

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RCVD OCT 24 06
OIL CONS. DIV.
DIST. 3

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	2006 SEP 14 PM 4 34 RECEIVED 070 FARMINGTON NM	5. Lease Number SF-078208 Unit Reporting Number
1b. Type of Well GAS		6. If Indian, All. or Tribe
2. Operator BURLINGTON RESOURCES Oil & Gas Company, LP		7. Unit Agreement Name Sunray B
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499 (505) 326-9700		8. Farm or Lease Name 9. Well Number # 2M
4. Location of Well Surf Unit E (SWNW), 1550' FNL & 225' FWL, Bott Unit C (NENW), 660' FNL, 1345' FWL Latitude 36° 50.6239'N, Longitude 107° 50.4953'W Latitude 36° 50.7774'N, Longitude 107° 50.2743'W		10. Field, Pool, Wildcat Blanco MesaVerde/Basin Dakota 11. Sec., Twn, Rge, Mer. (NMPM) E Sec. 1, T30N, R10W API # 30-045-33937
14. Distance in Miles from Nearest Town 11.7 miles to Navajo Dam Post Office	12. County San Juan	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 255'		
16. Acres in Lease	17. Acres Assigned to Well 256.510 Acres MV/DK W/2	
18. Distance from Proposed Location to Nearest Well, Drig, Compl, or Applied for on this Lease 139'		
19. Proposed Depth 7970'	20. Rotary or Cable Tools Rotary	
21. Elevations (DF, FT, GR, Etc.) 6635' GR	22. Approx. Date Work will Start OCT 2006	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Amanda S. Smith</u> Regulatory Analyst		9-13-06 Date

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

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

NMOC

DISTRICT I
1625 N. French Dr., Hobbs, N.M. 88240

DISTRICT II
1301 W. Grand Ave., Artesia, N.M. 88210

DISTRICT III
1000 Rio Brazos Rd., Aztec, N.M. 87410

DISTRICT IV
1220 South 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

Form C-102

Revised October 12, 2005

Submit to Appropriate District Office

State Lease - 4 Copies

Fee Lease - 3 Copies

☐ AMENDED REPORT

2006 SEP 14 PM 4 34

WELL LOCATION AND ~~ACREAGE~~ DEDICATION PLAT

¹ API Number 30-045-33937	² Pool Code 72319/71599	³ Pool Name Blanco Mesaverde/ Basin Dakota
⁴ Property Code 7563	⁵ Property Name SUNRAY B	⁶ Well Number 2M
⁷ OGRID No. 14538	⁸ Operator Name BURLINGTON RESOURCES OIL & GAS COMPANY LP	⁹ Elevation 6635

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
E	1	30-N	10-W	9	1550	NORTH	255	WEST	SAN JUAN

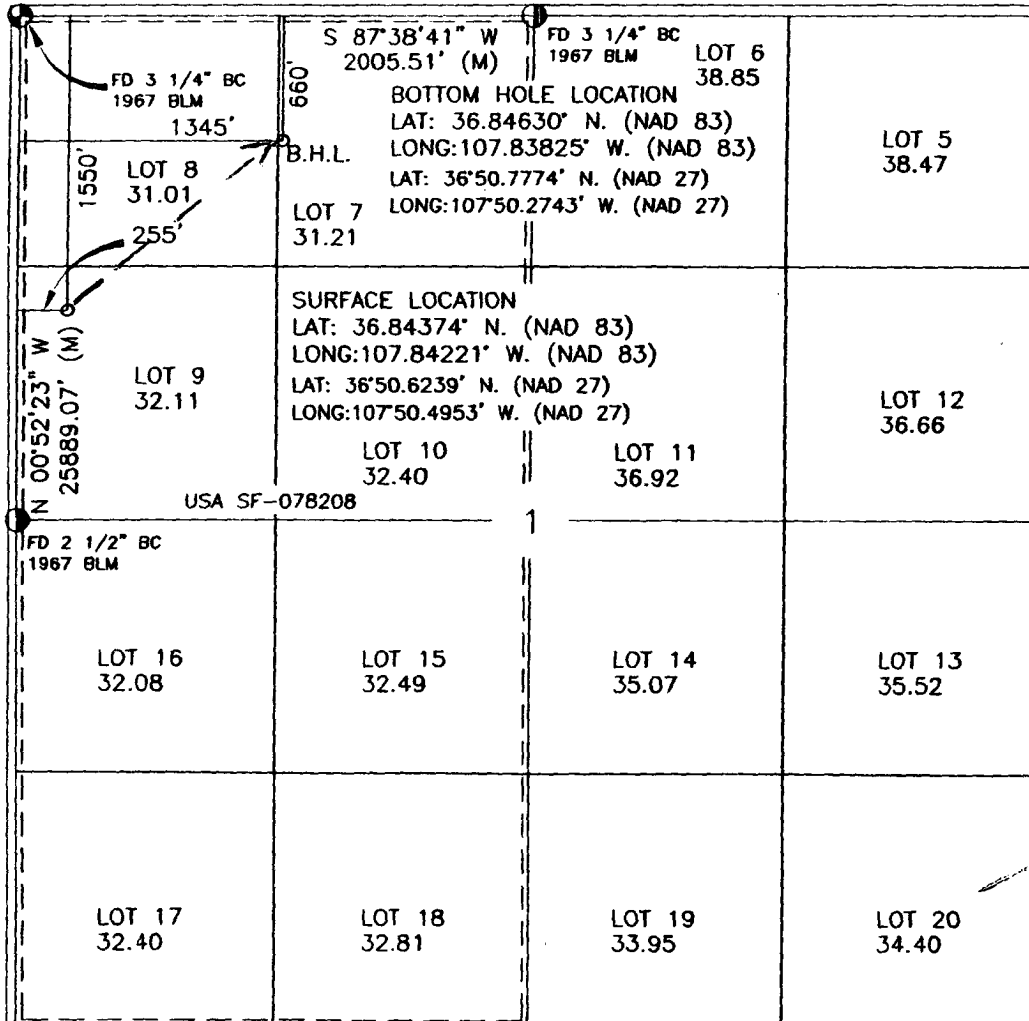
¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
C	1	30-N	10-W	7	660	NORTH	1345	WEST	SAN JUAN

