

DATE IN 2/18/98	SUSPENSE 3/10/98	ENGINEER MS	LOGGED MV	TYPE NSL
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
- Engineering Bureau -

ADMINISTRATIVE APPLICATION COVERSHEET

THIS COVERSHEET IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS

Application Acronyms:

[NSP-Non-Standard Proration Unit] [NSL-Non-Standard Location]
[DD-Directional Drilling] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

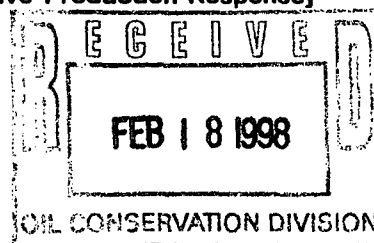
[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Directional Drilling
☒ NSL ☐ NSP ☐ DD ☐ SD

Check One Only for [B] and [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR



[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or ☐ Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☒ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☒ Notification and/or Concurrent Approval by BLM or SLO
U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

[3] INFORMATION / DATA SUBMITTED IS COMPLETE - Statement of Understanding

I hereby certify that I, or personnel under my supervision, have read and complied with all applicable Rules and Regulations of the Oil Conservation Division. Further, I assert that the attached application for administrative approval is accurate and complete to the best of my knowledge and where applicable, verify that all interest (WI, RI, ORRI) is common. I understand that any omission of data, information or notification is cause to have the application package returned with no action taken.

Note: Statement must be completed by an individual with supervisory capacity.

Peggy Bradfield

Print or Type Name

Signature

Regulatory/Compliance Administrator

Title

Date

2/16/98

BURLINGTON RESOURCES

SAN JUAN DIVISION

February 16, 1998

Federal Express

Mr. Michael Stogner
New Mexico Oil Conservation Division
2040 South Pacheco Street
Santa Fe, New Mexico 87505

Re: Huerfano Unit #103
990'FNL, 1650'FWL, Section 3, T-26-N, R-10-W, San Juan County, NM
API #30-045-06081

Dear Mr. Stogner:

This is a request for administrative approval for a non-standard gas well location in the Basin Fruitland Coal pool.

Burlington Resources Oil & Gas Company intends to recomplete the Huerfano Unit #103 in the Basin Fruitland Coal pool. The Gallup and Dakota formations will be plugged and abandoned. This location is considered off-pattern for Fruitland Coal. To comply with the New Mexico Oil Conservation Division rules, Burlington is submitting the following for your approval of this non-standard location:

1. C-102 plat showing location of the well;
2. Plat showing offset owners/operators;
3. Copy of Well Completion Log for original completion;
4. Affidavit of notification of offset owners/operators.

Three copies of this application are being submitted to all offset owners/operators by certified mail with a request that they furnish your Santa Fe office with a copy of Waiver of Objection, return one copy to this office, and retain one copy for their files.

Sincerely yours,



Peggy Bradfield
Regulatory/Compliance Administrator

WAIVER

_____ hereby waives objection to Burlington Resource's application for non-standard location for the Huerfano Unit #103 as proposed above.

By: _____ Date: _____

xc: Dugan Production
Little Oil & Gas Inc.

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-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-045		*Pool Code 71599, 71629, 2170	*Pool Name Basin Fruitland Coal Basin Dakota, Angels Peak Gallup
*Property Code 7138	*Property Name HUERFANO UNIT		*Well Number 103
*OGRID No. 14538	*Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY		*Elevation 6725'

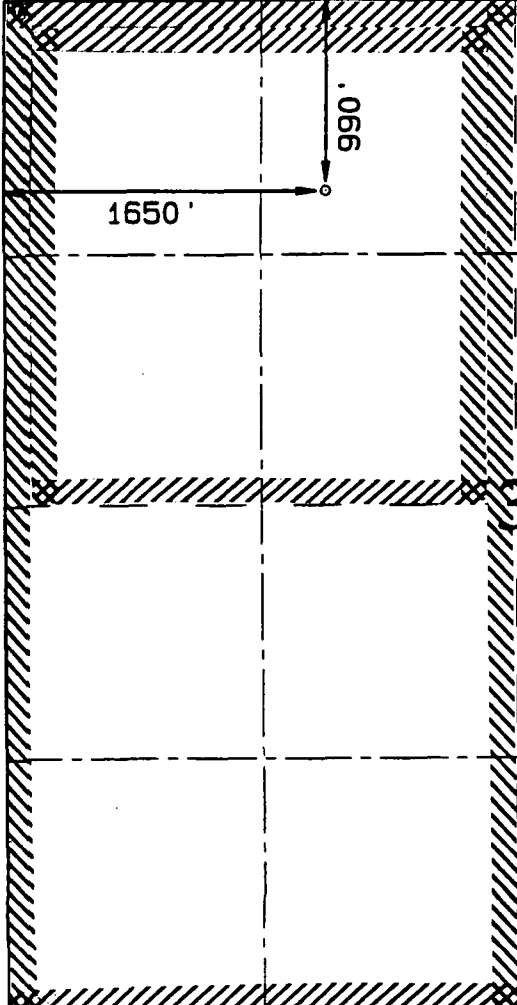
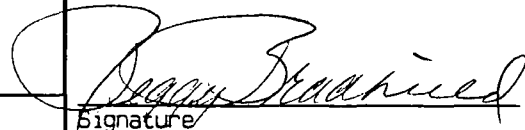


