

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

FORM APPROVED
OMB No. 1004-0135
Expires November 30, 2000

SUNDRY NOTICES AND REPORTS ON WELLS

Do not use this form for proposals to drill or to re-enter an
Abandoned well. Use Form 3160-3 (APD) for such proposals.

5. Lease Serial No.

SF - 078040

6. If Indian, Allottee or tribe Name

7. If Unit or CA/Agreement, Name and/or No.

SUBMIT IN TRIPLICATE - Other instructions on reverse side

1. Type of Well

☐

Oil Well

☒

Gas Well

☐

Other

2. Name of Operator

BP AMERICA PRODUCTION COMPANY

8. Well Name and No.

Mudge Com B 1N

9. API Well No.

30-045-32699

3a. Address

PO BOX 3092 HOUSTON, TX 77253

3b. Phone No. (include area code)

281-366-4081

10. Field and Pool, or Exploratory Area

BASIN DAKOTA & BLANCO MESAVERDE

4. Location of Well (Footage, Sec., T., R., M., or Survey Description)

1765' FSL & 1045' FEL; SEC 25 T31N R40W NESE Mer NMP

11. County or Parish, State

SAN JUAN, NM

12. CHECK APPROPRIATE BOX(ES) TO INDICATE NATURE OR NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION

☒

Notice of Intent

☐

Subsequent Report

☐

Final Abandonment Notice

TYPE OF ACTION

☐

Acidize

☐

Deepen

☐

Production (Start/Resume)

☐

Water shut-Off

☐

Alter Casing

☐

Fracture Treat

☐

Reclamation

☐

Well Integrity

☐

Casing Repair

☐

New Construction

☐

Recomplete

☐

Other Change to BH Location

☐

Change Plans

☐

Plug and Abandon

☐

Water Disposal

☐

Convert to Injection

☐

Plug Back

13. Describe Proposed or Completed Operation (clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recomplete horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports shall be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompletion in a new interval, a Form 3160-4 shall be filed once testing has been completed. Final Abandonment Notices shall be filed only after all requirements, including reclamation, have been completed, and the operator has determined that the site is ready for final inspection.

The original APD was submitted on 11/19/2004 and approval was granted on 01/03/05.

BP America respectfully requests permission to change from a vertical drill to directional drill for the above mentioned well and therefore change the Bottom Hole location.

From: 1975' FNL & 1875' FEL

TO: 750' FNL & 1900' FEL

The surface location remains the same.

The Intermediate and Production casing will change and therefore change the cement program. Please see the attached documentation.

14. I hereby certify that the foregoing is true and correct
Name (Printed/typed)

Cherry Hlava

Title Regulatory Analyst

Signature

Cherry Hlava

Date 06/22/2005

THIS SPACE FOR FEDERAL OR STATE OFFICE USE

Approved by

Shirley Brumley

Title

Pet. Eng

Date

7/5/05

Conditions of approval, if any, are attached. Approval of this notice does not warrant or certify that the applicant holds legal or equitable title to those rights in the subject lease which would entitle the applicant to conduct operations thereon.

Office

FFO

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.

NMOC

BP AMERICA PRODUCTION COMPANY

DRILLING AND COMPLETION PROGRAM

11/18/2004 (Revised 06/16/2005)

Lease:	Mudge Com B	Well Name & No.	Mudge Com B #1N	Field:	Blanco Mesaverde/Basin Dakota
County:	San Juan, New Mexico	Surface Location:	11-31N-11W : 1975' FNL x 1875' FEL		
Minerals:	State	Surface:	Lat: 36.9146682 Long: -107.9566092		
Rig :	Aztec 184	BH Location:	11-31N-11W : 750' FNL x 1900' FEL Lat: 36.9180328 Long: -107.9565452		
OBJECTIVE:	Drill 300' 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:	5842	Estimated KB:	5,856.0'
Rotary	0 - TD	Marker		SUBSEA	TVD
LOG PROGRAM					APPROX. MD
Type	Depth Interval	Ojo Alamo		5,051'	805'
Single Run		Kirtland		4,998'	858'
		Fruitland	*	3,986'	1,870'
		Fruitland Coal	*	3,630'	2,226'
		Pictured Cliffs	*	3,304'	2,552'
		Lewis	*	3,077'	2,779'
Cased Hole	TD to 7" shoe	Cliff House	#	1,786'	4,070'
TDT- CBL		Menefee	#	1,468'	4,388'
	Identify 4 1/2" cement top	Point Lookout	#	1,035'	4,821'
REMARKS:		Mancos		728'	5,128'
- Please report any flares (magnitude & duration).		Greenhorn		-961'	6,817'
		Graneros (bent,mkr)		-1,015'	6,871'
		Two Wells	#	-1,075'	6,931'
		Paguate	#	-1,158'	7,014'
		Cubero	#	-1,192'	7,048'
		L. Cubero	#	-1,226'	7,082'
		Encinal Cyn	#	-1,271'	7,127'
		Burro Canyon	#	-1,349'	7,205'
		TOTAL DEPTH:		-1,399'	7,255'
		# Probable completion interval		# Possible Pay	

