

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	2006 JUL 7 PM 3 49	5. Lease Number SF-078204
	RECEIVED	Unit Reporting Number
1b. Type of Well GAS	070 FARMINGTON, NM	6. If Indian, All. or Tribe
2. Operator BURLINGTON RESOURCES Oil & Gas Company		Unit Agreement Name
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87401 (505) 326-9700		8. Farm or Lease Name Sunray D
		9. Well Number #2F
4. Location of Well Unit A (NENE), 862' FNL & 1270' FEL, Lat. 36°48' 10.265" N Long. 107°53' 06.370" W	Lot 1	10. Field, Pool, Wildcat Basin DK
		11. Sec., Twn, Rge, Mer. (NMPM) A Sec. 21, T30N, R10W API # 30-045-33836
14. Distance in Miles from Nearest Town 7 Miles to Aztec		12. County San Juan
		13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 862'		
16. Acres in Lease		17. Acres Assigned to Well 326.44 E/H
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 340' Sunray D 2R		
19. Proposed Depth 7553'		20. Rotary or Cable Tools Rotary
21. Elevations (DF, FT, GR, Etc.) 6353' GL		22. Approx. Date Work will Start
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Regulatory Analyst</u>		Date <u>6/20/06</u>

PERMIT NO.

APPROVAL DATE

APPROVED BY

TITLE

DATE

Archaeological Report attached

Threatened and Endangered Species Report attached

NOTE: This format is issued in lieu of U.S. BLM Form 3160-3

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully to make to any department or agency of the United States any false, fictitious or fraudulent statements or presentations as to any matter within its jurisdiction.

This well is NOT in the HPA area.

NMOCD

DRILLING OPERATIONS AUTHORIZED ARE
SUBJECT TO COMPLIANCE WITH ATTACHED
"GENERAL REQUIREMENTS".

This action is subject to technical and
procedural review pursuant to 43 CFR 3165.3
and appeal pursuant to 43 CFR 3165.4

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1001 W. Grand Avenue, Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

1220 S. St. Francis Dr., Santa Fe, NM 87505

State of New Mexico
Energy, Minerals & Natural Resources Department
OIL CONSERVATION DIVISION
1220 South St. Francis Dr.
Santa Fe, NM 87505

Fee Lease - 3 Copies
State Lease - 7 Copies
Submit to Appropriate District Office
Revised June 10, 2003
Form C-102

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-045- 33836	² Pool Code 71599	³ Pool Name Basin Dakota (Prorated Gas)
⁴ Property Code 7566	⁵ Property Name SUNRAY D	⁶ Well Number 2F
⁷ OGRID No. 14538	⁸ Operator Name BURLINGTON OIL AND GAS COMPANY LP	⁹ Elevation 6353.0'

