submitted in lieu of Form 3160-5

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED BLM
96 AUG 15 PM 2:56
070 FARMINGTON, NM

Sundry Notices and Reports on Wells

1. **Type of Well**
GAS

5. **Lease Number**
SF-077938

6. **If Indian, All. or Tribe Name**

7. **Unit Agreement Name**
Huerfano Unit

2. **Name of Operator**
MERIDIAN OIL

8. **Well Name & Number**
Huerfano Unit #4

3. **Address & Phone No. of Operator**
PO Box 4289, Farmington, NM 87499 (505) 326-9700

9. **API Well No.**
30-045-05763

4. **Location of Well, Footage, Sec., T, R, M**
1980'FNL, 1980'FWL, Sec.24, T-26-N, R-10-W, NMPM
P

10. **Field and Pool**
Basin Fruitland Coal/
Basin Dakota

11. **County and State**
San Juan Co, NM

12. CHECK APPROPRIATE BOX TO INDICATE NATURE OF NOTICE, REPORT, OTHER DATA

Type of Submission	Type of Action		
_X_ Notice of Intent	___ Abandonment	___ Change of Plans	
	_X_ Recompletion	___ New Construction	
___ Subsequent Report	___ Plugging Back	___ Non-Routine Fracturing	
	___ Casing Repair	___ Water Shut off	
___ Final Abandonment	___ Altering Casing	___ Conversion to Injection	
	___ Other -		

13. Describe Proposed or Completed Operations

It is intended to clean out and test the Dakota formation. Depending upon the results either plug and abandon the Dakota and recomplete in the Fruitland Coal or dual the Dakota with the Fruitland Coal according to the attached procedure and wellbore diagram.

RECEIVED
SEP 16 1996
OIL CON. DIV.
DIST. 3

SEE ATTACHED FOR CONDITIONS OF APPROVAL

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

Signed [signature] (SCWFTC) Title Regulatory Administrator Date 8/15/96

(This space for Federal or State Office use)
APPROVED BY _____ Title _____ Date APPROVED
CONDITION OF APPROVAL, if any:

Hold C-104 for NSL

SEP 06 1996
DISTRICT MANAGER

Hold C-104 for NSL

RECEIVED
BLM

96 AUG 15 PM 2:58

070 FARMINGTON, NM

District I
PO Box 1980, Hobbs, NM 88241-1980
District II
PO Drawer DD, Artesia, NM 88211-0719
District III
1000 Rio Brazos Rd., Aztec, NM 87410
District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-10
Revised February 21, 199
Instructions on bac
Submit to Appropriate District Offic
State Lease - 4 Copi
Fee Lease - 3 Copi

☐ AMENDED REPOR

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number	² Pool Code	³ Pool Name
30-045-05763	71629/71599	Basin Fruitland Coal/Basin Dakota

⁴ Property Code	⁵ Property Name	⁶ Well Number
7139	Huerfano Unit	4

⁷ OGRID No.	⁸ Operator Name	⁹ Elevation
14538	BURLINGTON RESOURCES OIL & GAS	6622'

¹⁰ Surface Location

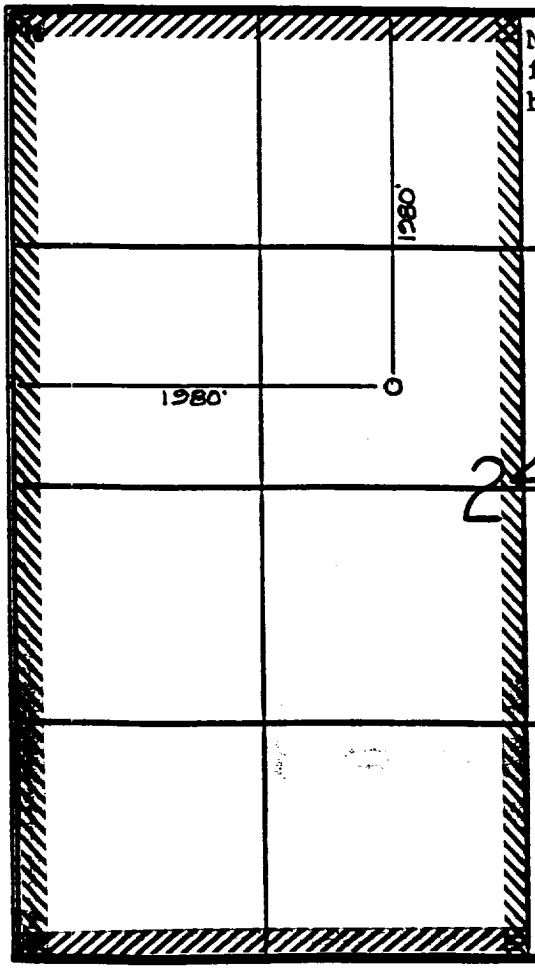
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	24	26 N	10 W		1980	North	1980	West	S.J.

¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
W/320 W/320			

NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION



Not resurveyed, prepared from a plat dated 7-28-50 by H.H. Miller.

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SEP 16 1996
OIL CON. DIV.
DIST. 3

¹⁷ OPERATOR CERTIFICATION

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

Peggy Bradfield

Signature
Peggy Bradfield
Printed Name
Regulatory Administrator
Title
8-14-96
Date

¹⁸ SURVEYOR CERTIFICATION

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

8-13-96
Date of Survey

Signature and Seal of Professional Surveyor

NEW MEXICO
8857
REGISTERED
8857

Certificate Number

MERIDIAN OIL - FRUITLAND COAL RECOMPLETION PROCEDURE
LAT-LONG: 36.475616 - 107.849289

Huerfano Unit #4

GENERAL WELL DATA:

Well Name: Huerfano Unit #4
Location: Unit F, Section 24, T26N, R10W, 1980' FNL, 1980 FWL
County, State: San Juan County, New Mexico
Field: Basin Dakota
Formation: Dakota
Elevation: 6623' GL
AFE #:

GEOLOGY: TD: 7072'
COTD: 6800'

Surface:			
Kirtland:	1350'	Mesaverde	3000'
Fruitland Coal:	1939'	Mancos	4700'
Pictured Cliffs	2120'	Dakota	6605'
Lewis Shale	2250'	Morrison	6870'

PROJECT OBJECTIVE: Clean out and test Dakota Potential. Depending upon results either plug and abandon Dakota zone and recomplete to Fruitland Coal or dual Dakota production with Fruitland Coal production. Nearest Fruitland Coal production is 2 miles to the east. Project will test Fruitland Coal potential in this area and in addition test extreme over balanced perforating as an effective completion for the coal.

Dakota Testing:

1. Hold safety meeting. MIRU P&A Rig. Place fire and safety equipment in strategic locations. Comply with all MOI, BLM and NMOCD rules and regulations. Record all tubing, casing, and line pressures. RU flowlines. Blowdown tbg and csg, kill well w/wtr. ND wellhead.

2. NU BOP's and stripping head. Unseat donut, PU 2 jts of tubing and tag PBTD @ 6800'. Take baseline pitot gauge to atmosphere. TOOH with 6730' of 2-3/8" tubing. Replace any bad joints. If tubing is stuck contact engineering prior to proceeding.

3. If fill is tagged above 6750', PU 4-3/4" bit on 2-3/8" and CO w/air to PBTD of 6800'. TOOH w/ bit and 2-3/8" w/ drill collars. Flow test well to atmosphere. Contact engineering with test results. At this time a decision will be made to continue flow testing, to continue with abandonment procedure, or to discontinue abandonment procedure.

Plug and Abandonment Procedure:

1. **Plug #1 (Dakota open hole, 6340' - 6290'):** Run 7" gauge ring to 6356 '. PU 7" CIBP on 2-3/8" tubing and RIH; set at 6340'. Pressure test tubing to 2000#; replace all bad joints as necessary. Load 7" casing with water from bottom and pressure test to 500#. Mix 19 sxs Class B cement and spot a balance plug above retainer. TOOH with setting tool.

