

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT
APPLICATION FOR PERMIT TO DRILL OR REENTER

FORM APPROVED
OMB No. 1004-0136
Expires November 30, 2000

5. Lease Serial No. **NMSF - 080244**

6. If Indian, Allottee or tribe Name

7. If Unit or CA Agreement, Name and No

8. Lease Name and Well No.
RIDDLE 1M

9. API Well No.

30-045-33341

10. Field and Pool, or Exploratory

Basin Dakota & Blanco Mesaverde

11. Sec., T., R., M., or Blk, and survey or Area

SECTION 21 T30N & R09W

C.

12. County or Parish

SAN JUAN

13. State

NEW MEXICO

1a. Type of Work: ☒ DRILL

☐ REENTER

1b. Type of Well: ☐ Oil Well ☒ Gas Well Gas ☐ Other

☐ Single Zone

☐ Multiple Zone

2. Name of Operator

BP AMERICA PRODUCTION COMPANY

3a. Address

P.O. BOX 3092 HOUSTON, TX 77079-2064

3b. Phone No. (include area code)

281-366-4081

4. Location of Well (Report location clearly and in accordance with any State requirements.)*

At surface **700' FNL & 2155' FWL NENW**

At proposed prod. Zone **Same as Above**

14. Distance in miles and direction from nearest town or post office*

12 MILES EAST FROM AZTEC, NM

15. Distance from proposed*

Location to nearest
Property or lease line, ft.

(Also to nearest drig. Ujnit line, if any) **700'**

16. No. of Acres in lease

320

17. Spacing Unit dedicated to this well

320

N/S

18. Distance from proposed location*

to nearest well, drilling, completed,
applied for, on this lease, ft.

19. Proposed Depth

7689'

20. BLM/BIA Bond No. on file

WY2924

21. Elevations (show whether DF, KDB., RT, GL, etc.)

5993' GL

22. Approximate date work will start*

12/15/05

23. Estimated duration

7 DAYS

24. Attachments

The following, completed in accordance with the requirements of Onshore Oil and Gas Order No. 1, shall be attached to this form:

1. Well plat certified by a registered surveyor.

2. A Drilling Plan.

3. A Surface Use Plan (if the location is on National forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

4. Bond to cover the operations unless covered by an existing bond on file (see Item 20 above).

5. Operator certification.

6. Such other site specific information and/or plans as may be required by the authorized officer.

25. Signature

Cherry Hlava

Name (Printed/typed)

Cherry Hlava

Date

09/13/2005

Title

Regulatory Analyst

Approved by (Signature)

Jim Lovato

Name (Printed/Typed)

Office

Date

12/2/05

Title

Acting Field Manager - Minerals

Application approval does not warrant or certify the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct Operations thereon.

Conditions of approval, if any, are attached.

Title 18 U.S.C. Section 1001 and title 43 U.S.C. Section 1212, make 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 representations as to any matter within its jurisdiction.

*(Instructions on reverse)

HOLD C104 FOR Change in status to Riddle #1B

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".

NMOCD

District I
PO Box 1980, Hobbs NM 88241-1980
District II
PO Drawer KK, Artesia, NM 87211-0719
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

¹ API Number 30-045-33341	² Pool Code 71599; 72319	³ Pool Name Basin Dakota; Blanco Mesaverde
⁴ Property Code 000971	⁵ Property Name Riddle	⁶ Well Number # 1M
⁷ OGRID No. 000778	⁸ Operator Name BP AMERICA PRODUCTION COMPANY	⁹ Elevation 5993