¹⁰ SURFACE LOCATION

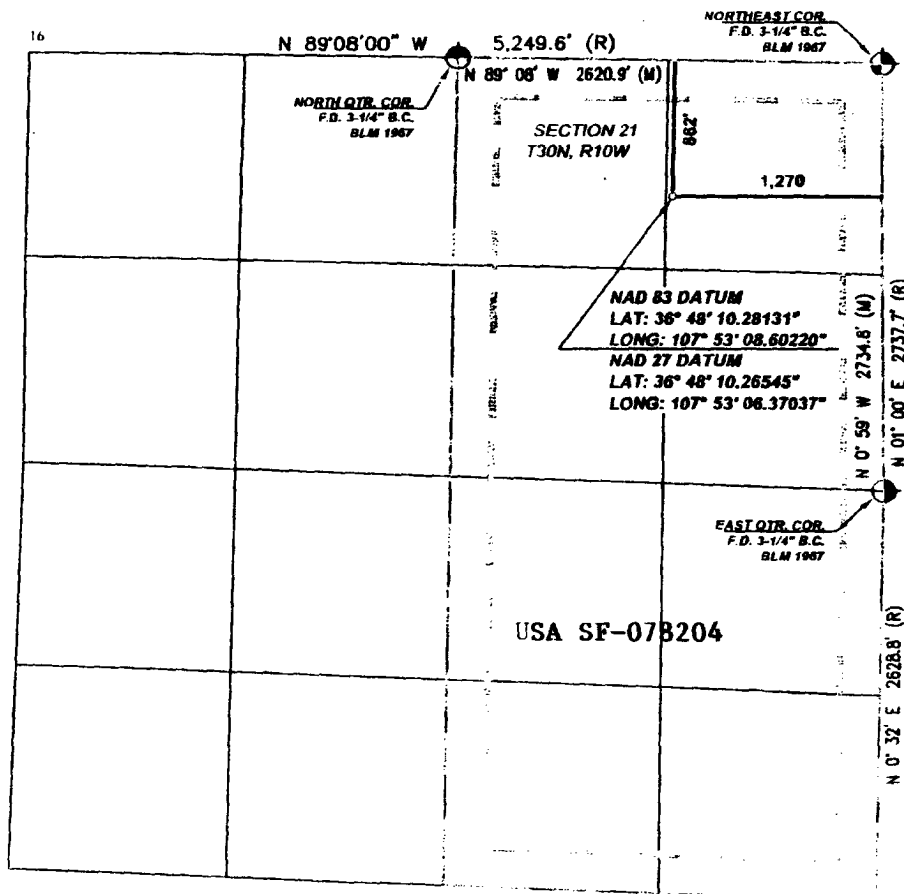
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
A	21	30-N	10-W	(1)	862	NORTH	1270	EAST	SAN JUAN

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
A									

¹² Dedicated Acres 326.44	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

¹⁷ OPERATOR CERTIFICATION

I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief, and that this organization either owns a working interest or unleased mineral interest in the land including the proposed bottom hole location or has a right to drill this well at this location pursuant to a contract with an owner of such a mineral or working interest, or to a voluntary pooling agreement or a compulsory pooling order heretofore entered by the division.

Philana Thompson
Signature

Philana Thompson
Printed Name

Regulatory Analyst

Title and E-mail Address **PThompson@br-inc.com**

6/9/2006

Date

¹⁸ SURVEYOR CERTIFICATION

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

Date of Survey **5/20/06**

Signature and Seal of Professional Surveyor

Philana Thompson
Signature

Certificate Number: **NP-14302**

8

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1301 W. Grand Ave., Artesia, NM 88210

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1000 Rio Brazos Rd., Aztec, NM 87410

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1220 S. St. Francis Dr., Santa Fe, NM 87505

Energy, Minerals and Natural Resources

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.
Santa Fe, NM 87505

May 27, 2004

SUNDRY NOTICES AND REPORTS ON WELLS (DO NOT USE THIS FORM FOR PROPOSALS TO DRILL OR TO DEEPEN OR PLUG BACK TO A DIFFERENT RESERVOIR. USE "APPLICATION FOR PERMIT" (FORM C-101) FOR SUCH PROPOSALS.)		WELL API NO. 30-045- 33836
1. Type of Well: Oil Well <input type="checkbox"/> Gas Well <input checked="" type="checkbox"/> Other <input type="checkbox"/>		5. Indicate Type of Lease STATE <input type="checkbox"/> FEE <input type="checkbox"/>
2. Name of Operator BURLINGTON RESOURCES OIL & GAS COMPANY LP		6. State Oil & Gas Lease No. SF-078204
3. Address of Operator 3401 E. 30TH STREET, FARMINGTON, NM 87402		7. Lease Name or Unit Agreement Name Sunray D
4. Well Location Unit Letter <u>A</u> : <u>862</u> feet from the <u>North</u> line and <u>1270</u> feet from the <u>East</u> line Section <u>21</u> Township <u>30N</u> Range <u>10W</u> NMPM County <u>San Juan</u>		8. Well Number #2F
11. Elevation (Show whether DR, RKB, RT, GR, etc.) 6353' GL		9. OGRID Number 14538
Pit or Below-grade Tank Application <input type="checkbox"/> or Closure <input type="checkbox"/>		10. Pool name or Wildcat Basin Dakota
Pit type <u>New Drill</u> Depth to Groundwater <u>>100'</u> Distance from nearest fresh water well <u>>1000'</u> Distance from nearest surface water <u>2200'</u> Pit Liner Thickness: <u>12</u> mil Below-Grade Tank: <u>Volume</u> bbls; Construction Material <u>1000'</u>		

