

UNITED STATES  
DEPARTMENT OF THE INTERIOR  
BUREAU OF LAND MANAGEMENT

RCVD FEB23'07  
OIL CONS. DIV.

DIST. 3

APPLICATION FOR PERMIT TO DRILL, DEEPEN, OR PLUG BACK

1a. Type of Work DRILL	5. Lease Number NMSF-079519-A Unit Reporting Number NMNM-078411A	2006 MAR 20 PM 2 44 RECEIVED 070 FARMINGTON NM
1b. Type of Well GAS	6. If Indian, All. or Tribe	
2. Operator <b>BURLINGTON</b> RESOURCES Oil & Gas Company	7. Unit Agreement Name San Juan 28-5 Unit	
3. Address & Phone No. of Operator PO Box 4289, Farmington, NM 87499  (505) 326-9700	8. Farm or Lease Name San Juan 28-5 9. Well Number #31M	NSP-R-2948
4. Location of Well Unit O (SWSE), 765' FSL, 2335' FEL Surface Unit P (SESE), 1175' FSL, 1010' FEL Bottom  Latitude 36° 40.2327'N Longitude 107° 18.4650'W	10. Field, Pool, Wildcat Blanco Mesaverde/ Basin Dakota 11. Sec., Twn, Rge, Mer. (NMPM) Sec. 12, T28N, R5W API # 30-039-29853	
14. Distance in Miles from Nearest Town 38.2 miles to Post Office in Blanco, NM	12. County Rio Arriba	13. State NM
15. Distance from Proposed Location to Nearest Property or Lease Line 765'	17. Acres Assigned to Well All 299.04 MV/DK DK-342.30	
16. Acres in Lease		
18. Distance from Proposed Location to Nearest Well, Drlg, Compl, or Applied for on this Lease 100' - San Juan 28-5 Unit #102E	20. Rotary or Cable Tool Rotary	
19. Proposed Depth 8755'		
21. Elevations (DF, FT, GR, Etc.) 7305' GL	22. Approx. Date Work will Start	
23. Proposed Casing and Cementing Program See Operations Plan attached		
24. Authorized by: <u>Amanda Sandora</u> Regulatory Compliance Assistant II	3-20-06 Date	

PERMIT NO.

APPROVAL DATE

APPROVED BY [Signature]

TITLE AFG

DATE 2/21/07

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.

NOTIFY AZTEC OCD  
IN TIME TO WITNESS

24 hrs  
CSG Cement

HOLD C104 FOR directional survey

NMOCD

2-26-07

1825 N. French Dr., Hobbs, N.M. 88240

**State of New Mexico**  
Energy, Minerals & Natural Resources Department

Form C-102  
Revised August 15, 2000

DISTRICT II  
811 South First, Artesia, N.M. 88210

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

DISTRICT IV  
2040 South Pacheco, Santa Fe, NM 87505

**OIL CONSERVATION DIVISION**

2040 South Pacheco  
Santa Fe, NM 87505

Submit to Appropriate District Office  
State Lease - 4 Copies  
Fee Lease - 3 Copies

☐ AMENDED REPORT

**WELL LOCATION AND ACREAGE DEDICATION PLAT RCUD FEB23'07**

*API Number 30-039- <b>29853</b>	*Pool Code 72319/71599	*Pool Name Blanco Mesaverde / Basin Dakota	OIL CONS. DIV.
*Property Code 7460	*Property Name SAN JUAN 28-5 UNIT		*Well Number 31M
*OGRID No. 14538	*Operator Name BURLINGTON RESOURCES OIL AND GAS COMPANY LP		*Elevation 7305'

