

RECEIVED

FORM APPROVED
OMB No. 1004-0136
Expires January 31, 2004

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

APR 23 2009

APPLICATION FOR PERMIT TO DRILL OR REENTER
Bureau of Land Management
Farmingington Field Office

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMSF-078772
1b. Type of Well: ☐ Oil Well ☒ Gas Well ☐ Other ☐ Single Zone ☒ Multiple Zone		6. If Indian, Allottee or Tribe Name
2. Name of Operator Williams Production Company, LLC		7. If Unit or CA Agreement, Name and No. Rosa Unit COM
3a. Address P.O. Box 640 Aztec, NM 87410		8. Lease Name and Well No. 169D
3b. Phone No. (include area code) (505) 634-4208		9. API Well No. 3003930755
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 2395' FSL & 1720' FEL At proposed prod. zone 2200' FSL & 700' FEL		10. Field and Pool, or Exploratory Basin Mancos/Blanco Mesaverde/Basin Dakota
14. Distance in miles and direction from nearest town or post office* approximately 31 miles northeast of Blanco, New Mexico		11. Sec., T., R., M., or Blk. and Survey or Area Section 3, 31N, 6W
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drig. unit line, if any) 1720'	16. No. of Acres in lease 2,561.86	12. County or Parish Rio Arriba
17. Spacing Unit dedicated to this well 354.79-mn, OK 359.54-MV 352.87 acres- Entire Section	18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 35' Rosa 169 & 169A	13. State NM
19. Proposed Depth 8,238'	20. BLM/BIA Bond No. on file 0899 UT0847	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,355' GR	22. Approximate date work will start* April 1, 2009	23. Estimated duration 1 month
24. Attachments RCVD AUG 3 '09		

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 <i>Larry Higgins</i>	Name (Printed/Typed) Larry Higgins	Date 4-23-09
Title Drilling COM		
Approved by (Signature) <i>Jim Loh</i>	Name (Printed/Typed)	Date 7/31/09
Title Acting AFM Minerals	Office	

Application approval 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.

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)

Williams Production Company, LLC, proposes to develop the Basin Mancos, Blanco Mesaverde, and Basin Dakota formations at the above described location in accordance with the attached drilling and surface use plans.

The well pad surface is under jurisdiction of the Bureau of Reclamation (BOR).

This location has been archaeologically surveyed by La Plata Archaeological Consultants. Copies of their report have been submitted directly to the BLM and BOR.

No new access road will be required for this proposed well.

This APD is also serving as an application to obtain a pipeline right-of-way to the BOR. An associated pipeline tie of 132.30 feet would be required for this well.

NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

Hold C104
for Directional Survey
This action is subject to technical and "As Drilled" plat
procedural review pursuant to 43 CFR 3165.8
and appeal pursuant to 43 CFR 3165.4

NMOC

NMOC

Drilling operations authorized are
subject to compliance with attached
"General Requirements".

AUG 07 2009

District I
1625 N. French Dr., Hobbs, NM 88240

District II
1301 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

Form C-102
Revised October 12, 2005
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Fee Lease - 3 Copies

☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30039-30755	*Pool Code 97232 / 72319 / 71599	*Pool Name BASIN MANCOS / BLANCO MESAVARDE / BASIN DAKOTA
*Property Code 17212	*Property Name ROSA UNIT COM	*Well Number 169D
*OGRID No 120782	*Operator Name WILLIAMS PRODUCTION COMPANY	*Elevation 6355'

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
J	3	31N	6W		2395	SOUTH	1720	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
I	3	31N	6W		2200	SOUTH	700	EAST	RIO ARRIBA

¹² Dedicated Acres See Note Below for Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13123
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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

