Average	19,049	----
Total for Year	6,952,762	208,201,165
Since Unitization	----	198,996,643

STATE: NEW MEXICO COUNTY: SAN JUAN
 FIELD: HORSESHOE GALLUP GP
 LEASE: HORSESHOE GALLUP UNIT WELL# ALL
 () OPERATOR: ARCO OIL & GAS CO

LEGEND
 OIL PRODUCTION STBO/D
 GAS PRODUCTION MCF/D
 WATER PRODUCTION STBW/D





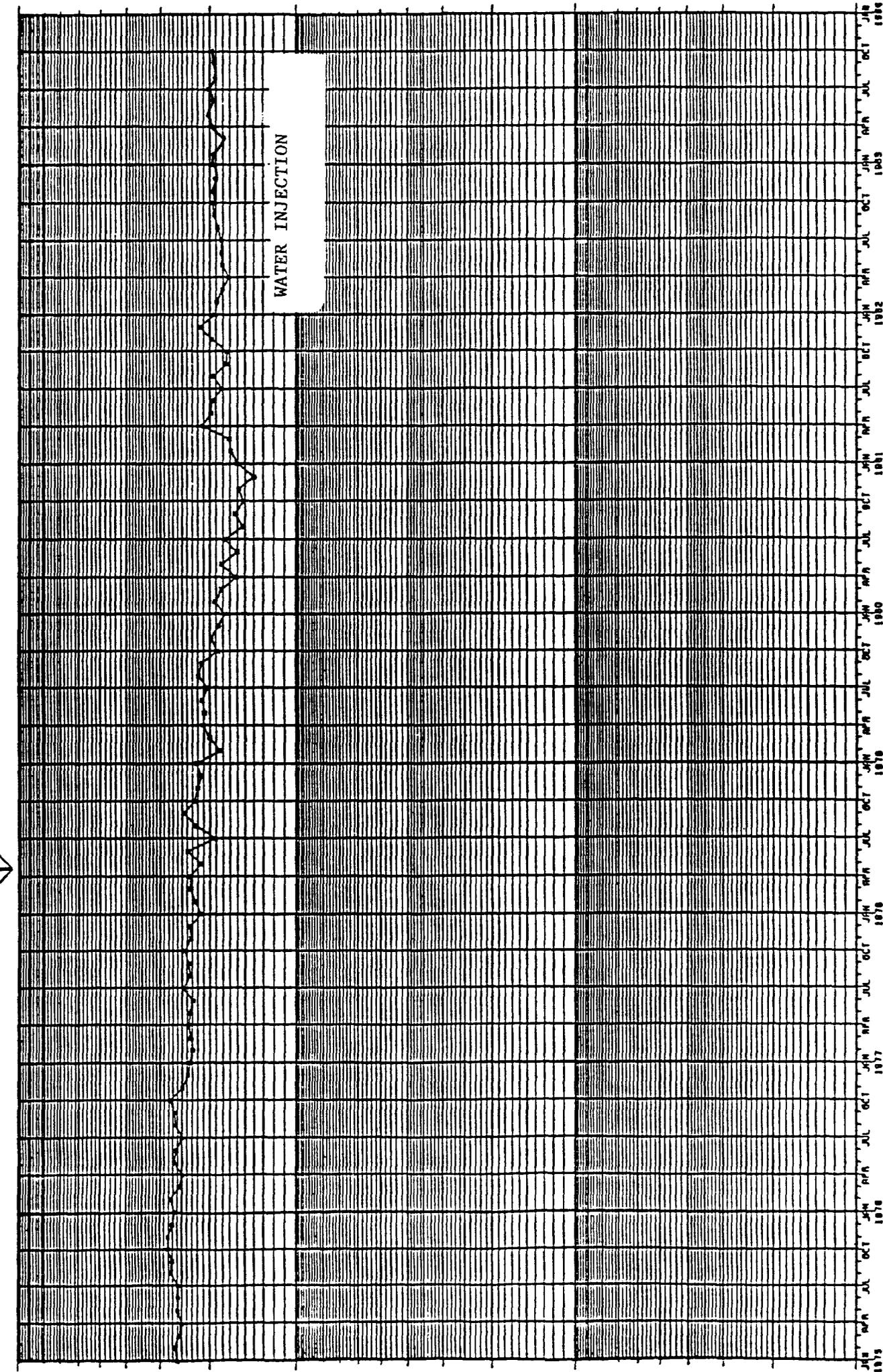
ARCO OIL AND GAS COMPANY

100,000.

10,000.

1,000.

100.



100,000.

10,000.

1,000.

100.

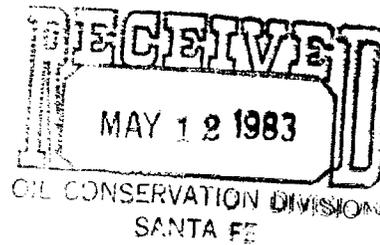
○ - AVG. DAILY OIL (BBU)
 ▲ - AVG. DAILY GAS (MCF)
 ■ - AVG. DAILY H2O (BBU)

RESV. LEVEL PLOT 83
 DIST. 085 - ROCKY MOUNTAIN
 SUBDIST. 69 - NORTHWEST NEW MEXICO
 FIELD. 110 - HORSESHOE GALLUP
 RESV. 83 - GALLUP WATERFLOOD
 WELL COUNT - 173

ARCO Oil and Gas Company
Rocky Mountain District
707 Seventeenth Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 7031

W. A. Walther, Jr.
Operations Manager

April 29, 1983



Bureau of Land Management (4)
P. O. Box 26124
Albuquerque, New Mexico 87125
Attn: Agreements Section

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

Re: Amended Plan of Development
Horeseshoe-Gallup Unit
San Juan County, New Mexico

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

#2519

Gentlemen:

As required, the attached amended Plan of Development and Operation for the subject property is submitted for your information. Our original plan of development mentioned the possibility of reactivating a few shut-in injection wells and converting a few producers to injectors during 1983. Following are the wells to be reactivated and converted:

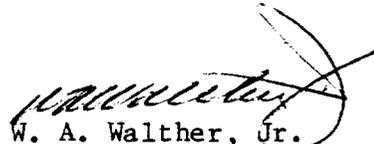
Reactivations:	#26	#162	#199
	#29	#169	#201
	#126	#180	#211
	#160	#192	
Conversions:	#1		
	#3		
	#109		
	#188		

The reactivations are planned in order to increase water input to areas of currently low water-cut. The above conversions will complete five-spot injection patterns, resulting in an economic incremental increase in oil rate for the Unit.

Page #2
April 29, 1983
Amended Plan of Development
Horseshoe-Gallup Unit

If future reservoir, operations or economic studies result in a different plan, we will submit further amended plans of development.

Very truly yours,


W. A. Walther, Jr.
Operations Manager

WAW:TMT:rlr

Attachment

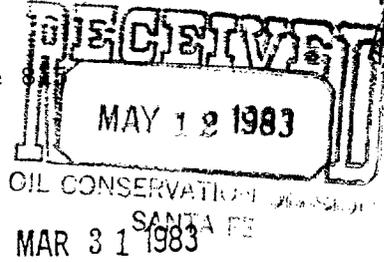


IN REPLY
REFER TO:

Agreements

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
South Central Region
505 Marquette Avenue, N. W., Suite 8
Albuquerque, New Mexico 87102

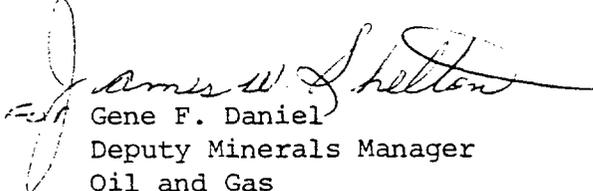


Arco Oil and Gas Company
Attention: W. A. Walther, Jr.
P. O. Box 5540
Denver, Colorado 80217

Gentlemen:

Two approved copies of your 1983 Plan of Development for the Horseshoe-Gallup unit area, San Juan County, New Mexico, are enclosed. Such plan, proposing to drill four infill development wells and recomplete the five listed wells in the upper Gallup was approved on this date subject to like approval by the appropriate officials of the State of New Mexico. Your plan of development also mentions the possibility of reactivating a few shut-in injection wells and converting a few producers to injectors during 1983. Before any of this work can be approved, you will need to file an amended plan of development stating which wells will be reactivated or converted.

Sincerely yours,


Gene F. Daniel
Deputy Minerals Manager
Oil and Gas

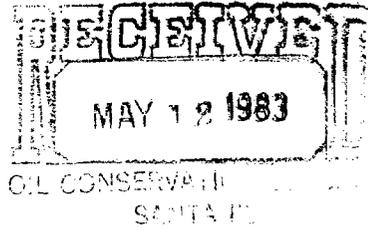
Enclosures

cc: Ken Thompson, 4/14/83
(with letter)

ARCO Oil and Gas Company
Rocky Mountain District
707 Seventeenth Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 7031

W. A. Waither, Jr.
Operations Manager

April 29, 1983



Bureau of Land Management (4)
P. O. Box 26124
Albuquerque, New Mexico 87125
Attn: Agreements Section

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

Re: Amended Plan of Development
Horeseshoe-Gallup Unit
San Juan County, New Mexico

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

Gentlemen:

As required, the attached amended Plan of Development and Operation for the subject property is submitted for your information. Our original plan of development mentioned the possibility of reactivating a few shut-in injection wells and converting a few producers to injectors during 1983. Following are the wells to be reactivated and converted:

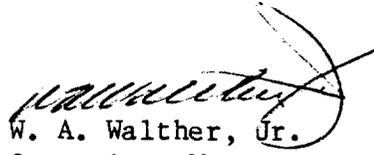
Reactivations:	#26	#162	#199
	#29	#169	#201
	#126	#180	#211
	#160	#192	
Conversions:	#1		
	#3		
	#109		
	#188		

The reactivations are planned in order to increase water input to areas of currently low water-cut. The above conversions will complete five-spot injection patterns, resulting in an economic incremental increase in oil rate for the Unit.

Page #2
April 29, 1983
Amended Plan of Development
Horseshoe-Gallup Unit

If future reservoir, operations or economic studies result in a different plan, we will submit further amended plans of development.

Very truly yours,


W. A. Walther, Jr.
Operations Manager

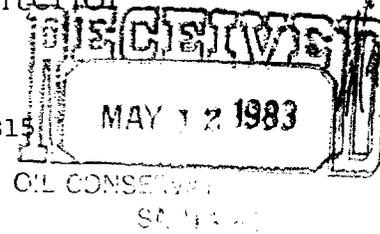
WAW:TMT:rlr

Attachment



United States Department of the Interior

BUREAU OF LAND MANAGEMENT
South Central Region
505 Marquette Avenue, N. W., Suite 815
Albuquerque, New Mexico 87102



IN REPLY
REFER TO:

Agreements

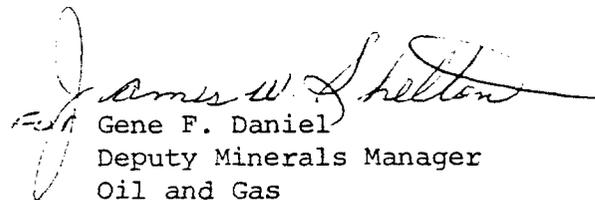
MAR 31 1983

Arco Oil and Gas Company
Attention: W. A. Walther, Jr.
P. O. Box 5540
Denver, Colorado 80217

Gentlemen:

Two approved copies of your 1983 Plan of Development for the Horseshoe-Gallup unit area, San Juan County, New Mexico, are enclosed. Such plan, proposing to drill four infill development wells and recomplete the five listed wells in the upper Gallup was approved on this date subject to like approval by the appropriate officials of the State of New Mexico. Your plan of development also mentions the possibility of reactivating a few shut-in injection wells and converting a few producers to injectors during 1983. Before any of this work can be approved you will need to file an amended plan of development stating which wells will be reactivated or converted.

Sincerely yours,

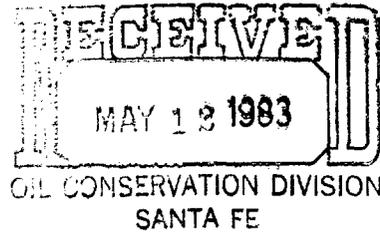

Gene F. Daniel
Deputy Minerals Manager
Oil and Gas

Enclosures

*cc: Ken Thompson, 4/14/83
(w/att. 2-6.)*

ARCO Oil and Gas Company
Rocky Mountain District
707 Seventeenth Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 7031

W. A. Walther, Jr.
Operations Manager



April 29, 1983

Bureau of Land Management (4)
P. O. Box 26124
Albuquerque, New Mexico 87125
Attn: Agreements Section

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

Re: Amended Plan of Development
Horeseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached amended Plan of Development and Operation for the subject property is submitted for your information. Our original plan of development mentioned the possibility of reactivating a few shut-in injection wells and converting a few producers to injectors during 1983. Following are the wells to be reactivated and converted:

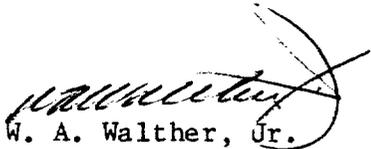
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	#126	#180	#211
	#160	#192	
Conversions:	#1		
	#3		
	#109		
	#188		

The reactivations are planned in order to increase water input to areas of currently low water-cut. The above conversions will complete five-spot injection patterns, resulting in an economic incremental increase in oil rate for the Unit.

Page #2
April 29, 1983
Amended Plan of Development
Horseshoe-Gallup Unit

If future reservoir, operations or economic studies result in a different plan, we will submit further amended plans of development.

Very truly yours,



W. A. Walther, Jr.
Operations Manager

WAW:TMT:rlr

Attachment

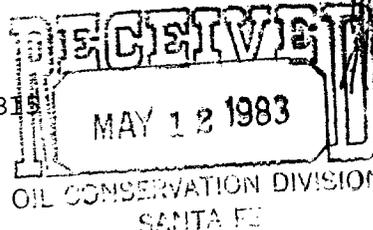


United States Department of the Interior

BUREAU OF LAND MANAGEMENT
South Central Region
505 Marquette Avenue, N. W., Suite 815
Albuquerque, New Mexico 87102

IN REPLY
REFER TO:

Agreements



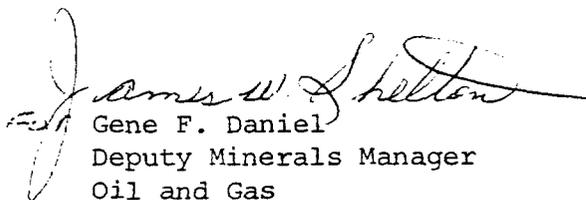
MAR 31 1983

Arco Oil and Gas Company
Attention: W. A. Walther, Jr.
P. O. Box 5540
Denver, Colorado 80217

Gentlemen:

Two approved copies of your 1983 Plan of Development for the Horseshoe-Gallup unit area, San Juan County, New Mexico, are enclosed. Such plan, proposing to drill four infill development wells and recomplete the five listed wells in the upper Gallup was approved on this date subject to like approval by the appropriate officials of the State of New Mexico. Your plan of development also mentions the possibility of reactivating a few shut-in injection wells and converting a few producers to injectors during 1983. Before any of this work can be approved, you will need to file an amended plan of development stating which wells will be reactivated or converted.

Sincerely yours,


Gene F. Daniel
Deputy Minerals Manager
Oil and Gas

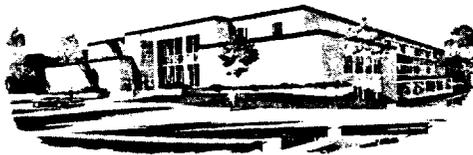
Enclosures

*cc: Ken Thompson, 4/14/83
(w/alt. e. h.)*

State of New Mexico



JIM BACA
COMMISSIONER



Commissioner of Public Lands

May 19, 1983

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

ARCO Oil and Gas Company
P. O. Box 5540
Denver, Colorado 80217

Re: Amended 1983 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

ATTENTION: Mr. W. A. Walther, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your Amended 1983 Plan of Development for the Horseshoe Gallup Unit Agreement, Rio Arriba County, New Mexico. Such plan calls for Reactivating 11 shut-in injection wells and converting 4 producers to injectors. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division
AC 505/827-5744

JB/RDG/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico

State of New Mexico



JIM BACA
COMMISSIONER



Commissioner of Public Lands

March 16, 1983

P.O. BOX 1148
SANTA FE, NEW MEXICO 87504-1148

ARCO Oil and Gas Company
P. O. Box 5540
Denver, Colorado 80217

Re: Horseshoe-Gallup Unit
1983 Plan of Development
San Juan County, New Mexico

ATTENTION: Mr. W. A. Walther, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your 1983 Plan of Development and Operation for the Horseshoe Gallup Unit, San Juan County, New Mexico. Such plan calls for the drilling of the unit well Nos. 298, 299, 300 and 301. There are also plans to recompleat five wells into the Upper Gallup and commingle production in these wells with production in the Lower Gallup Pool. Reactivation of a few currently shut-in injection wells and conversion of a few producers to injectors is also planned for 1983. Our approval is subject to like approval by the New Mexico Oil Conservation Division and the Bureau of Land Management.

Enclosed is an approved copy for your files.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

JIM BACA
COMMISSIONER OF PUBLIC LANDS

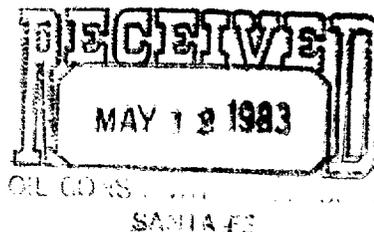
BY:
FLOYD O. PRANDO, Assistant Director
Oil and Gas Division
AC 505/827-5744

JB/FOP/pm
encls.

cc: OCD-Santa Fe, New Mexico
BLM-Albuquerque, New Mexico
Administration

ARCO Oil and Gas Company
Rocky Mountain District
707 Seventeenth Street
Mailing address: P.O. Box 5540
Denver, Colorado 80217
Telephone 303 293 7031

W. A. Walther, Jr.
Operations Manager



April 29, 1983

Bureau of Land Management (4)
P. O. Box 26124
Albuquerque, New Mexico 87125
Attn: Agreements Section

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

Re: Amended Plan of Development
Horeseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached amended Plan of Development and Operation for the subject property is submitted for your information. Our original plan of development mentioned the possibility of reactivating a few shut-in injection wells and converting a few producers to injectors during 1983. Following are the wells to be reactivated and converted:

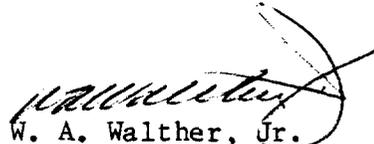
Reactivations:	#26	#162	#199
	#29	#169	#201
	#126	#180	#211
	#160	#192	
Conversions:	#1		
	#3		
	#109		
	#188		

The reactivations are planned in order to increase water input to areas of currently low water-cut. The above conversions will complete five-spot injection patterns, resulting in an economic incremental increase in oil rate for the Unit.

Page #2
April 29, 1983
Amended Plan of Development
Horseshoe-Gallup Unit

If future reservoir, operations or economic studies result in a different plan, we will submit further amended plans of development.

Very truly yours,



W. A. Walther, Jr.
Operations Manager

WAW:TMT:rlr

Attachment

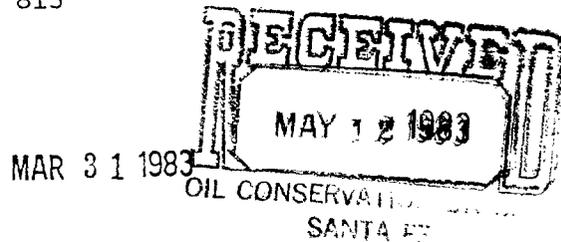


United States Department of the Interior

BUREAU OF LAND MANAGEMENT
South Central Region
505 Marquette Avenue, N. W., Suite 815
Albuquerque, New Mexico 87102

IN REPLY
REFER TO:

Agreements

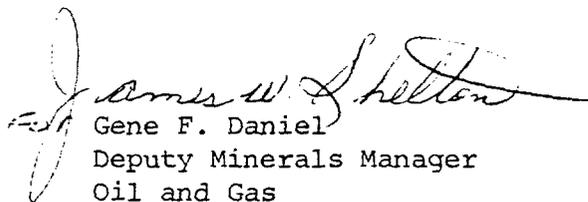


Arco Oil and Gas Company
Attention: W. A. Walther, Jr.
P. O. Box 5540
Denver, Colorado 80217

Gentlemen:

Two approved copies of your 1983 Plan of Development for the Horseshoe-Gallup unit area, San Juan County, New Mexico, are enclosed. Such plan, proposing to drill four infill development wells and recomplete the five listed wells in the upper Gallup was approved on this date subject to like approval by the appropriate officials of the State of New Mexico. Your plan of development also mentions the possibility of reactivating a few shut-in injection wells and converting a few producers to injectors during 1983. Before any of this work can be approved, you will need to file an amended plan of development stating which wells will be reactivated or converted.

Sincerely yours,


Gene F. Daniel
Deputy Minerals Manager
Oil and Gas

Enclosures

*cc: Ken Thompson, 4/14/83
(Walther h.)*



STATE OF NEW MEXICO
ENERGY AND MINERALS DEPARTMENT
OIL CONSERVATION DIVISION

TONY ANAYA
GOVERNOR

March 9, 1983

POST OFFICE BOX 2088
STATE LAND OFFICE BUILDING
SANTA FE, NEW MEXICO 87501
(505) 827-5800

Arco Oil & Gas Co.
P. O. Box 5540
Denver, CO 80217

Case # 2519

Attention: W. A. Walther, Jr.

Re: Horseshoe-Gallup Unit
1980 Plan of Development
San Juan County, NM

Dear Sir:

The above referenced submittal has been approved by the New Mexico Oil Conservation Division effective this date. Such approval is contingent upon like approval by the New Mexico Commissioner of Public Lands and the U. S. Minerals Management Service.

Sincerely,

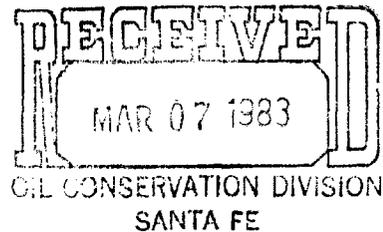
A handwritten signature in cursive script that reads "Roy E. Johnson".

Roy E. Johnson
Petroleum Geologist

REJ/dp

cc: Commissioner of Public Lands - Santa Fe
Minerals Management Service - Albuquerque
OCD District Office - Aztec

ARCO Oil and Gas Company
Rocky Mountain District
Post Office Box 5540
Denver, Colorado 80217
Telephone 303 575 7031
W. A. Walther, Jr.
Acting District Manager



January 10, 1983

Bureau of Land Management (4)
P. O. Box 26124
Albuquerque, New Mexico 87125
Attn: Agreements Section

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

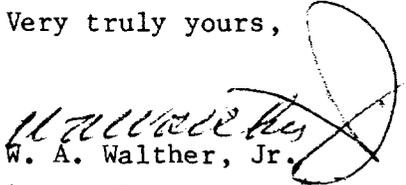
All Working Interest Owners
(See Attached List)

Re: Plan of Development
Horeseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation for the subject property is submitted for your information. If future reservoir, operations or economic studies result in a different plan, we will submit an amended Plan of Development. Also attached are the most current plots of production and injection for the subject Unit. The maps of the Horseshoe - Gallup Unit, which you should already have on file, have not changed.

Very truly yours,


W. A. Walther, Jr.

Acting District Manager

WAW:TMT:sh

Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1983
ARCO Oil and Gas Company
Unit Operator

Review of the Last Plan of Development Period

In 1982 no additions or contractions of either the Unit Area or the Participating Area were made. No existing wells were converted. Daily average oil production increased from 506 BOPD during 1981 to 544 BOPD during 1982.

Water injection for the year averaged 18,726 BWPB. Produced water has decreased very slightly from 11,433 BWPB average in 1981 to 11,405 BWPB in 1982.

Three wells were recompleted in the Upper Gallup Sand and one previously shut-in well was reactivated following a workover. This work, along with a concerted effort to balance the waterflood, attributed to the increase in the average production rate in 1982.

Plan of Development for 1983

There are plans to drill the following infill development wells in 1983:

- #298 - 1300' FSL, 100' FWL, Sec. 33-31N-16W
- #299 - 100' FSL, 1320' FEL, Sec. 30-31N-16W
- #300 - 1320' FNL, 1500' FEL, Sec. 4-30N-16W
- #301 - 100' FNL, 1500' FWL, Sec. 30-31N-16W

There are also plans to recomplete five more wells into the Upper Gallup: #286, #288, #289, #290, and #296. This production will be commingled with the current Lower Gallup production in these wells. If these recompletions continue to be successful, then two or three more wells could be candidates for similar action in 1983.

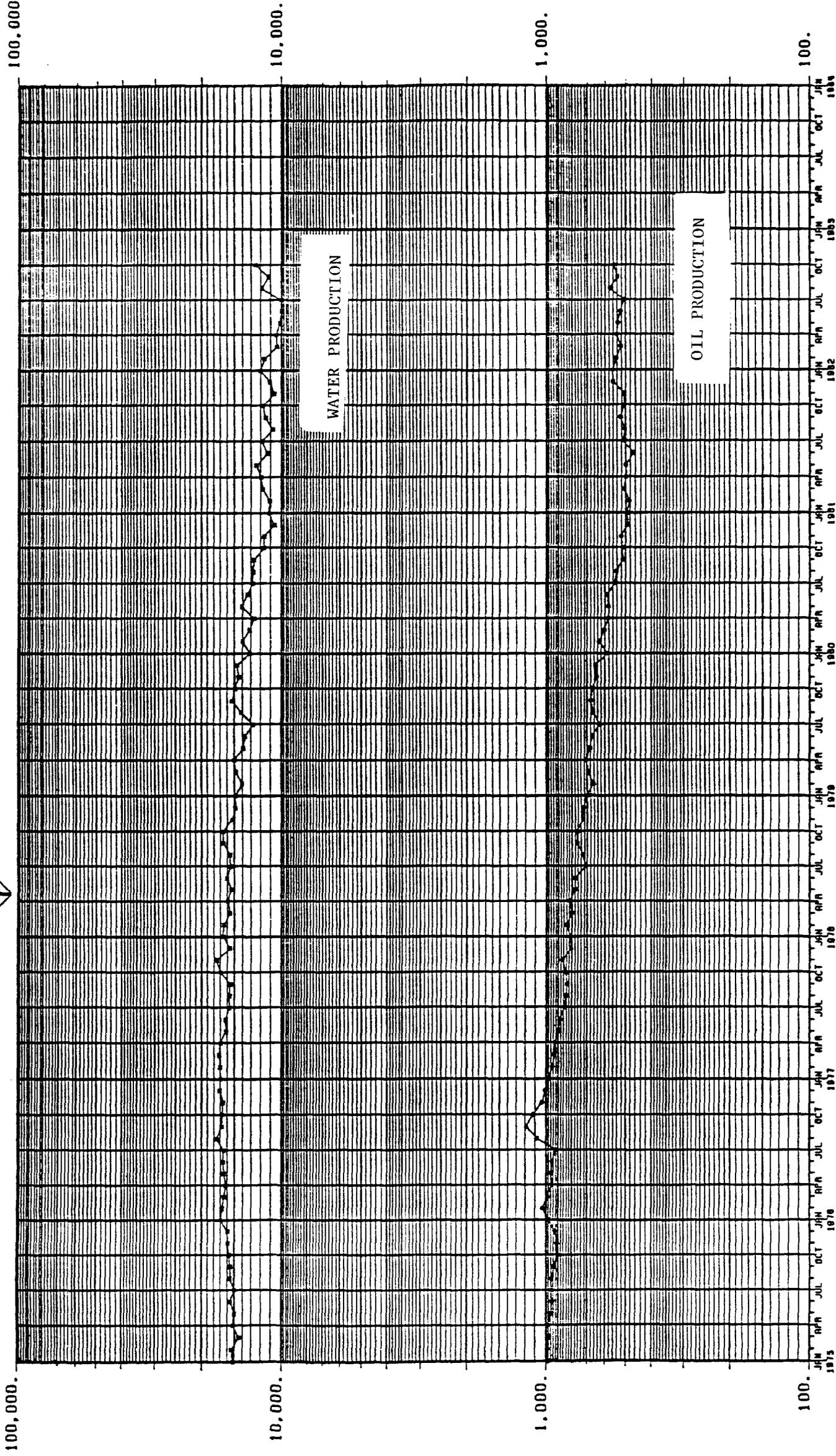
Reactivation of a few currently shut-in injection wells and conversion of a few producers to injectors is also planned for 1983. The exact number of reactivations and conversions is dependent on final economic evaluation. (11 reactivations and 11 conversions are being considered.)

Statistical Summary
Horseshoe-Gallup Unit

<u>Well Status</u>	<u>1-1-82</u>	<u>1-1-83</u>
Active:		
Producing	127	128
Injection	63	60
Water Supply	2	1
Shut-In:		
Producing	38	37
Injection	58	61
Water Supply	<u>3</u>	<u>4</u>
TOTAL	291	291
<u>Oil Production (S.T.B.)</u>	<u>1982</u>	<u>Cum. to 1-1-83</u>
Daily Average	544	----
Total for Year	198,589	29,295,205
Since Unitization	----	18,473,706
<u>Gas Production (MCF)</u>		
Daily Average	2.2	----
Total for Year	810	6,247,139
Since Unitization	----	1,701,329
<u>Water Production (S.T.B.)</u>		
Daily Average	11,405	----
Total for Year	4,162,875	98,003,819
Since Unitization	----	93,804,454
<u>Water Injection (S.T.B.)</u>		
Daily Average	18,726	----
Total for Year	6,834,922	201,248,403
Since Unitization	----	192,043,881



ARCO OIL AND GAS COMPANY



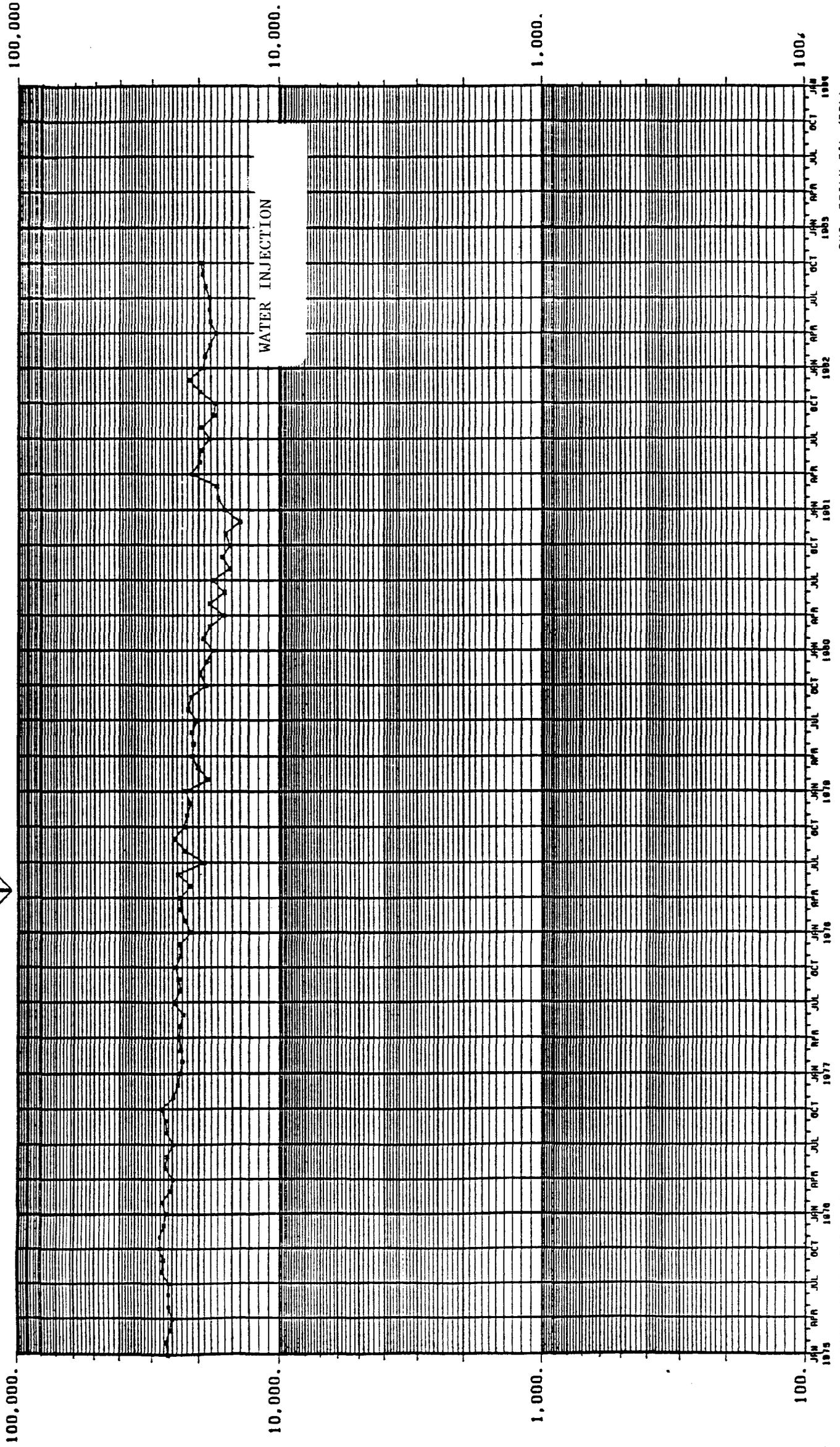
OIL, GAS AND WATER RATE VS TIME

- - AVG. DAILY OIL (BBL)
- ▲ - AVG. DAILY GAS (MCF)
- - AVG. DAILY H2O (BBL)

RESV. LEVEL PLOT 01
 DIST. 085 - ROCKY MOUNTAIN
 SUBDIST. 69 - NORTHWEST NEW MEXICO
 FIELD, 110 - HORSESHOE CALLUP
 RESV. 01 - CALLUP
 WFTT UNIT 110



ARCO OIL AND GAS COMPANY



OIL, GAS AND WATER RATE VS TIME

- - AVG. DAILY OIL (88L)
- ▲ - AVG. DAILY GAS (MCF)
- - AVG. DAILY H2O (88L)

RESV. LEVEL PLOT, 83
 DIST. 085 - ROCKY MOUNTAIN
 SURDIST. 69 - NORTHWEST NEW MEXICO
 FIELD, 110 - HORSESHOE CALLUP
 RESV. 83 - CALLUP WATERFLOOD
 WELL COUNT - 173

WORKING INTEREST OWNER

Horseshoe - Gallup Unit

J. R. Abraham
5517 Willow Lane
Dallas, Texas 75230

Amax Petroleum Corp.
N. B. Gove
P. O. Box 42806
Houston, Texas 77042

J. Douglas Collister
4203 Avenida LaResolana NE
Albuquerque, New Mexico 87110

Continental Oil Company
Mr. Mark Mosley
Box 460
Hobbs, New Mexico 88240

Richard W. Dammann
60 East 42nd Street
New York, New York 10017

EPROC Associates
Robert E. Lauth
Box 776
Durango, Colorado 81301

Helbing & Podpechan
Box 549
Claremore, Oklahoma 74017

J. Felix Hickman
Box 12307
El Paso, Texas 79912

Mobil Producing Texas & New Mexico, Inc.
Jt. Int. Manager
9 Greenway Plaza - Suite 2700
Houston, Texas 77046

Margaret Spiegel Collister
C/O Ben Fisher, FIDC Tr CO OF NY
Two World Trade Center
New York, N.Y. 10048

Joseph F. Spiegel
C/O Anne Mariani, FIDC Tr CO OF NY
Two World Trade Center
New York, N. Y. 10048

* El Paso Exploration Company
Attn: Mr. J. R. Permenter-Land
P. O. Box 1492
El Paso, Texas 79978

Reynolds Metals Company
Oil & Gas Division
P. O. Box 9911
Corpus Christi, Texas 78408

Robert D. Snow
2000 National Bank of Tulsa Building
Tulsa, Oklahoma 74103

Sohio Petroleum Co.
Attn: J. H. Walters
633-17th Street, Suite 2200
Denver, Colorado 80202

Tenneco Oil Company

6061 South Willow Drive
P.O. Box 3249
Englewood, Colorado 80155
Texaco, Incorporated
J. C. White, Asst. Division Manager
Box 2100
Denver, Colorado 80201

Vack Ventures
c/o Cottle & Cottle
120 S. LaSalle Street
Chicago, Illinois 60603

Arthur H. Spiegel III
239 Central Park West, Apt. 4-B
New York, New York 10024

F. Forsha Russell
French, Nelson, Russell, Incorporated
5049 Wornall Road
Kansas City, Missouri 64112

El Paso Exploration Company
Attn: Land Department
P.O. Box 289
Farmington, New Mexico 87401

* Plan of Development



THE ATLANTIC REFINING COMPANY
 INCORPORATED - 1870
 PETROLEUM PRODUCTS
 ATLANTIC BUILDING
 DALLAS, TEXAS

Estimate

DOMESTIC PRODUCING DEPT.

Box 2197
 Farmington, N.M.
 March 8, 1963

2517

Mr. E. C. Arnold
 State Corporation Commission
 Aztec, New Mexico

Dear Sir:

As per our conversation last evening, I'm sending you a complete list of wells that have been converted and put on injection as of March 1, 1963 in our Horseshoe Gallup Unit.

Yours truly,
 THE ATLANTIC REFINING CO.

A. P. Beer

APB:sjc

cc: Mr. B. J. Sartain

RECEIVED TO M 11 28

100-11121-220



ACTIVE INJECTION WELLS AS OF MARCH 1, 1963

WELL NO.	DATE INJ. STARTED
8	1-29-63
9	
11	1-30-63
13	2-21-63
14	2-09-63
15	2-09-63
16	
17	
21	2-21-63
22	
23	
24	
25	2-21-63
26	
27	2-09-63
29	
30	1-29-63
65	2-09-63
66	2-21-63
69	Not Known Mobil
95	
103	
105	
111	
113	
115	
122	12-29-62
126	12-20-62
128	12-20-62
130	12-20-62
132	12-20-62
134	12-20-62
135	12-20-62
137	12-20-62
139	12-20-62
141	12-20-62
158	02-21-63
219	12-24-62
221	12-20-62
232	12-23-62
242	12-20-62
244	12-20-62
246	12-27-62
253*	12-20-62
261	12-20-62
263	12-20-62
265	12-20-62
267	12-20-62
269	12-20-62
271	02-14-63
274	02-12-63
275	12-20-62

NOTE: 14 Wells Nos: 9, 16, 17, 22, 23, 24, 26, 29, 95, 103, 105, 111, 113, 115 were included in old pilot waterflood operated by The Atlantic Refining Co. Well No. 69 was an existing water injection well operated by Mobil Oil Company on effective date of Unit. (August 1, 1962). Well No. 158 is a new well drilled in Unit for water injection.



71 MAR 5 AM 4 03

2519

HORSESHOE GALLUP UNIT
SAN JUAN COUNTY, NEW MEXICO

REPORT NO. 55

for the months of November and December 1970

Prepared by

ATLANTIC RICHFIELD COMPANY

Farmington, New Mexico

I. PRODUCTION

Production for this period is as follows:

	<u>November</u>	<u>December</u>
Oil	2,108 BOPD	2,061 BOPD
Water	16,893 BWPD	15,594 BWPD
Gas	68 MCFD	66 MCFD

II. INJECTION

Injection for this period is as follows:

	<u>November</u>	<u>December</u>
Injected	31,744 BWPD	31,890 BWPD

III. FIELD OPERATIONS

There were no significant changes in field operations this period.

Four producing wells were acidized to remove scale and restore productivity. Five producing wells were squeezed with scale inhibitor.

STATISTICAL SUMMARY
HORSESHOE-GALLUP UNIT

<u>WELL STATUS</u>	<u>November 1970</u>	<u>December 1970</u>	<u>CUMULATIVE TO January 1971</u>
Pumping	123	123	
Shut-in	71	71	
Injection	78	78	
Water Source	<u>3</u>	<u>3</u>	
Total	275	275	
 <u>OIL PRODUCTION, S.T.B.</u>			
Total Monthly	63,225	63,881	*24,978,580
Daily Average	2,108	2,061	
Cum. Prior To Unitization (8-1-62)			10,622,910
 <u>GAS PRODUCTION, M.C.F.</u>			
Total Monthly	2,040	2,040	*6,194 MMCF
Daily Average	68	66	
Average GOR	32	32	
Cum. Prior To Unitization (8-1-62)			4,545 MMCF
 <u>WATER PRODUCTION, S.T.B.</u>			
Total Monthly	506,785	483,427	*31,025.5 MBW
Daily Average	16,893	15,594	
Cum. Prior To Unitization (8-1-62)			36.5 MBW
 <u>WATER INJECTION, S.T.B.</u>			
Total Monthly	952,333	988,576	*97,161.1 MBW
Daily Average	31,744	31,890	
Cum. Prior To Unitization (8-1-62)			2,369.6 MBW
 SI PRODUCERS:			
	26	26	
 SI INJECTORS:			
	43	43	
 SI SUPPLY WELLS:			
	2	2	

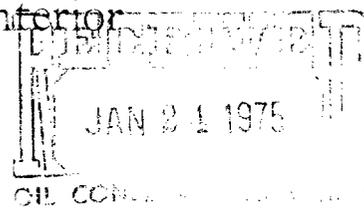
*All cumulatives corrected to 1-1-71 to eliminate past errors. These cumulatives include cumulatives prior to unitization.



United States Department of the Interior

GEOLOGICAL SURVEY

Drawer 1357
Roswell, New Mexico 88201



January 22, 1975

Atlantic Richfield Company
Attention: Mr. J. G. Bradshaw
Suite 501, 1860 Lincoln Street
Denver, Colorado 80203

Gentlemen:

Your letter of January 15, 1975, transmits four copies each of revised Exhibit A, a revised page to Exhibit B, and a revised page to Exhibit C, reflecting the division of royalty interest in Tract 16 of the Horseshoe Gallup unit agreement No. 14-00-0001-8200, San Juan County, New Mexico. Such revisions are the result of the October 22, 1972, Supreme Court action which affirmed the motion for summary judgment for the Navajo Tribe.

The revised Exhibit A and revised page to Exhibit B are hereby accepted for record purposes and the revised page to Exhibit C, effective October 22, 1972, is also hereby approved pursuant to Section 11 of the agreement subject to like approval by the appropriate State officials.

Copies of the above described revisions to Exhibits A, B and C are being distributed to the appropriate Federal offices to be filed with the official case records.

Sincerely yours,

CARL C. TRATWICK
Acting Area Oil and Gas Supervisor

cc:

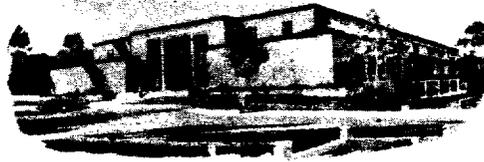
Supt., Nav. Ag. (w/cys Ex. A, B & C)
Supt., Cons. Ute Ag. (w/cys Ex. A, B & C)
Realty Specialist, Window Rock (w/cys Ex. A, B & C)
BLM, Santa Fe (w/cys Ex. A, B & C)
Com. Pub. Lands, Santa Fe (ltr only)
✓ NMOCC, Santa Fe (ltr only)
Farmington (w/cys Ex. A, B & C)
Accounts (ltr only)

JAGillham:ds



State of New Mexico

TELEPHONE
505-827-2748



Commissioner of Public Lands
January 23, 1975

PHIL R. LUCERO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO 87501

Atlantic Richfield Company
1860 Lincoln Street-Suite 501
Denver, Colorado 80203

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico

ATTENTION: Mr. J. G. Bradshaw

Gentlemen:

The Commissioner of Public Lands has this date approved your revised Exhibits A, B and C to the Horseshoe-Gallup Unit Agreement. These exhibits were revised to reflect the correct split of royalty interest for Tract 16. Tract 16 has now been split into Tracts 16 and 16A.

Enclosed is one approved copy of exhibits.

Very truly yours,

PHIL R. LUCERO
COMMISSIONER OF PUBLIC LANDS

BY:
RAY D. GRAHAM, Director
Oil and Gas Division

PRL/RDG/s
encls.

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

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE NEW MEXICO 87501

February 24, 1975

2519

Atlantic Richfield Company
1860 Lincoln Street - Suite 501
Denver, Colorado 80203

Attention: Mr. J. G. Bradshaw

Re: Revised Exhibits A, B and C,
Horseshoe-Gallup Unit,
San Juan County, New Mexico.

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the revised Exhibits A, B and C that reflect the split of royalty interest of Tract 16 into Tract 16 and 16A of the Horseshoe-Gallup 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.