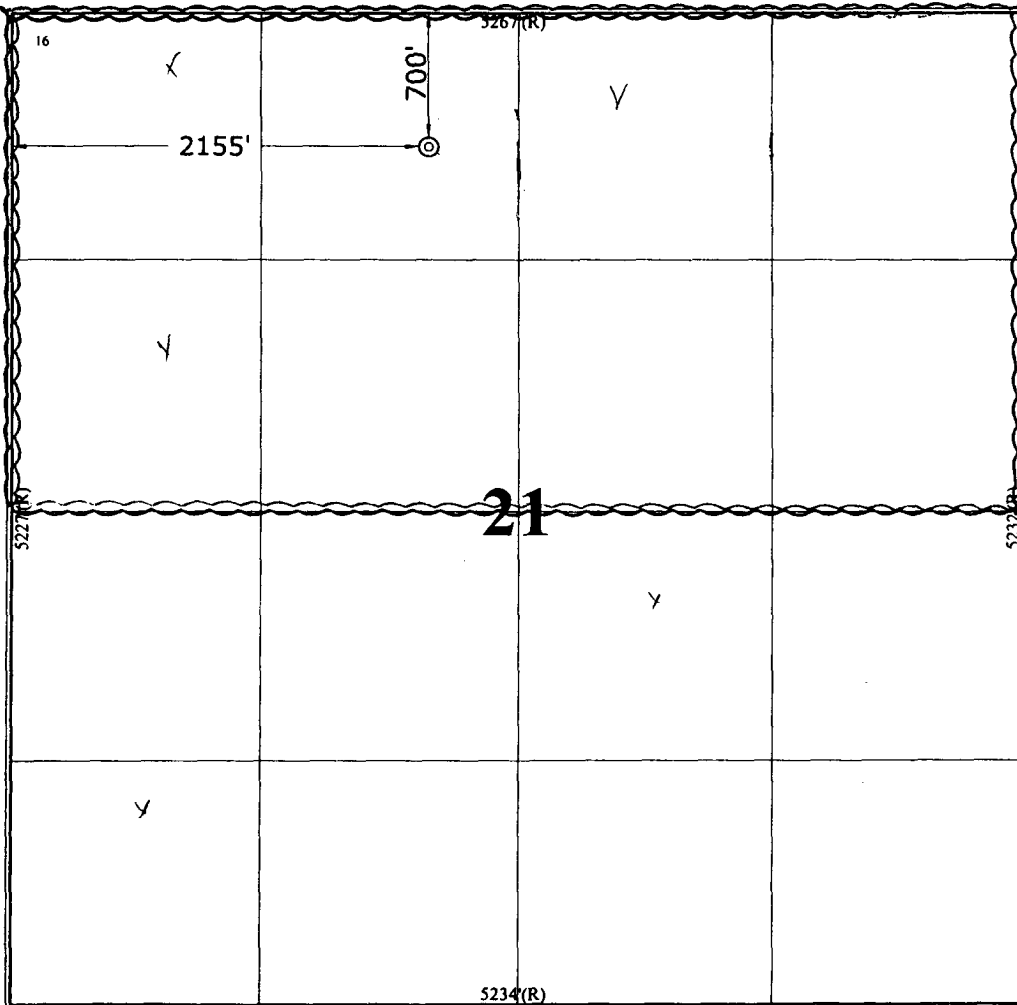
¹⁰ Surface Location

UL or Lot No. C	Section 21	Township 30 N	Range 9 W	Lot Idn	Feet from the 700	North/South line NORTH	Feet from the 2155	East/West line WEST	County SAN JUAN
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¹¹ Bottom Hole Location If Different From Surface

⁷ 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 320	¹³ Joint or Infill	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



¹⁷ OPERATOR CERTIFICATION

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

Signature
Cherry Hlava
Printed Name
Cherry Hlava
Title
Regulatory Analyst
Date
9-13-05

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.