350.54

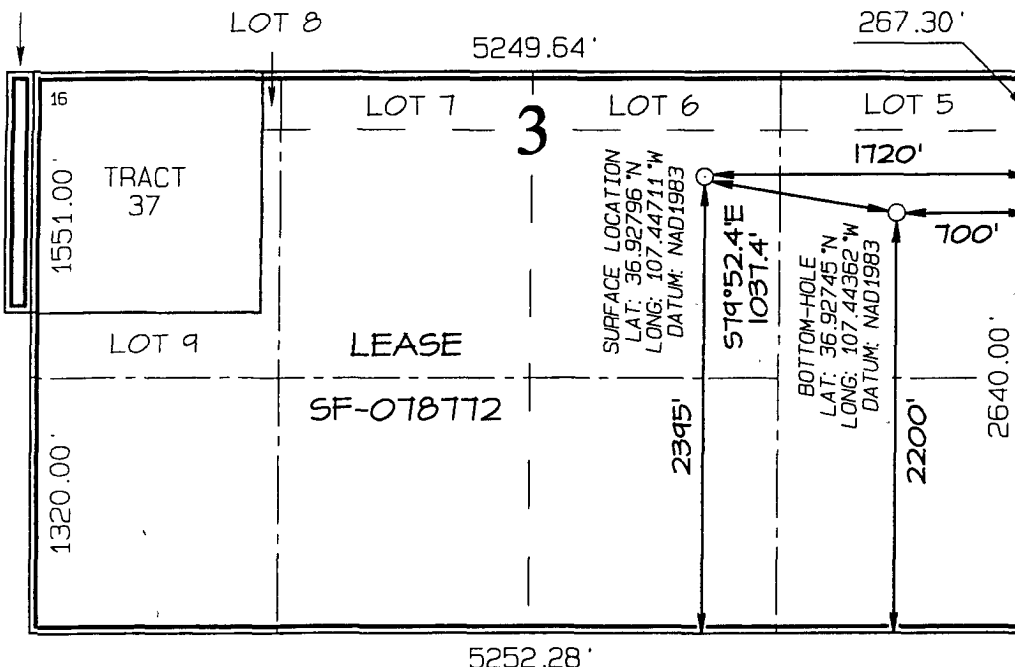
352.87 Acres (MV) - Entire Section 3

354.79

355.41 Acres (MANCOS, DK)

Entire Section 3 and Tract 37 in Section 4

TRACT 37
Section 4



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

Larry Higgins 7-30-07
Signature Date

LARRY HIGGINS
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

Survey Date: DECEMBER 7, 2008

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269



WILLIAMS PRODUCTION COMPANY

Operations Plan

(Note: This procedure will be adjusted on site based upon actual conditions)

DATE: 4/18/2009 **FIELD:** Basin DK/ Basin MC/BlancoMV
WELL NAME: Rosa #169D **SURFACE:** BOR
BH LOCATION: NESE Sec 3-31N-6W **MINERALS:** BLM
Rio Arriba, NM
ELEVATION: 6,355' GR **LEASE #** SF-078772
MEASURED DEPTH: 8,238'

I. **I. GEOLOGY:** Surface formation - San Jose

A. **FORMATION TOPS:** (KB)

Name	TVD	MD	Name	TVD	MD
Ojo Alamo	2,389	2,540	Menefee	5,449	5,643
Kirtland	2,494	2,655	Point Lookout	5,634	5,828
Fruitland	2,914	3,100	Mancos	5,994	6,188
Pictured Cliffs	3,164	3,355	Gallup	6,994	7,188
Lewis	3,479	3,673	Greenhorn	7,719	7,913
Cliff House	5,399	5,593	Graneros	7,779	7,973
			Dakota	7,914	8,108
			TD	8,044	8,238

- B. **MUD LOGGING PROGRAM:** Mudlogger on location from intermediate csg to TD. Mud logger to pick TD.
- C. **LOGGING PROGRAM:** HRI/Temp from intermediate casing to TD. SDL/DSN over zones of interest.
- D. **NATURAL GAUGES:** Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