Three approved copies of the application are returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

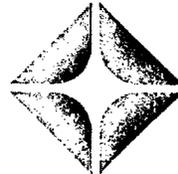
ALP/JEK/og

cc: Commissioner of Public Lands
Santa Fe, New Mexico

United States Geological Survey
Roswell, New Mexico

C
O
P
Y

AtlanticRichfieldCompany North America Producing Division
Rocky Mountain District
1860 Lincoln St. - Suite 501
Denver, Colorado 80203
Telephone 303 266-2461



J. G. Bradshaw
District Engineer

January 15, 1975

The United States Geological Survey (4)
Attn: Mr. N. Frederick
Area Oil & Gas Supervisor
P. O. Drawer 1857
Roswell, New Mexico 88201

Commissioner of Public Lands (3)
Attn: Mr. Ray D. Graham
P. O. Box 1148
Santa Fe, New Mexico 87501

New Mexico Oil Conservation Commission (4)
Attn: Mr. A. L. Porter, Jr.
P. O. Box 2088
Santa Fe, New Mexico 87501

RE: Horseshoe-Gallup Unit
San Juan County, New Mexico

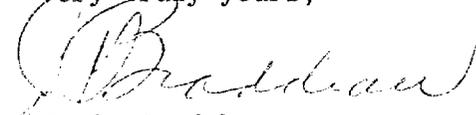
Gentlemen:

Attached are copies of revised Exhibits A, B and C to the Horseshoe-Gallup Unit Agreement. These exhibits were revised to reflect the correct split of royalty interest for Tract 16. To accomplish this it was necessary to split Tract 16 into Tracts 16 and 16A. This revision does not affect any working interest participation. The working interest and royalty interest participation in all other tracts in the unit are not affected by this revision.

The effective date of this revision will be October 22, 1972, which is the date the Supreme Court affirmed the motion for summary judgement for the Navajo Tribe.

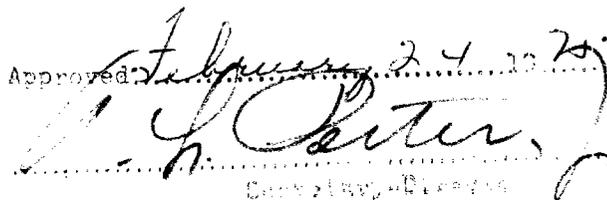
We respectfully request your consideration and approval of the enclosed revised Exhibits A, B and C to the Horseshoe-Gallup Unit Agreement.

Very truly yours,

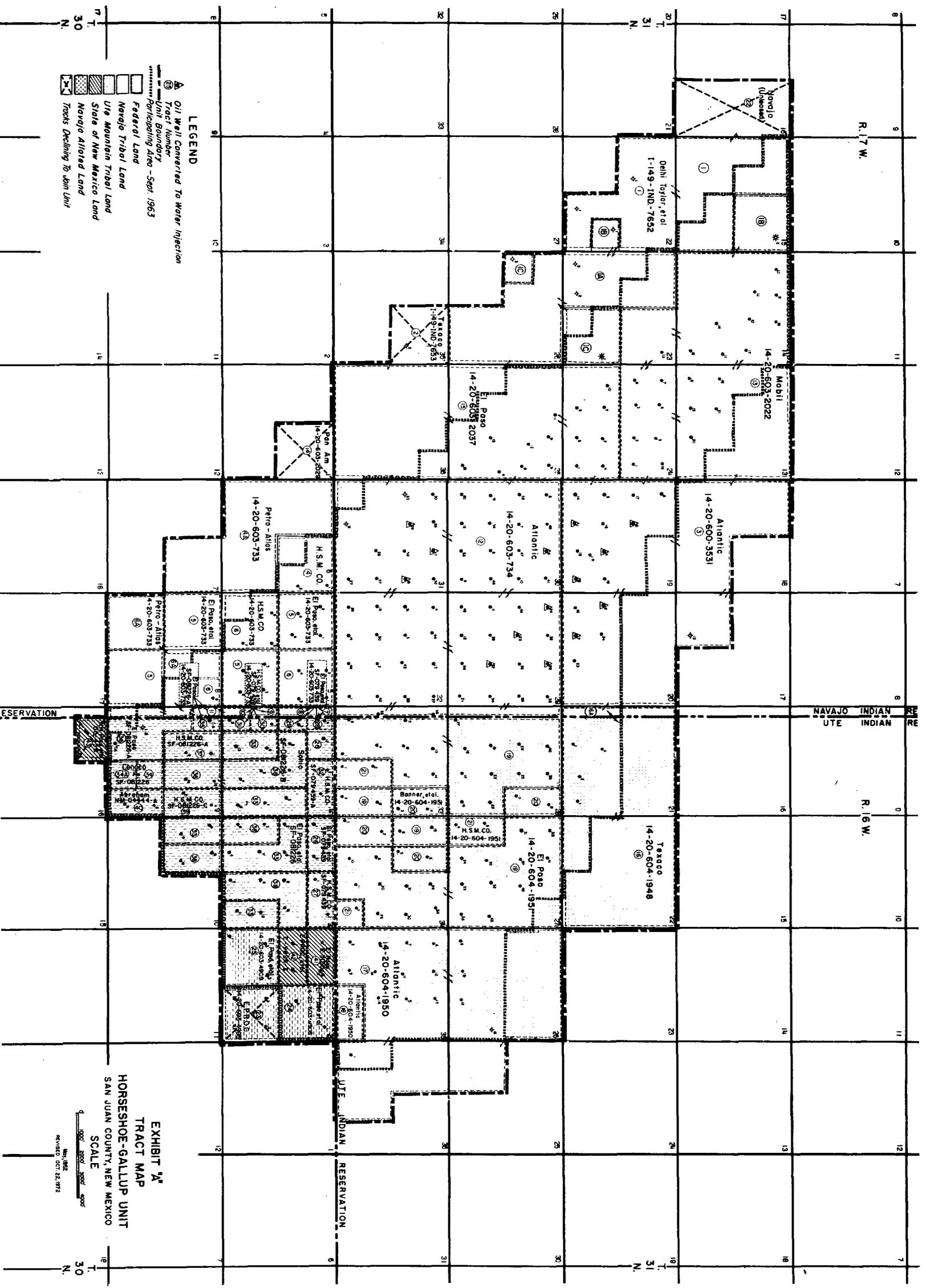

J. G. Bradshaw

JGB:RJA:bb

Attachment

Approved: 
A. L. Porter, Jr.
Commissioner

NEW MEXICO OIL CONSERVATION COMMISSION



- LEGEND**
- ▲ Oil Well Converted To Water Injection
 - ② Tract Number
 - Unit Boundary
 - Participating Area - Sept. 1963
 - ▨ Federal Land
 - ▨ Navajo Tribal Land
 - ▨ Ute Mountain Tribal Land
 - ▨ State of New Mexico Land
 - ▨ Navajo Allotted Land
 - ▨ Tracts Declining To Join Unit

EXHIBIT 'A'
TRACT MAP
HORSESHOE-GALLUP UNIT
 SAN JUAN COUNTY, NEW MEXICO

SCALE
 1" = 3000'
 REVISION: OCT. 22, 1972

REVISION TO EXHIBIT "B" EFFECTIVE OCTOBER 22, 1972

HORSESHOE-GALLUP UNIT AREA, SAN JUAN COUNTY, NEW MEXICO

TRIBAL INDIAN LANDS

<u>Tract Number</u>	<u>Description</u>	<u>No. Acres</u>	<u>Serial No. & Date of Lease or Application</u>	<u>Basic Royalty & Percentage</u>	<u>Lessee of Record</u>	<u>Overriding Royalty and Percentage</u>	<u>Working Interest Percentage</u>
16	T-31-N, R-16-W Section 21: E/2, that portion of W/2 that lies east of Burt Survey and is within the Ute Mountain Indian Reservation	1184.93	14-20-604-1948 6-28-57	Bureau of Indian Affairs in Trust for Ute Mountain Indians	Texaco, Inc.	None	Texaco, Inc.-A1
Section 22: A11							
16A	T-31-N, R-16-W Section 21: That portion of W/2 that lies west of Burt Survey being 486.10 feet wide and within the Navajo Indian Reservation	58.92	14-20-604-1948 6-28-57	Bureau of Indian Affairs in Trust for Navajo Indians	Texaco, Inc.	None	Texaco, Inc.-A1

FIFTH REVISION TO EXHIBIT "C"
EFFECTIVE OCTOBER 22, 1972

SCHEDULE OF TRACT PERCENTAGE PARTICIPATION
HORSESHOE-GALLUP FIELD UNIT
SAN JUAN COUNTY, NEW MEXICO

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
<u>TRIBAL INDIAN LANDS</u>				
16	<u>T-31-N, R-16-W</u> Section 21: That part of S/2 that lies within the Ute Mountain Indian Reservation	369.86	14-20-604-1948 6-28-57	.5168
	Section 22: S/2 SW/4			
16A	<u>T-31-N, R-16-W</u> Section 21: That part of S/2 that lies within the Navajo Indian Reservation	11.92	14-20-604-1948 6-28-57	.0091

Atlantic Richfield Company North American Division
Rocky Mountain Division
1800 Louisiana Street
Denver, Colorado 80202
Telephone 303 233-5151



FILED
MAY 2 1974
SANTA FE, N.M.
COUNTY CLERK

May 2, 1974

2579

Commissioner of Public Lands
The State of New Mexico
P. O. Box 1148
Santa Fe, New Mexico 87501

Attention: Mr. R. D. Graham, Director
Oil and Gas Department

Re: Filing Fee
Revised 1974 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Dear Sir:

Pursuant your letter of April 19, 1974, enclosed is Atlantic Richfield Company's Check No. 83448 in the amount of \$3.00 covering the filing fee for the Revised 1974 Plan of Development, Horseshoe Gallup Unit.

Yours very truly,

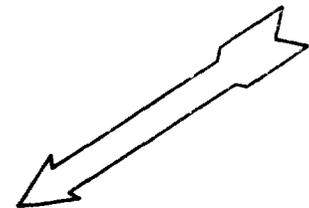

W. A. Walther, Jr.

WAW:skl

Enclosure (Check No. 83448)

cc: N. O. Frederick
Area Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

Oil Conservation Commission
The State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501



OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

2579

April 22, 1974

C
O
P
Y

Atlantic Richfield Company
1960 Lincoln Street - Suite 501
Denver, Colorado 80203

Attention: Mr. W. A. Walther, Jr.

Re: Revised - 1974 Plan of Development
Horseshoe Gallup Unit, San Juan
County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the 1974 Plan of Development providing for the drilling of five wells for the Horseshoe Gallup 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.

Three approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: Commissioner of Public Lands - Santa Fe
United States Geological Survey - Roswell

North American Producing Division
Rocky Mountain District
1860 Lincoln St. - Suite 501
Denver, Colorado 80203
Telephone 303 266 2461



W. A. Walther, Jr.
District Production & Drilling
Superintendent

April 5, 1974

N. O. Frederick (4)
Area Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

Oil Conservation Commission (4)
The State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Re: Revised - 1974 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Gentlemen:

During 1974 it is planned to drill and complete five wells in the Horseshoe Gallup Unit. The wells will be drilled to evaluate past performance of the waterflood, and the feasibility of future drilling within the Unit. The approximate location of the wells are:

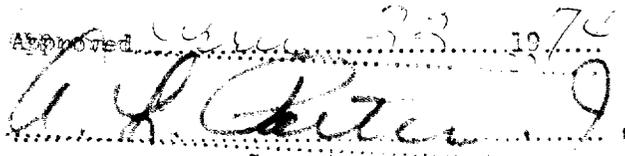
Well No. 282	2000' FNL and 800' FWL	Section 28-31N-16W
Well No. 283	100' FNL and 1250' FEL	Section 33-31N-16W
Well No. 284	2650' FNL and 50' FEL	Section 34-31N-16W
Well No. 285	2700' FNL and 2500' FEL	Section 32-31N-16W
Well No. 286	2650' FNL and 2600' FEL	Section 30-31N-16W

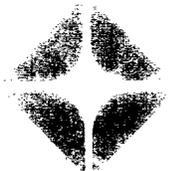
The subject plan has been approved by the Working Interest Owners, and upon receipt of your approval, they will be advised accordingly.

Yours very truly,


W. A. Walther, Jr.

WAW:sk1

Approved 3/3 1974

Secretary
NEW MEXICO OIL CONSERVATION COMMISSION



April 19, 1974

Mr. N. G. Frederick
Area Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

Re: Revised 1974 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

Dear Mr. Frederick:

This is to acknowledge receipt of your letter of April 17, 1974 in which you approved the Revised 1974 Plan of Development dated April 5, 1974 for the Horseshoe Gallup Unit, San Juan County, New Mexico. This Revised Plan of Development proposed the drilling of five wells in this Unit for past water-flood performance evaluation.

It has been necessary to move the locations shown in the Revised Plan of Development short distances. The locations are now as follows:

Well No. 282	1975' FNL and 890' FWL	Section 26-31N-16W
Well No. 283	150' FNL and 1375' FEL	Section 33-31N-16W
Well No. 284	2580' FEL and 295' FWL	Section 35-31N-16W
Well No. 285	2605' FNL and 2580' FEL	Section 32-31N-16W
Well No. 286	2540' FSL and 2570' FEL	Section 30-31N-16W

Yours very truly,


W. A. Walther, Jr.

WAW:shl

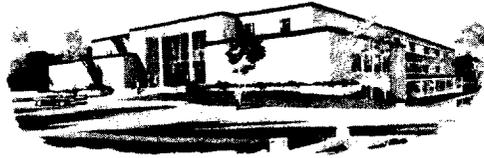
cc: Commissioner of Public Lands
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

Oil Conservation Commission
The State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501



State of New Mexico

TELEPHONE
505-827-2748



Commissioner of Public Lands

April 19, 1974

ALEX J. ARMIJO
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

Atlantic Richfield Company
1860 Lincoln Street-Suite 501
Denver, Colorado 80203

Re: Revised-1974 Plan of Development
Horseshoe Gallup Unit
San Juan County, New Mexico

ATTENTION: Mr. W. A. Walther, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your revised -1974 Plan of Development for the Horseshoe Gallup Unit, which proposes the drilling of five wells. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

Enclosed is one approved copy for your files.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

RAY D. GRAHAM, Director
Oil and Gas Department

AJA/RDG/s

encl.

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



United States Department of the Interior

2-79

GEOLOGICAL SURVEY
Drawer 1857
Roswell, New Mexico 88201

April 17, 1974

Atlantic Richfield Company
Attention: Mr. W. A. Walther, Jr.
Suite 501, 1860 Lincoln Street
Denver, Colorado 80203

On this date, your revised 1974 plan of development dated April 5, 1974, for the Horseshoe Gallup unit area, San Juan County, New Mexico, wherein you propose to drill five wells for evaluation of past waterflood performance, was approved. Such approval is subject to like approval by the appropriate officials of the State of New Mexico.

Two approved copies of the plan are enclosed.

Sincerely yours,

N. O. FREDERICK
Area Oil and Gas Supervisor

cc:
c NMOCC, Santa Fe (ltr. only)
Com. Pub. Lands, Santa Fe (ltr. only)
Farmington (w/cy plan)

JAGillham:ds



United States Department of the Interior

GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

March 13, 1974

Atlantic Richfield Company
Attention: Mr. C. E. Cardwell, Jr.
P.O. Box 2197
Farmington, New Mexico 87401

Gentlemen:

Three approved copies of your 1974 plan of development for the Horseshoe Gallup unit area, San Juan County, New Mexico, are enclosed. Such plan, proposing continuation of the present waterflood operations, was approved on this date subject to like approval by the appropriate official of the State of New Mexico.

Sincerely yours,

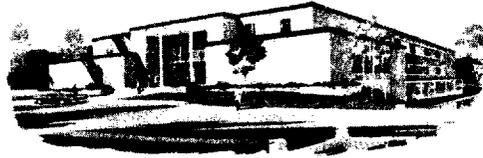
(SGD) CARL C. TRAYWICK
CARL C. TRAYWICK
Acting Area Oil and Gas Supervisor

cc:
✓ NMOCC, Santa Fe (1tr only)
Com. Pub. Lands, Santa Fe (1tr only)
Farmington (w/cy plan)

JAGillham:ds

State of New Mexico

2774
TELEPHONE
505-827-2745



Commissioner of Public Lands

March 4, 1974

ALEX J. ARMIJO
COMMISSIONER

P. O. Box 1148
SANTA FE, NEW MEXICO

Atlantic Richfield Company
P. O. Box 2197
Farmington, New Mexico 87401

Re: Plan of Development
Horsestoe-Gallup Unit
San Juan County, New Mexico

ATTENTION: Mr. C. E. Cardwell, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your 1974 Plan of Development for the captioned unit, which proposes no significant operational changes nor will convert or drill any additional wells. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

Enclosed is one approved copy for your files.

Please remit a Three (\$3.00) Dollar filing fee.

Very truly yours,

RAY D. GRAHAM, Director
Oil and Gas Department

AJA/REG/s
encls.
cc:

OCC-Santa Fe, New Mexico ✓
USGS- Roswell, New Mexico

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

March 9, 1973

Atlantic Richfield Company
1860 Lincoln Street - Suite 401
Denver, Colorado 80203

Attention: Mr. C. E. Cardwell, Jr.

Re: 1973 Plan of Development
Horseshoe-Gallup Unit,
San Juan County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the 1973 Plan of Development and Operation dated January 29, 1973 for the Horseshoe-Gallup 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.

Two approved copies of the plan are returned herewith.

Very truly yours,

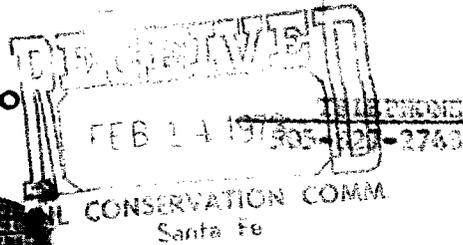
A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: United States Geological Survey - Roswell
Commissioner of Public Lands - Santa Fe

C
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Y

State of New Mexico



Commissioner of Public Lands

February 12, 1973

P. O. BOX 1148
SANTA FE, NEW MEXICO



ALEX J. ARMIJO
COMMISSIONER

Atlantic Richfield Company
1560 Lincoln St. - Suite 501
Denver, Colorado 80203

Re: 1973 Plan of Development
Horseshoe-Gallup Unit
San Juan County, New Mexico

ATTENTION: Mr. C. E. Cardwell, Jr.

Gentlemen:

The Commissioner of Public Lands has this date approved your 1973 Plan of Development for the captioned unit, which proposes no significant operational changes nor will convert or drill any additional wells. 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 an approved copy to you.

Please remit a Three (\$3.00) Dollar filing fee.

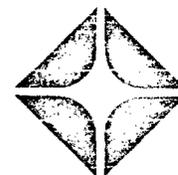
Very truly yours,

RAY D. GRAHAM, Director
Oil and Gas Department

AJA/RDG/s
encls.

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

North American Producing Division
Rocky Mountain-District
1860 Lincoln St. - Suite 501
Denver, Colorado 80203
Telephone 303 266 2461



C. E. Cardwell, Jr.
District Manager

January 29, 1973

Mr. N. O. Frederick (4)
Area Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

Oil Conservation Commission (4)
of The State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

Re: Plan of Development
Horseshoe - Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation for the subject property is submitted for your information.

Very truly yours,

C. E. Cardwell Jr.

C. E. Cardwell, Jr.

APB/kp

Att.

Horseshoe - Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1973

ATLANTIC RICHFIELD COMPANY
Unit Operator

Review of the Last Plan of Development Period

During 1972 there were no additions or contractions of either the Unit Area or the Participating Area. No wells were converted or additional wells drilled during this period.

The oil production declined from 1883 BOPD in January, 1972, to 1594 BOPD in December, 1972. This was a normal waterflood decline due to reduction in oil percentage of the produced fluid.

The water injection rate remained fairly constant the first ten (10) months of the year at about 31990 BWP. As of November 1, 1972, a number of injectors in the eastern portion of the unit were shut-in due to uneconomical operation. This reduced the total unit injection rate to about 25570 BWP. Water production remained fairly constant throughout the year at about 17500 BWP.

A number of uneconomical injection wells and producers were shut-in during 1972. (See attached statistical sheet). As in the past, these wells, and associated lines and equipment, were preserved, or "mothballed", for possible future use.

Plan of Development for 1973

No significant operational changes are planned for 1973. There are no plans to convert or drill any additional wells in 1973.

It is understood that this plan may be modified at any time changing conditions warrant it.

Approved March 9 1973

D. L. Porter
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

Statistical Summary

Horseshoe - Gallup Unit

<u>Well Status</u>	<u>1-1-72</u>	<u>1-1-73</u>
Producing	123	116
Injection	78	67
Water Supply	3	2
Shut-in		
Producing	26	33
Injection	43	54
Water Supply	2	3
TOTAL	275	275

<u>Oil Production (S.T.B.)</u>	<u>1972</u>	<u>Cumulative 1-1-73</u>
Daily Average	1,740	--
Total for Year	635,185	26,291,637
Since Unitization	--	15,668,838

<u>Gas Production (M.C.F.)</u>		
Daily Average	28	--
Total for Year	10,336	6,215,336
Since Unitization	--	1,640,639

<u>Water Production (S.T.B.)</u>		
Daily Average	18,252	--
Total for Year	6,662,151	43,913,289
Since Unitization	--	43,876,799

<u>Water Injection (S.T.B.)</u>		
Daily Average	30,917	--
Total for Year	11,284,639	120,154,868
Since Unitization	--	106,076,139

WORKING INTEREST OWNER

Horseshoe - Gallup Unit

Altman, Kurlander, & Weiss
209 South LaSalle Street
Suite 711
Chicago, Illinois 60604

Amax Petroleum
507 First National Bank Bldg.
Englewood, Colorado

J. Douglas Collister
4203 Avenida LaResolana NE
Albuquerque, New Mexico 87110

Continental Oil Company
Pacific Western Life Building
152 North Durbin
Casper, Wyoming 82601

Richard W. Dammann
380 Madison Avenue
New York, New York 10017

El Paso Natural Gas Products Company
Box 3986
Odessa, Texas 79760

EPROC Associates
Box 776
Durango, Colorado 81301

Helbing & Podpechan
Box 549
Claremore, Oklahoma 74017

J. Felix Hickman
Box 12307
El Paso, Texas 79912

Mobil Oil Corporation
P. O. Box 633
Midland, Texas 79701

Reynolds Mining Corporation
Box 109
Corpus Christi, Texas 78403

Robert D. Snow
2000 National Bank of Tulsa Bldg.
Tulsa, Oklahoma 74103

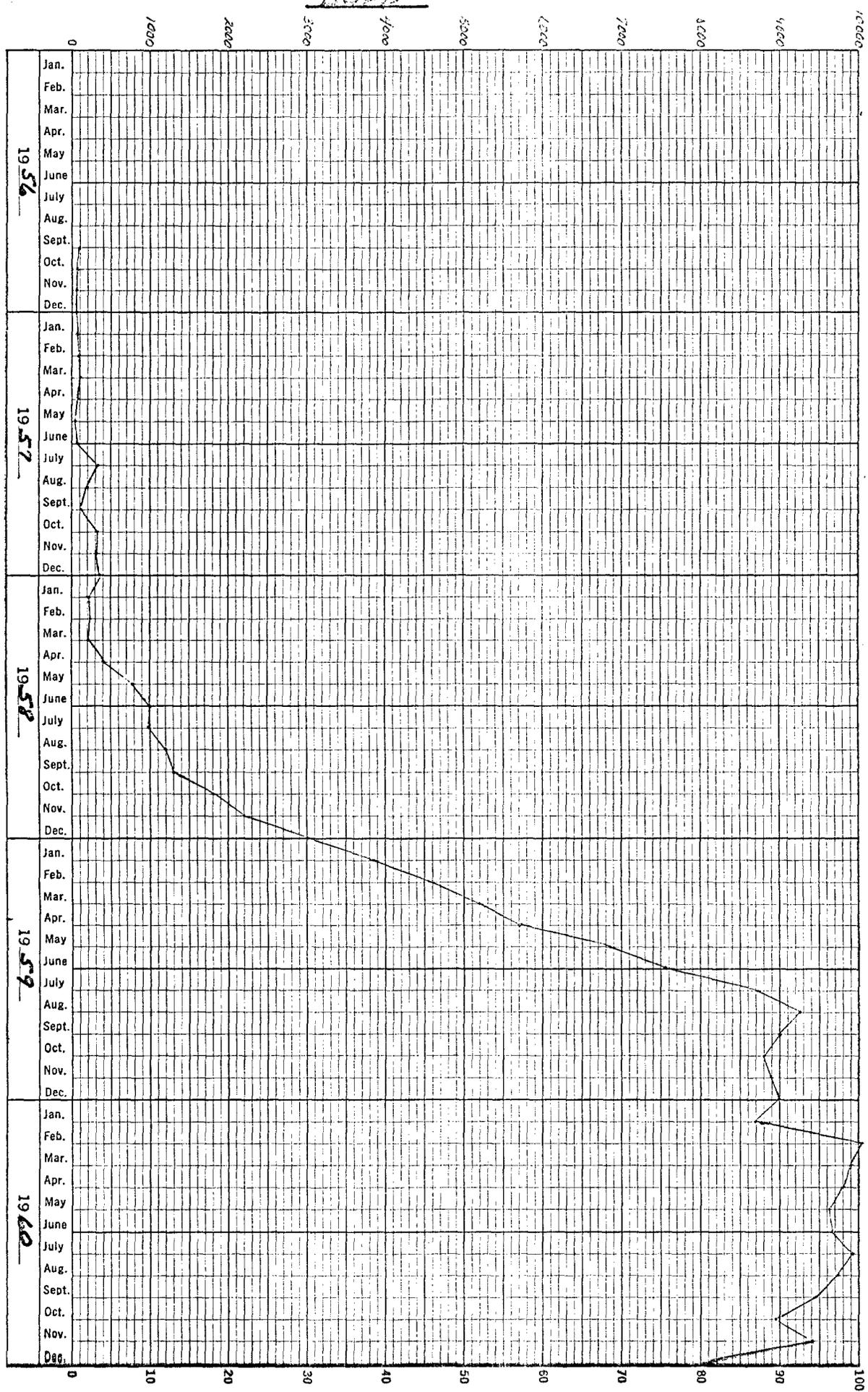
Sohio Petroleum Company
970 First National Office Bldg.
Oklahoma City, Oklahoma 73102

Mrs. Eleanor F. Spiegel
Box 1042
Albuquerque, New Mexico 87103

Tenneco Oil Company
Box 2511
Houston, Texas 77001

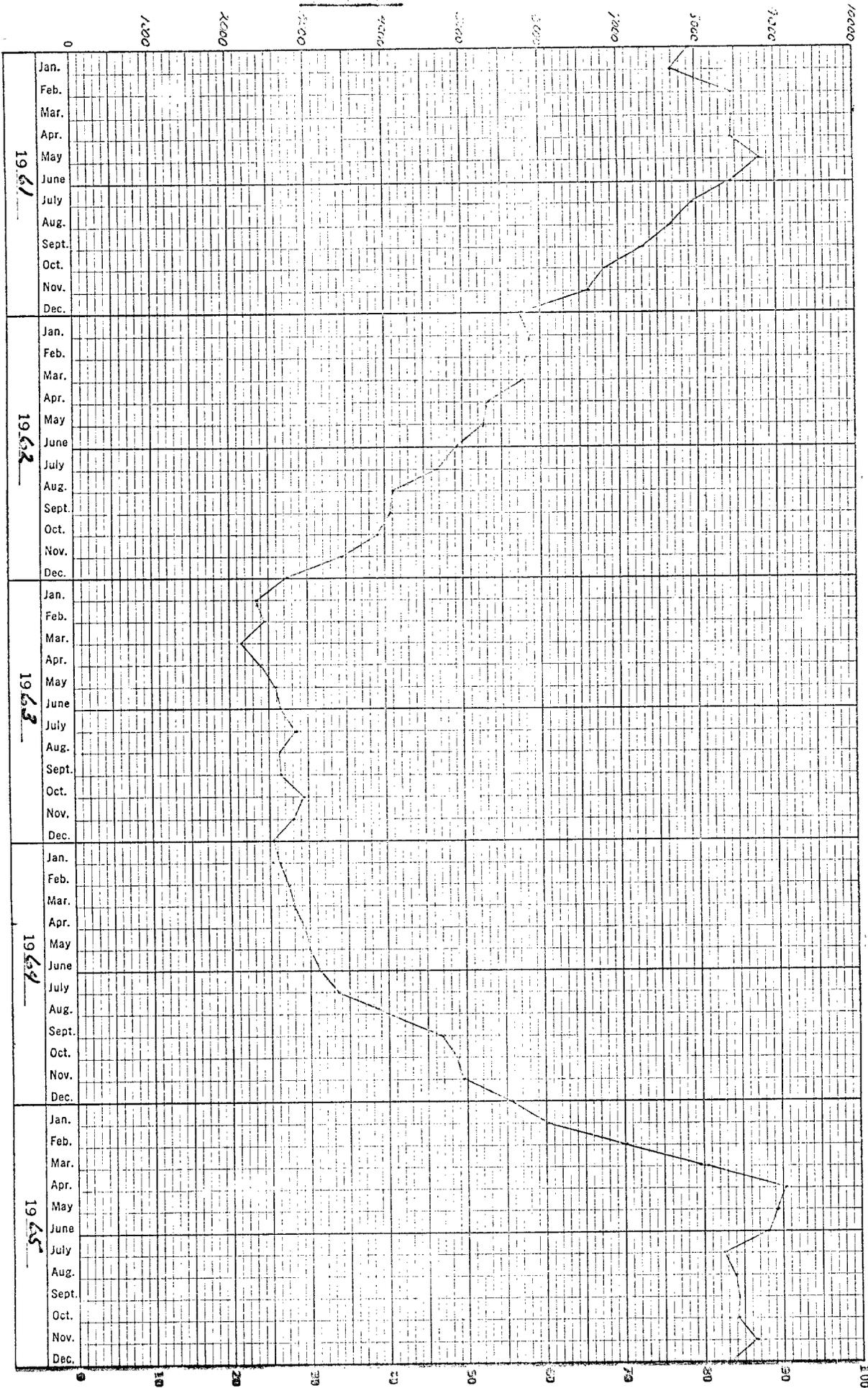
Texaco, Incorporated
Box 2100
Denver, Colorado 80201

GOOD



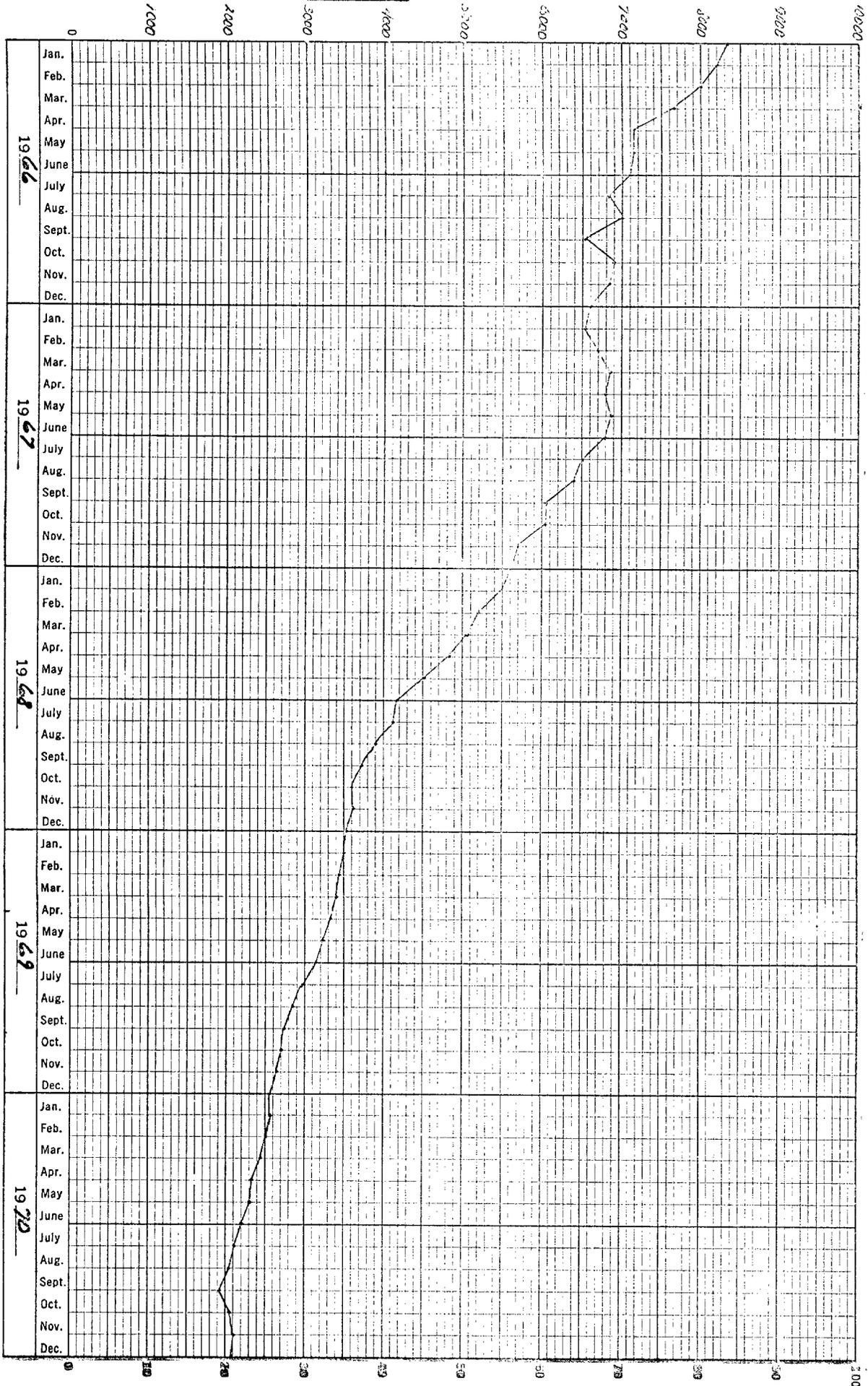
HORSESHOE GALLOP UNIT

Page 2



HORSESHOE CLUB UNIT

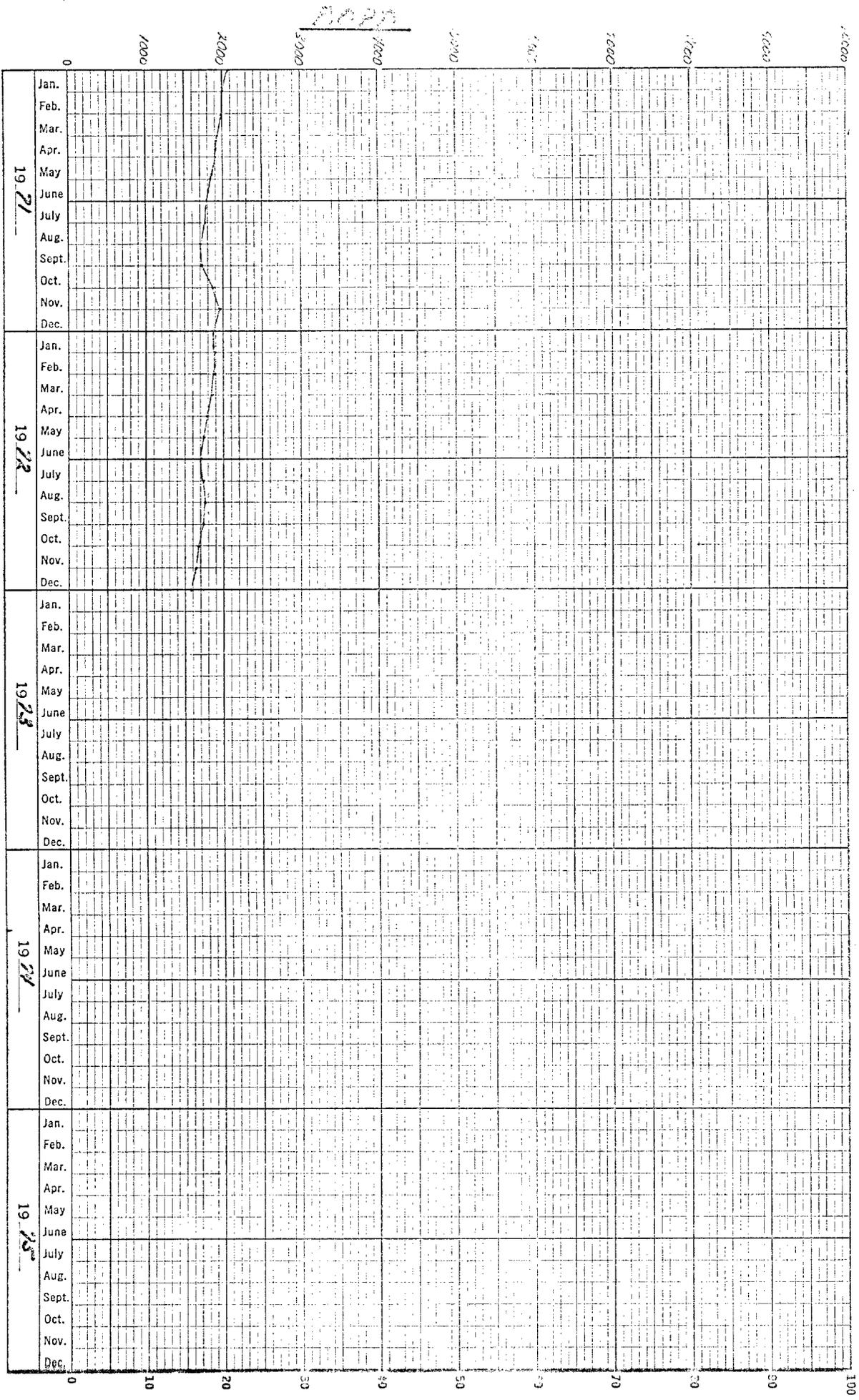
BOPD



HORSESHOE GALLUP UNIT

1000

Page 7



Horseman Gaurip Unit



United States Department of the Interior

GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

February 26, 1973

Atlantic Richfield Company
Attention: Mr. C. E. Cardwell, Jr.
1860 Lincoln Street, Suite 501
Denver, Colorado 80203

Gentlemen:

One approved copy of your 1973 plan of development wherein you plan no additional drilling and continuation of the waterflood operations with no significant operational changes within the Horseshoe Gallup unit area, San Juan County, New Mexico, is enclosed. Such plan was approved on this date subject to like approval by the appropriate officials of the State of New Mexico.

Sincerely yours,

(ORIG. SOLE COPY TO BE FILED)

CARL C. TRAYWICK
Acting Area Oil & Gas Supervisor

cc:
Regional Mgr., Denver (ltr only)
Washington (w/cy plan)
Farmington (w/cy plan)
Durango (w/cy plan)
NMOCC, Santa Fe (ltr only)
Com. Pub. Lands, Santa Fe (ltr only)

JAGillham:ds

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

May 28, 1971

2519

Atlantic Richfield Company
1860 Lincoln Street - Suite 501
Denver, Colorado 80203

Attention: Mr. O. G. Simpson

Re: 1971 Plan of Operation
Horseshoe-Gallup Unit,
San Juan County, New Mexico.

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development and Operation for the year 1971 for the Horseshoe-Gallup 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.

Three approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: United States Geological Survey - Roswell
Commissioner of Public Lands - Santa Fe, N. Mex.

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Horseshoe - Gallup Unit
San Juan County, New Mexico
Plan of Development and Operation
For the Year 1971

ATLANTIC RICHFIELD COMPANY
Unit Operator

Review of the Last Plan of Development Period

In 1970, there were no additions or contractions of either the Unit Area or the Participating Area. No wells were converted or additional wells drilled during this period.

The oil production during 1970 declined from 2569 BOPD in January to 2068 BOPD in December. This was a normal water-flood decline due to reduction in oil percentage of the produced fluid.

The water injection rate remained fairly constant averaging about 32,500 BWP. Water production rose from 16,000 BWP average in 1969 to 16,528 BWP average in 1970.

During 1970, four (4) producing and seventeen (17) injection wells were shut down due to uneconomical operation. As in the past, these wells have been preserved for possible future use and the essential equipment has been left intact. Attached is a statistical summary of the 1970 operations.

Plan of Development for 1971

No significant operational changes are planned for 1971. There are no plans to convert or drill any additional wells in 1971.

Approved..... *May 25 1971*

A. K. Carter

.....
Secretary-Director

NEW MEXICO CONSERVATION COMMISSION

Statistical Summary

Horseshoe - Gallup Unit

Well Status (1-1-71)

Producing	124
Injection	79
Water Supply	3
Shut-In	
Producing	26
Injection	41
Water Supply	<u>2</u>
TOTAL	275

Oil Production (S.T.B.)

1970

Cumulative 1-1-71

Daily Average	2,231	---
Total for Year	814,448	24,978,480
Since Unitization	--	14,355,681

Gas Production (M.C.F.)

Daily Average	66	---
Total for Year	24,163	6,194,000
Since Unitization	--	1,619,490

Water Production (S.T.B.)

Daily Average	16,528	---
Total for Year	6,032,703	31,025,527
Since Unitization	--	30,989,037

Water Injection (S.T.B.)

Daily Average	32,447	---
Total for Year	11,843,218	97,154,905
Since Unitization	--	94,785,138

WORKING INTEREST OWNER

HORSESHOE GALLUP UNIT

J. R. Abraham
5517 Willow Lane
Dallas, Texas 75230

Atlas Corporation
707 National Bank of Tulsa Building
Tulsa, Oklahoma 74103

J. Douglas Collister
4203 Avenida LaResolana NE
Albuquerque, New Mexico 87110

Continental Oil Company
Pacific Western Life Building
152 North Durbin
Casper, Wyoming 82601

Richard W. Dammann
380 Madison Avenue
New York, New York 10017

El Paso Natural Gas Products Co.
Box 3986
Odessa, Texas 79760

EPROC Associates
Box 776
Durango, Colorado 81301

Helbing & Podpechan
Box 549
Claremore, Oklahoma 74017

J. Felix Hickman
Box 12307
El Paso, Texas 79912

Mobil Oil Corporation
P. O. Box 633
Midland, Texas 79701

Reynolds Mining Corporation
Box 109
Corpus Christi, Texas 78403

Robert D. Snow
2000 National Bank of Tulsa
Building
Tulsa, Oklahoma 74103

Sohio Petroleum Company
970 First National Office Bldg.
Oklahoma City, Oklahoma 73102

Mrs. Eleanor F. Spiegel
Box 1042
Albuquerque, New Mexico 87103

Tenneco Oil Company
Box 2511
Houston, Texas 77001

Texaco, Incorporated
Box 2100
Denver, Colorado 80201

VACK Ventures
209 South LaSalle Street
Suite 711
Chicago, Illinois 60604

Drawer 1857
Roswell, New Mexico 88201

APR 6 11 53

April 5, 1971

Atlantic Richfield Company
1860 Lincoln Street, Suite 501
Denver, Colorado 80203

Attention: Mr. O. G. Simpson

Gentlemen:

Your 1971 plan of development for the Horseshoe Gallup unit area, San Juan County, New Mexico, proposing the drilling of no additional wells and the continuation of waterflood operations, has been approved on this date subject to like approval by the appropriate State officials.

One approved copy of the plan is enclosed.

Sincerely yours,

(ORIG. SGD.) N. O. FREDERICK

N. O. FREDERICK
Regional Oil and Gas Supervisor

cc:

Washington (w/cy of plan)
Farmington (w/cy of plan)
Durango (w/cy of plan)
NMOCC, Santa Fe (ltr. only) ✓
Com. of Pub. Lands, Santa Fe (ltr. only)

71 FEB 16 11 11 AM '71

2517

February 12, 1971

Atlantic Richfield Company
Post Office Box 1976
Roswell, New Mexico 88201

Mr. Horsehoe Gallup Unit
1971 Plan of Development
San Juan County, New Mexico

ATTENTION: Mr. G. C. Hudson

DEAR SIR:

The Commissioner of Public Lands has this date approved your 1971 Plan of Development for the captioned unit, which proposes no operational changes and no plans to convert or drill any additional wells during 1971. 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 approved copy to you.

Please remit a three (\$3.00) dollar check for

sincerely yours,

GORDON G. MARSH, II, Director
Oil and Gas

AJA/GCM/s
encl. 1.

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

ILLEGIBLE

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

September 28, 1970

2511

Atlantic Richfield Company
P. O. Box 1610
Midland, Texas 79701

Attention: Mr. W. P. Tomlinson

Re: 1970 Plan of Development
Horseshoe-Gallup Unit,
San Juan County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development and Operation for the year 1970 for the Horseshoe-Gallup 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.

Two approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: United States Geological Survey - Roswell
Commissioner of Public Lands - Santa Fe

C
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Y

710 AUG 18 AM 8

August 19, 1970

Atlantic Richfield Company
Post Office Box 1978
Roswell, New Mexico

Re: Horseshoe Gallup Unit
1970 Plan of Development
San Juan County, New Mexico

ATTENTION: Mr. W. P. Tomlinson

Gentlemen:

The Commissioner of Public Lands has this date approved your 1970 Plan of Development for the captioned unit, which proposes no operational changes and no drilling during 1970. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

We are retaining the one copy for our records and enclosing a xerox copy, with the Commissioner's approval on it, for your records.

Very truly yours,

GORDON G. MARCUM II, Director
Oil and Gas Department

GGM/ML/s
encls.

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

COPY

Drawer 1857
Roswell, New Mexico 88201

70 SEP 14 AM 8 16

September 10, 1970

Atlantic Richfield Company
P. O. Box 1610
Midland, Texas 79701

Attention: Mr. W. P. Tomlinson

Gentlemen:

Your 1970 plan of development for the Horseshoe Gallup unit area, San Juan County, New Mexico, proposing the drilling of no additional wells and the continuation of waterflood operations, has been approved on this date subject to like approval by the appropriate State officials.

One approved copy of the plan is enclosed.