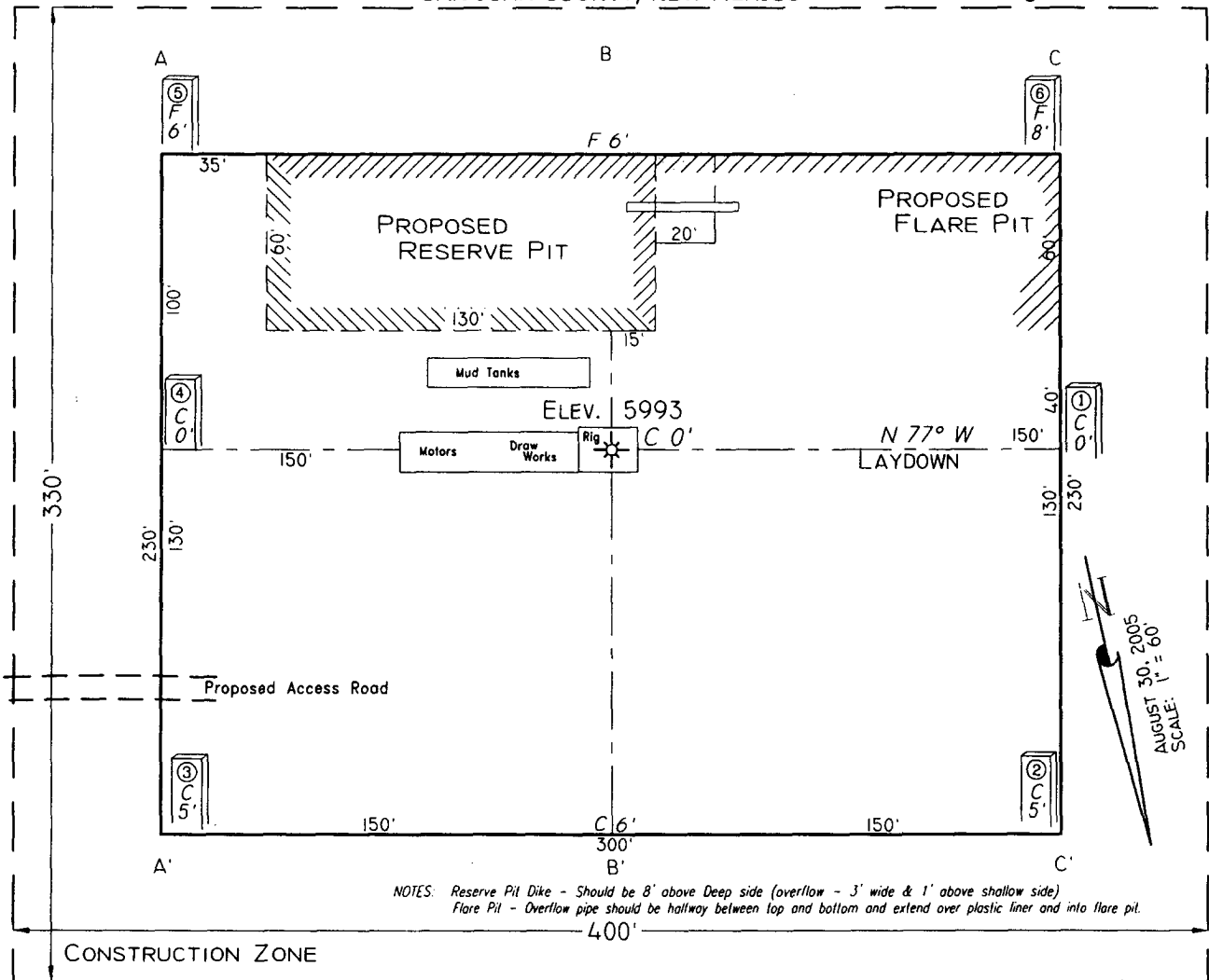
Date of Survey
August 30, 2005
Signature and Seal of Professional Surveyor