¹⁰ Surface Location

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	3	26N	10W		990	North	1650	West	SAN JUAN

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 GAL-160 FTC-W/319.25 DK-W/319.25		¹³ Joint or Infill W/319.25		¹⁴ Consolidation Code		¹⁵ Order No.			

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 OCTOBER 21, 1958 BY DAVID O. VILVEN.	<p>¹⁷ OPERATOR CERTIFICATION</p> <p>I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief</p> <p> Signature Peggy Bradfield Printed Name Regulatory Administrator Title Date</p>
		<p>¹⁸ SURVEYOR CERTIFICATION</p> <p>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.</p> <p>DECEMBER 17, 1997 Date of Survey</p> <p> Signature and Seal of Professional Surveyor</p> <p> Certificate Number</p>

BURLINGTON RESOURCES OIL AND GAS COMPANY

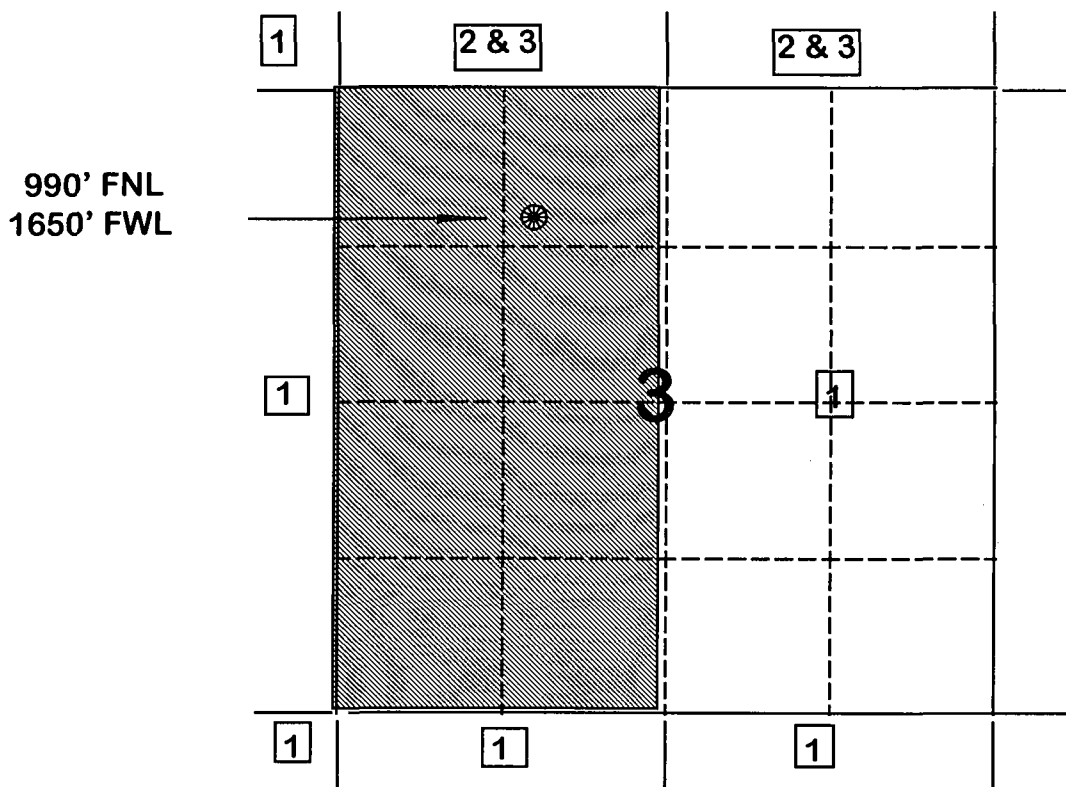
Huerfano Unit #103

OFFSET OPERATOR \ OWNER PLAT

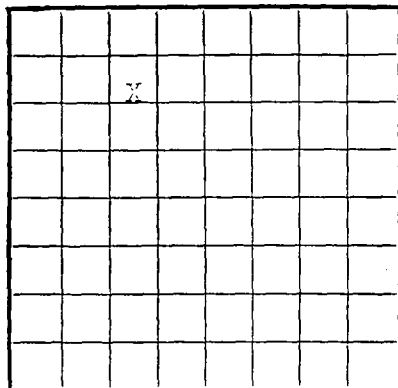
Non Standard Location

Basin Fruitland Coal Formation Well

Township 26 North, Range 10 West



- 1) Burlington Resources
- 2) Dugan Production Corp.
P.O. Box 420
Farmington, NM 87499
- 3) Little Oil & Gas, Inc.
P.O. Box 1258
Farmington, NM 87499



