

RECEIVED

APR 23 2009

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

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

Bureau of Land Management
Farmington Field Office

APPLICATION FOR PERMIT TO DRILL OR REENTER

1a Type of Work. ☒ DRILL ☐ REENTER		5 Lease Serial No. NMSF-078766
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. 138D
3b Phone No (include area code) (505) 634-4208		9 API Well No 30-045-34959
4 Location of Well (Report location clearly and in accordance with any State requirements *) At surface 2280' FNL & 820' FEL 14 At proposed prod. zone 1000' FNL & 200' FEL A		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 30 miles northeast of Blanco, New Mexico		11 Sec., T, R, M, or Blk and Survey or Arca 14 Section 17, 31N, 6W
15 Distance from proposed* location to nearest property or lease line, ft (Also to nearest drng unit line, if any) 820'		12 County or Parish San Juan
16 No. of Acres in lease 2,552.71		13 State NM
17 Spacing Unit dedicated to this well 320.0 - (E/2)		
18 Distance from proposed location* to nearest well, drilling, completed, applied for, on this lease, ft 60' Rosa 276		20 BLM/BIA Bond No on file UT0847
19 Proposed Depth 8,370'		
21 Elevations (Show whether DF, KDB, RT, GL, etc) 6,333' GR This action is subject to technical and procedural review pursuant to 43 CFR 3165.3 and appeal pursuant to 43 CFR 3165.4		22 Approximate date work will start* April 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

- 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.

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

25 Signature <i>Larry Higgins</i>	Name (Printed/Typed) Larry Higgins	Date 4-23-09
Title Drilling COM		
Approved by (Signature) <i>Jim Lohs</i>	Name (Printed/Typed)	Date 5/20/09
Title Acting AFM Minerals	Office	

RCVD MAY 21 '09

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

OIL CONS. DIV.

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

DIST. 3

*(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

NO NOTIFY AZTEC OCD 24 HRS.
PRIOR TO CASING & CEMENT

The well pad surface is under jurisdiction of the Bureau of Land Management, Farmington Field Office (BLM/FDO)

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

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 129.20 feet would be required for this well.

HOLD C104 FOR NMSH in Basin Mancos

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

Hold C104

for Directional Survey
and "As Drilled" plat

NMOCD

MAY 21 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

Bureau of Land Management
Farmington Field Office

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

¹ API Number 30-045-34959	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 138D
⁷ OGRID No 120782	⁸ Operator Name WILLIAMS PRODUCTION COMPANY	⁹ Elevation 6333'

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	17	31N	6W		2280	NORTH	820	EAST	SAN JUAN

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	17	31N	6W		1000	NORTH	200	EAST	SAN JUAN

¹² Dedicated Acres 320.0 Acres - (E/2)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No <i>R-13/23 BMV infill.</i>
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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

¹⁶ 5276.04' BOTTOM-HOLE LAT: 36.90409°N LONG: 107.47787°W DATUM: NAD1983 2280' BOTTOM HOLE N25°21.0'E 1422.4' 200' 820' SURFACE LOCATION 5280.00' 17 5281.32' LEASE SF-078766	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 <i>Larry Higgins</i> 4-23-09 Signature Date <i>LARRY HIGGINS</i> 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: FEBRUARY 1, 2009 Signature and Seal of Professional Surveyor JASON C. EDWARDS NEW MEXICO REGISTERED PROFESSIONAL SURVEYOR 15269 <i>JASON C. EDWARDS</i> Certificate Number 15269
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WILLIAMS PRODUCTION COMPANY

Operations Plan

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

DATE: 4/21/2009 **FIELD:** Basin DK/ Basin MN/BlancoMV
WELL NAME: Rosa #138D **SURFACE:** BLM
BH LOCATION: NENE Sec 17-31N-6W **MINERALS:** BLM
San Juan, NM
ELEVATION: 6,333' GR **LEASE #** SF-078766
MEASURED DEPTH: 8,370'