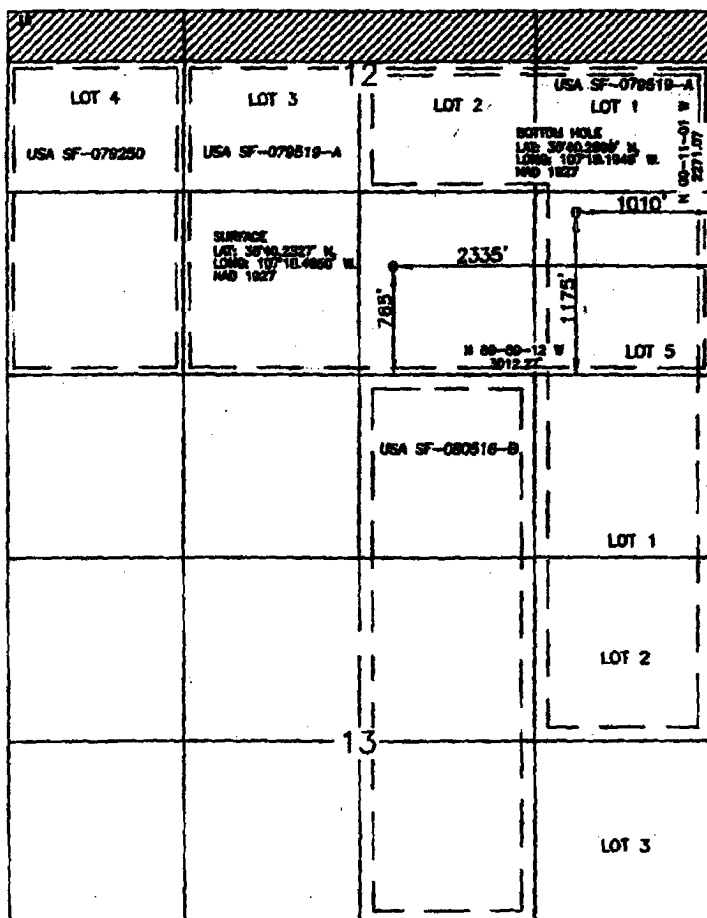
**10 Surface Location**

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
O	12	28-N	5-W		765'	SOUTH	2335'	EAST	RIO ARriba

**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
P	12	28-N	5-W		1175'	SOUTH	1010'	EAST	RIO ARriba
*Dedicated Acres DK-Sec 12, Lots 1, 2, & 5 Sec 13 - Lots 1 & 2 MK 299.04 ac 8/11		*Joint or Infill		*Consolidation Code W/2 NE/4 + NW/4 SE/4		*Order No. - 342.30 acres DK NSP - R-2948			

**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.

*Philana Thompson*

Signature  
Philana Thompson  
Printed Name  
Regulatory Assistant III  
Title  
02/14/2006  
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.

Date of Survey **2-14-06**

Signature and Seal of Licensing Surveyor

*Calvin W. Russell*

15703

Certificate Number

## State of New Mexico

Energy, Minerals and Natural Resources

Form C-103

May 27, 2004

## OIL CONSERVATION DIVISION

1220 South St. Francis Dr.

Santa Fe, NM 87505

WELL API NO.

30-039- 29853

5. Indicate Type of Lease

STATE ☐FEE ☐

6. State Oil &amp; Gas Lease No.

NMSF-079519-A

7. Lease Name or Unit Agreement Name

San Juan 28-5 Unit

8. Well Number

31M

9. OGRID Number

14538

10. Pool name or Wildcat

Blanco Mesaverde/ 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 &amp; GAS COMPANY LP

3. Address of Operator

3401 E. 30TH STREET, FARMINGTON, NM 87402

4. Well Location

Unit Letter O : 765 feet from the South line and 2335 feet from the East line  
Section 12 Township 28N Rng 5W NMPM County Rio Arriba

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

7305'

Pit or Below-grade Tank Application

☐ or Closure ☐

Pit type

new drill

Depth to Groundwater

&lt;100'

Distance from nearest fresh water well

&gt;1000'

Distance from nearest surface water

&gt;1000'

Pit Liner Thickness:

12

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:

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

OTHER:

New Drill Pit ☒

## SUBSEQUENT REPORT OF:

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

Amanda Sandoval

TITLE

Regulatory Assistant III

DATE

3/20/2006

Type or print name

Amanda Sandoval

E-mail address:

asandoval@br-inc.com

Telephone No.