2. **Plug #2 (Gallup top, 5780' - 5680'):** Perforate 3 squeeze holes at 5780'. If casing tested, attempt to establish rate into squeeze holes down casing. TIH w/ 7" cement retainer and set at 5730'. Establish rate into squeeze holes. Mix and pump 55 sxs Class B cement, squeeze 26 sxs (100% excess) outside casing from 5780' to 5680' and leave 29 sxs inside casing. TOOH.

3. **Plug #3 (Mesaverde top, 3050' - 2950'):** Perforate 3 squeeze holes at 3050'. If casing tested, attempt to establish rate into squeeze holes down casing. TIH w/ 7" cement retainer and set at 3000'. Establish rate into squeeze holes. Mix and pump 55 sxs Class B cement, squeeze 26 sxs (100% excess) outside casing from 3050' to 2950' and leave 29 sxs inside casing. TOOH.

4. Run CBL from Plug #3 TOC to surface. Identify and note any cement or bridges.

5. **Plug #4 (Pictured Cliffs and Fruitland top, 2300' - 1850'):** Perforate 3 squeeze holes at 2300'. If casing tested, attempt to establish rate into squeeze holes down casing, maximum surface pressure is 600#. Attempt to establish circulation out bradenhead with water. If able to circulate, determine annular volume with water pump around test. Squeeze under packer with cmt volume (100 % excess) to cover PC Base to Ojo Alamo (2300'-1160'). Displace cmt to 2180'. Monitor to avoid PC/FTC breakdown. WOC and then release packer and TOOH.

6. If unable to circulate to surface, suicide squeeze interval from 1850'-2250' under a retainer. Sting into retainer. Establish circulation with water. Once circulation is established, establish rate and squeeze interval. Estimated volume outside casing is 115 sxs. Leave COTD @ 2180'. Do not exceed maximum surface injection pressure of 500 psi. Sting out of retainer. TOOH. PU packer and TIH. Squeeze under packer upper squeeze hole @ 1850'. Displace cmt. WOC. Release packer and TOOH.

7. **Plug #5 (Ojo Alamo interval, 1422' - 1160')** Perforate 3 squeeze holes at 1422'. If casing tested, attempt to establish rate into squeeze holes. TIH w/ 7" packer and set at 1250'. Attempt to establish circulation to surface out bradenhead valve. If able to circulate to surface, squeeze cmt to surface. Squeeze 5 sxs away after returns to surface. If unable to circulate to surface, then mix and pump 90 sxs Class B cement, squeeze 67 sxs outside casing from 1422' to 1160' (100% excess) and leave 23 sxs inside casing, hesitation squeeze after clearing cement below packer. WOC and then release packer and TOH. Ensure cmt coverage 50' above and below top of Ojo Alamo @ 1210'

8. TIH w/ 6-1/8" bit. Tag cmt and drill out Kirtland / Ojo Alamo squeeze with wtr. Estimated at TOC @ 1300'. Tag cmt top on Pictured Cliffs / Fruitland squeeze. COTD on PC / FTC squeeze must be below 2180'. Circulate hole bottoms and load with water. TOOH. Pressure test squeeze and casing to 750 psi.

9. MIRU wireline logging unit. Run in hole with CBL and log from TOC to surface. Run in hole with cased hole neutron, gamma ray, and collar locator. Log from TOC to surface. RD wireline unit. Provide engineering with logs. Cement bond required from 1880' to 2180' and 1160' to 1260'. Any additional squeeze work will be identified and performed at this time.

10. TIH with 2-3/8" tubing and blow hole dry with air. Land tubing 1 joint of bottom. Nipple down BOP. Nipple up wellhead assembly. Rig down and move off P&A rig.

Completion Procedure:

Deliver to location: 1.) 2300' of 3-1/2" 9.3# N-80 Workstring, 2.) 70' of 3-1/2" 9.3# N-80 lubricator tested to 5000 psi, 3.) 5000 psi frac valve, 4.) 3-1/2" flow-tee pressure tested to 5000 psi, 5.) Six 4-3/4" drill collars, 6.) 6-1/8" bit.