Sincerely yours,

(ORIG. SCD.) CARL C. TRAYWICK

CARL C. TRAYWICK
Acting Oil & Gas Supervisor

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

North American Producing Division
Permian Division
Post Office Box 1610
Midland, Texas 79701
Telephone 915 682 8831

W. P. Tomlinson
District Engineer — West Area



August 12, 1970

New Mexico Oil Conservation Commission (3)
P. O. Box 2038
Santa Fe, New Mexico 87501
Attn: Mr. A. L. Porter, Jr.

Commissioner of Public Lands
State Land Office
Attn: Mr. Alex Armijo
P. O. Box 1148
Santa Fe, New Mexico 87501

United States Geologic Survey (4)
P. O. Drawer 1857
Roswell, New Mexico 88201
Attn: Mr. John Anderson, Regional Supt.

Re: Horseshoe Gallup Unit
San Juan County, New Mexico
Plan of Development for 1970

Gentlemen:

The last Plan of Development for the Horseshoe-Gallup Unit was submitted to you on February 11, 1969. This plan, which you approved, covered the year of 1969. We now submit and request your approval of a Plan of Development for the year 1970.

Very truly yours,

A handwritten signature in cursive script, which appears to read "W. P. Tomlinson". The signature is written in dark ink and is positioned above the typed name.

W. P. Tomlinson

AB/ap

HORSESHOE-GALLUP UNIT
SAN JUAN COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT AND OPERATION
FOR THE YEAR 1970

Review of Last Plan of Development Period

In 1969, there were no additions or contractions of either the Unit Area or the Participating Area. No additional wells were drilled or converted during this period.

The oil production during 1969 declined from 3,520 BOPD in January to 2,555 BOPD in December. The largest part of this decline occurred in the central and northwestern portions of the field and was due to normal decline in produced oil percentages.

The water injection rate remained fairly constant at about 32,000 BWPD. Water production rose from 15,500 BWPD to about 16,500 BWPD.

During 1969, one additional water supply well was shut down, three producing wells were shut down, and two shut-in injection wells were returned to injection for a test period.

Plan of Development for 1970

No operational changes are planned for 1970. The Unit operator does not plan to drill or convert any wells in 1970.

ATLANTIC RICHFIELD COMPANY

Horseshoe-Gallup Unit Operator

BY: *J.P. Paulson*

Approved.....September 28.....1970

W.L. Porter

Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

STATISTICAL SUMMARY
HORSESHOE-GALLUP UNIT

<u>WELL STATUS</u>	<u>January, 1970</u>	<u>CUMMULATIVE TO January 1, 1970</u>
Pumping	128	
Shut-in	48	
Injection	96	
Water Source	<u>3</u>	
Total	275	
 <u>OIL PRODUCTION, S.T.B.</u>		
Total Monthly	79,642	24,164,032
Daily Average	2,569	
Since Unitization		13,541,233
 <u>GAS PRODUCTION, M.C.F.</u>		
Total Monthly	2,005	6,169,837
Daily Average	65	
Average GOR	25	
Since Unitization		1,595,327
 <u>WATER PRODUCTION, S.T.B.</u>		
Total Monthly	524,985	24,992,824
Daily Average	16,935	
Since Unitization		24,956,344
 <u>WATER INJECTION, S.T.B.</u>		
Total Monthly	1,025,973	85,311,687
Daily Average	33,096	
Average Surface Press. (psig)		
Since Unitization		82,941,920
SI PRODUCERS:	22	
SI INJECTORS:	24	
SI SUPPLY WELLS:	2	



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

IN REPLY REFER TO:

1969 MAR 19 AM 10 20
March 17, 1969

Atlantic Richfield Company
P. O. Box 1978
Roswell, New Mexico 88201

Attention: Mr. W. P. Tomlinson

Gentlemen:

Your 1969 plan of development for the Horseshoe Gallup unit area, San Juan County, New Mexico, proposing the drilling of no additional wells and the continuation of waterflood operations, has been approved on this date subject to like approval by the appropriate State officials.

One approved copy of the plan is enclosed.

Sincerely yours,

(ORIS. SIGN) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

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



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

271

Drawer 1857
Roswell, New Mexico 88201

March 5, 1968

Atlantic Richfield Company
P. O. Box 1978
Roswell, New Mexico 88201

Attention: Mr. W. P. Tomlinson

Gentlemen:

Your 1968 plan of development for the Horseshoe Gallup unit area, San Juan County, New Mexico, proposing the drilling of no additional wells, has been approved on this date subject to the approval by the appropriate State officials.

One approved copy of the plan is enclosed.

Sincerely yours,

(ORIG. SGD.) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

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

MAIN OFFICE

1968 MAR 7 PM 1

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

February 27, 1968

Atlantic Richfield Company
P. O. Box 1978
Roswell, New Mexico 88201

Attention: Mr. W. P. Tomlinson

Re: 1968 Plan of Development
Horseshoe-Gallup Unit, San
Juan County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development for the calendar year 1968 for the Horseshoe-Gallup 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.

Two approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

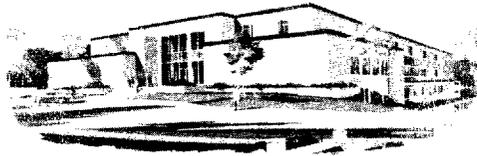
ALP/JEK/og
Enclosures

cc: Commissioner of Public Lands
Santa Fe, New Mexico

United States Geological Survey
Roswell, New Mexico

C
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State of New Mexico



Commissioner of Public Lands



February 12, 1968

P. O. BOX 1148
SANTA FE, NEW MEXICO

68 FEB 13 AM 10

GUYTON B. HAYS
COMMISSIONER

Atlantic Richfield Company
Post Office Box 1973
Roswell, New Mexico

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
1968 Plan of Development

ATTENTION: Mr. W. P. Tomlinson

Gentlemen:

The Commissioner of Public Lands has this date approved your 1968 Plan of Development for the captioned unit, which proposes the drilling of no additional wells. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

One approved copy of the plan is enclosed herewith.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Eddie Lopez, Supervisor
Unit Division

GBH/TB/EL/s

encl.

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

AtlanticRichfieldCompany North America Producing Division
New Mexico- Arizona District
Post Office Box 1978
Roswell, New Mexico 88201
Telephone 505 622 4041

W. P. Tomlinson
District Engineer

February 5, 1968



New Mexico Oil Conservation Commission (3)
P. O. Box 2088
Santa Fe, New Mexico 87501
Attention: Mr. A. L. Porter, Jr.

Commissioner of Public Lands (3)
State Land Office
P. O. Box 1148
Santa Fe, New Mexico 87501
Attention: Mr. Eddie Lopez

United States Geological Survey (4)
P. O. Drawer 1857
Roswell, New Mexico 88201
Attention: Mr. John Anderson, Regional Supervisor

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development for 1968

Gentlemen:

The last Plan of Development for the Horseshoe-Gallup Unit was submitted to you on February 9, 1967. This plan, which you approved, covered the year of 1967. We now submit and request your approval of a Plan of Development for the year 1968.

Yours very truly,

ATLANTIC RICHFIELD COMPANY


W. P. Tomlinson

WPT:jcb

Attachment

HORSESHOE-GALLUP UNIT
SAN JUAN COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT AND OPERATION
FOR THE YEAR 1968

MAIN OFFICE
'68 FEB 6 AM 8 43

Review of Last Plan of Development Period

There have been no contractions or additions to the Unit or Participating Area during 1967. Wells Nos. 10, 12 and 73 were converted to injection during January, 1967. Also, Wells Nos. 211 and 236 were converted in March and Well No. 20 in May. These six wells were all the injection well conversions made during 1967.

During 1967, the oil production rate from the unit increased from 6,567 BOPD in January to 6,909 BOPD in March and then declined from there to 5,669 BOPD in December. The southern part of the unit continued to decline during 1967, while the central part reached a peak in July and has since been declining. The oil production rate has remained essentially constant in the northern and eastern areas of the unit.

The unit water injection rate is now some 43,000 BWPD compared to about 41,000 BWPD at the beginning of the year. All produced water is being re-injected except in the eastern area where the produced water rate is quite low.

Water production now averages about 16,000 BWPD compared to about 12,000 BWPD at the first of the year. This increased water production is primarily from the southern and central areas.

Some 35 wells (14 producers and 21 injectors) were shut-in during 1967. The 35 wells were determined to be uneconomical and unnecessary for efficient operation.

Plan of Development for 1968

There are no operation plan changes for 1968. The Unit Operator does not plan to drill within the Participating Area in 1968.

ATLANTIC RICHFIELD COMPANY

Horseshoe-Gallup Unit Operator

By:

L. L. Smith

Approved *February 27, 1968*

A. H. Porter
Secretary-Director

PRODUCTION REVIEW
HORSESHOE-GALLUP PARTICIPATING AREA

Number of wells on January 1, 1968:

Producing	132
Shut-in	39
Water Injection	99
Water Source	<u>5</u>
Total	275

December Production, 1967:

Oil, Bbls.	175,734
Gas, MCF	2,480
Water, Bbls.	509,493

Cumulative production	<u>Since Discovery</u>	<u>Since Unit</u>
Oil	21,465,306	10,842,396
Gas	6,128,362	1,553,042
Water	13,033,768	12,997,288

December Injection 1,332,874

Injection for Year 15,153,853

Cumulative Injection	<u>Since Discovery</u>	<u>Since Unit</u>
	59,477,523	57,107,756

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

2511

April 11, 1967

C
O
P
Y
Atlantic Richfield Company
P. O. Box 1978
Roswell, New Mexico

Attention: Mr. W. P. Tomlinson

Re: 1967 Plan of Development
Horseshoe-Gallup 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 9, 1967, for the Horseshoe-Gallup 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.

Two approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: Commissioner of Public Lands - Santa Fe
United States Geological Survey - Roswell 88201

MAIN OFFICE 001

'67 MAR 31 AM 8 22

Drawer 1857
Roswell, New Mexico 88201

March 29, 1967

Atlantic Richfield Company
P. O. Box 1978
Roswell, New Mexico 88201

Attention: Mr. W. P. Tomlinson

Gentlemen:

Your 1967 plan of development for the Horseshoe Gallup unit area, San Juan County, New Mexico, proposing the drilling of no additional wells, has been approved on this date subject to the approval by the appropriate State officials.

One approved copy of the plan is enclosed.

Sincerely yours,

CARL C. TRAYNICK

CARL C. TRAYNICK
Acting Oil and Gas Supervisor

- cc:
- Washington (w/cy of plan)
- Farmington (w/cy of plan)
- Durango (w/cy of plan)
- MSOCC, Santa Fe (ltr only) ✓
- Com. of Pub. Lands, Santa Fe (ltr only)

State of New Mexico



Commissioner of Public Lands



February 13, 1967

GUYTON B. HAYS
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

Atlantic Richfield Company
Post Office Box 1978
Roswell, New Mexico

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development for
1967

ATTENTION: Mr. W. P. Tomlinson

Gentlemen:

The Commissioner of Public Lands has this date approved your 1967 Plan of Development for the captioned unit. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

One approved copy is enclosed.

Very truly yours,

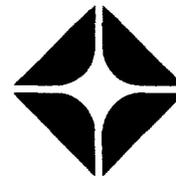
GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Ted Bilberry, Director
Oil and Gas Department

GBH/MMR/s
encl. 1.

cc: United States Geological Survey
Roswell, New Mexico

New Mexico Oil Conservation Commission
Santa Fe, New Mexico



RECEIVED
FEB 10 1967

February 9, 1967

New Mexico Oil Conservation Commission (3)

P. O. Box 2088

Santa Fe, New Mexico 87501

Attention: Mr. A. L. Porter, Jr.

Commissioner of Public Lands (3)

State Land Office

Santa Fe, New Mexico 87501

Attention: Mrs. Marion M. Rhea

United States Geological Survey (4)

P. O. Drawer 1857

Roswell, New Mexico

Attention: Mr. John Anderson, Regional Supervisor

Re: Horseshoe-Gallup Unit

San Juan County, New Mexico

Plan of Development for 1967

Gentlemen:

The last Plan of Development for the Horseshoe-Gallup Unit was submitted to you on February 7, 1966. This plan, which you approved, covered the year of 1966. We now submit and request your approval of a Plan of Development for the year 1967.

Yours very truly,

ATLANTIC RICHFIELD COMPANY

W. P. Tomlinson

WPT:jcb

Attachment

HORSESHOE-GALLUP UNIT
SAN JUAN COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT AND OPERATION
FOR THE YEAR 1967

Review of Last Plan of Development Period

There have been no contractions or additions to the Unit or Participating Area during 1966. Wells Nos. 5 and 7 were converted to injection during the early part of the year. Towards the end of the year permission was obtained to convert Wells Nos. 10, 12 and 73 to injection. These conversions were made in January, 1967.

During 1966, the oil production rate from the Unit has declined from a high of 8,233 BOPD in January to 6,611 BOPD in December. The decline has been fairly constant throughout the year. The southern portion of the Unit has peaked out and has had a consistent decrease during the past twelve months, while increases were obtained in the northwest area. The oil production rate has remained essentially constant in the center and east areas.

The Unit water injection rate is now about 41,000 BWPD, up from some 38,000 BWPD at the beginning of the year. Facilities to gather produced water and make it suitable for injection have been installed in all areas of the field except for the eastern portion.

Water production now averages about 13,000 BWPD which is an increase of 2,000 BWPD over the year. Essentially all of this water is re-injected.

All wells producing substantial quantities of water are now treated with a scale and corrosion inhibitor. This treatment has thus far yielded good results.

Plan of Development for 1967

Permission will be requested shortly to convert Wells Nos. 20, 211 and 236 from producing status to injection. These wells have had premature water breakthrough and are needed to furnish additional injection capacity.

There are no operation plan changes for 1967. The Unit Operator does not plan to drill within the Participating Area in 1967.

ATLANTIC RICHFIELD COMPANY

Horseshoe-Gallup Unit Operator

By: W. P. Toulson

Approved.....April 11.....1967

.....A. J. Ketter.....
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION



UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

Drawer 1857
Roswell, New Mexico 88201

MAIN OFFICE

'67 MAR 15 PM 119

IN REPLY REFER TO:

2519

March 14, 1967

Atlantic Richfield Company
P. O. Box 1970
Roswell, New Mexico 88201

Attention: Mr. W. P. Tomlinson

Gentlemen:

Your supplemental plan of development dated February 3, 1967, for the Horseshoe Gallup unit area, San Juan County, New Mexico, proposing the conversion of unit wells Nos. 20, 211, and 236 to water injection, has been approved on this date subject to like approval by the appropriate State officials.

Two approved copies of the plan are enclosed. 1/1X

Sincerely yours,

~~W. P. Tomlinson~~
BILLY J. SHOGER
Acting Oil and Gas Supervisor

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

2511
11/1/67

February 8, 1967

Atlantic Richfield Company
P. O. Box 1978
Roswell, New Mexico

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
Supplement to 1966 Plan of
Development

ATTENTION: Mr. W. P. Tomlinson

Gentlemen:

The Commissioner of Public Lands has this date approved your Supplement to the 1966 Plan of Development for the Horseshoe-Gallup Unit, San Juan County, New Mexico, subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Commission.

One approved copy is submitted for your files. Also enclosed is Official Receipt No. I 6846 in the amount of three (\$3.00) Dollars which covers the filing fee.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Ted Bilberry, Director
Oil and Gas Department

GBH/MMR/s
Encl. 1.

cc: United States Geological Survey
Roswell, New Mexico
Oil Conservation Commission
Santa Fe, New Mexico



1966 Nov 14 11:11 AM

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY

151

Drawer 1857
Roswell, New Mexico 88201

November 9, 1966

Atlantic Richfield Company
P. O. Box 1978
Roswell, New Mexico 88201

Attention: Mr. W. P. Tomlinson

Gentlemen:

Your supplemental plan of development dated October 21, 1966, for the Horseshoe Gallup unit area, San Juan County, New Mexico, proposing the conversion of three unit wells to water injection, has been approved on this date subject to like approval by the appropriate State officials.

Two approved copies of the plan are enclosed.

Sincerely yours,

48-72

RECEIVED BY TRAYLICK

CARL C. TRAYLICK
Acting Oil and Gas Supervisor

cc:

- MNOCC - Santa Fe (ltr. only) ✓
- Washington (w/cy of plan)
- Farmington (w/cy of plan)
- Com. of Pub. Lands - Santa Fe (ltr. only)

October 31, 1966

103 NOV 1 1966

Atlantic Richfield Company
P. O. Box 1978
Roswell, New Mexico 88201

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
Supplement to 1966 Plan of
Development

ATTENTION: Mr. W. P. Tomlinson

Gentlemen:

The Commissioner of Public Lands has this date approved your Supplement to the 1966 Plan of Development for the Horseshoe-Gallup Unit, San Juan County, New Mexico, subject to like approval by the United States Geological Survey and the New Mexico Oil Conservation Commission.

One approved copy is submitted for your files as we need only two. Also enclosed is Official Receipt No. I 1657.

Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Ted Bilberry, Director
Oil and Gas Department

GBH/MMR/s
encl.

cc: United States Geological Survey
Roswell, New Mexico
Oil Conservation Commission
Santa Fe, New Mexico

MAIL ROOM 000

Drawer 1857
Roswell, New Mexico 88201

MAR 9 AM 8 05

March 8, 1966

The Atlantic Refining Company
P. O. Box 1978
Roswell, New Mexico

Attention: Mr. W. P. Tomlinson

Gentlemen:

Your 1966 plan of development and supplement to the 1966 plan of development for the Horseshoe Gallup unit area, San Juan County, New Mexico, proposing the conversion of two producing wells to water injection status, were approved on this date. The Commissioner of Public Lands approved the plan of development and supplement thereto on February 9 and February 21, respectively.

One approved copy each of the plan and supplement are enclosed.

Sincerely yours,

(ORIG. SGD.) BILLY J. SHOGER

BILLY J. SHOGER
Acting Oil & Gas Supervisor

cc:

Washington (w/cys of plan & suppl.)
Farmington (w/cys of plan & suppl.)
Durango (w/cys of plan & suppl.)
N.M.O.C.C. - Santa Fe (ltr. only) ✓
Com. of Pub. Lands - Santa Fe (ltr. only)

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

2519

February 24, 1966

The Atlantic Refining Company
P. O. Box 1978
Roswell, New Mexico

Attention: Mr. S. L. Smith

Re: 1966 Plan of Development
Horseshoe-Gallup Unit,
San Juan County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the 1966 Plan of Development and Operation for the Horseshoe-Gallup 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.

Two approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.,
Secretary-Director

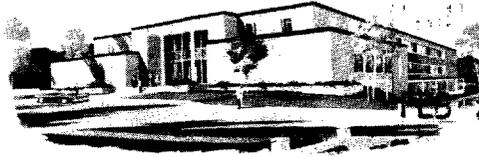
ALP/JEK/og

cc: Commissioner of Public Lands
Santa Fe, New Mexico

U. S. Geological Survey
Roswell, New Mexico

C
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Y

State of New Mexico



Commissioner of Public Lands



February 21, 1966

GUYTON B. HAYS
COMMISSIONER

P. O. BOX 1148
SANTA FE, NEW MEXICO

The Atlantic Refining Company
P. O. Box 1978
Roswell, New Mexico

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico

ATTENTION: Mr. W. P. Tomlinson

Gentlemen:

The Commissioner of Public Lands approves as of February 21, 1966, the supplement to the 1966 Plan of Development, subject to like approval by the United States Geological Survey.

We are returning one approved copy of this Plan.

The Commissioner approved the 1966 Plan of Development for this unit on February 9th, however, we have not been notified, as yet, of the action taken by the United States Geological Survey. Please notify us as soon as these have been approved by the United States Geological Survey.

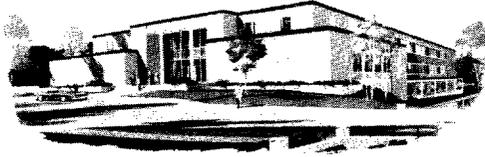
Very truly yours,

GUYTON B. HAYS
COMMISSIONER OF PUBLIC LANDS

BY:
Ted Bilberry, Director
Oil and Gas Department

GBH/TE/MMR/s

State of New Mexico



Commissioner of Public Lands

GUYTON B. HAYS
COMMISSIONER



P. O. BOX 1148
SANTA FE, NEW MEXICO

The Atlantic Refining Company
P. O. Box 1978
Roswell, New Mexico

February 21, 1966
Page 2.

cc: Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico

United States Geological Survey
P. O. Box 1857
Roswell, New Mexico



THE ATLANTIC REFINING COMPANY

INCORPORATED - 1870

PETROLEUM PRODUCTS

MAIN OFFICE OCC

February 7, 1966

FEB 8 AM 7:59

NORTH AMERICAN PRODUCING DEPARTMENT
NEW MEXICO - ARIZONA DISTRICT

S. L. SMITH, DISTRICT MANAGER
JACK BIARD, DISTRICT LANDMAN
E. R. DOUGLAS, DISTRICT GEOLOGIST
A. D. KLOXIN, DISTRICT DRG. & PROD. SUP'T.
M. D. ROBERTS, DISTRICT GEOPHYSICIST
W. P. TOMLINSON, DISTRICT ENGINEER
B. R. WARE, DISTRICT ADMINISTRATIVE SUP'V.

SECURITY NATIONAL BANK BLDG.

MAILING ADDRESS
P. O. BOX 1978
ROSWELL, NEW MEXICO

New Mexico Oil Conservation Commission (3)
P. O. Box 2088
Santa Fe, New Mexico 87501
Attention: Mr. A. L. Porter, Jr.

Commissioner of Public Lands (3)
State Land Office
Santa Fe, New Mexico 87501
Attention: Mrs. Marion M. Rhea

United States Geological Survey (4)
P. O. Drawer 1857
Roswell, New Mexico
Attention: Mr. John A. Anderson,
Regional Supervisor

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development for 1966

Gentlemen:

The last Plan of Development for the Horseshoe-Gallup Unit was submitted to you on February 3, 1965. This plan, which you approved, covered the year 1965. We now submit and request your approval of a Plan of Development for the year 1966.

Yours very truly,

THE ATLANTIC REFINING COMPANY

S. L. Smith
District Manager

SLS:rhs
Encl.

HORSESHOE-GALLUP UNIT
SAN JUAN COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT AND OPERATION
FOR THE YEAR 1966

PLANNING OFFICE OCC
FEB 8 AM 7:59

Review of Last Plan of Development Period

There have been no contractions or additions to the Unit or Participating Area during 1965. There have been no conversions of wells during the past year.

The last Plan of Development reported the spudding of a well in the NE/4 NE/4 of Section 27, Township 31 North, Range 16 West. This well, designated as Unit Well No. 280, was completed March 14, 1965, at a location 990' FNL and 990' FEL of Section 27, which is within the Unit Area but outside the Participating Area. Well No. 280 was completed in both the upper and lower zones of the Gallup and potentialled for 75 BOPD. By the latter part of the year production from Well No. 280 was down to 17 BOPD, and with approval of the co-owners, a request was made to the United States Geological Survey to declare the land on which Well 280 is located to be unwarranted for inclusion in the Participating Area. Concurrence with the request was given by the U.S.G.S. in their letter dated November 22, 1965.

After receiving a waiver from Atlantic, Zoller and Danneberg drilled Unit Well No. 281 at a location 375' FSL and 2310' FEL of Section 22, Township 31 North, Range 16 West. The well was drilled to a depth of 1,752 feet and was plugged and abandoned August 12, 1965. No cores or tests were taken.

The Dakota section of Water Source Well No. 2 was perforated during the year. The Dakota water had previously been tested and declared non-potable.

Water Source Well No. 5 was put on production in January, 1965 at a rate of 12,000 BWPD. By March, production had dropped to some 3,500 BWPD, and the DeChelly formation was acidized. Analysis showed that a reduction in permeability around the well bore was occurring. Productivity continued to decline, and the Morrison section was perforated. This addition has not shown any appreciable effect on the other Morrison water source wells.

During the last year oil production and water injection in the Unit were 3,006,601 barrels and 11,299,311 barrels respectively. Oil production continued rising in early 1965 following the increase of the previous year. The January, 1965 rate was 6,046 BOPD, and by April the rate had increased to 9,056 BOPD. The April rate was the highest obtained during 1965.

Production rates for the remainder of the year varied between 8,270 BOPD to 8,983 BOPD. During 1965, water production increased consistently from a low of 2,469 BWPD in January to 10,483 BWPD in December. The increase in water production was offset by an increase in injection rate, which by the end of the year was in the order of 38,500 BWPD. This increase was made possible by the installation of facilities to gather produced water and condition it for reinjection.

In general, the northern and southern portions of the Unit have responded very well to injection. The east side of the Unit contains only the thin upper zone and has not as yet responded. The center portion of the Unit is developed on nine-spots, which have not yielded the desired injection rate. It is possible additional wells should be converted to injection in this area. If such plans develop, application will be made under Rule 11 of the findings governing the Horseshoe-Gallup Unit.

With the increase in water production, corrosion and scale deposition became a problem in the producing wells. An inhibition program has been started to combat this problem and is giving good results.

There are no specific changes in the Plan of Development for the coming year from that of 1965. It is not planned by the Unit Operator to do any drilling within the Participating Area in 1966. Permission to convert additional wells to injection may be made as stated above.

THE ATLANTIC REFINING COMPANY

Horseshoe-Gallup Unit Operator

By: *S. L. Smith*
S. L. Smith

Approved.....*Feb. 24*.....*1966*
A. H. Carter
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

Production Review
Horseshoe-Gallup Participating Area

Number of Wells on 1-1-66

Producing	154
Shut-in	4
Water Injection	112
Water Source	5
	275

December, 1965 Production

Oil-Barrels	259,092
Gas - MCF	7,688
Water-Barrels	324,981

Production for Year of 1965

Oil - Barrels	3,006,601
Gas - MCF	173,996
Water - Barrels	2,249,885

Cumulative Production

Since Discovery

Since Unitization

Oil - Barrels	16,509,639	5,886,699
Gas - MCF	6,049,564	1,474,644
Water - Barrels	2,891,904	2,855,424

December, 1965 Injection

Water - Barrels	1,194,932
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Injection for Year 1965

Water - Barrels	11,299,311
-----------------	------------

Cumulative Injection

Water - Barrels	30,363,495	27,993,818
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UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
Denver 1057
Roswell, New Mexico 88201

IN REPLY REFER TO:

65 NOV 23 1965

November 22, 1965

The Atlantic Refining Company
P. O. Box 1978
Roswell, New Mexico

Attention: Mr. W. P. Tomlinson

Gentlemen:

Your letter of November 17, 1965, submits your determination as operator of the Horseshoe Gallup unit, San Juan County, New Mexico, that unit well No. 200 in the NE¼ sec. 27, T. 31 N., R. 16 W., N.M.P.M., is not essential for waterflood operations under the Horseshoe Gallup unit.

Well No. 200 Horseshoe Gallup unit was completed on March 14, 1965, for an initial potential of 75 barrels of oil per day from the Gallup 1,433 - 85, 1,618 - 18 feet. This well has produced a total of 6,103 barrels of oil from March through September, and is currently producing at a rate of 17 barrels of oil per day.

This office concurs with your determination that the well is not essential for waterflood operations under the Horseshoe Gallup unit.

Sincerely yours,

(ORIG. SGD.) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

cc:
Washington (w/cy determination)
Farmington (w/cy determination)
Durango (w/cy determination)
Com. Pub. Lands, Santa Fe (ltr. only)
EMCC, Santa Fe (ltr. only) ✓
Accounts

ILLEGIBLE

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO

2519

May 3, 1965

The Atlantic Refining Company
Security Life Building
1616 Glenarm
Denver, Colorado

Attention: Mr. S. L. Smith

Re: 1965 Plan of Development,
Horseshoe-Gallup, San Juan
County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the 1965 Plan of Development for the Horseshoe-Gallup 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.

Two approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.,
Secretary-Director

ALI/JLK/og

cc: U. S. Geological Survey
Roswell, New Mexico

Commissioner of Public Lands
Santa Fe, New Mexico

C
O
P
Y

Drawer 1857
Roswell, New Mexico 88201

March 5, 1965

The Atlantic Refining Company
Security Life Building
1616 Glenarm
Denver, Colorado 80202

Attention: Mr. S. L. Smith

Gentlemen:

Your 1965 plan of development for the Horseshoe-Gallup unit area, San Juan County, New Mexico, has been approved on this date subject to like approval by the appropriate State officials.

One approved copy of the plan is enclosed.

Sincerely yours,

(ORIG. SGD.) BILLY J. SHOGER

BILLY J. SHOGER
Acting Oil and Gas Supervisor

Enclosure

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

Horseshoe-Gallup Unit
San Juan County, New Mexico

Plan of Development and Operation
for the year 1965

Review of Last Plan of Development Period

There have been no contractions or additions to the Unit or participating area during 1964.

The last Plan of Development listed three wells which remained to be converted to injection. All of these wells were converted as shown below:

<u>Unit Well No.</u>	<u>Location</u>	<u>Date Injection Started</u>
6	NW/4 SE/4 Sec. 30, T-31-N R-16-W	2-26-64
19	NW/4 SW/4 Sec. 30, T-31-N R-16-W	2-26-64
99	NW/4 SE/4 Sec. 24, T-31-N R-17-W	3-14-64

There are no further conversions planned.

Drilling of Well No. 276 by Texaco Inc. was reported in the last Plan of Development. This well was drilled as an extension of the Many Rocks trend in the Horseshoe-Gallup Unit area but not in the participating area. Texaco completed an offset, the No. 277, in February 1964. No. 277 is located 1720' FNL and 2240' FWL of Sec. 21, T-31-N, R-16-W. This well is also outside the participating area but within the unit area. In July both wells were determined to be incapable of producing in paying quantities, and the U.S.G.S. concurred that the wells were not essential for unit operation and that inclusion with participating area of the land on which the wells are located was unwarranted. This action was taken pursuant to Section 11 of the Horseshoe-Gallup Unit Agreement.

Many Rocks injection well No. 22 was drilled in June 1964 at a location 2040' FSL and 2070' FWL of Sec. 14, T-31-N, R-16-W. The well is in the Horseshoe-Gallup Unit area but outside the participating area. The well was declared not essential for operations of the Horseshoe-Gallup Unit, and the U.S.G.S. concurred with this action by letter dated June 26, 1964.

Unit water source well No. 5 was spudded October 9, 1964, at a location 1110' FSL and 1345' FWL of Sec. 33, T-31-N, R-16-W. The well was drilled to a total depth of 5201 feet and was completed in the DeChelly formation. This completion flowed at a rate of 145 barrels of water per hour. Construction is underway to build plant facilities for this well and to connect all five water plants so that water can be directed to any area of the field. This should be completed and the well put on production in January 1965.

A commission hearing (Case 3052) was held in May 1964 to amend Rules 4 and 10 of Order R-2210 applying to the Horseshoe Gallup Unit. The amendment, which was approved by the commission, deleted the provisions with reference to any

Plan of Development - 2

well in the unit which directly or diagonally offsets a well outside the project not being permitted to produce in excess of two times top allowable for the pool.

During 1964 permission was received from the Navajo and Ute Mountain Tribes of Indians and the Bureau of Indian Affairs first to use Dakota Formation water in the Horseshoe Gallup project and subsequently to use any non-potable water from any formation.

During 1964 oil production has consistently increased each month. From December 1963 to December 1964 the increase was 3029 BOPD. Response is noted throughout most of fairway portion of the unit where both the upper and lower zones are present. There has been little or no response on the east side of the unit. Water production during 1964 averaged 1,332 BWP. The water injection rate averaged 26,056 BWP.

There are no specific changes in the Plan of Development for the coming year from that of 1964. The injection rate will be increased when Water Source Well No. 5 is put into service. Oil production should continue to increase throughout 1965.

It is not planned by the Unit Operator to do any drilling within the Participating Area in 1965. Outside the Participating Area Curtis Little has requested approval and is now drilling a well in the NE/4 NE/4, Sec. 27, T-31-N, R-16-W. John F. Mitchell had obtained approval to drill a well in the NE/4 NE/4, Sec. 7, T-30-N, R-16-W, but has not yet spudded.

The Atlantic Refining Company
Horseshoe-Gallup Unit Operator

S. L. Smith

By: by F. P. Castleberry
S. L. Smith

Production Review
Horseshoe-Gallup Participating Area

Number of Wells on 1-1-65

Producing	154
Shut-in	4
Water Injection	112
Water Source	4

December, 1964 Production

Oil-Barrels	172,616
Gas - MCF	13,283
Water-Barrels	64,775

Production for Year of 1964

Oil - Barrels	1,371,543
Gas - MCF	291,259
Water - Barrels	487,401

Cumulative Production

Since Discovery

Since Unitization

Oil - Barrels	13,503,038	2,880,128
Gas - MCF	5,875,568	1,300,648
Water - Barrels	642,019	605,539

December, 1964 Injection

Water - Barrels	683,413
-----------------	---------

Injection for Year 1964

Water - Barrels	9,536,630
-----------------	-----------

Cumulative Injection

Water - Barrels	19,064,184	16,694,507
-----------------	------------	------------



THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

April 28, 1965

DOMESTIC PRODUCING DEPARTMENT
NEW MEXICO DISTRICT

MAILING ADDRESS
P. O. BOX 1078
ROSWELL, NEW MEXICO

State of New Mexico
Oil Conservation Commission
P. O. Box 2088
Santa Fe, New Mexico 87501

Attention: Mr. A. I. Porter

Gentlemen:

On February 3, 1965, copies of the Plan of Development for the Horse-shoe-Callup Unit for the year 1965 were mailed to your office. As we have not yet received approval of this Plan from you, perhaps it has been misplaced. If you did not receive copies of the Plan please let us know and we will furnish you additional copies.

Yours very truly,

W. F. Tomlinson

WPT:jcb

FILING COPY

TELETYPE

RECEIVED

2519

February 3, 1965

65 FEB 6 AM 10 19

PRODUCING DEPARTMENT
DISTRICT
MANAGER
GEOLOGICAL
ESTABLISHMENT, LAND
ERS, DRILLING & PRODUCTION
VISION, GEOPHYSICAL
ENGINEERING
ER, ADMINISTRATIVE

SECURITY BUILDING
1616 GLENARM
DENVER, COLORADO 80202
266-3741

Member of Conservation Commission (3)
Attention: Mr. A. L. Porter, Jr.
P.O. Box 2088
Santa Fe, New Mexico 87501

Manager of Public Lands (3)
Attention: Mrs. Marion M. Shea
State Land Office
Santa Fe, New Mexico

United States Geological Survey (4)
Attention: Mr. John A. Anderson
Regional Supervisor
Post Office Drawer 1857
Roswell, New Mexico

Re: Horseshoe-Gallup Unit
Plan of Development for 1965

Gentlemen:

The last Plan of Development for the Horseshoe-Gallup Unit was submitted to you on March 5, 1964. This Plan, which you approved, covered the year of 1964. We now submit and request your approval of a Plan of Development for the year 1965.

Yours very truly,

S. L. Smith

S. L. Smith

MP:sw

W/Attachment

ILLEGIBLE

OIL CONSERVATION COMMISSION

P. O. BOX 2088

SANTA FE, NEW MEXICO 87501

March 3, 1969

2517

Atlantic Richfield Company
P. O. Box 1978
Roswell, New Mexico 88201

Attention: Mr. W. P. Tomlinson

Re: 1969 Plan of Development
and Operation - Horseshoe-
Gallup Unit, San Juan
County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the 1969 Plan of Development and Operation for the Horseshoe-Gallup 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.

Two approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ALP/JEK/og

cc: United States Geological Survey - Roswell
Commissioner of Public Lands - Santa Fe

C

O

P

Y

February 13, 1969

Atlantic Richfield Company
Post Office Box 1978
Roswell, New Mexico

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
1969 Plan of Development

ATTENTION: Mr. W. P. Tomlinson

Gentlemen:

The Commissioner of Public Lands has this date approved your 1969 Plan of Development for the captioned unit, which proposes no operation plan changes and no drilling within the Participating Area during 1969. This approval is subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

One approved copy of the plan is enclosed herewith.

Very truly yours,

ALEX J. ARMIJO
COMMISSIONER OF PUBLIC LANDS

BY:
Ted Bilberry, Director
Oil and Gas Department

AJA/TB/ML/s
encl. 1

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

MAIN OFFICE

'69 FEB 17 AM 8 34

C
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Y

North American Producing Division
New Mexico - Sona District
Post Office Box 1978
Roswell, New Mexico 88201
Telephone 505 622 4041

W. P. Tomlinson
District Engineer

February 11, 1969

1969 FEB 12 PM 1 11



New Mexico Oil Conservation Commission (3)
P. O. Box 2088
Santa Fe, New Mexico 87501
Attention: Mr. A. L. Porter, Jr.

Commissioner of Public Lands (3)
State Land Office
P. O. Box 1148
Santa Fe, New Mexico 87501
Attention: Mr. Alex J. Armijo

United States Geological Survey (4)
P. O. Drawer 1857
Roswell, New Mexico 88201
Attention: Mr. John Anderson, Regional Supervisor

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
Plan of Development for 1969

Gentlemen:

The last Plan of Development for the Horseshoe-Gallup Unit was submitted to you on February 5, 1968. This plan, which you approved, covered the year of 1968. We now submit and request your approval of a Plan of Development for the year of 1969.

Yours very truly,

ATLANTIC RICHFIELD COMPANY

W. P. Tomlinson

WPT:jcb

Attachment

HORSESHOE-GALLUP UNIT
SAN JUAN COUNTY, NEW MEXICO
PLAN OF DEVELOPMENT AND OPERATION
FOR THE YEAR 1969

Review of Last Plan of Development Period

There have been no contractions or additions to the Unit or Participating Area during 1968. No additional wells were converted to injection during 1968.

During 1968, the oil production rate from the Unit has declined from 5,523 BOPD in January to 3,490 BOPD in December. The southern part of the Unit is in the latter stages of secondary depletion and continued to decline during 1968. The central part of the Unit started declining in July, 1967 and continued to decline through 1968. This part of the Unit accounts for the greatest amount of the Unit's decline. The northern and eastern parts of the Unit declined only slightly during the year.

The Unit water injection rate is now some 32,000 BWPD compared to about 43,000 BWPD at the beginning of the year. Most of this decrease in injection has been in the southern end of the Unit.

Water production now averages about 16,000 BWPD and has been essentially constant throughout the year.

During 1968, six water injection wells and one water supply well were shut-in. The injection wells were in depleted areas of the southern part of the Unit.

Plan of Development for 1969

There are no operation plan changes for 1969. The Unit Operator does not plan to drill within the Participating Area in 1969.

ATLANTIC RICHFIELD COMPANY

Horseshoe-Gallup Unit Operator

Approved March 3 1969

A. L. Carter
Secretary-Director

BY:

S. J. Smith

NEW MEXICO OIL CONSERVATION COMMISSION

PRODUCTION REVIEW
HORSESHOE-GALLUP PARTICIPATING AREA

11 11 PM 12 FEB '69

Number of wells on January 1, 1969:

Producing	132
Shut-in	46
Water Injection	93
Water Source	4
Total	275

December Production, 1968:

Oil, Bbls.	108,176
Gas, MCF	2,115
Water, Bbls.	489,480

Cumulative Production	<u>Since Discovery</u>	<u>Since Unit</u>
Oil	23,050,990	12,428,191
Gas	6,140,717	1,566,207
Water	19,073,291	19,073,291

December Injection 987,226

Injection for Year 13,718,478

Cumulative Injection	<u>Since Discovery</u>	<u>Since Unit</u>
	73,196,001	70,826,234

7019
OIL CONSERVATION COMMISSION

P. O. BOX 2088
SANTA FE, NEW MEXICO 87501

March 8, 1976

Atlantic Richfield Company
1860 Lincoln Street - Suite 501
Denver, Colorado 80203

Attention: Mr. W. A. Walther, Jr.

Re: 1976 Plan of Development
and Operation, Horseshoe-
Gallup Unit, San Juan
County, New Mexico.

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development and Operation for the calendar year 1976 for the Horseshoe-Gallup 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.

Three approved copies of the plan are returned herewith.

Very truly yours,

JOE D. RAMEY
Secretary-Director

JDR/JEK/og

cc: United States Geological Survey
Roswell, New Mexico

Commissioner of Public Lands
Santa Fe, New Mexico

North American Producing Division
Rocky Mountain District
1360 Lincoln St. — Suite 601
Denver, Colorado 80203
Telephone 303 513-4049



W. A. Walther, Jr.
District Production & Drilling
Superintendent

February 13, 1976

Mr. N. O. Frederick (4)
Area Oil and Gas Supervisor
United States Geological Survey
P. O. Drawer 1857
Roswell, New Mexico 88201

Oil Conservation Commission (4)
of the State of New Mexico
P. O. Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
The State of New Mexico
State Land Office Building
Santa Fe, New Mexico 87501

All Working Interest Owners
(See Attached List)

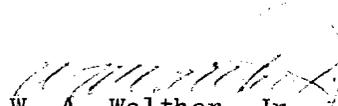
RE: Plan of Development
Horseshoe - Gallup Unit
San Juan County, New Mexico

Gentlemen:

As required, the attached Plan of Development and Operation
for the subject property is submitted for your information.

Very truly yours,

ATLANTIC RICHFIELD COMPANY


W. A. Walther, Jr.

WAW:LJG:bb

Attach

Horseshoe - Gallup Unit

San Juan County, New Mexico

Plan of Development and Operation

For the Year 1976

ATLANTIC RICHFIELD COMPANY
Unit Operator

Review of the Last Plan of Development Period

In 1975 no additions to or contractions of either the Unit Area or the Participating Area were made. No existing wells were converted. Development wells Nos. 287, 288, 289 and 290 were drilled during this period. Daily average oil production declined from 1039 BOPD during 1974 to 957 BOPD during 1975. However, production trends for the four producing areas within the unit indicated lower decline rates. This accompanied by additional production from the four recent development wells should help offset oil rate decreases considerably.

Water injection for the year averaged 26,670 BWPD. Produced water has decreased from a 16,925 BWPD average in 1974 to 15,395 BWPD in 1975.

Plan of Development for 1976

No significant operational changes are planned for 1976. There are presently no plans to convert or drill any additional wells in 1976. Performance of the four development wells will continue to be monitored to determine if further future drilling is justified.

It is understood that this plan may be modified at any time when changing conditions warrant it.

Approved..... *March 8* 19 *76*

John J. Stames
.....
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

Statistical Summary

Horseshoe-Gallup Unit

<u>Well Status</u>	<u>1-1-75</u>	<u>1-1-76</u>
Producing	124	125
Injection	66	66
Water Supply	2	2
Shut-In		
Producing	30	29
Injection	55	55
Water Supply	<u>3</u>	<u>3</u>
TOTAL	280	280
<u>Oil Production (S.T.B.)</u>	<u>1975</u>	<u>Cumulative 1-1-76</u>
Daily Average	957	--
Total for Year	349,399	27,486,412
Since Unitization	--	16,863,613
<u>Gas Production (M.C.F.)</u>		
Daily Average	12	--
Total for Year	4,301	6,232,693
Since Unitization	--	1,657,996
<u>Water Production (S.T.B.)</u>		
Daily Average	15,395	--
Total for Year	5,619,052	61,853,803
Since Unitization	--	61,817,313
<u>Water Injection (S.T.B.)</u>		
Daily Average	26,670	--
Total for Year	9,734,495	147,833,714
Since Unitization	--	133,754,985

WORKING INTEREST OWNERS

Horseshoe - Gallup Unit

J. R. Abraham
5517 Willow Lane
Dallas, Texas 75230

Amax Petroleum Corp.
900 Town and Country Lane
Houston, Texas 77024

J. Douglas Collister
4203 Avenida La Resolana NE
Albuquerque, New Mexico 87110

L. P. Thompson
Continental Oil Company
Box 460
Hobbs, New Mexico 88240

Richard W. Dammann
380 Madison Avenue
New York, New York 10017

Robert E. Lauth
EPROC Associates
Box 776
Durango, Colorado 81301

Helbing & Podpechan
Box 549
Claremore, Oklahoma 74017

J. Felix Hickman
Box 12307
El Paso, Texas 79912

John D. Howard
Mobil Oil Corporation
P. O. Box 633
Midland, Texas 79701

John J. Strojek
Odessa Natural Corporation
P. O. Box 3908
Odessa, Texas 79760

V. J. Deaton
Reynolds Mining Corp.
Reynolds Metals Company
Oil and Gas Division
P. O. Box 9177
Corpus Christi, Texas 78408

Robert D. Snow
2000 National Bank of Tulsa Bldg.
Tulsa, Oklahoma 74103

H. P. Dreher
Sohio Petroleum Company
1100 Penn Tower
Oklahoma City, Oklahoma 73118

Mrs. Eleanor F. Spiegel
Box 1042
Albuquerque, New Mexico 87103

D. D. Myers
Tenneco Oil Company
1200 Lincoln Tower Building
1860 Lincoln Street
Denver, Colorado 80203

B. J. Willard
Texaco, Inc.
Box 2100
Denver, Colorado 80201

Vack Ventures
% Cottle & Cottle
120 South LaSalle Street
Chicago, Illinois 60603

OIL CONSERVATION COMMISSION
P. O. BOX 871
SANTA FE, NEW MEXICO

April 7, 1964

The Atlantic Refining Company
Suite 1500
Security Life Building
Denver, Colorado 80202

Attention: Mr. S. L. Smith

Re: 1964 Plan of Development,
Horseshoe-Gallup Unit,
San Juan County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the 1964 Plan of Development for the Horseshoe-Gallup 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.

Two approved copies of the plan are returned herewith.