SPECIAL TESTS	DRILL CUTTING SAMPLES	DRILLING TIME
TYPE	FREQUENCY	DEPTH
None	30'/10' intervals	3,120' to TD
		Geolograph

REMARKS:	
----------	--

MUD PROGRAM:					
Interval	TypeMud	#/gal	Vis, sec/qt	/30 min	Other Specification
200'	Spud	8.8 - 9.0	Sufficient to clean hole.		
3,120'	Water/LSND	8.4 - 9.0		<9	Sweep hole while whilst water drilling, LCM onsite
7,521'	Air	1			Volume sufficient to maintain a stable and clean wellbore

CASING PROGRAM:							
CasingString	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	3,120'	8-3/4"	7"	J/K-55 ST&C	20#	100' below LWIS	cmt to surface
Production	7,521'	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. Open hole (7181-7255) produced natural							

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	4,070'	500	0
Point Lookout	4,821'	600	0
Dakota	6,931'	2600	1075.18

Requested BOP Pressure Test Exception = 1500 psi	** Note: Determined using the following formula: ABHP - (.22"TVDD) = ASP
--	--

Form 46 Reviewed by:	Logging program reviewed by:	DATE:	APPROVED:	DATE:
PREPARED BY:	APPROVED:	DATE:	APPROVED:	DATE:
HGJ	JMP/GGZ	18/2004 (Revised 06/16/20)		

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 30-045-32699	² Pool Code 71599; 72319	³ Pool Name Basin Dakota; Blanco Mesaverde
⁴ Property Code 000910	⁵ Property Name Mudge Gas Com B	⁶ Well Number # 1N
⁷ OGRID No. 778	⁸ Operator Name BP AMERICA PRODUCTION COMPANY	⁹ Elevation 5842

¹⁰ Surface Location

UL or Lot No. G	Section 11	Township 31 N	Range 11 W	Lot Idn	Feet from the 1975	North/South line NORTH	Feet from the 1875	East/West line EAST	County SAN JUAN
---------------------------	----------------------	-------------------------	----------------------	---------	------------------------------	----------------------------------	------------------------------	-------------------------------	---------------------------

¹¹ Bottom Hole Location If Different From Surface

⁷ UL or lot no. B	Section 11	Township 31 N	Range 11 W	Lot Idn	Feet from the 750	North/South line North	Feet from the 1900	East/West line East	County San Juan
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

16	¹⁷ OPERATOR CERTIFICATION I hereby certify that the information contained herein is true and complete to the best of my knowledge and belief. <i>Cherry Hlava</i> Signature Cherry Hlava Printed Name Regulatory Analyst Title 6-22-05 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. September 9, 2004 Date of Survey Signature and Seal of Professional Surveyor 7016 Certificate Number
----------------------	--

Cementing Program

Revised 06/22/05

Well Name:	Mudge GC B #1N	Well Flac	
Location:	11-31N-11W : 1975' FNL, 1875' FEL BHL 750' FNL & 1900' FEL	Formation:	Blanco Mesaverde/Basin Dakota
County:	San Juan	KB Elev (est)	5856
State:	New Mexico	GL Elev. (est)	5842

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	3120	8.75	7	ST&C	Surface	NA	
Production -	7251	6.25	4.5	ST&C	3020	NA	

Casing Properties:

		(No Safety Factor Included)				Joint St.	Capacity	Drift
Casing String	Size (in.)	Weight (lb/ft)	Grade	Burst (psi)	Collapse (psi)	(1000 lbs.)	(bbl/ft.)	(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	Recommended Mud Properties Prio Cementing:
			PV <20
			YP <10
			Fluid Lc <15
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	

Cementing Program:

	Surface	Intermediate	Production
Excess %, Lead	100	75	40
Excess %, Tail	NA	0	40
BHST (est deg. F)	75	120	183
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% CaCl ₂ (accelerator)		
			0.4887 cuft/ft OH

Slurry Properties:

	Density (lb/gal)	Yield (ft ³ /sk)	Water (gal/sk)
Slurry 1	15.2	1.27	5.8

Casing Equipment:

9-5/8", 8R, ST&C	
1 Guide Shoe	Schlumberger Private
1 Top Wooden Plug	Page 1
1 Autofill insert float valve	
Centralizers, 1 per joint except top joint	

Amoco

6/22/2005

Cementing Program

1 Stop Ring
1 Thread Lock Compound

Intermediate:

Fresh Water	20. bbl	fresh water	
Lead		255 sx Class "G" Cement	671 cuft
Slurry 1		+ 3% D79 extender	
TOC@Surface		+1/4 #/sk. Cellophane Flake	
		+ 5 lb/sk Gilsonite	
Tail		59 sx 50/50 Class "G"/Poz	75 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	
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 one in middle of first joint, then every third collar
1 Top Rubber Plug
1 Thread Lock Compound

Production:

Fresh Water	10 bbl	CW100	
Lead		184 LiteCrete D961 / D124 / D154	464 cuft
Slurry 1		+ 0.03 gps D47 antifoam	
TOC, 400' above 7" shoe		+ 0.5% D112 fluid loss	
		+ 0.11% D65 TIC	
Tail		135 sx 50/50 Class "G"/Poz	195 cuft
Slurry 2		+ 5% D20 gel (extender)	
1357 ft fill		+ 0.1% D46 antifoam	
		+ 1/4 #/sk. Cellophane Flake	
		+ 0.25% D167 Fluid Loss	
		+ 5 lb/sk Gilsonite	
		+0.1% d800, retarder	
		+0.15% D65, dispersant	
			0.1026 cuft/ft OH
Slurry Properties:	Density	Yield	Water
	(lb/gal)	(ft3/sk)	(gal/sk)
Slurry 1	9.5	2.52	6.38
Slurry 2	13	1.44	6.5
			Top of Mancos
			5394

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)
1 Stop Ring
Centralizers, every 4th joint in mud drilled holes, none in air drilled holes.
1 Top Rubber Plug
1 Thread Lock Compound



Scientific Drilling
Directional Drilling Operations

Field: SAN JUAN, New Mexico
Site: SEC 11-T31N-R11W
Well: Mudge Com B #1N
Wellpath: OH
Plan: Plan #1



SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	
3	1256.60	28.70	358.83	1217.10	234.55	-4.79	3.00	358.83	234.60	
4	2406.78	28.70	358.83	2226.00	786.75	-16.07	0.00	0.00	786.91	
5	3128.30	21.48	358.83	2879.00	1092.44	-22.31	1.00	180.00	1092.67	7" csg pt.
6	3844.39	0.00	0.00	3578.43	1225.09	-25.02	3.00	180.00	1225.35	
7	7520.96	0.00	0.00	7255.00	1225.09	-25.02	0.00	0.00	1225.35	PBHL

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
Fruitland coal	2226.00	786.75	-16.07	2153080.671	2687043.233	Point
7" csg pt.	2879.00	1092.44	-22.31	2153386.336	2687036.993	Point
PBHL	7255.00	1225.00	-25.00	2153518.885	2687034.304	Point

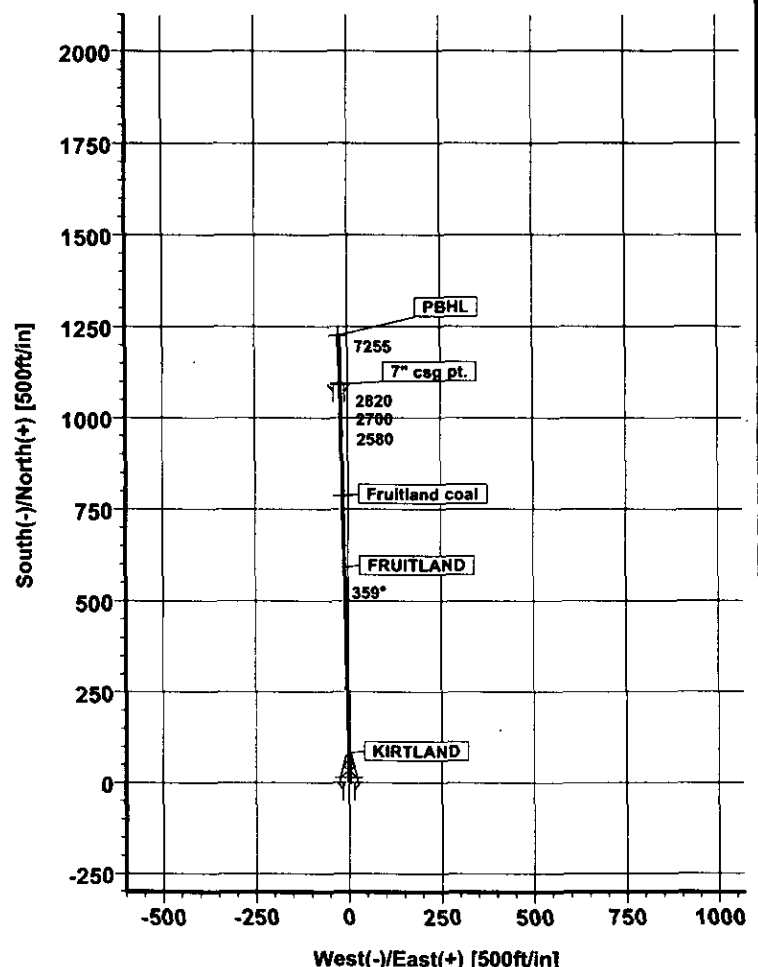
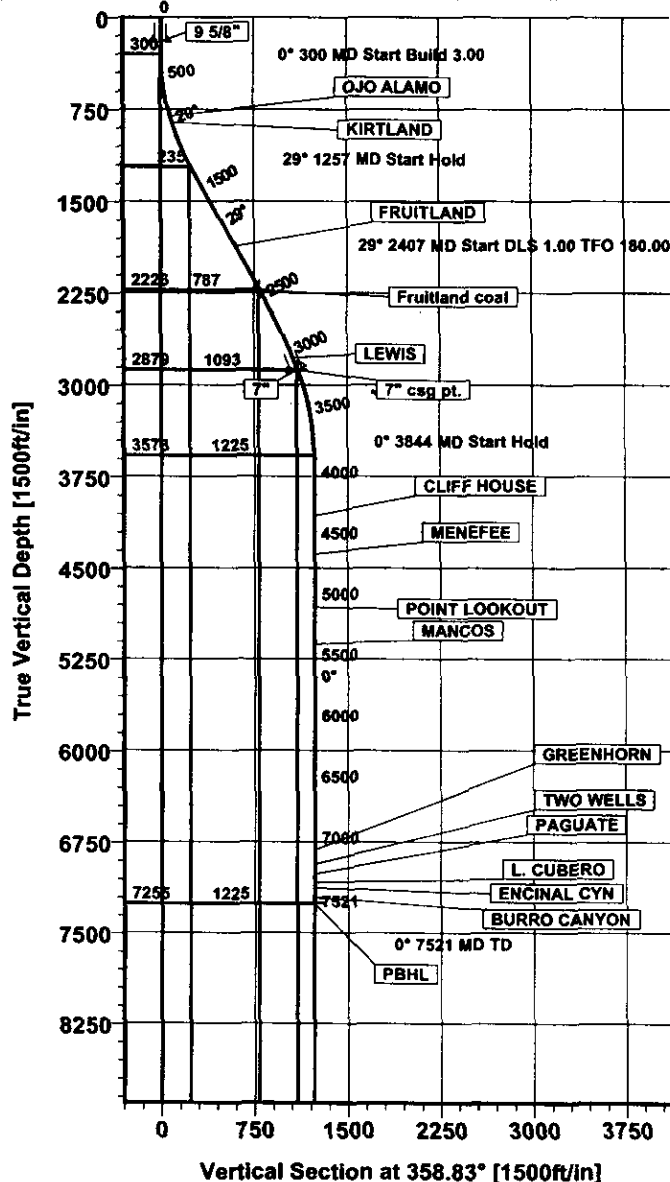
WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
Mudge Com B #1N	0.00	0.00	2152293.985	2687059.302	36°54'52.805N	107°57'23.793W	N/A