LOCATE WELL CORRECTLY

 U. S. LAND OFFICE Santa Fe
 SERIAL NUMBER 373267
 LEASE OR PERMIT TO PROSPECT _____

 UNITED STATES
 DEPARTMENT OF THE INTERIOR
 GEOLOGICAL SURVEY

LOG OF OIL OR GAS WELL

 Company El Paso Natural Gas Company Address Box 907, Farmington, New Mexico
 Lessor or Tract Huerfano Unit Field Angels Peak-Castle State New Mexico
 Well No. 103(GD) Sec. 3 T. 25N R. 10W Meridian N.M.P.M. County San Juan
 Location 990 ft. N of 1 Line and 165 ft. E of 1 Line of Section 3 Elevation 6735
 (Derrick floor relative to sea level)

The information given herewith is a complete and correct record of the well and all work done thereon so far as can be determined from all available records.

Signed J. J. TillersonDate February 23, 1959 Title Petroleum Engineer

The summary on this page is for the condition of the well at above date.

Commenced drilling 10-20-, 1958 Finished drilling 11-22-, 1958

OIL OR GAS SANDS OR ZONES

(Denote gas by G)

 No. 1, from 2388 to 2457 (G) No. 4, from 6232 to 6305 (G)
 No. 2, from 3263 to 3925 (G) No. 5, from 6055 to 7030 (G)
 No. 3, from 3926 to 4133 (G) No. 6, from _____ to _____

IMPORTANT WATER SANDS

 No. 1, from _____ to _____ No. 3, from _____ to _____
 No. 2, from _____ to _____ No. 4, from _____ to _____

CASING RECORD

Size casing	Weight per foot	Threads per inch	Make	Amount	Kind of shoe	Cut and pulled from	Perforated		Purpose
							From	To	
10 3/4"	32.75	P.E.	S.W.	352'	Howco				Surface
8 1/2"	23.40	P.E.	S.W.	6055'	Howco				Production
6 1/2"	14.7	8 Rd.	J-5	6055'	Howco				Prod. Str.
6 1/2"	14.7	8 Rd.	J-5	6232'	Howco				Prod. Str.

MUDDING AND CEMENTING RECORD

Size casing	Where set	Number sacks of cement	Method used	Mud gravity	Amount of mud used
10 3/4"	392'	400	Circulated		
8 1/2"	6055'	375	Big Stages		
6 1/2"	6333-7025'	380	Circulated		

PLUGS AND ADAPTERS

 Heaving plug—Material _____ Length _____ Depth set _____
 Adapters—Material _____ Size _____

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out
------	------------	----------------	----------	------	------------	-------------------

FOLD MARK

Casing	Weight	Number	Length	Amount of fluid used
3 1/2"	12'	100'	100'	
3 1/2"	12'	100'	100'	
3 1/2"	12'	100'	100'	

PLUGS AND ADAPTERS

Heaving plug—Material _____ Length _____ Depth set _____
 Adapters—Material _____ Size _____ Baker Model _____ Baker At #270'

SHOOTING RECORD

Size	Shell used	Explosive used	Quantity	Date	Depth shot	Depth cleaned out
		See Well History				

TOOLS USED

Rotary tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet
 Cable tools were used from _____ feet to _____ feet, and from _____ feet to _____ feet

DATES

December 3, 1958 Put to producing _____, 19____
 The production for the first 24 hours was 12.6 barrels of fluid of which 100% was oil; _____% emulsion; _____% water; and _____% sediment.