¹² Dedicated Acres E2 356.61 MV/DK	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

18



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.

Amanda Sanchez 6-13-06
Signature Date
Amanda Sanchez
Printed Name

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.

MARCH 16, 2006

Date of Survey

Signature of Surveyor

JOHN VUKONICH
NEW MEXICO
14831
REGISTERED PROFESSIONAL SURVEYOR
Certificate Number

Office

Energy, Minerals and Natural Resources

May 27, 2004

District I

1625 N. French Dr., Hobbs, NM 88240

District II

1301 W. Grand Ave., Artesia, NM 88210

District III

1000 Rio Brazos Rd., Aztec, NM 87410

District IV

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

OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL API NO.

30-045-

33937

5. Indicate Type of Lease

STATE ☐

FEE ☐

6. State Oil & Gas Lease No.

SF-078208

7. Lease Name or Unit Agreement Name

Sunray B

8. Well Number

2M

9. OGRID Number

14538

10. Pool name or Wildcat

Blanco Mesa Verde/Basin Dakota

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.)

1. Type of Well:

Oil Well ☐

Gas Well ☒

Other

2. Name of Operator

BURLINGTON RESOURCES OIL & GAS COMPANY LP

3. Address of Operator

3401 E. 30TH STREET, FARMINGTON, NM 87402

4. Well Location

Unit Letter D

: 1550

feet from the

North

line and 225

feet from the

West

line

Section 1

Township

30N

Range

10W

NMPM

County

San Juan

11. Elevation (Show whether DR, RKB, RT, GR, etc.)

6635'

Pit or Below-grade Tank Application

☒ or Closure ☐

Pit type New Drill

Depth to Groundwater

>100'

Distance from nearest fresh water well

<1000'

Distance from nearest surface water

<1000'

Pit Liner Thickness:

n/a

mil

Below-Grade Tank:

Volume

bbls;

Construction Material

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

NOTICE OF INTENTION TO:

SUBSEQUENT REPORT OF:

PERFORM REMEDIAL WORK ☐

PLUG AND ABANDON ☐

REMEDIAL WORK ☐

ALTERING CASING ☐

TEMPORARILY ABANDON ☐

CHANGE PLANS ☐

COMMENCE DRILLING OPNS. ☐

P AND A ☐

PULL OR ALTER CASING ☐

MULTIPLE COMPL ☐

CASING/CEMENT JOB ☐

OTHER:

New Drill Pit ☒

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, an associated vent/flare pit and a pre-set mud pit (if required). Based on Burlington's interpretation of the Ecosphere's risk ranking criteria, the new drilling pit and pre-set mud pit will be lined pits as detailed in Burlington's Revised Drilling / Workover Pit Construction / Operation Procedures dated November 11, 2004 on file at the NMOCD 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 NMOCD 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 NMOCD guidelines ☐, a general permit ☒ or an (attached) alternative OCD-approved plan ☐.

SIGNATURE

TITLE

Regulatory Assistant

DATE

9/13/2006

Type or print name

Tracey N. Monroe

E-mail address:

tmonroe@br-inc.com

Telephone No.