Very truly yours,

A. L. PORTER, Jr.,
Secretary-Director

ALP/JEK/og

cc: Commissioner of Public Lands - Santa Fe

U. S. Geological Survey - Roswell

C
O
P
Y

MAIN OFFICE OCC

1964 MAR 20 AM 10:52

March 18, 1964

The Atlantic Refining Company
Suite 1500
Security Life Building
Denver, Colorado

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
1964 Plan of Development

Attention: Mr. S. L. Smith

Gentlemen:

The Commissioner of Public Lands has approved as of March 18, 1964, your 1964 Plan of Development for the Horseshoe-Gallup Unit Area, San Juan County, New Mexico, subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

We are returning one approved copy of this Plan.

We believe that even though your letter of transmittal is signed that the Plan of Development and Operation should also be signed by a representative of the Unit Operator.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESW/mmr/v

cc: Oil Conservation Commission

United States Geological Survey

ILLEGIBLE

MAIN OFFICE OCC

1964 MAR 29 10 57 AM
Roswell, New Mexico 88201

March 27, 1964

The Atlantic Refining Company
Suite 1500, Security Life Building
1616 Glenarm
Denver, Colorado 80202

Attention: Mr. S. L. Smith

Gentlemen:

Your 1964 plan of development covering secondary recovery operations for the Horseshoe Gallup unit area, San Juan County, New Mexico, proposing the conversion of three producing wells to injection status in accordance with the initial plan of development, has been approved on this date subject to like approval by the appropriate State officials.

One approved copy of the plan is enclosed.

Sincerely,
(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 Pub. Lands-Santa Fe (ltr. only)



THE ATLANTIC REFINING COMPANY
INCORPORATED - 1970
PETROLEUM PRODUCTS MAIN OFFICE OCC

March 5, 1964 MAR 6 AM 8:12

NORTH AMERICAN PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER
C. M. BONAR, GEOLOGICAL
FRANK P. CASTLEBERRY, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
R. P. CURRY, ADMINISTRATIVE
DAVID B. DAVIDSON, GEOPHYSICAL
T. O. DAVIS, ENGINEERING

SUITE 1500
SECURITY LIFE BUILDING
1616 GLENARM
DENVER, COLORADO 80202
266-3741

New Mexico Oil Conservation Commission (3)
Attention: Mr. A. L. Porter, Jr.
Post Office Box 2088
Santa Fe, New Mexico 87501

Commissioner of Public Lands (3)
Attention: Mrs. Marion M. Rhea
State Land Office
Santa Fe, New Mexico

United States Geological Survey (4)
Attention: Mr. John A. Anderson
Regional Supervisor
Post Office Drawer 1857
Roswell, New Mexico

Re: Horseshoe-Gallup Unit
Plan of Development for 1964

Gentlemen:

The last Plan of Development for the Horseshoe-Gallup Unit was submitted to you on July 29, 1963. This Plan, which you approved, covered the last six months of 1963. We now submit and request for your approval a Plan of Development for the year 1964.

Yours very truly,


S. L. Smith

EMP:lb

Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico

MAIN OFFICE OCC

Plan of Development and Operation
for the Year 1964

1964 MAR 6 AM 8:12

Review of Last Plan of Development Period

There have been no additions on contractions to the unit or participating area during the last six months of 1963.

The last Plan of Development listed seven wells which remained to be converted to injection. Four of these wells were converted in the last six months. These wells are listed below:

<u>Unit Well No.</u>	<u>Location</u>
2	NW/4 SE 4 Sec. 32, T-31-N R-16-W
4	NW/4 NW/4 Sec. 32, T-31-N R 16-W
85	NW/4 NW/4 Sec. 24, T-31-N R-17-W
118	NW/4 NE/4 Sec. 25, T-31-N R-17-W

The two wells below will be converted in February, 1964:

<u>Unit Well No.</u>	<u>Location</u>
6	NW/4 SE/4 Sec. 30, T-31-N R-16-W
19	NW/4 SW/4 Sec. 30, T-31-N R-16-W

Conversion of the remaining well, No. 99, located in the NW/4 SE 4, Section 24, T-31-N, R-17-W will be done later in the year. This well is producing 100 BOPD and is not needed at this time for injection purposes as the other wells in the field now accept all the water available for injection.

Construction has been completed on all facilities for the pressure maintenance project.

In November, 1963, Texaco, Inc. drilled the Horseshoe-Gallup Unit No. 276 well, located 660' FNL and 660' FWL of Section 21, T-31-N, R-16-W. This well, drilled as a southwest extension to the Many Rocks Field, is within the Horseshoe-Gallup Unit but is outside the participating area. The well was completed on December 3, 1963 in both zones of the Gallup. The initial potential on pump was 72 BOPD and no water. Cumulative production to 1-1-64 is 496 barrels of oil.

There will probably be future development of the Many Rocks trend in the Horseshoe-Gallup unit area. Further drilling will be necessary one well at a time because of the sand development which is narrow, thin and has questionable productivity. Because of this, no plan for future development is submitted. Instead, permission for future drilling will be obtained on an individual well basis.

MAIN OFFICE OCC

Development Plans for the Year 1964

During the period covered by the last Plan of Development, oil production from the unit increased from an average of 2849 BOPD in July, 1963 to a high of 2964 BOPD in October, 1963. The December, 1963 average oil rate was 2539 BOPD. This decrease is primarily a result of cold weather effects on the producing system back pressure. Injection rates have averaged 22,800 BWPD during the last six months and should be about 30,000 BWPD starting in March, 1964. This increase in injection rates results from increasing the horsepower of the in-hole pumps in the four water source wells in the unit.

The unit has reached a theoretical fill-up of about 65%. At this time there are no plans for the unit except to reach fill-up as quickly as possible. Therefore, operation of the unit will continue as previously.

Approved *[Signature]* 1964

[Signature]
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

Production Review
Horseshoe-Gallup Participating Area

MAIN OFFICE OCC

Number of Wells on 1-1-64

1964 MAR 6 AM 8:12

Producing	157
Shut-in	4
Water Injection	109
Water Source	4

December Production

Oil - Barrels	78,702
Gas - MCF	35,956
Water - Barrels	9,213

Production for Year of 1963

Oil - Barrels	945,770
Gas - MCF	573,422
Water - Barrels	94,748

Cumulative Production

Since Discovery

Since Unitization

Oil - Barrels	12,131,495	1,508,585
Gas - MCF	5,584,309	1,009,389
Water - Barrels	154,618	118,138

December Injection

Water - Barrels	662,659
-----------------	---------

Injection for Year of 1963

Water - Barrels	6,762,751
-----------------	-----------

Cumulative Injection

Water - Barrels	9,527,554	7,157,877
-----------------	-----------	-----------

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE. NEW MEXICO

207
September 25, 1963

**The Atlantic Refining Company
Suite 760
110 16th Street
Denver 2, Colorado**

Attention: Mr. T. O. Davis

**Re: Plan of Development
Last Six Months of 1963,
Horseshoe Gallup Unit,
San Juan County, New Mexico**

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Plan of Development for the last six months of 1963 for the Horseshoe Gallup 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.

Two approved copies of the plan are returned herewith.

Very truly yours,

**A. L. PORTER, Jr.,
Secretary-Director**

ALP/JEK/og

**cc: Commissioner of Public Lands - Santa Fe
United States Geological Survey, Roswell**

August 27, 1963

The Atlantic Refining Company
Suite 760
Petroleum Club Building
Denver 2, Colorado

Re: Horseshoe-Gallup Unit,
San Juan County, New Mexico
Plan of Development

Attention: Mr. T. O. Davis

Gentlemen:

The Commissioner of Public Lands approves as of August 27, 1963 the Plan of Development covering the last six months of 1963 for the Horseshoe-Gallup Unit, San Juan County, New Mexico.

We note that due to the fact that the work involved in instituting this waterflood has just been completed, there are not new plans for the period of July 1, 1963 to January 1, 1964, other than those outlined in the Initial Plan of Development.

We are returning one approved copy of this Plan of Development.

Very truly yours,

E. S. JOHNSY WALKER,
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESJW/mar/m
enclosures

cc: United States Geological Survey, Roswell
Oil Conservation Commission, Santa Fe

Drawer 1857
Roswell, New Mexico

September 3, 1963

The Atlantic Refining Company
Suite 760
110 16th Street
Denver 2, Colorado

Attention: Mr. T. O. Davis

Gentlemen:

Your plan of development dated July 29 for the last six months of 1963, proposing the conversion of seven producing wells to injection status in accordance with the initial plan of development, Horseshoe Gallup unit area, San Juan County, New Mexico, has been approved on this date.

One approved copy of the plan is enclosed.

Sincerely yours,

(Orig.Sgd.) CARL C. TRAYWICK

CARL C. TRAYWICK
Acting Oil & Gas Supervisor

Copy to: Washington (w/cy of plan)
Farmington (w/cy of plan)
NMOCC - Santa Fe (Ltr. only) ✓
Com. of Pub. Lands - Santa Fe (ltr. only)

ATLANTIC

THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

July 29, 1963

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER
C. M. BONAR, GEOLOGICAL
FRANK P. CASTLEBERRY, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
R. P. CURRY, ADMINISTRATIVE
T. O. DAVIS, ENGINEERING
H. F. DODSON, GEOPHYSICAL

SUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
266-3741

New Mexico Oil Conservation Commission (3)
Attention: Mr. A. L. Porter, Jr.
Post Office Box 871
Santa Fe, New Mexico

Commissioner of Public Lands (3)
Attention: Mrs. Marian M. Rhea
State Land Office
Santa Fe, New Mexico

United States Geological Survey (4)
Attention: Mr. John A. Anderson,
Regional Supervisor
Post Office Box 1857
Roswell, New Mexico

Re: Horseshoe-Gallup Unit
Plan of Development for
the Last Six Months of 1963

Gentlemen:

The initial Plan of Development for the Horseshoe-Gallup Unit was submitted to you on July 25, 1962. This Plan, which you approved, covered the last six months of 1962 and the first six months of 1963. We now submit a Plan of Development for the last six months of 1963. Future Plans of Development for the Horseshoe-Gallup Unit will be submitted on a yearly basis at the first of each year.

Yours very truly,

T. O. Davis

T. O. Davis

EMP:lb
Attachment

Horseshoe-Gallup Unit
San Juan County, New Mexico

Plan of Development and Operation
Last Six Months of 1963

July 29, 1963

Review of Initial Plan of Development Period

The Horseshoe-Gallup Unit was effectively unitized August 1, 1962. The Unit Area differed from that shown on Exhibit "A" attached to the Initial Plan of Development by the exclusion of Tracts 2, 14, 20, 22, 23 and 43. Also excluded was 25% of the interest in Tracts 34 and 34-A. The Initial Participating Area differed from that shown on Exhibit "A" by the exclusion of Tracts 20, 23, 43 and the 25% of Tracts 34 and 34-A.

Effective December 1, 1962, the 25% of Tracts 34 and 34-A were committed to the Unit and were included in the Participating Area. Tract 20 was likewise effectively committed on January 1, 1963. There have been no further additions or contractions of the Unit or Participating Area.

The Initial Plan of Development listed 109 wells to be injection wells in the Unit. Ninety-four of these wells remained to be converted at that time. All of these wells have now been converted to injection with the exception of nine wells. The wells still remaining to be converted are listed below. The new Unit well numbers are shown for these wells.

<u>Unit Well No.</u>	<u>Location</u>
2	NW/4 SE/4 Section 32 T-31-N, R-16-W
4	NW/4 NW/4 Section 32 T-31-N, R-16-W
6	NW/4 SE/4 Section 30 T-31-N, R-16-W
19	NW/4 SW/4 Section 30 T-31-N, R-16-W
85	NW/4 NW/4 Section 24 T-31-N, R-17-W
99	NW/4 SE/4 Section 24 T-31-N, R-17-W
118	NW/4 NE/4 Section 25 T-31-N, R-17-W

By letter dated March 1, 1963, you were advised that, because of a directional permeability problem, it was necessary to convert Unit Wells Nos. 143 and 145 to injection rather than leave them as producing wells as was previously planned. In converting these wells to injection, it was necessary to leave Wells Nos. 144 and 146 as producing wells. Wells Nos. 144 and 146 were on the original list as proposed injection wells. Your approval was received to this change in the Initial Plan of Development.

The three wells listed on the Initial Plan of Development as additional injection wells to be drilled have been completed. Data on these wells are below:

<u>Well No.</u>	<u>Date Completed</u>	<u>Location</u>
74	1-10-63	2250' FSL & 2630' FWL of Sec. 14, T-31-N, R-17-W
79	1-9-63	330' FSL & 1900' FEL of Sec. 14, T-31-N, R-17-W
158	1-9-63	1740' FSL & 590' FWL of Sec. 28, T-31-N, R-16-W

Three additional water source wells have been drilled in the Unit. These wells, along with the one original water source well, are producing water from the Morrison formation. Data on the three new wells are below:

<u>Well No.</u>	<u>Date Completed</u>	<u>Location</u>
2-WS	1-9-63	369' FSL & 64' FEL of Sec. 30, T-31-N, R-16-W
3-WS	11-18-62	1635' FSL & 1446' FEL of Sec. 4, T-30-N, R-16-W
4-WS	1-11-63	2390' FSL & 738' FWL of Sec. 34, T-31-N, R-16-W

The Unit is being served by five central batteries and 18 automatic test stations. There are four water plants in the field processing injected water by means of a closed system. Construction work is essentially completed in the Unit, leaving only minor painting, cleaning and some internal coating of lines to be done.

Development Plans for the Last Six Months of 1963

The Horseshoe-Gallup Unit is in the early stages of waterflood. Production rates have decreased from an average of about 4000 BOPD in August, 1962, the effective date of unitization, to a low of about 2100 BOPD in March, 1963. This decrease in oil rate of course resulted from the work involved in putting the flood underway such as the conversion of producing wells to injection, etc. Since March, 1963, the Unit oil rate has begun to increase and is now at about 2640 BOPD which corresponds to the monthly oil rate for June shown on the attached production review.

As the work involved to institute the waterflood is just now being finished, there are no plans for the period covered by this Plan other than those outlined in the Initial Plan of Development. The operation of the Unit will continue following the Initial Plan of Development.

Approved Sept 25, 1963
A. H. Porter, Jr.
 Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

Water - Barrels 2,563,750

Cumulative Injection Since Discovery Since Unitization

Water - Barrels 5,328,503 2,958,876

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Approved Sept 25, 1963
A. H. Porter, Jr.
Secretary-Director

Production Review

Horseshoe-Gallup Participating Area

Number of Wells on 7-1-63

Producing	163
Shut-in	2
Water Injection	105
Water Source	4

June Production

Oil - Barrels	79,148
Gas - MCF	54,141
Water - Barrels	5,320

Production for First 6 Months of 1963

Oil - Barrels	441,600
Gas - MCF	317,681
Water - Barrels	22,010

Cumulative Production

Since Discovery

Since Unitization

Oil - Barrels	11,627,325	1,004,415
Gas - MCF	5,328,568	753,648
Water - Barrels	81,880	45,400

June Injection

Water - Barrels	568,616
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Injection for First 6 Months of 1963

Water - Barrels	2,563,750
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Cumulative Injection

Since Discovery

Since Unitization

Water - Barrels	5,328,503	2,958,876
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OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

2517

September 25, 1963

**The Atlantic Refining Company
Suite 760
110 16th Street
Denver 2, Colorado**

Attention: Mr. T. O. Davis

**Re: Fourth Revised Exhibit "C"
Horseshoe-Gallup Unit, San
Juan County, New Mexico**

Gentlemen:

This is advise that the New Mexico Oil Conservation Commission has this date approved the Fourth Revised Exhibit "C" for the Horseshoe-Gallup 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.

Two approved copies of the letter and Exhibit "C" are returned herewith.

Very truly yours,

**A. L. PORTER, Jr.,
Secretary-Director**

ALP/JEK/og

**cc: Commissioner of Public Lands - Santa Fe
United States Geological Survey - Roswell**

C
C
O
P
Y

August 26, 1963

The Atlantic Refining Company
Suite 760
Petroleum Club Building
110 16th Street
Denver 2, Colorado

Re: Horseshoe-Gallup Unit,
San Juan County, New Mexico,
Fourth Revised Exhibit "C"

Attention: Mr. W. O. Davis

Gentlemen:

The Commissioner of Public Lands approves the Fourth Revised Exhibit "C" to the Horseshoe-Gallup Unit agreement, to become effective February 1, 1963. This Fourth Revision is filed only to show new ownership and does not affect the participation of any of the other tracts in the unit.

We are returning one copy of your letter and exhibit "C", both of which I have had signed by the Commissioner.

Very truly yours,

E. S. JOHNNY WALKER,
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESJW/amr/m
encl.

cc: United States Geological Survey, Roswell
Oil Conservation Commission, Santa Fe



THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

July 10, 1963

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER
C. M. BONAR, GEOLOGICAL
FRANK P. CASTLEBERRY, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
R. P. CURRY, ADMINISTRATIVE
T. O. DAVIS, ENGINEERING
H. F. DODSON, GEOPHYSICAL

SUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
266-3741

The United States Geological Survey
Attention: Mr. John A. Anderson,
Regional Oil and Gas Supervisor
Post Office Drawer 1857
Roswell, New Mexico

Commissioner of Public Lands
Attention: Mrs. Marian M. Rhea
State Land Office
Santa Fe, New Mexico

New Mexico Oil Conservation Commission
Attention: Mr. A. L. Porter, Jr.
Post Office Box 871
Santa Fe, New Mexico

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

Enclosed are copies of the Fourth Revised Exhibit "C" to the Horseshoe-Gallup Unit Agreement. This exhibit was revised to show the splitting of Tracts 1 and 1-A due to an ownership change. On the original Exhibit "B", footnotes were included explaining that El Paso had earned an interest in part of the acreage in each of these tracts and that an assignment of this interest was being prepared for filing. This assignment has been prepared and filed, and approval to the transfer of ownership was given by the Bureau of Indian Affairs on January 24, 1963. Accordingly, former Tract 1 has been split into Tracts 1 and 1-B, and former Tract 1-A into 1-A and 1-C. This revision is only to show the new ownership, and does not affect the participation of any of the other tracts in the Unit.

You will recall that the splitting of these tracts was previously shown on the Second Revised Exhibit "C", prepared in December, 1962. At that time we were advised by the U.S.G.S., however, that approval to the Second Revised Exhibit "C" could not be granted until approval of the transfer of ownership

had been given by the Bureau of Indian Affairs. Atlantic, therefore, requested that, for the purposes of the Second Revised Exhibit "C", Tracts 1 and 1-B be considered recombined into Tract 1 and that Tracts 1-A and 1-C be considered recombined into Tract 1-A. With this stipulation, the exhibit was subsequently approved.

The effective date of the Fourth Revised Exhibit "C" is February 1, 1963, which is the first day of the month following the approval of the ownership change by the Bureau of Indian Affairs.

We are enclosing revisions to Exhibit "B" showing the ownership changes in the former Tracts 1 and 1-A.

Section 11 of the Unit Agreement, dealing with participation, does not specifically provide for approval of a revised Exhibit "C" resulting from the subject changes. We, however, respectfully request your consideration and approval of the Fourth Revised Exhibit "C" to the Horseshoe-Gallup Unit.

Yours very truly,

T. O. Davis / EAH

T. O. Davis, Chairman
Horseshoe-Gallup Operators' Committee

EMP:1b
Enclosures

Approved *Sept 26 1963*
A. G. Carter, Jr.
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

FOURTH REVISED EXHIBIT "G"
EFFECTIVE FEBRUARY 1, 1963

JUL 11 AM 1 15

SCHEDULE OF TRACT PERCENTAGE PARTICIPATION
HORSESHOE-GALLUP FIELD UNIT
SAN JUAN COUNTY, NEW MEXICO

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
<u>TRIBAL INDIAN LANDS</u>				
1	<u>T-31-N, R-17-W</u> Section 15: E/2 NW/4, NW/4 NW/4, E/2 SE/4, NW/4 SE/4	240.00	Navajo Contract I-149-Ind-7652 12-15-47	.0033%
1-A	<u>T-31-N, R-17-W</u> Section 23: E/2 NW/4, NW/4 NW/4	120.00	Navajo Contract I-149-Ind-7652 12-15-47	.0016%
1-B	<u>T-31-N, R-17-W</u> Section 15: NE/4	160.00	Navajo Contract I-149-Ind-7652 12-15-47	.0130%
1-C	<u>T-31-N, R-17-W</u> Section 23: E/2 SE/4, NW/4 SE/4	120.00	Navajo Contract I-149-Ind-7652 12-15-47	.0015%
3	<u>T-31-N, R-16-W</u> Section 19: W/2, SE/4, S/2 NE/4 Section 20: S/2	890.48	14-20-600-3531 10-31-57	4.1807%
4	<u>T-30-N, R-16-W</u> Section 6: E/2 NE/4, NW/4 NE/4	120.00	14-20-603-733 12-22-54	.1283%
5	<u>T-30-N, R-16-W</u> Section 5: NW/4, SE/4	315.84	14-20-603-733 12-22-54	1.2471%
6	<u>T-30-N, R-16-W</u> Section 5: NE/4, E/2 SW/4, NW/4 SW/4 Section 8: NE/4 NE/4	315.84	14-20-603-733 12-22-54	1.5477%
6-A	<u>T-30-N, R-16-W</u> Section 8: SE/4 NE/4, NW/4 NE/4 Section 9: That part of SW/4 NW/4 and NW/4 SW/4 lying within the Navajo Indian Reservation	109.46	14-20-603-733 12-22-54	.0335%
7	<u>T-30-N, R-16-W</u> Section 4: That part of the NW/4 NW/4 lying within the Navajo Indian Reservation	13.97	Navajo Contract 14-20-603-733 12-22-54	*
8	<u>T-30-N, R-16-W</u> Section 4: That part of the SW/4 NW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Approved *Sept 26 1963*
A. H. Peters
Secretary-Director

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
9	<u>T-30-N, R-16-W</u> Section 4: That part of the NW/4 SW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
10	<u>T-30-N, R-16-W</u> Section 4: That part of the SW/4 SW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	* *
11	<u>T-30-N, R-16-W</u> Section 9: That part of the NW/4 NW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
12	<u>T-31-N, R-16-W</u> Section 29: All Section 30: All Section 31: E/2, NW/4, E/2 SW/4, NW/4 SW/4 Section 32: All Section 28: That part lying within the Navajo Indian Reservation Section 33: That part lying within the Navajo Indian Reservation	2644.14	14-20-603-734 12-22-54	37.4212%
13	<u>T-31-N, R-17-W</u> Section 13: SW/4, W/2 SE/4, SE/4 SE/4, SW/4 NW/4 Section 14: All Section 23: NE/4 Section 24: N/2	1442.48	14-20-603-2022 2-1-57	9.6892%
15	<u>T-31-N, R-17-W</u> Section 24: S/2 Section 25: E/2, NW/4, NE/4 SW/4 Section 36: NE/4 NE/4	880.00	14-20-603-2037 1-28-57	8.6020%
16	<u>T-31-N, R-16-W</u> Section 21: S/2 Section 22: S/2 SW/4	381.78	14-20-604-1948 6-28-57	.5259%
17	<u>T-31-N, R-16-W</u> Section 26: S/2 Section 35: W/2, NE/4, N/2 SE/4 Section 36: W/2 SW/4	951.77	14-20-604-1950 2-25-57	1.7788%
18	<u>T-31-N, R-16-W</u> Section 35: S/2 SE/4	77.46	14-20-604-1950 2-25-57	.1188%

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
19	<u>T-31-N, R-16-W</u> Section 27: SE/4, NW/4, E/2 SW/4, W/2 NE/4, SE/4 NE/4 Section 28: E/2 SE/4, W/2 E/2, that part of W/2 lying within the Ute Indian Reservation Section 33: W/2 NE/4, E/2 SE/4, that part of W/2 lying within the Ute Indian Reservation Section 34: NE/4, W/2 SE/4, NE/4 SE/4, W/2 NW/4, E/2 SW/4	1815.77	14-20-604-1951 9-23-57	9.2342%
20	<u>T-31-N, R-16-W</u> Section 28: E/2 NE/4 Section 33: E/2 NE/4 Section 34: E/2 NW/4, W/2 SW/4	318.12	14-20-604-1951 9-23-57	1.4373%
21	<u>T-31-N, R-16-W</u> Section 27: W/2 SW/4 Section 33: W/2 SE/4 Section 34: SE/4 SE/4	198.28	14-20-604-1951 9-23-57	1.4322%
<u>ALLOTTED INDIAN LANDS</u>				
24	<u>T-30-N, R-16-W</u> Section 2: Lots 1, 2, 5 and 6	156.65	Navajo Allotted Contract 14-20-603-4908 12-22-58	.1892%
25	<u>T-30-N, R-16-W</u> Section 2: SW/4	160.00	Navajo Allotted Contract 14-20-603-4909 1-22-59	.3470%
<u>FEDERAL LANDS</u>				
26	<u>T-30-N, R-16-W</u> Section 3: Lots 3 and 4 Section 4: Lot 3	114.43	SF-079439 9-1-48	1.4398%
27	<u>T-30-N, R-16-W</u> Section 3: Lots 1 and 2	76.74	SF-079439 9-1-48	.2363%
28	<u>T-30-N, R-16-W</u> Section 4: Lot 4	18.83	SF-079439 9-1-48	*
29	<u>T-30-N, R-16-W</u> Section 4: Lot 5	19.86	SF-079439 9-1-48	*
30	<u>T-30-N, R-16-W</u> Section 4: Lot 6	19.88	SF-079439 9-1-48	*
31	<u>T-30-N, R-16-W</u> Section 4: Lot 7	19.89	SF-079439 9-1-48	*

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
32	<u>T-30-N, R-16-W</u> Section 4: Lots 1 and 2	76.58	SF-079439-A 9-1-48	1.1533%
33	<u>T-30-N, R-16-W</u> Section 3: Lots 5, 6, 9, 11, 14 and 16 Section 4: E/2 SE/4, E/2 SW/4, SE/4 NE/4 Section 10: Lots 1 and 2	515.40	SF-081226 10-1-51	6.9667%
34	<u>T-30-N, R-16-W</u> Section 9: NW/4 SE/4	40.00	SF-081226 10-1-51	.1260%
34-A	<u>T-30-N, R-16-W</u> Section 9: SW/4 SE/4	40.00	SF-081226 10-1-51	.0630%
35	<u>T-30-N, R-16-W</u> Section 9: Lot 1	19.89	SF-081226-A 10-1-51	*
36	<u>T-30-N, R-16-W</u> Section 9: Lots 2 and 3 E/2 SW/4	119.74	SF-081226-A 10-1-51	.2067%
37	<u>T-30-N, R-16-W</u> Section 9: E/2 NW/4	80.00	SF-081226-A 10-1-51	.3354%
38	<u>T-30-N, R-16-W</u> Section 4: W/2 SE/4, SW/4 NE/4, SE/4 NW/4 Section 3: Lots 7, 8, 10, 15, 12 and 13 Section 9: W/2 NE/4 Section 10: E/2 NW/4	557.76	SF-081226-B 10-1-51	8.6917%
39	<u>T-30-N, R-16-W</u> Section 9: E/2 NE/4	80.00	SF-081226-C 10-1-51	.4980%
40	<u>T-30-N, R-16-W</u> Section 9: E/2 SE/4	80.00	NM-04444-A 4-1-52	.2205%
<u>STATE LANDS</u>				
41	<u>T-30-N, R-16-W</u> Section 2: Lots 3 and 4	77.84	E-3150-4 12-10-49	.2060%
42	<u>T-30-N, R-16-W</u> Section 2: S/2 NW/4	80.00	E-9896-3 3-20-56	.2135%

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
<u>COMMUNITIZED TRACTS</u>				
7-28	<u>T-30-N, R-16-W</u> Section 4: Lot 4 and that part of the NW/4 NW/4 lying within the Navajo Indian Reservation	18.83 <u>13.97</u> 32.80	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.8163%
8-29	<u>T-30-N, R-16-W</u> Section 4: Lot 5 and that part of the SW/4 NW/4 lying within the Navajo Indian Reservation	19.86 <u>14.73</u> 34.59	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.5745%
9-30	<u>T-30-N, R-16-W</u> Section 4: Lot 6 and that part of the NW/4 SW/4 lying within the Navajo Indian Reservation	19.88 <u>14.73</u> 34.61	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.1275%
10-31	<u>T-30-N, R-16-W</u> Section 4: Lot 7 and that part of the SW/4 SW/4 lying within the Navajo Indian Reservation	19.89 <u>14.73</u> 34.62	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.0930%
11-35	<u>T-30-N, R-16-W</u> Section 9: Lot 1 and that part of the NW/4 NW/4 lying within the Navajo Indian Reservation	19.89 <u>14.73</u> 34.62	SF-081226-A 10-1-51 Navajo Contract 14-20-603-733 12-22-54	.0993%

RECAPITULATION

Indian Tribal Land	11,174.31
Allotted Indian Land	316.65
Federal Land	1,879.00
State of New Mexico Land	<u>157.84</u>
	13,527.80

SUMMARY

<u>Working Interest Owner</u>	<u>Tract Number</u>	<u>Percentage Participation</u>
J. R. Abraham	18	.0003
	40	<u>.2205</u>
	Total	.2208
The Atlantic Refining Company	3	4.1807
	12	37.4212
	17	1.7788
	18	.0525
	20	<u>1.4373</u>
	Total	44.8705
Clark and Cowden	5	.3118
	7-28	.2040
	8-29	.1436
	9-30	.0136
	10-31	.0099
	18	.0034
	26	.3599
	33	1.7417
	34	.0315
	34-A	<u>.0158</u>
	Total	2.8352
J. Douglas Collister	24	.0148
	25	<u>.0271</u>
	Total	.0419
Continental Oil Company	5	.3118
	7-28	.2041
	8-29	.1436
	9-30	.0136
	10-31	.0099
	18	.0034
	26	.3600
	33	1.7416
	34	.0315
	34-A	<u>.0157</u>
	Total	2.8352
Richard W. Dammann	24	.0148
	25	<u>.0271</u>
	Total	.0419
Delhi-Taylor Oil Corporation	1	.0016
	1-A	<u>.0008</u>
	Total	.0024
El Paso Natural Gas Products Company	1-B	.0130
	1-C	.0015
	5	.6235
	7-28	.4082
	8-29	.2873
	9-30	.0271
	10-31	.0198
	11-35	.0571
	15	8.6020
	18	.0292
	19	9.2342
	24	.0946
	25	.1735
	26	.7199
	33	3.4834
	36	.2067
	41	<u>.2060</u>
Total	24.1870	

<u>Working Interest Owner</u>	<u>Tract Number</u>	<u>Percentage Participation</u>
EPROC Associates	42	.0171
	Total	.0171
Helbing and Podpechan	24	.0029
	25	.0054
	Total	.0083
J. Felix Hickman	18	.0002
	24	.0473
	25	.0868
	Total	.1343
The Hidden Splendor Mining Company	4	.1283
	6	1.5477
	9-30	.0732
	10-31	.0534
	11-35	.0422
	18	.0067
	21	1.4322 *
	27	.2363
	32	1.1533
	34	.0315
	37	.3354
	39	.4980
Total	5.5382	
Socony Mobil Oil Company, Inc.	13	9.6892
	18	.0117
	Total	9.7009
Petro-Atlas, Inc.	6-A	.0335
	18	.0001
	34	.0236
	34-A	.0276
	Total	.0848
Reynolds Mining Corporation	1	.0017
	1-A	.0008
	Total	.0025
Robert D. Snow	34	.0079
	34-A	.0039
Total	.0118	
Sohio Petroleum Company	18	.0105
	38	8.6917
	Total	8.7022
Eleanor F. Spiegel	24	.0148
	25	.0271
	Total	.0419
Texaco, Inc.	16	.5259
	18	.0006
	Total	.5265
VACK Ventures	18	.0002
	42	.1964
	Total	.1966

* This value calculated on basis of Hidden Splendor's working interest in Tract 21 being 100% as other interest in tract is free of development, operating costs, and royalty payment.



THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

2579

DOMESTIC PRODUCING DEPARTMENT
 ROCKY MOUNTAIN DISTRICT

- S. L. SMITH, MANAGER
- C. M. BONAR, GEOLOGICAL
- FRANK P. CASTLEBERRY, LAND
- R. O. CHILDERS, DRILLING & PRODUCTION
- R. P. CURRY, ADMINISTRATIVE
- T. O. DAVIS, ENGINEERING
- H. F. DODSON, GEOPHYSICAL

September 10, 1963

SUITE 760
 PETROLEUM CLUB BLDG.
 110 16TH STREET
 DENVER 2, COLORADO
 266-3741

The United States Geological Survey (7)
 Attention: Mr. John A. Anderson
 Regional Oil and Gas Supervisor
 Post Office Drawer 1857
 Roswell, New Mexico

Commissioner of Public Lands (3)
 Attention: Mrs. Marion M. Rhea
 State Land Office
 Santa Fe, New Mexico

New Mexico Oil Conservation Commission (3)
 Attention: Mr. A. L. Porter, Jr.
 Post Office Box 871
 Santa Fe, New Mexico

RE: Horseshoe-Gallup Unit
 San Juan County, New Mexico

Gentlemen:

The U.S.G.S. has asked for revised copies of Exhibit "A" to the Horseshoe-Gallup Unit Agreement to show the current tracts in the Unit. Copies of this revised exhibit are attached for your files.

The revised Exhibit "A" shows that the lands formerly covered by Tracts 1 and 1A have been divided into Tracts 1, 1A, 1B, and 1C to recognize separate working interest ownership. Well numbers on the revised Exhibit "A" are the same as those shown on the original in order that the wells can easily be related to their respective tracts. The revised Exhibit "A" shows the tracts which declined to join the unit, and also the present outline of the participating area.

Yours very truly,

T. O. Davis

T. O. Davis, Chairman
 Horseshoe-Gallup Operator's Committee

EMP:jl c

cc: Horseshoe-Gallup
 Working Interest Owners

REVIEWS TO EXHIBIT "B"
February 1, 1963

HORSESHOE-CALHUP UNIT AREA, SAN JUAN COUNTY, NEW MEXICO

INDIAN TRIBAL LANDS

Tract Number	Description	No. Acres	Serial No. & Date of Lease or Application	Basic Royalty & Percentage	Lessee of Record	Overriding Royalty and Percentage	Working Interest Percentage
1	<u>T-31-N, R-17-W</u> Section 15: W/2, SE/4	920.00	I-149-Ind-7652	Navajo Tribe of Indians - 12.5%	Reynolds Mining Corp. - 1/2 Delhi-Taylor Oil Corp. - 1/2	San Jacinto Pet. Corp. - 1.367187% Western Natural Gas Co. - 2.734375%	Delhi-Taylor Oil Corp. - 50% Reynolds Mining Corp. - 50%
	Section 22: N/2, W/2 SE/4, SE/4 SE/4						
1-A	<u>T-31-N, R-17-W</u> Section 23: W/2	760.00	I-149-Ind-7652	Navajo Tribe of Indians - 12.5%	Reynolds Mining Corp. - 1/2 Delhi-Taylor Oil Corp. - 1/2	San Jacinto Pet. Corp. - 1.367187% Western Natural Gas Co. - 2.734375%	Delhi-Taylor Oil Corp. - 50% Reynolds Mining Corp. - 50%
	Section 26: E/2, N/2 NW/4, SE/4 NW/4						

2577

INDIAN TRIBAL LANDS

Tract Number	Description	No. Acres	Serial No. & Date of Lease or Application	Basic Royalty & Percentage	Lessee of Record	Overriding Royalty and Percentage	Working Interest Percentage
1-B	<u>T-31-N, R-17-W</u>	200.00	I-149-Ind-7652 12-15-47	Navajo Tribe of Indians - 12.5%	Reynolds Mining Corp. - 1/2 Delhi-Taylor Oil Corp. - 1/2	San Jacinto Pet. Corp. - 1.367187% Western Natural Gas Co. - 2.734375% Delhi-Taylor Oil Corp. -	El Paso Natural Gas Products Co. - All
	Section 15: NE/4						
	Section 22: NE/4 SE/4						
1-C	<u>T-31-N, R-17-W</u>	200.00	I-149-Ind-7652 12-15-47	Navajo Tribe of Indians - 12.5%	Reynolds Mining Corp. - 1/2 Delhi-Taylor Oil Corp. - 1/2	Same as for Tract 1-B	El Paso Natural Gas Products Co. - All
	Section 23: SE/4						
	Section 26: SW/4 NW/4						
						0-40 BOPD - 2.734375% 41-100 BOPD - 4.1015625% 101-Up BOPD - 5.46875%	
						<u>Oil</u> 0-500 MCFPD - 5.46875% 500-2000 MCFPD - 8.203125% 2001-Up - 10.9375%	
						<u>Gas</u> 0-500 MCFPD - 5.46875% 500-2000 MCFPD - 8.203125% 2001-Up - 10.9375%	
					Reynolds Mining Corp. -		

ATLANTIC

THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

2519

June 5, 1963

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER
C. M. BONAR, GEOLOGICAL
FRANK P. CASTLEBERRY, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
R. P. CURRY, ADMINISTRATIVE
T. O. DAVIS, ENGINEERING
H. F. DODSON, GEOPHYSICAL

SUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
266-3741

To: Horseshoe-Gallup Working Interest Owners

Re: Horseshoe-Gallup Unit

Gentlemen:

This is to advise that the Third Revised Exhibit "C" to the Horseshoe-Gallup Unit Agreement has been approved by the U.S.G.S., the New Mexico Oil Conservation Commission and the New Mexico Commissioner of Public Lands. Approval letters were received by Atlantic from the above agencies dated May 23, June 3 and May 16, 1963, respectively.

The Third Revised Exhibit "C" reflects the commitment of Tract 20 to the Horseshoe-Gallup Unit, and is effective January 1, 1963.

Yours truly,



T. O. Davis, Chairman
Horseshoe-Gallup Operators' Committee

EMP:1b

cc: United States Geological Survey
New Mexico Oil Conservation Commission
Commissioner of Public Lands, State of New Mexico

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

2519

June 3, 1963

The Atlantic Refining Company
Suite 760
Petroleum Club Building
110 6th Street
Denver 2, Colorado

Attention: Mr. T. O. Davis

Re: Third Revised Exhibit "C"
Horseshoe-Gallup Unit, San
Juan County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Third Revised Exhibit "C", Schedule of Tract Percentage Participation, for the Horseshoe-Gallup 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.

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
Roswell, New Mexico

COPY

205714 20 2 00

May 16, 1963

The Atlantic Refining Company
Suite 760
Petroleum Club Building
110 16th Street
Denver 2, Colorado

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico
Third Revised Exhibit "C"

Attention: Mr. W. O. Davis

Gentlemen:

The Commissioner of Public Lands approves as of May 16, 1963 the Third Revised Exhibit "C" for the Horseshoe-Gallup Unit Area, San Juan County, New Mexico.

This revision reflects the commitment of tract No. 20 and is effective January 1, 1963.

Your letter state you had also enclosed revisions of Exhibit "B", however, you enclosed revisions designated as "Revised Exhibit "F"".

Please notify us when this Revision has been fully approved.

The Atlantic Refining Company
Attention: Mr. T. O. Davis
May 16, 1963
- page 2 -

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESW/mmr/v

cc: Oil Conservation Commission
Santa Fe, New Mexico

U. S. Department of Interior
Geological Survey
Roswell, New Mexico
Attention: Mr. John A. Anderson

ATLANTIC

THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

May 14, 1963

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER
C. M. BONAR, GEOLOGICAL
FRANK P. CASTLEBERRY, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
R. P. CURRY, ADMINISTRATIVE
T. O. DAVIS, ENGINEERING
H. F. DODSON, GEOPHYSICAL

SUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
266-3741

The United States Geological Survey
Attention: Mr. John A. Anderson,
Regional Oil and Gas Supervisor
Post Office Drawer 1857
Roswell, New Mexico

Commissioner of Public Lands
Attention: Mrs. Marian M. Rhea
State Land Office
Santa Fe, New Mexico

New Mexico Oil Conservation Commission
Attention: Mr. A. L. Porter, Jr.
Post Office Box 871
Santa Fe, New Mexico

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

Attached are copies of the Third Revised Exhibit "C" to the Horseshoe-Gallup Unit Agreement. This exhibit was revised to reflect the commitment to the Unit of Tract 20, which was formerly operated by R. H. Banner. The Banner interest was purchased by The Atlantic Refining Company effective November 1, 1962, and Atlantic requested that the tract be committed to the Unit in a letter to the U.S.G.S., dated December 26, 1962. Copies of the Ratification and Joinder to the Unit Agreement and Unit Operating Agreement, executed by The Atlantic Refining Company, were furnished with that letter. Tract 20 is being brought into the Unit in accordance with Section 28 of the Unit Agreement whereby any interest in the Unit Area may come into the Unit within six months after the effective date on the original basis of participation.

The effective date of commitment of Tract 20 to the Horseshoe-Gallup Unit is January 1, 1963, which is the first day of the month following the filing of the necessary ratifications and joinders. We delayed revising the exhibit

until the assignment to Atlantic had been approved by the Bureau of Indian Affairs. This approval has now been received, and the U.S.G.S. has accepted the tract as being effectively committed January 1, 1963.

We are enclosing revisions to Exhibit "B" showing the ownership changes in Tract 20.

In accordance with the last paragraph of Section 11 of the Unit Agreement, we respectfully request your consideration and approval of the enclosed Third Revised Exhibit "C" to the Horseshoe-Gallup Unit Agreement.