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

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

Name	TVD	MD	Name	TVD	MD
Ojo Alamo	2,312	2,653	Menefee	5,392	5,785
Kirtland	2,432	2,787	Point Lookout	5,642	6,035
Fruitland	2,882	3,266	Mancos	5,902	6,295
Pictured Cliffs	3,162	3,553	Gallup	6,942	7,335
Lewis	3,472	3,865	Greenhorn	7,652	8,045
Cliff House	5,347	5,740	Graneros	7,707	8,100
			Dakota	7,847	8,240
			TD	7,977	8,370

- 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:**

<u>CASING TYPE</u>	<u>OH SIZE (IN)</u>	<u>DEPTH (MD) (FT)</u>	<u>CASING SIZE (IN)</u>	<u>WEIGHT(LB)</u>	<u>GRADE</u>
Surface	14 3/4	300	10 3/4	40.5	K-55
Intermediate	9 7/8	4,030	7 5/8	26.4	K-55
Longstring	6 3/4	8,370	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 approximates 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
802 Gary Sizemore
Sr. Drilling Engineer



ROSA UNIT #138D
SAN JUAN CO., NEW MEXICO

SECTION DETAILS

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	25.60	0.00	0.00	0.00	0.00	0.00	0.00	
2	400.00	0.00	25.60	400.00	0.00	0.00	0.00	0.00	0.00	
3	1432.13	41.29	25.60	1345.11	321.08	153.86	4.00	25.60	356.05	
4	1966.68	41.29	25.60	1746.79	639.15	306.28	0.00	0.00	708.75	
5	4030.95	0.00	25.60	3637.00	1281.32	614.00	2.00	180.00	1420.84	Int. Csg. Pt.
6	8370.95	0.00	25.60	7977.00	1281.32	614.00	0.00	25.60	1420.84	PBHL

