

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

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

JUN 25 2009

APPLICATION FOR PERMIT TO DRILL OR REENTER

Bureau of Land Management
Farmington Field Office

1a. Type of Work: ☒ DRILL ☐ REENTER		5. Lease Serial No. NMSF-078773
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
3a. Address P.O. Box 640 Aztec, NM 87410		8. Lease Name and Well No. Rosa Unit 147D (was 614)
3b. Phone No. (include area code) (505) 634-4208		9. API Well No. 3003930787
4. Location of Well (Report location clearly and in accordance with any State requirements. *) At surface 1795' FNL & 1265' FEL At proposed prod. zone 1150' FNL & 450' FEL		10. Field and Pool, or Exploratory Blanco Mesaverde/Basin Mancos/Basin Dakota
14. Distance in miles and direction from nearest town or post office* Approximately 28 miles northeast of Blanco, New Mexico		11. Sec., T., R., M., or Blk. and Survey or Area H Section 33, 31N, 5W
15. Distance from proposed* location to nearest property or lease line, ft. (Also to nearest drng. unit line, if any) 450'	16. No. of Acres in lease 1,920.00	12. County or Parish Rio Arriba
17. Spacing Unit dedicated to this well 320.0 - (N/2)	18. Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft. 50' Rosa 147A	13. State NM
19. Proposed Depth 8,535'	20. BLM/BIA Bond No. on file 0899 OIL CONS. DIV. UT0047	
21. Elevations (Show whether DF, KDB, RT, GL, etc.) 6,556' GR	22. Approximate date work will start* July 1, 2009	23. Estimated duration 1 month
24. Attachments		

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

- Well plat certified by a registered surveyor.
- A Drilling Plan.
- A Surface Use Plan (if the location is on National Forest System Lands, the SUPO shall be filed with the appropriate Forest Service Office).

BLM'S APPROVAL OR ACCEPTANCE OF THIS ACTION DOES NOT RELIEVE THE LESSEE AND OPERATOR FROM OBTAINING ANY OTHER AUTHORIZATION REQUIRED FOR OPERATIONS ON FEDERAL AND INDIAN LANDS

25. Signature <i>Larry Higgins</i>	Name (Printed/Typed) Larry Higgins	Date 6-25-09
Title Drilling COM		
Approved by (Signature) <i>W. Mark...</i>	Name (Printed/Typed) W. Mark...	Date 9/14/09
Title AFM	Office FFO	

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 Blanco Mesaverde, Basin Mancos, 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 Carson National Forest, Jicarilla Ranger District.

This location has been archaeologically surveyed by La Plata Archaeological Consultants. Copies of their report have been submitted directly to the CNF/JRD

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. An associated pipeline tie of 218.3 feet would be required for this well.

This well was originally staked as the Rosa Unit No 614.

HOLD C104 FOR NSL in DR, MN

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

P.A. in MN

NMOC

**NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT**

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

Hold C104

for Directional Survey
and "As Drilled" plat

SEP 24 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

JUN 25 2009

☐ AMENDED REPORT

Bureau of Land Management
Farmington Field Office

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-030-30787	² Pool Code 97232 / 72319 / 71599	³ Pool Name BASIN MANCOS / BLANCO MESAVERDE / BASIN DAKOTA
⁴ Property Code 17033	⁵ Property Name ROSA UNIT	⁶ Well Number 147D
⁷ DGRID No. 120782	⁸ Operator Name WILLIAMS PRODUCTION COMPANY	⁹ Elevation 6556'

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
H	33	31N	5W		1795	NORTH	1265	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
A	33	31N	5W		1150	NORTH	450	EAST	RIO ARRIBA

¹² Dedicated Acres 320.0 Acres - (N/2)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No. R-13123
--	-------------------------------	----------------------------------	------------------------------------

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 147C X 147 X 147B X 147A X 5280.00' 1795' 1265' 1150' 450' 1036.4' N51°26'0"E LEASE SF-078773 BOTTOM-HOLE LAT: 36.86019°N LONG: 107.36019°W DATUM: NAD1983 SURFACE LOCATION LAT: 36.85843°N LONG: 107.36297°W DATUM: NAD1983 33 5280.00'	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 6-25-09 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. Date of Survey: APRIL 18, 2009 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: 6/23/2009 **FIELD:** Basin DK/ Basin MC/BlancoMV
WELL NAME: Rosa Unit #147D **SURFACE:** USFS
BH LOCATION: NENE Sec 33-31N-5W **MINERALS:** FEDERAL
Rio Arriba, NM
ELEVATION: 6,556' GR **LEASE #** SF-078773
MEASURED DEPTH: 8,535'