II. **DRILLING**

- A. **MUD PROGRAM:** Clear water with benex to 7-5/8" casing point. Convert to a LSND mud to log and run pipe. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses. Use air w/Air Hammer from 7-5/8in. csg.to TD.
- B. **BOP TESTING:** While drill pipe is in use, the pipe rams and the blind rams will be function tested once each trip. The anticipated reservoir is expected to be less than 1300 psi, so the BOPE will be tested to **250 psi (Low) for 5 minutes** and **1500 psi (High) for 10 minutes**. Utilize a BOPE Testing Unit with a recording chart and appropriate test plug for testing. The drum brakes will be inspected and tested each tour. **All tests and inspections will be recorded in the tour book as to time and results.**

III. MATERIALS**A. CASING PROGRAM:**

CASING TYPE	OH SIZE (IN)	DEPTH (MD) (FT)	CASING SIZE (IN)	WEIGHT(LB)	GRADE
Surface	14 3/4	300	10 3/4	40.5	K-55
Intermediate	9 7/8	3,833	7 5/8	26.4	K-55
Longstring	6 3/4	8,238	5 1/2	17	N-80

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 10 3/4" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
2. INTERMEDIATE CASING: 7 5/8" cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install (1) Turbulent centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to 2,500 ft. Run (1) Turbulent centralizer at 2,700 ft., 2,500 ft., 2,300ft., 2,000ft., 1,500 ft., and 1,000 ft. (NTL-FRA 90-1).
3. PRODUCTION LINER / CASING: 5-1/2" whirler type cement nose guide shoe with a latch collar on top of 20' bottom joint. Place marker joint above 5,400'. Place centralizers as needed across selected production intervals.

C. CEMENTING:

(Note: Volumes may be adjusted onsite due to actual conditions)

1. SURFACE: Slurry: 290sx (521 cu.ft.) of "Type III" + 2% Cal-Seal 60 + ¼ # of poly-e-flake/sk + 0.3% Versaset + 2% Econolite + 6% Salt (Yield = 1.796 cu.ft./sk, Weight = 13.5 #/gal.). The 100% excess should circulate cement to the surface. WOC 12 hours. Test csg to 1500psi.
2. INTERMEDIATE: Lead - 525 sx (1430 cu.ft.) of "EXTENDACEM" + 5 #/sk pheno-seal + 5% Cal-Seal 60 (Yield = 2.723 cu.ft./sk, Weight = 11.5 #/gal.). Tail - 100 sx (117.8cu.ft.) of Premium cement + 0.125 #/sk Poly-E-Flake, (Yield = 1.178 cu.ft./sk, Weight = 15.6#/gal.). **NO EXCESS PUMP AS WRITTEN SHOULD CIRCULATE TO SURFACE** Total volume = 1548 cu.ft. Bump Plug to 1,500 psi. Notify engineering if cement is not circulated to surface
3. PRODUCTION CASING: 10 bbl Gelled Water spacer. Cement: 325 sx (454 ft³) of "FRACCEM" + 0.8% Halad-9 + 0.1% CFR-3 + 5 #/sk Gilsonite + 0.125 #/sk Poly-E-Flake + 0.15% HR-800. (Yield = 1.398 ft³/sk, Weight = 13.1 #/gal.). Displace cement at a minimum of 8 BPM. **NO EXCESS SHOULD COVER 150 FEET INTO 7" CASING** Total volume (454) ft³. WOC 12 hours.

IV. IV COMPLETION**A. CBL**

1. Run Cement Bond Log across all intervals to be perforated and find Top of Cement behind all casing strings if cement not circulated to surface..

