

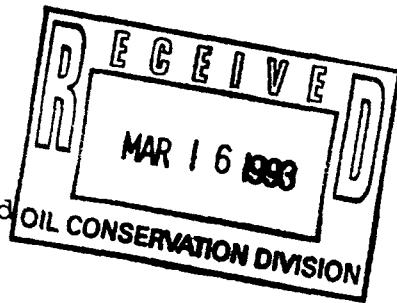


March 15, 1993

Mr. William J. LeMay, Director
New Mexico Oil Conservation Division
310 Old Santa Fe Trail
Santa Fe, New Mexico 87504

File: CAW-059-986.511

Application for Hearing
Approval of CO₂ Injection Pilot Project and
Exception to Rule 4, Order No. R-8768-A
for Second Well on 320 Acre Spacing Unit
W/2 Section 23, T30N-R9W
Basin Fruitland Coal Gas Pool
San Juan County, New Mexico



Amoco Production Company hereby makes application for a hearing and resulting order approving a CO₂ Injection Pilot Project and an exception to Rule 4 of Order No. R-8768-A for a second producing well on a 320 acre spacing unit in the W/2 Section 23, T30N-R9W, Basin Fruitland Coal Pool, San Juan County, New Mexico.

The CO₂ Injection Pilot Project will consist of injection of CO₂ in the Basin Fruitland Coal Pool in the Florence Gas Com /S/ #7A Well and monitoring the pressure and production response in the offset Florence /D/ #2 Well. Attached is the completed Form C-108 Application for Authorization to Inject.

A copy of this application will be sent by certified mail return receipt requested to the surface owner and offset operators within $\frac{1}{2}$ mile of the injection well as required by Rule 701.B (2) and to each operator within one mile of the area as required by Order No. R-8768-A, Rule 4.(b).

Amoco respectfully requests that this matter be set for hearing on the April 8, 1993 docket of the NMOCD hearings.

Sincerely,

J. W. Hawkins
J. W. Hawkins

JWH/jmc

cc: Eric Nitcher
Sandi Braun
Ed Hadlock
Mike Cuba

NMOCD District III
100 Rio Brazos Rd.
Aztec, NM 87410

Amoco Production Company

Southern Rockies Business Unit
Amoco Building
1670 Broadway
Post Office Box 800
Denver, Colorado 80201
303-830-4040

SURFACE OWNERS

Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401
Attn: John L. Keller

OPERATORS OF OFFSET DEVELOPED LANDS

Amoco Production Company

Meridian Oil Inc.
Attn: Kent Beers
PO Box 4289
Farmington, NM 87499

Richmond Petroleum, Inc.
Attn: Mike Houge
2651 North Harwood, Suite 500
Dallas, TX 75201

SG Interests I, Ltd.
Attn: Melodie I. Thompson
811 Dallas, Suite 1505
Houston, TX 77002

WORKING INTEREST OWNERS OF
OFFSET UNDEVELOPED LANDS

Section 25, Township 30 North, Range 9 West, NMPM:

Amoco Production Company

Conoco Inc.
Attn: Tom Johnson
10 Desta Dr., Suite 100W
Midland, TX 79705-5405

Meridian Oil Inc. (see above)

Fina Oil & Chemical Company
Attn: Robert Dempsey
6 Desta Dr.
Midland, TX 79705

Louis Dreyfus Natural Gas Corp.
Attn: Greg Cwayna
14000 Quail Springs Parkway, Suite 600
Oklahoma City, OK 73134

Unocal Corp.
Attn: John Hansen
1004 N. Big Springs, Suite 300
Midland, TX 79701

Marathon Oil Company
Attn: Randall Wilson
PO Box 552
Midland, TX 79702

Section 15: S/2, Township 30 North, Range 9 West, NMPM:

Amoco Production Company

Amoco Production Company
Offset Operator Plat
FLORANCE GC /S/ #7A
 Township 30North - Range 9West
 Section 23
 Fruitland Coal Formation

2		1		2
15		14		13
1		1		1
1		Florence GC /S/ #7A		
22		1 23 1		2 24 1
1				
3 27 3		3 26 3		25 *

1. Amoco Production Company
 2. Meridian Oil Production
 3. Richmond Petroleum, Inc. / SG Interest I,
- * Fruitland Coal Formation Working Interest Owners
(Lands not producing from Fruitland Coal)

APPLICATION FOR AUTHORIZATION TO INJECT

- I. PURPOSE: Secondary Recovery Pressure Maintenance Disposal Storage
Application qualifies for administrative approval? Yes No
- II. OPERATOR: Amoco Production Company
ADDRESS: P.O. Box 800, Denver, CO 80201
CONTACT PARTY: J. W. Hawkins PHONE: (303) 830-5072
- III. WELL DATA: Complete the data required on the reverse side of this form for each well processed for injection. Additional sheets may be attached if necessary.
- IV. Is this an expansion of an existing project: Yes No
If yes, give the Division order number authorizing the project _____
- V. Attach a map that identifies all wells and leases within two miles of any proposed injection well with a one-half mile radius circle drawn around each proposed injection well. This circle identifies the well's area of review.
- VI. Attach a tabulation of data on all wells of public record within the area of review which penetrate the proposed injection zone. Such data shall include a description of each well's type, construction, date drilled, location, depth, record of completion, and a schematic of any plugged well illustrating all plugging detail.
- VII. Attach data on the proposed operation, including:
1. Proposed average and maximum daily rate and volume of fluids to be injected;
 2. Whether the system is open or closed;
 3. Proposed average and maximum injection pressure;
 4. Sources and an appropriate analysis of injection fluid and compatibility with the receiving formation if other than reinjected produced water; and
 5. If injection is for disposal purposes into a zone not productive of oil or gas at or within one mile of the proposed well, attach a chemical analysis of the disposal zone formation water (may be measured or inferred from existing literature, studies, nearby wells, etc.).
- *VIII. Attach appropriate geological data on the injection zone including appropriate lithologic detail, geological name, thickness and depth. Give the geologic name, and depth to bottom of all underground sources of drinking water (aquifers containing waters with total dissolved solids concentrations of 10,000 mg/l or less) overlying the proposed injection zone as well as any such sources known to be immediately underlying the injection interval.
- IX. Describe the proposed stimulation program, if any.
- * X. Attach appropriate logging and test data on the well. (If well logs have been filed with the Division, they need not be resubmitted.)
- * XI. Attach a chemical analysis of fresh water from two or more fresh water wells (if available and producing) within one mile of any injection or disposal well showing location of wells and dates samples were taken.
- XII. Applicants for disposal wells must make an affirmative statement that they have examined available geologic and engineering data and find no evidence of open faults or any other hydrologic connection between the disposal zone and any underground source of drinking water.
- XIII. Applicants must complete the "Proof of Notice" section on the reverse side of this form.
- XIV. Certification: I hereby certify that the information submitted with this application is true and correct to the best of my knowledge and belief.

NAME: J. W. Hawkins TITLE: Sr. Petroleum Engr. Assoc.
SIGNATURE: J.W. Hawkins DATE: 3/12/93

- * If the information required under Sections VI, VIII, X, and XI above has been previously submitted, it need not be resubmitted. Please show the date and circumstance of the earlier submittal.

FLORANCE GAS COM /S/ #7A
CO2 INJECTION WELL
Sec. 23, T30N-R09W

- III. See attachment III, Injection Well Data Sheet.
- V. 1. 1 IN. = 4000 FT. 25 section plat, with one-half mile radius circle.
2. 1 IN. = 2000 FT. 9 section plat, with one half mile radius circle.
- VI. See attachment VI, Well Tabulations. Amoco Production Company operates twelve wells within a one-half mile radius of the subject well.
- VII. The proposed operation is to inject CO2 into the Fruitland Coal formation and to monitor production and pressure response. Data on the proposed operation is as follows:
1. Average daily injection rate 2.4 MMCFD.
Maximum daily injection rate 3.0 MMCFD.
 2. Closed system.
 3. Average injection pressure 1000 psi.
Maximum injection pressure 2000 psi.
 4. The injection fluid is primarily CO2. The source of the injection fluid is a Cynara membrane unit located in the NE/4 of Sec. 27, T30N-R9W, at the Horse Canyon gas gathering system CPD. The injection fluid is the permeate from the membrane unit which is currently vented to atmosphere. The expected composition is approximately 80% CO2 and 20% methane. A compositional analysis will be provided prior to initiating operations. The injection fluid is compatible with the Fruitland Coal formation.
- VIII. The injection zone is the Basin Fruitland Coal Gas Pool. It is comprised of eight coalbed seams interspersed with sand and shale stringers. The Fruitland coal interval is approximately 250 feet gross thickness, with 50 feet net coal. Individual seams range from 2 to 13 feet in thickness. The gross interval is found at 2522' to 2752' in the proposed injection well. The underground sources of drinking water in the area are the Alluvium, Nacimiento, and Ojo Alamo formations, all above 1400'.

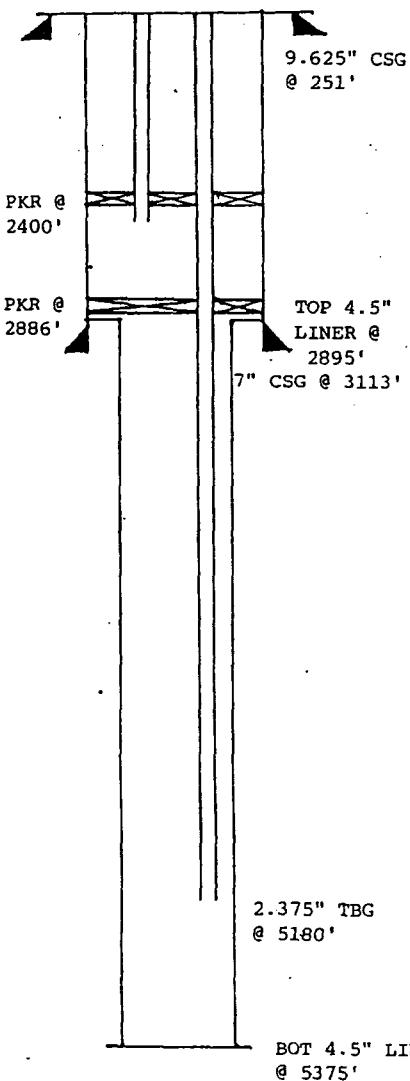
- IX. The Fruitland Coal formation was completed in the subject well in 1984 by perforating from 2567' to 2752', and water fracturing with 124,000 pounds of 20/40 sand and 99,000 gallons foam. No additional stimulation is anticipated at this time.
- X. All well logs are currently on file with the Division.
- XI. A search of state records with the State Engineers office did not reveal any fresh water wells within a one mile radius of the subject well.
- XII. I hereby certify that I have examined available geologic and engineering data and can find no evidence of connection between the injection zone and underground drinking water sources.
- XIII. See attachment XIII, Proof of Notice.