1. Hold safety meeting. MIRU Completion Rig. Place fire and safety equipment in strategic locations. Comply with all MOI, BLM and NMOCD rules and regulations. Ensure well does not have any

pressure on it. ND wellhead. NU BOP's. Send wellhead assembly to town. New wellhead will require 13-5/8" 2M x 7-1/6" 2M tubing head. Notify P&M 3 weeks in advance of workover to special order tubing head.

2. PU 3-1/2 J-55 9.3# tubing w/ 7" Baker Model AL-2 Lok-Set packer (Large Bore to allow bypass of 2-1/2" RTG). Place 10' pup joint on bottom for locator. Set packer in compression @ 2070'. Load tbg w/2 bbls of 2% KCL for water cushion on top of RTG.

3. RU wireline unit. NU 5000# frac valve with 3-1/2" pup joint flow tee pressure tested to 5000 psi to 3-1/2" tubing. Run ccl correlation log. POOH. NU 70' of 3-1/2" lubricator pressure tested to 5000 psi. Under 5000# packoff head run 2-1/2" RTG with 4 SPF - 11 gr - 0.34" Owen charge at 180° phasing. Correlate setting depth with gamma ray and cased hole neutron. Perforation depths for first stage are 2124'-2130'.

4. RU nitrogen unit. Pressure test surface lines to 5000 psi. Shut-in pipe rams. Pressure 3-1/2" tubing w/ nitrogen to 3750 psi, approximately 23,000 scf. (1.95 psi/ft frac gradient). Hold pressure for 3 minutes and monitor for any leak-off. Monitor casing for any pressure communication. Have all personnel on location a minimum of 100 ft from wellhead. Holding 3750 psi on well, perforate 2124'-2130'.

5. Monitor pressure on well for 15 minutes. With pressure bled off, POOH with wireline. Shut-in frac valve. ND nitrogen unit. ND lubricator. Lay down 2-1/2" RTG.

6. NU flow back line. Flow well for 30 min on 1/2" choke. As well bleeds down increase choke size. Report flow rate every ten minutes. Take pitot gauge with well flowing to atmosphere.

7. Control well w/ minimal 2% KCL. Open pipe rams. Release 7" Lok-set packer. TOOH w/ packer and 3-1/2" tubing.

8. RU wireline unit. Under full lubricator, run 7" CIBP and set @ 2070'. POOH w/ wireline. RD wireline unit.

9. PU 3-1/2 tubing w/ 7" Lok-set packer. Place 10' pup joint on bottom for locator. TIH and set packer in compression @ 1890'. Load tbg w/2 bbls of 2% KCL. Ensure packer is set below upper squeeze hole if suicide squeeze is performed.

10. RU wireline unit. NU 5000# frac valve with 3-1/2" pup joint flow tee. Run gamma ray / ccl correlation log. POOH. NU 70' of 3-1/2" lubricator. Under 5000# packoff head run 2-1/2" RTG with 4 SPF - 11 gr - 0.34" Owen charge at 180° phasing. Correlate setting depth with gamma ray and CCL. Perforation depths for second stage are 2005'-2007', 1954'-1963', and 1939'-1941'.

11. RU nitrogen unit. Pressure test surface lines to 5000 psi. Shut-in pipe rams. Pressure 3-1/2" tubing w/ nitrogen to 3750 psi, approximately 23,000 scf. (1.95 psi/ft frac gradient). Hold pressure for 3 minutes and monitor for any leak-off. Monitor casing for any pressure communication. Have all personnel on location a minimum of 100 ft from wellhead. Holding 3750 psi on well, perforate 2005'-2007', 1954'-1963', and 1939'-1941'.

12. Monitor pressure on well for 15 minutes. With pressure bled off, POOH with wireline. Shut-in frac valve. ND nitrogen unit. ND lubricator. Lay down 2-1/2" RTG.

13. NU flow back line. Flow well for 30 min on 1/2" choke. As well bleeds down increase choke size. Report flow rate every ten minutes. Take pitot gauge with well flowing to atmosphere.

14. Control well w/ minimal 2% KCL. Open pipe rams. Release 7" Lok-set packer. TOOH and lay down packer and 3-1/2" tubing.