If gas well, cu. ft. per 24 hours _____

Gallons gasoline per 1,000 cu. ft. of gas _____

Rock pressure, lbs. per sq. in. _____

A.C.F. --- G-5327 MCF/D
D-5303

EMPLOYEES

_____, Driller _____, Driller
 _____, Driller _____, Driller

FORMATION RECORD

FROM—	TO—	TOTAL FEET	FORMATION
0	1346	1346	tan to gry cr-grn ss interbedded w/gry sh.
1346	1534	188	Ojo Alamo ss. White cr-grn s.
1534	2181	647	Kirtland 6' ss. Dry sh interbedded w/tight gry fine-grn ss.
2181	2330	207	Fruitland form. Dry carb sh, scattered coals, coals and gry, tight, fine-grn ss.
2330	2457	127	Pictured Cliffs form. Dry, fine-grn, tight, varicolored soft ss.
2457	3263	706	Lewis formation. Dry to white dense sh w/silty to shaly ss breaks.
3263	3926	663	Chacra form. Dry to grn silty, glauconitic sd spone with drk gry shale.
3926	4004	78	Cliff House ss. Dry, fine-grn, dense sil ss.
4004	4797	793	Menefee form. Dry, fine-grn s, carb sh & coal.
4797	4799	2	Point Lookout form. Dry, very fine sil ss w/frequent sh breaks.
4799	5232	433	Rancho formation. Dry carb sh.
5232	5356	124	Rucriano zone. Lt gry to brn calc carb micac plance very fine gry ss w/irreg. inter sh.
5356	5750	394	Sanastee 100m. Lrk gry calc very fine to fine gry ss w/calc veins w/irreg. inter drk gry s
5750	6012	262	Greenhorn form. Highly calc gry sh w/thin lmst
6012	6051	39	Graneros form. Drk gry shale, fossil & carb w/pyrite incl.
6051	6356	305	Dakota form. Lt to drk gry foss carb sh calc sh silty ss w/pyrite incl thin sh bands clay &
FROM—	TO—	FOOT LEVEL	(OVER) shale 100m

16-43094-4

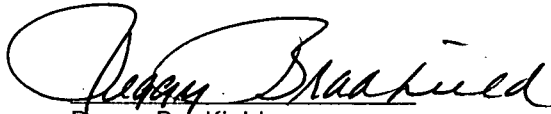
FORMATION RECORD—Continued

Re: Huerfano Unit #103
990'FNL, 1650'FWL, Section 3, T-26-N, R-10-W, San Juan County, NM
API #30-045-06081

Dugan Production Corporation
PO Box 420
Farmington, NM 87499

Little Oil & Gas, Inc.
PO Box 1258
Farmington, NM 87499

I hereby certify that the following offset owners/operators have been notified by certified mail of our application for administrative approval for non-standard well location of the above well.



Peggy Bradfield
Regulatory/Compliance Administrator

BEFORE THE OIL CONSERVATION COMMISSION
OF THE STATE OF NEW MEXICO

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

CASE NO. 1624
Order No. R-1366

APPLICATION OF EL PASO NATURAL GAS
COMPANY FOR AN ORDER AUTHORIZING A
DUAL COMPLETION IN THE ANGELS PEAK-
GALLUP OIL POOL AND IN THE DAKOTA
FORMATION ADJACENT TO THE ANGELS
PEAK-DAKOTA GAS POOL, SAN JUAN COUNTY,
NEW MEXICO.

ORDER OF THE COMMISSION

BY THE COMMISSION:

This cause came on for hearing at 9 o'clock a.m. on April 8, 1959, at Santa Fe, New Mexico, before E. J. Fischer, Examiner duly appointed by the Oil Conservation Commission of New Mexico, hereinafter referred to as the "Commission," in accordance with Rule 1214 of the Commission Rules and Regulations.

NOW, on this 13th. day of April, 1959, the Commission, a quorum being present, having considered the application, the evidence adduced and the recommendations of the Examiner, E. J. Fischer, and being fully advised in the premises,

FINDS:

(1) That due public notice having been given as required by law, the Commission has jurisdiction of this cause and the subject matter thereof.

(2) That the applicant, El Paso Natural Gas Company, is the operator of the Huerfano Unit Well No. 103, located 990 feet from the North line and 1650 feet from the West line of Section 3, Township 26 North, Range 10 West, NMPM, San Juan County, New Mexico.

(3) That the applicant proposes to dually complete the above-described Huerfano Unit Well No. 103 in such a manner as to permit production from the Angels Peak-Gallup Oil Pool and production from the Dakota formation adjacent to the Angels Peak-Dakota Gas Pool through parallel strings of 2-inch EUE tubing.

(4) That the mechanics of the proposed dual completion are feasible and in accord with good conservation practices.

(5) That approval of the subject application will not cause waste nor impair correlative rights.

Case No. 1624
Order No. R-1366

IT IS THEREFORE ORDERED:

That the applicant, El Paso Natural Gas Company, be and the same is hereby authorized to dually complete its Huerfano Unit Well No. 103, located 990 feet from the North line and 1650 feet from the West line of Section 3, Township 26 North, Range 10 West, NMPM, San Juan County, New Mexico, in such a manner as to permit production from the Angels Peak-Gallup Oil Pool and production from the Dakota formation adjacent to the Angels Peak-Dakota Gas Pool through parallel strings of 2-inch EUE tubing.

PROVIDED HOWEVER, That applicant shall complete, operate, and produce said well in accordance with the provisions of Section V, Rule 112-A.

PROVIDED FURTHER, That applicant shall take packer-leakage tests upon completion and annually thereafter during the Annual Deliverability Test Period for the Angels Peak-Dakota Gas Pool.