505-326-9752

For State Use Only

APPROVED BY

TITLE

DEPUTY OIL & GAS INSPECTOR, DIST. 2

DATE

OCT 23 2006

Conditions of Approval (if any):

BURLINGTON RESOURCES OIL & GAS COMPANY LP

SUNRAY B No. 2M, 1550 FNL 255 FWL

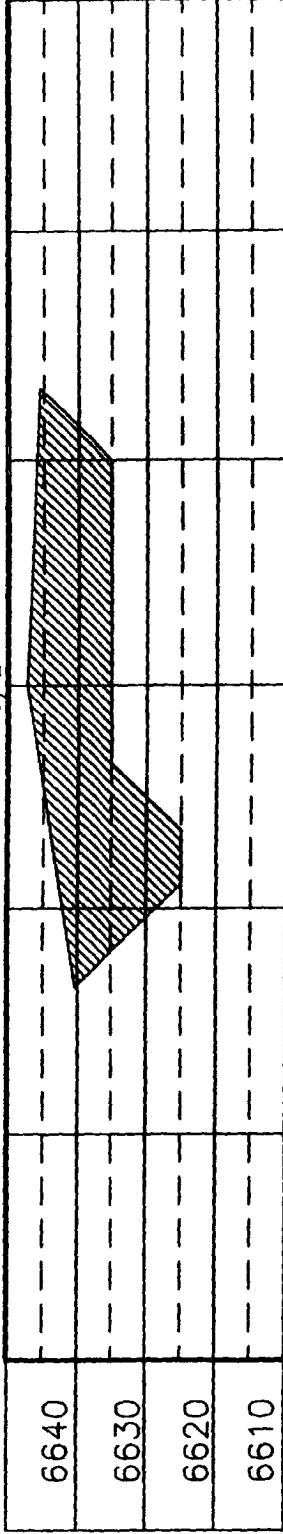
SECTION 1, T-29-N, R-10-W, N.M.P.M., SAN JUAN COUNTY, NEW MEXICO

GROUND ELEVATION: 6635, DATE: MARCH 16, 2006

NAD 83
LAT. = 36.84374° N
LONG. = 107.842210° W
NAD 27
LAT. = 36°50.6239' N
LONG. = 107°50.4953' W

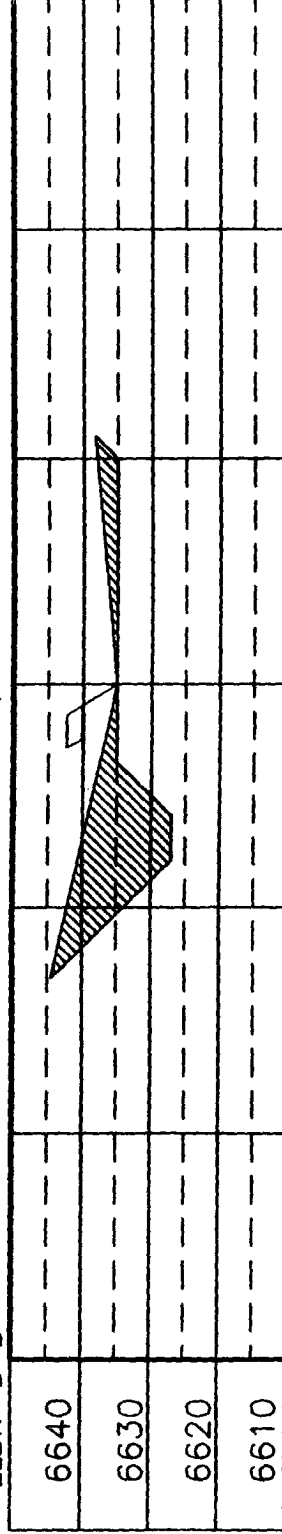
ELEV. A-A'

C/L



ELEV. B-B'

C/L



ELEV. C-C'

C/L



NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.

NOTE: 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.



Daggett Enterprises, Inc.
Surveying and Oil Field Services
P. O. Box 15088 • Farmington, NM 87401
Phone (505) 328-1772 • Fax (505) 328-6019
NEW MEXICO L.S. 14831

REVISION: DATE: REVISED BY:

DRAWN BY: A.G.