Yours very truly,

T. O. Davis

T. O. Davis, Chairman
Horseshoe-Gallup Operators' Committee

EMP:lb

Enclosures

cc: All Working Interest Owners

1000 MAY 1963 PM 1 15

THIRD REVISED EXHIBIT "C"
EFFECTIVE JANUARY 1, 1963

SCHEDULE OF TRACT PERCENTAGE PARTICIPATION
HORSESHOE-GALLUP FIELD UNIT
SAN JUAN COUNTY, NEW MEXICO

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
<u>TRIBAL INDIAN LANDS</u>				
1	T-31-N, R-17-W Section 15: NE/4, E/2 NW/4, NW/4 NW/4, E/2 SE/4, NW/4 SE/4	400.00	Navajo Contract I-149-Ind-7652 12-15-47	.0163%
1-A	T-31-N, R-17-W Section 23: E/2 SE/4, NW/4 SE/4, E/2 NW/4, NW/4 NW/4	240.00	Navajo Contract I-149-Ind-7652 12-15-47	.0031%
3	T-31-N, R-16-W Section 19: W/2, SE/4, S/2 NE/4 Section 20: S/2	890.48	14-20-600-3531 10-31-57	4.1807%
4	T-30-N, R-16-W Section 6: E/2 NE/4, NW/4 NE/4	120.00	14-20-603-733 12-22-54	.1283%
5	T-30-N, R-16-W Section 5: NW/4, SE/4	315.84	14-20-603-733 12-22-54	1.2471%
6	T-30-N, R-16-W Section 5: NE/4, E/2 SW/4, NW/4 SW/4 Section 8: NE/4 NE/4	315.84	14-20-603-733 12-22-54	1.5477%
6-A	T-30-N, R-16-W Section 8: SE/4 NE/4, NW/4 NE/4 Section 9: That part of SW/4 NW/4 and NW/4 SW/4 lying within the Navajo Indian Reservation	109.46	14-20-603-733 12-22-54	.0335%
7	T-30-N, R-16-W Section 4: That part of the NW/4 NW/4 lying within the Navajo Indian Reservation	13.97	Navajo Contract 14-20-603-733 12-22-54	*
8	T-30-N, R-16-W Section 4: That part of the SW/4 NW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
9	<u>T-30-N, R-16-W</u> Section 4: That part of the NW/4 SW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
10	<u>T-30-N, R-16-W</u> Section 4: That part of the SW/4 SW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
11	<u>T-30-N, R-16-W</u> Section 9: That part of the NW/4 NW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
12	<u>T-31-N, R-16-W</u> Section 29: All Section 30: All Section 31: E/2, NW/4, E/2 SW/4, NW/4 SW/4 Section 32: All Section 28: That part lying within the Navajo Indian Reservation Section 33: That part lying within the Navajo Indian Reservation	2644.14	14-20-603-734 12-22-54	37.4212%
13	<u>T-31-N, R-17-W</u> Section 13: SW/4, W/2 SE/4, SE/4 SE/4, SW/4 NW/4 Section 14: All Section 23: NE/4 Section 24: N/2	1442.48	14-20-603-2022 2-1-57	9.6892%
15	<u>T-31-N, R-17-W</u> Section 24: S/2 Section 25: E/2, NW/4, NE/4 SW/4 Section 36: NE/4 NE/4	880.00	14-20-603-2037 1-28-57	8.6020%
16	<u>T-31-N, R-16-W</u> Section 21: S/2 Section 22: S/2 SW/4	381.78	14-20-604-1948 6-28-57	.5259%
17	<u>T-31-N, R-16-W</u> Section 26: S/2 Section 35: W/2, NE/4, N/2 SE/4 Section 36: W/2 SW/4	951.77	14-20-604-1950 2-25-57	1.7788%
18	<u>T-31-N, R-16-W</u> Section 35: S/2 SE/4	77.46	14-20-604-1950 2-25-57	.1188%

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
19	<u>T-31-N, R-16-W</u> Section 27: SE/4, NW/4, E/2 SW/4, W/2 NE/4, SE/4 NE/4 Section 28: E/2 SE/4, W/2 E/2, that part of W/2 lying within the Ute Indian Reservation Section 33: W/2 NE/4, E/2 SE/4, that part of W/2 lying within the Ute Indian Reservation Section 34: NE/4, W/2 SE/4, NE/4 SE/4, W/2 NW/4, E/2 SW/4	1815.77	14-20-604-1951 9-23-57	9.2342%
20	<u>T-31-N, R-16-W</u> Section 28: E/2 NE/4 Section 33: E/2 NE/4 Section 34: E/2 NW/4, W/2 SW/4	318.12	14-20-604-1951 9-23-57	1.4373%
21	<u>T-31-N, R-16-W</u> Section 27: W/2 SW/4 Section 33: W/2 SE/4 Section 34: SE/4 SE/4	198.28	14-20-604-1951 9-23-57	1.4322%
<u>ALLOTTED INDIAN LANDS</u>				
24	<u>T-30-N, R-16-W</u> Section 2: Lots 1, 2, 5 and 6	156.65	Navajo Allotted Contract 14-20-603-4908 12-22-58	.1892%
25	<u>T-30-N, R-16-W</u> Section 2: SW/4	160.00	Navajo Allotted Contract 14-20-603-4909 1-22-59	.3470%
<u>FEDERAL LANDS</u>				
26	<u>T-30-N, R-16-W</u> Section 3: Lots 3 and 4 Section 4: Lot 3	114.43	SF-079439 9-1-48	1.4398%
27	<u>T-30-N, R-16-W</u> Section 3: Lots 1 and 2	76.74	SF-079439 9-1-48	.2363%
28	<u>T-30-N, R-16-W</u> Section 4: Lot 4	18.83	SF-079439 9-1-48	*
29	<u>T-30-N, R-16-W</u> Section 4: Lot 5	19.86	SF-079439 9-1-48	*
30	<u>T-30-N, R-16-W</u> Section 4: Lot 6	19.88	SF-079439 9-1-48	*
31	<u>T-30-N, R-16-W</u> Section 4: Lot 7	19.89	SF-079439 9-1-48	*

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
32	<u>T-30-N, R-16-W</u> Section 4: Lots 1 and 2	76.58	SF-079439-A 9-1-48	1.1533%
33	<u>T-30-N, R-16-W</u> Section 3: Lots 5, 6, 9, 11, 14 and 16 Section 4: E/2 SE/4, E/2 SW/4, SE/4 NE/4 Section 10: Lots 1 and 2	515.40	SF-081226 10-1-51	6.9667%
34	<u>T-30-N, R-16-W</u> Section 9: NW/4 SE/4	40.00	SF-081226 10-1-51	.1260%
34-A	<u>T-30-N, R-16-W</u> Section 9: SW/4 SE/4	40.00	SF-081226 10-1-51	.0630%
35	<u>T-30-N, R-16-W</u> Section 9: Lot 1	19.89	SF-081226-A 10-1-51	*
36	<u>T-30-N, R-16-W</u> Section 9: Lots 2 and 3 E/2 SW/4	119.74	SF-081226-A 10-1-51	.2067%
37	<u>T-30-N, R-16-W</u> Section 9: E/2 NW/4	80.00	SF-081226-A 10-1-51	.3354%
38	<u>T-30-N, R-16-W</u> Section 4: W/2 SE/4, SW/4 NE/4, SE/4 NW/4 Section 3: Lots 7, 8, 10, 15, 12 and 13 Section 9: W/2 NE/4 Section 10: E/2 NW/4	557.76	SF-081226-B 10-1-51	8.6917%
39	<u>T-30-N, R-16-W</u> Section 9: E/2 NE/4	80.00	SF-081226-C 10-1-51	.4980%
40	<u>T-30-N, R-16-W</u> Section 9: E/2 SE/4	80.00	NM-04444-A 4-1-52	.2205%
<u>STATE LANDS</u>				
41	<u>T-30-N, R-16-W</u> Section 2: Lots 3 and 4	77.84	E-3150-4 12-10-49	.2060%
42	<u>T-30-N, R-16-W</u> Section 2: S/2 NW/4	80.00	E-9896-3 3-20-56	.2135%

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
<u>COMMUNITIZED TRACTS</u>				
7-28	<u>T-30-N, R-16-W</u> Section 4: Lot 4 and that part of the NW/4 NW/4 lying within the Navajo Indian Reservation	18.83 <u>13.97</u> 32.80	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.8163%
8-29	<u>T-30-N, R-16-W</u> Section 4: Lot 5 and that part of the SW/4 NW/4 lying within the Navajo Indian Reservation	19.86 <u>14.73</u> 34.59	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.5745%
9-30	<u>T-30-N, R-16-W</u> Section 4: Lot 6 and that part of the NW/4 SW/4 lying within the Navajo Indian Reservation	19.88 <u>14.73</u> 34.61	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.1275%
10-31	<u>T-30-N, R-16-W</u> Section 4: Lot 7 and that part of the SW/4 SW/4 lying within the Navajo Indian Reservation	19.89 <u>14.73</u> 34.62	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.0930%
11-35	<u>T-30-N, R-16-W</u> Section 9: Lot 1 and that part of the NW/4 NW/4 lying within the Navajo Indian Reservation	19.89 <u>14.73</u> 34.62	SF-081226-A 10-1-51 Navajo Contract 14-20-603-733 12-22-54	.0993%

RECAPITULATION

Indian Tribal Land	11,174.31
Allotted Indian Land	316.65
Federal Land	1,879.00
State of New Mexico Land	<u>157.84</u>
	13,527.80

SUMMARY

<u>Working Interest Owner</u>	<u>Tract Number</u>	<u>Percentage Participation</u>
J. R. Abraham	18	.0003
	40	<u>.2205</u>
	Total	.2208
The Atlantic Refining Company	3	4.1807
	12	37.4212
	17	1.7788
	18	.0525
	20	<u>1.4373</u>
Total	44.8705	
Clark and Cowden	5	.3118
	7-28	.2040
	8-29	.1436
	9-30	.0136
	10-31	.0099
	18	.0034
	26	.3599
	33	1.7417
	34	.0315
	34-A	<u>.0158</u>
Total	2.8352	
J. Douglas Collister	24	.0148
	25	<u>.0271</u>
Total	.0419	
Continental Oil Company	5	.3118
	7-28	.2041
	8-29	.1436
	9-30	.0136
	10-31	.0099
	18	.0034
	26	.3600
	33	1.7416
	34	.0315
	34-A	<u>.0157</u>
Total	2.8352	
Richard W. Dammann	24	.0148
	25	<u>.0271</u>
Total	.0419	
Delhi-Taylor Oil Corporation	1	.0082
	1-A	<u>.0015</u>
Total	.0097	
El Paso Natural Gas Products Company	5	.6235
	7-28	.4082
	8-29	.2873
	9-30	.0271
	10-31	.0198
	11-35	.0571
	15	8.6020
	18	.0292
	19	9.2342
	24	.0946
	25	.1735
	26	.7199
	33	3.4834
	36	.2067
	41	<u>.2060</u>
Total	24.1725	

<u>Working Interest Owner</u>	<u>Tract Number</u>	<u>Percentage Participation</u>
EPROC Associates	42	.0171
	Total	.0171
Helbing and Podpechan	24	.0029
	25	.0054
	Total	.0083
J. Felix Hickman	18	.0002
	24	.0473
	25	.0868
	Total	.1343
The Hidden Splendor Mining Company	4	.1283
	6	1.5477
	9-30	.0732
	10-31	.0534
	11-35	.0422
	18	.0067
	21	1.4322 *
	27	.2363
	32	1.1533
	34	.0315
	37	.3354
	39	.4980
Total	5.5382	
Socony Mobil Oil Company, Inc.	13	9.6892
	18	.0117
	Total	9.7009
Petro-Atlas, Inc.	6-A	.0335
	18	.0001
	34	.0236
	34-A	.0276
	Total	.0848
Reynolds Mining Corporation	1	.0081
	1-A	.0016
Total	.0097	
Robert D. Snow	34	.0079
	34-A	.0039
Total	.0118	
Sohio Petroleum Company	18	.0105
	38	8.6917
	Total	8.7022
Eleanor F. Spiegel	24	.0148
	25	.0271
	Total	.0419
Texaco, Inc.	16	.5259
	18	.0006
	Total	.5265
VACK Ventures	18	.0002
	42	.1964
	Total	.1966

* This value calculated on basis of Hidden Splendor's working interest in Tract 21 being 100% as other interest in tract is free of development, operating costs, and royalty payment.

REVISED EXHIBIT "F"
CORRESPONDING TO
THIRD REVISED EXHIBIT "C"
JANUARY 1, 1963

SCHEDULE OF TRACT ASSESSMENTS
HORSESHOE-GALLUP FIELD UNIT
SAN JUAN COUNTY, NEW MEXICO

Tracts Containing Assessable Acreage	Working Interest Owner	Barrels of Oil in Place under Assessable Acre- age in Tract	Tract Assessment for Intangibles	Tract Assessment for Tubing and Sucker Rods
1	Delhi-Taylor Oil Corp. Reynolds Mining Corp.	4,459 <u>4,458</u> 8,917	\$ 211.18 <u>211.13</u> 422.31	\$ 26.71 <u>26.70</u> 53.41
1-A	Delhi-Taylor Oil Corp. Reynolds Mining Corp.	685 <u>685</u> 1,370	32.44 <u>32.44</u> \$ 64.88	4.10 <u>4.10</u> 8.20
3	The Atlantic Refining Co.	92,643	4,387.56	554.90
4	The Hidden Splendor Mining Company	10,078	477.29	60.36
6-A	Petro-Atlas, Inc.	39,690	1,879.71	237.73
12	The Atlantic Refining Co.	286,527	13,569.87	1,716.20
13	Mobil Oil Company	473,869	22,442.35	2,838.30
15	El Paso Natural Gas Products Company	253,524	12,006.85	1,518.51
16	Texaco, Inc.	247,320	11,713.03	1,481.35
17	The Atlantic Refining Co.	185,473	8,783.97	1,110.91
18	J. R. Abraham The Atlantic Refining Co. Clark and Cowden Continental Oil Co. El Paso Natural Gas Products Company J. Felix Hickman The Hidden Splendor Mining Company Mobil Oil Company Petro-Atlas, Inc. Sohio Petroleum Corp. Texaco, Inc. VACK Ventures	355 62,136 4,024 4,024 34,560 237 7,930 13,848 118 12,427 710 <u>237</u> 140,606	16.81 2,942.75 190.58 190.58 \$ 1,636.76 11.22 375.56 655.84 5.60 588.54 33.63 <u>11.22</u> \$ 6,659.09	2.13 372.18 24.10 24.10 207.00 1.42 47.50 82.94 .71 74.43 4.25 <u>1.42</u> \$ 842.18

Tracts Containing Assessable Acreage	Working Interest Owner	Barrels of Oil in Place under Assessable Acre- age in Tract	Tract Assessment for Intangibles	Tract Assessment for Tubing and Sucker Rods
19	El Paso Natural Gas Products Company	104,643	\$ 4,955.87	\$ 626.77
24	J. Douglas Collister	787	37.27	4.71
	Richard W. Dammann	787	37.27	4.71
	El Paso Natural Gas Products Company	5,039	238.65	30.18
	Helbing and Podpechan	158	7.48	.95
	J. Felix Hickman	2,520	119.35	15.09
	Eleanor F. Spiegel	787	37.27	4.71
		<u>10,078</u>	\$ <u>477.29</u>	\$ <u>60.35</u>
25	J. Douglas Collister	5,393	255.41	32.30
	Richard W. Dammann	5,393	255.41	32.30
	El Paso Natural Gas Products Company	34,513	1,634.53	206.72
	Helbing and Podpechan	1,078	51.05	6.46
	J. Felix Hickman	17,256	817.24	103.36
	Eleanor F. Spiegel	5,393	255.41	32.30
		<u>69,026</u>	\$ <u>3,269.05</u>	\$ <u>413.44</u>
34-A	Continental Oil Company	18,637	882.64	111.63
	Clark and Cowden	18,637	882.64	111.63
	Petro-Atlas, Inc.	32,615	1,544.64	195.35
	Robert D. Snow	4,659	220.65	27.91
		<u>74,548</u>	\$ <u>3,530.57</u>	\$ <u>446.52</u>
36	El Paso Natural Gas Products Company	181,124	8,578.00	1,084.87
TOTAL		2,179,436	\$103,217.69	\$13,054.00

SUMMARY

Working Interest Owner	Tract Number	Assessment for Intangibles (\$)	Assessment for Tubing and Sucker Rods (\$)	Aggregate Assessment (\$)
J. R. Abraham	18	<u>16.81</u>	<u>2.13</u>	<u>18.94</u>
	Total	16.81	2.13	18.94
The Atlantic Refining Co.	3	4,387.56	554.90	4,942.46
	12	13,569.87	1,716.20	15,286.07
	17	8,783.97	1,110.91	9,894.88
	18	<u>2,942.75</u>	<u>372.18</u>	<u>3,314.93</u>
	Total	29,684.15	3,754.19	33,438.34
Clark and Cowden	18	190.58	24.10	214.68
	34-A	<u>882.64</u>	<u>111.63</u>	<u>994.27</u>
	Total	1,073.22	135.73	1,208.95
J. D. Collister	24	37.27	4.71	41.98
	25	<u>255.41</u>	<u>32.30</u>	<u>287.71</u>
	Total	292.68	37.01	329.69
Continental Oil Company	18	190.58	24.10	214.68
	34-A	<u>882.64</u>	<u>111.63</u>	<u>994.27</u>
	Total	1,073.22	135.73	1,208.95
R. W. Dammann	24	37.27	4.71	41.98
	25	<u>255.41</u>	<u>32.30</u>	<u>287.71</u>
	Total	292.68	37.01	329.69
Delhi-Taylor Oil Corp.	1	211.18	26.71	237.89
	1-A	<u>32.44</u>	<u>4.10</u>	<u>36.54</u>
	Total	243.62	30.81	274.43
El Paso Natural Gas Products Company	15	12,006.85	1,518.51	13,525.36
	18	1,636.76	207.00	1,843.76
	19	4,955.87	626.77	5,582.64
	24	238.65	30.18	268.83
	25	1,634.53	206.72	1,841.25
	36	<u>8,578.00</u>	<u>1,084.87</u>	<u>9,662.87</u>
	Total	29,050.66	3,674.05	32,724.71
Helbing and Podpechan	24	7.48	.95	8.43
	25	<u>51.05</u>	<u>6.46</u>	<u>57.51</u>
	Total	58.53	7.41	65.94
J. Felix Hickman	18	11.22	1.42	12.64
	24	119.35	15.09	134.44
	25	<u>817.24</u>	<u>103.36</u>	<u>920.60</u>
	Total	947.81	119.87	1,067.68
The Hidden Splendor Mining Company	4	477.29	60.36	537.65
	18	<u>375.56</u>	<u>47.50</u>	<u>423.06</u>
	Total	852.85	107.86	960.71

SUMMARY

Working Interest Owner	Tract Number	Assessment for Intangibles (\$)	Assessment for Tubing and Sucker Rods (\$)	Aggregate Assessment (\$)
Mobil Oil Company	13	22,442.35	2,838.30	25,280.65
	18	<u>655.84</u>	<u>82.94</u>	<u>738.78</u>
	Total	23,098.19	2,921.24	26,019.43
Petro-Atlas, Inc.	6-A	1,879.71	237.73	2,117.44
	18	5.60	.71	6.31
	34-A	<u>1,544.64</u>	<u>195.35</u>	<u>1,739.99</u>
	Total	3,429.95	433.79	3,863.74
Reynolds Mining Corp.	1	211.13	26.70	237.83
	1-A	<u>32.44</u>	<u>4.10</u>	<u>36.54</u>
	Total	243.57	30.80	274.37
Robert D. Snow	34-A	<u>220.65</u>	<u>27.91</u>	<u>248.56</u>
	Total	220.65	27.91	248.56
Sohio Petroleum Company	18	<u>588.54</u>	<u>74.43</u>	<u>662.97</u>
	Total	588.54	74.43	662.97
Eleanor F. Spiegel	24	37.27	4.71	41.98
	25	<u>255.41</u>	<u>32.30</u>	<u>287.71</u>
	Total	292.68	37.01	329.69
Texaco, Inc.	16	11,713.03	1,481.35	13,194.38
	18	<u>33.63</u>	<u>4.25</u>	<u>37.88</u>
	Total	11,746.66	1,485.60	13,232.26
VACK Ventures	18	<u>11.22</u>	<u>1.42</u>	<u>12.64</u>
	Total	11.22	1.42	12.64
TOTAL		103,217.69	13,054.00	116,271.69

REVISED EXHIBIT "F"
CORRESPONDING TO
THIRD REVISED EXHIBIT "C"
JANUARY 1, 1963

SCHEDULE OF TRACT ASSESSMENTS
HORSESHOE-GALLUP FIELD UNIT
SAN JUAN COUNTY, NEW MEXICO

Tracts Containing Assessable Acreage	Working Interest Owner	Barrels of Oil in Place under Assessable Acre- age in Tract	Tract Assessment for Intangibles	Tract Assessment for Tubing and Sucker Rods
1	Delhi-Taylor Oil Corp.	4,459	\$ 211.18	\$ 26.71
	Reynolds Mining Corp.	<u>4,458</u>	<u>211.13</u>	<u>26.70</u>
		8,917	422.31	53.41
1-A	Delhi-Taylor Oil Corp.	685	32.44	4.10
	Reynolds Mining Corp.	<u>685</u>	<u>32.44</u>	<u>4.10</u>
		1,370	\$ 64.88	8.20
3	The Atlantic Refining Co.	92,643	4,387.56	554.90
4	The Hidden Splendor Mining Company	10,078	477.29	60.36
6-A	Petro-Atlas, Inc.	39,690	1,879.71	237.73
12	The Atlantic Refining Co.	286,527	13,569.87	1,716.20
13	Mobil Oil Company	473,869	22,442.35	2,838.30
15	El Paso Natural Gas Products Company	253,524	12,006.85	1,518.51
16	Texaco, Inc.	247,320	11,713.03	1,481.35
17	The Atlantic Refining Co.	185,473	8,783.97	1,110.91
18	J. R. Abraham	355	16.81	2.13
	The Atlantic Refining Co.	62,136	2,942.75	372.18
	Clark and Cowden	4,024	190.58	24.10
	Continental Oil Co.	4,024	190.58	24.10
	El Paso Natural Gas Products Company	34,560	\$ 1,636.76	207.00
	J. Felix Hickman	237	11.22	1.42
	The Hidden Splendor Mining Company	7,930	375.56	47.50
	Mobil Oil Company	13,848	655.84	82.94
	Petro-Atlas, Inc.	118	5.60	.71
	Sohio Petroleum Corp.	12,427	588.54	74.43
	Texaco, Inc.	710	33.63	4.25
	VACK Ventures	<u>237</u>	<u>11.22</u>	<u>1.42</u>
		140,606	\$ 6,659.09	\$ 842.18

Tracts Containing Assessable Acreage	Working Interest Owner	Barrels of Oil in Place under Assessable Acre- age in Tract	Tract Assessment for Intangibles	Tract Assessment for Tubing and Sucker Rods
19	El Paso Natural Gas Products Company	104,643	\$ 4,955.87	\$ 626.77
24	J. Douglas Collister	787	37.27	4.71
	Richard W. Dammann	787	37.27	4.71
	El Paso Natural Gas Products Company	5,039	238.65	30.18
	Helbing and Podpechan	158	7.48	.95
	J. Felix Hickman	2,520	119.35	15.09
	Eleanor F. Spiegel	<u>787</u>	<u>37.27</u>	<u>4.71</u>
		10,078	\$ 477.29	\$ 60.35
25	J. Douglas Collister	5,393	255.41	32.30
	Richard W. Dammann	5,393	255.41	32.30
	El Paso Natural Gas Products Company	34,513	1,634.53	206.72
	Helbing and Podpechan	1,078	51.05	6.46
	J. Felix Hickman	17,256	817.24	103.36
	Eleanor F. Spiegel	<u>5,393</u>	<u>255.41</u>	<u>32.30</u>
		69,026	\$ 3,269.05	\$ 413.44
34-A	Continental Oil Company	18,637	882.64	111.63
	Clark and Cowden	18,637	882.64	111.63
	Petro-Atlas, Inc.	32,615	1,544.64	195.35
	Robert D. Snow	<u>4,659</u>	<u>220.65</u>	<u>27.91</u>
		74,548	\$ 3,530.57	\$ 446.52
36	El Paso Natural Gas Products Company	181,124	8,578.00	1,084.87
TOTAL		2,179,436	\$103,217.69	\$13,054.00

SUMMARY

Working Interest Owner	Tract Number	Assessment for Intangibles (\$)	Assessment for Tubing and Sucker Rods (\$)	Aggregate Assessment (\$)
J. R. Abraham	18	<u>16.81</u>	<u>2.13</u>	<u>18.94</u>
	Total	16.81	2.13	18.94
The Atlantic Refining Co.	3	4,387.56	554.90	4,942.46
	12	13,569.87	1,716.20	15,286.07
	17	8,783.97	1,110.91	9,894.88
	18	<u>2,942.75</u>	<u>372.18</u>	<u>3,314.93</u>
	Total	29,684.15	3,754.19	33,438.34
Clark and Cowden	18	190.58	24.10	214.68
	34-A	<u>882.64</u>	<u>111.63</u>	<u>994.27</u>
	Total	1,073.22	135.73	1,208.95
J. D. Collister	24	37.27	4.71	41.98
	25	<u>255.41</u>	<u>32.30</u>	<u>287.71</u>
	Total	292.68	37.01	329.69
Continental Oil Company	18	190.58	24.10	214.68
	34-A	<u>882.64</u>	<u>111.63</u>	<u>994.27</u>
	Total	1,073.22	135.73	1,208.95
R. W. Dammann	24	37.27	4.71	41.98
	25	<u>255.41</u>	<u>32.30</u>	<u>287.71</u>
	Total	292.68	37.01	329.69
Delhi-Taylor Oil Corp.	1	211.18	26.71	237.89
	1-A	<u>32.44</u>	<u>4.10</u>	<u>36.54</u>
	Total	243.62	30.81	274.43
El Paso Natural Gas Products Company	15	12,006.85	1,518.51	13,525.36
	18	1,636.76	207.00	1,843.76
	19	4,955.87	626.77	5,582.64
	24	238.65	30.18	268.83
	25	1,634.53	206.72	1,841.25
	36	<u>8,578.00</u>	<u>1,084.87</u>	<u>9,662.87</u>
	Total	29,050.66	3,674.05	32,724.71
Helbing and Podpechan	24	7.48	.95	8.43
	25	<u>51.05</u>	<u>6.46</u>	<u>57.51</u>
	Total	58.53	7.41	65.94
J. Felix Hickman	18	11.22	1.42	12.64
	24	119.35	15.09	134.44
	25	<u>817.24</u>	<u>103.36</u>	<u>920.60</u>
	Total	947.81	119.87	1,067.68
The Hidden Splendor Mining Company	4	477.29	60.36	537.65
	18	<u>375.56</u>	<u>47.50</u>	<u>423.06</u>
	Total	852.85	107.86	960.71

SUMMARY

Working Interest Owner	Tract Number	Assessment for Intangibles (\$)	Assessment for Tubing and Sucker Rods (\$)	Aggregate Assessment (\$)
Mobil Oil Company	13	22,442.35	2,838.30	25,280.65
	18	<u>655.84</u>	<u>82.94</u>	<u>738.78</u>
	Total	23,098.19	2,921.24	26,019.43
Petro-Atlas, Inc.	6-A	1,879.71	237.73	2,117.44
	18	5.60	.71	6.31
	34-A	<u>1,544.64</u>	<u>195.35</u>	<u>1,739.99</u>
	Total	3,429.95	433.79	3,863.74
Reynolds Mining Corp.	1	211.13	26.70	237.83
	1-A	<u>32.44</u>	<u>4.10</u>	<u>36.54</u>
	Total	243.57	30.80	274.37
Robert D. Snow	34-A	<u>220.65</u>	<u>27.91</u>	<u>248.56</u>
	Total	220.65	27.91	248.56
Sohio Petroleum Company	18	<u>588.54</u>	<u>74.43</u>	<u>662.97</u>
	Total	588.54	74.43	662.97
Eleanor F. Spiegel	24	37.27	4.71	41.98
	25	<u>255.41</u>	<u>32.30</u>	<u>287.71</u>
	Total	292.68	37.01	329.69
Texaco, Inc.	16	11,713.03	1,481.35	13,194.38
	18	<u>33.63</u>	<u>4.25</u>	<u>37.88</u>
	Total	11,746.66	1,485.60	13,232.26
VACK Ventures	18	<u>11.22</u>	<u>1.42</u>	<u>12.64</u>
	Total	11.22	1.42	12.64
TOTAL		103,217.69	13,054.00	116,271.69

Denver 1857
Bernalillo, New Mexico

22

May 23, 1963

The Atlantic Refining Company
Suite 760
Petroleum Club Building
110 16th Street
Denver 2, Colorado

Attention: Mr. T. M. Davis

Gentlemen:

Your letter of May 14 transmitting seven copies each of the third revised exhibit "C" to the unit agreement and the revised schedule "F" of the unit operating agreement, Hornsby-Gallops unit agreement No. 14-03-0001-020, San Juan County, New Mexico, requests our approval of exhibit "C".

The third revised exhibit "C", effective January 1, 1963, occasioned by the commitment of tract 20, is hereby approved pursuant to Sec. 11 of the agreement subject to like approval by the appropriate State officials.

Copies of revised exhibit "F" and the approved revised exhibit "C" are being distributed to the appropriate Federal offices to be filed with the official case records.

The revised copies of Exhibit "B" mentioned in the paracited paragraph of your letter have not been received.

Sincerely yours,

[Orig. Sgd.] JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil & Gas Supervisor

ILLEGIBLE

cc:
Washington (w/cy exh. "C" & "F")
Farmington (w/cy exh. "C" & "F")
Supt., Nev. Ag. (2) (w/2cys exh. "C" & "F")
Supt., Cons. Div. Ag. (w/cy exh. "C" & "F")
Accounts
BLM - Santa Fe (w/cy exh. "C" & "F")
Com. of Pub. Lands - Santa Fe (ltr. only)
NMOCC - Santa Fe (ltr. only)

2517

OFFICE OF THE
DIRECTOR

Soswell, New Mexico

1963 MAR 14 PM 1 1 23

March 12, 1963

The Atlantic Refining Company
Suite 760, Petroleum Club Building
110 16th Street
Denver 2, Colorado

Attention: Mr. T. C. Davis

Gentlemen:

Your revision dated March 4, 1963, to the plan of development dated July 25, 1962, covering secondary recovery operations for the Horseshoe Gallup unit area, San Juan County, New Mexico, has been approved on this date subject to like approval by the appropriate State officials.

The Notices of Intention to Change Plans for wells Nos. 143 and 145 are being transmitted to the District Engineer, P. O. Box 7809, Durango, Colorado, for appropriate action.

One approved copy of the plan is enclosed.

Very truly yours,

(Orig. Sign) JOHN A. ANDERSON

JOHN A. ANDERSON
Regional Oil and Gas Supervisor

Copy to: Washington (w/cy of plan)
Farmington (w/cy of plan)
Durango (w/cy of plan)
Com. of Pub. Lands-Santa Fe (ltr. only)
NMOCC-Santa Fe (ltr. only)

UNITED STATES GOVERNMENT

5000 11/10 1962 PM 3:50

207

March 7, 1963

The Atlantic Refining Company
Suite 760
110 Sixteenth Street
Denver, Colorado

Re: Horseshoe Gallup Unit,
San Juan County, New
Mexico. Revised Plan
of Development

Attention: Mr. T. O. Davis

Gentlemen:

The Commissioner of Public Lands has approved as of March 4, 1963, your requested revision to your existing Plan of Development, subject to like approval by the Oil Conservation and the United States Geological Survey.

This revision calls for the conversion of wells No. 143 and No. 145 to injection wells, necessitated by communication between wells No. 22 which is an injection well and well No. 145.

Very truly yours,

E. S. Johnny Walker
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea
Supervisor, Unit Division

ESW/mar/e

encl: United States Geological Survey
cc: Rowell, New Mexico

Oil Conservation Commission
Santa Fe, New Mexico

ATLANTIC**THE ATLANTIC REFINING COMPANY**

INCORPORATED - 1870

PETROLEUM PRODUCTS

January 18, 1963

MAIL OFFICE OCC
1963 JAN 19 PM 12:10DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICTS. L. SMITH, MANAGER
T. S. PACE, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
T. O. DAVIS, ENGINEERING
L. G. MEGASON, GEOPHYSICAL
R. P. CURRY, ADMINISTRATIVESUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
AMHERST 6-3741**United States Geological Survey (4)
Attention: Mr. John A. Anderson,
Regional Oil and Gas Supervisor
Post Office Drawer 1837
Roswell, New Mexico****Re: Horseshoe-Gallup Unit
San Juan County, New Mexico****Gentlemen:**

We have been advised by your office that you could not approve the Second Revised Exhibit "C" to the Horseshoe-Gallup Unit Agreements because it showed the splitting of former Tract 1 into Tracts 1 and 1-B and the splitting of Tract 1-A into 1-A and 1-C. Your office explained that, whereas the assignment of the acreage in Tracts 1-B and 1-C had been made by Reynolds Mining Corporation and Balhi-Taylor Oil Corporation to El Paso Natural Gas Products Company and that this assignment had been filed with the Bureau of Indian Affairs office in Gallup, New Mexico, it would require the approval of the Central Bureau of Indian Affairs office in Washington, D. C. for final approval. This assignment cannot be made effective before the Central office approves it. We understood that this assignment is in the Central office at this time, but it is uncertain when their approval can be expected.

Based on the information from your office, we request that Tracts 1 and 1-B, as shown on the Second Revised Exhibit "C", be recombined as Tract 1, and that Tracts 1-A and 1-C be recombined as Tract 1-A, as shown on the First Revised Exhibit "C", and that you approve the Second Revised Exhibit "C" with the understanding that these tracts are recombined.

Yours truly,

*T. O. Davis***T. O. Davis, Chairman
Horseshoe-Gallup Operators' Committee**

EFH:lb

cc: Commissioner of Public Lands,
State of New Mexico

New Mexico Oil Conservation Commission

OIL CONSERVATION COMMISSION

P. O. BOX 871
SANTA FE, NEW MEXICO

2519

January 8, 1963

The Atlantic Refining Company
Suite 760 Petroleum Club Building
110 16th Street
Denver 2, Colorado

Attention: Mr. T. O. Davis

Re: Second Revised Exhibit "C"
Horseshoe Gallup Unit, San
Juan County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this date approved the Second Revised Exhibit "C" dated December 21, 1962, for the Horseshoe Gallup 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.

Two approved copies of the application are returned herewith.

Very truly yours,

A. L. PORTER, Jr.,
Secretary-Director

ALP/JEK/esr
Enclosures

cc: United States Geological Survey
Roswell, New Mexico

Commissioner of Public Lands
Santa Fe, New Mexico

C
O
P
Y

December 28, 1962

The Atlantic Refining Co.
Suite 760 Petroleum Club Bldg.,
110 16th Street
Denver 2, Colorado

Horseshoe - Gallup Unit,
San Juan County, New Mexico

Gentlemen:

The Commissioner of Public Lands approves as of this date your Revised Exhibit "C" and Revisions to your Exhibit "B" effective December 1, 1962, subject to like approval by the United States Geological Survey and the Oil Conservation Commission.

We are returning one approved copy.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESW/mmr/v

encl:

cc: U. S. Geological Survey - Roswell, New Mexico
Oil Conservation Commission - Santa Fe, New Mexico



THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

December 21, 1962

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER
T. S. PACE, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
T. O. DAVIS, ENGINEERING
L. G. MEGASON, GEOPHYSICAL
R. P. CURRY, ADMINISTRATIVE

SUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
AMHERST 6-3741

United States Geological Survey
Attention: Mr. John A. Anderson,
Regional Oil and Gas Supervisor
Post Office Drawer 1857
Roswell, New Mexico

Commissioner of Public Lands
Attention: Mrs. Marian M. Rhea
State Land Office
Santa Fe, New Mexico

New Mexico Oil Conservation Commission
Attention: Mr. A. L. Porter, Jr.
Post Office Box 871
Santa Fe, New Mexico

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

Attached are copies of the "Second Revised Exhibit 'C'" to the Horseshoe-Gallup Unit Agreement. This exhibit was revised to reflect the commitment to the Unit of the 25% interest in Tracts 34 and 34-A which was formerly owned by Bolack. By a copy of our letter of November 26, 1962 to the U.S.G.S., you were informed that Petro-Atlas, Inc. and Robert D. Snow had acquired this interest. Copies of the Ratification and Joinder of the Unit Agreement and Unit Operating Agreement executed by Petro-Atlas, Inc. and Robert D. Snow were furnished you with that letter. These interests are being brought into the Unit in accordance with that provision of Section 28 of the Unit Agreement whereby any interest in the Unit Area may come into the Unit within six months after the effective date on the original basis of participation.

Another change made in this Second Revised Exhibit "C" is in Tracts 1 and 1-A. On Exhibit "B" footnotes were placed after these tracts explaining that El Paso had earned an interest in part of the acreage in each and that an assignment of this interest was being prepared for filing. This assignment has now been prepared and filed. Accordingly, the former Tract 1 has been split into Tracts 1 and 1-B and former Tract 1-A into 1-A and 1-C. Delhi-Taylor Oil Corporation and Reynolds Mining Corporation own the working interests in Tracts 1 and 1-A,

and El Paso Natural Gas Products Company owns the working interest in Tracts 1-B and 1-C. This revision is only to show the new ownership and it does not affect the participation of any of the other tracts in the Unit.

We are enclosing revisions to Exhibit "B" showing these changes in Tracts 1 and 1-A, and also the changes in Tracts 34 and 34-A.

In accordance with the last paragraph of Section 11 of the Unit Agreement, if any tract within the participating area is committed to the Unit under the provisions of Section 28, the Revised Exhibit "C" must have the approval of the Supervisor, Commissioner and the Commission. We therefore respectfully request your consideration and approval to the enclosed Second Revised Exhibit "C" to the Horseshoe-Gallup Unit Agreement. This revised exhibit will become effective as of December 1, 1962.

Yours very truly,

T. O. Davis

T. O. Davis, Chairman
Horseshoe-Gallup Operators' Committee

EFH:1b

Enclosures

cc: All Working Interest Owners

James L. ... 1963
A. H. ...
Secretary-Director

NEW MEXICO OIL CONSERVATION COMMISSION

SECOND REVISED EXHIBIT "C"
EFFECTIVE DECEMBER 1, 1962

SCHEDULE OF TRACT PERCENTAGE PARTICIPATION
HORSESHOE-GALLUP FIELD UNIT
SAN JUAN COUNTY, NEW MEXICO

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
<u>TRIBAL INDIAN LANDS</u>				
1	<u>T-31-N, R-17-W</u> Section 15: E/2 NW/4; NW/4 NW/4, E/2 SE/4, NW/4 SE/4	240.00	Navajo Contract I-149-Ind-7652 12-15-47	.0034%
1-A	<u>T-31-N, R-17-W</u> Section 23: E/2 NW/4, NW/4 NW/4	120.00	Navajo Contract I-149-Ind-7652 12-15-47	.0016%
1-B	<u>T-31-N, R-17-W</u> Section 15: NE/4	160.00	Navajo Contract I-149-Ind-7652 12-15-47	.0132%
1-C	<u>T-31-N, R-17-W</u> Section 23: E/2 SE/4, NW/4 SE/4	120.00	Navajo Contract I-149-Ind-7652 12-15-47	.0015%
3	<u>T-31-N, R-16-W</u> Section 19: W/2, SE/4, S/2 NE/4 Section 20: S/2	890.48	14-20-600-3531 10-31-57	4.2417%
4	<u>T-30-N, R-16-W</u> Section 6: E/2 NE/4, NW/4 NE/4	120.00	14-20-603-733 12-22-54	.1301%
5	<u>T-30-N, R-16-W</u> Section 5: NW/4, SE/4	315.84	14-20-603-733 12-22-54	1.2653%
6	<u>T-30-N, R-16-W</u> Section 5: NE/4, E/2 SW/4, NW/4 SW/4 Section 8: NE/4 NE/4	315.84	14-20-603-733 12-22-54	1.5703%
6-A	<u>T-30-N, R-16-W</u> Section 8: SE/4 NE/4, NW/4 NE/4 Section 9: That part of SW/4 NW/4 and NW/4 SW/4 lying within the Navajo Indian Reservation	109.46	14-20-603-733 12-22-54	.0340%
7	<u>T-30-N, R-16-W</u> Section 4: That part of the NW/4 NW/4 lying within the Navajo Indian Reservation	13.97	Navajo Contract 14-20-603-733 12-22-54	*
8	<u>T-30-N, R-16-W</u> Section 4: That part of the SW/4 NW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
9	<u>T-30-N, R-16-W</u> Section 4: That part of the NW/4 SW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
10	<u>T-30-N, R-16-W</u> Section 4: That part of the SW/4 SW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
11	<u>T-30-N, R-16-W</u> Section 9: That part of the NW/4 NW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
12	<u>T-31-N, R-16-W</u> Section 29: All Section 30: All Section 31: E/2, NW/4, E/2 SW/4, NW/4 SW/4 Section 32: All Section 28: That part lying within the Navajo Indian Reservation Section 33: That part lying within the Navajo Indian Reservation	2644.14	14-20-603-734 12-22-54	37.9669%
13	<u>T-31-N, R-17-W</u> Section 13: SW/4, W/2 SE/4, SE/4 SE/4, SW/4 NW/4 Section 14: All Section 23: NE/4 Section 24: N/2	1442.48	14-20-603-2022 2-1-57	9.8305%
15	<u>T-31-N, R-17-W</u> Section 24: S/2 Section 25: E/2, NW/4, NE/4 SW/4 Section 36: NE/4 NE/4	880.00	14-20-603-2037 1-28-57	8.7274%
16	<u>T-31-N, R-16-W</u> Section 21: S/2 Section 22: S/2 SW/4	381.78	14-20-604-1948 6-28-57	.5336%
17	<u>T-31-N, R-16-W</u> Section 26: S/2 Section 35: W/2, NE/4, N/2 SE/4 Section 36: W/2 SW/4	951.77	14-20-604-1950 2-25-57	1.8047%
18	<u>T-31-N, R-16-W</u> Section 35: S/2 SE/4	77.46	14-20-604-1950 2-25-57	.1206%

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
19	<u>T-31-N, R-16-W</u> Section 27: SE/4, NW/4, E/2 SW/4, W/2 NE/4, SE/4 NE/4 Section 28: E/2 SE/4, W/2 E/2, that part of W/2 lying within the Ute Indian Reservation Section 33: W/2 NE/4, E/2 SE/4, that part of W/2 lying within the Ute Indian Reservation Section 34: NE/4, W/2 SE/4, NE/4 SE/4, W/2 NW/4, E/2 SW/4	1815.77	14-20-604-1951 9-23-57	9.3689%
21	<u>T-31-N, R-16-W</u> Section 27: W/2 SW/4 Section 33: W/2 SE/4 Section 34: SE/4 SE/4	198.28	14-20-604-1951 9-23-57	1.4531%
<u>ALLOTTED INDIAN LANDS</u>				
24	<u>T-30-N, R-16-W</u> Section 2: Lots 1, 2, 5 and 6	156.65	Navajo Allotted Contract 14-20-603-4908 12-22-58	.1919%
25	<u>T-30-N, R-16-W</u> Section 2: SW/4	160.00	Navajo Allotted Contract 14-20-603-4909 1-22-59	.3521%
<u>FEDERAL LANDS</u>				
26	<u>T-30-N, R-16-W</u> Section 3: Lots 3 & 4 Section 4: Lot 3	114.43	SF-079439 9-1-48	1.4608%
27	<u>T-30-N, R-16-W</u> Section 3: Lots 1 & 2	76.74	SF-079439 9-1-48	.2397%
28	<u>T-30-N, R-16-W</u> Section 4: Lot 4	18.83	SF-079439 9-1-48	*
29	<u>T-30-N, R-16-W</u> Section 4: Lot 5	19.86	SF-079439 9-1-48	*
30	<u>T-30-N, R-16-W</u> Section 4: Lot 6	19.88	SF-079439 9-1-48	*
31	<u>T-30-N, R-16-W</u> Section 4: Lot 7	19.89	SF-079439 9-1-48	*
32	<u>T-30-N, R-16-W</u> Section 4: Lots 1 & 2	76.58	SF-079439-A 9-1-48	1.1701%

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
33	<u>T-30-N, R-16-W</u> Section 3: Lots 5, 6, 9, 11, 14 and 16 Section 4: E/2 SE/4, E/2 SW/4, SE/4 NE/4 Section 10: Lots 1 & 2	515.40	SF-081226 10-1-51	7.0683%
34	<u>T-30-N, R-16-W</u> Section 9: NW/4 SE/4	40.00	SF-081226 10-1-51	.1278%
34-A	<u>T-30-N, R-16-W</u> Section 9: SW/4 SE/4	40.00	SF-081226 10-1-51	.0639%
35	<u>T-30-N, R-16-W</u> Section 9: Lot 1	19.89	SF-081226-A 10-1-51	*
36	<u>T-30-N, R-16-W</u> Section 9: Lots 2 & 3 E/2 SW/4	119.74	SF-081226-A 10-1-51	.2097%
37	<u>T-30-N, R-16-W</u> Section 9: E/2 NW/4	80.00	SF-081226-A 10-1-51	.3403%
38	<u>T-30-N, R-16-W</u> Section 4: W/2 SE/4, SW/4 NE/4, SE/4 NW/4 Section 3: Lots 7, 8, 10, 15, 12 and 13 Section 9: W/2 NE/4 Section 10: E/2 NW/4	557.76	SF-081226-B 10-1-51	8.8185%
39	<u>T-30-N, R-16-W</u> Section 9: E/2 NE/4	80.00	SF-081226-C 10-1-51	.5052%
40	<u>T-30-N, R-16-W</u> Section 9: E/2 SE/4	80.00	NM-04444-A 4-1-52	.2237%

STATE LANDS

41	<u>T-30-N, R-16-W</u> Section 2: Lots 3 & 4	77.84	E-3150-4 12-10-49	.2090%
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* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
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42	<u>T-30-N, R-16-W</u> Section 2: S/2 NW/4	80.00	E-0896-3 3-20-56	.2166%
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COMMUNITIZED TRACTS

7-28	<u>T-30-N, R-16-W</u> Section 4: Lot 4 and that part of the NW/4 NW/4 lying within the Navajo Indian Reservation	18.83 <u>13.97</u> 32.80	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.8282%
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8-29	<u>T-30-N, R-16-W</u> Section 4: Lot 5 and that part of the SW/4 NW/4 lying within the Navajo Indian Reservation	19.86 <u>14.73</u> 34.59	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.5829%
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9-30	<u>T-30-N, R-16-W</u> Section 4: Lot 6 and that part of the NW/4 SW/4 lying within the Navajo Indian Reservation	19.88 <u>14.73</u> 34.61	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.1294%
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10-31	<u>T-30-N, R-16-W</u> Section 4: Lot 7 and that part of the SW/4 SW/4 lying within the Navajo Indian Reservation	19.89 <u>14.73</u> 34.62	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.0943%
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11-35	<u>T-30-N, R-16-W</u> Section 9: Lot 1 and that part of the NW/4 NW/4 lying within the Navajo Indian Reservation	19.89 <u>14.73</u> 34.62	SF-081226-A 10-1-51 Navajo Contract 14-20-603-733 12-22-54	.1008
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RECAPITULATION

Indian Tribal Land	10,856.19
Allotted Indian Land	316.65
Federal Land	1,879.00
State of New Mexico Land	<u>157.84</u>
	13,209.68

SUMMARY

<u>Working Interest Owner</u>	<u>Tract Number</u>	<u>Percentage Participation</u>
J. R. Abraham	18	.0003
	40	<u>.2237</u>
	Total	.2240
The Atlantic Refining Company	3	4.2417
	12	37.9669
	17	1.8047
	18	<u>.0532</u>
	Total	44.0665
Clark and Cowden	5	.3163
	7-28	.2070
	8-29	.1457
	9-30	.0138
	10-31	.0100
	18	.0035
	26	.3652
	33	1.7671
	34	.0320
	34-A	<u>.0160</u>
	Total	2.8766
J. Douglas Collister	24	.0150
	25	<u>.0275</u>
	Total	.0425
Continental Oil Company	5	.3163
	7-28	.2071
	8-29	.1457
	9-30	.0138
	10-31	.0100
	18	.0035
	26	.3652
	33	1.7671
	34	.0319
	34-A	<u>.0160</u>
	Total	2.8766
Richard W. Dammann	24	.0150
	25	<u>.0275</u>
	Total	.0425
Delhi-Taylor Oil Corporation	1	.0017
	1-A	<u>.0008</u>
	Total	.0025
El Paso Natural Gas Products Company	1-B	.0132
	1-C	.0015
	5	.6327
	7-28	.4141
	8-29	.2915
	9-30	.0275
	10-31	.0201
	11-35	.0579
	15	8.7274
	18	.0296
	19	9.3689
	24	.0959
	25	.1761
	26	.7304
	33	3.5341
	36	.2097
41	<u>.2090</u>	
Total	24.5396	

<u>Working Interest Owner</u>	<u>Tract Number</u>	<u>Percentage Participation</u>
EPROC Associates	42	.0173
	Total	<u>.0173</u>
Helbing and Podpechan	24	.0030
	25	.0055
	Total	<u>.0085</u>
J. Felix Hickman	18	.0002
	24	.0480
	25	.0880
	Total	<u>.1362</u>
The Hidden Splendor Mining Co.	4	.1301
	6	1.5703
	9-30	.0743
	10-31	.0542
	11-35	.0429
	18	.0068
	21	1.4531 *
	27	.2397
	32	1.1701
	34	.0319
	37	.3403
	39	.5052
	Total	<u>5.6189</u>
Socony Mobil Oil Company, Inc.	13	9.8305
	18	.0119
	Total	<u>9.8424</u>
Petro-Atlas, Inc.	6-A	.0340
	18	.0001
	34	.0240
	34-A	.0279
	Total	<u>.0860</u>
Reynolds Mining Corporation	1	.0017
	1-A	.0008
	Total	<u>.0025</u>
Robert D. Snow	34	.0080
	34-A	.0040
	Total	<u>.0120</u>
Sohio Petroleum Company	18	.0107
	38	8.8185
	Total	<u>8.8292</u>
Eleanor F. Spiegel	24	.0150
	25	.0275
	Total	<u>.0425</u>
Texaco, Incorporated	16	.5336
	18	.0006
	Total	<u>.5342</u>
VACK Ventures	18	.0002
	42	.1993
		<u>.1995</u>

* This value calculated on basis of Hidden Splendor's working interest in Tract 21 being 100% as other interest in tract is free of development, operating costs, and royalty payment.