B. PRESSURE TEST

1. Pressure test 5-1/2" casing to 6000 psi max, hold at 1500 psi for 30 minutes.

C. STIMULATION

1. Stimulate Dakota with approximately 10,000# of LiteProp 108™ sand in slick water.
2. Isolate Dakota with a RBP.
3. Perforate Mancos as determined from the open hole logs
4. Stimulate Mancos with 3 stages of approximately 117,000# 40/70 white sand and 7500# 100 mesh white sand
5. Stimulate Point Lookout with approximately 9300# of 14/30 LiteProp™ in slick water.
6. Isolate Point Lookout with a RBP.
7. Perforate the Menefee/Cliff House as determined from the open hole logs.
8. Stimulate with approximately 9300# of 14/30 LiteProp™ in slick water.
9. Test each zone before removing bridge plugs.

D. RUNNING TUBING

1. Production Tubing: Run 2-3/8", 4.7#, J-55, EUE tubing with a SN (1.91" ID) on top of bottom joint. Land tubing approximately 25' above the bottom Point Lookout perforation


Gary Sizemore
Sr. Drilling Engineer



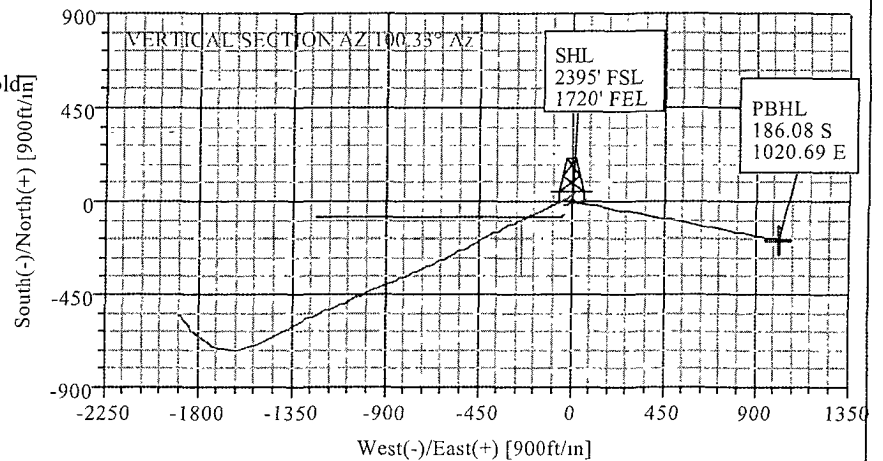
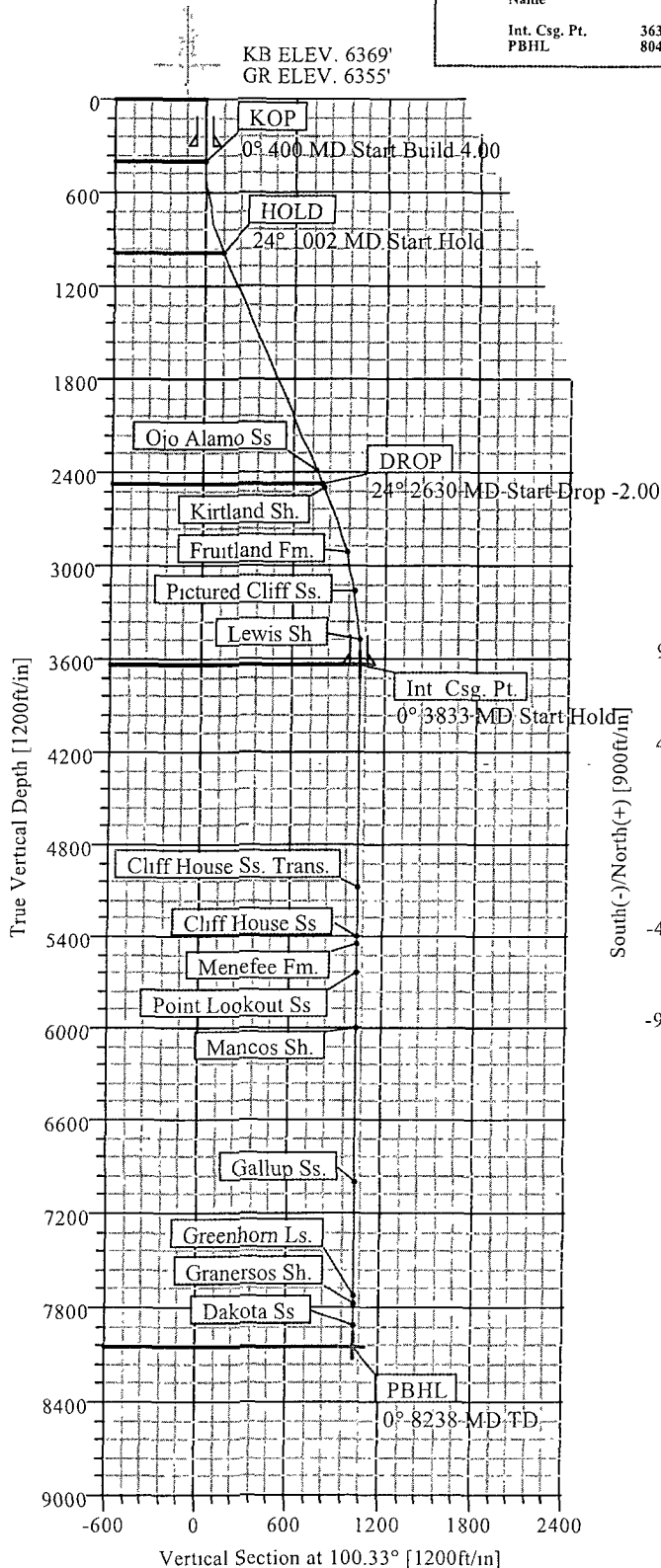
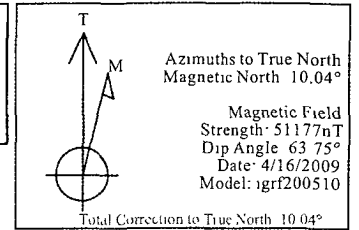
ROSA UNIT #169D
RIO ARRIBA CO, NEW MEXICO