7016
Certificate Number

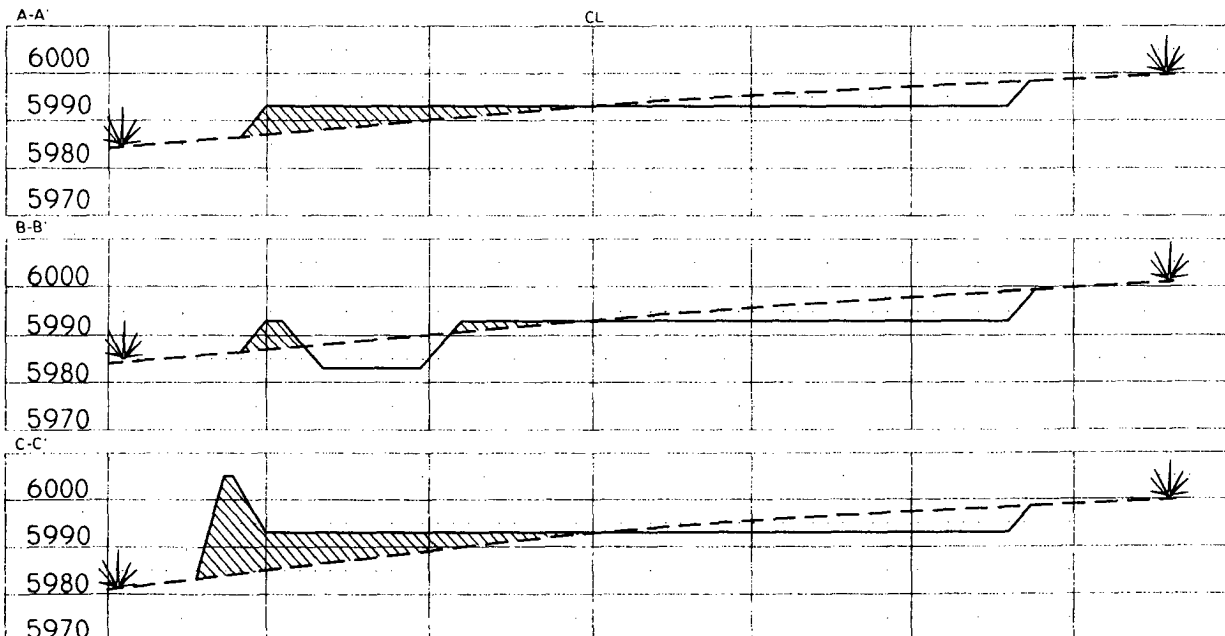
PAD LAYOUT PLAN & PROFILE
BP AMERICA PRODUCTION COMPANY
 Riddle # 1M
 700'F/NL 2155'F/WL
 SEC. 21, T30N, R9W, N.M.P.M.
 SAN JUAN COUNTY, NEW MEXICO

Lat: 36.8025°
 Long: 107.7869°
 Lat: 36°48'09"
 Long: 107°47'13"



Area of Construction Zone - 330'x400' or 3.03 acres, more or less.

SCALE: 1"=60'-HORIZ.
 1"=40'-VERT.



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.

Cuts and fills shown are approximate - final finished elevation is to be adjusted so earthwork will balance. Corner stakes are approximate and do not include additional areas needed for sideslopes and drainages. Final Pad Dimensions are to be verified by Contractor.

VANN SURVEYS
 P. O. Box 1306
 Farmington, NM

Cementing Program

Well Name: Riddle 1M
 Location: 21-30N-9W: 700' FNL, 2155' FWL
 County: San Juan
 State: New Mexico

Field: Blanco Mesaverde / Basin Dakota
 Well Flac
 Formation: Dakota MesaVerde
 KB Elev (est) 6007
 GL Elev. (est) 5993

Casing Program:

Casing String	Est. Depth (ft.)	Hole Size (in.)	Casing Size (in.)	Thread	TOC (ft.)	Stage Tool Or TOL (ft.)	Cmt Cir. Out (bbl.)
Surface	200	13.5	9.625	ST&C	Surface	NA	
Intermediate	3037	8.75	7	ST&C	Surface	NA	
Production -	7314	6.25	4.5	ST&C	2937	NA	

Casing Properties:

(No Safety Factor Included)								
Casing String	Size (in.)	Weight (lb/ft)	Grade	Burst (psi.)	Collapse (psi.)	Joint St. (1000 lbs.)	Capacity (bbl/ft.)	Drift (in.)
Surface		9.625	32 H-40	3370	1400	254	0.0787	8.845
Intermediate		7	20 K-55	3740	2270	234	0.0405	6.456
Production -		4.5	11.6 J-55	5350	4960	154	0.0155	3.875

Mud Program

Apx. Interval (ft.)	Mud Type	Mud Weight
0 - SCP	Water/Spud	8.6-9.2
SCP - ICP	Water/LSND	8.6-9.2
ICP - ICP2	Gas/Air Mist	NA
ICP2 - TD	LSND	8.6 - 9.2

Recommended Mud Properties Prio Cementing:

PV <20
 YP <10
 Fluid Loss <15

Cementing Program:

	Surface	Intermediate	Production
Excess %, Bit	100%	80	10
Excess %, Caliper	NA	NA	30
BHST (est deg. F)	60	120	160
Pipe Movement	NA	Rotate/Reciprocate	Rotate/Reciprocate
Rate, Max (bpm)	7	4	2
Rate Recommended (bpm)	6	4	2
Pressure, Max (psi)	200	2000	2000
Shoe Joint	40	80	40
Batch Mix	NA	NA	NA
Circulating prior cmtng (hr)	0.5	1.5	2
Time Between Stages, (hr)	NA	NA	NA
Special Instructions	1,6,7	1,6,8	2,4,6

1. Do not wash pumps and lines.
2. Wash pumps and lines.
3. Reverse out
4. Run Blend Test on Cement
5. Record Rate, Pressure, and Density on 3.5" disk
6. Confirm densitometer with pressurized mud scales
7. 1" cement to surface if cement is not circulated.
8. If cement is not circulated to surface, run temp. survey 10-12 hr. after landing plug.

Notes: *Do not wash up on top of plug. Wash lines before displacing production cement job to minimize drillout.

Surface:

Preflush 20 bbl. Fresh Water
 Slurry 1 154 sx Class C Cement 195 cuft
 TOC@Surface + 2% CaCl2 (accelerator)
 0.4887 cuft/ft OH
 100 % excess

Slurry Properties:

	Density (lb/gal)	Yield (ft3/sk)	Water (gal/sk)
Slurry 1	15.2	1.27	5.8

Cementing Program

Casing Equipment: 9-5/8", 8R, ST&C
 1 Guide Shoe
 1 Top Wooden Plug
 1 Autofill insert float valve
 Centralizers, as needed
 1 Stop Ring
 1 Thread Lock Compound

Intermediate:

Fresh Water	20 bbl	fresh water	
Lead		254 sx Class "G" Cement	667 cuft
Slurry 1		+ 3% D79 extender	
TOC@Surface		+1/4 #/sk. Cellophane Flake	
		+ 5 lb/sk Gilsonite	
Tail		107 sx 50/50 Class "G"/Poz	135 cuft
Slurry 2		+ 2% gel (extender)	
	500 ft fill	+1/4 #/sk. Cellophane Flake	0.1503 cuft/ft OH
		+ 2% CaCl2 (accelerator)	0.1746 cuft/ft csg ann
		+ 5 lb/sk Gilsonite	80 % excess

Slurry Properties:	Density	Yield	Water	
	(lb/gal)	(ft3/sk)	(gal/sk)	
Slurry 1	11.4	2.63	15.8	
Slurry 2	13.5	1.27	5.72	

Casing Equipment: 7", 8R, ST&C
 1 Float Shoe (autofill with minimal LCM in mud)
 1 Float Collar (autofill with minimal LCM in mud)
 1 Stop Ring
 Centralizers, as needed
 1 Top Rubber Plug
 1 Thread Lock Compound

Production:

Fresh Water	10 bbl	CW100	
Lead		162 LiteCrete D961 / D124 / D154	346 cuft
Slurry 1		+ 0.03 gps D47 antifoam	
TOC@Surface		+ 0.5% D112 fluid loss	
		+ 0.11% D65 TIC	
Tail		95 sx 50/50 Class "G"/Poz	136 cuft
Slurry 2		+ 5% D20 gel (extender)	+ 5 #/sk D24 gilsonite
	1209 ft fill	+ 0.1% D46 antifoam	+ 0.15% D65 TIC
		+ 1/4 #/sk. Cellophane Flake	+ 0.1% D800 retarder
		+ 0.25% D167 Fluid Loss	
		+ 5 lb/sk Gilsonite	
		+0.1% d800, retarder	
		+0.15% D65, dispersant	

Slurry Properties:	Density	Yield	Water	
	(lb/gal)	(ft3/sk)	(gal/sk)	
Slurry 1	9.5	2.14	6.38	0.1026 cuft/ft OH
Slurry 2	13	1.44	6.5	10 % excess
				0.1169 cuft/ft csg ann

Casing Equipment: 4-1/2", 8R, ST&C
 1 Float Shoe (autofill with minimal LCM in mud)
 1 Float Collar (autofill with minimal LCM in mud)

Top of Mancos
 5605

Additional Operator Remarks
Riddle 1M
APD

BP America Production Company respectfully requests permission to drill the subject well to a total depth of approximately 7689'. Complete in the Basin Dakota Pool, isolate the Dakota; complete into the Blanco Mesaverde, establish a production rate; drill out the bridge plug and commingle production downhole.