INJECTION WELL DATA SHEET

ATTACHMENT III

AMOCO PRODUCTION COMPANY FLORANCE GC /S/
 OPERATOR LEASE

7A	1750' FNL, 1590' FWL	23	30 NORTH	9 WEST
WELL NO.	TOOLAGE LOCATION	SECTION	TOWNSHIP	RANGE
SAN JUAN COUNTY, NEW MEXICO				

SchematicTabular DataSurface Casing

Size 9 5/8" " Cemented with 200 sx.
 TOC SURFACE feet determined by CIRCULATION
 Hole size 12 1/4"

Intermediate Casing

Size 7 " Cemented with 300 sx.
 TOC 890 feet determined by CBL
 Hole size 8 3/4"

Liner String

Size 4 1/2 " Cemented with 275 sx.
 TOC 2895 feet determined by CIRCULATION
 Hole size 6 1/8"
 Total depth 5375

Injection interval

2567 feet to 2752 feet
 (perforated XXXXXXXXKKKKKKKKXXXXXX)

Tubing size 2 3/8" lined with TUBOSCOPE TK77 (material) set in a
BAKER 47C2 "T2" DSR (brand and model) packer at 2400 feet.

(or describe any other casing-tubing seal).

Other Data

1. Name of the injection formation FRUITLAND COAL

2. Name of Field or Pool (if applicable) BASIN FRUITLAND COAL

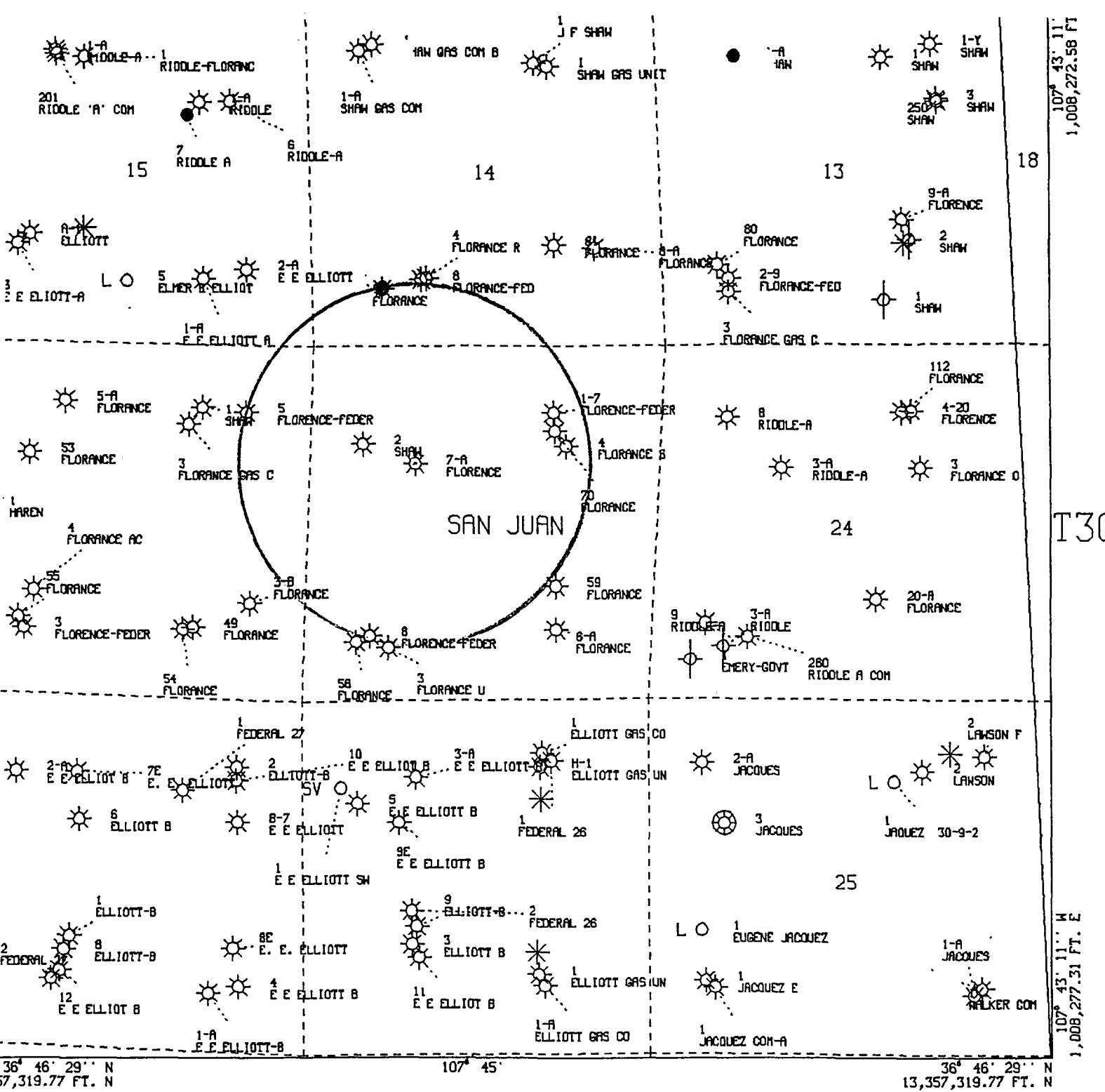
3. Is this a new well drilled for injection? Yes No

If no, for what purpose was the well originally drilled? MESAVERDE PRODUCTION

4. Has the well ever been perforated in any other zone(s)? List all such perforated intervals and give plugging detail (sacks of cement or bridge plug(s) used) MESAVERDE PERFS:

4471' - 4807'; 4880' - 5182'

5. Give the depth to and name of any overlying and/or underlying oil or gas zones (pools) in this area. PICTURED CLIFFS 2830', MESAVERDE 4460'



geological and geophysical data, including the interpretation
of, appearing on this map is the private and confidential property
of Amoco Production Company. The publication or reproduction thereof
without the written permission of said Company is strictly prohibited.

Attachment V.2

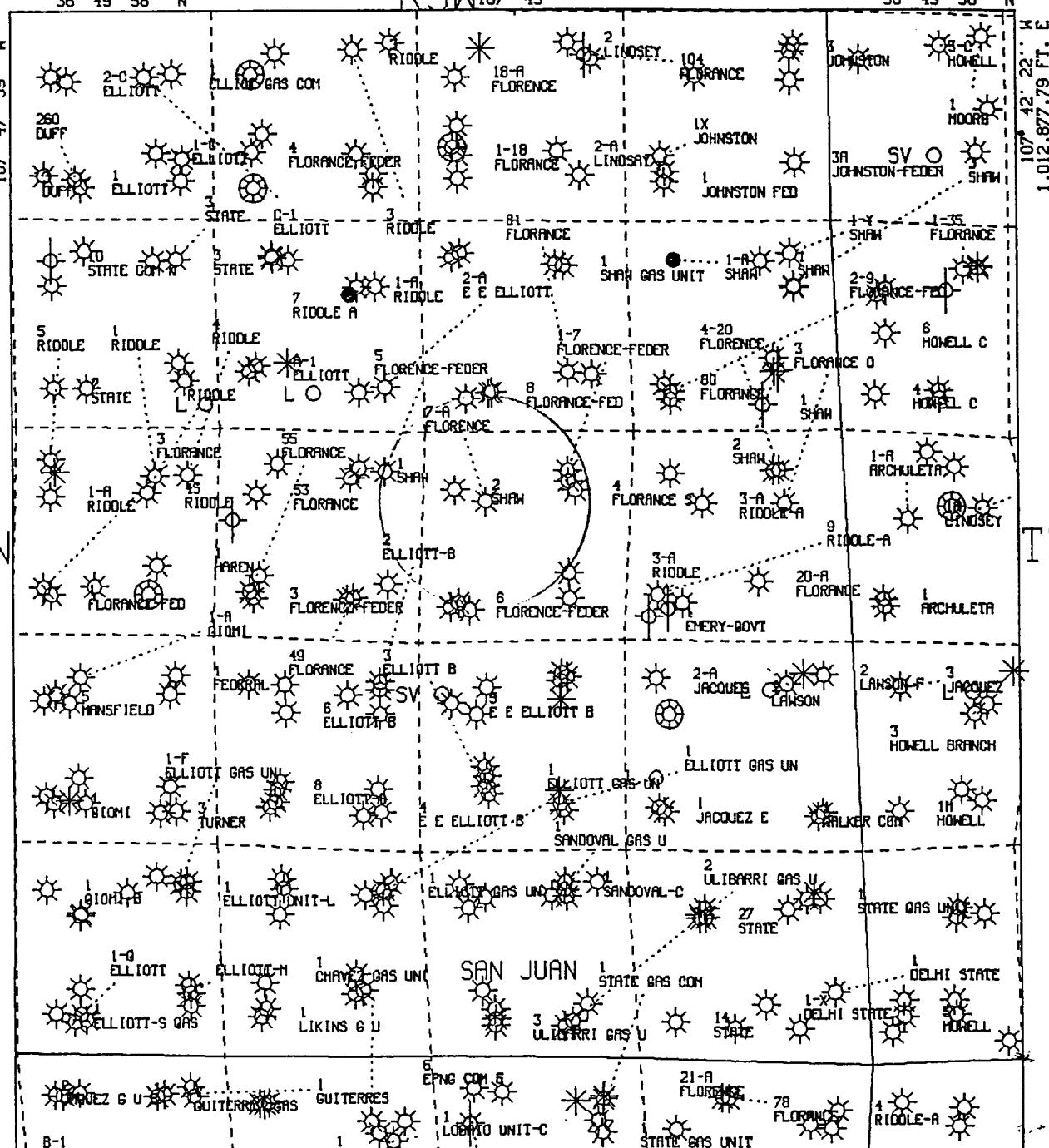
AMOCO PRODUCTION COMPANY
FLORANCE GC /S/ #7A
INJECTION WELL
SEC 23-T30N-R09W
SAN JUAN NM
9 SECTION PLAT
SCALE 1 IN. = 2,000 FT. MAR 8, 1993