IT IS FURTHER ORDERED: That jurisdiction of this cause is hereby retained by the Commission for such further order or orders as may seem necessary or convenient for the prevention of waste and/or protection of correlative rights; upon failure of applicant to comply with any requirement of this order, after proper notice and hearing the Commission may terminate the authority hereby granted and require applicant or its successors and assigns to limit its activities to regular single-zone production in the interests of conservation.

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

STATE OF NEW MEXICO
OIL CONSERVATION COMMISSION

JOHN BURROUGHS, Chairman

MURRAY E. MORGAN, Member

A. L. PORTER, Jr., Member & Secretary

S E A L

ir/

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED
JAN 23 1998

(COAL 08)

Sundry Notices and Reports on Wells

98 JAN 23 AM 10:24

1. Type of Well
GAS

2. Name of Operator

**BURLINGTON
RESOURCES**

OIL & GAS COMPANY

3. Address & Phone No. of Operator

PO Box 4289, Farmington, NM 87499 (505) 326-9700

4. Location of Well, Footage, Sec., T, R, M

990' FNL, 1650' FWL, Sec. 3, T-26-N, R-10-W, NMPM

5. Lease Number

SF-078267

6. If Indian, All. or
Tribe Name

7. Unit Agreement Name

Huerfano Unit

8. Well Name & Number

Huerfano Unit #103

9. API Well No.

30-045-06081

10. Field and Pool

Basin Fruitland Coal
Angels Peak Gallup/
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

☒ Notice of Intent

☐ Abandonment

☐ Change of Plans

☐ Subsequent Report

☒ Recompletion

☐ New Construction

☒ Plugging Back

☐ Non-Routine Fracturing

☐ Casing Repair

☐ Water Shut off

☐ Final Abandonment

☐ Altering Casing

☐ Conversion to Injection

☐ Other -

13. Describe Proposed or Completed Operations

Attached is a revised procedure for the recompletion of the subject well to the Fruitland Coal formation. The Gallup and Dakota formations will be plugged and abandoned.

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

Signed *Duane W. Spenoer* (PMPOpps) Title Regulatory Administrator Date 1/22/98

(This space for Federal or State Office use)

APPROVED BY *AS/ Duane W. Spenoer* Title _____

Date JAN 29 1998

CONDITION OF APPROVAL, if any:

*Run CBL to find TOC about 2 7/8" Second Stage
to squeeze cement to cover 500' min above
Fruitland Perfs*

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer 00, 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, 1997
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

'API Number 30-045	'Pool Code 71599, 71629, 2170	'Pool Name Basin Fruitland C
'Property Code 7138	'Property Name HUERFANO UNIT	'Well Number 103
'OGRID No. 14538	'Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY	'Elevation 6725'

¹⁰ Surface Location

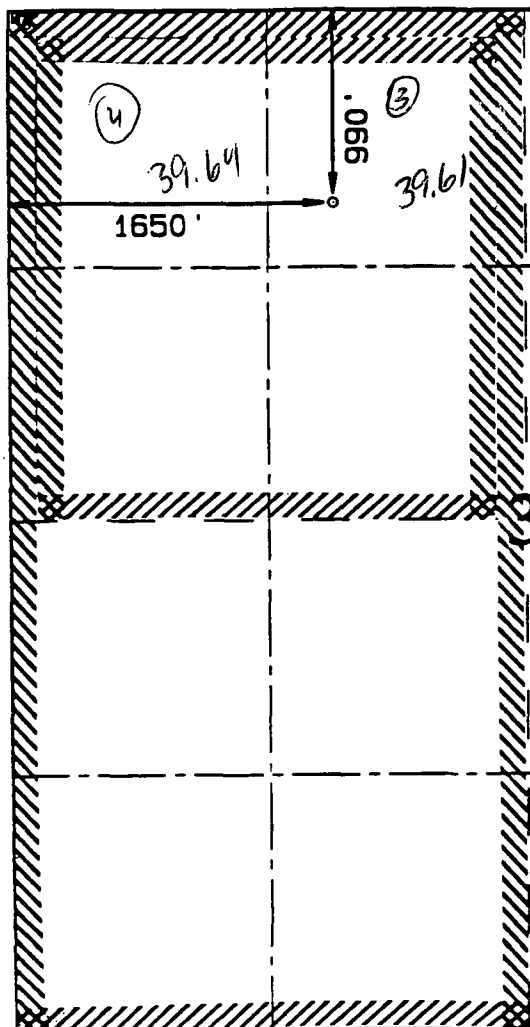
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	3	26N	10W		990	North	1650	West	SAN JUAN

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 GAL-160 FTC-W/319.25 DK-W/319.25	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No.
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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
OCTOBER 21, 1958 BY
DAVID O. VILVEN.