WELL DETAILS

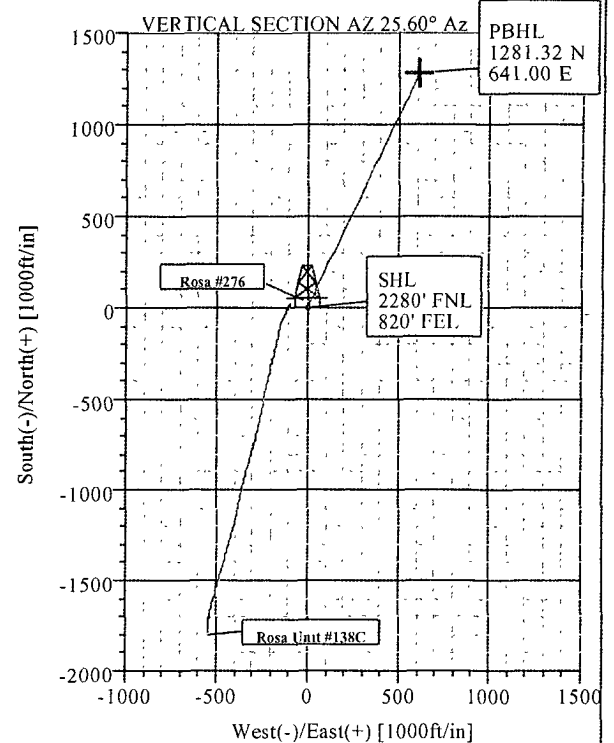
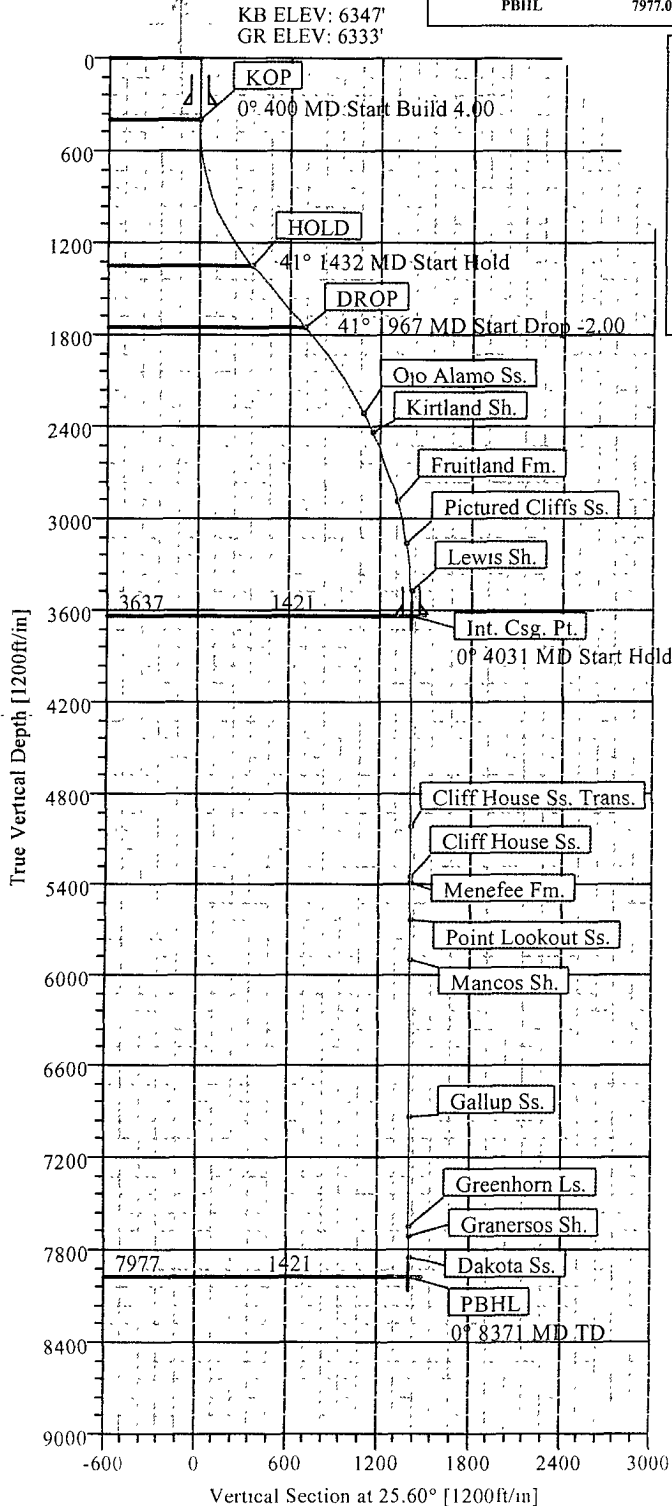
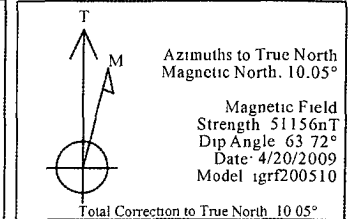
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#138D	0.00	0.00	2147329.21	2826416.83	36°54'02.050N	107°28'47.890W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Int. Csg. Pt.	3637.00	1281.32	614.00	2148612.79	2827026.08	36°54'14.720N	107°28'40.330W	Point
PBHL	7977.00	1281.32	614.00	2148612.79	2827026.08	36°54'14.720N	107°28'40.330W	Point

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	2312.00	2653.48	Ojo Alamo Ss.
2	2432.00	2787.25	Kirtland Sh.
3	2882.00	3266.92	Fruitland Fm.
4	3162.00	3553.75	Pictured Cliffs Ss.
5	3472.00	3865.86	Lewis Sh.
6	5017.00	5410.95	Cliff House Ss. Trans.
7	5347.00	5740.95	Cliff House Ss.
8	5392.00	5785.95	Menefee Fm.
9	5642.00	6035.95	Point Lookout Ss.
10	5902.00	6295.95	Mancos Sh.
11	6942.00	7335.95	Gallup Ss.
12	7652.00	8045.95	Greenhorn Ls.
13	7707.00	8100.95	Graneros Sh.
14	7847.00	8240.95	Dakota Ss.