Application for Downhole Commingling authority (NMOCD order R-11363) will be submitted to all appropriate for approval after Permit to Drill has been approved.

If terrain allows it is our intent to pre-set the 9 5/8" casing on the above mentioned well by drilling a surface hole with air/air mist in lieu of drilling mud and the surface casing be cemented with 94.5 cu/ft type I-II, 20% FLYASH, 14.5 PPG, 7.41 gal/sk, 1.61 cf/sk Yield, 80 DEG BHST ready mix cement. If the area will not allow for pre-set the approved cement program will be followed.

SUPPLEMENTAL TO SURFACE USE PLAN

New Facilities:

A 4.5" diameter buried steel pipeline that is +/- 500 feet in length will be constructed. The pipe wall thickness is .156 and the pipe wall strength is 42,000#. It will be adjacent to the access road and tie the well into an existing gas meter operated by BP America Production Company. The pipeline will not be used to transport gas to drill the well. After the well is spud the pipeline will be authorized by a right-of-way issued by El Paso Field Services.

APD/ROW

BP AMERICA PRODUCTION COMPANY

DRILLING AND COMPLETION PROGRAM

9/12/2005

Lease:	Riddle	Well Name & No.	Riddle #1M	Field:	Blanco Mesaverde/Basin Dakota
County:	San Juan, New Mexico	Surface Location:	21-30N-9W: 700' FNL, 2155' FWL		
Minerals:	State	Surface:	Lat: 36.8022598 deg; Long: -107.7864906 deg		
Rig :	Aztec 184	BH Location:	same		

OBJECTIVE: Drill 270' below the top of the Two Wells Mbr, set 4-1/2" production casing, Stimulate DK, MF, and PL intervals.

METHOD OF DRILLING		APPROXIMATE DEPTHS OF GEOLOGICAL MARKER			
TYPE OF TOOLS	DEPTH OF DRILLING	Actual GL:	5993	Estimated KB:	6,007.0'
Rotary	0 - TD	Marker		SUBSEA	TVD
LOG PROGRAM					APPROX. MD
Type	Depth Interval	Ojo Alamo		4,619'	1,388'
		Kirtland		4,466'	1,541'
Single Run		Fruitland	*	3,937'	2,070'
		Fruitland Coal	*	3,611'	2,396'
		Pictured Cliffs	*	3,303'	2,704'
		Lewis	*	3,070'	2,937'
Cased Hole		Cliff House	#	1,801'	4,206'
RST- CBL	TD to 7" shoe	Menefee	#	1,505'	4,502'
	Identify 4 1/2" cement top	Point Lookout	#	1,073'	4,934'
REMARKS:		Mancos		723'	5,284'
The recommended TD is intended to penetrate only the uppermost BRCN so that most of the ENCN can be produced. Offsetting wells to the west		Greenhorn		-941'	6,948'
Report all flares.		Graneros (bent,mkr)		-992'	6,999'
No free water zones reported from nearby wells.		Two Wells	#	-1,037'	7,044'
		Paguate	#	-1,140'	7,147'
		Cubero	#	-1,167'	7,174'
		L. Cubero	#	-1,206'	7,213'
		Encinal Cyn	#	-1,245'	7,252'
		TOTAL DEPTH:		-1,307'	7,314'
		# Probable completion interval		* Possible Pay	

SPECIAL TESTS	DRILL CUTTING SAMPLES	DRILLING TIME
TYPE	FREQUENCY	DEPTH
None	30'/10' intervals	3,037' to TD
		Geolograph
		0 - TD
REMARKS:		

MUD PROGRAM:				
Interval	Type <input type="checkbox"/> Mud	#gal	Vis, <input type="checkbox"/> sec/qt	/30 min
200'	Spud	8.8 - 9.0	Sufficient to clean hole.	
3,037'	Water/LSND	8.4 - 9.0		<9
7,314'	Air	1	1000 cfm for hammer	
				Sweep hole while whilst water drilling, LCM onsite
				Volume sufficient to maintain a stable and clean wellbore.