15. TIH w/ 6-1/8" bit on six 4-3/4" drill collars and 2-3/8" tubing. Drill 7" CIBP @ 2070' w/ air and mist. CO to 2180'. Circulate hole clean with air. Take 1 hr pitot gauge. TOOH with bit, collars laying down and stand back tubing ~~laying~~.

16. TIH with pump-off plug on bottom, Model 'F' profile nipple one joint of bottom, and remaining 2-3/8", 4.7# 8rd EUE tubing. Land tubing at +/- 2140'. Run lockdown screws in on donut.

17. Nipple down BOP. Nipple up wellhead assembly.

18. Pump out plug. Blow hole clean for 1 hour. Take final pitot gauge up tubing. Shut in well. rig down.

19. Notify production operations that well is ready for production. Obtain 24 hr. dip-in pressure prior to first delivery.

Compiled By: Sean W. Woolverton 7/18/96
S. C. Woolverton
Production Engineer

Approved By: 7/18/96 7/18/96
J. W. Caldwell Drilling Superintendent

Vendors:

Plug and Abandonment: A Plus Well Service (325-2627)
Wireline Services: Basin Perforators (327-5244)
Tool Services: Baker Oil Tools (325-0216)

Engineer: Sean Woolverton (H) 326-4525, (W) 326-9837, (P) 326-8931

scw/SCW

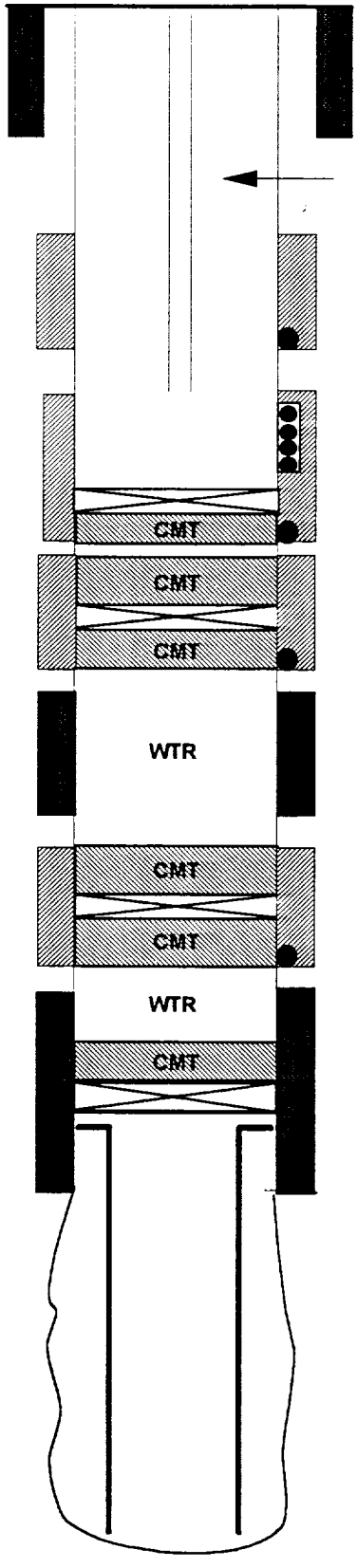
Huerfano Unit #4

AS OF 4/11/96

BASIN DAKOTA

UNIT F, SECTION 24, T26N, R10W, SAN JUAN COUNTY, NM

PROPOSED



SPUD 11/10/50
COMPLETED 7/12/51

OJO ALAMO @ 1210'

KIRTLAND @ 1372'

FRUITLAND COAL @ 1939'

PICTURED CLIFFS @ 2132'

MESAVERDE @ 3000'

GALLUP @ 5730'

DAKOTA @ 6605'

SHOT OPENHOLE W/ 374 QTS OF SNG FROM 6685'-6750'

17-1/2" HOLE

13-3/8" 36# CSG SET @ 556'
CMT W/550 SXS
CIRC. CMT TO SURFACE

2-3/8" 4.7# J-55 TBG @ 2100'