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

Name	TVD	MD	Name	TVD	MD
Ojo Alamo	2,710	2,847	Point Lookout	5,875	6,050
Kirtland	2,800	2,943	Mancos	6,170	6,345
Fruitland	3,215	3,382	Gallup	7,100	7,275
Pictured Cliffs	3,460	3,632	Greenhorn	7,890	8,065
Lewis	3,735	3,910	Graneros	7,940	8,115
Cliff House	5,640	5,815	Dakota	8,075	8,250
Menefee	5,690	5,865	Morrison	8,315	8,490
			TD	8,395	8,570

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: Use Water + Gel/Polymer sweeps to drill Surface hole. Convert to a LSLD - EZ-MUD system mud (+/-50 Vis.) to drill 9-7/8 in. Intermediate Hole. Increase vis to +/-60 to run Casing. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses. Use Air , Air Hammer and 6-3/4 in. Flat btm. bit to drill-out of 7-5/8 in. csg. and to TD well at +/- 8,337 ft. (MD).

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	4,110	7 5/8	26.4	K-55
Longstring	6 3/4	8,535	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 + 1/4 # 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: 375 sx (525 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 7-5/8" CASING** Total volume (525) 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 5000# 100 mesh sand and 120,000# Ottawa 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 5000# 100 mesh sand and 150,000# 40/70 Ottawa sand
5. Stimulate Point Lookout with approximately 40,000# 20/40 Ottawa sand 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 40,000# 20/40 Ottawa sand 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


FOR Brian Alleman
Drilling Engineer



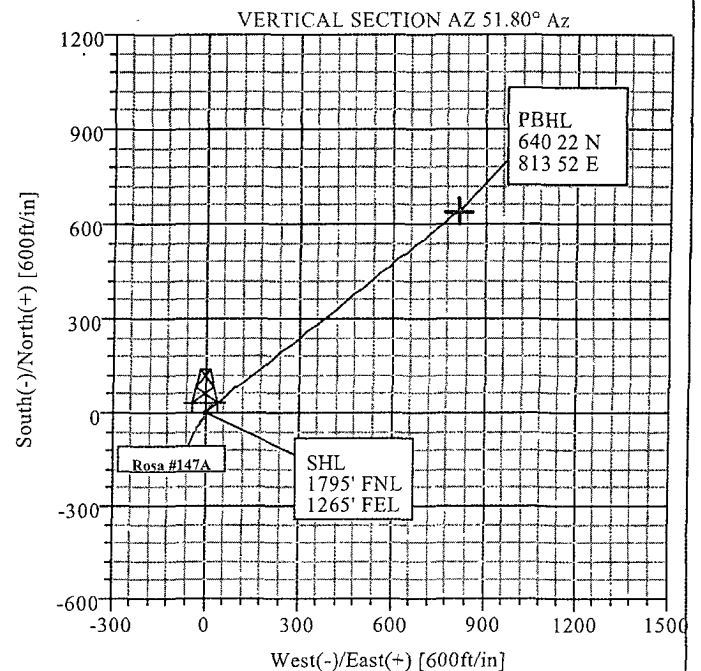
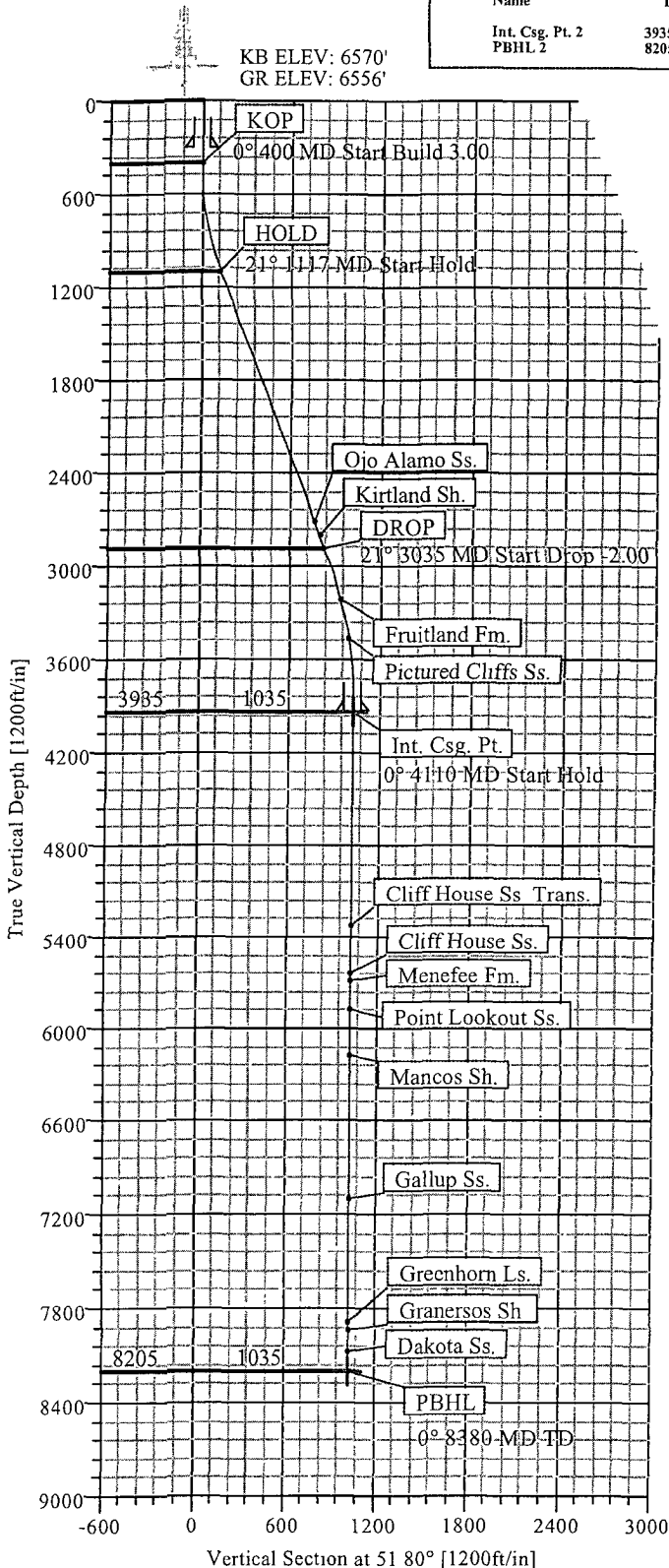
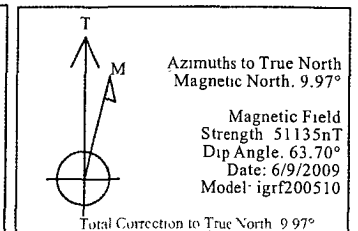
ROSA UNIT #147D
RJO ARriba CO., NEW MEXICO