12. Check Appropriate Box to Indicate Nature of Notice, Report or Other Data

NOTICE OF INTENTION TO:

PERFORM REMEDIAL WORK ☐
 TEMPORARILY ABANDON ☐
 PULL OR ALTER CASING ☐
 PLUG AND ABANDON ☐
 CHANGE PLANS ☐
 MULTIPLE COMPL ☐

SUBSEQUENT REPORT OF:

REMEDIAL WORK ☐
 COMMENCE DRILLING OPNS. ☐
 CASING/CEMENT JOB ☐
 ALTERING CASING ☐
 P AND A ☐

OTHER: New Drill ☒

OTHER: ☐

13. Describe proposed or completed operations. (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work). SEE RULE 1103. For Multiple Completions: Attach wellbore diagram of proposed completion or recompletion.

New Drill, Lined:

Burlington Resources proposes to construct a new drilling pit and an associated vent/flare pit. Based on Burlington's interpretation of the Ecosphere's risk ranking criteria, the new drilling pit will be a lined pit as detailed in Burlington's Revised Drilling / Workover Pit Construction / Operation Procedures dated November 11, 2004 on file at the NMOCDC office. A portion of the vent/flare pit will be designed to manage fluids and that portion will be lined as per the risk ranking criteria. Burlington Resources anticipates closing these pits according to the Drilling / Workover Pit Closure Procedure dated August 2, 2004 on file at the NMOCDC office.

I hereby certify that the information above is true and complete to the best of my knowledge and belief. I further certify that any pit or below-grade tank has been/will be constructed or closed according to NMOCDC guidelines ☐, a general permit ☒, or an (attached) alternative OCD-approved plan ☐.

SIGNATURE Philana Thompson TITLE Regulatory Analyst DATE 6/28/2006

Type or print name Philana Thompson E-mail address: pthompson@br-inc.com Telephone No. 505-326-9530

For State Use Only

APPROVED BY [Signature] TITLE DEPUTY OIL & GAS INSPECTOR, DIST. IV DATE JUL 26 2006

Conditions of Approval (if any):