CONIC CENTRAL MERIDIAN - 107° 44' 53" W LON
RHOID - 6

13,378,489.03 FT. N
36° 49' 58" N

ATTACHMENT V.1

R9W 107° 45'

13,378,489.03 FT. N
36° 49' 58" N

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AMOCO PRODUCTION COMPANY
FLORANCE GC /S/ #7A
INJECTION WELL
SEC 23-T30N-R09W
SAN JUAN NM
25 SEC. PLAT
SCALE 1 IN. = 4,000 FT. MAR 8, 1993

FULL WELL

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 ZWEH02 ***** MAR 10, 19 16:31:52 ***** PAGE 1

*** Well Header ***
 (ROCKY MOUNTAIN - HISTORICAL WELL)

17 of 24 Wells

API Nbr: 30045221220000	State: NMEX	County: SAN JUAN
Oper: TENNECO OIL		Oper Code: 088805
Well: 7-A	Lease: FLORENCE	
Lease Nbr:	Lease Type:	
Province: SAN JUAN BASIN		Prov Code: 202
Field: BLANCO		Field Code: 008500
Prop Source Code: PI		

Meridian: NEW MEXICO	Meridian Code: 21
Twp: 030N Rng: 009W	Sec: 23 Spot: NW SE NW
Footages: 1750FNL 1590FWL	CNGRS T-R-SEC /FULL SEC
Source: USS27	Lat: 36.79910 Ref Lat:
	Long: 107.75272 Ref Long:

Oper Elev: 6082GR	Rig Ht:	
Drlr Depth: 5375	Old TD:	Form@TD: 604MVRD
PB Depth: 5328	Oldest Age Pen: CRETACEOUS	Log TD: 5373
Permit:	Proj Depth: 5370	Proj Form: 604MVRD

Status: GAS	Spud Date: 08 07 1976
Hole Dir:	Comp Date: 09 01 1976
Numeric Class: INL-6 FNL-2	
Alpha Class: INL-D FNL-DG	
Prod Form: 604MVRD	

Contr: COLEMAN	Tools: ROTARY	Rig Nbr:
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*** Casing / Liner / Tubing ***

Casing Size: 9 5/8 Depth: 251 Cement: 200 SX
 Narrative: 2 3/8 TBG /DEPTH NOT RPTD/

Casing Size: 7 Depth: 3113 Cement: 300 SX

Liner Size: 4 1/2 Type: BLANK Intrvl: 2895- 5375 Cement: 275 SX

*** Initial Potential Tests ***

IPF:	2191 MCFD	Cut:	48/64OK
Prod Form:	604MVRD	Thru:	PERF
Type Perfs:	w/ 30 IT	Intrvl:	4471-5182 GROSS
Open/Perf:	PERF		
Perf Detail:	4471-4807	4880-5182	-
Type of Trtmnt:	SDFR	Interval:	4880-5182
Vol or Wt:		Measure:	Trtmnt Fluid:
Amt of Prop Agnt:	75000 LBS	Prop Agnt:	SAND FBRKP:

Operator:
 Amoco Production Co.
 Well:
 Florance GC /S/ #7A

Avg Rate of Inj:	Type ADDTV:	Nbr of Stgs:
Remarks: 1/40 SD		
Type of Trtmnt: SDFR	Interval: 4471-4807	
Vol or Wt:	Measure: Trtmnt Fluid:	
Amt of Prop Agnt: 75000 LBS	Prop Agnt: SAND	FBRKP:
Avg Rate of Inj:	Type ADDTV:	Nbr of Stgs:
Remarks: 20/40 SD		
TP: 148	CP: 460	
SITP:	SICP:	CAOF:
Narrative: SHUT IN		

*** Formation Tops ***

Study:	Interpreter: OPERATOR
--------	-----------------------

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604MVRD	4460		7	1622						

*** Formation Bases ***

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

#	GR	#	#	TM	#
#	DN	#	03100-05373	DNC	#
03100-05373	TM	#			

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

FULL WELL
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*** Well Header *** 18 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045221220001 State: NMEX County: SAN JUAN
Oper: TENNECO OIL Oper Code: 088805
Well: 7-A Lease: FLORENCE
Lease Nbr:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 23 Spot: NW SE NW
Footages: 1750FNL 1590FWL CNGRS T-R-SEC /FULL SEC
Lat: 36.79910 Ref Lat:
Source: USS27 Long: 107.75272 Ref Long:

Oper Elev: 6082GR Rig Ht:
Drlr Depth: 5375 Old TD: 5375 Form@TD: 604MVRD
PB Depth: 5328 Oldest Age Pen: CRETACEOUS Log TD:
Permit: Proj Depth: 2567 Proj Form: 604FRLD

Status: 2GASWO Spud Date: 11 15 1984
Hole Dir: Comp Date: 11 19 1984
Numeric Class: INL-6 FNL-5
Alpha Class: INL-D X FNL-DG
Prod Form: 604FRLD 604MVRD

Contr: Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Tubing Size: 1 1/4 Depth: 2751

*** Initial Potential Tests ***

IPF:	1331 MCFD	Cut:	48/64CK
Prod Form:	604FRLD	Thru:	PERF
Type Perfs:	w/ 86 IT	Intrvl:	2567-2752 GROSS
Open/Perf:	PERF		
Perf Detail:	2567-2569	2586-2595	2610-2615
	2683-2693	2714-2718	2726-2729
	2746-2752	-	-
Type of Trtmnt:	ACID	Interval:	2567-2752
Vol or Wt:	2000	Measure:	GALS Trtmnt Fluid:
Amt of Prop Agnt:		Prop Agnt:	FBRKP:
Avg Rate of Inj:		Type ADDTV:	Nbr of Stgs:
Remarks:	15% HCL		
Type of Trtmnt:	SFFR	Interval:	2567-2752

Vol or Wt: 99200 Measure: GALS Trtmnt Fluid:
 Amt of Prop Agnt. 24000 LBS Prop Agnt: SAND FBRKP:
 Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
 Remarks: 20/40
 TP: CP:
 SITP: 535 SICP: 555 CAOF:
 IPF: 2191 MCFD Cut:
 Prod Form: 604MVRD Thru: PERF
 Type Perfs: Intrvl: 4471-5182 GROSS

*** Formation Tops ***

*** Formation Bases ***

*** Other Formation / Show Code Info ***

Form Penetrated	Show	Form Penetrated	Show	Form Penetrated	Show
604FRLD	7	604MVRD	7		

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

Operator Address:
 Base/Lease Maps: PI: NM-5

12/21/84 5375 OTD, PB 5328
COMP 11/19/84, IPF 1331 MCFGPD, 48/64 CK
PROD ZONE - FRUITLAND 2567-2752(GROSS)
IPF 2191 MCFGPD
PROD ZONE - MESAVERDE 4471-5182(GROSS)
DUAL PRODUCER
NO CORES OR DSTS
FIRST REPORT & COMPLETION
12/21/84 FIRST REPORT & COMPLETION

FULL WELL
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*** Well Header *** 16 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045117640000 State: NMEX County: SAN JUAN
Oper: TENNECO OIL Oper Code: 088805
Well: 70 Lease: FLORANCE
Lease Nbr: 2243 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 23 Spot: NW NE
Footages: 1265FNL 1615FEL CNGRS T-R-SEC /FULL SEC
Lat: 36.80044 Ref Lat:
Source: USS27 Long: 107.74571 Ref Long:

Oper Elev: 5998GR Rig Ht:
Drlr Depth: 2890 Old TD: Form@TD: 604PCCF
PB Depth: 2855 Oldest Age Pen: CRETACEOUS Log TD:
Permit: Proj Depth: 3000 Proj Form: 604PCCF

Status: GAS Spud Date: 06 12 1966
Hole Dir: Comp Date: 07 15 1966
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604PCCF

Contr: YOUNG Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 8 5/8 Depth: 87 Cement: 100 SX
Casing Size: 3 1/2 Depth: 2888 Cement: 275 SX

*** Initial Potential Tests ***

IPF: 2733 MCFD Cut: 48/64CK 3 HRS
Prod Form: 604PCCF Thru: PERF
Type Perfs: w/ 2 FT Intrvl: 2730-2764 GROSS
Open/Perf: PERF
Perf Detail: 2730-2734 2756-2764 -
Type of Trtmnt: SWFR Interval: 2730-2764
Vol or Wt: 30000 Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: 30000 LBS Prop Agnt: SAND FBRKP:
Avg Rate of Inj: 27 B/Min Type ADDTV: Nbr of Stgs:
Remarks: AVG TP 1800
TP: CP: 213
SITP: SICP: 972 CAOF: 2883 MCFD

Operator:
Amoco Production Co.
Well:
Florance /D/ #1

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src Formation MD TVD Show Subsea Src Formation MD TVD Show Subsea

LOG 604PCCF 2730 7 3268

*** Formation Bases ***

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

GR # # DN

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

(Drilling Fluid)