DATE: 05/25/06

PROJECT: BRG22

BURLINGTON RESOURCES OIL & GAS COMPANY LP

SUNRAY B No. 2M, 1550 FNL 255 FWL

SECTION 1, T-30-N, R-10-W, N.M.P.M., SAN JUAN COUNTY, NEW MEXICO

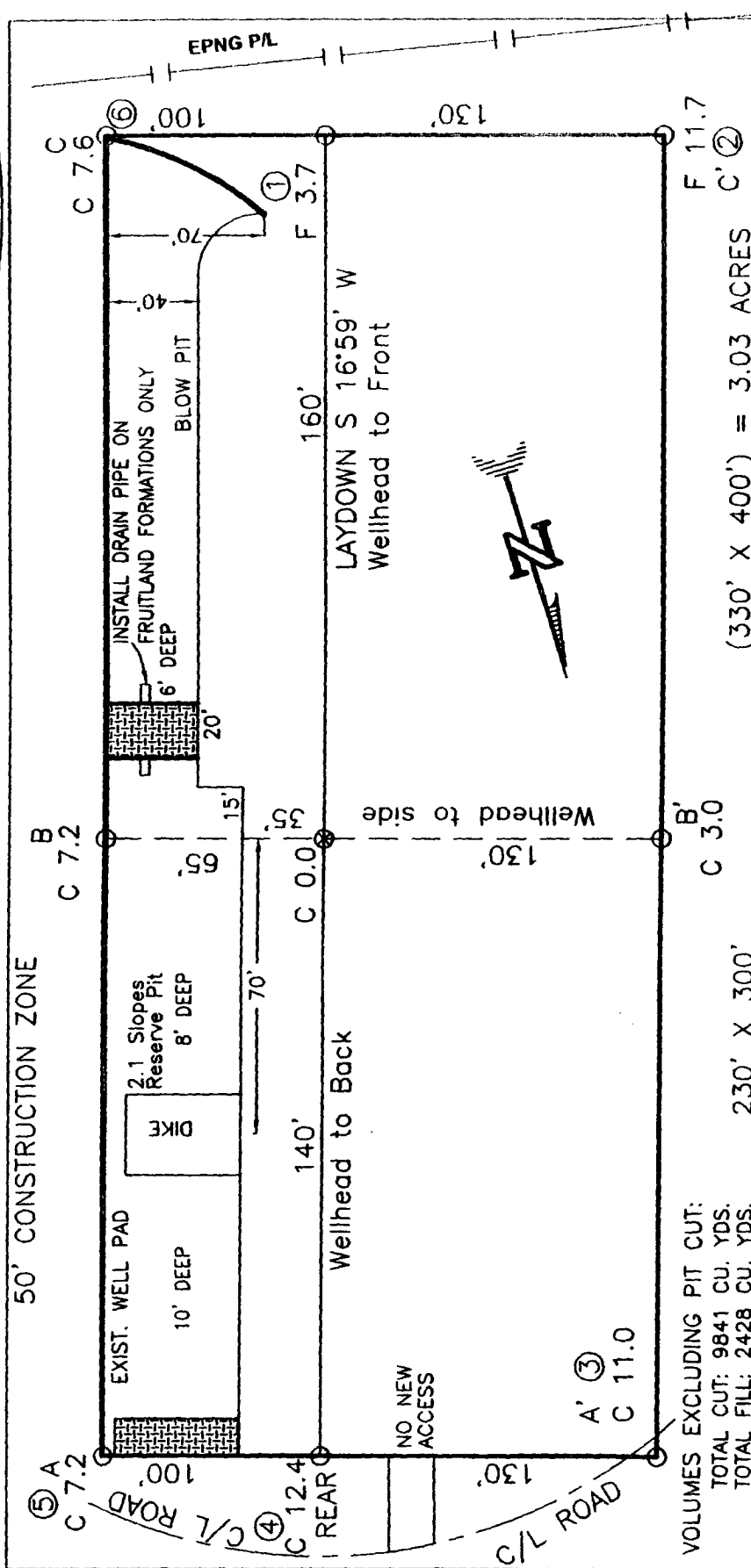
GROUND ELEVATION: 6635, DATE: MARCH 16, 2006

NAD 83

LAT. = 36.84374° N
LONG. = 107.84221° W

NAD 27

LAT. = 36°50.6239' N
LONG. = 107°50.4953' W



RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).
BLOW PIT: OVERFLOW PIPE HALFWAY BETWEEN TOP AND BOTTOM AND TO EXTEND OVER PLASTIC LINER AND INTO BLOW PIT.

NOTE: DAGGETT ENTERPRISES, INC. IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES. NEW MEXICO ONE CALL TO BE NOTIFIED 48 HOURS PRIOR TO EXCAVATION OR CONSTRUCTION.

NOTE: ESTIMATED VOLUMES CALCULATED BY AVERAGE END AREA AT CROSS-SECTION SHOWN

NOTE: 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.