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	51.80	0.00	0.00	0.00	0.00	0.00	0.00	
2	400.00	0.00	51.80	400.00	0.00	0.00	0.00	0.00	0.00	
3	1116.51	21.50	51.80	1099.82	82.15	104.39	3.00	51.80	132.83	
4	3035.43	21.50	51.80	2885.27	517.00	656.94	0.00	0.00	835.97	
5	4110.19	0.00	51.80	3935.00	640.22	813.52	2.00	180.00	1035.22	Int. Csg. Pt. 2
6	8380.19	0.00	51.80	8205.00	640.22	813.52	0.00	51.80	1035.22	PBHL 2

WELL DETAILS							
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#147D	0.00	0.00	2133658.25	1314821.28	36°51'30.350N	107°21'46.690W	N/A

TARGET DETAILS								
Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Int. Csg. Pt. 2	3935.00	640.22	813.52	2134288.95	1315642.20	36°51'36.680N	107°21'36.680W	Point
PBHL 2	8205.00	640.22	813.52	2134288.95	1315642.20	36°51'36.680N	107°21'36.680W	Point

FORMATION TOP DETAILS			
No.	TVDPath	MDPath	Formation
1	2710.00	2847.05	Ojo Alamo Ss.
2	2800.00	2943.78	Kirtland Sh.
3	3215.00	3382.39	Fruitland Fm.
4	3460.00	3632.99	Pictured Cliffs Ss.
5	3735.00	3910.03	Lewis Sh.
6	5320.00	5495.19	Cliff House Ss. Trans.
7	5640.00	5815.19	Cliff House Ss.
8	5690.00	5865.19	Menefee Fm.
9	5875.00	6050.19	Point Lookout Ss.
10	6170.00	6345.19	Mancos Sh.
11	7100.00	7275.19	Gallup Ss.
12	7890.00	8065.19	Greenhorn Ls.
13	7940.00	8115.19	Graneros Sh.
14	8075.00	8250.19	Dakota Ss.



CASING DETAILS				
No.	TVD	MD	Name	Size
1	300.00	300.00	10 3/4"	10.750
2	3935.00	4110.19	7.5/8" Int. Csg.	0.000

Plan: Plan #2 (#147D/1)

Created By: Lindsey Maddux

Date 6/23/2009



Weatherford International, Inc.