SITE DETAILS

SEC 11-T31N-R11W

Site Centre Latitude: 36°54'52.805N
Longitude: 107°57'23.793W
Ground Level: 5842.00
Positional Uncertainty: 0.00
Convergence: -0.07





Scientific Drilling Planning Report



Company: BP Date: 6/16/2005 Time: 13:12:24 Page: 1
Field: SAN JUAN, New Mexico Co-ordinate(NE) Reference: Well: Mudge Com B #1N, Grid North
Site: SEC 11-T31N-R11W Vertical (TVD) Reference: SITE 5856.0
Well: Mudge Com B #1N Section (VS) Reference: Well (0.00N,0.00E,358.83Azi)
Wellpath: OH Plan: Plan #1

Field: SAN JUAN, New Mexico
SAN JUAN COUNTY, NEW MEXICO
USA
Map System: US State Plane Coordinate System 1983 Map Zone: New Mexico, Western Zone
Geo Datum: GRS 1980 Coordinate System: Well Centre
Sys Datum: Mean Sea Level Geomagnetic Model: igrf2005

Site: SEC 11-T31N-R11W
Site Position: Northing: 2152293.985 ft Latitude: 36 54 52.805 N
From: Geographic Easting: 2687059.302 ft Longitude: 107 57 23.793 W
Position Uncertainty: 0.00 ft North Reference: Grid
Ground Level: 5842.00 ft Grid Convergence: -0.07 deg

Well: Mudge Com B #1N Slot Name:
Well Position: +N/-S 0.00 ft Northing: 2152293.985 ft Latitude: 36 54 52.805 N
+E/-W 0.00 ft Easting: 2687059.302 ft Longitude: 107 57 23.793 W
Position Uncertainty: 0.00 ft

Wellpath: OH Drilled From: Surface
Current Datum: SITE Height 5856.00 ft Tie-on Depth: 0.00 ft
Magnetic Data: 6/16/2005 Above System Datum: Mean Sea Level
Field Strength: 51465 nT Declination: 10.72 deg
Vertical Section: Depth From (TVD) +N/-S Mag Dip Angle: 63.72 deg
ft ft +E/-W Direction
deg
0.00 0.00 0.00 358.83

Plan: Plan #1 Date Composed: 6/16/2005
Principal: Yes Version: 5
Tied-to: From Surface

Plan Section Information

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	
1256.60	28.70	358.83	1217.10	234.55	-4.79	3.00	3.00	0.00	358.83	
2406.78	28.70	358.83	2226.00	786.75	-16.07	0.00	0.00	0.00	0.00	
3128.30	21.48	358.83	2879.00	1092.44	-22.31	1.00	-1.00	0.00	180.00	7" csg pt.
3844.39	0.00	0.00	3578.43	1225.09	-25.02	3.00	-3.00	0.16	180.00	
7520.96	0.00	0.00	7255.00	1225.09	-25.02	0.00	0.00	0.00	0.00	PBHL