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NEW MEXICO L.S. 14831

DATE: 05/25/06
BY: BRG/22

SUNRAY B #2M OPERATIONS PLAN

Well Name: SUNRAY B #2M

Objective: Blanco Mesa Verde/Basin Dakota

Location: San Juan NM

Elevation: 6635'

Surface Coordinates/Footages

T - 30 N R - 10 W Sec.: 1
1550' FNL 225' FWL
Latitude: 36° 50.6238' N
Longitude: 107° 50.4954' W

Bottom Hole Coordinates/Footages

T - 30 N R - 10 W Sec.: 1
660' FNL 1345' FWL
Latitude: 36° 50.7774' N
Longitude: 107° 50.2746' W

<u>Formation</u>	<u>Top (TMD)</u>	<u>Top (TVD)</u>	<u>Contents</u>
San Jose	Surface	Surface	
Ojo Alamo	2095'	2004'	aquifer
Kirtland	2258'	2155'	gas
Fruitland	3190'	3016'	gas
Pictured Cliffs	3559'	3357'	gas
Lewis	3718'	3504'	gas
Huerfanito Bentonite	4227'	3971'	gas
Chacra	4442'	4182'	gas
Massive Cliff House	5362'	5098'	gas
Menefee	5466'	5202'	gas
Massive Point Lookout	5869'	5605'	gas
Mancos Shale	6316'	6052'	gas
Upper Gallup	6609'	6345'	gas
Greenhorn	7887'	7623'	gas
Graneros	7938'	7674'	gas
Two Wells	7988'	7724'	gas
Paguate	8087'	7823'	gas
Lower Cubero	8134'	7870'	gas
Total Depth:	8234'	7970'	gas

Logging Program: Cased Hole: CBL-GR
Open Hole: None

<u>Mud Program:</u>	<u>Interval (TMD)</u>	<u>Type</u>	<u>Weight (ppg)</u>	<u>Vis. (s/qt)</u>	<u>Fluid Loss (cc/30min)</u>
	0' - 320'	Spud	8.4-9.0	40-50	No control
	320' - 4864'	Non-dispersed	8.4-9.0	30-60	Less than 8
	4864' - 8234'	Air/Air Mist/Nitrogen	n/a	n/a	n/a

<u>Casing program:</u>	<u>Interval (TMD)</u>	<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight</u>	<u>Grade</u>
	0' - 320'	12 1/4"	9 5/8"	32.3#	H-40
	320' - 4864'	8 3/4"	7"	23.0#	L-80
	4864' - 8234'	6 1/4"	4 1/2"	11.6#	L-80

<u>Tubing program:</u>	<u>Interval (TMD)</u>	<u>Hole Size</u>	<u>Casing Size</u>	<u>Weight</u>	<u>Grade</u>
	0' - 8234'	Cased	2 3/8"	4.7#	J-55

Wellhead Equipment

9 5/8" x 7" X 4 1/2" x 2 3/8" - 11" (2000 psi) wellhead assembly

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

Surface

Drill to surface casing point of 320' and set 9.625" casing.

Intermediate

Mud drill to kick off point of 400'. At this point the well will be directionally drilled by building 3 degrees per 100' with an azimuth of 49.13 degrees. The end of the build will be at a TVD of 1130', a TMD of 1150', a reach of 145', and an inclination of 22.48 degrees. This angle and azimuth will be held to a TVD of 3870', a TMD of 4114', and a reach of 967'. At this point the well will be drilled with a drop of 3 degrees per 100'. The end of the drop will be at a TVD of 4600', a TMD of 4864', a reach of 1424', and an angle of 0.0 degrees. 7" casing will be set at this point.

Production

From the shoe of the intermediate string, the well will be drilled vertically with an air hammer to a TVD of 7970' (TMD of 8234'). 4.5" casing will be set at this point.

Cementing

9.625" surface casing conventionally drilled: **200%** excess cement to bring cement to surface.

Run 301 cu.ft. (235 sks) Type III cement with 3% CaCl₂ and 1/4 pps celloflake (1.28 sks/ cu.ft.). Wait on cement appropriate time until cement achieves 250 psi compressive strength at 60° 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.

7" intermediate casing: **50%** excess cement to bring cement to surface.

Lead with 973 cu.ft. (457 sks) Premium Lite w/ 3% CaCl₂, 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52 and 0.4% SMS (2.13 sks/ft³). Tail with 124 ft³ (90 sks) Type III cmt. w/ 1% CaCl₂, 0.25 pps Cello-Flake and 0.2% FL-52 (1.38 sks/ft³). If cement does not circulate to surface, a CBL or a temperature survey will be run to determine TOC.

4.5" production casing: **30%** excess cement to achieve 100' overlap with intermediate casing.

Run 461 cu.ft. (233 sks) Premium Lite HS FM + 0.25pps Cello-Flake, 0.3% CD-32, 6.25pps LCM-1, 1% FL-52 (1.98 sks/ft³.)