REVISIONS TO EXHIBIT "B"
December 1, 1962

HORSESHOE-GALLUP UNIT AREA, SAN JUAN COUNTY, NEW MEXICO

INDIAN TRIBAL LANDS

Tract Number	Description	No. Acres	Serial No. & Date of Lease or Application	Basic Royalty & Percentage	Lessee of Record	Overriding Royalty and Percentage	Working Interest Percentage
1	<u>T-31-N, R-17-W</u> Section 15: W/2, SE/4	920.00	I-149-Ind-7652 12-15-47	Navajo Tribe of Indians - 12.5%	Reynolds Mining Corp. - 1/2 Delhi-Taylor Oil Corp. - 1/2	San Jacinto Pet. Corp. - 1.367187% Western Natural Gas Co. - 2.734375%	Delhi-Taylor Oil Corp. - 50% Reynolds Mining Corp. - 50%
	Section 22: N/2, W/2 SE/4, SE/4 SE/4						
1-A	<u>T-31-N, R-17-W</u> Section 23: W/2	760.00	I-149-Ind-7652 12-15-47	Navajo Tribe of Indians - 12.5%	Reynolds Mining Corp. - 1/2 Delhi-Taylor Oil Corp. - 1/2	San Jacinto Pet. Corp. - 1.367187% Western Natural Gas Co. - 2.734375%	Delhi-Taylor Oil Corp. - 50% Reynolds Mining Corp. - 50%
	Section 26: E/2, N/2 NW/4, SE/4 NW/4						

INDIAN TRIBAL LANDS

Tract Number	Description	No. Acres	Serial No. & Date of Lease or Application	Basic Royalty & Percentage	Lessee of Record	Overriding Royalty and Percentage	Working Interest Percentage
1-B	<u>T-31-N, R-17-W</u> Section 15: NE/4 Section 22: NE/4 SE/4	200.00	I-149-Ind-7652 12-15-47	Navajo Tribe of Indians - 12.5%	Reynolds Mining Corp. - 1/2 Delhi-Taylor Oil Corp. - 1/2	San Jacinto Pet. Corp. - 1.367187% Western Natural Gas Co. - 2.734375% Delhi-Taylor Oil Corp. -	EI Paso Natural Gas Products Co. - All
						<u>Oil</u> 0-40 BOPD - 2.734375% 41-100 BOPD - 4.1015625% 101-Up BOPD - 5.46875%	
						<u>Gas</u> 0-500 MCFPD - 5.46875% 500-2000 MCFPD - 8.203125% 2001-Up - 10.9375%	
					Reynolds Mining Corp. -		
						<u>Oil</u> 0-40 BOPD - 2.734375% 41-100 BOPD - 4.1015625% 101-Up BOPD - 5.46875%	
						<u>Gas</u> 0-500 MCFPD - 5.46875% 500-2000 MCFPD - 8.203125% 2001-Up - 10.9375%	
1-C	<u>T-31-N, R-17-W</u> Section 23: SE/4 Section 26: SW/4 NW/4	200.00	I-149-Ind-7652 12-15-47	Navajo Tribe of Indians - 12.5%	Reynolds Mining Corp. - 1/2 Delhi-Taylor Oil Corp. - 1/2	Same as for Tract 1-B	EI Paso Natural Gas Products Co. - All

FEDERAL LANDS

Tract Number	Description	No. Acres	Serial No. & Date of Lease or Application	Basic Royalty & Percentage	Lessee of Record	Overriding Royalty and Percentage	Working Interest Percentage
34	<u>T-30-N, R-16-W</u> Section 9: NW/4 SE/4	40.00	SF-081226 10-1-51	U. S. A. - 12.5%	Tom Bolack	Richard L. Jones, Trustee - 2.7344%	Continental Oil Co. - 25% Clark & Cowden-25% The Hidden Splendor Mining Co. - 25% Petro-Atlas, Inc. - 18.75% Robert D. Snow-6.25%
34-A	<u>T-30-N, R-16-W</u> Section 9: SW/4 SE/4	40.00	SF-081226 10-1-51	U. S. A. - 12.5%	Tom Bolack	Richard L. Jones, Trustee - 2.7344%	Continental Oil Co. - 25% Clark & Cowden-25% Petro-Atlas, Inc. - 43.75% Robert D. Snow-6.25%



THE ATLANTIC REFINING COMPANY

INCORPORATED - 1970

PETROLEUM PRODUCTS

December 26, 1962

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER
T. S. PACE, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
T. O. DAVIS, ENGINEERING
L. G. MEGASON, GEOPHYSICAL
R. P. CURRY, ADMINISTRATIVE

SUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
AMHERST 6-3741

United States Geological Survey (6)
Attention: Mr. John A. Anderson,
Regional Oil and Gas Supervisor
Post Office Drawer 1857
Roswell, New Mexico

Re: Tract 20
Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

The Atlantic Refining Company has purchased the Banner interest in Tract 20 of the Horseshoe-Gallup Unit Area and requests that this tract be committed to the Horseshoe-Gallup Unit. In this connection, we enclose six copies of Ratification and Joinder of Unit Operating Agreement and Unit Agreement which have been executed by Atlantic. The other parties owning an interest in Tract 20 have previously executed Ratification and Joinders which were furnished to you by earlier correspondence. An Assignment of Operating Rights from R. H. Banner, et al to The Atlantic Refining Company was submitted to the Bureau of Indian Affairs for approval by letter dated December 18, 1962 with the request that approval be given prior to December 28, 1962, if possible.

In accordance with the Unit Agreement, a subsequent joinder will become effective at 7:00 a.m. as of the first day of the month following the filing with the Supervisor, Commission and Commissioner unless objection to such Joinder is made within 60 days by the Director or the Commissioner.

A revision to Exhibit "C" will be prepared and forwarded to you in the near future.

Yours truly,

T. O. Davis

T. O. Davis, Chairman
Horseshoe-Gallup Operators' Committee

TOD:1b

Enclosures

cc: Commissioner of Public Lands,
State of New Mexico - w/encls.

Oil Conservation Commission,
State of New Mexico - w/encls.

All Working Interest Owners - w/encls.

RATIFICATION AND JOINDER
OF
UNIT OPERATING AGREEMENT
AND
UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION
OF THE
HORSESHOE-GALLUP UNIT AREA
SAN JUAN COUNTY, NEW MEXICO

In consideration of the execution of the Unit Agreement for the Development and Operation of the Horseshoe-Gallup Unit Area, County of San Juan, State of New Mexico, dated November 1, 1961, approved in behalf of the Secretary of the Interior under date of July 27, 1962, and effective as of August 1, 1962, the undersigned hereby expressly joins said Unit Agreement and ratifies, approves and adopts said Unit Agreement and all the terms and provisions thereof.

This ratification and joinder shall be effective as to the undersigned's interest in any lands and leases, royalties presently held or which may arise under existing option agreements, or other interests in unitized substances, covering any of the following described land:

Township 31 North, Range 16 West:

Section 28: East half of the Northeast quarter (E/2 NE/4)
Section 33: East half of the Northeast Quarter (E/2 NE/4)
Section 34: East half of the Northwest quarter (E/2 NW/4)
and West half of the Southwest quarter (W/2 SW/4)

in San Juan County, New Mexico

As a part and parcel of this ratification and joinder, the undersigned to the extent of his or its interest expressly agrees:

(1) That the term of any lease given by the undersigned or under which the undersigned claims an interest herein is extended and modified to the extent necessary to make the same conform to the term of said Unit Agreement.

(2) That the drilling, development, and producing requirements of all leases and other contracts in which undersigned's rights and interest are created or defined shall be deemed fully performed by performance of the provisions of said Unit Agreement.

(3) That payment for or delivery of (whichever may be required under prior agreements) oil and gas duly made at contract rates applied to the production allocated under said Unit Agreement to the particular lands to which such rights or interest do or shall apply, regardless of actual production therefrom, shall constitute full performance of all such obligations to the undersigned existing under such leases or other contracts.

For a like consideration, the undersigned does hereby expressly ratify, approve, adopt, confirm, and join in said Unit Operating Agreement dated November 1, 1961, to the extent of the undersigned's leasehold interest in the above-described lands, and agrees to be governed by all the terms and provisions thereof as a working interest owner.

This Ratification and Joinder of Unit Agreement and Unit Operating Agreement may be executed in any number of counterparts with the same force and effect as if all parties had signed the same document and shall be binding upon all those who execute a counterpart hereof, regardless of whether or not it is executed by all other parties owning or claiming an interest in the lands affected hereby, and when so executed shall be binding upon the undersigned, his heirs, devisees, assigns, or successors in interest.

EXECUTED this 20 day of December, 1962.

As Party hereto and as Unit Operator
THE ATLANTIC REFINING COMPANY

ATTEST:

Mary C. Drayer
Assistant Secretary

By:

H. C. Harris, Jr.
Assistant Vice President

Date: December 20, 1962

THE ATLANTIC REFINING COMPANY

PETROLEUM PRODUCTS

DALLAS, TEXAS

ADDRESS REPLY TO:
P. O. BOX 520
CASPER, WYOMING

DOMESTIC PRODUCING DEPARTMENT

P. O. Box 2197
Farmington, N.M.
December 5, 1962
3,

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

ATTENTION: Mr. J. E. Kapteina

Dear Sir:

Four copies of the new well designations for the horseshoe Gallup Unit are attached, as requested in your letter dated November 30, 1962. Two copies show new well designations in numerical order with previous operator and well name at right. The other two copies show previous operator and old well name in alphabetical order with new well name at right. These new well designations were effective on the date that the Horseshoe Gallup Unit became effective, August 1, 1962, and are still in effect.

The Initial Plan of Development and Operation dated July 25, 1962 did show old well designations. The Horseshoe Gallup Unit #74 was shown as Navajo "A" 25 operated by Mobile Oil Company.

I regret that we have not already sent copies of these well name changes to you. If you require additional copies, will you please contact me at the above address.

Very truly yours,
THE ATLANTIC REFINING COMPANY

B. J. Sartain

B. J. Sartain

BJS;jsc

HORSESHOE GALLUP UNIT

2519

HORSESHOE GALLUP UNIT		OLD WELL DESIGNATION		
WELL NO	LOCATION	OPERATER	LEASE	WELL NO.
1	P-32-31N-16W	Atlantic	Navajo	1
2	J-32-31N-16W	Atlantic	Navajo	2
3	F-32-31N-16W	Atlantic	Navajo	3
4	D-32-31N-16W	Atlantic	Navajo	4
5	P-30-31N-16W	Atlantic	Navajo	5
6	J-30-31N-16W	Atlantic	Navajo	6
7	F-30-31N-16W	Atlantic	Navajo	7
8	D-30-31N-16W	Atlantic	Navajo	8
9	B-30-31N-16W	Atlantic	Navajo	9
10	H-30-31N-16W	Atlantic	Navajo	10
11	L-29-31N-16W	Atlantic	Navajo	11
12	N-29-31N-16W	Atlantic	Navajo	12
13	B-32-31N-16W	Atlantic	Navajo	13
14	H-32-31N-16W	Atlantic	Navajo	14
15	L-32-31N-16W	Atlantic	Navajo	15
16	H-31-31N-16W	Atlantic	Navajo	16
17	B-31-31N-16W	Atlantic	Navajo	17
18	N-30-31N-16W	Atlantic	Navajo	18
19	L-30-31N-16W	Atlantic	Navajo	19
20	H-32-31N-16W	Atlantic	Navajo	20
21	P-29-31N-16W	Atlantic	Navajo	21
22	J-29-31N-16W	Atlantic	Navajo	22
23	F-29-31N-16W	Atlantic	Navajo	23
24	D-29-31N-16W	Atlantic	Navajo	24
25	H-29-31N-16W	Atlantic	Navajo	25
26	B-29-31N-16W	Atlantic	Navajo	26
27	P-31-31N-16W	Atlantic	Navajo	27
28	J-31-31N-16W	Atlantic	Navajo	28
29	F-31-31N-16W	Atlantic	Navajo	29
30	D-31-31N-16W	Atlantic	Navajo	30
31	N-31-31N-16W	Atlantic	Navajo	31
33	A-29-31N-16W	Atlantic	Navajo	33
34	I-29-31N-16W	Atlantic	Navajo	34
35	G-29-31N-16W	Atlantic	Navajo	35
36	C-29-31N-16W	Atlantic	Navajo	36
37	A-32-31N-16W	Atlantic	Navajo	37
38	O-29-31N-16W	Atlantic	Navajo	38
39	K-29-31N-16W	Atlantic	Navajo	39
40	E-29-31N-16W	Atlantic	Navajo	40
41	A-30-31N-16W	Atlantic	Navajo	41
42	Y-32-31N-16W	Atlantic	Navajo	42

WELL NO.	LOCATION	OPERTER	LEASE	WELL NO.
43	G-32-31N-16W	Atlantic	Navajo	43
44	G-32-31N-16W	Atlantic	Navajo	44
45	M-29-31N-16W	Atlantic	Navajo	45
46	I-30-31N-16W	Atlantic	Navajo	46
47	G-30-31N-16W	Atlantic	Navajo	47
48	G-30-31N-16W	Atlantic	Navajo	48
49	O-32-31N-16W	Atlantic	Navajo	49
50	K-32-31N-16W	Atlantic	Navajo	50
51	E-32-31N-16W	Atlantic	Navajo	51
52	A-31-31N-16W	Atlantic	Navajo	52
53	O-30-31N-16W	Atlantic	Navajo	53
54	K-30-31N-16W	Atlantic	Navajo	54
55	E-30-31N-16W	Atlantic	Navajo	55
56	M-32-31N-15W J-31-31N-16W	Atlantic	Navajo	56
57	 	Atlantic	Navajo	57
58	G-31-31N-16W	Atlantic	Navajo	58
59	G-31-31N-16W	Atlantic	Navajo	59
60	M-30-31N-16W	Atlantic	Navajo	60
63	E-31-31N-16W	Atlantic	Navajo	63
65	I-33-31N-16W	Atlantic	Navajo	65
66	D-33-31N-16W	Atlantic	Navajo	66
67	A-15-31N-17W	EPNGPC	Chimney Rock	2
68	D-11-31N-17W	Mobil	Navajo "A"	23
69	G-11-31N-17W	Mobil	Navajo "A"	9
70	B-11-31N-17W	Mobil	Navajo "A"	16
71	F-11-31N-17W	Mobil	Navajo "A"	22
72	G-11-31N-17W	Mobil	Navajo "A"	10
73	H-11-31N-17W	Mobil	Navajo "A"	17
74	K-11-31N-17W	Mobil	Navajo "A"	25
75	J-11-31N-17W	Mobil	Navajo "A"	14
76	I-11-31N-17W	Mobil	Navajo "A"	11
77	L-13-31N-17W	Mobil	Navajo "A"	18
78	K-13-31N-17W	Mobil	Navajo "A"	21
79	O-11-31N-17W	Mobil	Navajo "A"	24
80	P-11-31N-17W	Mobil	Navajo "A"	12
81	M-13-31N-17W	Mobil	Navajo "A"	6
82	N-13-31N-17W	Mobil	Navajo "A"	15

Well No.	Location	Operator	Production	Notes
83	O-13-31N-17W	COG	None	
84	A-23-31N-17W	COG	None	
85	D-24-31N-17W	MOB	None	
86	G-24-31N-17W	MOB	None	
87	B-24-31N-17W	COG	None	
88	A-24-31N-17W	COG	None	
89	D-19-31N-16W	COG	None	
90	D-24-31N-17W	COG	None	
91	H-24-31N-17W	COG	None	
92	G-24-31N-17W	COG	None	
93	H-24-31N-17W	COG	None	
94	E-19-31N-16W	COG	None	
95	F-19-31N-16W	COG	None	
96	I-23-31N- 16W 17W	COG	None	
97	L-24-31N-17W	COG	None	
98	K-24-31N-17W	COG	None	
99	J-24-31N-17W	COG	None	
100	L-24-31N-17W	COG	None	
101	L-19-31N-16W	COG	None	
102	H-19-31N-16W	COG	None	
103	J-19-31N-16W	COG	None	
104	I-19-31N-16W	COG	None	
105	L-20-31N-16W	COG	None	
106	K-20-31N-16W	COG	None	
107	M-24-31N- 16W 17W	COG	None	
108	O-24-31N-17W	COG	None	
109	P-24-31N-17W	COG	None	
110	H-19-31N-16W	COG	None	
111	K-19-31N-16W	COG	None	
112	O-19-31N-16W	COG	None	
113	P-19-31N-16W	COG	None	
114	M-20-31N-16W	COG	None	
115	N-20-31N-16W	COG	None	
116	O-20-31N-16W	COG	None	
117	G-25-31N-17W	COG	None	
118	B-25-31N-17W	COG	None	
119	A-25-31N-17W	COG	None	
120	G-25-31N-17W	COG	None	
121	H-25-31N-17W	COG	None	
122	J-25-31N-17W	COG	None	
123	I-25-31N-17W	COG	None	
124	P-25-31N-17W	COG	None	
125	A-26-30N-16W	COG	None	

Well No.	Location	Operator	Lease	Well No.
126	D-5-30N-16W	EPNGPC	Horseshoe Navajo	2
127	C-5-30N-16W	EPNGPC	Horseshoe Navajo	1
128	B-5-30N-16W	Petro Atlas	Horseshoe Canyon "D"	3
129	A-5-30N-16W	Petro Atlas	Horseshoe Canyon "D"	1
130	H-6-30N-16W	Petro Atlas	Horseshoe Canyon "G"	2
131	E-5-30N-16W	EPNGPC	Horseshoe Navajo	8
132	F-5-30N-16W	EPNGPC	Horseshoe Navajo	6
133	G-5-30N-16W	Petro Atlas	Horseshoe Canyon "D"	4
134	H-5-30N-16W	Petro Atlas	Horseshoe Canyon "D"	2
135	L-5-30N-16W	Petro Atlas	Horseshoe Canyon "D"	6
136	K-5-30N-16W	Petro Atlas	Horseshoe Canyon "D"	5
137	J-5-30N-16W	EPNGPC	Horseshoe Navajo	5
138	I-5-30N-16W	EPNGPC	Horseshoe Navajo	3
139	N-5-30N-16W	Petro Atlas	Horseshoe Canyon "D"	7
140	O-5-30N-16W	EPNGPC	Horseshoe Navajo	7
141	P-5-30N-16W	EPNGPC	Horseshoe Navajo	4
142	A-8-30N-16W	Petro Atlas	Horseshoe Canyon "D"	8
143	K-21-31N-16W	Texaco	Navajo-Ute Mtn. "B"	4
144	N-21-31N-16W	Texaco	Navajo-Ute Mtn. "B"	3
145	O-21-31N-16W	Texaco	Navajo-Ute Mtn "B"	2
146	P-21-31N-16W	Texaco	Navajo-Ute Mtn "B"	1
147	C-28-31N-16W	EPNGPC	Horseshoe Ute	40
148	B-28-31N-16W	EPNGPC	Horseshoe Ute	39
149	A-28-31N-16W	Banner	Ute	8
150	D-27-31N-16W	EPNGPC	Horseshoe Ute	38
151	C-27-31N-16W	EPNGPC	Horseshoe Ute	41
152	F-28-31N-16W	EPNGPC	Horseshoe Ute	26
153	G-28-31N-16W	EPNGPC	Horseshoe Ute	25
154	H-28-31N-16W	Banner	Ute	7
155	E-27-31N-16W	EPNGPC	Horseshoe Ute	31
156	F-27-31N-16W	EPNGPC	Horseshoe Ute	37
157	G-27-31N-16W	EPNGPC	Horseshoe Ute	42
158	L-28-31N-16W	EPNGPC	Horseshoe Ute	14
159	K-28-31N-16W	EPNGPC	Horseshoe Ute	19
160	J-28-31N-16W	EPNGPC	Horseshoe Ute	22
161	I-28-31N-16W	EPNGPC	Horseshoe Ute	23
162	L-27-31N-16W	Petro Atlas	Ute Navajo	5

Well No.	Location	Operator	Lease	Well No.
163	K-27-31N-16W	EPNGPC	Horseshoe Ute	35
164	J-27-31N-16W	EPNGPC	Horseshoe Ute	32
165	I-27-31N-16W	EPNGPC	Horseshoe Ute	43
166	M-28-31N-16W	EPNGPC	Horseshoe Ute	27
167	N-23-31N-16W	EPNGPC	Horseshoe Ute	18
168	O-28-31N-16W	EPNGPC	Horseshoe Ute	17
169	P-28-31N-16W	EPNGPC	Horseshoe Ute	16
170	M-27-31N-16W	Petro Atlas	Ute Navajo	4
171	N-27-31N-16W	EPNGPC	Horseshoe Ute	24
172	O-27-31N-16W	EPNGPC	Horseshoe Ute	33
173	P-27-31N-16W	EPNGPC	Horseshoe Ute	36
174	M-26-31N-16W	Atlantic	Ute	8
175	N-26-31N-16W	Atlantic	Ute	18
176	O-26-31N-16W	Atlantic	Ute	19
177	C-33-31N-16W	EPNGPC	Horseshoe Ute	13
178	B-33-31N-16W	EPNGPC	Horseshoe Ute	14
179	A-33-31N-16W	Banner	Ute	4
180	D-34-31N-16W	EPNGPC	Horseshoe Ute	15
181	C-34-31N-16W	Banner	Ute	6
182	B-34-31N-16W	EPNGPC	Horseshoe Ute	29
183	A-34-31N-16W	EPNGPC	Horseshoe Ute	34
184	D-35-31N-16W	Atlantic	Ute	4
185	C-35-31N-16W	Atlantic	Ute	12
186	B-35-31N-16W	Atlantic	Ute	17
187	E-33-31N-16W	EPNGPC	Horseshoe Ute	5
188	F-33-31N-16W	EPNGPC	Horseshoe Ute	12
189	G-33-31N-16W	EPNGPC	Horseshoe Ute	7
190	H-33-31N-16W	Banner	Ute	3
191	E-34-31N-16W	EPNGPC	Horseshoe Ute	8
192	F-34-31N-16W	Banner	Ute	5
193	G-34-31N-16W	EPNGPC	Horseshoe Ute	21
194	H-34-31N-16W	EPNGPC	Horseshoe Ute	30
195	E-35-31N-16W	Atlantic	Ute	7
196	F-35-31N-16W	Atlantic	Ute	11
197	G-35-31N-16W	Atlantic	Ute	5
198	K-33-31N-16W	EPNGPC	Horseshoe Ute	4

WELL NO.	LOCATION	OPERATER	LEASE	WELL NO.
199	J-33-31N-16W	Petro Atlas	Ute Navajo	2
200	I-33-31N-16W	EPNGPC	Horseshoe Ute	6
201	I-34-31N-16W	Banner	Ute	2
202	K-34-31N-16W	EPNGPC	Horseshoe Ute	9
203	J-34-31N-16W	EPNGPC	Horseshoe Ute	20
	I-34-31N-16W	EPNGPC	Horseshoe Ute	28
	L-35-31N-16W	Atlantic	Ute	6
206	K-35-31N-16W	Atlantic	Ute	10
207	J-35-31N-16W	Atlantic	Ute	14
208	M-33-31N-16W	EPNGPC	Horseshoe Ute	3
209	N-33-31N-16W	EPNGPC	Horseshoe Ute	1
210	O-33-31N-16W	Petro Atlas	Ute Navajo	1
211	P-33-31N-16W	EPNGPC	Horseshoe Ute	2
212	M-34-31N-16W	Banner	Ute	1
213	N-34-31N-16W	EPNGPC	Horseshoe Ute	10
214	O-34-31N-16W	EPNGPC	Horseshoe Ute	11
215	P-34-31N-16W	Petro Atlas	Ute Navajo	3
216	M-35-31N-16W	Atlantic	Ute	2
217	N-35-31N-16W	Atlantic	Ute	9
218	M-36-31N-16W	Atlantic	Ute	1
219	D-4-30N-16W	EPNGPC	Horseshoe Canyon "B"	4
220	C-4-30N-16W	EPNGPC	Horseshoe Canyon "B"	2
221	B-4-30N-16W	Petro Atlas	Horseshoe Canyon "A"	2
222	A-4-30N-16W	Petro Atlas	Horseshoe Canyon "A"	1
223	D-3-30N-16W	EPNGPC	Horseshoe Canyon "B"	1
224	C-3-30N-16W	EPNGPC	Horseshoe Canyon "B"	5
225	B-3-30N-16W	Petro Atlas	Horseshoe Canyon "C"	1
226	A-3-30N-16W	Petro Atlas	Horseshoe Canyon "C"	2
227	D-2-30N-16W	EPNGPC	State Burroughs	1
228	C-2-30N-16W	EPNGPC	State Burroughs	2
229	B-2-30N-16W	EPNGPC	Navajo - Lowe	3
230	A-2-30N-16W	EPNGPC	Navajo - Lowe	1
231	E-4-30N-16W	EPNGPC	Horseshoe Canyon "B"	3
232	F-4-30N-16W	Schio	Bolack	5
233	G-4-30N-16W	Schio	Bolack	1
234	H-4-30N-16W	EPNGPC	Horseshoe Canyon	3
235	E-3-30N-16W	EPNGPC	Horseshoe Canyon	2
236	F-3-30N-16W	EPNGPC	Horseshoe Canyon	9

WELL NO	LOCATION	OPERATER	LEASE	WELL NO.
237	G-3-30N-16W	Sohio	Bolack	9
238	H-3-30N-16W	Sohio	Bolack	15
239	E-2-30N-16W	EPROC	State "H"	1-X
240	F-2-30N-16W	EPROC	State "H"	2
241	G-2-30N-16W	EPNGPC	Navajo-Lowe	2
242	L-4-30N-16W	Petro Atlas	Horseshoe Canyon "F"	1
243	K-4-30N-16W	EPNGPC	Horseshoe Canyon	8
244	J-4-30N-16W	Sohio	Bolack	3
245	I-4-30N-16W	EPNGPC	Horseshoe Canyon	1
246	L-3-30N-16W	Sohio	Bolack	2
247	K-3-30N-16W	EPNGPC	Horseshoe Canyon	7
248	J-3-30N-16W	Sohio	Bolack	8
249	L-3-30N-16W	EPNGPC	Horseshoe Canyon	12
250	L-2-30N-16W	EPNGPC	Navajo Allotted	2
251	K-2-30N-16W	EPNGPC	Navajo Allotted	3
252	M-4-30N-16W	Petro Atlas	Horseshoe Canyon "F"	2
253	N-4-30N-16W	EPNGPC	Horseshoe Canyon	13
254	O-4-30N-16W	Sohio	Bolack	11
255	P-4-30N-16W	EPNGPC	Horseshoe Canyon	5
256	M-3-30N-16W	Sohio	Bolack	4
257	N-3-30N-16W	EPNGPC	Horseshoe Canyon	4
258	O-3-30N-16W	Sohio	Bolack	7
259	P-3-30N-16W	EPNGPC	Horseshoe Canyon	11
260	M-2-30N-16W	EPNGPC	Navajo Allotted	1
261	D-9-30N-16W	EPNGPC	Horseshoe Canyon	1-A
262	C-9-30N-16W	Petro Atlas	Horseshoe Canyon "E"	1
263	B-9-30N-16W	Sohio	Bolack	12
264	A-9-30N-16W	Petro Atlas	Horseshoe Canyon "B"	1
265	D-10-30N-16W	EPNGPC	Horseshoe Canyon	6
266	C-10-30N-16W	Sohio	Bolack	6
267	F-9-30N-16W	Petro Atlas	Horseshoe Canyon "G"	2
268	G-9-30N-16W	Sohio	Bolack	14
269	H-9-30N-16W	Petro Atlas	Horseshoe Canyon "B"	2
270	E-10-30N-16W	EPNGPC	Horseshoe Canyon	10
271	F-10-30N-16W	Sohio	Bolack	10
272	I-9-30N-16W	Abraham	Federal	5

WELL NO.	LOCATION	OPERATOR	LEASE	WELL NO.
273	N-9-30N-16W	EONGPC	(wagon seller) Horseshoe Canyon	1 (T.A.)
274	P-9-30N-16W	Abraham	Federal	6-X
275	J-9-30N-16W	Ariz. Explor.	Bolack	1 (T.A.)

PREVIOUS	OLD LEASE NAME	NEW WELL NO.	COMMENTS	
Abraham	Federal	5	I-9-30N-16W	272
Abraham	Federal	6-X	P-9-30N-16W	271
Arizona Explor.	Bolack	1	J-9-30N-16W	275
Atlantic	Navajo	1	P-32-31N-16W	1
Atlantic	Navajo	2	J-32-31N-16W	2
Atlantic	Navajo	3	F-32-31N-16W	3
Atlantic	Navajo	4	D-32-31N-16W	4
Atlantic	Navajo	5	P-30-31N-16W	5
Atlantic	Navajo	6	J-30-31N-16W	6
Atlantic	Navajo	7	F-30-31N-16W	7
Atlantic	Navajo	8	D-30-31N-16W	8
Atlantic	Navajo	9	B-30-31N-16W	9
Atlantic	Navajo	10	H-30-31N-16W	10
Atlantic	Navajo	11	L-29-31N-16W	11
Atlantic	Navajo	12	N-29-31N-16W	12
Atlantic	Navajo	13	B-32-31N-16W	13
Atlantic	Navajo	14	N-32-31N-16W	14
Atlantic	Navajo	15	L-32-31N-16W	15
Atlantic	Navajo	16	H-31-31N-16W	16
Atlantic	Navajo	17	B-31-31N-16W	17
Atlantic	Navajo	18	N-30-31N-16W	18
Atlantic	Navajo	19	L-30-31N-16W	19
Atlantic	Navajo	20	H-32-31N-16W	20
Atlantic	Navajo	21	F-29-31N-16W	21
Atlantic	Navajo	22	J-29-31N-16W	22
Atlantic	Navajo	23	F-29-31N-16W	23
Atlantic	Navajo	24	D-29-31N-16W	24
Atlantic	Navajo	25	H-29-31N-16W	25
Atlantic	Navajo	26	B-29-31N-16W	26
Atlantic	Navajo	27	P-31-31N-16W	27
Atlantic	Navajo	28	J-31-31N-16W	28
Atlantic	Navajo	29	F-31-31N-16W	29
Atlantic	Navajo	30	D-31-31N-16W	30
Atlantic	Navajo	31	N-31-31N-16W	31
Atlantic	Navajo	33	A-29-31N-16W	33
Atlantic	Navajo	34	I-29-31N-16W	34
Atlantic	Navajo	35	G-29-31N-16W	35

Atlantic	Navajo	36
Atlantic	Navajo	37
Atlantic	Navajo	38
Atlantic	Navajo	39
Atlantic	Navajo	40
Atlantic	Navajo	41
Atlantic	Navajo	42
Atlantic	Navajo	43
Atlantic	Navajo	44
Atlantic	Navajo	45
Atlantic	Navajo	46
Atlantic	Navajo	47
Atlantic	Navajo	48
Atlantic	Navajo	49
Atlantic	Navajo	50
Atlantic	Navajo	51
Atlantic	Navajo	52
Atlantic	Navajo	53
Atlantic	Navajo	54
Atlantic	Navajo	55
Atlantic	Navajo	56
Atlantic	Navajo	57
Atlantic	Navajo	58
Atlantic	Navajo	59
Atlantic	Navajo	60
Atlantic	Navajo	63
Atlantic	Navajo	65
Atlantic	Navajo	66
Atlantic	Navajo "B"	1
Atlantic	Navajo "B"	2
Atlantic	Navajo "B"	3
Atlantic	Navajo "B"	4
Atlantic	Navajo "B"	5
Atlantic	Navajo "B"	6
Atlantic	Navajo "B"	7
Atlantic	Navajo "B"	8
Atlantic	Navajo "B"	14
Atlantic	Navajo "B"	15

G-29-31N-16W	36
A-32-31N-16W	37
O-29-31N-16W	38
K-29-31N-16W	39
E-29-31N-16W	40
A-30-31N-16W	41
I-32-31N-16W	42
G-32-31N-16W	43
C-32-31N-16W	44
M-29-31N-16W	45
I-30-31N-16W	46
G-30-31N-16W	47
C-30-31N-16W	48
O-32-31N-16W	49
E-32-31N-16W	50
E-32-31N-16W	51
A-31-31N-16W	52
O-30-31N-16W	53
K-30-31N-16W	54
E-30-31N-16W	55
M-32-31N-16W	56
I-31-31N-16W	57
G-31-31N-16W	58
C-31-31N-16W	59
M-30-31N-16W	60
E-31-31N-16W	63
L-33-31N-16W	65
D-33-31N-16W	66
N-19-31N-16W	111
L-19-31N-16W	101
P-19-31N-16W	113
J-19-31N-16W	103
F-19-31N-16W	95
D-19-31N-16W	89
N-20-31N-16W	115
L-20-31N-16W	105
M-19-31N-16W	110
O-19-31N-16W	112

PREVIOUS	NEW	NO.	LOC.	NO.
Atlantic	Navajo "B"	16	K-19-31N-16W	202
Atlantic	Navajo "B"	17	E-19-31N-16W	94
Atlantic	Navajo "B"	18	M-20-31N-16W	104
Atlantic	Navajo "B"	19	I-19-31N-16W	104
Atlantic	Navajo "B"	23	O-20-31N-16W	116
Atlantic	Navajo "B"	24	K-20-31N-16W	206
Atlantic	Ute	1	M-36-31N-16W	218
Atlantic	Ute	2	M-35-31N-16W	216
Atlantic	Ute	4	D-35-31N-16W	184
Atlantic	Ute	5	G-35-31N-16W	197
Atlantic	Ute	6	L-35-31N-16W	205
Atlantic	Ute	7	E-35-31N-16W	195
Atlantic	Ute	8	M-26-31N-16W	174
Atlantic	Ute	9	N-35-31N-16W	217
Atlantic	Ute	10	K-35-31N-16W	206
Atlantic	Ute	11	F-35-31N-16W	196
Atlantic	Ute	12	G-35-31N-16W	185
Atlantic	Ute	14	J-35-31N-16W	207
Atlantic	Ute	17	B-35-31N-16W	186
Atlantic	Ute	18	N-26-31N-16W	175
Atlantic	Ute	19	O-26-31N-16W	176
Banner	Ute	1	M-34-31N-16W	212
Banner	Ute	2	L-34-31N-16W	201
Banner	Ute	3	H-33-31N-16W	190
Banner	Ute	4	A-33-31N-16W	179
Banner	Ute	5	F-34-31N-16W	192
Banner	Ute	6	G-34-31N-16W	181
Banner	Ute	7	H-28-31N-16W	154
Banner	Ute	8	A-28-31N-16W	149
EPNGPC	Chimney Rock	1	I-23-31N-17W	95
EPNGPC	Chimney Rock	2	A-15-31N-17W	67
EPNGPC	Chimney Rock "A"	1	P-24-31N-17W	109
EPNGPC	Chimney Rock "A"	2	J-24-31N-17W	99
EPNGPC	Chimney Rock "A"	3	O-24-31N-17W	108
EPNGPC	Chimney Rock "A"	4	I-24-31N-17W	100

PREVIOUS

OLD LEASE

EPNGPC	Chimney Rock "A"	5	N-24-31N-17W	204
EPNGPC	Chimney Rock "A"	6	A-25-31N-17W	205
EPNGPC	Chimney Rock "A"	7	K-24-31N-17W	206
EPNGPC	Chimney Rock "A"	8	H-25-31N-17W	207
EPNGPC	Chimney Rock "A"	9	B-25-31N-17W	208
EPNGPC	Chimney Rock "A"	10	L-24-31N-17W	209
EPNGPC	Chimney Rock "A"	11	O-25-31N-17W	210
EPNGPC	Chimney Rock "A"	12	G-25-31N-17W	211
EPNGPC	Chimney Rock "A"	13	J-25-31N-17W	212
EPNGPC	Chimney Rock "A"	14	I-25-31N-17W	213
EPNGPC	Chimney Rock "A"	15	P-25-31N-17W	214
EPNGPC	Horseshoe Canyon	1-A	D-9-30N-16W	215
EPNGPC	(Wagon Seller)	1	N-9-30N-16W	216
EPNGPC	Horseshoe Canyon	1	I-4-30N-16W	217
EPNGPC	Horseshoe Canyon	2	E-3-30N-16W	218
EPNGPC	Horseshoe Canyon	3	H-4-30N-16W	219
EPNGPC	Horseshoe Canyon	4	N-3-30N-16W	220
EPNGPC	Horseshoe Canyon	5	P-4-30N-16W	221
EPNGPC	Horseshoe Canyon	6	D-10-30N-16W	222
EPNGPC	Horseshoe Canyon	7	K-3-30N-16W	223
EPNGPC	Horseshoe Canyon	8	K-4-30N-16W	224
EPNGPC	Horseshoe Canyon	9	F-3-30N-16W	225
EPNGPC	Horseshoe Canyon	10	E-10-30N-16W	226
EPNGPC	Horseshoe Canyon	11	P-3-30N-16W	227
EPNGPC	Horseshoe Canyon	12	I-3-30N-16W	228
EPNGPC	Horseshoe Canyon	13	N-4-30N-16W	229
EPNGPC	Horseshoe Canyon "B"	1	D-3-30N-16W	230
EPNGPC	Horseshoe Canyon "B"	2	C-4-30N-16W	231
EPNGPC	Horseshoe Canyon "B"	3	E-4-30N-16W	232
EPNGPC	Horseshoe Canyon "B"	4	D-4-30N-16W	233
EPNGPC	Horseshoe Canyon "B"	5	C-3-30N-16W	234
EPNGPC	Horseshoe Navajo	1	C-5-30N-16W	235
EPNGPC	Horseshoe Navajo	2	D-5-30N-16W	236
EPNGPC	Horseshoe Navajo	3	I-5-30N-16W	237
EPNGPC	Horseshoe Navajo	4	P-5-30N-16W	238
EPNGPC	Horseshoe Navajo	5	J-5-30N-16W	239

PREVIOUS	OLD IMAGE	NEW IMAGE	LOCATION	INDEX
EPNGPC	Horseshoe Navajo	6	F-5-30N-16W	132
EPNGPC	Horseshoe Navajo	7	O-5-30N-16W	130
EPNGPC	Horseshoe Navajo	8	E-5-30N-16W	131
EPNGPC	Horseshoe Ute	1	N-33-31N-16W	209
EPNGPC	Horseshoe Ute	2	P-33-31N-16W	211
EPNGPC	Horseshoe Ute	3	M-33-31N-16W	208
EPNGPC	Horseshoe Ute	4	K-33-31N-16W	198
EPNGPC	Horseshoe Ute	5	E-33-31N-16W	187
EPNGPC	Horseshoe Ute	6	I-33-31N-16W	200
EPNGPC	Horseshoe Ute	7	G-33-31N-16W	189
EPNGPC	Horseshoe Ute	8	E-34-31N-16W	191
EPNGPC	Horseshoe Ute	9	K-34-31N-16W	202
EPNGPC	Horseshoe Ute	10	N-34-31N-16W	213
EPNGPC	Horseshoe Ute	11	O-34-31N-16W	214
EPNGPC	Horseshoe Ute	12	F-33-31N-16W	188
EPNGPC	HORSESHOE UTE	13	C-33-31N-16W	177
EPNGPC	Horseshoe Ute	14	B-33-31N-16W	178
EPNGPC	Horseshoe Ute	15	D-34-31N-16W	180
EPNGPC	Horseshoe Ute	16	P-28-31N-16W	169
EPNGPC	Horseshoe Ute	17	O-28-31N-16W	168
EPNGPC	Horseshoe Ute	18	N-28-31N-16W	167
EPNGPC	Horseshoe Ute	19	K-28-31N-16W	169
EPNGPC	Horseshoe Ute	20	J-34-31N-16W	203
EPNGPC	Horseshoe Ute	21	O-34-31N-16W	193
EPNGPC	Horseshoe Ute	22	J-28-31N-16W	160
EPNGPC	Horseshoe Ute	23	I-28-31N-16W	161
EPNGPC	Horseshoe Ute	24	N-27-31N-16W	171
EPNGPC	Horseshoe Ute	25	G-28-31N-16W	153
EPNGPC	Horseshoe Ute	26	F-28-31N-16W	152
EPNGPC	Horseshoe Ute	27	M-28-31N-16W	166
EPNGPC	Horseshoe Ute	28	I-34-31N-16W	204
EPNGPC	Horseshoe Ute	29	B-34-31N-16W	182
EPNGPC	Horseshoe Ute	30	H-34-31N-16W	194
EPNGPC	Horseshoe Ute	31	E-27-31N-16W	155
EPNGPC	Horseshoe Ute	32	J-27-31N-16W	164
EPNGPC	Horseshoe Ute	33	O-27-31N-16W	172
EPNGPC	Horseshoe Ute	34	A-34-31N-16W	183
EPNGPC	Horseshoe Ute	35	K-27-31N-16W	163

EPNGPC	Horseshoe Ute	36	P-27-31N-16W	173
EPNGPC	Horseshoe Ute	37	F-27-31N-16W	156
EPNGPC	Horseshoe Ute	38	D-27-31N-16W	150
EPNGPC	Horseshoe Ute	39	B-28-31N-16W	148
RPNGPC	Horseshoe Ute	40	C-28-31N-16W	147
EPNGPC	Horseshoe Ute	41	G-27-31N-16W	151
EPNGPC	Horseshoe Ute	42	G-27-31N-16W	157
EPNGPC	Horseshoe Ute	43	I-27-31N-16W	165
EPNGPC	Horseshoe Ute	44	L-28-31N-16W	158
EPNGPC	Navajo Allotted	1	M-2-30N-16W	260
EPNGPC	Navajo Allotted	2	L-2-30N-16W	250
EPNGPC	Navajo Allotted	3	K-2-30N-16W	251
EPNGPC	Navajo-Lowe	1	A-2-30N-16W	230
EPNGPC	Navajo-Lowe	2	G-2-30N-16W	241
EPNGPC	Navajo-Lowe	3	B-2-30N-16W	229
EPNGPC	State Burroughs	1	D-2-30N-16W	227
EPNGPC	State Burroughs	2	C-2-30N-16W	228
EPROC	STATE "H"	1-X	E-2-30N-16W	239
EPROC	STATE "H"	2	F-2-30N-16W	240
Mobil	Navajo "A"	1	H-24-31N-17W	93
Mobil	Navajo "A"	2	G-24-31N-17W	92
Mobil	Navajo "A"	3	F-24-31N-17W	91
MOBIL	Navajo "A"	4	C-24-31N-17W	86
Mobil	Navajo "A"	5	B-24-31N-17W	87
Mobil	Navajo "A"	6	M-13-31N-17W	81
Mobil	Navajo "A"	7	D-24-31N-17W	85
Mobil	Navajo "A"	8	E-24-31N-17W	90
Mobil	Navajo "A"	9	G-14-31N-17W	69
Mobil	Navajo "A"	10	G-14-31N-17W	72
Mobil	Navajo "A"	11	I-14-31N-17W	76
Mobil	Navajo "A"	12	P-14-31N-17W	80
Mobil	Navajo "A"	13	A-23-31N-17W	84
Mobil	Navajo "A"	14	J-14-31N-17W	75
Mobil	Navajo "A"	15	N-13-31N-17W	82
Mobil	Navajo "A"	16	B-14-31N-17W	70
Mobil	Navajo "A"	17	H-14-31N-17W	73
Mobil	Navajo "A"	18	L-13-31N-17W	77

PREVIOUS	OLD LEASE	WELL NO.	LOCATION	DATE WELL NO.
Mobil	Navajo "A"	19	A-24-31N-17W	88
Mobil	Navajo "A"	20	O-13-31N-17W	83
Mobil	Navajo "A"	21	K-13-31N-17W	78
Mobil	Navajo "A"	22	F-14-31N-17W	71
Mobil	Navajo "A"	23	D-14-31N-17W	68
Mobil	Navajo "A"	24	O-14-31N-17W	79
Mobil	Navajo "A"	25	K-14-31N-17W	74
Petro Atlas	Horseshoe Canyon "G"	1	A-6-30N-16W	125
Petro Atlas	Horseshoe Canyon "G"	2	H-6-30N-16W	130
Petro Atlas	Horseshoe Canyon "A"	1	A-4-30N-16W	222
Petro Atlas	Horseshoe Canyon "A"	2	B-4-30N-16W	221
Petro Atlas	Horseshoe Canyon "B"	1	A-9-30N-16W	264
Petro Atlas	Horseshoe Canyon "B"	2	H-9-30N-16W	269
Petro Atlas	Horseshoe Canyon "C"	1	B-3-30N-16W	225
Petro Atlas	Horseshoe Canyon "C"	2	A-3-30N-16W	226
Petro Atlas	Horseshoe Canyon "D"	1	A-5-30N-16W	129
Petro Atlas	Horseshoe Canyon "D"	2	H-5-30N-16W	134
Petro Atlas	Horseshoe Canyon "D"	3	B-5-30N-16W	128
Petro Atlas	Horseshoe Canyon "D"	4	G-5-30N-16W	133
Petro Atlas	Horseshoe Canyon "D"	5	K-5-30N-16W	136
Petro Atlas	Horseshoe Canyon "D"	6	L-5-30N-16W	135
Petro Atlas	Horseshoe Canyon "D"	7	N-5-30N-16W	139
Petro Atlas	Horseshoe Canyon "D"	8	A-8-30N-16W	142
Petro Atlas	Horseshoe Canyon "E"	1	C-9-30N-16W	262
Petro Atlas	Horseshoe Canyon "E"	2	F-9-30N-16W	267
Petro Atlas	Horseshoe Canyon "F"	1	L-4-30N-16W	242
Petro Atlas	Horseshoe Canyon "F"	2	M-4-30N-16W	252
Petro Atlas	Ute Navajo	1	O-33-31N-16W	210
Petro Atlas	Ute Navajo	2	J-33-31N-16W	199
Petro Atlas	Ute Navajo	3	P-34-31N-16W	215
Petro Atlas	Ute Navajo	4	M-27-31N-16W	170
Petro Atlas	Ute Navajo	5	I-27-31N-16W	162

PREVIOUS	OLD LEASE	WELL NO.	LOCATION	NEW WELL NO.
Sohio	Bolack	1	G-1-30N-16W	233
Sohio	Bolack	2	L-3-30N-16W	246
Sohio	Bolack	3	J-4-30N-16W	244
Sohio	Bolack	4	M-3-30N-16W	256
Sohio	Bolack	5	F-4-30N-16W	232
Sohio	Bolack	6	C-10-30N-16W	266
Sohio	Bolack	7	O-3-30N-16W	258
Sohio	Bolack	8	J-3-30N-16W	248
Sohio	Bolack	9	G-3-30N-16W	237
Sohio	Bolack	10	F-10-30N-16W	271
Sohio	Bolack	11	O-4-30N-16W	254
Sohio	Bolack	12	B-9-30N-16W	263
Sohio	Bolack	14	G-9-30N-16W	268
Sohio	Bolack	15	H-3-30N-16W	238
Texaco	Navajo-Ute Mtn. "B"	1	P-21-31N-16W	146
Texaco	Navajo-Ute Mtn. "B"	2	O-21-31N-16W	145
Texaco	Navajo-Ute Mtn. "B"	3	N-21-31N-16W	144
Texaco	Navajo-Ute Mtn. "B"	4	K-21-31N-16W	143

ATLANTIC

THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

November 26, 1962

2519

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER
T. S. PACE, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
T. O. DAVIS, ENGINEERING
L. G. MEGASON, GEOPHYSICAL
R. P. CURRY, ADMINISTRATIVE

SUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
AMHERST 6-3741

United States Geological Survey (6)
Attention: Mr. John A. Anderson,
Regional Oil and Gas Supervisor
Post Office Drawer 1857
Roswell, New Mexico

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

Petro-Atlas, Inc. and Mr. Robert D. Snow have purchased the Bolack interest in Tracts 34 and 34-A, and wish to commit this interest to the Horseshoe-Gallup Unit. In this connection, I enclose six copies each of Ratification and Joinder of the Unit Agreement and Unit Operating Agreement executed by Petro-Atlas, Inc. and Robert D. Snow. Also enclosed is a photocopy of the Assignment, recorded in the office of the County Clerk of San Juan County, New Mexico, and a request for approval of the Assignment.