Section 1 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00

Section 2 : Start Build 3.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
400.00	3.00	358.83	399.95	2.62	-0.05	2.62	3.00	3.00	0.00	0.00
500.00	6.00	358.83	499.63	10.46	-0.21	10.46	3.00	3.00	0.00	0.00
600.00	9.00	358.83	598.77	23.51	-0.48	23.51	3.00	3.00	0.00	0.00
700.00	12.00	358.83	697.08	41.73	-0.85	41.74	3.00	3.00	0.00	0.00
800.00	15.00	358.83	794.31	65.06	-1.33	65.08	3.00	3.00	0.00	0.00
811.08	15.33	358.83	805.00	67.96	-1.39	67.98	3.00	3.00	0.00	0.00
866.26	16.99	358.83	858.00	83.32	-1.70	83.33	3.00	3.00	0.00	0.00
900.00	18.00	358.83	890.18	93.46	-1.91	93.48	3.00	3.00	0.00	0.00

Company: BP
Field: SAN JUAN, New Mexico
Site: SEC 11-T31N-R11W
Well: Mudge Corn B #1N
Wellpath: OH

Date: 6/16/2005 **Time:** 13:12:24 **Page:** 2
Co-ordinate(NE) Reference: Well: Mudge Corn B #1N, Grid North
Vertical (TVD) Reference: SITE 5856.0
Section (VS) Reference: Well (0.00N,0.00E,358.83Azi)
Plan: Plan #1

Section 2 : Start Build 3.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
1000.00	21.00	358.83	984.43	126.83	-2.59	126.85	3.00	3.00	0.00	0.00
1100.00	24.00	358.83	1076.81	165.08	-3.37	165.12	3.00	3.00	0.00	0.00
1200.00	27.00	358.83	1167.06	208.12	-4.25	208.16	3.00	3.00	0.00	0.00
1256.60	28.70	358.83	1217.10	234.55	-4.79	234.60	3.00	3.00	0.00	0.00

Section 3 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
1300.00	28.70	358.83	1255.17	255.39	-5.22	255.44	0.00	0.00	0.00	0.00
1400.00	28.70	358.83	1342.89	303.40	-6.20	303.46	0.00	0.00	0.00	0.00
1500.00	28.70	358.83	1430.60	351.41	-7.18	351.48	0.00	0.00	0.00	0.00
1600.00	28.70	358.83	1518.32	399.42	-8.16	399.50	0.00	0.00	0.00	0.00
1700.00	28.70	358.83	1606.03	447.43	-9.14	447.52	0.00	0.00	0.00	0.00
1800.00	28.70	358.83	1693.75	495.43	-10.12	495.54	0.00	0.00	0.00	0.00
1900.00	28.70	358.83	1781.47	543.44	-11.10	543.56	0.00	0.00	0.00	0.00
2000.00	28.70	358.83	1869.18	591.45	-12.08	591.58	0.00	0.00	0.00	0.00
2000.93	28.70	358.83	1870.00	591.90	-12.09	592.02	0.00	0.00	0.00	0.00
2100.00	28.70	358.83	1956.90	639.46	-13.06	639.60	0.00	0.00	0.00	0.00
2200.00	28.70	358.83	2044.62	687.47	-14.04	687.62	0.00	0.00	0.00	0.00
2300.00	28.70	358.83	2132.33	735.48	-15.02	735.63	0.00	0.00	0.00	0.00
2406.78	28.70	358.83	2226.00	786.75	-16.07	786.91	0.00	0.00	0.00	0.00

Section 4 : Start DLS 1.00 TFO 180.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
2500.00	27.77	358.83	2308.13	830.83	-16.97	831.01	1.00	-1.00	0.00	180.00
2600.00	26.77	358.83	2397.01	876.63	-17.90	876.82	1.00	-1.00	0.00	180.00
2700.00	25.77	358.83	2486.69	920.88	-18.81	921.07	1.00	-1.00	0.00	180.00
2772.30	25.04	358.83	2552.00	951.89	-19.44	952.09	1.00	-1.00	0.00	180.00
2800.00	24.77	358.83	2577.12	963.55	-19.68	963.75	1.00	-1.00	0.00	180.00
2900.00	23.77	358.83	2668.28	1004.64	-20.52	1004.85	1.00	-1.00	0.00	180.00
3000.00	22.77	358.83	2760.15	1044.13	-21.32	1044.35	1.00	-1.00	0.00	180.00
3020.43	22.56	358.83	2779.00	1052.00	-21.49	1052.22	1.00	-1.00	0.00	180.00
3100.00	21.77	358.83	2852.69	1082.01	-22.10	1082.24	1.00	-1.00	0.00	180.00
3128.30	21.48	358.83	2879.00	1092.44	-22.31	1092.67	1.00	-1.00	0.00	180.00