Type: MUD Depth: 2890

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:31:33 ***** PAGE 1

*** Well Header *** 13 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045116580000 State: NMEX County: SAN JUAN
Oper: TENNECO OIL Oper Code: 088805
Well: 2 Lease: SHAW
Lease Nbr: 2259 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 23 Spot: SW NW

Footages: 1450FNL 790FWL CNGRS T-R-SEC /FULL SEC

Source: USS27 Lat: 36.79992 Ref Lat:
Long: 107.75542 Ref Long:

Oper Elev: 6344GR Rig Ht:
Drlr Depth: 3216 Old TD:
PB Depth: 3150 Oldest Age Pen: CRETACEOUS Form@TD: 604PCCF
Permit: Proj Depth: 3215 Log TD:
Proj Form: 604PCCF

Status: GAS Spud Date: 03 01 1966
Hole Dir: Comp Date: 03 26 1966

Numeric Class: INL-6 FNL-2

Alpha Class: INL-D FNL-DG

Prod Form: 604PCCF

Contr: YOUNG Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 8 5/8 Depth: 113 Cement: 80 SX
Casing Size: 3 1/2 Depth: 3213 Cement: 600 SX

*** Initial Potential Tests ***

IPF: 2477 MCFD Cut: 48/64CK 3 HRS
Prod Form: 604PCCF Thru: PERF
Type Perfs: BULLT Intrvl: 3095-3127 GROSS
Open/Perf: PERF
Perf Detail: 3095-3101 3116-3118 3120-3127
Type of Trtmnt: SWFR Interval: 3095-3127
Vol or Wt: 30000 Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: 30000 LBS Prop Agnt: SAND FBRKP:
Avg Rate of Inj: 26 B/Min Type ADDTV: Nbr of Stgs:
Remarks: AVG TP 1800
Type of Trtmnt: Interval: -
Vol or Wt: Measure: Trtmnt Fluid:

Operator:
Amoco Production Co.
Well:
Florance /D/ #2

Amt of Prop Agnt: Prop Agnt: FBRKP:
Avg Rate of Inj: Type ADDTV: Nb of Stgs:
Remarks: ISIP 300
TP: CP: 192
SITP: SICP: 918 CAOF: 2604 MCFD
Narrative: PERF 3095-3127 /GROSS/ W/24 SHOTS

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604PCCF	3095		7	3249						

*** Formation Bases ***

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

#	GR	#	#	DN	#
---	----	---	---	----	---

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

(Drilling Fluid)

Type: MUD Depth: 3216

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

*** Well Header *** 23 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045273810000 State: NMEX County: SAN JUAN
Oper: AMOCO PROD Oper Code: 065005
Well: 3 Lease: FLORANCE U
Lease Nbr: Lease Type: FEDERAL
Province: SAN JUAN BASIN Prov Code: 202
Field: BASIN Field Code: 003000
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 23 Spot: NE SW SW
Footages: 810FSL 1280FWL CNGRS T-R-SEC /FULL SEC
Source: AMS27 Lat: 36.79058 Ref Lat:
Loc Narr: 2 MI W ARCHULETA, NM Long: 107.75430 Ref Long:

Oper Elev: 6066KB 6054GR Rig Ht:
Drlr Depth: 2989 Old TD: Form@TD: 604PCCF
PB Depth: 2895 Oldest Age Pen: CRETACEOUS Log TD: 2990
Permit: Proj Depth: 3020 Proj Form: 604FRLD

Status: GAS Spud Date: 07 06 1990
Hole Dir: VERTICAL Comp Date: 10 30 1990
Tax Credit Type: COALBED METHANE
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604FRLD

Contr: FOUR CORNERS DRLG Tools: ROTARY Rig Nbr: 4

*** Casing / Liner / Tubing ***

Casing Size: 9 5/8 Depth: 271 Cement: 205 SX
Casing Size: 5 1/2 Depth: 2967 Cement: 1010 SX

Tubing Size: 2 3/8 Depth: 2560

*** Initial Potential Tests ***

IPF: 24 MCFD Cut: 64/64CK
Prod Form: 604FRLD Thru: PERF
Type Perfs: JET w/ 4 FT Intrvl: 2573-2713 GROSS
Open/Perf: PERF
Perf Detail: 2573-2575 2580-2588 2590-2598
2608-2612 2616-2618 2637-2646
2658-2662 2682-2691 2709-2713
Type of Trtmnt: SWFR Interval: 2573-2618

Operator:
Amoco Production Co.
Well:
Florance /U/ #3

Vol or Wt: 100000	Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: '550 LBS	Prop Agnt: SAND FBRKP:
Avg Rate of Inj: 00 B/Min	Type ADDTV: Nb. of Stgs:
Remarks:	
Type of Trtmnt: SWFR	Interval: 2637-2713
Vol or Wt: 108660	Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: 88000 LBS	Prop Agnt: SAND FBRKP:
Avg Rate of Inj: 65 B/Min	Type ADDTV: Nbr of Stgs:
Remarks:	
TP: 70	CP: 460
SITP:	SICP:
Shut-in Pressure:	Slope:
FPCAOF:	ATP: 2173
Narrative: 7500# 40/70, 50050# 20/40 SD	

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604FRLD	2402		7	3664	LOG	604PCCF	2782			3284

*** Formation Bases ***

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

00271-02988	NECL	#	00271-02988	DN	#
01990-02988	ML	#	#	CA	#
BHT: 116F	@ 2990 FT		Time Since Circ:	# HRS	

Log: # Run: #

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

Geologist: PARKER

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

Srvy Type	Meas. Depth	Dri. Angle	Srvy Type	Meas. Depth	Drift Angle	Srvy Type	Meas. Depth	Dri. Angle
#	154	000.50	#	244	000.80	#	777	001.50
#	1091	001.00	#	1559	001.30	#	2055	001.00
#	2558	001.30	#	2967	000.50			

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

Operator Address: 2325 E 30TH ST
FARMINGTON NM 87401

Base/Lease Maps: PI: NM-5
POMCO: NM-12

Well ID Changes: PROJ DEPTH CHGD FROM 3500.

07/10/90 2989 TD, MORT
 07/24/90 2989 TD, WOCT
 07/25/90 2990 LTD, 2987 DTD, WOCT
 08/07/90 2990 LTD, 2989 DTD, WOCT
 10/23/90 2990 LTD, 2989 DTD, FRACING
 10/30/90 2990 LTD, 2989 DTD, SWABBING
 11/06/90 2990 LTD, 2989 DTD, FLW TSTG
 11/19/90 2990 LTD, 2989 DTD, SI
 01/22/91 2990 LTD, 2989 DTD, PB 2895.
 COMP 10/30/90, IPF 24 MCFGPD, 64/64 CK,
 FTP 70, FCP 460.
 PROD ZONE - FRUITLAND COAL 2573-2713
 (GROSS).
 NO CORES OR DSTS

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:32:28 ***** PAGE 1

*** Well Header *** 24 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045274160000 State: NMEX County: SAN JUAN
Oper: AMOCO PROD Oper Code: 065005
Well: 4 Lease: FLORANCE R
Lease Nbr: Lease Type: FEDERAL
Province: SAN JUAN BASIN Prov Code: 202
Field: BASIN Field Code: 003000
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 14 Spot: NW SE SW
Footages: 1010FSL 1730FWL CNGRS T-R-SEC /FULL SEC
Lat: 36.80585 Ref Lat:
Source: AMS27 Long: 107.75157 Ref Long:
Loc Narr: 2 MI NW ARCHULETA, NM

Oper Elev: 6107KB 6095GR Rig Ht:
Drlr Depth: 3050 Old TD: Form@TD: 604PCCF
PB Depth: 3005 Oldest Age Pen: CRETACEOUS Log TD: 3049
Permit: Proj Depth: 3105 Proj Form: 604FRLD

Status: GAS Spud Date: 07 13 1990
Hole Dir: VERTICAL Comp Date: 10 23 1990
Tax Credit Type: COALBED METHANE
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604FRLD

Contr: FOUR CORNERS DRLG Tools: ROTARY Rig Nbr: 4

*** Casing / Liner / Tubing ***

Casing Size: 8 5/8 Depth: 262 Cement: 180 SX
Casing Size: 5 1/2 Depth: 3047 Cement: 770 SX

Tubing Size: 2 3/8 Depth: 2715

*** Initial Potential Tests ***

IPF: 147 MCFD 24 BW Cut: 64/64CK
Prod Form: 604FRLD Thru: PERF
Type Perfs: JET w/ 4 FT Intrvl: 2601-2820 GROSS
Open/Perf: PERF
Perf Detail: 2601-2603 2610-2612 2617-2621
2691-2700 2703-2707 2723-2727
2733-2736 2769-2774 2817-2820
Type of Trtmnt: SWFR Interval: 2601-2820

Operator:
Amoco Production Co.
Well:
Florance /R/ #4

Vol or Wt: 1.58000 Measure: GALS Trtmnt Fluid:
 Amt of Prop Agnt: 08000 LBS Prop Agnt: SAND FBRKP:
 Avg Rate of Inj: /4 B/Min Type ADDTV: Nbr of Stgs:
 Remarks:
 TP: 300 CP: 400
 SITP: SICP: CAOF:
 Shut-in Pressure: Slope:
 FPCAOF: ATP: 2390 ISP:

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604FRLD	2669		7	3438	LOG	604PCCF	2832			3275

*** Formation Bases ***

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

02040-03046	ML	#	00250-03046	NECL	#
00250-03046	DN	#		DN	#
#	CA	#			
BHT: 130F	@ 3046 FT		Time Since Circ:	# HRS	
					Log: # Run: #

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

Geologist: PARKER

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

Srvy	Meas.	Drift	Srvy	Meas.	Drift	Srvy	Meas.	Drift
Type	Depth	Angle	Type	Depth	Angle	Type	Depth	Angle
#	154	000.80	#	246	000.80	#	774	001.00

#	1303	000 50	#	1805	000.50	#	2127	000.50
#	2645	000 00						

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

Operator Address: 2325 E 30TH ST
FARMINGTON NM 87401

Base/Lease Maps: PI: NM-5
POMCO: NM-12

Well ID Changes: PROJ DEPTH CHGD FROM 3500.