¹⁷ OPERATOR CERTIFICATION

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

Signature

Peggy Bradfield

Printed Name

Regulatory Administra

Title

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.

DECEMBER 17, 1997

Date of Survey

Signature and Seal of Professional Surveyor

Certificate Number



HUERFANO UNIT #103 FRTC
Recompletion Procedure
C 3 26 10
San Juan County, N.M.
Lat-Long: 36-31.30" - 107-63.17"

PROJECT SUMMARY: Plugback this 1958 vintage depleted dual Gallup/Dakota well to the FRTC and foam frac.

1. Comply to all NMOCD, BLM, and BROG rules and regulations. MOL and RU completion rig. NU 7-1/16" 3000 psi BOP w/flow tee and stripping head. Test operation of rams. NU blooie line and 2-7/8" relief line.
2. Pick up enough tbg to tag top of 7-5/8" Model "D" pkr @ 6270'. Clean off the top of 7-5/8" Model "D" pkr w/air/mist. Set blanking plug in S.N. of 2-3/8" tbg @ 6202' and pressure test tbg to 2000 psi. TOH w/2-3/8" tbg. Set blanking plug in S.N. of 2-3/8" tbg @ 6833' and pressure test tbg to 2000 psi. TOH w/2-3/8" tbg and 7-5/8" Baker Model "D" seal assembly at 6270'.
3. Run 7-5/8" csg scraper on 2-3/8" tbg to 6191'. TOH. Run 7-5/8" cmt retainer on 2-3/8" tbg and set @ 6191'. Sq DK and Gal perms w/210 sx cl "G" cmt. This will fill inside the pipe from 7000' to 6191' w/100% excess cmt. Sting out of ret and spot 5 sx cmt on top of cmt ret @ 6191'. Reverse out cmt. ~~TOH~~ PULH APPROX 60'.
4. Load hole w/water and pressure test to 800 psi. TOH.
5. Perf 2 sq holes @ 3976' (50' below top of MV). Establish rate into sq holes down csg at less than 800 psi. TIH w/7-5/8" cmt ret on 2-3/8" tbg and set @ 3876' (50' above top of MV). Sq perms w/61 sx cmt. This will fill outside and inside 7-5/8" csg 50' above and below the top of MV w/50% excess cmt. Sting out of cmt ret and spot 5 sx cmt on top ret. Reverse out cmt. TOH.
6. MI Blue Jet. Run CBL from 2590' (stg tool @ 2577') to 350' and an advanced integrated data processed GSL neutron log 2500'-2000' and correlate to attached open hole log. Pressure csg to 800 psi if necessary to see bond. Hot-shot logs to Mike Pippin (326-9848) so perms (and sq perms if necessary) can be picked.
7. Set 7-5/8" CIBP @ 2400' on wireline. Pressure test 7-5/8" csg and CIBP to 800 psi. TIH w/2-3/8" tbg open ended and spot 400 gal 15% HCL acid 2370'-2184'
All acid on this well to contain the following additives per 1000 gal:

2 gal	CI-22	corrosion inhibitor
5 gal	Ferrotrol-300L	iron control
1 gal	Flo-back 20	Surfactant
0.5 gal	Clay Master-5C	clay control
8. Using GSL log, Perf about 50' of FRTC w/2 spf from about 2370' to 2184'. Perf using 4" hollow steel carrier guns loaded w/Owen HSC 13 gm. charges phased at 180 degrees. Average perf dia. = 0.48". Average penetration is 18" in Berea.

HUERANO UNIT #103 FRTC - RECOMPLETE TO FRTC WELL

9. Fill 3 - 400 bbl. frac tanks with 1% KCL water. If necessary, filter all water to 25 microns. Two tanks are for gel and one tank for breakdown water. Usable gel water required for frac is 448 bbls.
10. TIH w/7-5/8" pkr on 3-1/2" 9.3# N-80 w/~~shaved collars~~ (4.25" O.D. 2.992" I.D.) rental frac string & set @ 2000'. W/ 500 psi on annulus, breakdown and attempt to balloff FRTC perfs w/1500 gal 15% HCL acid and 150% excess RCN 7/8" 1.3 sp gr perf balls. Use same acid additives as in step #7. Max. pressure is 3500 psi. Lower pkr to 2380' to knock off perf balls. Reset pkr @ 2100'.
11. Frac FRTC down frac string w/62,000 gals. of 70 quality foam using 30# gel as the base fluid and 120,000# 20/40 Arizona sand. Pump at 45 BPM. Monitor bottomhole and surface treating pressures, rate, foam quality, and sand concentration with computer van. Sand to be tagged w/ 3 RA isotope tracers. Max. pressure is 5000 psi and estimated treating pressure is 3950 psi. Pipe friction @ 45 BPM is 2822 psi. Treat per the following schedule:

Stage	Foam Vol. (Gals.)	Gel Vol. (Gals.)	Sand Vol. (lbs.)
Pad	12,000	3,600	---
1.0 ppg	10,000	3,000	10,000
2.0 ppg	20,000	6,000	40,000
3.0 ppg	10,000	3,000	30,000
4.0 ppg	10,000	3,000	40,000
Flush	(767)	(230)	0
Totals	62,000	18,600	120,000#

Treat frac fluid w/the following additives per 1000 gallons:

- * 30# J-48 (Guar Gel mix in full tank - 16,000 gal)
- * 1.0 gal. Aqua Flow (Non-ionic Surfactant mix in full tank)
- * 1.0# GVW-3 (Enzyme Breaker mix on fly)
- * 1.0# B - 5 (Breaker mix on fly)
- * 3.0 gal Fracfoam I (Foamer mix on fly)
- * 0.38# FracCide 20 (Bacteriacide mix on full tank)


12. Open well through choke manifold and monitor flow. Flow @ 20 bbl/hr. or less, if sand is observed. Take pitot gauges when possible. TOH w/pkr.
13. TIH w/notched collar on 2-3/8" tbg and C.O. to 2400' w/air/mist. Monitor gas and water returns and Take pitot gauges when possible.
14. When wellbore is sufficiently clean, TOH and run after frac gamma-ray log and perf eff log from 2400'-2000'.
15. TIH w/2-3/8" 4.7# J-55 EUE tbg w/standard seating nipple one joint off bottom and again cleanout to 2400'. When wellbore is sufficiently clean, land tbg @ 2300' KB. Take final water and gas samples and rates.
16. ND BOP and NU wellhead and tree. Rig down and release rig.

HUERANO UNIT #103 FRTC - RECOMPLETE TO FRTC WELL

Recommended:

 1/15/98
Production Engineer

Approved:

 1/22/98
Drilling Superintendent

Approved:

 1/21/98
Team Leader

VENDORS:

Wireline:	Blue Jet	325-5584
Fracturing:	Howco	325-3575
RA Tag:	Pro-Technics	326-7133

PMP

Pertinent Data Sheet - HUERFANO UNIT #103 FRTC

C 3 26 10

Location: 990' FNL & 1650' FWL, Unit C, Section 3, T26N, R10W, San Juan County, New Mexico

Field: Basin Fruitland Coal

Elevation: 6726' GL
KB=10'

TD: 7027'

PBTD: 7014'

Completion Date: 11/22/58

Lease#: Fed. SF-078267

Spud Date: 10/26/58

DP #: 53049C

GWl: 63.37%

NRI: 51.93%

Prop#:

Casing Record:

<u>Hole Size</u>	<u>Csg Size</u>	<u>Wt. & Grade</u>	<u>Depth Set</u>	<u>Cement</u>	<u>Cement (Top)</u>
15"	10-3/4"	32.75# S.W.	362'	400 sx	Circ Cmt
9-7/8"	7-5/8"	26.4# J-55	6446'	275 sx	4700' - Survey
		Stage Tool @	2577'	100 cf	2250' - Survey
6-3/4"	5-1/2"	17# J-55	6313'-7027'	130 cf	Circ Cmt

Initial Potential:

DK: AOF=5303 MCF/D; Q=4460 MCF/D; SICP=1087 PSI

Gal: AOF=5327 MCF/D; Q=3342 MCF/D; SICP=1809 PSI

Tubing Record:

(Dakota)	2-3/8"	4.7# J-55	6877'	220 Jt
		Baker Model "D" @	6270'	
		Bull Plug @	6867'	
		Rubber Jts @	6203'	
		S.N. @	6833'	
(Gallup)	2-3/8"	4.7# J-55	6238'	199 Jts
		Bull Plug @	6237'	
		Tbg Perfs @	6203'-6206'	
		S.N. @	6202'	

Formation Tops:

Ojo Alamo:	1346'	Chacra	3263'
Kirtland Shale:	1534	Cliffhouse	3926'
Fruitland:	2181	Point Lookout	4797'
Pictured Cliffs:	2388'	Gallup	5876'
		Dakota	6866'

Logging Record: Induction Log.

Stimulation: Perfed Dakota w/2 spf @ 6880'-88', 6924'-38', 6942'-52', 6958'-68', 6984'-7000' & fraced w/60,000# sand in oil.