Section 5 : Start DLS 3.00 TFO 180.00

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
3200.00	19.33	358.83	2946.20	1117.43	-22.82	1117.67	3.00	-3.00	0.00	180.00
3300.00	16.33	358.83	3041.38	1148.05	-23.45	1148.28	3.00	-3.00	0.00	180.00
3400.00	13.33	358.83	3138.04	1173.64	-23.97	1173.88	3.00	-3.00	0.00	180.00
3500.00	10.33	358.83	3235.90	1194.13	-24.39	1194.38	3.00	-3.00	0.00	180.00
3600.00	7.33	358.83	3334.71	1209.48	-24.70	1209.73	3.00	-3.00	0.00	180.00
3700.00	4.33	358.83	3434.18	1219.64	-24.91	1219.89	3.00	-3.00	0.00	180.00
3800.00	1.33	358.83	3534.04	1224.58	-25.01	1224.83	3.00	-3.00	0.00	180.00
3844.39	0.00	0.00	3578.43	1225.09	-25.02	1225.35	3.00	-3.00	2.64	180.00

Section 6 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
3900.00	0.00	0.00	3634.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4000.00	0.00	0.00	3734.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4100.00	0.00	0.00	3834.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4200.00	0.00	0.00	3934.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4300.00	0.00	0.00	4034.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4335.96	0.00	0.00	4070.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4400.00	0.00	0.00	4134.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4500.00	0.00	0.00	4234.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4600.00	0.00	0.00	4334.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00

Company: BP
 Field: SAN JUAN, New Mexico
 Site: SEC 11-T31N-R11W
 Well: Mudge Com B #1N
 Wellpath: OH

Date: 6/16/2005 Time: 13:12:24 Page: 3
 Co-ordinate(NE) Reference: Well: Mudge Com B #1N, Grid North
 Vertical (TVD) Reference: SITE 5856.0
 Section (VS) Reference: Well (0.00N,0.00E,358.83Azi)
 Plan: Plan #1

Section 6 : Start Hold

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	TFO deg
4653.96	0.00	0.00	4388.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4700.00	0.00	0.00	4434.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4800.00	0.00	0.00	4534.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
4900.00	0.00	0.00	4634.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5000.00	0.00	0.00	4734.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5086.96	0.00	0.00	4821.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5100.00	0.00	0.00	4834.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5200.00	0.00	0.00	4934.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5300.00	0.00	0.00	5034.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5393.96	0.00	0.00	5128.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5400.00	0.00	0.00	5134.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5500.00	0.00	0.00	5234.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5600.00	0.00	0.00	5334.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5700.00	0.00	0.00	5434.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5800.00	0.00	0.00	5534.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
5900.00	0.00	0.00	5634.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
6000.00	0.00	0.00	5734.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
6100.00	0.00	0.00	5834.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
6200.00	0.00	0.00	5934.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
6300.00	0.00	0.00	6034.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
6400.00	0.00	0.00	6134.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
6500.00	0.00	0.00	6234.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
6600.00	0.00	0.00	6334.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
6700.00	0.00	0.00	6434.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
6800.00	0.00	0.00	6534.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
6900.00	0.00	0.00	6634.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7000.00	0.00	0.00	6734.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7082.96	0.00	0.00	6817.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7100.00	0.00	0.00	6834.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7136.96	0.00	0.00	6871.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7196.96	0.00	0.00	6931.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7200.00	0.00	0.00	6934.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7279.96	0.00	0.00	7014.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7300.00	0.00	0.00	7034.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7313.96	0.00	0.00	7048.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7347.96	0.00	0.00	7082.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7392.96	0.00	0.00	7127.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7400.00	0.00	0.00	7134.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7470.96	0.00	0.00	7205.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7500.00	0.00	0.00	7234.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00
7520.96	0.00	0.00	7255.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	0.00

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
100.00	0.00	0.00	100.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD ISCWSA
200.00	0.00	0.00	200.00	0.00	0.00	0.00	0.00	0.00	0.00	9 5/8"
300.00	0.00	0.00	300.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD ISCWSA
400.00	3.00	358.83	399.95	2.62	-0.05	2.62	3.00	3.00	0.00	MWD ISCWSA
500.00	6.00	358.83	499.63	10.46	-0.21	10.46	3.00	3.00	0.00	MWD ISCWSA
600.00	9.00	358.83	598.77	23.51	-0.48	23.51	3.00	3.00	0.00	MWD ISCWSA
700.00	12.00	358.83	697.08	41.73	-0.85	41.74	3.00	3.00	0.00	MWD ISCWSA
800.00	15.00	358.83	794.31	65.06	-1.33	65.08	3.00	3.00	0.00	MWD ISCWSA
811.08	15.33	358.83	805.00	67.96	-1.39	67.98	3.00	3.00	0.00	OJO ALAMO
866.26	16.99	358.83	858.00	83.32	-1.70	83.33	3.00	3.00	0.00	KIRTLAND
900.00	18.00	358.83	890.18	93.46	-1.91	93.48	3.00	3.00	0.00	MWD ISCWSA
1000.00	21.00	358.83	984.43	126.83	-2.59	126.85	3.00	3.00	0.00	MWD ISCWSA
1100.00	24.00	358.83	1076.81	165.08	-3.37	165.12	3.00	3.00	0.00	MWD ISCWSA
1200.00	27.00	358.83	1167.06	208.12	-4.25	208.16	3.00	3.00	0.00	MWD ISCWSA