PLUG #5: 1160'-1422'
CMT W/67 SXS CLASS B
UNDER A PACKER
SQUEEZE HOLES @ 1422'

FRUITLAND COAL PERFORATIONS:
1939' - 2130'

PLUG #4: 1850'-2300'
CMT W/125 SXS CLASS B
7" CMT RETAINER @ 2260'
SQUEEZE HOLES @ 2300'

PLUG #3: 2950'-3050'
CMT W/55 SXS CLASS B
7" CMT RETAINER @ 3000'
SQUEEZE HOLES @ 3050'

SQUEEZED 7" @ 3975' - DURING ORGIN COMP
1ST STG - 130 SXS, 2ND STG - 100 SXS
3RD STG - 50 SXS.
TOC @ 3470' CALC @ 50%
LIFT FROM 1STG ONLY

PLUG #2: 5680'-5780'
CMT W/55 SXS CLASS B
7" CMT RETAINER @ 5730'
SQUEEZE HOLES @ 5780'

PLUG #1: 6290'-6340'
INSIDE PLUG CMT WITH 19 SXS CLASS B
7" CMT RETAINER @ 6340'

7" 20#, 22#, 24#, K-55, J-55, N-80 CSG
SET @ 6440' CMT W/160 SXS
TOC @ 6180' TEMP SURVEY

8-3/4" HOLE

5-1/2" 14# LINER SET @ 6776'
LINER TOP @ 6356'

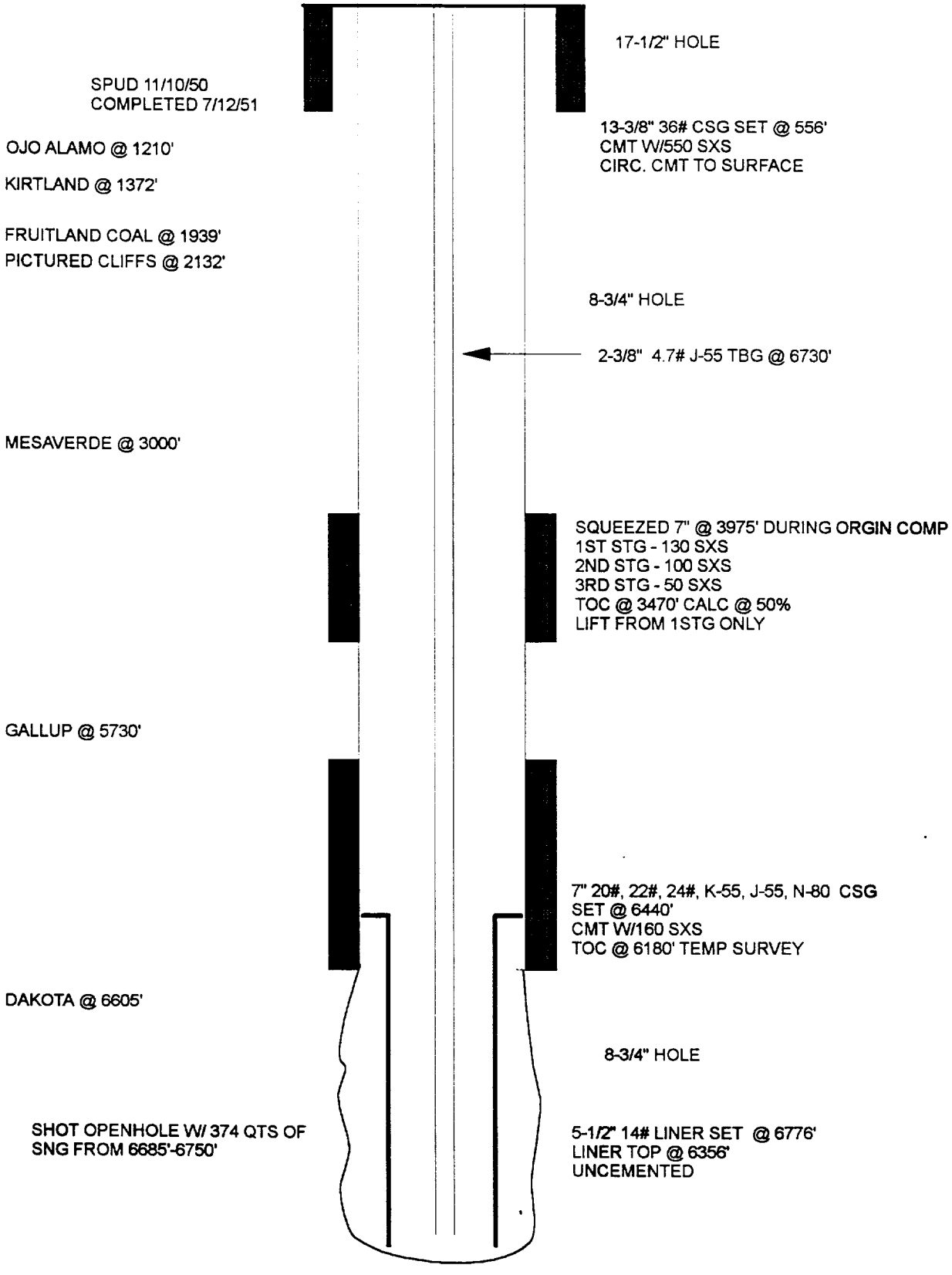
PBTD 6800'
TD 7072'