07/31/90 3050 DTD, 3049 LTD, WOCT
10/23/90 3050 DTD, 3049 LTD, PB 3005, FLW TSTG
11/06/90 3050 DTD, 3049 LTD, PB 3005, WOPT
01/22/91 3050 DTD, 3049 LTD, PB 3005.
COMP 10/23/90, IPF 147 MCFGPD, 24 BWPD,
64/64 CK, FTP 300, FCP 400.
PROD ZONE - FRUITLAND 2601-2820(GROSS).
NO CORES OR DSTS

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:32:18 ***** PAGE 1

*** Well Header *** 22 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045273640000 State: NMEX County: SAN JUAN
Oper: AMOCO PROD Oper Code: 065005
Well: 4 Lease: FLORANCE S
Lease Nbr: Lease Type: FEDERAL
Province: SAN JUAN BASIN Prov Code: 202
Field: BASIN Field Code: 003000
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 03ON Rng: 009W Sec: 23 Spot: NE SW NE
Footages: 1490FNL 1430FEL CNGRS T-R-SEC /FULL SEC
Lat: 36.79886 Ref Lat:
Source: AMS27 Long: 107.74451 Ref Long:
Loc Narr: 1 1/4 W-NW ARCHULETA, NM

Oper Elev: 6020KB 6007GR Rig Ht:
Drlr Depth: 2962 Old TD: Form@TD: 604PCCF
PB Depth: 2900 Oldest Age Pen: CRETACEOUS Log TD: 2962
Permit: Proj Depth: 3000 Proj Form: 604FRLD

Status: GAS Spud Date: 07 17 1990
Hole Dir: VERTICAL Comp Date: 11 02 1990
Tax Credit Type: COALBED METHANE
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604FRLD

Contr: Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 8 5/8 Depth: 270 Cement: 165 SX
Casing Size: 5 1/2 Depth: 2962 Cement: 550 SX

Tubing Size: 2 3/8 Depth: 2486

*** Initial Potential Tests ***

IPF:	28 MCFD	Cut:	32/64CK
Prod Form:	604FRLD	Thru:	PERF
Type Perfs:	JET w/ 4 FT	Intrvl:	2492-2668 GROSS
Open/Perf:	PERF		
Perf Detail:	2492-2497	2509-2512	2515-2517
	2534-2540	2573-2576	2596-2606
	2608-2614	2634-2642	2662-2668
Type of Trtmnt:	SWFR	Interval:	2492-2576

Operator:
Amoco Production Co.
Well:
Forance /S/ #4

Vol or Wt: 9100	Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: 1000 LBS	Prop Agnt: SAND FBRKP:
Avg Rate of Inj: 40 B/Min	Type ADDTV: Nbr of Stgs:
Remarks:	
Type of Trtmnt: SWFR	Interval: 2596-2668
Vol or Wt: 80200	Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: 30978 LBS	Prop Agnt: SAND FBRKP:
Avg Rate of Inj: 60 B/Min	Type ADDTV: Nbr of Stgs:
Remarks:	
TP: 50	CP: 320
SITP:	SICP:
Shut-in Pressure:	Slope:
FPCAOF:	ATP: 2100
Narrative: 5700# 40/70, 55300# 20/40 SD 9000# 40/70, 21978# 20/40 SD	ISP:

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604FRLD	2448		7	3572	LOG	604PCCF	2723			3297

*** Formation Bases ***

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

01940-02940	ML	#	00200-02959	DN	#
00200-02959	DM4	#	#	CA	#
#	GR	#			

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

Geologist: PATTON

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

Operator Address: 2325 E 30TH ST
FARMINGTON NM 87401

Base/Lease Maps: PI: NM-5
POMCO: NM-12

Well ID Changes: PROJ DEPTH CHGD FROM 3500.

07/24/90 2962 DTD, 2962 LTD, WOCT
10/18/90 2962 DTD, 2962 LTD, WOCT
10/23/90 2962 DTD, 2962 LTD, PB 2900, FLW TSTG
01/22/91 2962 DTD, 2962 LTD, PB 2900.
COMP 11/2/90, IPP 28 MCFGPD, 32/64 CK,
FTP 50, FCP 320.
PROD ZONE - FRUITLAND COAL 2492-2668
(GROSS).
NO CORES OR DSTS

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:30:54 ***** PAGE 1

*** Well Header ***
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045093770000 State: NMEX County: SAN JUAN
Oper: DELHI TAYLOR OIL Oper Code: 023300
Well: 5 Lease: FLORENCE-FEDERAL
Lease Nbr: 1495 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 22 Spot: SW NE NE
Footages: 990FNL 990FEL CNGRS T-R-SEC /FULL SEC
Lat: 36.80124 Ref Lat:
Source: USS27 Long: 107.76143 Ref Long:

Oper Elev: 6162DF Rig Ht:
Drlr Depth: 4730 Old TD:
PB Depth: Oldest Age Pen: CRETACEOUS Form@TD: 604PCCF
Permit: Proj Depth: Log TD:
Proj Form: 604CLFH

Status: GAS Spud Date: 08 25 1950
Hole Dir: Comp Date: 11 06 1950
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604MVRD

Contr: Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 10 3/4 Depth: 250 Cement: # SX Cement:
Casing Size: 7 5/8 Depth: 4549 Cement: # SX 10 3/4 200 sx.
7 5/8 200 sx.

*** Initial Potential Tests ***

IPF: 1630 MCFD Cut:
Prod Form: 604MVRD Thru: OPENHOLE
Type Perfs: Intrvl: 4562-4730
Type of Trtmnt: XPLO Interval: 4562-4730
Vol or Wt: 580 Measure: QTS Trtmnt Fluid:
Amt of Prop Agnt: Prop Agnt: FBRKP:
Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
Remarks:
TP: CP:
SITP: SICP: 1150 CAOF:

*** Formation Tops ***

Operator:
Amoco Production Co.
Well:
Florance GC /K/ #5

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604PCCF	2895		3267		LOG	604CLFH	4540		1622	

*** Formation Bases ***

*** Other Formation / Show Code Info ***

Form Penetrated	Show	Form Penetrated	Show	Form Penetrated	Show
604MVRD	7				

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

Operator Address:

Base/Lease Maps: PI:
POMCO:

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:30:59 ***** PAGE 1

*** Well Header *** 6 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045093770001 State: NMEX County: SAN JUAN
Oper: DELHI TAYLOR OIL Oper Code: 023300
Well: 1-5 Lease: FLORENCE
Lease Nbr: 4564 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI
Prev Oper: DELHI-TAYLOR OIL
Prev Oper CD: 202

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 22 Spot: SW NE NE
Footages: 990FNL 990FEL CNGRS T-R-SEC /FULL SEC
Source: USS27 Lat: 36.80124 Ref Lat:
Long: 107.76143 Ref Long:

Oper Elev: 6129GR Rig Ht:
Drlr Depth: 5326 Old TD: 4730 Form@TD: 603MNCS
PB Depth: Oldest Age Pen: CRETACEOUS Log TD:
Permit: Proj Depth: Proj Form: 603MNCS

Status: GAS-WO Spud Date: 12 05 1951
Hole Dir: Comp Date: 04 30 1952
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D D FNL-DG
Prod Form: 604MVRD

Contr: Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 7 5/8 Depth: 4539 Cement: # SX

*** Initial Potential Tests ***

IPF: 7480 MCFD Cut:
Prod Form: 604MVRD Thru: OPENHOLE
Type Perfs: Intrvl: 4900-5326
Type of Trtmnt: XPLO Interval: 4900-5326
Vol or Wt: 858 Measure: QTS Trtmnt Fluid:
Amt of Prop Agnt: Prop Agnt: FBRKP:
Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
Remarks:
TP: CP:
SITP: 1075 SICP: CAOF:

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
SPL	604PCCF	2895		3234		SPL	604CLFH	4545		1584	
SPL	604MENF	4720		1409		SPL	604PNLK	5110		1019	
SPL	603MNCS	5315		814							

*** Formation Bases ***

*** Other Formation / Show Code Info ***

Form Penetrated	Show	Form Penetrated	Show	Form Penetrated	Show
604MVRD	7				

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:31:04 ***** PAGE 1

*** Well Header *** 7 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045093770002 State: NMEX County: SAN JUAN
Oper: TENNECO OIL Oper Code: 088805
Well: 5 Lease: FLORANCE
Lease Nbr: Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI
Prev Oper: DELHI OIL
Prev Oper CD: 110065
Prev Oper: DELHI OIL
Prev Oper CD: 110065

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 22 Spot: SW NE NE
Footages: 990FNL 990FEL CNGRS T-R-SEC /FULL SEC
Source: USS27 Lat: 36.80124 Ref Lat:
Long: 107.76143 Ref Long:

Oper Elev: 6162DF Rig Ht:
Drlr Depth: 7540 Old TD: 5326 Form@TD: 602DKOT
PB Depth: 7515 Oldest Age Pen: CRETACEOUS Log TD:
Permit: Proj Depth: 7540 Proj Form: 604MVRD

Status: 2GASWO Spud Date: 08 22 1965
Hole Dir: Comp Date: 10 06 1965
Numeric Class: INL-6 FNL-5
Alpha Class: INL-D D FNL-DG
Prod Form: 604MVRD 602DKOT

Contr: YOUNG DRLG Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 4 1/2 Depth: 7540 Cement: 575 SX

Tubing Size: 2 7/8 Depth: 7210

*** Initial Potential Tests ***

IPF: 959 MCFD Cut:
Prod Form: 604MVRD Thru: PERF
Type Perfs: w/ 2 FT Intrvl: 4512-5269 GROSS
TP: 598 CP:
SITP: SICP: CAOF:
Narrative: DELIVERABILITY TEST ONLY