BURLINGTON RESOURCES OIL & GAS COMPANY LP

SUNRAY D 2F

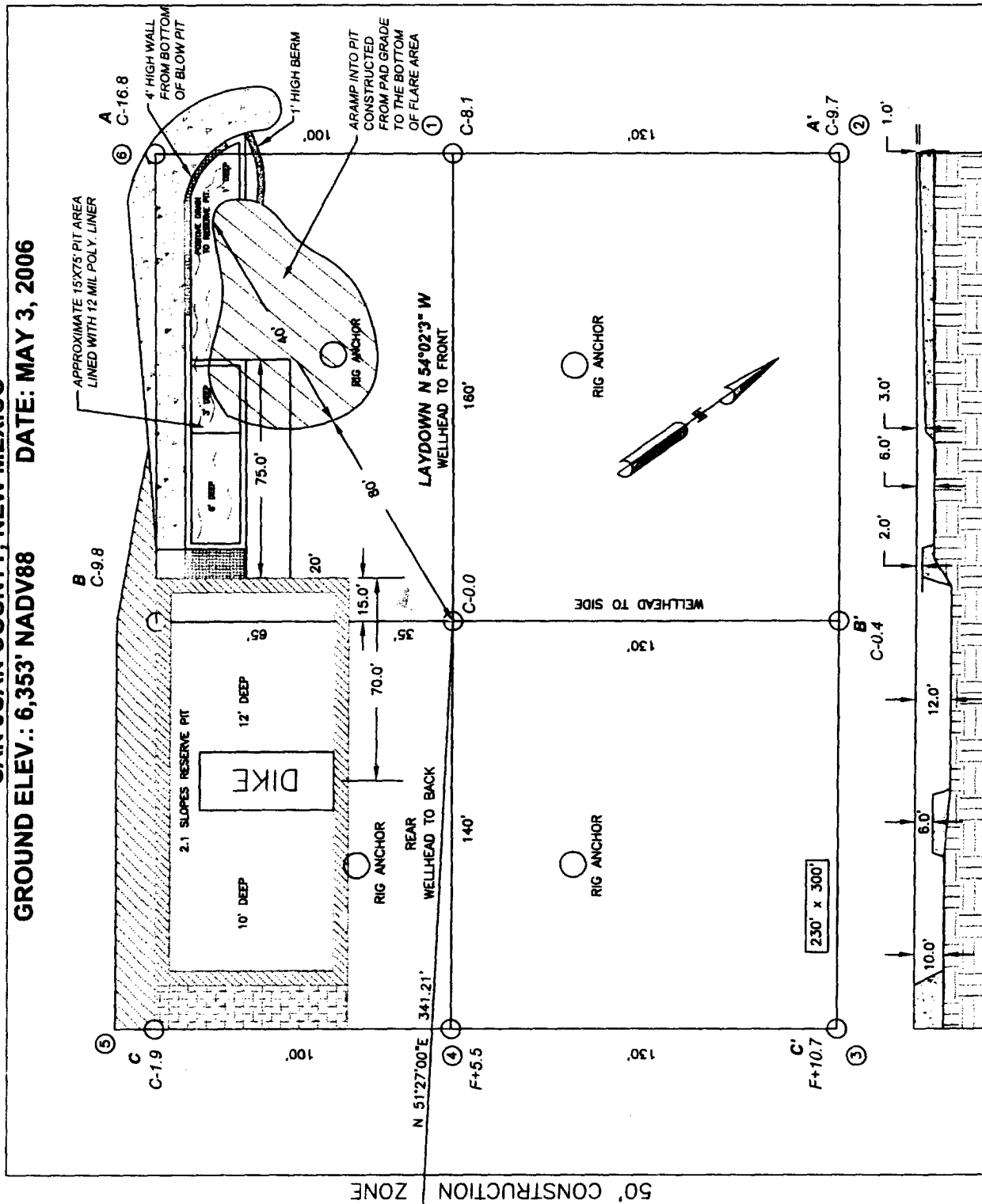
862' FNL, 1,270' FEL

SECTION 21, T30N, R10W,

SAN JUAN COUNTY, NEW MEXICO

GROUND ELEV.: 6,353' NADV88

DATE: MAY 3, 2006



330' x 400' = 3.03 ACRES

PIT CROSS SECTION

1300 W. BROADWAY
BLOOMFIELD, NM, 87413
PHONE (505) 632-7777

CHEVAULT CONSULTING INC.

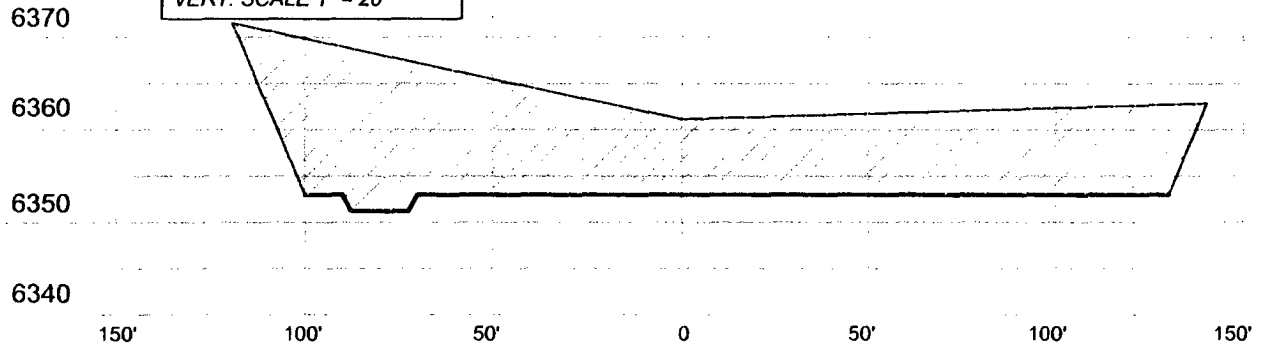
NOTE: C.C.I. SURVEYS IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