BOP and Tests

Surface to Total Depth – 11", 2000 psi double gate BOP stack (Reference Figure #1).

Surface to Total Depth – choke manifold (Reference Figure #2).

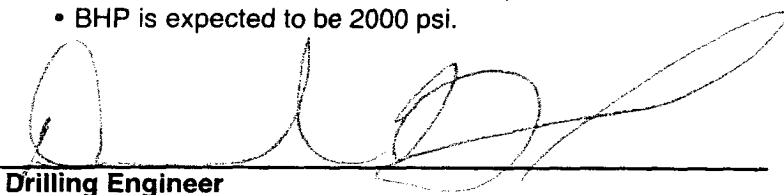
Prior to drilling out surface casing, test BOPE and casing to 600 psi for 30 minutes.

Pipe rams will be actuated at least once each day and blind rams will be actuated once each trip to test proper functioning. A Kelly cock valve and drill string safety valves to fit each drill string will be maintained and available on the rig floor.

BOPE tests will be performed using an appropriately sized test plug and test pump and will be recorded using calibrated test gauges and a properly calibrated strip or chart recorder. The test will be recorded in the driller's log and will include a low pressure test requirement of 250 psig held for five minutes and a high pressure test requirement held for ten minutes as described in Onshore Order No. 2 or otherwise noted in the APD. A successful BOPE test using a test plug is considered when no pressure drop occurs over the duration of the test. Test gauges and recorders must be of the proper range and resolution commensurate with the authorized test pressure. Where the intermediate casing strings are used, only one BOPE test will be necessary contingent upon the test being conducted to the highest approved test pressure to which BOPE will be exposed. Casing pressure tests must be held for 30 minutes with no more than 10 percent pressure drop during the duration of the test.

Additional Information:

- This gas is dedicated to the West half of Section 1.
- New casing will be utilized.
- Pipe movement (reciprocation) will be done if hole conditions permit.
- No abnormal pressure zones are expected.
- BHP is expected to be 2000 psi.



Drilling Engineer

9/13/06
Date



Scientific Drilling

Project: SAN JUAN, NM
Site: SEC 1-T30N-R10W
Well: SUNRAY B 2M
Wellbore: Wellbore #1
Plan: Plan #1 (SUNRAY B 2M/Wellbore #1)

BURLINGTON
RESOURCES

SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.00	0.0	
400.0	0.00	0.00	400.0	0.0	0.0	0.00	0.00	0.0	
1149.5	22.48	49.13	1130.4	95.0	109.8	3.00	49.13	145.2	
4114.1	22.48	49.13	3869.6	836.9	967.1	0.00	0.00	1278.9	
4863.5	0.00	0.00	4600.0	931.9	1076.9	3.00	180.00	1424.1	END OF DROP
8233.5	0.00	0.00	7970.0	931.9	1076.9	0.00	0.00	1424.1	PBHL B2M

WELLBORE TARGET DETAILS (MAP CO-ORDINATES AND LAT/LONG)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
END OF DROP	4600.0	931.9	1076.9	2127310.73	498660.86	36° 50' 46.644 N	107° 50' 16.476 W	Point
PBHL B2M	7970.0	931.9	1076.9	2127310.73	498660.86	36° 50' 46.644 N	107° 50' 16.476 W	Circle (Radius: 100.0)