IPF: 1560 MCFD Cut: 48/64CK
 Prod Form: 02DKOT Thru: PERF
 Type Perfs: w/ 2 FT Intrvl: 7274-7501 GROSS
 TP: 119 CP:
 SITP: 1808 SICP:
 CAOF: 1588 MCFD

*** Formation Tops ***

*** Formation Bases ***

*** Other Formation / Show Code Info ***

Form Penetrated	Show	Form Penetrated	Show	Form Penetrated	Show
602DKOT	7	604MVRD	7		

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

PT: Cut:
 Prod Form: 602DKOT Thru: PERF
 Type Perfs: w/ 2 FT Intrvl: 7374-7501 GROSS
 Open/Perf: PERF
 Perf Detail: 7374-7378 7385-7387 7408-7409
 7419-7420 7434-7435 7439-7440
 7445-7446 7455-7456 7480-7484
 7498-7501 - -
 Type of Trtmnt: ACID Interval: 7374-7501
 Vol or Wt: 1500 Measure: GALS Trtmnt Fluid:
 Amt of Prop Agnt: Prop Agnt: FBRKP:
 Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
 Remarks:
 Type of Trtmnt: SWFR Interval: 7374-7501
 Vol or Wt: 89000 Measure: GALS Trtmnt Fluid:
 Amt of Prop Agnt: 60000 LBS Prop Agnt: SAND FBRKP:
 Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
 Remarks:
 Narrative: GAUGE NOT RPTD

PT: Cut:
 Prod Form: 602DKOT Thru: PERF
 Type Perfs: w/ 2 FT Intrvl: 7274-7359 GROSS
 Open/Perf: PERF
 Perf Detail: 7274-7278 7285-7287 7334-7338
 7358-7359 - -
 Type of Trtmnt: SWFR Interval: 7274-7359
 Vol or Wt: 101000 Measure: GALS Trtmnt Fluid:
 Amt of Prop Agnt: 80000 LBS Prop Agnt: SAND FBRKP:
 Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
 Remarks:

Narrative: GAUGE NOT RPTD

PT: Cut:
Prod Form: 604MVRD Thru: PERF
Type Perfs: w/ 2 FT Intrvl: 4971-5269 GROSS
Open/Perf: PERF
Perf Detail: 4971-4972 4990-4991 5038-5039
5097-5098 5120-5121 5128-5129
5132-5133 5139-5140 5143-5144
5146-5147 5148-5149 5152-5153
5168-5169 5178-5179 5183-5184
5196-5197 5200-5201 5220-5221
5227-5228 5234-5235 5268-5269
Type of Trtmnt: SWFR Interval: 4971-5269
Vol or Wt: 102300 Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: 80000 LBS Prop Agnt: SAND FBRKP:
Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
Remarks:
Narrative: GAUGE NOT RPTD

PT: Cut:
Prod Form: 604MVRD Thru: PERF
Type Perfs: w/ 2 FT Intrvl: 4512-4815
Type of Trtmnt: SWFR Interval: 4512-4815
Vol or Wt: 107000 Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: 80000 LBS Prop Agnt: SAND FBRKP:
Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
Remarks:
Narrative: GAUGE NOT RPTD

*** Log Surveys ***

#	IL	#	#	GR	#
#	DN	#			

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

Operator Address: E 3249
ENGLEWOOD CO 80155
Base/Lease Maps: PI: NMB-2
POMCO:

02/20/68 7540 TD, PB 7515
COMP 10/6/65, IPF 959 MCFGPD, FTP 598
PROD ZONE - MESAVERDE 4512-5269(GROSS)
IPF 1560 MCFGPD, 48/64 CK,
FTP 119, SITP 1808
IPCAOF 1588 MCFGPD
PROD ZONE - DAKOTA 7274-7501(GROSS)
DUAL COMPLETION
NO CORES OR DSTS
03/06/86 REISSUE TO CORRECT INIT CLASS, ELEVS,
DATES, IP, ADD API, OLD INFO, CSGS, TBG,
LOG TYPES
REPLACES CARD #NM-N15-566111

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:30:44 ***** PAGE 1

*** Well Header *** 3 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045092840000 State: NMEX County: SAN JUAN
Oper: DELHI-TAYLOR OIL Oper Code: 023300
Well: 6 Lease: FLORENCE-FEDERAL
Lease Nbr: 1495 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 23 Spot: NE SW SW
Footages: 990FSL 990FWL CNGRS T-R-SEC /FULL SEC
Source: USS27 Lat: 36.79210 Ref Lat:
Long: 107.75512 Ref Long:

Oper Elev: 6089DF Rig Ht:
Drlr Depth: 4621 Old TD: Form@TD: 604MENF
PB Depth: Oldest Age Pen: CRETACEOUS Log TD:
Permit: Proj Depth: Proj Form: 604MENF

Status: GAS Spud Date: 06 11 1950
Hole Dir: Comp Date: 11 06 1950
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604MVRD

Contr: Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 13 3/8 Depth: 215 Cement: # SX Cement: Operator:
Casing Size: 7 5/8 Depth: 4424 Cement: # SX 13 3/8 220 sx.
7 250 sx.

*** Initial Potential Tests ***

IPF: 2120 MCFD Cut:
Prod Form: 604MVRD Thru: OPENHOLE
Type Perfs: Intrvl: 4450-4621
Type of Trtmnt: XPL0 Interval: 4450-4621
Vol or Wt: 684 Measure: QTS Trtmnt Fluid:
Amt of Prop Agnt: Prop Agnt: FBRKP:
Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
Remarks:
TP: CP:
SITP: SICP: 1100 CAOF:

*** Formation Tops ***

Operator:
Amoco Production Co.
Well:
Florance /U/ #6

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604PCCF	2805		3284		LOG	604CLFH	4432		1657	
LOG	604MENF	4616		1473							

*** Formation Bases ***

*** Other Formation / Show Code Info ***

Form Penetrated	Show	Form Penetrated	Show	Form Penetrated	Show
604MVRD	7				

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

EL

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:30:49 ***** PAGE 1

*** Well Header *** 4 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045092840001	State: NMEX	County: SAN JUAN
Oper: TENNECO OIL		Oper Code: 088805
Well: 6	Lease: FLORANCE	
Lease Nbr:	Lease Type:	
Province: SAN JUAN BASIN		Prov Code: 202
Field: BASIN		Field Code: 003000
Prop Source Code: PI		
Prev Oper: DELHI-TAYLOR OIL		
Prev Oper CD: 202		
Meridian: NEW MEXICO		Meridian Code: 21
Twp: 030N Rng: 009W	Sec: 23	Spot: NE SW SW
Footages: 990FSL 990FWL CNGRS T-R-SEC /FULL SEC		
	Lat: 36.79210	Ref Lat:
Source: USS27	Long: 107.75512	Ref Long:
Oper Elev: 6077DF	Rig Ht:	
Drlr Depth: 7455	Old TD: 4621	Form@TD: 602DKOT
PB Depth: 7422	Oldest Age Pen: CRETACEOUS	Log TD:
Permit:	Proj Depth: 7455	Proj Form: 602DKOT
Status: 2GASWO	Spud Date: 06 07 1965	
Hole Dir:	Comp Date: 07 20 1965	
Numeric Class: INL-6 FNL-5		
Alpha Class: INL-D R FNL-DG		
Prod Form: 602DKOT 602DKOT 604MVRD 604MVRD		
Contr: REAMES	Tools: ROTARY	Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 4 1/2 Depth: 7455 Cement: 660 SX
Tubing Size: 2 3/8 Depth: 7120

*** Initial Potential Tests ***

IPF:	1304 MCFD	Cut:	48/64CK	4 HRS
Prod Form:	602DKOT	Thru:	PERF	
Type Perfs:	w/ 4 FT	Intrvl:	7285-7399	
Prod Form:	602DKOT	Thru:	PERF	
Type Perfs:	w/ 2 FT	Intrvl:	7176-7196	
Open/Perf:	PERF			
Perf Detail:	4438-4745	4870-5037	5037-5204	
Type of Trtmnt:	SWFR	Interval:	7285-7399	
Vol or Wt:	66780	Measure:	GALS Trtmnt Fluid:	

Amt of Prop Agnt: 45000 LBS Prop Agnt: SAND FBRKP:
 Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
 Remarks:
 Type of Trtmnt: SWFR Interval: 7176-7196
 Vol or Wt: 65520 Measure: GALS Trtmnt Fluid:
 Amt of Prop Agnt: 45000 LBS Prop Agnt: SAND FBRKP:
 Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
 Remarks:
 TP: 140 CP:
 SITP: SICP: CAOF:

 IPF: 1107 MCFD Cut:
 Prod Form: 604MVRD Thru: PERF
 Type Perfs: w/ 2 FT Intrvl: 4855-5221
 Prod Form: 604MVRD Thru: PERF
 Type Perfs: w/ 2 FT Intrvl: 4447-4813
 Type of Trtmnt: SWFR Interval: 4855-5221
 Vol or Wt: 92400 Measure: GALS Trtmnt Fluid:
 Amt of Prop Agnt: 80000 LBS Prop Agnt: SAND FBRKP:
 Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
 Remarks:
 Type of Trtmnt: SWFR Interval: 4447-4813
 Vol or Wt: 96180 Measure: GALS Trtmnt Fluid:
 Amt of Prop Agnt: 80000 LBS Prop Agnt: SAND FBRKP:
 Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
 Remarks:
 TP: 607 CP:
 SITP: SICP: CAOF:
 Narrative: DELIVERABILITY TEST ONLY

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604PCCF	2805		3272		LOG	604LWIS	2842		3235	
LOG	604CLFH	4425		1652		LOG	604MENF	4615		1462	
LOG	604PNLK	5010		1067		LOG	603MNCS	5130		947	
LOG	602DKOT	7172		7	-1095						

*** Formation Bases ***

*** Other Formation / Show Code Info ***

Form Penetrated	Show	Form Penetrated	Show	Form Penetrated	Show
604MVRD	7				

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:30:34 ***** PAGE 1

*** Well Header *** 2 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045093750000 State: NMEX County: SAN JUAN
Oper: DELHI TAYLOR OIL Oper Code: 023300
Well: 1-7 Lease: FLORENCE-FEDERAL
Lease Nbr: 1495 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 03ON Rng: 009W Sec: 23 Spot: NW NE
Footages: 990FNL 1650FEL CNGRS T-R-SEC /FULL SEC
Lat: 36.80120 Ref Lat:
Source: USS27 Long: 107.74578 Ref Long:

Oper Elev: 6028DF Rig Ht:
Comm Elev: 6028DF LAUGHLIN/SIMMONS
Drlr Depth: 5095 Old TD: Form@TD: 604PNLK
PB Depth: Oldest Age Pen: CRETACEOUS Log TD:
Permit: Proj Depth: Proj Form: 604PNLK

Status: GAS Spud Date: 06 28 1951
Hole Dir: Comp Date: 09 17 1951
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604MVRD

Contr: Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing *** Cement:
Casing Size: 7 5/8 Depth: 4365 Cement: # SX 10 3/4 150 sx.
7 5/8 250 sx.
4 1/2 700 sx.