BURLINGTON RESOURCES OIL & GAS COMPANY LP
SUNRAY D 2F
 862' FNL, 1,270' FEL
 SECTION 21, T30N, R10W,
 SAN JUAN COUNTY, NEW MEXICO
 GROUND ELEV.: 6,353' NADV88 DATE: MAY 3, 2006

A - A'

C/L

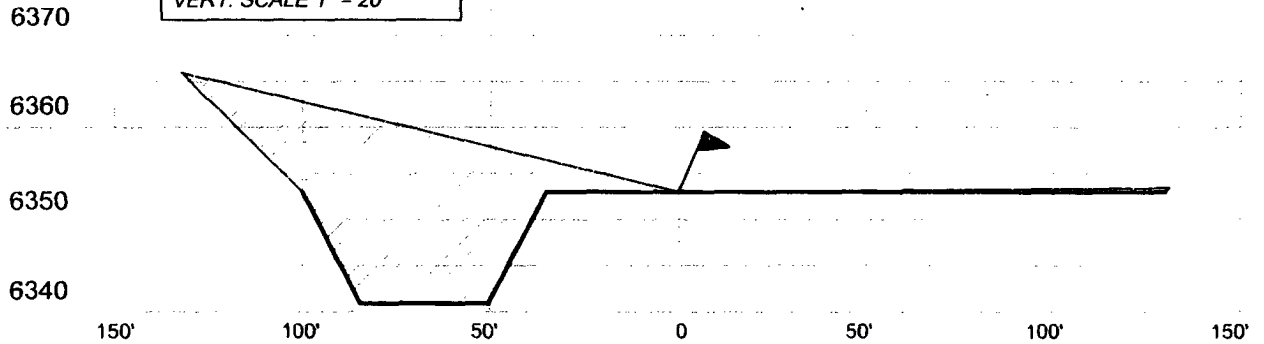
HORIZ. SCALE 1" = 50'
 VERT. SCALE 1" = 20'



B - B'

C/L

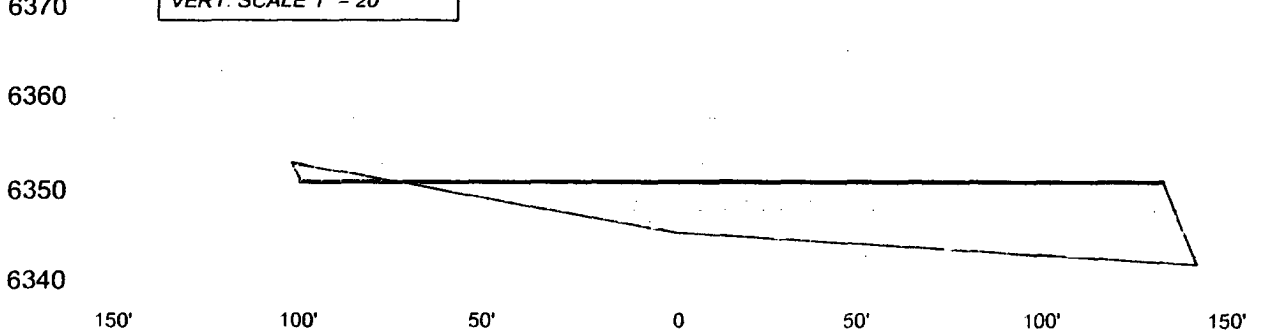
HORIZ. SCALE 1" = 50'
 VERT. SCALE 1" = 20'



C - C'

C/L

HORIZ. SCALE 1" = 50'
 VERT. SCALE 1" = 20'



NOTE: CCI IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.

CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD PRIOR TO CONSTRUCTION.

REVISIONS

NO.	DESCRIPTION	REVISED BY	DATE

CCI

1300 W. BROADWAY
 BLOOMFIELD, NM, 87413
 PHONE: (505) 632-7777

CHENAULT CONSULTING INC.