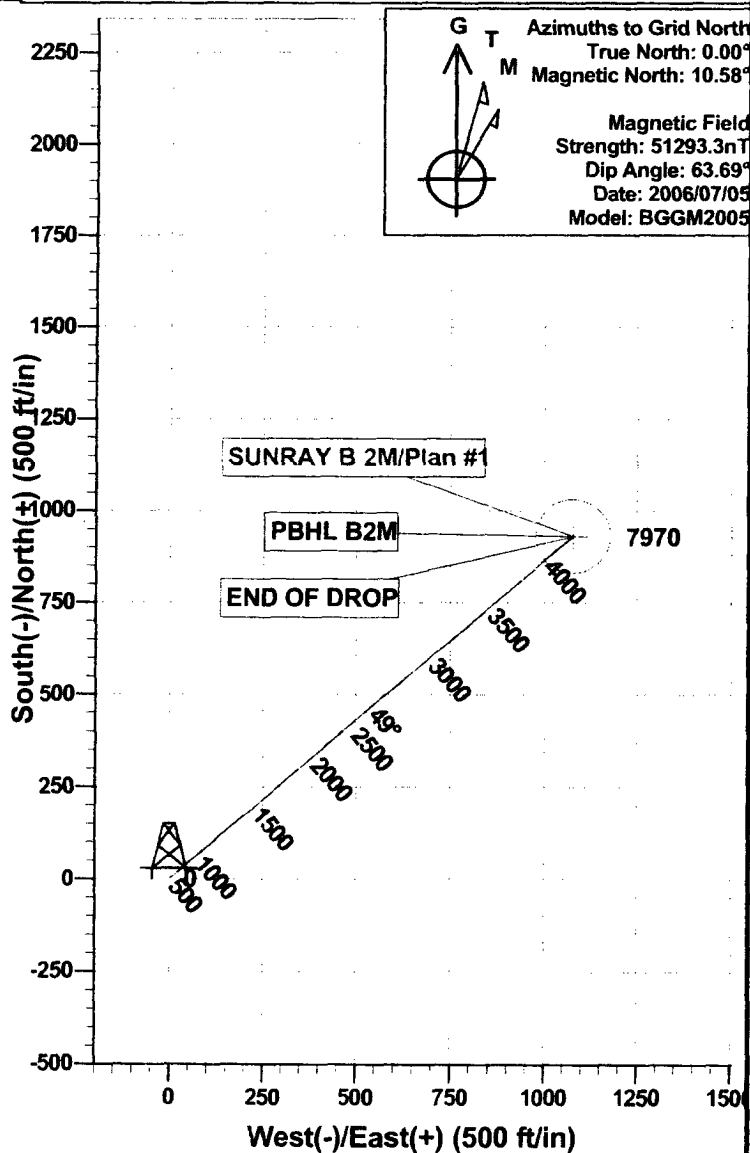
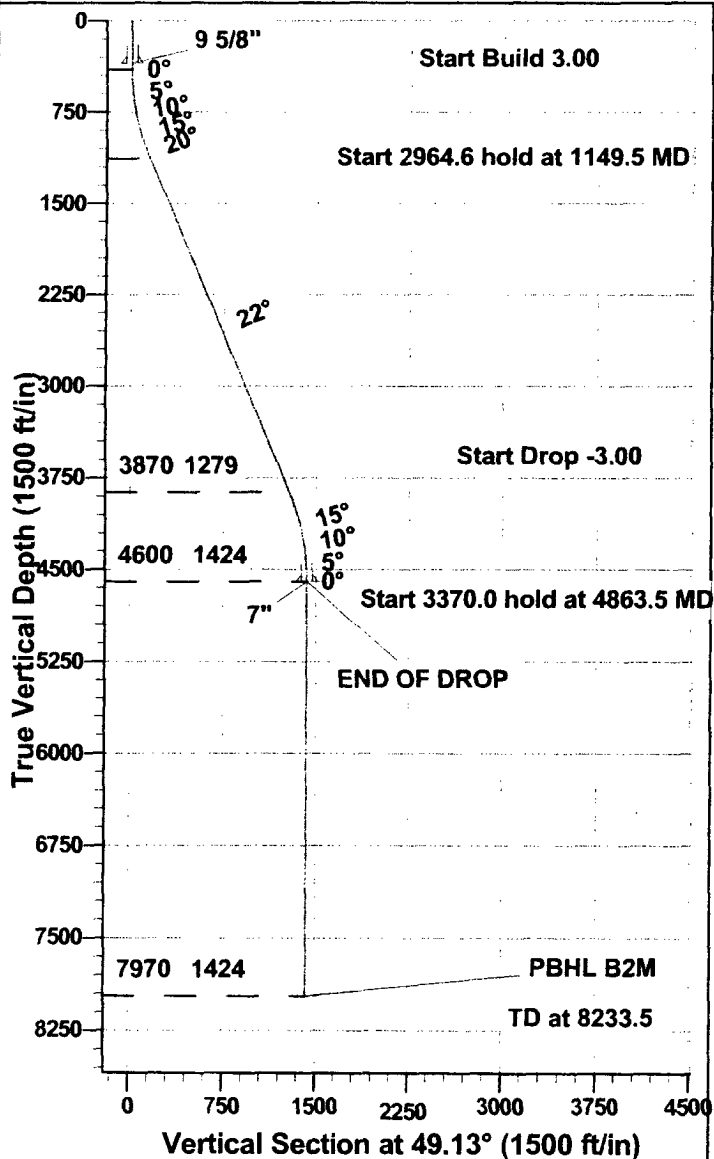
PROJECT DETAILS: SAN JUAN, NM

Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico West 3003

System Datum: Mean Sea Level

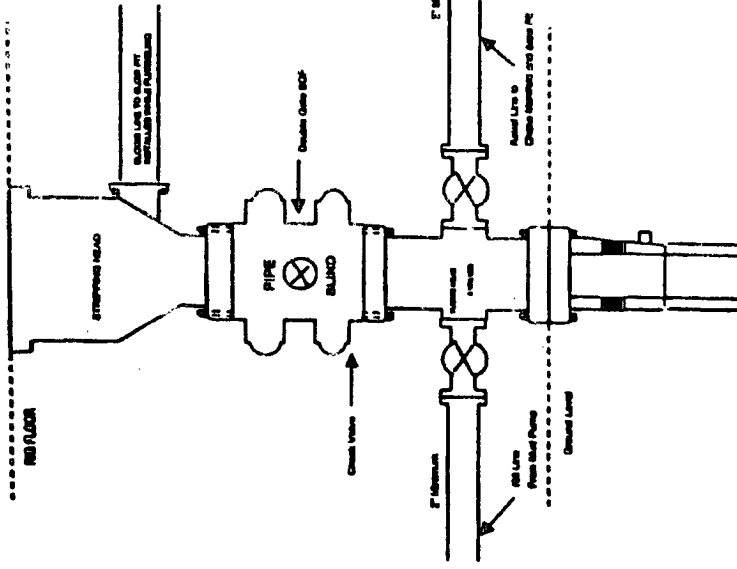
WELL DETAILS: SUNRAY B 2M

Ground Level: 6635.0
Northing: 2126378.83
Easting: 497584.00
Latitude: 36° 50' 37.428 N
Longitude: 107° 50' 29.724 W



BURLINGTON RESOURCES

Completion/Workover Rig
BOP Configuration
2,000 psi System



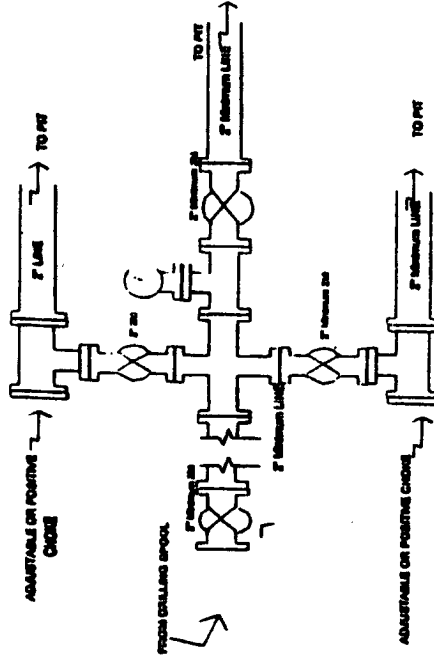
Minimum BOP Installation for all Completion/Workover Operations. 7-1/16" bore, 2000 psi minimum working pressure double gate BOP to be equipped with blind and pipe rams. A stripping head to be installed on the top of the BOP. All BOP equipment is 2000 psi working pressure or greater excluding 600 psi stripping head.

Figure #2

4-20-01

BURLINGTON RESOURCES

Drilling Rig
Choke Manifold Configuration
2000 psi System



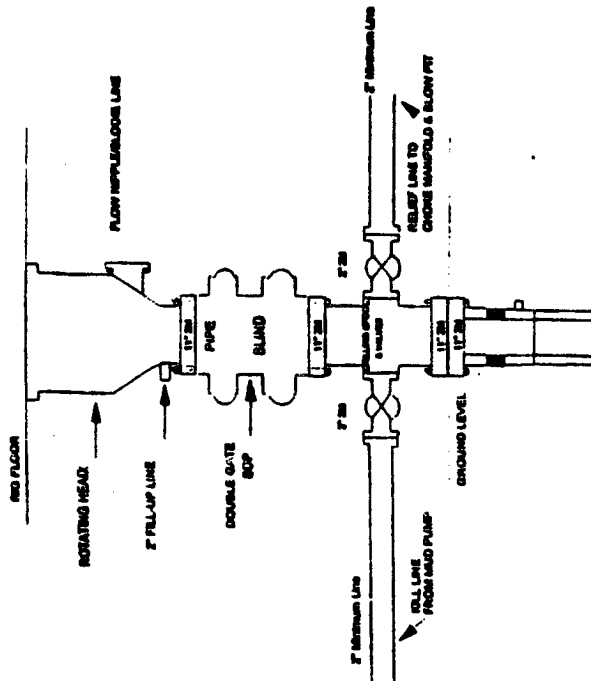
Choke manifold installation from Surface Casing Point to Total Depth. 2,000psi working pressure equipment with two chokes.

Figure #3

4-20-01

Burlington Resources

Drilling Rig
2000 psi System



BOP Installation from Surface Casing Point to Total Depth. 11" Bore 10" Nominal, 2000 psi working pressure double gate BOP to be equipped with blind rams and pipe rams. A 600 psi rotating head on top of ram prevention. All BOP equipment is 2,000 psi working pressure.

Figure #1