Seventy-five percent of Tracts 34 and 34-A were committed as of the effective date. At this time, we are requesting that the remaining twenty-five percent of the tracts be committed to the Unit.

In accordance with the Unit Agreement, a subsequent joinder will become effective at 7:00 a.m. as of the first day of the month following the filing with the Supervisor, Commission and Commissioner unless objection to such joinder is made within 60 days by the Director or the Commissioner.

A revision to Exhibit "C" will be prepared and forwarded to you in the near future. Exhibit "B" should be corrected as shown on the attached page.

Yours truly,

J. O. Davis

T. O. Davis, Chairman
Horseshoe-Gallup Operators' Committee

TOD:lb

Enclosures

cc: Commissioner of Public Lands,
State of New Mexico - w/encls.

Oil Conservation Commission,
State of New Mexico - w/encls.

All Working Interest Owners

REVISION TO EXHIBIT "B"

HORSESHOE-GALLUP UNIT AREA, SAN JUAN COUNTY, NEW MEXICO

FEDERAL LANDS

<u>Tract Number</u>	<u>Description</u>	<u>No. Acres</u>	<u>Serial No. & Date of Lease or Application</u>	<u>Basic Royalty & Percentage</u>	<u>Lessee of Record</u>	<u>Overriding Royalty and Percentage</u>	<u>Working Interest Percentage</u>
34	T-30-N, R-16-W Section 9: NW/4 SE/4	40.00	SF-081226 10-1-51	U.S.A. - 12.5%	Tom Bolack	Richard L. Jones, Trustee - 2.7344%	Continental Oil Co. - 25% Clark & Cowden - 25% The Hidden Splendor Mining Co. - 25% Petro-Atlas, Inc.- 18.75% Robert D. Snow - 6.25%
34-A	T-30-N, R-16-W Section 9: SW/4 SE/4	40.00	SF-081226 10-1-51	U.S.A. - 12.5%	Tom Bolack	Richard L. Jones, Trustee - 2.7344%	Continental Oil Co. - 25% Clark & Cowden - 25% Petro-Atlas, Inc. - 25% Petro-Atlas, Inc. - 18.75% Robert D. Snow - 6.25%

HORSESHOE-GALLUP OPERATORS'
COMMITTEE DISTRIBUTION LIST

Mr. J. R. Abraham
814 Mercantile Bank Building
Dallas, Texas

Mr. David Altman
209 South LaSalle Street
Chicago 4, Illinois

Mr. David L. Canmann
1949 Cicero Avenue
Chicago 39, Illinois

Clark and Cowden
5551 Yale Boulevard
Dallas, Texas

Clark and Cowden Exploration Company
5551 Yale Boulevard
Dallas, Texas

Mr. J. D. Collister
4203 Avenida LaResolana NE
Albuquerque, New Mexico

Continental Oil Company (7)
Attention: Mr. H. D. Haley
Post Office Box 3312
Durango, Colorado

Mr. R. W. Dammann
380 Madison Avenue
New York 17, New York

Delhi-Taylor Oil Corporation
Attention: Mr. J. H. Doughman
Fidelity Union Tower
Dallas 1, Texas

Delhi-Taylor Oil Corporation
Attention: Mr. G. T. Higginbotham
Post Office Drawer 1198
Farmington, New Mexico

El Paso Natural Gas Products Company (2)
Attention: Mr. Lee Ayers
Mr. Roland Hamblin
Post Office Box 1161
El Paso, Texas

El Paso Natural Gas Products Company
Attention: Mr. E. N. Walsh
Post Office Box 1560
Farmington, New Mexico

EPROC Associates
Attention: Mr. W. E. Carr
Post Office Box 1710
Durango, Colorado

Helbing and Podpechan
Attention: Mr. Frank Podpechan
418 Hinkle Building
Roswell, New Mexico

Mr. J. Felix Hickman
4401 Constitution NE
Albuquerque, New Mexico

The Hidden Splendor Mining Company (2)
Attention: Mr. F. T. Anderson
Mr. N. B. Gove
2000 National Bank of Tulsa Building
Tulsa 3, Oklahoma

Socony Mobil Oil Company, Inc.
Attention: District Producing Superintendent
10737 South Shoemaker Road
Santa Fe Springs, California

Socony Mobil Oil Company, Inc.
Attention: Senior Production Foreman
Post Office Box 3371
Durango, Colorado

Horseshoe-Gallup Operators' Committee Distribution List, Page Two

Socony Mobil Oil Company, Inc.
Attention: Mr. D. G. Kingman
Post Office Box 2122, Term. Annex
Los Angeles, California

Reynolds Mining Company
Attention: Mr. James G. White
609 Melrose Building
Houston 2, Texas

Mr. Robert D. Snow
407 Tri-State Building
Tulsa 19, Oklahoma

Sohio Petroleum Company (4)
Attention: Mr. D. W. Smith
Post Office Box 673
Russell, Kansas

Mrs. Eleanor F. Spiegel
Post Office Box 1042
Albuquerque, New Mexico

Texaco, Inc.
Attention: Mr. C. P. Farmer
Post Office Box 810
Farmington, New Mexico

Texaco, Inc.
Attention: Mr. J. F. Neill
Post Office Box 2100
Denver 1, Colorado

Mr. Lester Vance
Post Office Box 1710
Durango, Colorado

RATIFICATION AND JOINDER
OF
UNIT OPERATING AGREEMENT
AND
UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION
OF THE
HORSESHOE-GALLUP UNIT AREA
SAN JUAN COUNTY, NEW MEXICO

In consideration of the execution of the Unit Agreement for the Development and Operation of the Horseshoe-Gallup Unit Area, County of San Juan, State of New Mexico, dated November 1, 1961, approved in behalf of the Secretary of the Interior under date of July 27, 1962, and effective as of August 1, 1962, the undersigned hereby expressly joins said Unit Agreement and ratifies, approves and adopts said Unit Agreement and all the terms and provisions thereof.

This ratification and joinder shall be effective as to the undersigned's interest in any lands and leases, royalties presently held or which may arise under existing option agreements, or other interests in unitized substances, covering any of the following described land:

T-30-N, R-16-W:
Section 9: NW/4 SE/4 and SW/4 SE/4

in San Juan County, New Mexico

As a part and parcel of this ratification and joinder, the undersigned to the extent of his or its interest expressly agrees:

- (1) That the term of any lease given by the undersigned or under which the undersigned claims an interest herein is extended and modified to the extent necessary to make the same conform to the term of said Unit Agreement.
- (2) That the drilling, development, and producing requirements of all leases and other contracts in which undersigned's rights and interest are created or defined shall be deemed fully performed by performance of the provisions of said Unit Agreement.
- (3) That payment for or delivery of (whichever may be required under prior agreements) oil and gas duly made at contract rates applied to the production allocated under said Unit Agreement to the particular lands to which such rights or interest do or shall apply, regardless of actual production therefrom, shall constitute full performance of all such obligations to the undersigned existing under such leases or other contracts.

For a like consideration, the undersigned does hereby expressly ratify, approve, adopt, confirm, and join in said Unit Operating Agreement dated November 1, 1961, to the extent of the undersigned's leasehold interest in the above-described lands, and agrees to be governed by all the terms and provisions thereof as a working interest owner.

This Ratification and Joinder of Unit Agreement and Unit Operating Agreement may be executed in any number of counterparts with the same force and effect as if all parties had signed the same document and shall be binding upon all those who execute a counterpart hereof, regardless of whether or not it is executed by all other parties owning or claiming an interest in the lands affected hereby, and when so executed shall be binding upon the undersigned, his heirs, devisees, assigns, or successors in interest.

EXECUTED this 16th day of November, 1962.

PARTY: *Robert D. Snow*
Robert D. Snow
By: _____

Assistant Secretary

CONSENTED TO AND ACCEPTED AS OF THE 28th DAY OF November, 1962.

THE ATLANTIC REFINING COMPANY,
By: *H. C. Harris, Jr.*
H. C. Harris, Jr.
Assistant Vice President

ATTEST:
Mary C. Trayer
Assistant Secretary

208
87A

RATIFICATION AND JOINDER
OF
UNIT OPERATING AGREEMENT
AND
UNIT AGREEMENT FOR THE DEVELOPMENT AND OPERATION
OF THE
HORSESHOE-GALLUP UNIT AREA
SAN JUAN COUNTY, NEW MEXICO

In consideration of the execution of the Unit Agreement for the Development and Operation of the Horseshoe-Gallup Unit Area, County of San Juan, State of New Mexico, dated November 1, 1961, approved in behalf of the Secretary of the Interior under date of July 27, 1962, and effective as of August 1, 1962, the undersigned hereby expressly joins said Unit Agreement and ratifies, approves and adopts said Unit Agreement and all the terms and provisions thereof.

This ratification and joinder shall be effective as to the undersigned's interest in any lands and leases, royalties presently held or which may arise under existing option agreements, or other interests in unitized substances, covering any of the following described land:

T-30-N, R-16-W:
Section 9: NW/4 SE/4 and SW/4 SE/4

in San Juan County, New Mexico

As a part and parcel of this ratification and joinder, the undersigned to the extent of his or its interest expressly agrees:

- (1) That the term of any lease given by the undersigned or under which the undersigned claims an interest herein is extended and modified to the extent necessary to make the same conform to the term of said Unit Agreement.
- (2) That the drilling, development, and producing requirements of all leases and other contracts in which undersigned's rights and interest are created or defined shall be deemed fully performed by performance of the provisions of said Unit Agreement.
- (3) That payment for or delivery of (whichever may be required under prior agreements) oil and gas duly made at contract rates applied to the production allocated under said Unit Agreement to the particular lands to which such rights or interest do or shall apply, regardless of actual production therefrom, shall constitute full performance of all such obligations to the undersigned existing under such leases or other contracts.

For a like consideration, the undersigned does hereby expressly ratify, approve, adopt, confirm, and join in said Unit Operating Agreement dated November 1, 1961, to the extent of the undersigned's leasehold interest in the above-described lands, and agrees to be governed by all the terms and provisions thereof as a working interest owner.

This Ratification and Joinder of Unit Agreement and Unit Operating Agreement may be executed in any number of counterparts with the same force and effect as if all parties had signed the same document and shall be binding upon all those who execute a counterpart hereof, regardless of whether or not it is executed by all other parties owning or claiming an interest in the lands affected hereby, and when so executed shall be binding upon the undersigned, his heirs, devisees, assigns, or successors in interest.

EXECUTED this 16th day of November, 1962.

PARTY: Robert D. Snow
Robert D. Snow
By: _____

ATTEST:

Assistant Secretary

CONSENTED TO AND ACCEPTED AS OF THE 28th DAY OF November, 1962.

THE ATLANTIC REFINING COMPANY,
By: H. C. Harris, Jr.
H. C. Harris, Jr.
Assistant Vice President

ATTEST:
Mary C. Trayer
Assistant Secretary

870

CORPORATE ACKNOWLEDGMENT

STATE OF Texas)
COUNTY OF Dallas)

On this 28th day of November, 1962, before me appeared H. C. Harris, Jr., to me personally known who, being by me duly sworn did say that he is the Assistant Vice President of THE ATLANTIC REFINING COMPANY, and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said H. C. Harris, Jr. scknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal on this, the day and year first above written.

Holly Mae Tippett
Notary Public in and for
Dallas County, Texas

My Commission Expires:
June 1, 1963

HOLLY MAE TIPPETT

ATTORNEY-IN-FACT ACKNOWLEDGMENT

STATE OF _____)
COUNTY OF _____)

On this ____ day of _____, 19____, before me appeared _____, to me personally known, who, being by me duly sworn did say that he is the Attorney-in-Fact of _____, and that the seal affixed to said instrument is the corporate seal of said corporation and that said instrument was signed and sealed in behalf of said corporation by authority of its Board of Directors, and said _____ acknowledged said instrument to be the free act and deed of said corporation.

IN WITNESS WHEREOF, I have hereunto set my hand and affixed my seal on this, the day and year first above written.

Notary Public in and for
_____ County, _____

My Commission Expires:

INDIVIDUAL ACKNOWLEDGEMENT

THE STATE OF Oklahoma)
COUNTY OF Tulsa)

The foregoing instrument was acknowledged before me this 16th day of November, 1962, by Robert D. Snow

My Commission Expires:
REULAH CROSLY, Notary Public
Commission Expires May 5, 1966

Reulah Crosley
Notary Public

13-A

REQUEST FOR APPROVAL OF ASSIGNMENT

The Assignee hereby requests approval of assignment and certifies as follows:

1. Assignee Robert D. Snow is 21 years of age or over, and is a citizen of the United States: Native Born Naturalized
2. Assignee Petro-Atlas, Inc. is a corporation or other legal entity (specify kind)
Corporation of the State of Delaware
(Reference data filed with Lease SF-079430-A)
and is qualified to take this assignment as shown by statements attached hereto. (See Item 2 of Instructions)
3. Assignee's interests, direct and indirect, do not exceed 200,000 acres in oil and gas options or 246,080 chargeable acres in options and leases in the same State, or 300,000 chargeable acres in leases and options in each leasing district in Alaska.
4. Assignee is not the sole party in interest in this assignment. (If assignee is not the sole party in interest, information as to interests of other parties in the assignment must be furnished as prescribed in Item 3 of the Instructions.)
5. Amount remitted: Filing fee, \$10.

The assignee agrees to be bound by the terms and provisions of the lease described herein, provided the assignment is approved by the signing officer of the Bureau of Land Management.

IT IS HEREBY CERTIFIED That the statements made herein are true, complete, and correct to the best of the undersigned's knowledge and belief.

Executed this 1st day of August, 19 62.

BY:

Don M. Richards
Don M. Richards, Assistant Secretary

PETRO-ATLAS, INC.

By F.T. Anderson
F.T. Anderson, (Assignee's signature) President
2000 National Bank of Tulsa Building,
Tulsa 8, Oklahoma. (Address)

Robert D. Snow,
407 Tri-State Building,
Tulsa 19, Oklahoma.

INSTRUCTIONS

- Use of Form.** This form is to be used only for assignment of record title interests in oil and gas leases. It is *not to be used* for assignments of working or royalty interest, operating agreements, or sub-leases. The assignment, if approved, will take effect as of the first day of the lease month following the date of filing in the proper Land Office of three (3) original executed counterparts thereof, together with any required bond and proof of the qualification of the assignee to take and hold the interest assigned. Assignments must be filed within ninety (90) days from date of final execution and each must be accompanied by a filing fee of \$10. Any assignment not accompanied by the required fee will *not* be accepted for filing. An assignment of record title may cover lands in *only one* lease. Where more than one assignment is made out of a lease, a separate instrument of transfer *must* be filed for *each* assignment.
- Qualifications of Assignee.** Assignee must indicate whether a citizen by birth or naturalization. If assignee is an unincorporated association (including a partnership), the assignment must be accompanied by a statement giving the same showing as to citizenship and holdings of its members as required of an individual. If assignee is a corporation, it must submit a statement containing the following information: (a) the State in which it is incorporated, (b) that it is authorized to hold oil and gas leases; (c) that the officer executing the assignment is authorized to act on behalf of the corporation in such matters; and (d) the percentage of the voting stock and of all of the stock owned by aliens or those having addresses outside the United States. Where such ownership is over 10 percent, additional information may be required by the Bureau of Land Management prior to approval of the assignment. If 20 percent or more of the stock of any class is owned or controlled by or on behalf of any one stockholder, a separate showing of his citizenship and holdings must be furnished. Where evidence of the corporation's citizenship and stock ownership has previously been furnished, reference by serial number to the record in which it has been filed, together with a statement as to any amendments, will be sufficient. With respect to qualifications of the assignee, there must be full compliance with the regulations 43 CFR 192.42 (e) and (f).
- Statement of Interests.** Assignee must indicate whether or not he is the sole party in interest in the assignment. If not the sole party in interest, the assignee must submit at the time the assignment is filed a signed statement setting forth the names of the other interested parties. If there are other parties interested in the assignment, a separate statement must be signed by each and the assignee setting forth the nature and extent of the interest of each, the nature of the agreement between them, if oral; and a copy of the agreement, if written. All interested parties must furnish evidence of their qualifications to hold such lease interests. Such separate statement and written agreement, if any, must be filed not later than fifteen (15) days after the filing of the assignment.
- Overriding Royalties or Payments out of Production.** Any overriding royalties or payments out of production created by the assignment but not set out therein must be described in an accompanying statement. If payments out of production are reserved by the assignor, outline in detail the amount, method of payment, and other pertinent terms.
- Effect of Assignment.** Upon approval of the assignment, the assignee becomes the lessee of the Government as to the assigned interest and will be responsible for compliance with all the lease terms and conditions, including timely payment of annual rentals and maintenance of bond, if required. The approval of an assignment of part of the leased lands creates separate leases out of the assigned portion and the retained portion, but there is no change in either the anniversary date or the term of such leases except as provided under the regulations 43 CFR 192.144(b). Oil and gas leases are governed by the regulations 43 CFR, Parts 191 and 192, of which Secs. 192.140-192.145 relate to assignments of such leases or interests therein.
- A copy of the executed lease out of which this assignment is made should be made available to the assignee by the assignor.

McKenna & Sommer
Nason Bldg.
302 E. Palace
Santa Fe, N.M.

Serial Number

87-081226

Effective Date of Base Lease

October 1, 1961

ASSIGNMENT AFFECTING RECORD TITLE TO OIL AND GAS LEASE

The undersigned, as owner of record title in the above-designated oil and gas lease, does hereby transfer and assign

to: PETRO-ATLAS, INC., 2000 National Bank of Tulsa Bldg., Tulsa 3, Oklahoma, 3/4th
(Name) & (Address)
ROBERT D. SNOW, 407 Tri-State Building, Tulsa 19, Oklahoma, 1/4th
(Name) & (Address)

the record title interest in and to such lease as specified below:

1. Lands affected by this assignment:

Township 30 North, Range 16 West, NMPM

Section 9: W/2 SE/4

Containing 80 acres, more or less,
San Juan County, New Mexico.

STATE OF NEW MEXICO
COUNTY OF SAN JUAN
FILED

October 16, 1962

at 11:10 o'clock A. M.
and Recorded in Book 533

Page 13
Sarah Gooding, County Clerk

Sarah Gooding
\$2.75



- 2. Interest of assignor in above-described lands All
- 3. Extent of interest conveyed to assignee One-fourth (1/4th)
- 4. Overriding royalty or production payments reserved herein to assignor (State percentage only) (See Item 4 of Instructions)
Three Percent (3%)
- 5. Overriding royalties or production payments previously reserved (State percentage only) None

The undersigned agrees that the obligation to pay any overriding royalties or payments out of production of oil created herein, which, when added to overriding royalties or payments out of production previously created and to the royalty payable to the United States, aggregate in excess of 17 1/2 percent, shall be suspended when the average production of oil per well per day averaged on the monthly basis is 15 barrels or less.

It is hereby certified that the statements made herein are true, complete, and correct to the best of the undersigned's knowledge and belief.

Executed this 1st day of August, 19 62.

Alice Bolack
(Assignor's signature) **Tom Bolack**

1010 North Dustin, Farmington, New Mexico
(Address)

STATE OF NEW MEXICO)
COUNTY OF Santa Fe)

Before me, the undersigned, a Notary Public, within and for said County and State, on this 1st day of August, 1962, personally appeared Tom Bolack and ALICE BOLACK his wife, to me personally known to be the identical person who executed the within and foregoing instrument, and acknowledged to me that they executed the same as their free and voluntary act and deed for the uses and purposes therein set forth.

IN WITNESS WHEREOF, I have hereunto set my hand and official seal this 16th day and year last above written.

My commission expires:

[Signature]



THE ATLANTIC REFINING COMPANY
INCORPORATED - 1970
PETROLEUM PRODUCTS

October 12, 1962

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER
T. S. PACE, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
T. O. DAVIS, ENGINEERING
L. G. MEGASON, GEOPHYSICAL
R. P. CURRY, ADMINISTRATIVE

2277
SUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
AMHERST 6-3741

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Commissioner of Public Lands
State Land Office
Santa Fe, New Mexico

Attention: Mrs. Marian M. Rhea

Mr. John A. Anderson
Regional Oil and Gas Supervisor
United States Geological Survey
Post Office Drawer 1857
Roswell, New Mexico

Re: Initial Plan of
Development and Operation
Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

Attached are corrected Pages 2 and 6 of the initial Plan of Development and Operation for the Horseshoe-Gallup Unit. This Plan, dated July 25, 1962, covered the remainder of 1962 and the first six months of 1963 and has been approved by you.

On Page 2 we have corrected the location for the Navajo "B" No. 8 well to show it as being in the NW/4 SW/4 Sec. 20, T-31-N, R-16-W instead of in the NE/4 SW/4 Sec. 20, as previously shown. On Page 6 the locations for the Mobil Navajo "A" wells 24 and 25 were reversed on the original Plan and are corrected on the revised page.

Please substitute these pages for those originally sent.

Yours very truly,

T. O. Davis

By:

E. F. Herbeck

EFH:lb
Attachments

with a total of 268 wells having been drilled and completed in the project area. The Unit has produced a cumulative of 10,341,967 BO as of June 1, 1962. It is estimated that the cumulative production by August 1, 1962 will be about 10,660,000 BO. The primary recovery expected from the Horseshoe-Gallup Unit has been estimated at 14,119,000 barrels, or about 14.5% of the original oil-in-place.

Secondary Planning:

It has been estimated that water injection could raise the ultimate recovery from the Unit Area to 38,100,000 BO, or 39% of the original oil-in-place. This is an increase of 23,981,000 BO over that predicted for primary.

The proposed pattern for water injection is that shown on the attached Exhibit "C". The pattern shown is a 5-spot around the edges of the field and a 9-spot in the center. The 5-spot pattern, which provides one injection well for each producing well, is needed around the edges of the field where the permeability is low. The 9-spot pattern has a ratio of one injection well for three producing wells, and this is considered adequate for the center of the field which has better sand development. In those wells where both the Upper and Lower Tooto zones are present, injection will be into both zones. However, the wells will be completed in such a manner that injection into each zone will be kept separate.

With the proposed pattern, 109 of the present wells in the field will be injection wells. Fifteen of these already are injection wells. They are as follows:

<u>UNIT TRACT NO.</u>	<u>OPERATOR</u>	<u>LEASE</u>	<u>WELL NO.</u>	<u>LOCATION</u>
3	Atlantic	Navajo	"B" 1	SE/4 SW/4 Sec. 19, T-31-N, R-16-W
			"B" 3	SE/4 SE/4 Sec. 19, T-31-N, R-16-W
			"B" 4	NW/4 SE/4 Sec. 19, T-31-N, R-16-W
			"B" 5	SE/4 NW/4 Sec. 19, T-31-N, R-16-W
			"B" 7	SE/4 SW/4 Sec. 20, T-31-N, R-16-W
			"B" 8	NW/4 SW/4 Sec. 20, T-31-N, R-16-W
12	Atlantic	Navajo	9	NW/4 NE/4 Sec. 30, T-31-N, R-16-W
			16	SE/4 NE/4 Sec. 31, T-31-N, R-16-W
			17	NW/4 NE/4 Sec. 31, T-31-N, R-16-W
			22	NW/4 SE/4 Sec. 29, T-31-N, R-16-W
			23	SE/4 NW/4 Sec. 29, T-31-N, R-16-W
			24	NW/4 NW/4 Sec. 29, T-31-N, R-16-W
			26	NW/4 NE/4 Sec. 29, T-31-N, R-16-W
			29	SE/4 NW/4 Sec. 31, T-31-N, R-16-W
13	Mobil	Navajo	"A" 9	NE/4 NW/4 Sec. 14, T-31-N, R-17-W

The Atlantic wells listed above have been on injection since November, 1960. The Magnolia well has been on injection since September 30, 1960. This well was put on injection at the same time as the offsetting Humble flood.

with a total of 268 wells having been drilled and completed in the project area. The Unit has produced a cumulative of 10,341,967 BO as of June 1, 1962. It is estimated that the cumulative production by August 1, 1962 will be about 10,660,000 BO. The primary recovery expected from the Horseshoe-Gallup Unit has been estimated at 14,119,000 barrels, or about 14.5% of the original oil-in-place.

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<u>UNIT TRACT</u> <u>NO.</u>	<u>OPERATOR</u>	<u>LEASE</u>	<u>WELL</u> <u>NO.</u>	<u>LOCATION</u>
3	Atlantic	Navajo "B"	1	SE/4 SW/4 Sec. 19, T-31-N, R-16-W
		Navajo "B"	3	SE/4 SE/4 Sec. 19, T-31-N, R-16-W
		Navajo "B"	4	NW/4 SE/4 Sec. 19, T-31-N, R-16-W
		Navajo "B"	5	SE/4 NW/4 Sec. 19, T-31-N, R-16-W
		Navajo "B"	7	SE/4 SW/4 Sec. 20, T-31-N, R-16-W
		Navajo "B"	8	NW/4 SW/4 Sec. 20, T-31-N, R-16-W
12	Atlantic	Navajo	9	NW/4 NE/4 Sec. 30, T-31-N, R-16-W
		Navajo	16	SE/4 NE/4 Sec. 31, T-31-N, R-16-W
		Navajo	17	NW/4 NE/4 Sec. 31, T-31-N, R-16-W
		Navajo	22	NW/4 SE/4 Sec. 29, T-31-N, R-16-W
		Navajo	23	SE/4 NW/4 Sec. 29, T-31-N, R-16-W
		Navajo	24	NW/4 NW/4 Sec. 29, T-31-N, R-16-W
		Navajo	26	NW/4 NE/4 Sec. 29, T-31-N, R-16-W
13	Mobil	Navajo "A"	9	SE/4 NW/4 Sec. 31, T-31-N, R-16-W
		Navajo "A"	9	NE/4 NW/4 Sec. 14, T-31-N, R-17-W

The Atlantic wells listed above have been on injection since November, 1960. The Magnolia well has been on injection since September 30, 1960. This well was put on injection at the same time as the offsetting Humble flood.

<u>UNIT TRACT NO.</u>	<u>OPERATOR</u>	<u>LEASE</u>	<u>WELL NO.</u>	<u>LOCATION</u>
41	El Paso	Burroughs State	1	NW/4 NW/4 Sec. 2, T-30-N, R-16-W
42	EPROC	Monsanto State "H"	2	SE/4 NW/4 Sec. 2, T-30-N, R-16-W

In addition to the above wells, plans are to drill 3 more wells for water injection. These will be as follows:

<u>UNIT TRACT NO.</u>	<u>OPERATOR</u>	<u>LEASE</u>	<u>WELL NO.</u>	<u>LOCATION</u>
13	Mobil	Navajo "A"	24	SW/4 SE/4 Sec. 14, T-31-N, R-17-W
		Navajo "A"	25	NE/4 SW/4 Sec. 14, T-31-N, R-17-W
19	El Paso	Horseshoe Ute	44	NW/4 SW/4 Sec. 28, T-31-N, R-16-W

Injection water will come from the Morrison formation found at a depth of approximately 2750'. It is a brackish, non-potable water with a total solid content of about 7500 parts per million. This is the same water currently being used for injection by Atlantic and other operators in the Horseshoe-Gallup Field.

There is already one water supply well in the participating area. This is Atlantic's Navajo "B" No. 1-W well, located 1375' from the south line and 1815' from the east line of Section 19, T-31-N, R-16-W. Three additional water supply wells will be drilled at the following approximate locations:

- 2-W well - NW/4, Section 32, T-31-N, R-16-W
- 3-W well - SE/4, Section 4, T-30-N, R-16-W
- 4-W well - NW/4, Section 34, T-31-N, R-16-W

These wells are expected to have a combined deliverability in excess of 30,000 BHPD.

The field will be serviced by four water injection systems. The plant for each system will be located at one of the water supply wells. Water will be handled through a closed system. The combined systems will have adequate injection pumps and accessory equipment to handle 30,000 BHPD.

Expansion of the flood to the entire participation area is expected to require about 9 months. Plans are to start construction in the southeast part of the Unit first. This part of the field has some of the roughest terrain, and it is desired to complete the work there before cold weather sets in. This will be followed by the west half of the Unit, where work can continue during the winter if weather is not too severe. The northeast part of the Unit will be left to last and may not be done until next spring.

<u>UNIT TRACT NO.</u>	<u>OPERATOR</u>	<u>LEASE</u>	<u>WELL NO.</u>	<u>LOCATION</u>
41	El Paso	Burroughs State	1	NW/4 NW/4 Sec. 2, T-30-N, R-16-W
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13	Mobil	Navajo "A"	24	SW/4 SE/4 Sec. 14, T-31-N, R-17-W
		Navajo "A"	25	NE/4 SW/4 Sec. 14, T-31-N, R-17-W
19	El Paso	Horseshoe Ute	44	NW/4 SW/4 Sec. 28, T-31-N, R-16-W

Injection water will come from the Morrison formation found at a depth of approximately 2750'. It is a brackish, non-potable water with a total solid content of about 7500 parts per million. This is the same water currently being used for injection by Atlantic and other operators in the Horseshoe-Gallup Field.

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- 2-W well - NW/4, Section 32, T-31-N, R-16-W
- 3-W well - SE/4, Section 4, T-30-N, R-16-W
- 4-W well - NW/4, Section 34, T-31-N, R-16-W

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Expansion of the flood to the entire participation area is expected to require about 9 months. Plans are to start construction in the southeast part of the Unit first. This part of the field has some of the roughest terrain, and it is desired to complete the work there before cold weather sets in. This will be followed by the west half of the Unit, where work can continue during the winter if weather is not too severe. The northeast part of the Unit will be left to last and may not be done until next spring.

OIL CONSERVATION COMMISSION

P. O. BOX 871

SANTA FE, NEW MEXICO

September 20, 1962

2519

The Atlantic Refining Company
Suite 760
Petroleum Club Building
Denver 2, Colorado

Attention: Mr. T. O. Davis

Re: Initial Plan of Development
and Operation, Horseshoe-Gallup
Unit, San Juan County, New Mexico

Gentlemen:

This is to advise that the New Mexico Oil Conservation Commission has this day approved the Initial Plan of Development and Operation, dated July 25, 1962, for the Horseshoe-Gallup 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.

One copy of the plan is returned herewith.

In addition to the error in the location of Navajo "B" Well No. 8 pointed out by the Commissioner of Public Lands, the locations of two of the three injection wells to be drilled, Navajo "A" Wells 24 and 25 have been incorrectly given, the locations being reversed on the plan. Please submit corrected pages 2 and 6 for the Commission files.

Very truly yours,

A. L. PORTER, Jr.,
Secretary-Director

ALP/JEK/og

cc: U. S. Geological Survey - Roswell
Commissioner of Public Lands - Santa Fe

C
O
P
Y

September 10, 1962

The Atlantic Refining Co.
Suite 760
Petroleum Club Bldg.,
Denver 2, Colorado

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico

Attention: Mr. T. O. Davis

Gentlemen:

The Commissioner of Public Lands by this letter approved as of September 10, 1962, the Plan of Development and Operation for the Horseshoe-Gallup Unit Area, San Juan County, New Mexico. This Plan is for the remainder of 1962 and the first six months of 1963.

We are handing two copies of this Plan of Development to the Oil Conservation Commission for their consideration.

Please check the location of well No. 8, Navajo "B" we believe the location should be the NW/4SW/4 instead of the NE/4SW/4 of Sec. 20, T-31N. R-16W.

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

BY:
(Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESW/mmr/v
cc: U. S. Geological Survey
Roswell, New Mexico

Oil Conservation Commission
Santa Fe, New Mexico

1987-1988

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July 25, 1962

HORSESHOE-GALLUP UNIT
SAN JUAN COUNTY, NEW MEXICO

Plan of Development and Operation

Introduction: This is the initial Plan of Development and Operation for the Horseshoe-Gallup Unit. The purpose of this project is to undertake a water injection program in the Lower Gallup Formation underlying the Unit Area to increase the oil recovery. It is planned to commence immediately after the effective date of unitization with the plans set forth herein.

Location: The Horseshoe-Gallup Unit is located in San Juan County, New Mexico about 20 miles west and 8 miles north of the city of Farmington. The project area is that designated as the "Initial Participation Area" on the attached Exhibit "A". The participation area covers 13,726.41 acres of land.

Geology: Production comes from the two sand zones in the Lower Gallup Formation. The two sands are generally known as the Upper and Lower Tocito Sands.

The structure is that of a stratigraphic trap which lies in a northeast-southwest direction. The field is about 14 miles long and 3 miles wide. In the project area, the producing interval varies in depth from approximately 800' at the northwest end to 1600' in the southeast.

The attached Exhibit "B" is an electric log on the Atlantic Navajo No. 17 well. This is a type log on which the two Tocito zones are identified. The Upper zone is present over all the project area except the northwest end, where it has become shaley and is non-productive. The Lower zone generally is not developed along the edges of the field and on the northeast side of the project area. Both zones are productive in the central part of the field.

Average reservoir properties of the two zones are as follows:

	Upper	Lower
Porosity (%)	14.5	17.7
Median Permeability, air (md)	30	90
Connate Water (Median Permeability) (%)	33.3	31.3
Thickness	7.2	10.6

**History and
Primary**

Performance: The Horseshoe-Gallup Field was discovered in September, 1956 by Arizona Exploration with the drilling of their Petro-Atlas Bolack No. 1 well located 1450' FSL and 1980' FEL of Section 9, T-30-N, R-16-W. The field is developed on 40 acre spacing

with a total of 268 wells having been drilled and completed in the project area. The Unit has produced a cumulative of 10,341,967 BO as of June 1, 1962. It is estimated that the cumulative production by August 1, 1962 will be about 10,660,000 BO. The primary recovery expected from the Horseshoe-Gallup Unit has been estimated at 14,119,000 barrels or about 14.5% of the original oil-in-place.

Secondary
Planning:

It has been estimated that water injection could raise the ultimate recovery from the Unit Area to 38,100,000 BO, or 39% of the original oil-in-place. This is an increase of 23,981,000 BO over that predicted for primary.

The proposed pattern for water injection is that shown on the attached Exhibit "C". The pattern shown is a 5-spot around the edges of the field and a 9-spot in the center. The 5-spot pattern, which provides one injection well for each producing well, is needed around the edges of the field where the permeability is low. The 9-spot pattern has a ratio of one injection well for three producing wells, and this is considered adequate for the center of the field which has better sand development. In those wells where both the Upper and Lower Tocito zones are present, injection will be into both zones. However, the wells will be completed in such a manner that injection into each zone will be kept separate.

With the proposed pattern, 109 of the present wells in the field will be injection wells. Fifteen of these already are injection wells. They are as follows:

UNIT TRACT NO.	OPERATOR	LEASE	WELL NO.	LOCATION
3	Atlantic	Navajo "B"	1	SE/4 SW/4 Sec. 19, T31N,R16W
			3	SE/4 SE/4 Sec. 19, T31N,R16W
			4	NW/4 SE/4 Sec. 19, T31N,R16W
			5	SE/4 NW/4 Sec. 19, T31N,R16W
			7	SE/4 SW/4 Sec. 20, T31N,R16W
12	Atlantic	Navajo "B"	8	NE/4 SW/4 Sec. 20, T31N,R16W
			9	NW/4 NE/4 Sec. 30, T31N,R16W
			16	SE/4 NE/4 Sec. 31, T31N,R16W
			17	NW/4 NE/4 Sec. 31, T31N,R16W
			22	NW/4 SE/4 Sec. 29, T31N,R16W
			23	SE/4 NW/4 Sec. 29, T31N,R16W
			24	NW/4 NW/4 Sec. 29, T31N,R16W
13	Mobil	Navajo "A"	26	NW/4 NE/4 Sec. 29, T31N,R16W
			29	SE/4 NW/4 Sec. 31, T31N,R16W
			9	NE/4 NW/4 Sec. 14, T31N,R17W

The Atlantic wells listed above have been on injection since November, 1960. The Magnolia well has been on injection since September 30, 1960. This well was put on injection at the same time as the offsetting Humble Flood.

The 9⁴ additional wells which will have to be converted to injection are as follows:

UNIT TRACT NO.	OPERATOR	LEASE	WELL NO.	LOCATION
1	El Paso	Chimney Rock	2	NE/4 NE/4 Sec. 15, T31N, R17W ✓
1-A	El Paso	Chimney Rock	1	NE/4 SE/4 Sec. 23, T31N, R17W ✓
3	Atlantic	Navajo "B"	2	NW/4 SW/4 Sec. 19, T31N, R16W ✓
4	Hidden Splendor	Navajo "B"	6	NW/4 NW/4 Sec. 19, T31N, R16W ✓
5	El Paso	Horseshoe Canyon "G"	2	SE/4 NE/4 Sec. 6, T30N, R16W ✓
6	Hidden Splendor	Navajo Horseshoe	2	NW/4 NW/4 Sec. 5, T30N, R16W ✓
		Navajo Horseshoe	4	SE/4 SE/4 Sec. 5, T30N, R16W ✓
		Navajo Horseshoe	5	NW/4 SE/4 Sec. 5, T30N, R16W ✓
		Navajo Horseshoe	6	SE/4 NW/4 Sec. 5, T30N, R16W ✓
		Navajo Horseshoe Canyon "D"	2	SE/4 NE/4 Sec. 5, T30N, R16W ✓
		Navajo Horseshoe Canyon "D"	3	NW/4 NE/4 Sec. 5, T30N, R16W ✓
7-28	El Paso	Navajo Horseshoe Canyon "D"	6	NW/4 SW/4 Sec. 5, T30N, R16W ✓
		Navajo Horseshoe Canyon "D"	7	SE/4 SW/4 Sec. 5, T30N, R16W ✓
9-30	Hidden Splendor	Navajo Horseshoe Canyon "B"	4	NW/4 NW/4 Sec. 4, T30N, R16W ✓
11-35	El Paso	Navajo Horseshoe Canyon "F"	1	NW/4 SW/4 Sec. 4, T30N, R16W ✓
12	Atlantic	Navajo Horseshoe Canyon "A"	1-A	NW/4 NW/4 Sec. 9, T30N, R16W ✓
		Navajo	2	NW/4 SE/4 Sec. 32, T31N, R16W ✓
		Navajo	4	NW/4 NW/4 Sec. 32, T31N, R16W ✓
		Navajo	6	NW/4 SE/4 Sec. 30, T31N, R16W ✓
		Navajo	8	NW/4 NW/4 Sec. 30, T31N, R16W ✓
		Navajo	11	NW/4 SW/4 Sec. 29, T31N, R16W ✓
		Navajo	13	NW/4 NE/4 Sec. 32, T31N, R16W ✓
		Navajo	14	SE/4 SW/4 Sec. 32, T31N, R16W ✓
		Navajo	15	NW/4 SW/4 Sec. 32, T31N, R16W ✓
		Navajo	19	NW/4 SW/4 Sec. 30, T31N, R16W ✓
		Navajo	21	SE/4 SE/4 Sec. 29, T31N, R16W ✓
		Navajo	25	SE/4 NE/4 Sec. 29, T31N, R16W ✓
		Navajo	27	SE/4 SE/4 Sec. 31, T31N, R16W ✓
		Navajo	30	NW/4 NW/4 Sec. 31, T31N, R16W ✓
		Navajo	65	NW/4 SW/4 Sec. 33, T31N, R16W ✓
		13	Mobil	Navajo "A"
Navajo "A"	1			SE/4 NE/4 Sec. 24, T31N, R17W ✓
Navajo "A"	5			NW/4 NE/4 Sec. 24, T31N, R17W ✓
		Navajo "A"	7	NW/4 NW/4 Sec. 24, T31N, R17W ✓

	<u>UNIT TRACT NO.</u>	<u>OPERATOR</u>	<u>LEASE</u>	<u>WELL NO.</u>	<u>LOCATION</u>
(continued)	13	Mobil	Navajo "A"	12	SE/4 SE/4 Sec. 14, T31N, R17W'
			Navajo "A"	15	SE/4 SW/4 Sec. 13, T31N, R17W'
			Navajo "A"	18	NW/4 SW/4 Sec. 13, T31N, R17W'
15	El Paso	Chimney Rock "A"	2	NW/4 SE/4 Sec. 24, T31N, R17W'	
		Chimney Rock "A"	5	SE/4 SW/4 Sec. 24, T31N, R17W'	
		Chimney Rock "A"	9	NW/4 NE/4 Sec. 25, T31N, R17W'	
		Chimney Rock "A"	10	NW/4 SW/4 Sec. 24, T31N, R17W'	
		Chimney Rock "A"	13	NW/4 SE/4 Sec. 25, T31N, R17W'	
		16	Texaco	Navajo-Ute Mtn Tribe	1
Navajo-Ute Mtn Tribe	3			SE/4 SW/4 Sec. 21, T31N, R16W'	
17	Atlantic			Ute	4
		Ute	6	NW/4 SW/4 Sec. 35, T31N, R16W'	
		Ute	9	SE/4 SW/4 Sec. 35, T31N, R16W'	
		Ute	11	SE/4 NW/4 Sec. 35, T31N, R16W'	
		Ute	14	NW/4 SE/4 Sec. 35, T31N, R16W'	
		Ute	17	NW/4 NE/4 Sec. 35, T31N, R16W'	
		Ute	18	SE/4 SW/4 Sec. 26, T31N, R16W'	
19	El Paso	Horseshoe Ute	10	SE/4 SW/4 Sec. 34, T31N, R16W'	
		Horseshoe Ute	14	NW/4 NE/4 Sec. 33, T31N, R16W'	
		Horseshoe Ute	15	NW/4 NW/4 Sec. 34, T31N, R16W'	
		Horseshoe Ute	16	SE/4 SE/4 Sec. 28, T31N, R16W'	
		Horseshoe Ute	18	SE/4 SW/4 Sec. 28, T31N, R16W'	
		Horseshoe Ute	20	NW/4 SE/4 Sec. 34, T31N, R16W'	
		Horseshoe Ute	22	NW/4 SE/4 Sec. 28, T31N, R16W'	
		Horseshoe Ute	24	SE/4 SW/4 Sec. 27, T31N, R16W'	
		Horseshoe Ute	26	SE/4 NW/4 Sec. 28, T31N, R16W'	
		Horseshoe Ute	29	NW/4 NE/4 Sec. 34, T31N, R16W'	
		Horseshoe Ute	30	SE/4 NE/4 Sec. 34, T31N, R16W'	
		Horseshoe Ute	32	NW/4 SE/4 Sec. 27, T31N, R16W'	
		Horseshoe Ute	36	SE/4 SE/4 Sec. 27, T31N, R16W'	
		Horseshoe Ute	37	SE/4 NW/4 Sec. 27, T31N, R16W'	

	<u>UNIT TRACT NO.</u>	<u>OPERATOR</u>	<u>LEASE</u>	<u>WELL NO.</u>	<u>LOCATION</u>
(continued)	19	El Paso	Horseshoe Ute	38	NW/4 NW/4 Sec. 27, T31N, R16W ✓
			Horseshoe Ute	39	NW/4 NE/4 Sec. 28, T31N, R16W ✓
	20	Banner	Ute	2	NW/4 SW/4 Sec. 34, T31N, R16W ✓
			Ute	5	SE/4 NW/4 Sec. 34, T31N, R16W ✓
			Ute	7	SE/4 NE/4 Sec. 28, T31N, R16W ✓
	21	Hidden Splendor	Ute- Navajo	2	NW/4 SE/4 Sec. 33, T31N, R16W ✓
			Ute- Navajo	3	SE/4 SE/4 Sec. 34, T31N, R16W ✓
			Ute- Navajo	5	NW/4 SW/4 Sec. 27, T31N, R16W ✓
	24	El Paso	Navajo Lowe	3	NW/4 NE/4 Sec. 2, T30N, R16W ✓
	25	El Paso	Navajo Allotted	2	NW/4 SW/4 Sec. 2, T30N, R16W ✓
	26	El Paso	Horseshoe Canyon "B"	1	NW/4 NW/4 Sec. 3, T30N, R16W ✓
	27	Hidden Splendor	Horseshoe Canyon "C"	1	NW/4 NE/4 Sec. 3, T30N, R16W ✓
	32	Hidden Splendor	Horseshoe Canyon "A"	2	NW/4 NE/4 Sec. 4, T30N, R16W ✓
	33	El Paso	Horseshoe Canyon	6	NW/4 NW/4 Sec. 10, T30N, R16W ✓
			Horseshoe Canyon	11	SE/4 SE/4 Sec. 3, T30N, R16W ✓
			Horseshoe Canyon	13	SE/4 SW/4 Sec. 4, T30N, R16W ✓
	34	Con- tinental	Bolack Federal	1	NW/4 SE/4 Sec. 9, T30N, R16W ✓
	37	Hidden Splendor	Horseshoe Canyon "E"	2	SE/4 NW/4 Sec. 9, T30N, R16W ✓
	38	Sohio	Bolack Federal	2	NW/4 SW/4 Sec. 3, T30N, R16W ✓
			Bolack Federal	3	NW/4 SE/4 Sec. 4, T30N, R16W ✓
			Bolack Federal	5	SE/4 NW/4 Sec. 4, T30N, R16W ✓
			Bolack Federal	8	NW/4 SE/4 Sec. 3, T30N, R16W ✓
			Bolack Federal	10	SE/4 NW/4 Sec. 10, T30N, R16W ✓
			Bolack Federal	12	NW/4 NE/4 Sec. 9, T30N, R16W ✓
			Bolack Federal	15	SE/4 NE/4 Sec. 3, T30N, R16W ✓
	39	Hidden Splendor	Horseshoe Canyon "B"	2	SE/4 NE/4 Sec. 9, T30N, R16W ✓
	40	Abraham	Federal "A"	6	SE/4 SE/4 Sec. 9, T30N, R16W ✓

UNIT TRACT NO.	OPERATOR	LEASE	WELL NO.	LOCATION
41	El Paso	Burroughs State	1	NW/4 NW/4 Sec. 2, T30N, R16W
42	EPROC	Monsanto State "H"	2	SE/4 NW/4 Sec. 2, T30N, R16W ✓

In addition to the above wells, plans are to drill 3 more wells for water injection. These will be as follows:

UNIT TRACT NO.	OPERATOR	LEASE	WELL NO.	LOCATION
13	Mobil	Navajo "A"	24	NE/4 SW/4 Sec. 14, T31N, R17W
		Navajo "A"	25	SW/4 SE/4 Sec. 14, T31N, R17W
19	El Paso	Horseshoe Ute	44	NW/4 SW/4 Sec. 28, T31N, R16W

Injection water will come from the Morrison formation found at a depth of approximately 2750'. It is a brackish, non-potable water with a total solid content of about 7500 parts per million. This is the same water currently being used for injection by Atlantic and other operators in the Horseshoe-Gallup Field.