SECTION DETAILS											
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target	
1	0.00	0.00	100.33	0.00	0.00	0.00	0.00	0.00	0.00		
2	400.00	0.00	100.33	400.00	0.00	0.00	0.00	0.00	0.00		
3	1001.68	24.07	100.33	984.14	-22.33	122.50	4.00	100.33	124.52		
4	2629.80	24.07	100.33	2470.72	-141.42	775.69	0.00	0.00	788.48		
5	3833.15	0.00	100.33	3639.00	-186.08	1020.69	2.00	180.00	1037.51	Int. Csg. Pt	
6	8238.15	0.00	100.33	8044.00	-186.08	1020.69	0.00	100.33	1037.51	PBHL	

WELL DETAILS							
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#169D	0.00	0.00	2159270.60	1290522.26	36°55'40.660N	107°26'49.600W	N/A

TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Int. Csg. Pt.	3639.00	-186.08	1020.69	2159071.72	1291540.53	36°55'38.820N	107°26'37.030W	Point
PBHL	8044.00	-186.08	1020.69	2159071.72	1291540.53	36°55'38.820N	107°26'37.030W	Point

LEGEND				
	Rosa #169 (1)			
	Rosa #169A (1)			
	Rosa #238 (1)			
	Rosa Unit No. 238A (1)			
	Plan #1			



FORMATION TOP DETAILS			
No	TVDPath	MDPath	Formation
1	2389.00	2540.29	Ojo Alamo Ss
2	2494.00	2655.24	Kirtland Sh
3	2914.00	3100.18	Fruitland Fm.
4	3164.00	3355.94	Pictured Cliff Ss.
5	3479.00	3673.06	Lewis Sh.
6	5079.00	5273.15	Cliff House Ss. Trans.
7	5399.00	5593.15	Cliff House Ss.
8	5449.00	5643.15	Menefee Fm.
9	5634.00	5828.15	Point Lookout Ss.
10	5994.00	6188.15	Mancos Sh.
11	6994.00	7188.15	Gallup Ss.
12	7719.00	7913.15	Greenhorn Ls.
13	7779.00	7973.15	Graneros Sh.
14	7914.00	8108.15	Dakota Ss.