Perfed Gallup w/4 spf @ 6241'-65' & fraced w/42,000# sand in oil

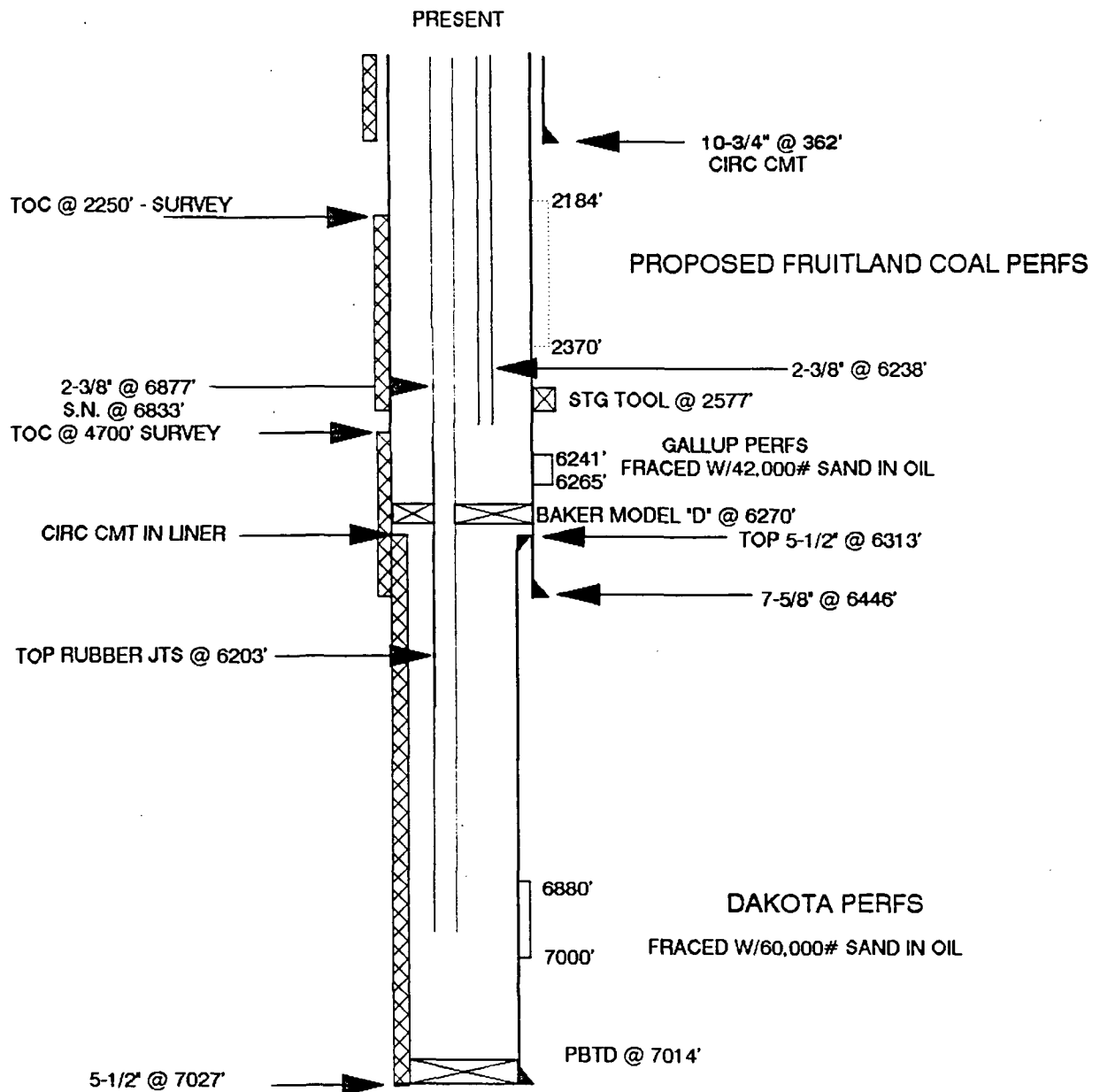
Workover History: NONE

Production History: DK cum=533 MMCF & 8386 BO. DK capacity = 0 MCF/D. Gallup cum = 1996 MMCF & 17,779 BO. Gallup capacity = 0 MCF/D. No DK or Gallup reserves are currently booked. See attached DK & Gallup production curve.

Pipeline: EPNG

HUERFANO UNIT #103 FRTC

UNIT C SECTION 3 T26N R10W
SAN JUAN COUNTY, NEW MEXICO





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 and Recomplete
Well: 103 Huerfano Unit**

CONDITIONS OF APPROVAL

1. Plug the Dakota Formation separately:

A. Place a cement plug inside the casing from PBTD to 6816' (top of Dakota @ 6866') by running the tubing thru the Model D packer and spotting the plug. (33 sks.) WOC and tag the top of cement. **or**

B. Drill the Model D packer out, run a CIBP and set at approximately 6830' and spot 100' of cement on top. (11 sks.)

2. Spot a cement plug from 6496' to 6270' inside the casing. (25 sks.) (7 5/8' shoe @ 6446', Liner top @ 6313'.)

3. Proceed with the Gallup plug. Extend the cement plug on top of the retainer or CIBP to 5817'. (top of Gallup @ 5877') Cement plug from 6191' to 5817'. (95sks.)

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