CASING PROGRAM:							
Casing <input type="checkbox"/> String	Depth	Size	Casing Size	Grade, Thread	Weight	Landing Point	Cement
Surface/Conductor	200'	13 1/2"	9-5/8"	H-40 ST&C	32#		cmt to surface
Intermediate 1	3,037'	8-3/4"	7"	J/K-55 ST&C	20#	100' below LWIS	cmt to surface
Production	7,314'	6-1/4"	4-1/2"	P-110	11.6#	DKOT	150' inside Intermediate - TOC survey required

CORING PROGRAM:
None

COMPLETION PROGRAM:
Rigless, 2-3 Stage Limited Entry Hydraulic Frac, FMC Unihead

GENERAL REMARKS:
Notify BLM/NMOCDD 24 hours prior to Spud, BOP testing, and Casing and Cementing.

BOP Pressure Testing Requirements			
Formation	Depth	Anticipated bottom hole pressure	Max anticipated surface pressure**
Cliffhouse	4,206'	500	0
Point Lookout	4,934'	600	0
Dakota	7,044'	2600	1050.32

Requested BOP Pressure Test Exception = 1500 psi

** Note: Determined using the following formula: ABHP - (.22*TVD) = ASP

Form 46 Reviewed by:	Logging program reviewed by:	DATE:	APPROVED:	DATE:
HGJ	JMP	12-Sep-05		
Form 46 7-84bw	For Drilling Dept.		For Production Dept.	

**SAN JUAN BASIN
Dakota Formation
Pressure Control Equipment**

Background

The objective Dakota formation maximum surface pressure is anticipated to be less than 1000 psi, based on shut-in surface pressures from adjacent wells. Pressure control equipment working pressure minimum requirements are therefore 2000 psi. Equipment to be used will conform to API RP-53 (Figure 2.C.2) for a 2000 psi system per Federal Onshore Order No. 2. Due to available conventional equipment within the area, 3000 psi rated pressure control equipment will typically be utilized in a single ram type arrangement. Regional drilling rights to be utilized have substructure height limitations which exclude the use of annular preventers; therefore a rotating head will be installed above these rams. This pressure control equipment will be utilized for conventional drilling below conductor to total depth in the Basin Dakota. No abnormal temperature, pressure, or H₂S anticipated.

Equipment Specification

Interval

BOP Equipment

Below conductor casing to total depth 11" nominal or 7 1/16", 2000 psi Single ram preventer with 3000 psi annular preventer and rotating head.

All ram type and annular preventers as well as related control equipment will be hydraulically tested to 250 psi (low pressure) and 1500 psi (high pressure), upon installation, following any repairs or equipment replacements, or at 30 day intervals. Accessories to BOP equipment will include kelly cock, upper kelly cock with a handle available, floor safety valves and choke manifold which will also be tested to equivalent pressure.

FEDERAL CEMENTING REQUIREMENTS

- 1. All permeable zones containing fresh water and other usable water containing 10,000 PPM or less total dissolved solids will be isolated and protected from contamination by cement circulated in place for the protection of permeable zones per the NTL-FRA 90-1 Section III A.**
 - 2. The hole size will be no smaller than 1 1/2" larger diameter than the casing O.D. across all water zones.**
 - 3. An adequate spacer will be pumped ahead of the cement slurry to help prevent mud contamination of the cement.**
 - 4. An adequate number of casing centralizers will be run through usable water zones to ensure that the casing is centralized through these zones. The adequate number of centralizers to use will be determined by API SPEC 10D.**
 - 5. Centralizers will impart a swirling action around the casing and will be used just below and into the base of the lowest usable water zone.**
 - 6. A chronological log will be kept recording the pump and slurry information and will be sent to the BLM with the subsequent sundry.**
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BP American Production Company

Well Control Equipment Schematic