*** Initial Potential Tests ***

IPF: 2830 MCFD Cut: 6 HRS
Prod Form: 604MVRD Thru: OPENHOLE
Type Perfs: Intrvl: 4660-5085
Type of Trtmnt: XPLO Interval: 4660-5085
Vol or Wt: 930 Measure: QTS Trtmnt Fluid:
Amt of Prop Agnt: Prop Agnt: FBRKP:
Avg Rate of Inj: Type ADDTV: Nbr of Stgs:
Remarks:

*** Formation Tops ***

Study: Interpreter: OPERATOR

Operator:
Amoco Production Co.
Well:
Florence GC /S/ #7

Src	Formation	MD	TVD	Show	Subsea	Src	Formati	MD	TVD	Show	Subsea
LOG	604KRLD	1690		4338		LOG	604FMNG	1985		4043	
LOG	604FRLD	2428		3600		LOG	604PCCF	2760		3268	
LOG	604LWIS	2788		3240		LOG	604CLFH	4390		1638	
LOG	604MENF	4570		1458		LOG	604PNLK	4905		1123	

*** Formation Bases ***

*** Other Formation / Show Code Info ***

Form Penetrated	Show	Form Penetrated	Show	Form Penetrated	Show
604MVRD	7				

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

#	EL	#
---	----	---

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:30:17 ***** PAGE 1

*** Well Header *** 1 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045093750001 State: NMEX County: SAN JUAN
Oper: DELHI TAYLOR OIL Oper Code: 023300
Well: 7 Lease: FLORANCE
Lease Nbr: Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 23 Spot: NW NE
Footages: 990FNL 1650FEL CNGRS T-R-SEC /FULL SEC
Source: USS27 Lat: 36.80120 Ref Lat:
Long: 107.74578 Ref Long:

Oper Elev: 6028DF 6021GR Rig Ht:
Drlr Depth: 5180 Old TD: 5095 Form@TD:
PB Depth: 5150 Oldest Age Pen: CRETACEOUS Log TD:

Status: GAS-WO Spud Date: 07 10 1957
Hole Dir: Comp Date: 07 28 1957
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D D FNL-DG

*** Casing / Liner / Tubing ***

Liner Size: 5 Type: # Intrvl: 4285- 5160 Cement: 3500 SX

*** Initial Potential Tests ***

IPF: 7120 MCFD Cut: 48/64CK 3 HRS
Prod Form: Thru: PERF
Type Perfs: Intrvl: 4474-5090

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src Formation MD TVD Show Subsea Src Formation MD TVD Show Subsea

LOG 604MENF 4570 1458

*** Formation Bases ***

*** Fault Data ***

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:31:10 ***** PAGE 1

*** Well Header *** 8 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045094310000 State: NMEX County: SAN JUAN
Oper: DELHI-TAYLOR OIL Oper Code: 023300
Well: 8 Lease: FLORANCE-FED
Lease Nbr: 4564 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 14 Spot: NW SE SW
Footages: 990FSL 1650FWL CNGRS T-R-SEC /FULL SEC
Lat: 36.80663 Ref Lat:
Source: USS27 Long: 107.75237 Ref Long:

Oper Elev: 6103DF 6079GR Rig Ht:
Drlr Depth: 4693 Old TD:
PB Depth: Oldest Age Pen: CRETACEOUS Form@TD: 604CLFH
Permit: Proj Depth: Log TD:
Proj Form: 604MVRD

Status: GAS Spud Date: 06 22 1950
Hole Dir: Comp Date: 09 13 1950
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604CLFH

Contr: Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

			Cement:
Casing Size: 13 3/8	Depth: 216	Cement: # SX	13 3/8 225 sx.
Casing Size: 7	Depth: 4452	Cement: # SX	7 200 sx.

*** Initial Potential Tests ***

IPF:	6000 MCFD	Cut:	4 HRS
Prod Form:	604CLFH	Thru:	OPENHOLE
Type Perfs:		Intrvl:	4510-4693
Type of Trtmnt:	XPLO	Interval:	4510-4693
Vol or Wt:	700	Measure:	QTS Trtmnt Fluid:
Amt of Prop Agnt:		Prop Agnt:	FBRKP:
Avg Rate of Inj:		Type ADDTV:	Nbr of Stgs:
Remarks:			

*** Formation Tops ***

*** Formation Bases ***

Operator:
Amoco Production Co.
Well:
Forance /R/ #8

**)Other Formation / Show Code Inf **

Form Penetrated	Show	Form Penetrated	Show	Form Penetrated	Show
604CLFH	7				

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:31:15 ***** PAGE 1

*** Well Header *** 9 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045094310001 State: NMEX County: SAN JUAN
Oper: DELHI-TAYLOR OIL Oper Code: 023300
Well: 3-8 Lease: FLORENCE-FEDERAL
Lease Nbr: 1495 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI
Prev Oper: DELHI-TAYLOR OIL
Prev Oper CD: 202

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 14 Spot: NW SE SW
Footages: 990FSL 1650FWL CNGRS T-R-SEC /FULL SEC
Source: USS27 Lat: 36.80663 Ref Lat:
Long: 107.75237 Ref Long:

Oper Elev: 6079GR Rig Ht:
Drlr Depth: 5319 Old TD: 4693 Form@TD: 603MNCS
PB Depth: Oldest Age Pen: CRETACEOUS Log TD:
Permit: Proj Depth: Proj Form: 603MNCS

Status: GAS-WO Spud Date: 10 20 1954
Hole Dir: Comp Date: 11 16 1954
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D D FNL-DG
Prod Form: 604MVRD

Contr: Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 7 Depth: 4452 Cement: # SX
Narrative: 7 INCH CSG PREVIOUSLY SET

*** Initial Potential Tests ***

IPF: 8500 MCFD Cut: 3 HRS
Prod Form: 604MVRD Thru: OPENHOLE
Type Perfs: Intrvl: 4510-4613
TP: CP:
SITP: SICP: 926 CAOF:

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formati	. MD	TVD	Show	Subsea
LOG	604PCCF	2861		3218		LOG	604CLFH	4500		1579	
LOG	604MENF	4685		1394		LOG	604PNLK	5102		977	
LOG	603MNCS	5260		819							

*** Formation Bases ***

*** Other Formation / Show Code Info ***

Form Penetrated	Show	Form Penetrated	Show	Form Penetrated	Show
604MVRD	7				

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

EL

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

FULL WELL
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*** Well Header ***
(ROCKY MOUNTAIN - HISTORICAL WELL) 10 of 24 Wells

API Nbr: 30045094310002	State: NMEX	County: SAN JUAN
Oper: TENNECO OIL		Oper Code: 088805
Well: 8	Lease: FLORANCE	
Lease Nbr:	Lease Type:	
Province: SAN JUAN BASIN		Prov Code: 202
Field: BLANCO-BASIN		Field Code: 003000
Prop Source Code: PI		
Prev Oper: DELHI-TAYLOR OIL		
Prev Oper CD: 202		
Prev Oper: DELHI-TAYLOR OIL		
Prev Oper CD: 202		
Meridian: NEW MEXICO		Meridian Code: 21
Twp: 030N Rng: 009W	Sec: 14	Spot: NW SE SW
Footages: 990FSL 1650FWL CNGRS T-R-SEC /FULL SEC		
	Lat: 36.80663	Ref Lat:
Source: USS27	Long: 107.75237	Ref Long:
Oper Elev: 6079GR	Rig Ht:	
Drlr Depth: 7490	Old TD: 5319	Form@TD: 602DKOT
PB Depth: 7451	Oldest Age Pen: CRETACEOUS	Log TD:
Permit:	Proj Depth: 7235	Proj Form: 602DKOT
Status: 2GASWO	Spud Date: 06 25 1965	
Hole Dir:	Comp Date: 08 17 1965	
Numeric Class: INL-6 FNL-5		
Alpha Class: INL-D D FNL-DG		
Prod Form: 602DKOT 604MVRD 604MVRD		
Contr: REAMES	Tools: ROTARY	Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 4 1/2 Depth: 7490 Cement: 650 SX

Tubing Size: 2 3/8 Depth: 7170

*** Initial Potential Tests ***

IPF:	927 MCFD	Cut:	48/64CK	3 HRS
Prod Form:	602DKOT	Thru:	PERF	
Type Perfs:	JET w/ 2 FT	Intrvl:	7216-7436 GROSS	
Open/Perf:	PERF			
Perf Detail:	7216-7220	7228-7230	7276-7278	
	7308-7314	7318-7321	7344-7346	
	7370-7372	7376-7378	7382-7384	