505-326-9700

For State Use Only

DEPUTY OIL &amp; GAS INSPECTOR, DIST. 4

FEB 26 2007

APPROVED BY

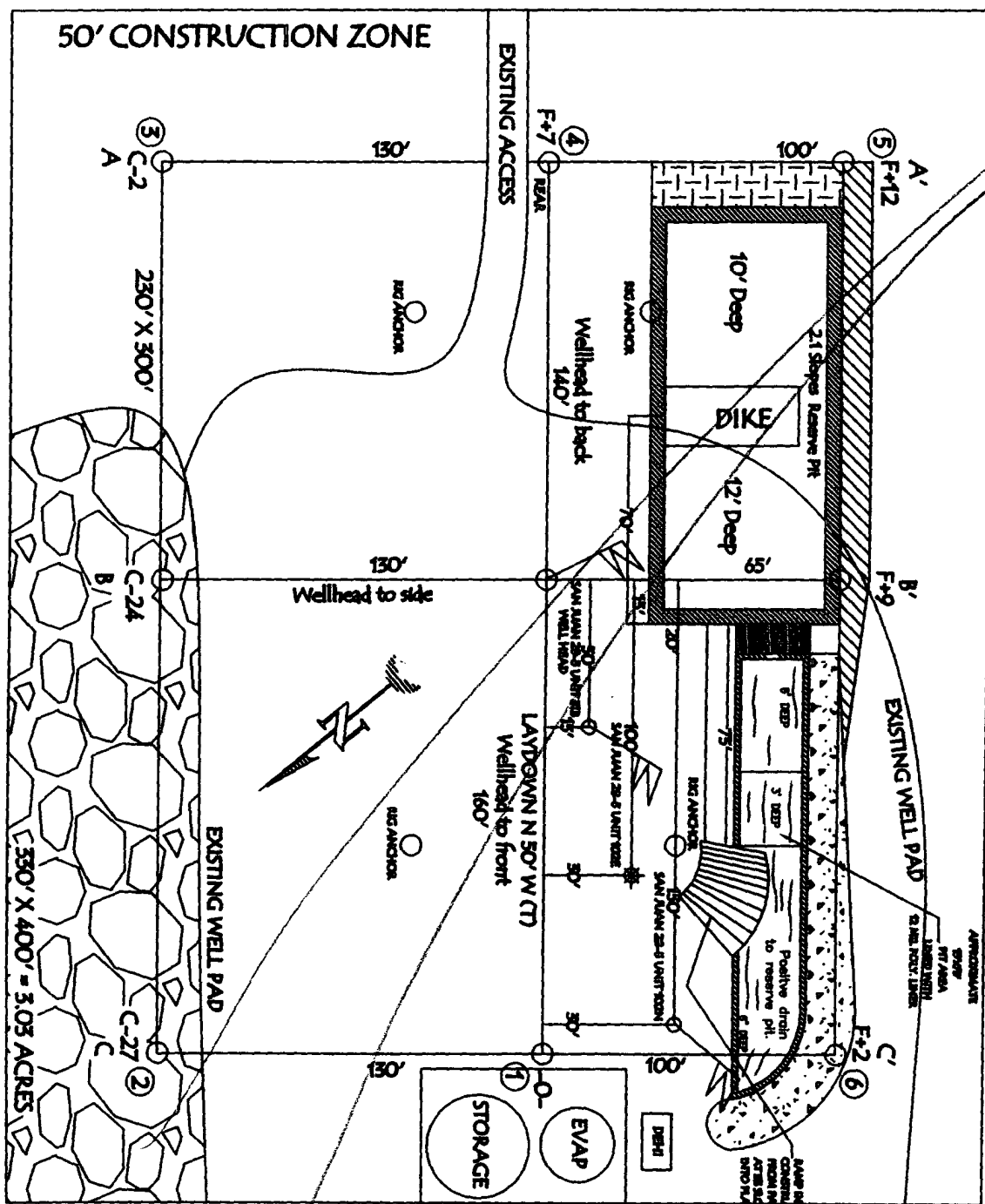
TITLE

DATE

Conditions of Approval (if any):