There is already one water supply well in the participating area. This is Atlantic's Navajo "B" No. 1-W Well, located 1375' from the south line and 1815' from the east line of Section 19, T-31-N, R-16-W. Three additional water supply wells will be drilled at the following approximate locations:

- 2-W Well - NW/4, Section 32, T-31-N, R-16-W
- 3-W Well - SE/4, Section 4, T-30-N, R-16-W
- 4-W Well - NW/4, Section 34, T-31-N, R-16-W

These wells are expected to have a combined deliverability in excess of 30,000 BWPD.

The field will be serviced by four water injection systems. The plant for each system will be located at one of the water supply wells. Water will be handled through a closed system. The combined systems will have adequate injection pumps and accessory equipment to handle 30,000 BWPD.

Expansion of the flood to the entire participation area is expected to require about 9 months. Plans are to start construction in the south-east part of the Unit first. This part of the field has some of the roughest terrain, and it is desired to complete the work there before cold weather sets in. This will be followed by the west half of the Unit, where work can continue during the winter if weather is not too severe. The north-east part of the Unit will be left to last and may not be done until next spring.

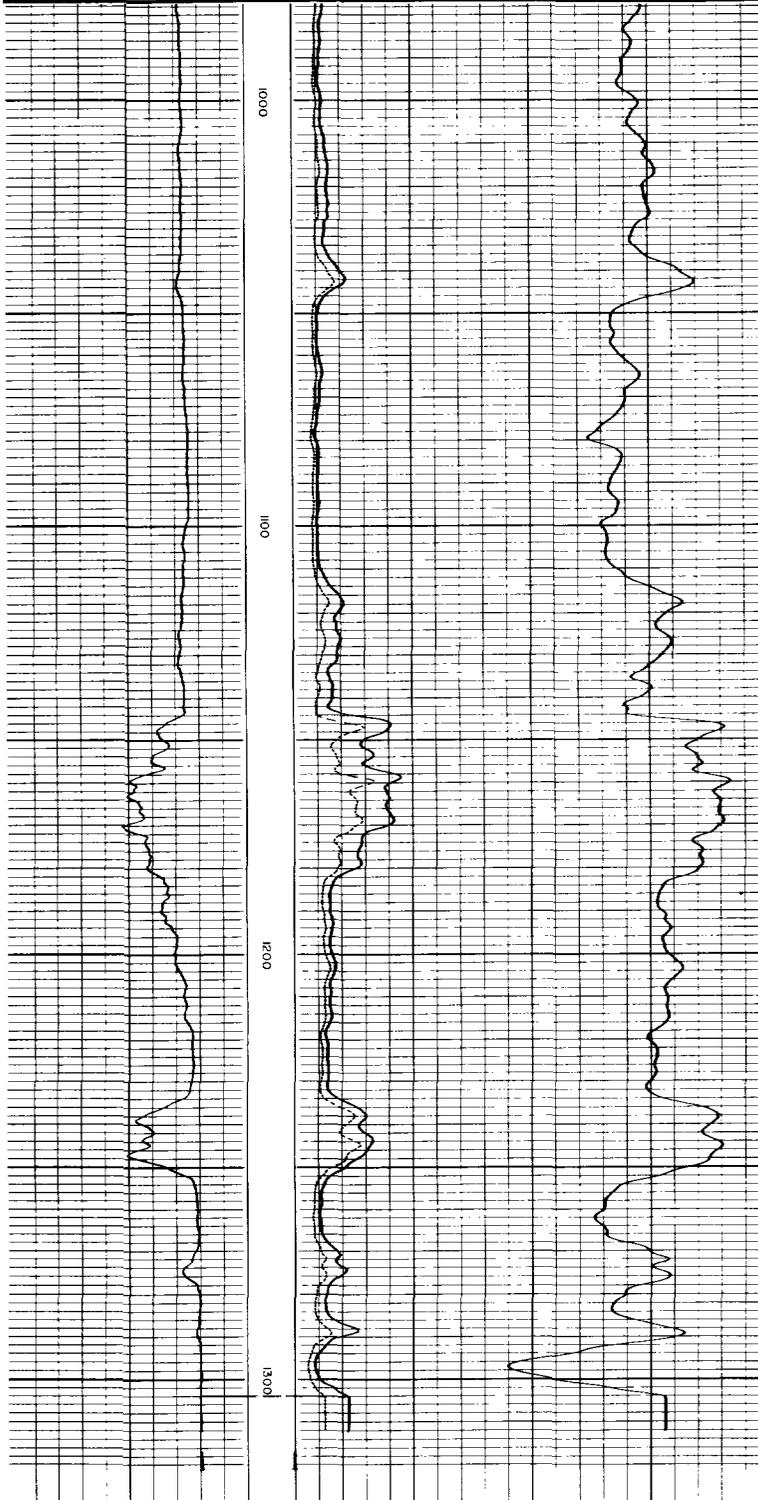
RECEIVED
 THE ATLANTIC REFINING CO.
 SANTA FE, N.M.

THE ATLANTIC REFINING CO.
 EXHIBIT NO. B
 TYPE LOG
 HORSESHOE - GALLUP UNIT

COUNTY SAN JUAN, N.M. FIELD HORSESHOE CANYON LOCATION NAVAJO - 17 WELL NAVAJO - 17		COMPANY ATLANTIC REFINING COMPANY COMPANY ATLANTIC REFINING COMPANY	
RUN No. ONE Date 12-31-58 First Reading 1304 Last Reading 97 Feet Measured 1207 Csg. Schtum. 27 Dip. Riser 1370 Depth of Well 1370 Bottom Dollar 1370 Depth Datum K.B. Mud Nat. G.T.L. O.I.T. Dens. Visc. 8.9 @ 7.4# Mud Resist. 1.9 @ 8.5# Res. BHT 1.2 @ 8.5# Rmt 1.2 @ 8.5# Rmc 1.2 @ 8.5# W/M. Loss 6.4 CC/30 min Bit Size 7 7/8" Spgrs. AM 1.67 M.N. 1.67 I.N.D. 1.67 Op'r. Rig Time 1559 ARK Recoded By HAMILTON Witness MR. STEELS MR. BAKER		Other Surveys SL <input checked="" type="checkbox"/> Location of Well 660' FR N.V. 1300' FR E.L. SEC. 31-31N-16W Elevation D.F. 5457 K.B. 5450 or G.L. 5450 FILING No.	
COUNTY SAN JUAN STATE NEW MEXICO		FIELD HORSESHOE CANYON LOCATION SEC. 31-31N-16W	

DETAIL LOG
 5" = 100'

SPONTANEOUS-POTENTIAL millivolts	CONDUCTIVITY millimhos/m $\frac{1000}{\text{ohms. m}^2/\text{m}}$	
	10 5 0 5 10 AM	INDUCTION
200		400
	600	400
	RESISTIVITY ohms. m ² /m	
	16" NORMAL	
	0	100
	0	1000
	INDUCTION	
	0	100
	0	1000



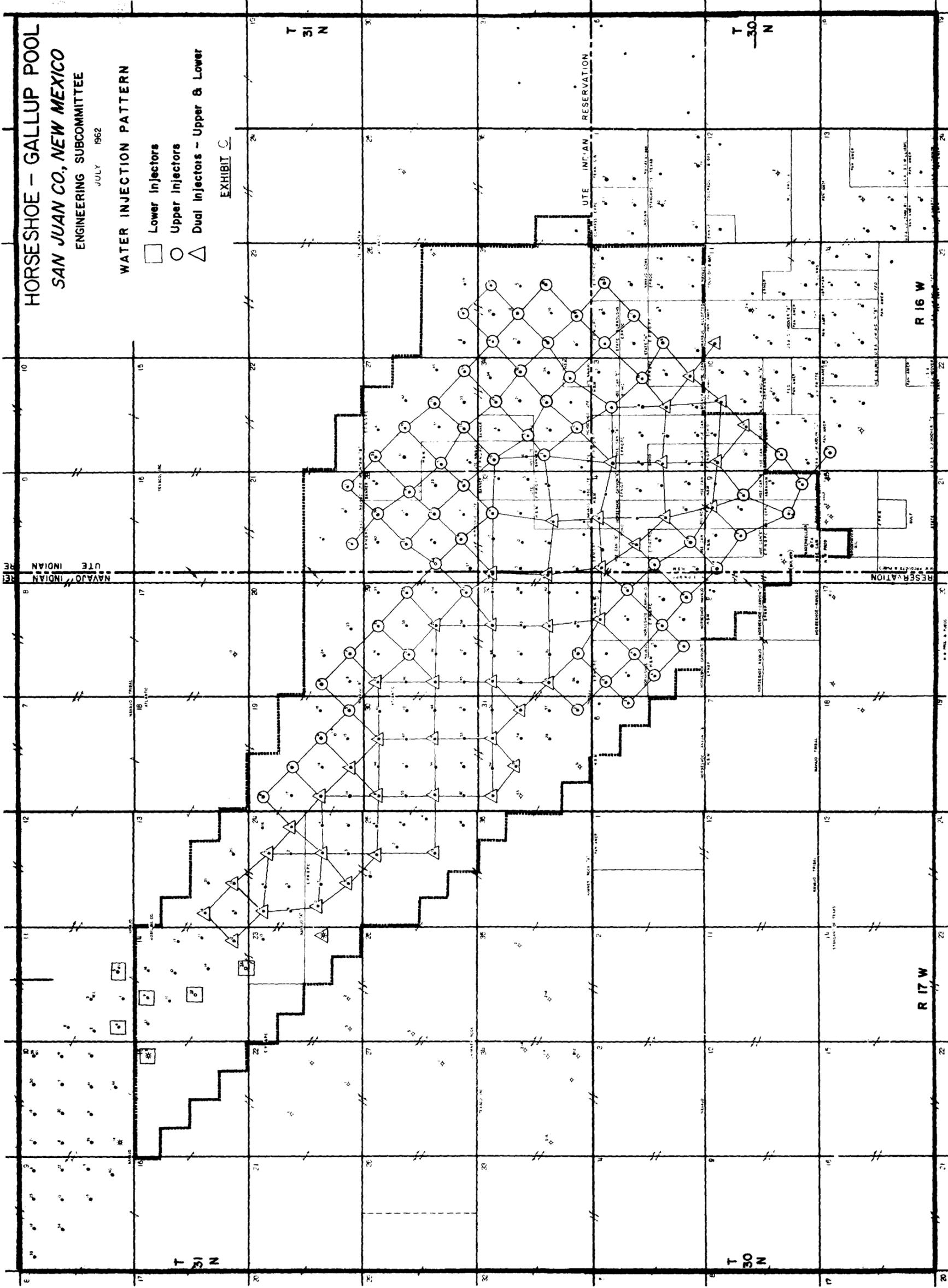
- LOWER GALLUP CORRELATION POINT
- TOP UPPER TOCITO
- BASE UPPER TOCITO
- TOP LOWER TOCITO
- BASE LOWER TOCITO
- TOP OF JUANA LOPEZ

HORSESHOE - GALLUP POOL
SAN JUAN CO., NEW MEXICO
ENGINEERING SUBCOMMITTEE
JULY 1962

WATER INJECTION PATTERN

- Lower Injectors
- Upper Injectors
- △ Dual Injectors - Upper & Lower

EXHIBIT C





THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

August 30, 1962

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER

T. S. PACE, LAND

R. O. CHILDERS, DRILLING & PRODUCTION

T. O. DAVIS, ENGINEERING

L. G. MEGASON, GEOPHYSICAL

R. P. CURRY, ADMINISTRATIVE

SUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
AMHERST 6-3741

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico

Gentlemen:

Enclosed are two copies of the "First Revised Exhibit 'C'" to the Horseshoe-Gallup Unit Agreement.

This revised exhibit shows the new participation factors with Tracts 20, 23, 43 and 25% of Tracts 34 and 34-A deleted from the Participating Area. This revised Exhibit "C" was prepared and is being submitted in accordance with Section 11 of the Unit Agreement. Unless disapproved by the Supervisor, the Commissioner or the Commission within 30 days, this revised exhibit shall supercede the original and will become effective as of August 1, 1962, the effective date of unitization.

Yours very truly,

T. O. Davis

T. O. Davis

EFH: 1b
Enclosures

FIRST REVISED EXHIBIT "C"
EFFECTIVE AUGUST 1, 1962

SCHEDULE OF TRACT PERCENTAGE PARTICIPATION IN
HORSESHOE-GALLUP FIELD UNIT
SAN JUAN COUNTY, NEW MEXICO

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
<u>TRIBAL INDIAN LANDS</u>				
1	T-31-N, R-17-W Section 15: NE/4, E/2 NW/4, NW/4 NW/4, E/2 SE/4, NW/4 SE/4	400.00	Navajo Contract I-149-Ind-7652 12-15-47	0.0166
1-A	T-31-N, R-17-W Section 23: E/2 SE/4, NW/4 SE/4, E/2 NW/4, NW/4 NW/4	240.00	Navajo Contract I-149-Ind-7652 12-15-47	0.0031
3	T-31-N, R-16-W Section 19: W/2, SE/4, S/2 NE/4 Section 20: S/2	890.48	14-20-600-3531 10-31-57	4.2437
4	T-30-N, R-16-W Section 6: E/2 NE/4, NW/4 NE/4	120.00	14-20-603-733 12-22-54	0.1302
5	T-30-N, R-16-W Section 5: NW/4, SE/4	315.84	14-20-603-733 12-22-54	1.2659
6	T-30-N, R-16-W Section 5: NE/4, E/2 SW/4, NW/4 SW/4 Section 8: NE/4 NE/4	315.84	14-20-603-733 12-22-54	1.5710
6-A	T-30-N, R-16-W Section 8: SE/4 NE/4, NW/4 NE/4 Section 9: That part of SW/4 NW/4 and NW/4 SW/4 lying within the Navajo Indian Reservation	109.46	14-20-603-733 12-22-54	0.0340
7	T-30-N, R-16-W Section 4: That part of the NW/4 NW/4 lying within the Navajo Indian Reservation	13.97	Navajo Contract 14-20-603-733 12-22-54	*
8	T-30-N, R-16-W Section 4: That part of the SW/4 NW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
9	T-30-N, R-16-W Section 4: That part of the NW/4 SW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
10	<u>T-30-N, R-16-W</u> Section 4: That part of the SW/4 SW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
11	<u>T-30-N, R-16-W</u> Section 9: That part of the NW/4 NW/4 lying within the Navajo Indian Reservation	14.73	Navajo Contract 14-20-603-733 12-22-54	*
12	<u>T-31-N, R-16-W</u> Section 29: All Section 30: All Section 31: E/2, NW/4, E/2 SW/4, NW/4 SW/4 Section 32: All Section 28: That part lying within the Navajo Indian Reservation Section 33: That part lying within the Navajo Indian Reservation	2644.14	14-20-603-734 12-22-54	37.9851
13	<u>T-31-N, R-17-W</u> Section 13: SW/4, W/2 SE/4, SE/4 SE/4, SW/4 NW/4 Section 14: All Section 23: NE/4 Section 24: N/2	1442.48	14-20-603-2022 2-1-57	9.8352
15	<u>T-31-N, R-17-W</u> Section 24: S/2 Section 25: E/2, NW/4, NE/4 SW/4 Section 36: NE/4 NE/4	880.00	14-20-603-2037 1-28-57	8.7316
16	<u>T-31-N, R-16-W</u> Section 21: S/2 Section 22: S/2 SW/4	381.78	14-20-604-1948 6-28-57	0.5339
17	<u>T-31-N, R-16-W</u> Section 26: S/2 Section 35: W/2, NE/4, N/2 SE/4 Section 36: W/2 SW/4	951.77	14-20-604-1950 2-25-57	1.8056
18	<u>T-31-N, R-16-W</u> Section 35: S/2 SE/4	77.46	14-20-604-1950 2-25-57	.1206

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
19	T-31-N, R-16-W Section 27: SE/4, NW/4, E/2 SW/4, W/2 NE/4, SE/4 NE/4 Section 28: E/2 SE/4, W/2 E/2, that part of W/2 lying within the Ute Indian Reservation Section 33: W/2 NE/4, E/2 SE/4, that part of W/2 lying within the Ute Indian Reservation Section 34: NE/4, W/2 SE/4, NE/4 SE/4, W/2 NW/4, E/2 SW/4	1815.77	14-20-604-1951 9-23-57	9.3734

21	T-31-N, R-16-W Section 27: W/2 SW/4 Section 33: W/2 SE/4 Section 34: SE/4 SE/4	198.28	14-20-604-1951 9-23-57	1.4538
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ALLOTTED INDIAN LANDS

24	T-30-N, R-16-W Section 2: Lots 1,2,5 and 6	156.65	Navajo Allotted Contract 14-20-603-4908 12-22-58	.1920
25	T-30-N, R-16-W Section 2: SW/4	160.00	Navajo Allotted Contract 14-20-603-4909 1-22-59	.3523

FEDERAL LANDS

26	T-30-N, R-16-W Section 3: Lots 3 & 4 Section 4: Lot 3	114.43	SF-079439 9-1-48	1.4615
27	T-30-N, R-16-W Section 3: Lots 1 & 2	76.74	SF-079439 9-1-48	.2399
28	T-30-N, R-16-W Section 4: Lot 4	18.83	SF-079439 9-1-48	*
29	T-30-N, R-16-W Section 4: Lot 5	19.86	SF-079439 9-1-48	*
30	T-30-N, R-16-W Section 4: Lot 6	19.88	SF-079439 9-1-48	*
31	T-30-N, R-16-W Section 4: Lot 7	19.89	SF-079439 9-1-48	*
32	T-30-N, R-16-W Section 4: Lots 1 & 2	76.58	SF-079439-A 9-1-48	1.1707

* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. Acres	Serial No. and Date of Lease or Application	Percentage Participation
33	<u>T-30-N, R-16-W</u> Section 3: Lots 5,6,9, 11, 14 and 16 Section 4: E/2 SE/4, E/2 SW/4, SE/4 NE/4 Section 10: Lots 1 & 2	515.40	SF-081226 10-1-51	7.0716
34	<u>T-30-N, R-16-W</u> Section 9: NW/4 SE/4 (Percentage Participation reflects that only 75% of Tract is committed to Unit)	40.00	SF-081226 10-1-51	.0959
34-A	<u>T-30-N, R-16-W</u> Section 9: SW/4 SE/4 (Percentage Participation reflects that only 75% of Tract is committed to Unit)	40.00	SF-081226 10-1-51	.0480
35	<u>T-30-N, R-16-W</u> Section 9: Lot 1	19.89	SF-081226-A 10-1-51	*
36	<u>T-30-N, R-16-W</u> Section 9: Lots 2 & 3 E/2 SW/4	119.74	SF-081226-A 10-1-51	.2098
37	<u>T-30-N, R-16-W</u> Section 9: E/2 NW/4	80.00	SF-081226-A 10-1-51	.3404
38	<u>T-30-N, R-16-W</u> Section 4: W/2 SE/4, SW/4 NE/4, SE/4 NW/4 Section 3: Lots 7,8,10, 15,12 and 13 Section 9: W/2 NE/4 Section 10: E/2 NW/4	557.76	SF-081226-B 10-1-51	8.8227
39	<u>T-30-N, R-16-W</u> Section 9: E/2 NE/4	80.00	SF-081226-C 10-1-51	.5055
40	<u>T-30-N, R-16-W</u> Section 9: E/2 SE/4	80.00	NM-04444-A 4-1-52	.2238

STATE LANDS

41	<u>T-30-N, R-16-W</u> Section 2: Lots 3 & 4	77.84	E-3150-4 12-10-49	.2091
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* This tract communitized. Refer to listing of Communitized Tracts which follows for percentage participation.

Tract Number	Description	No. of Acres	Serial No. and Date of Lease or Application	Percentage Participation
42	<u>T-30-N, R-16-W</u> Section 2: S/2 NW/4	80.00	E-9896-3 3-20-56	.2167
<u>COMMUNITIZED TRACTS</u>				
7-28	<u>T-30-N, R-16-W</u> Section 4: Lot 4 and that part of the NW/4 NW/4 lying within the Navajo Indian Reservation	18.83 <u>13.97</u> 32.80	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.8286
8-29	<u>T-30-N, R-16-W</u> Section 4: Lot 5 and that part of the SW/4 NW/4 lying within the Navajo Indian Reservation	19.86 <u>14.73</u> 34.59	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.5832
9-30	<u>T-30-N, R-16-W</u> Section 4: Lot 6 and that part of the NW/4 SW/4 lying within the Navajo Indian Reservation	19.88 <u>14.73</u> 34.61	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.1294
10-31	<u>T-30-N, R-16-W</u> Section 4: Lot 7 and that part of the SW/4 SW/4 lying within the Navajo Indian Reservation	19.89 <u>14.73</u> 34.62	SF-079439 9-1-48 Navajo Contract 14-20-603-733 12-22-54	.0944
11-35	<u>T-30-N, R-16-W</u> Section 9: Lot 1 and that part of the NW/4 NW/4 lying within the Navajo Indian Reservation	19.89 <u>14.73</u> 34.62	SF-081226-A 10-1-51 Navajo Contract 14-20-603-733 12-22-54	.1008

RECAPITULATION

Indian Tribal Land	10,856.14
Allotted Indian Land	316.65
Federal Land	1,879.00
State of New Mexico Land	<u>157.84</u>
	13,209.63

SUMMARY

<u>Working Interest Owner</u>	<u>Tract Number</u>	<u>Percentage Participation</u>
J. R. Abraham	18	0.0003
	40	<u>0.2238</u>
	Total	0.2241
The Atlantic Refining Company	3	4.2437
	12	37.9851
	17	1.8056
	18	<u>0.0532</u>
	Total	44.0876
Clark and Cowden	5	0.3165
	7-28	0.2071
	8-29	0.1458
	9-30	0.0138
	10-31	0.0100
	18	0.0035
	26	0.3654
	33	1.7679
	34	0.0320
	34-A	<u>0.0160</u>
	Total	2.8780
J. Douglas Collister	24	0.0150
	25	<u>0.0275</u>
	Total	0.0425
Continental Oil Company	5	0.3165
	7-28	0.2072
	8-29	0.1458
	9-30	0.0138
	10-31	0.0100
	18	0.0035
	26	0.3654
	33	1.7679
	34	0.0320
	34-A	<u>0.0160</u>
	Total	2.8781
Richard W. Dammann	24	0.0150
	25	<u>0.0275</u>
	Total	0.0425
Delhi-Taylor Oil Corporation	1	0.0083
	1-A	<u>0.0015</u>
	Total	0.0098
El Paso Natural Gas Products Company	5	0.6329
	7-28	0.4143
	8-29	0.2916
	9-30	0.0275
	10-31	0.0201
	11-35	0.0579
	15	8.7316
	18	0.0296
	19	9.3734
	24	0.0960
	25	0.1762
	26	0.7307
	33	3.5358
	36	0.2098
41	<u>0.2091</u>	
Total	211.5265	

Working Interest Owner	Tract Number	Percentage Participation
EPROC Associates	42	0.0173
	Total	0.0173
Helbing and Podpechan	24	0.0030
	25	0.0055
	Total	0.0085
J. Felix Hickman	18	0.0002
	24	0.0480
	25	0.0881
	Total	0.1363
The Hidden Splendor Mining Co.	4	0.1302
	6	1.5710
	9-30	0.0743
	10-31	0.0543
	11-35	0.0429
	18	0.0068
	21	1.4538 *
	27	0.2399
	32	1.1707
	34	0.0319
	37	0.3404
	39	0.5055
Total	5.6217	
Socony Mobil Oil Company, Inc.	13	9.8352
	18	0.0119
	Total	9.8471
Petro-Atlas, Inc.	6-A	0.0340
	18	0.0001
	34-A	0.0160
	Total	0.0501
Reynolds Mining Corp.	1	0.0083
	1-A	0.0016
Total	0.0099	
Sohio Petroleum Company	18	0.0107
	38	8.8227
	Total	8.8334
Eleanor F. Spiegel	24	0.0150
	25	0.0275
	Total	0.0425
Texaco, Incorporated	16	0.5339
	18	0.0006
	Total	0.5345
VACK Ventures	18	0.0002
	42	0.1994
	Total	0.1996

* This value calculated on basis of Hidden Splendor's working interest in Tract 21 being 100% as other interest in tract is free of development, operating costs, and royalty payment.



THE ATLANTIC REFINING COMPANY
INCORPORATED - 1870
PETROLEUM PRODUCTS

7519

August 22, 1962

DOMESTIC PRODUCING DEPARTMENT
ROCKY MOUNTAIN DISTRICT

S. L. SMITH, MANAGER
T. S. PACE, LAND
R. O. CHILDERS, DRILLING & PRODUCTION
T. O. DAVIS, ENGINEERING
L. G. MEGASON, GEOPHYSICAL
R. P. CURRY, ADMINISTRATIVE

SUITE 760
PETROLEUM CLUB BLDG.
110 16TH STREET
DENVER 2, COLORADO
AMHERST 6-3741

New Mexico Oil Conservation Commission
Post Office Box 871
Santa Fe, New Mexico

Attention: Mr. A. L. Porter, Jr.

Gentlemen:

Enclosed is a copy of the Horseshoe-Gallup Unit Agreement which has been executed in counterparts by the working and royalty interests in the Unit. This Agreement is being sent you in compliance with the New Mexico Oil Conservation Commission's Special Order No. R-2210 issued April 18, 1962. This Special Order approved the Horseshoe-Gallup Unit Agreement but required that an executed copy of the Agreement be filed with the Commission within 30 days of the effective date of unitization. The Unit Agreement was approved by the U.S.G.S. on July 27, 1962 and therefore, the Unit became effective on August 1, 1962. A copy of the letter from the U.S.G.S. advising of their approval is attached.

You will note from the U.S.G.S. letter that Tract 20 and 25% of Tracts 34 and 34-A are non-committed to the Unit. Tract 20 is non-committed because Mr. Banner did not execute the Agreements. In the case of Tracts 34 and 34-A, Mr. Tom Bolack, who has a 25% interest in these Tracts did not sign. It is not mentioned in the U.S.G.S. letter, but Tracts 2, 14, 22, 23 and 43 are also non-committed at the request of the owners of these Tracts.

We are now in the process of calculating new participating factors for each Tract to reflect the above changes. A revised Exhibit "C" with the new information will be sent to you within the next few days.

Yours very truly,

J. O. Davis

T. O. Davis

EFH:lb
Attachments



IN REPLY REFER TO:

UNITED STATES
DEPARTMENT OF THE INTERIOR
GEOLOGICAL SURVEY
WASHINGTON 25, D. C.

AUG 2 1962

The Atlantic Refining Company
Suite 760, Petroleum Club Building
110 16th Street
Denver 2, Colorado

Gentlemen:

The Horseshoe Gallup unit agreement, San Juan County, New Mexico, filed by your company as unit operator, was approved on May 10 by the Commissioner of Public Lands of the State of New Mexico, on June 26 by M. C. Collins, Area Director, Bureau of Indian Affairs, and on July 27 by R. H. Lyddan, Acting Director of the Geological Survey. This agreement has been designated No. 14-08-0001-8200, and is effective as of August 1, 1962.

Inasmuch as no party who may be required to bear any of the cost of operations on tract 20 has signed the unit agreement and the unit operating agreement, this tract is considered to be fully non-committed. Since tracts 34 and 34-A are committed as to 75 percent of the working interest, and the unit operator can control operations, this commitment is acceptable. While these tracts are only 75 percent committed, only 75 percent of the factors in the allocation formula should be used for calculating said tract participations, until such time as the remaining 25 percent may be committed.

Enclosed is one copy of the approved unit agreement for your records. It is requested that you furnish the State of New Mexico and any other interested principal with whatever evidence of this approval is deemed appropriate.

Sincerely yours,

For the Director

Enclosure

Drawer 1857
Roswell, New Mexico

2517

August 21, 1962

The Atlantic Refining Company
Suite 760, Petroleum Club Building
110 16th Street
Denver 2, Colorado

Attention: Mr. S. L. Smith

Gentlemen:

Your initial plan of development and operation dated July 25, 1962 covering secondary recovery operations for the Horseshoe Gallup unit area, San Juan County, New Mexico, for the remainder of 1962 and the first six months of 1963 has been approved on this date subject to like approval by the appropriate State officials.

One approved copy of the plan is enclosed.

Very truly yours,

(Orig. Sgd) JOHN A. ANDERSON

JOHN A. ANDERSON

Copy to: Washington (w/cy of plan)
Farmington (w/cy of plan)
Com. of Pub. Lands - Santa Fe (ltr. only)
NMOCC - Santa Fe (ltr. only)

2519

May 10, 1962

The Atlantic Refining Company
Suite 760
Petroleum Club Bldg.,
Denver, Colorado

Re: Horseshoe-Gallup Unit
San Juan County, New Mexico

Attention: Mr. T. O. Davis

Gentlemen:

The Commissioner of Public Lands has of this date approved the Horseshoe-Gallup Unit, San Juan County, New Mexico.

We are enclosing four copies of our Certificate of Approval and are forwarding one copy of this letter with a copy of our Certificate of Approval to the United States Geological Survey, Roswell, New Mexico.

Also enclosed is Official Receipt No. 90115 in the amount of \$200.00 which covers the filing fee.

You will note that by our Certificate of Approval the Commissioner exempts tract 43, Sec. 16, T-30N, R-16W, Lot 1, (NE/4NW/4), from his approval of this Unit.

Y
P
C
C

The Atlantic Refining Company
Suite 760
Petroleum Club Bldg.,
Denver, Colorado

May 10, 1962
(page 2)

Very truly yours,

E. S. JOHNNY WALKER
COMMISSIONER OF PUBLIC LANDS

By: (Mrs.) Marian M. Rhea, Supervisor
Unit Division

ESW/mtt/v
encl:
cc: U. S. Geological Survey
P. O. Drawer 1857
Roswell, New Mexico

Oil Conservation Commission
Santa Fe, New Mexico

The Hidden Splendor Mining Company

OIL AND GAS DIVISION
2000 NATIONAL BANK OF TULSA BUILDING
TULSA 3, OKLAHOMA

1962 MAR 27 AM 11 32
March 27, 1962

VIA AIRMAIL

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

Attention: Mr. A. L. Porter, Jr.

Re: Case No. 2519

Gentlemen:

A hearing is scheduled for Wednesday, March 28, 1962, concerning the proposed Horseshoe-Gallup Unit.

A representative of The Hidden Splendor Mining Company will not be present at the hearing; therefore, this letter is to express the support of The Hidden Splendor Mining Company for approval of the Unit Agreement for Development and Operation of the Horseshoe-Gallup Unit Area for the purpose of secondary recovery operation, to institute a pressure maintenance project in the pool for the expansion thereof by administrative procedure, and, also, the reclassification of four wells from the Verde-Gallup Pool to the Horseshoe-Gallup Pool, such four wells being the Atlantic Ute Federal #1, and the El Paso Natural Gas Products Navajo Lowe Federal 1, 2, and 3.

Very truly yours,



F. T. ANDERSON

FTA:jp



SOHIO PETROLEUM COMPANY

PRODUCTION DEPARTMENT

March 26, 1962

CASPER, WYOMING
PETROLEUM BUILDING

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

ATTENTION: Mr. A. L. Porter, Jr.

Re: Proposed Horseshoe-Gallup Unit
Hearing before the New Mexico
Oil Conservation Commission
Case 2519

Gentlemen:

Atlantic Refining Company has furnished us with a copy of their application for approval of the Horseshoe-Gallup Unit Agreement for the purpose of secondary recovery operations, for authority to institute a water injection project in the Horseshoe-Gallup and Verde-Gallup oil pools and for expansion thereof by administrative procedure, and for the reclassification of certain wells from the Verde-Gallup to the Horseshoe-Gallup Oil Pool, all in San Juan County, New Mexico.

As a Working Interest Owner of this proposed Unit, this is to advise you that we are in full accord with Atlantic Refining Company's application.

Yours very truly,

SOHIO PETROLEUM COMPANY

A handwritten signature in cursive script, appearing to read "J. H. Walters".

J. H. Walters
District Superintendent
Casper District

JHW/eb
cc: Atlantic Refining Company



EL PASO NATURAL GAS PRODUCTS COMPANY

POST OFFICE BOX 1161, EL PASO, TEXAS

March 26, 1962

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

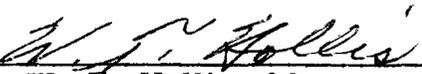
Re: Case 2519

Gentlemen:

As the owner of 24.15% working interest in the acreage comprising the Horseshoe-Gallup Unit, San Juan County, New Mexico, with respect to which The Atlantic Refining Company, as Unit Operator, will, in the above styled cause, seek approval of the Unit Agreement, permission to institute pressure maintenance operations, reclassification of certain wells, and adoption of special field rules to govern operation of the project, El Paso Natural Gas Products Company urges that the Commission issue an order granting all such requests and adopting the special rules as presented by the applicant.

Very truly yours,

EL PASO NATURAL GAS
PRODUCTS COMPANY

By 
W. T. Hollis, Manager
Exploration & Production

WTH:JBM:sh

TEXACO
INC.

PETROLEUM PRODUCTS



*Mr. 25
Henry*

1000 1000 000

1002 MAR 23 AM 8 11

DOMESTIC PRODUCING DEPARTMENT
MIDLAND DIVISION

R. M. BISCHOFF, ASSISTANT DIVISION MANAGER

P. O. BOX 8109
MIDLAND, TEXAS

March 23, 1962

Decker

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

Attn: Mr. A. L. Porter, Jr.

Gentlemen:

Reference is made to Case No. 2519 concerning the application of The Atlantic Refining Company for the approval of the Horseshoe Gallup Unit Agreement and pressure maintenance project for this unit. Texaco Inc. is a working interest owner in this unit and has already executed the Unit Agreement. Texaco respectfully urges that the Commission approve the application of The Atlantic Refining Company as submitted.

Yours very truly,

R. M. Bischoff

CRB-MM



MAIN OFFICE 000

Mobil Oil Company

1962 MAR 21 PM 4:33
A Division of Socony Mobil Oil Company, Inc.
P. O. Box 3371, Durango, Colorado

March 20, 1962

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

Examiner Hearing
Wed. March 28, 1962
Case No. 2519
Application of Atlantic for
Unit Agreement, etc. - Horse-
shoe Gallup Field

Elvis A. Utz, Examiner
Daniel S. Nutter, Examiner

Dear Sir:

With reference to the above case regarding the proposed unitization of a portion of the Horseshoe Gallup Field, the Mobil Oil Company has participated in all of the Engineering Sub-Committee and Operator Meetings on the proposed unitization. Mobil concurs fully with the conclusions and recommendations as set forth in the Sub-Committee report titled "Proposed Horseshoe - Gallup Unit" (April 25, 1961).

We wish at this time to state our support for the Atlantic Refining Company's application for a unit agreement, pressure maintenance project and the reclassification of two wells in San Juan County, New Mexico.

Very truly yours,

P. M. Barry
Dist. Production Supt.
Mobil Oil Company
Durango, Colorado

EARosenquist/se

cc: Atlantic Refining Co.

GOVERNOR
EDWIN L. MECHEM
CHAIRMAN

State of New Mexico
Oil Conservation Commission



LAND COMMISSIONER
E. S. JOHNNY WALKER
MEMBER

STATE GEOLOGIST
A. L. PORTER, JR.
SECRETARY - DIRECTOR

P. O. BOX 871
SANTA FE

April 19, 1962

Re: CASE NO. 2519

ORDER NO. R-2210

APPLICANT:

The Atlantic Refining Company

Mr. Howard Bratton
Hervey, Dow & Hinkle
Box 10
Roswell, New Mexico

Dear Sir:

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

Very truly yours,

A. L. PORTER, Jr.
Secretary-Director

ir/

Carbon copy of order also sent to:

Hobbs OCC x

Artesia OCC

Aztec OCC x

OTHER Mr. Guy Buell (Pan American)

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

SYMBOLS

DL=Day Letter

NL=Night Letter

LT=International Letter Telegram

The filing time shown in this office is LOCAL TIME at point of origin. Time of receipt is LOCAL TIME at point of destination

LA110 KB229

1962 MAR 27 PM 1 54

K DRAO23 1962 MAR 27 PM 8:02 DURANGO COLO 27 142P MST=

NEW MEXICO OIL CONSERVATION COMMISSION, ATTN A L PORTER JR= PO BOX 871 SANTA FE NMEX=

-THIS IS TO ADVISE THAT CONTINENTAL OIL COMPANY SUPPORTS ATLANTIC REFINING COMPANIES APPLICATION AS OUTLINED IN CASE NUMBER 2519 TO BE HEARD ON MARCH 28 1962=

H D HALEY DIST SUPT DURANGO DISTRICT PRODUCTION DEPARTMENT CONTINENTAL OIL CO. T

Case 2519

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

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LA058 DC094

1962 MAR 28 AM 10 40

D HSA436 PD==HOUSTON TEX 28 1052A CST=

NEW MEXICO CONSERVATION COMMISSION=

SANTA FE MEXICO=

ATTENTION A L PORTER JR: REYNOLDS MINING CORPORATION
 SUPPORTS THE APPLICATION OF ATLANTIC REFINING COMPANY
 FOR APPROVAL OF HORSESHOE GALLUP UNIT AGREEMENT AND
 PROPOSED PRESSURE MAINTENANCE PROJECT IN HORSESHOE
 GALLUP POOL=

REYNOLDS MINING CORP OIL AND GAS DIVN.

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

CLASS OF SERVICE

This is a fast message unless its deferred character is indicated by the proper symbol.

WESTERN UNION TELEGRAM

W. P. MARSHALL, PRESIDENT

1201 (4-60)

SYMBOLS

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LA147

1962 MAR 27 PM 3 52

L DVA198 PD=DENVER COO 27 320P MST=

=T O DAVIS=

CARE THE LA FONDA MOTEL SANTA FE NMEX=

RECEIVED THE FOLLOWING WIRE FROM H D HALEY, DISTRICT SUPERVISOR DURANGO DISTRICT PRODUCTION CONTINENTAL OIL COMPANY. THIS IS TO ADVISE THAT CONTINENTAL OIL COMPANY SUPPORTS ATLANTIC REFINING COMPANIES APPLICATION AS OUTLINED IN CASE NUMBER 2519 TO BE HEARD ON MARCH 28 1962=

R P CURREY

THE COMPANY WILL APPRECIATE SUGGESTIONS FROM ITS PATRONS CONCERNING ITS SERVICE

J. M. HERVEY 1874-1953
HIRAM M. DOW
CLARENCE E. HINKLE
W. E. BONDURANT, JR.
GEORGE H. HUNKER, JR.
HOWARD C. BRATTON
S. B. CHRISTY IV
LEWIS C. COX, JR.
PAUL W. EATON, JR.
CONRAD E. COFFIELD
HAROLD L. HENSLEY, JR.

LAW OFFICES
HERVEY, DOW & HINKLE
HINKLE BUILDING
ROSWELL, NEW MEXICO
March 5, 1962

1962 MAR 6 AM 8:15
MAIN OFFICE OCC
TELEPHONE MAIN 2-6510
POST OFFICE BOX 10

Mr. A. L. Porter, Jr.
New Mexico Oil Conservation Commission
P. O, Box 871
Santa Fe, New Mexico

Re: Application of The Atlantic Refining
Company - Water Injection Project
Horseshoe-Gallup Pool
Our No. 149-4

Dear Mr. Porter:

Enclosed please find the Application of The Atlantic Refining Company for Approval of the Horseshoe-Gallup Unit Agreement for authority to institute a water injection project and for the reclassification of certain wells from the Verde-Gallup to the Horseshoe-Gallup Pool. Please set this down for hearing in the Examiner Hearing to be held the last part of March.

I am attaching exhibits to the original of the Application, as they are rather bulky. If you want exhibits for the other two copies of the Application, please let me know and I can bring them to the hearing.

Also enclosed please find a list of names of those having interests in the Unit Area and those offsetting the Unit Area. I believe that this tallies with the information on the map, but if there is any discrepancy, please let me know.

If there is anything further you need in connection with this application, please let me hear from you.

Very truly yours,

HERVEY, DOW & HINKLE


Howard C. Bratton

*Copy to
13/19/62*
HCB:lm
Enclosures

cc: Mr. E. F. Herbeck
Mr. A. B. Tanco