Plan: Plan #1 (#169D/1)

Created By Lindsey Maddux

Date 4/18/2009



Weatherford International, Inc.

Proposal Plan Report



Weatherford

Company: WILLIAMS PRODUCTION	Date: 4/18/2009	Time: 14:00:47	Page: 3
Field: Rio Arriba Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well #169D, True North		
Site: Rosa Unit #169D	Vertical (TVD) Reference: SITE 6369.0		
Well: #169D	Section (VS) Reference: Well (0.00N, 0.00E, 100.33Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	Build deg/100ft	Turn deg/100ft	DLS deg/100ft	TFO deg	Comment
6100.00	0.00	100.33	5905.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
6188.15	0.00	100.33	5994.00	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	Mancos Sh.
6200.00	0.00	100.33	6005.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
6300.00	0.00	100.33	6105.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
6400.00	0.00	100.33	6205.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
6500.00	0.00	100.33	6305.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
6600.00	0.00	100.33	6405.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
6700.00	0.00	100.33	6505.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
6800.00	0.00	100.33	6605.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
6900.00	0.00	100.33	6705.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7000.00	0.00	100.33	6805.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7100.00	0.00	100.33	6905.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7188.15	0.00	100.33	6994.00	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	Gallup Ss
7200.00	0.00	100.33	7005.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7300.00	0.00	100.33	7105.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7400.00	0.00	100.33	7205.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7500.00	0.00	100.33	7305.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7600.00	0.00	100.33	7405.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7700.00	0.00	100.33	7505.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7800.00	0.00	100.33	7605.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7900.00	0.00	100.33	7705.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
7913.15	0.00	100.33	7719.00	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	Greenhorn Ls.
7973.15	0.00	100.33	7779.00	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	Granerosos Sh
8000.00	0.00	100.33	7805.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
8100.00	0.00	100.33	7905.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
8108.15	0.00	100.33	7914.00	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	Dakota Ss.
8200.00	0.00	100.33	8005.85	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	
8238.15	0.00	100.33	8044.00	-186.08	1020.69	1037.51	0.00	0.00	0.00	100.33	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
Int. Csg. Pt.				3639.00	-186.08	1020.69	2159071.72	1291540.53	36 55 38.820 N	107 26 37.030 W
-Plan hit target										
PBHL				8044.00	-186.08	1020.69	2159071.72	1291540.53	36 55 38.820 N	107 26 37.030 W
-Plan hit target										

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
2540.29	2389.00	Ojo Alamo Ss.		0.00	0.00
2655.24	2494.00	Kirtland Sh.		0.00	0.00
3100.18	2914.00	Fruitland Fm.		0.00	0.00
3355.94	3164.00	Pictured Cliff Ss.		0.00	0.00
3673.06	3479.00	Lewis Sh.		0.00	0.00
5273.15	5079.00	Cliff House Ss. Trans.		0.00	0.00
5593.15	5399.00	Cliff House Ss.		0.00	0.00
5643.15	5449.00	Menefee Fm		0.00	0.00
5828.15	5634.00	Point Lookout Ss.		0.00	0.00
6188.15	5994.00	Mancos Sh.		0.00	0.00
7188.15	6994.00	Gallup Ss.		0.00	0.00
7913.15	7719.00	Greenhorn Ls.		0.00	0.00
7973.15	7779.00	Granerosos Sh.		0.00	0.00
8108.15	7914.00	Dakota Ss.		0.00	0.00

Well Control Equipment Schematic for 2M Service

Attachment to Drilling Technical Program

Exhibit #1 Typical BOP setup

Location: San Juan Basin, New Mexico

Date: August 20, 2001

By: John Thompson (Walsh E&P)