**BURLINGTON RESOURCES OIL & GAS COMPANY LP**  
**SAN JUAN 28-5 UNIT 31M, 765' FSL & 2335' FEL**  
**SECTION 12, T-28-N, R-5-W, NMPM, RIO ARriba COUNTY, NM**  
**GROUND ELEVATION: 7305', DATE: JANUARY 16, 2006**

RESERVE PIT DIKE: TO BE 8' ABOVE DEEP SIDE (OVERFLOW - 3' WIDE AND 1' ABOVE SHALLOW SIDE).



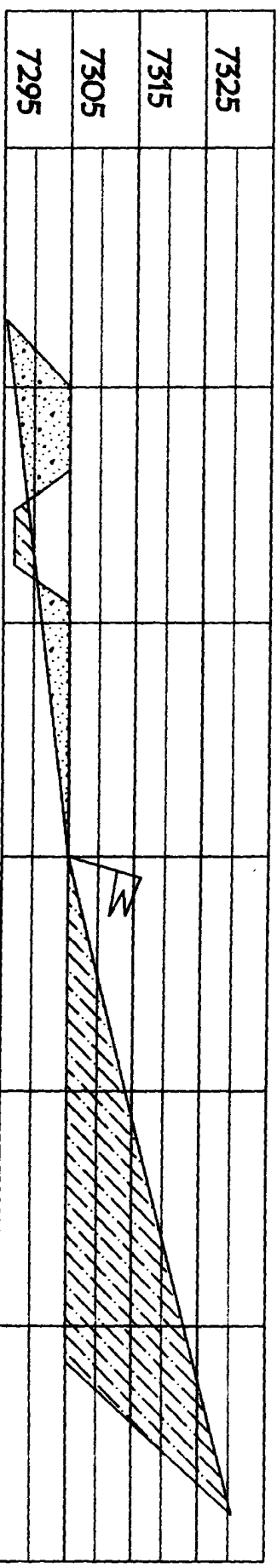
NOTE: VECTOR SURVEYS IS NOT LIABLE FOR UNDERGROUND UTILITIES OR PIPELINES.  
 CONTRACTOR SHOULD CALL ONE-CALL FOR LOCATION OF ANY MARKED OR UNMARKED BURIED  
 PIPELINES OR CABLES ON WELL PAD AND OR ACCESS ROAD AT LEAST TWO (2) WORKING DAYS PRIOR TO CONSTRUCTION.

**BURLINGTON RESOURCES OIL & GAS COMPANY LP**  
**SAN JUAN 28-5 UNIT #31M, 765' FSL & 2335' FEL**  
**SECTION 12, T-28-N, R-5-W, NMPM, RIO ARriba COUNTY, NM**  
**GROUND ELEVATION: 7305', DATE: JANUARY 16, 2006**