Huerfano Unit #4

AS OF 4/11/96

BASIN DAKOTA

UNIT F, SECTION 24, T26N, R10W, SAN JUAN COUNTY, NM



Pertinent Data Sheet - Huerfano Unit #4
Lat-Long: 36.475616 - 107.849289

Location: 1980' FNL, 1980' FWL, Unit F, Section 24, T-26-N, R-10-W

Field: Basin Fruitland Dakota **Elevation:** 6623' GL 6636' KB **TD:** 7072' **COTD:** 6800'

Spud Date: 11/10/50
Completed: 7/12/51
DP #: 50014A

Casing Record:

Hole Size	Casing Size	Weight & Grade	Depth Set	Cement	Top/Cement
17-1/2"	13-3/8"	36.00#	556'	550 sx	circ to surface
8-3/4"	7"	22.00#,23.00#,24.00# H-40, J-55, N-80	6440'	160 sx	5818' (calc @ 50%) 5680' (temp)
8-3/4"	5-1/2"		6356'-6776'	uncemented	

Tubing Record:

Tubing Size	Weight & Grade	Depth Set
2-3/8"	4.7# J-55	6730'

Formation Tops:

Ojo Alamo	1210'	Cliff House	3000'
Kirtland	1350'	Mancos	4700'
Fruitland Coal	1939'	Dakota	6605'
Pictured Cliffs	2120'	Morrison	6870'
Lewis	2250'		

Logging Record: Electric Log, Micro-Log, Temp, Mud-Log.

Stimulation: open hole completion - 374 qts SNG, 6685'-6750'

Workover History:

Squeezed 7" casing during original completion @ 3975'. Squeezed 3 stages for a total of 280 sxs. Assuming height of 1st stage squeeze of 130 sxs only, cement top is estimated at 3470' calculated at 50%.

Proposed workover 1/17/61 to cememt liner and frac Dakota. No records of notifaction in well file that workover occured.

Production History:

Cumulative Oil Production:	36.1 MBO
Cumulative Gas Production:	2,207 MMCF
Current Oil Production:	0 BBLS/D
Current Gas Production:	20 MCF/D

Transporter: El Paso Natural Gas Pipeline

United States Department of the Interior

BUREAU OF LAND MANAGEMENT
Farmington District Office
1235 La Plata Highway
Farmington, New Mexico 87401

IN REPLY REFER TO:

Attachment to Notice of

Intention to Workover

Re: Plug Back

Well: 4 Huerfano Unit

CONDITIONS OF APPROVAL

1. Move the Gallup plug from 5780'-5680' to 5670-5570. Perforate at 5670' and place the 55 sx cement plug. (top of Gallup @ 5620')

2. **Mike Flaniken** with the Farmington District Office is to be notified at least 24 hours before the workover operations commence (505) 599-8907.