	7394-7396	7412-7416	7432-7436
Type of Trtmnt	SWFR	Interval: 7216-7416	
Vol or Wt:	61160	Measure: GALS	Trtmnt Fluid:
Amt of Prop Agnt:	55000 LBS	Prop Agnt: SAND	FBRKP:
Avg Rate of Inj:	38 B/Min	Type ADDTV:	Nbr of Stgs:
Remarks:	AV TR PR 3900		
TP:	66	CP: 1938	
SITP:		SICP:	CAOF: 932 MCFD
 IPF:	2522 MCFD	Cut:	
Prod Form:	604MVRD	Thru:	PERF
Type Perfs:	JET w/ 2 FT	Intrvl:	4916-5177
Prod Form:	604MVRD	Thru:	PERF
Type Perfs:	JET w/ 2 FT	Intrvl:	4504-4855
Type of Trtmnt:	SWFR	Interval:	4916-5177
Vol or Wt:	101720	Measure: GALS	Trtmnt Fluid:
Amt of Prop Agnt:	80000 LBS	Prop Agnt: SAND	FBRKP:
Avg Rate of Inj:		Type ADDTV:	Nbr of Stgs:
Remarks:			
Type of Trtmnt:	SWFR	Interval:	4504-4855
Vol or Wt:	97290	Measure: GALS	Trtmnt Fluid:
Amt of Prop Agnt:	73000 LBS	Prop Agnt: SAND	FBRKP:
Avg Rate of Inj:		Type ADDTV:	Nbr of Stgs:
Remarks:			
TP:	532	CP:	
SITP:		SICP:	CAOF:
Narrative:	SET BP AT 5240, PERF 4916-5177, SWFR, SET BP AT 4900 PERF 4504-4855, SWFR, DRILLED OUT BPS, 2522 MCFGPD		
DELIVERABILITY			

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604MVRD	4580	7	1499		LOG	602DKOT	7217	7	-1138	

*** Formation Bases ***

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

#	IL	#	#	DN	#
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*** Drilling Shows ***

*** Porosity Zones ***

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:31:38 ***** PAGE 1

*** Well Header *** 14 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045116590000 State: NMEX County: SAN JUAN
Oper: TENNECO OIL Oper Code: 088805
Well: 56 Lease: FLORANCE
Lease Nbr: 2248 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 008500
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 23 Spot: SW SW
Footages: 900FSL 790FWL CNGRS T-R-SEC /FULL SEC
Lat: 36.79185 Ref Lat:
Source: USS27 Long: 107.75582 Ref Long:

Oper Elev: 6106GR Rig Ht:
Drlr Depth: 2964 Old TD: Form@TD: 604PCCF
PB Depth: 2898 Oldest Age Pen: CRETACEOUS Log TD:
Permit: Proj Depth: 2960 Proj Form: 604PCCF

Status: GAS Spud Date: 02 20 1966
Hole Dir: Comp Date: 03 26 1966
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604PCCF

Contr: YOUNG Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 8 5/8 Depth: 115 Cement: 80 SX
Casing Size: 3 1/2 Depth: 2960 Cement: 480 SX

*** Initial Potential Tests ***

IPF: 2768 MCFD Cut: 48/64CK 3 HRS
Prod Form: 604PCCF Thru: PERF
Type Perfs: BULLT Intrvl: 2839-2874 GROSS
Open/Perf: PERF
Perf Detail: 2839-2845 2850-2856 2869-2874
Type of Trtmnt: SWFR Interval: 2839-2874
Vol or Wt: 30000 Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: 30000 LBS Prop Agnt: SAND FBRKP:
Avg Rate of Inj: 26 B/Min Type ADDTV: Nbr of Stgs:
Remarks: AVG TP 1500
Type of Trtmnt: Interval: -
Vol or Wt: Measure: Trtmnt Fluid:

Operator:
Amoco Production Co.
Well:
Florance #56

SD.

Amt of Prop Agnt: Prop Agnt: FBRKP:
Avg Rate of Inj Type ADDTV: N. of Stgs:
Remarks: ISIP 200
TP: CP: 216
SITP: SICP: 883 CAOF: 2961 MCFD
Narrative: PERF 2839-2874 /GROSS/ W/22 SHOTS

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604PCCF	2839		7	3267						

*** Formation Bases ***

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

#	GR	#	#	DN	#
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*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

(Drilling Fluid)

Type: MUD Depth: 2964

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:31:29 ***** PAGE 1

*** Well Header *** 12 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045116520000 State: NMEX County: SAN JUAN
Oper: TENNECO OIL Oper Code: 088805
Well: 58 Lease: FLORENCE
Lease Nbr: 2248 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 009200
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 14 Spot: SW SW
Footages: 855FSL 1060FWL CNGRS T-R-SEC /FULL SEC
Lat: 36.80626 Ref Lat:
Source: USS27 Long: 107.75438 Ref Long:

Oper Elev: 6135GR Rig Ht:
Drlr Depth: 3033 Old TD: Form@TD: 604PCCF
PB Depth: 2970 Oldest Age Pen: CRETACEOUS Log TD:
Permit: Proj Depth: 3020 Proj Form: 604PCCF

Status: GAS Spud Date: 02 15 1966
Hole Dir: Comp Date: 04 01 1966
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604PCCF

Contr: YOUNG Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 8 5/8 Depth: 140 Cement: 100 SX
Casing Size: 3 1/2 Depth: 3032 Cement: 490 SX

*** Initial Potential Tests ***

IPF: 2386 MCFD Cut: 48/64CK 3 HRS
Prod Form: 604PCCF Thru: PERF
Type Perfs: w/ 2 FT Intrvl: 2908-2923 GROSS
Open/Perf: PERF
Perf Detail: 2908-2912 2916-2923 -
Type of Trtmnt: SWFR Interval: 2908-2923
Vol or Wt: 30000 Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: 30000 LBS Prop Agnt: SAND FBRKP:
Avg Rate of Inj: 32 B/Min Type ADDTV: Nbr of Stgs:
Remarks: AVG TP 1700
Type of Trtmnt: Interval: -
Vol or Wt: Measure: Trtmnt Fluid:

Operator:
Amoco Production Co.
Well:
Florance #58

Amt of Prop Agnt: Prop Agnt: FBRKP:
Avg Rate of Inj.: Type ADDTV: Num of Stgs:
Remarks: ISIP 200
TP: CP: 185
SITP: SICP: 805 CAOF: 2533 MCFD

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604PCCF	2908		7	3227						

*** Formation Bases ***

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

#	IL	#	#	GR	#
---	----	---	---	----	---

*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

(Drilling Fluid)

Type: MUD Depth: 3033

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

FULL WELL
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ZWEH02 ***** MAR 10, 19 16:31:42 ***** PAGE 1

*** Well Header *** 15 of 24 Wells
(ROCKY MOUNTAIN - HISTORICAL WELL)

API Nbr: 30045116600000 State: NMEX County: SAN JUAN
Oper: TENNECO OIL Oper Code: 088805
Well: 59 Lease: FLORANCE
Lease Nbr: 2248 Lease Type:
Province: SAN JUAN BASIN Prov Code: 202
Field: BLANCO Field Code: 009200
Prop Source Code: PI

Meridian: NEW MEXICO Meridian Code: 21
Twp: 030N Rng: 009W Sec: 23 Spot: NW SE

Footages: 1700FSL 1490FEL CNGRS T-R-SEC /FULL SEC
Lat: 36.79414 Ref Lat:
Source: USS27 Long: 107.74571 Ref Long:

Oper Elev: 5923GR Rig Ht:
Drlr Depth: 2802 Old TD: Form@TD: 604PCCF
PB Depth: 2704 Oldest Age Pen: CRETACEOUS Log TD:
Permit: Proj Depth: 2785 Proj Form: 604PCCF

Status: GAS Spud Date: 02 25 1966
Hole Dir: Comp Date: 03 26 1966
Numeric Class: INL-6 FNL-2
Alpha Class: INL-D FNL-DG
Prod Form: 604PCCF

Contr: YOUNG Tools: ROTARY Rig Nbr:

*** Casing / Liner / Tubing ***

Casing Size: 8 5/8 Depth: 113 Cement: 100 SX
Casing Size: 3 1/2 Depth: 2798 Cement: 500 SX

*** Initial Potential Tests ***

IPF: 2622 MCFD Cut: 48/64CK 3 HRS
Prod Form: 604PCCF Thru: PERF
Type Perfs: BULLT Intrvl: 2641-2672 GROSS
Open/Perf: PERF
Perf Detail: 2641-2643 2652-2655 2667-2672
Type of Trtmnt: SWFR Interval: 2641-2672
Vol or Wt: 30000 Measure: GALS Trtmnt Fluid:
Amt of Prop Agnt: 30000 LBS Prop Agnt: SAND FBRKP:
Avg Rate of Inj: 31 B/Min Type ADDTV: Nbr of Stgs:
Remarks: AVG TP 1450
Type of Trtmnt: Interval: -
Vol or Wt: Measure: Trtmnt Fluid:

Operator:
Amoco Production Co.
Well:
Florance #59

Amt of Prop Agn: Prop Agnt: FBRKP:
Avg Rate of In, Type ADDTV: Num of Stgs:
Remarks: ISIP 300
TP: CP: 204
SITP: SICP: 989 CAOF: 2749 MCFD
Narrative: PERF 2641-2672 /GROSS/ W/22 SHOTS

*** Formation Tops ***

Study: Interpreter: OPERATOR

Src	Formation	MD	TVD	Show	Subsea	Src	Formation	MD	TVD	Show	Subsea
LOG	604PCCF	2642		7	3281						

*** Formation Bases ***

*** Fault Data ***

*** Core Descriptions ***

*** Formation Test Data ***

*** Production Tests ***

*** Log Surveys ***

#	IL	#	#	GR	#
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*** Drilling Shows ***

*** Porosity Zones ***

*** Drilling Data ***

(Drilling Fluid)

Type: MUD Depth: 2802

*** Miscellaneous Data ***

*** Proposed Bottom Hole Location ***

*** Actual Bottom Hole Location ***

*** Deviation Data ***

*** Directional Survey **

*** Horizontal Drilling Data ***

*** Narrative Data ***

**Attachment XIII
Proof of Notice**

Leasehold Operator

Amoco Production Company
(making application)

Surface Owners

Bureau of Land Management
1235 La Plata Highway
Farmington, NM 87401