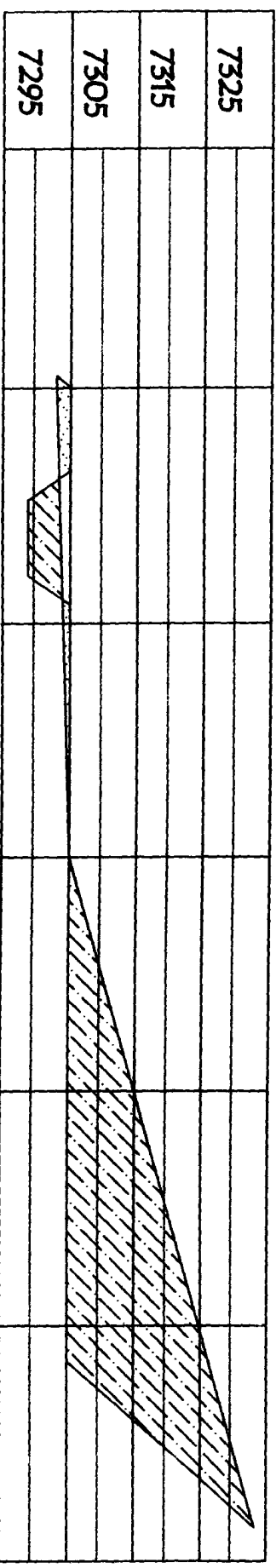
**ELEV. A'-A**



**ELEV. B'-B**



**ELEV. C'-C**



NOTE: VECTOR 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.

## SAN JUAN 28-5 UNIT #31M OPERATIONS PLAN

**Well Name:** San Juan 28-5 Unit #31M

**Location** Rio Arriba County, New Mexico  
Surface: 765' FSL, 2335' FEL, Section 12, T-28-N, R-5-W  
Latitude 36° 40.233'N, Longitude 107° 18.465'W  
Bottom Hole: 1175' FSL, 1010' FEL, Section 12, T-28-N, R-5-W  
Latitude 36° 40.3'N, Longitude 107° 18.1944'W

**Formation** Blanco Mesa Verde/Basin Dakota  
**Elevation** 7305'GL

<b><u>Formation Tops</u></b>	<b><u>Top (TVD)</u></b>	<b><u>Top (TMD)</u></b>	<b><u>Contents</u></b>
Surface	San Jose		
Ojo Alamo	3584'	3721'	aquifer
Kirtland	3776'	3926'	gas
Fruitland	4030'	4197'	gas
Pictured Cliffs	4234'	4415'	gas
Lewis	4493'	4691'	gas
Huerfano Bentonite	4952'	5181'	gas
Chacra	5279'	5517'	gas
Massive Cliff House	5880'	6352'	gas
Menefee	6147'	6386'	gas
Massive Point Lookout	6444'	6683'	gas
Mancos	6945'	7184'	gas
Gallup	7675'	7914'	gas
Greenhorn	8431'	8670'	gas
Graneros	8497'	8736'	gas
Two Wells	8564'	8803'	gas
Upper Cubero	8617'	8856'	gas
Lower Cubero	8670'	8909'	gas
Oak Canyon	8740'	8979'	
TD	8755'	8994'	

### **Logging Program**

Cased Hole – CBL-GR- TD to surface  
Open Hole - None

### **Mud Program**

<b><u>Interval (TMD)</u></b>	<b><u>Type</u></b>	<b><u>Weight</u></b>	<b><u>Vis.</u></b>	<b><u>Fluid Loss</u></b>
0- 350'	Spud	8.4-9.0	40-50	no control
350 - 5668'	Non-dispersed	8.4-9.0	30-60	less than 8
5668'- 8994'	Air/Air Mist/Nitrogen	n/a	n/a	n/a

### **Drilling** (Reference Plot #1)

#### **Surface Hole**

Drill to surface casing point of 350' and set 9 5/8" casing.

#### **Intermediate Hole**

Mud drill to kick off point of 1200'. At this point the well will be directionally drilled by building 4.0 degrees per 100' with an azimuth of 72.55 degrees. The end of the build will be at a TVD of 1700', a TMD of 1711', a reach of 90', and an angle of 20.45 degrees. This angle and azimuth will be held to a TVD of 4929', a TMD of 5157', and a reach of 1294'. At this point the well will be drilled with a drop of 4.0 degrees per 100'. The end of the drop will be at a TVD of 5429', a TMD of 5668', a reach of 1384', and an angle of 0.0 degrees. 7" casing will be set at this point.