OPERATIONS PLAN

Well Name: Sunray D #2F
Location: 962' FNL & 1270' FEL, Section -30N-10W
San Juan County, New Mexico
Formation:
Elevation: Basin Dakota
6353' GL

Surface	San Jose		
Surface	San Jose	1666'	
Ojo Alamo	1666'	1739'	aquifer
Kirtland	1739'	2559'	gas
Fruitland Coal	2559'	2968'	gas
Pictured Cliffs	2968'	3099'	gas
Lewis	3099'	3681'	
Huerfanito Bentonite	3681'		
Chacra	3939'	4596'	gas
Massive Cliff House	4596'	4737'	gas
Menefee	4737'	5236'	gas
Massive Point Lookout	5236'	5627'	gas
Mancos Shale	5627'	6469'	
Gallup	6469'	7213'	gas
Greenhorn	7213'	7263'	gas
Graneros	7263'	7312'	gas
Two Wells	7312'	7453'	gas
Cubero	7453'	7553'	gas
Total Depth:	7553'		gas

Logging Program:

Mud Logs/Coring/DST

Mud logs - none
Coring - none
DST - none
Open hole - none
Cased hole - Gamma Ray, CBL - surface to TD

Mud Program:

<u>Interval</u>	<u>Type</u>	<u>Weight</u>	<u>Vis.</u>	<u>Fluid Loss</u>
0 - 120'	Spud MUD/Air/Air Mist	8.4 - 9.0	40 - 50	no control
120- 3199'	LSND	8.4 - 9.0	30 - 60	no control
3199' - 7553'	Air/Air Mist/Nitrogen	n/a	n/a	n/a

Casing Program (as listed, the equivalent, or better):

<u>Hole Size</u>	<u>Depth Interval</u>	<u>Csq.Size</u>	<u>Wt.</u>	<u>Grade</u>
12 1/4"	0' - 120'	9 5/8"	32.3#	H-40
8 3/4"	0' - 3199'	7"	20/23#	J-55
6 1/4"	0' - 7553'	4 1/2"	10.5# /11.6#	J-55

Tubing Program:

<u>Depth Interval</u>	<u>Csq.Size</u>	<u>Wt.</u>	<u>Grade</u>
0' - 7553'	2 3/8"	4.7#	J-55

BOP Specifications, Wellhead and Tests:

Surface to Intermediate TD -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out surface casing, BOPE and casing will be tested to 600 psi for 30 minutes.

Intermediate TD to Total Depth -

11" 2000 psi minimum double gate BOP stack (Reference Figure #1). After nipple-up prior to drilling out intermediate casing, BOPE and casing will be tested to 1500 psi for 30 minutes.

Surface to Total Depth -

2" nominal, 2000 psi minimum choke manifold (Reference Figure #3).

Completion Operations -

7 1/16" 2000 psi double gate BOP stack (Reference Figure #2). After nipple-up prior to completion, pipe rams, casing and liner top will be tested to 2000 psi for 15 minutes.

Wellhead -

9 5/8" x 7" x 4 1/2" x 2 3/8" x 2000 psi tree assembly.

General -

- Pipe rams will be actuated once each day and blind rams will be actuated once each trip to test proper functioning.
- An upper kelly cock valve with handle available and drill string valves to fit each drill string will be available on the rig floors at all times.
- BOP pit level drill will be conducted weekly for each drill crew.
- All BOP tests & drills will be recorded in daily drilling reports.
- Blind and pipe rams will be equipped with extension hand wheels.

Cementing:

9 5/8" surface casing -

Pre-Set Drilled - Cement with 23 sx Type I, II cement with 20% flyash mixed at 14.5 ppg, 1.61 cu ft per sack yield. (38 cu ft of slurry, bring cement to surface) Wait on cement for 24 hours for pre-set holes before pressure testing or drilling out from under surface.

Conventionally Drilled - Cement with 88 sx Type III cement with 0.25 pps Celloflake, 2% CaCl. (113 cu ft of slurry, 200% excess, bring cement to surface) Wait on cement for 8 hrs for conventionally set holes before pressure testing or drilling out from under surface. Wait on cement appropriate time until cement achieves 250 psi compressive strength at 60 degrees F. prior to nipple up of BOPE. Wait on cement for 8 hrs for conventionally set holes before pressure testing or drilling out from under surface. Test casing to 600 psi for 30 minutes.