Proposal Plan Report



Weatherford

Company: WILLIAMS PRODUCTION	Date: 6/23/2009	Time: 15:32:32	Page: 3
Field: Rio Arriba Co., NM (NAD 83)	Co-ordinate(NE) Reference: Well: #147D True North		
Site: Rosa Unit #147D	Vertical (TVD) Reference: SITE 6570.0		
Well: #147D	Section (VS) Reference: Well (0.00N;0.00E;51.80Azi)		
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
6050.19	0.00	51.80	5875.00	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	Point Lookout Ss.
6100.00	0.00	51.80	5924.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
6200.00	0.00	51.80	6024.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
6300.00	0.00	51.80	6124.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
6345.19	0.00	51.80	6170.00	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	Mancos Sh.
6400.00	0.00	51.80	6224.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
6500.00	0.00	51.80	6324.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
6600.00	0.00	51.80	6424.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
6700.00	0.00	51.80	6524.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
6800.00	0.00	51.80	6624.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
6900.00	0.00	51.80	6724.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
7000.00	0.00	51.80	6824.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
7100.00	0.00	51.80	6924.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
7200.00	0.00	51.80	7024.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
7275.19	0.00	51.80	7100.00	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	Gallup Ss.
7300.00	0.00	51.80	7124.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
7400.00	0.00	51.80	7224.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
7500.00	0.00	51.80	7324.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
7600.00	0.00	51.80	7424.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
7700.00	0.00	51.80	7524.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
7800.00	0.00	51.80	7624.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
7900.00	0.00	51.80	7724.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
8000.00	0.00	51.80	7824.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
8065.19	0.00	51.80	7890.00	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	Greenhorn Ls.
8100.00	0.00	51.80	7924.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
8115.19	0.00	51.80	7940.00	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	Graneros Sh.
8200.00	0.00	51.80	8024.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
8250.19	0.00	51.80	8075.00	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	Dakota Ss.
8300.00	0.00	51.80	8124.81	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	
8380.19	0.00	51.80	8205.00	640.22	813.52	1035.22	0.00	0.00	0.00	51.80	PBHL 2

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. 2			3935.00	640.22	813.52	2134288.95	1315642.20	36 51 36.680 N	107 21 36.680 W
-Plan hit target									
PBHL 2			8205.00	640.22	813.52	2134288.95	1315642.20	36 51 36.680 N	107 21 36.680 W
-Plan hit target									

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
2847.05	2710.00	Ojo Alamo Ss.		0.00	0.00
2943.78	2800.00	Kirtland Sh.		0.00	0.00
3382.39	3215.00	Fruitland Fm.		0.00	0.00
3632.99	3460.00	Pictured Cliffs Ss.		0.00	0.00
3910.03	3735.00	Lewis Sh.		0.00	0.00
5495.19	5320.00	Cliff House Ss. Trans.		0.00	0.00
5815.19	5640.00	Cliff House Ss.		0.00	0.00
5865.19	5690.00	Menefee Fm.		0.00	0.00
6050.19	5875.00	Point Lookout Ss.		0.00	0.00
6345.19	6170.00	Mancos Sh.		0.00	0.00
7275.19	7100.00	Gallup Ss.		0.00	0.00
8065.19	7890.00	Greenhorn Ls.		0.00	0.00



Weatherford International, Inc.
Proposal Plan Report



Weatherford

Company:	WILLIAMS PRODUCTION	Date:	6/23/2009	Time:	15:32:32	Page:	4
Field:	Rio Arriba Co., NM (NAD 83)	Co-ordinate(NE) Reference:	Well: #147D, True North				
Site:	Rosa Unit #147D	Vertical (TVD) Reference:	SITE 6570.0				
Well:	#147D	Section (VS) Reference:	Well (0.00N,0.00E,51.80Azi)				
Wellpath:	1	Survey Calculation Method:	Minimum Curvature			Db:	Sybase

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
8115.19	7940.00	Graneros Sh.		0.00	0.00
8250.19	8075.00	Dakota Ss.		0.00	0.00

Annotation

MD ft	TVD ft	
400.00	400.00	KOP
1116.51	1099.82	HOLD
3035.43	2885.28	DROP
4110.19	3935.00	Int. Csg. Pt.
8380.19	8205.00	PBHL

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
300.00	300.00	10.750	12.250	10 3/4"
4110.19	3935.00	0.000	0.000	7 5/8" Int. Csg.

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)