#### **Production Hole**

From the shoe of the intermediate string, the well will be drilled vertically with an air hammer to a TMD of 8994' (TVD of 8755'). 4 1/2" casing will be set at this point.

### **Materials**

### Casing program

<u>Hole Size</u>	<u>Interval (TMD)</u>	<u>Csg. Size</u>	<u>Weight</u>	<u>Grade</u>
12 1/4"	0' - 350'	9 5/8"	32.3#	H-40
8 3/4"	350' - 5668'	7"	23#	L-80
6 1/4"	5668' - 8994'	4 1/2"	11.6#	L-80

### Tubing Program

<u>Hole Size</u>	<u>Interval (TMD)</u>	<u>Csg. Size</u>	<u>Weight</u>	<u>Grade</u>
2 3/8"	0' - 8994'	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

### Cementing:

9 5/8" surface casing conventionally drilled: **200% excess cement to bring cement to surface**

Run **376 ft<sup>3</sup> (294 sks)** Type III cement with 3% CaCl<sub>2</sub> and 1/4 pps celloflake (1.28 sks/ft<sup>3</sup>). 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" production casing: **50% excess cement to bring cement to surface**

Lead with **1154 ft<sup>3</sup> (442 sks)** Premium Lite w/ 3% CaCl<sub>2</sub>, 0.25 pps Cello-Flake, 5 pps LCM-1, 0.4% FL-52 and 0.4% SMS (2.13 sks/ft<sup>3</sup>). Tail with **124 ft<sup>3</sup> (90 sks)** Type III cmt. w/ 1% CaCl<sub>2</sub>, 0.25 pps Cello-Flake and 0.2% FL-52 (1.38 sks/ft<sup>3</sup>). If cement does not circulate to surface, a CBL or a temperature survey will be run to determine TOC.

4 1/2" production casing: **30% excess cement to achieve 100' overlap with intermediate casing**

Run **455 ft<sup>3</sup> (230 sks)** Premium Lite HS FM + 0.25pps Cello-Flake, 0.3% CD-32, 6.25pps LCM-1, 1% FL-52 (1.98 sks/ft<sup>3</sup>).

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

### BOP and Tests:

Surface to production TD - 11", 2000 psi double gate BOP stack (Reference Figure #1).

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

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

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:

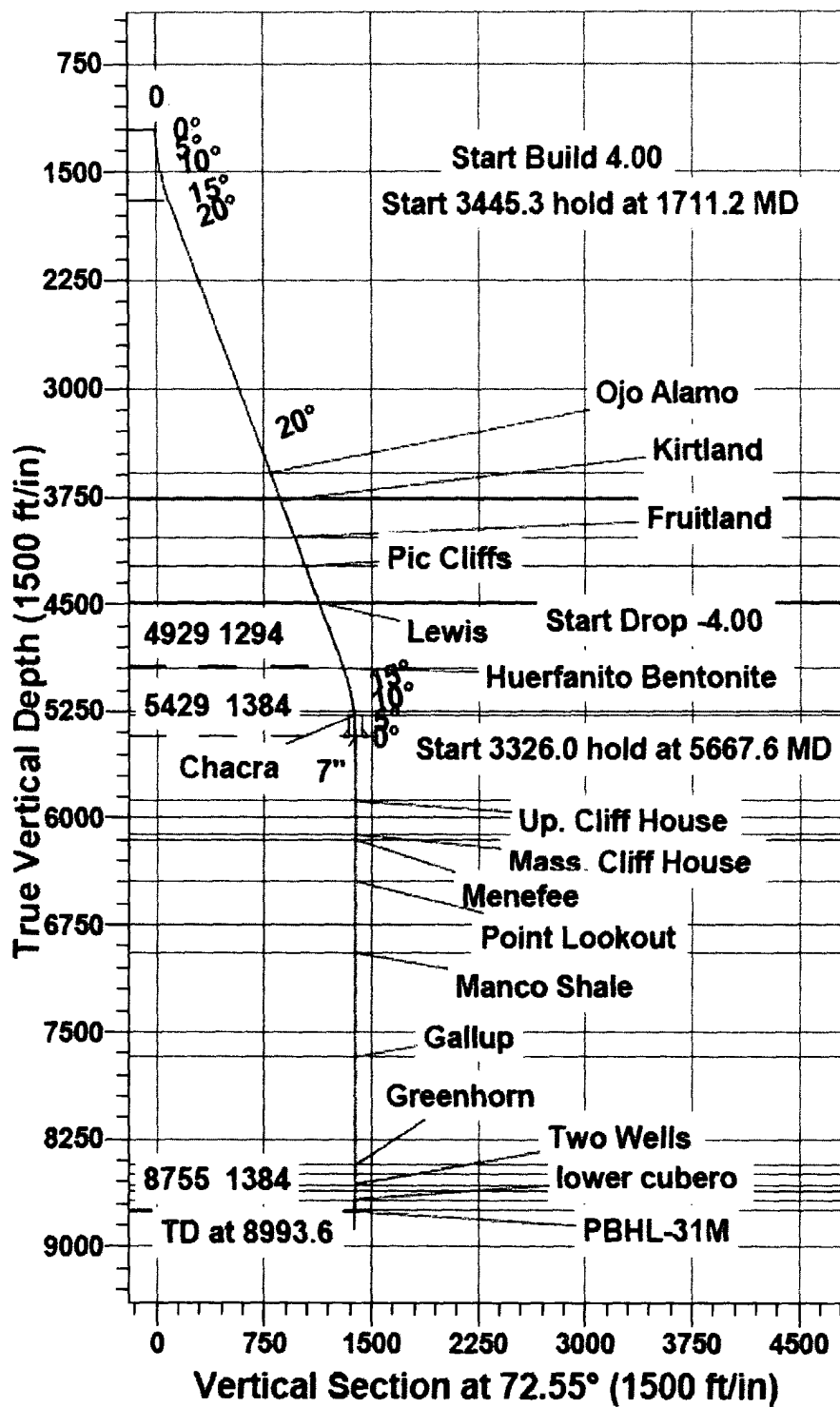
- This gas is dedicated.
- New casing will be utilized.
- Pipe movement (reciprocation) will be done if hole conditions permit.
- No abnormal pressure zones are expected.
- BHP is expected to be 2000 psi.



Drilling Engineer

3/20/04

Date



Plot 1: Directional plan for SJ 28-5 31M





Project: SAN JUAN, NM  
 Site: SEC 12-T28N-R5W  
 Well: 28-5 unit #31M  
 Wellbore: OH  
 Plan: Plan #1 (28-5 unit #31M/OH)

**BURLINGTON<sup>TM</sup>**  
**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	
1200.0	0.00	0.00	1200.0	0.0	0.0	0.00	0.00	0.0	
1711.2	20.45	72.55	1700.4	27.1	86.1	4.00	72.55	90.3	
5156.5	20.45	72.55	4928.6	387.9	1234.3	0.00	0.00	1293.8	
5667.6	0.00	359.69	5429.0	415.0	1320.4	4.00	180.00	1384.1	CSG.PT. (31M)
8993.6	0.00	359.69	8755.0	415.0	1320.4	0.00	359.69	1384.1	PBHL-31M

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

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
CSG.PT. (31M)	5429.0	415.0	1320.4	2064170.61	655458.96	36° 40' 18.012 N	107° 18' 11.664 W	Point
PBHL-31M	8755.0	415.0	1320.4	2064170.64	655459.00	36° 40' 18.012 N	107° 18' 11.664 W	Point

### 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: 28-5 unit #31M

Ground Level:	7305.0
Northing	2063755.60
Easting	654138.55
Latitude	36° 40' 13.980 N
Longitude	107° 18' 27.900 W