Saw tooth guide shoe on bottom. Bowspring centralizers will be run in accordance with Onshore Order #2.

7" intermediate casing -

Lead with 277 sacks Premium Lite cement with 3% calcium chloride, 0.25 pps Celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate. Tail w/90 sacks Type III cmt w/1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss (124 cu ft 50% excess to circulate to surface). WOC minimum of 8 hours before drilling out intermediate casing. If cement does not circulate to surface, a CBL or a temperature survey will be run to determine TOC. Test casing to 1500 psi for 30 minutes.

7" intermediate casing alternative two stage -

Stage collar set 300' above the top of the Fruitland. First stage: Lead w/41 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss. Tail w/90 sxs Type III cmt w/1% calcium chloride, 0.25 pps Celloflake, 0.2% fluid loss. Second stage: 236 sacks Premium Lite cement with 3% calcium chloride, .25 pps celloflake, 5 pps LCM-1, 0.4% fluid loss, 0.4% sodium metasilicate (715 cu ft - 50% excess to circulate to surface).

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. Bowspring centralizers spaced every other joint off bottom, to the base of the Ojo Alamo @ 1666'. Two turbolating centralizers at the base of the Ojo Alamo @ 1666'. Bowspring centralizers spaced every fourth joint from the base of the Ojo Alamo to the base of the surface casing.

4 1/2" Production Casing -

Pump 285 sxs Premium Lite HS FM w/0.25 pps celloflake, 0.3% CD-32, 6.25 pps LCM-1, 1% fluid loss, 6% gel, 7 pps CSE (592 cu.ft., 30% excess to achieve 100' overlap in 4-1/2" x 7" annulus). WOC a minimum of 18 hrs prior to completing.

Cementing: Continued

Cement float collar stacked on top of float shoe.

Note: If open hole logs are run, cement volumes will be based on 25% excess over caliper volumes.

Cement nose guide shoe on bottom with float collar spaced on top of shoe joint. The liner hanger will have a rubber packoff.

- If hole conditions permit, an adequate water spacer will be pumped ahead of each cement job to prevent cement/ mud contamination or cement hydration.

Special Drilling Operations (Air/Mist Drilling):

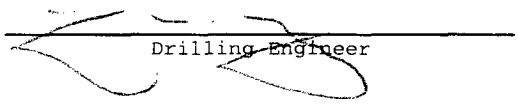
The following equipment will be operational while air/mist drilling:

- An anchored blooie line will be utilized to discharge all cuttings and circulating medium to the blow pit a minimum of 100' from the wellhead.
- The blooie line will be equipped with an automatic igniter or pilot light.
- Compressors will be located a minimum of 100' from the wellhead in the opposite direction from the blooie line.
- Engines will have spark arresters or water cooled exhaust.
- The rotating head will be properly lubricated and maintained.
- A float valve will be utilized above the bit.
- Mud circulating equipment, water, and mud materials will be sufficient to maintain control of the well.

Additional Information:

- The Dakota formation will be completed.
- No abnormal temperatures or hazards are anticipated.
- Anticipated pore pressures are as follows:

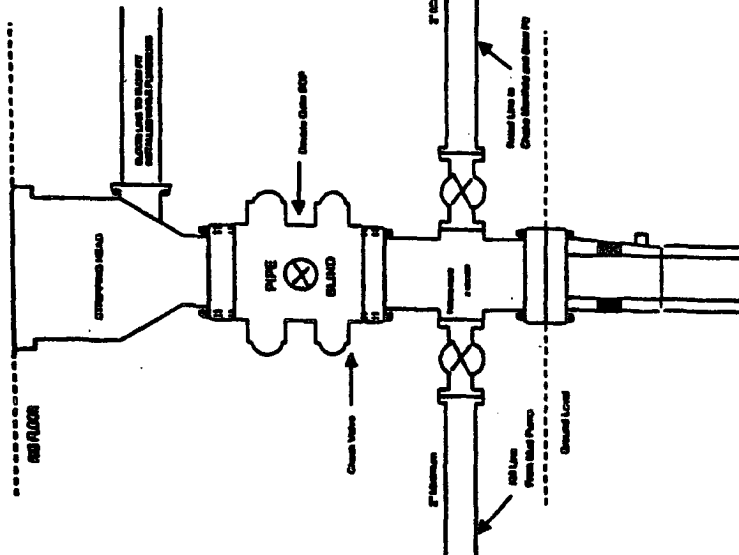
Fruitland Coal	300 psi
Pictured Cliffs	600 psi
Mesa Verde	700 psi
Dakota	2000 psi
- Sufficient LCM will be added to the mud system to maintain well control, if lost circulation is encountered below the top of the Pictured Cliffs.
- The West half of Section 15 is dedicated to the Dakota formation.
- This gas is dedicated.