Scientific Drilling Planning Report

Company: BP Field: SAN JUAN, New Mexico Site: SEC 11-T31N-R11W Well: Mudge Com B #1N Wellpath: OH	Date: 6/16/2005 Co-ordinate(NE) Reference: Well: Mudge Com B #1N, Grid North Vertical (TVD) Reference: SITE 5856.0 Section (VS) Reference: Well (0.00N,0.00E,358.83Azi) Plan: Plan #1	Time: 13:12:24 Page: 4
--	--	---

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1256.60	28.70	358.83	1217.10	234.55	-4.79	234.60	3.00	3.00	0.00	MWD ISCWSA
1300.00	28.70	358.83	1255.17	255.39	-5.22	255.44	0.00	0.00	0.00	MWD ISCWSA
1400.00	28.70	358.83	1342.89	303.40	-6.20	303.46	0.00	0.00	0.00	MWD ISCWSA
1500.00	28.70	358.83	1430.60	351.41	-7.18	351.48	0.00	0.00	0.00	MWD ISCWSA
1600.00	28.70	358.83	1518.32	399.42	-8.16	399.50	0.00	0.00	0.00	MWD ISCWSA
1700.00	28.70	358.83	1606.03	447.43	-9.14	447.52	0.00	0.00	0.00	MWD ISCWSA
1800.00	28.70	358.83	1693.75	495.43	-10.12	495.54	0.00	0.00	0.00	MWD ISCWSA
1900.00	28.70	358.83	1781.47	543.44	-11.10	543.56	0.00	0.00	0.00	MWD ISCWSA
2000.00	28.70	358.83	1869.18	591.45	-12.08	591.58	0.00	0.00	0.00	MWD ISCWSA
2000.93	28.70	358.83	1870.00	591.90	-12.09	592.02	0.00	0.00	0.00	FRUITLAND
2100.00	28.70	358.83	1956.90	639.46	-13.06	639.60	0.00	0.00	0.00	MWD ISCWSA
2200.00	28.70	358.83	2044.62	687.47	-14.04	687.62	0.00	0.00	0.00	MWD ISCWSA
2300.00	28.70	358.83	2132.33	735.48	-15.02	735.63	0.00	0.00	0.00	MWD ISCWSA
2406.78	28.70	358.83	2226.00	786.75	-16.07	786.91	0.00	0.00	0.00	Fruitland coal
2500.00	27.77	358.83	2308.13	830.83	-16.97	831.01	1.00	-1.00	0.00	MWD ISCWSA
2600.00	26.77	358.83	2397.01	876.63	-17.90	876.82	1.00	-1.00	0.00	MWD ISCWSA
2700.00	25.77	358.83	2486.69	920.88	-18.81	921.07	1.00	-1.00	0.00	MWD ISCWSA
2772.30	25.04	358.83	2552.00	951.89	-19.44	952.09	1.00	-1.00	0.00	PICTURED CLIFFS
2800.00	24.77	358.83	2577.12	963.55	-19.68	963.75	1.00	-1.00	0.00	MWD ISCWSA
2900.00	23.77	358.83	2668.28	1004.64	-20.52	1004.85	1.00	-1.00	0.00	MWD ISCWSA
3000.00	22.77	358.83	2760.15	1044.13	-21.32	1044.35	1.00	-1.00	0.00	MWD ISCWSA
3020.43	22.56	358.83	2779.00	1052.00	-21.49	1052.22	1.00	-1.00	0.00	LEWIS
3100.00	21.77	358.83	2852.69	1082.01	-22.10	1082.24	1.00	-1.00	0.00	MWD ISCWSA
3128.30	21.48	358.83	2879.00	1092.44	-22.31	1092.67	1.00	-1.00	0.00	7" csg pt.
3200.00	19.33	358.83	2946.20	1117.43	-22.82	1117.67	3.00	-3.00	0.00	MWD ISCWSA
3300.00	16.33	358.83	3041.38	1148.05	-23.45	1148.28	3.00	-3.00	0.00	MWD ISCWSA
3400.00	13.33	358.83	3138.04	1173.64	-23.97	1173.88	3.00	-3.00	0.00	MWD ISCWSA
3500.00	10.33	358.83	3235.90	1194.13	-24.39	1194.38	3.00	-3.00	0.00	MWD ISCWSA
3600.00	7.33	358.83	3334.71	1209.48	-24.70	1209.73	3.00	-3.00	0.00	MWD ISCWSA
3700.00	4.33	358.83	3434.18	1219.64	-24.91	1219.89	3.00	-3.00	0.00	MWD ISCWSA
3800.00	1.33	358.83	3534.04	1224.58	-25.01	1224.83	3.00	-3.00	0.00	MWD ISCWSA
3844.39	0.00	0.00	3578.43	1225.09	-25.02	1225.35	3.00	-3.00	2.64	MWD ISCWSA
3900.00	0.00	0.00	3634.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
4000.00	0.00	0.00	3734.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
4100.00	0.00	0.00	3834.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
4200.00	0.00	0.00	3934.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
4300.00	0.00	0.00	4034.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
4335.96	0.00	0.00	4070.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	CLIFF HOUSE
4400.00	0.00	0.00	4134.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
4500.00	0.00	0.00	4234.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
4600.00	0.00	0.00	4334.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
4653.96	0.00	0.00	4388.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	MENEFEE
4700.00	0.00	0.00	4434.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
4800.00	0.00	0.00	4534.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
4900.00	0.00	0.00	4634.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
5000.00	0.00	0.00	4734.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
5086.96	0.00	0.00	4821.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	POINT LOOKOUT
5100.00	0.00	0.00	4834.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
5200.00	0.00	0.00	4934.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
5300.00	0.00	0.00	5034.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
5393.96	0.00	0.00	5128.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	MANCOS
5400.00	0.00	0.00	5134.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
5500.00	0.00	0.00	5234.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
5600.00	0.00	0.00	5334.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA

Company: BP Field: SAN JUAN, New Mexico Site: SEC 11-T31N-R11W Well: Mudge Com B #1N Wellpath: OH	Date: 6/16/2005 Co-ordinate(NE) Reference: Well: Mudge Com B #1N, Grid North Vertical (TVD) Reference: SITE 5856.0 Section (VS) Reference: Well (0.00N,0.00E,358.83Azi) Plan: Plan #1
--	--

Survey

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
5700.00	0.00	0.00	5434.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
5800.00	0.00	0.00	5534.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
5900.00	0.00	0.00	5634.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
6000.00	0.00	0.00	5734.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
6100.00	0.00	0.00	5834.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
6200.00	0.00	0.00	5934.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
6300.00	0.00	0.00	6034.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
6400.00	0.00	0.00	6134.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
6500.00	0.00	0.00	6234.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
6600.00	0.00	0.00	6334.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
6700.00	0.00	0.00	6434.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
6800.00	0.00	0.00	6534.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
6900.00	0.00	0.00	6634.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
7000.00	0.00	0.00	6734.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
7082.96	0.00	0.00	6817.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	GREENHORN
7100.00	0.00	0.00	6834.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
7136.96	0.00	0.00	6871.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	GRANEROS
7196.96	0.00	0.00	6931.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	TWO WELLS
7200.00	0.00	0.00	6934.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
7279.96	0.00	0.00	7014.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	PAGUATE
7300.00	0.00	0.00	7034.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
7313.96	0.00	0.00	7048.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	CUBERO
7347.96	0.00	0.00	7082.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	L. CUBERO
7392.96	0.00	0.00	7127.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	ENCINAL CYN
7400.00	0.00	0.00	7134.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
7470.96	0.00	0.00	7205.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	BURRO CANYON
7500.00	0.00	0.00	7234.04	1225.09	-25.02	1225.35	0.00	0.00	0.00	MWD ISCWSA
7520.96	0.00	0.00	7255.00	1225.09	-25.02	1225.35	0.00	0.00	0.00	PBHL

Targets

Name	Description Dip.	Dir.	TVD ft	+N/-S ft	+E/-W ft	Map Northing ft	Map Easting ft	Latitude Deg Min Sec	Longitude Deg Min Sec
Fruitland coal.			2226.00	786.75	-16.07	2153080.67	2687043.233	36 55 0.584 N	107 57 24.003 W
-Plan hit target									
7" csg pt.			2879.00	1092.44	-22.31	2153386.33	2687036.993	36 55 3.606 N	107 57 24.085 W
-Plan hit target									
PBHL			7255.00	1225.00	-25.00	2153518.88	2687034.304	36 55 4.917 N	107 57 24.120 W
-Plan hit target									

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
200.00	200.00	9.625	12.250	9 5/8"
3128.30	2879.00	7.000	8.500	7"

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
811.08	805.00	OJO ALAMO		0.00	0.00
866.26	858.00	KIRTLAND		0.00	0.00
2000.93	1870.00	FRUITLAND		0.00	0.00
2406.78	2226.00	FRUITLAND COAL		0.00	0.00
2772.30	2552.00	PICTURED CLIFFS		0.00	0.00
3020.43	2779.00	LEWIS		0.00	0.00

Scientific Drilling Planning Report

Company: BP	Date: 6/16/2005	Time: 13:12:24	Page: 6
Field: SAN JUAN, New Mexico	Co-ordinate(NE) Reference: Well: Mudge Com B #1N, Grid North		
Site: SEC 11-T31N-R11W	Vertical (TVD) Reference: SITE 5856.0		
Well: Mudge Com B #1N	Section (VS) Reference: Well (0.00N,0.00E,358.83Azi)		
Wellpath: OH	Plan:	Plan #1	

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
4335.96	4070.00	CLIFF HOUSE		0.00	0.00
4653.96	4388.00	MENEFEE		0.00	0.00
5086.96	4821.00	POINT LOOKOUT		0.00	0.00
5393.96	5128.00	MANCOS		0.00	0.00
7082.96	6817.00	GREENHORN		0.00	0.00
7136.96	6871.00	GRANEROS		0.00	0.00
7196.96	6931.00	TWO WELLS		0.00	0.00
7279.96	7014.00	PAGUATE		0.00	0.00
7313.96	7048.00	CUBERO		0.00	0.00
7347.96	7082.00	L. CUBERO		0.00	0.00
7392.96	7127.00	ENCINAL CYN		0.00	0.00
7470.96	7205.00	BURRO CANYON		0.00	0.00