Drilling Engineer

7/5/06
Date

BURLINGTON RESOURCES

Completion/Workover Rig
BOP Configuration
2,000 psi System

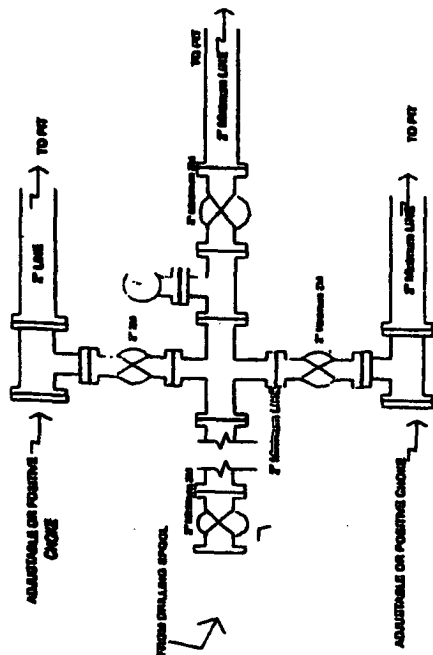


Minimum BOP installation for all Completion/Workover Operations. 7-1/16" bore, 2000 psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A stripping head to be installed on the top of the BOP. All BOP equipment is 2000 psi working pressure or greater excluding 500 psi stripping head.

Figure #2

BURLINGTON RESOURCES

Drilling Rig
Choke Manifold Configuration
2000 psi System

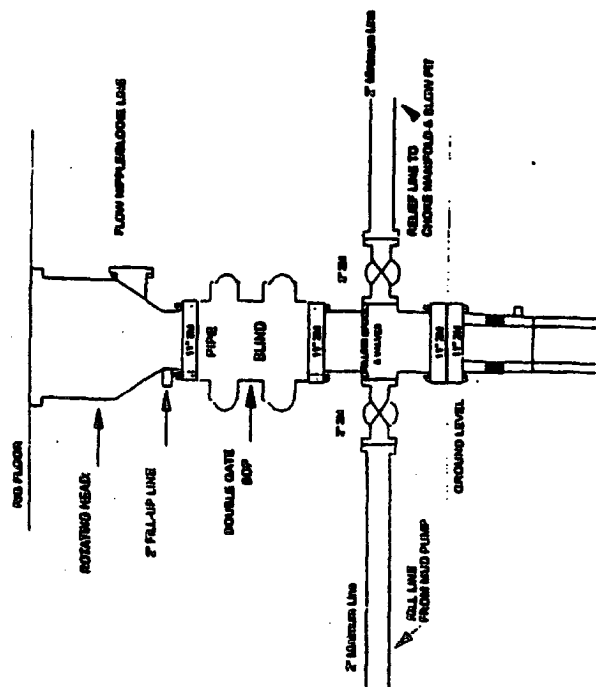


Choke manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two chokes.

Figure #3

Burlington Resources

Drilling Rig
2000 psi System



BOP installation from Surface Casing Point to Total Depth. 1 1/2" Bore 10" Nominal, 2000 psi working pressure double gate BOP to be equipped with blind rams and pipe rams. A 500 psi stripping head on top of ram preventers. All BOP equipment is 2,000 psi working pressure.

Figure #1