CASING DETAILS

No.	TVD	MD	Name	Size
1	300.00	300.00	10 3/4"	10.750
2	3637.00	4030.95	7 5/8" Int. Csg.	0.000

Plan: Plan #1 (#138D/1)

Created By Lindsey Maddux

Date: 4/20/2009



Weatherford International, Inc.

Proposal Plan Report


Weatherford

Company: WILLIAMS PRODUCTION
Field: San Juan County, NM (NAD 83)
Site: Rosa Unit #138D
Well: #138D
Wellpath: 1

Date: 4/20/2009 Time: 14:39.05 Page: 3
Co-ordinate(NE) Reference: Well: #138D, True North
Vertical (TVD) Reference: SITE 6347.0
Section (VS) Reference: Well (0.00N,0.00E,25.60Azi)
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
6035.95	0.00	25.60	5642.00	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	Point Lookout Ss.
6100.00	0.00	25.60	5706.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
6200.00	0.00	25.60	5806.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
6295.95	0.00	25.60	5902.00	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	Mancos Sh.
6300.00	0.00	25.60	5906.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
6400.00	0.00	25.60	6006.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
6500.00	0.00	25.60	6106.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
6600.00	0.00	25.60	6206.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
6700.00	0.00	25.60	6306.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
6800.00	0.00	25.60	6406.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
6900.00	0.00	25.60	6506.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
7000.00	0.00	25.60	6606.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
7100.00	0.00	25.60	6706.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
7200.00	0.00	25.60	6806.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
7300.00	0.00	25.60	6906.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
7335.95	0.00	25.60	6942.00	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	Gallup Ss
7400.00	0.00	25.60	7006.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
7500.00	0.00	25.60	7106.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
7600.00	0.00	25.60	7206.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
7700.00	0.00	25.60	7306.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
7800.00	0.00	25.60	7406.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
7900.00	0.00	25.60	7506.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
8000.00	0.00	25.60	7606.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
8045.95	0.00	25.60	7652.00	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	Greenhorn Ls
8100.00	0.00	25.60	7706.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
8100.95	0.00	25.60	7707.00	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	Graneros Sh.
8200.00	0.00	25.60	7806.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
8240.95	0.00	25.60	7847.00	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	Dakota Ss
8300.00	0.00	25.60	7906.05	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	
8370.95	0.00	25.60	7977.00	1281.32	614.00	1420.84	0.00	0.00	0.00	25.60	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.			3637.00	1281.32	614.00	2148612	792827026.08	36 54 14.720 N	107 28 40.330 W
-Plan hit target									
PBHL			7977.00	1281.32	614.00	2148612	792827026.08	36 54 14.720 N	107 28 40.330 W
-Plan hit target									

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
2653.48	2312.00	Ojo Alamo Ss		0.00	0.00
2787.25	2432.00	Kirtland Sh.		0.00	0.00
3266.92	2882.00	Fruitland Fm.		0.00	0.00
3553.75	3162.00	Pictured Cliffs Ss.		0.00	0.00
3865.86	3472.00	Lewis Sh.		0.00	0.00
5410.95	5017.00	Cliff House Ss. Trans.		0.00	0.00
5740.95	5347.00	Cliff House Ss.		0.00	0.00
5785.95	5392.00	Menefee Fm.		0.00	0.00
6035.95	5642.00	Point Lookout Ss		0.00	0.00
6295.95	5902.00	Mancos Sh.		0.00	0.00
7335.95	6942.00	Gallup Ss		0.00	0.00
8045.95	7652.00	Greenhorn Ls		0.00	0.00



Weatherford International, Inc.
Proposal Plan Report



Weatherford

Company:	WILLIAMS PRODUCTION	Date:	4/20/2009	Time:	14:39:05	Page:	4
Field:	San Juan County, NM (NAD 83)	Co-ordinate(NE) Reference:	Well: #138D, True North				
Site:	Rosa Unit #138D	Vertical (TVD) Reference:	SITE 6347.0				
Well:	#138D	Section (VS) Reference:	Well (0.00N,0.00E,25.60Azi)				
Wellpath:	1	Survey Calculation Method:	Minimum Curvature Db: Sybase				

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
8100.95	7707.00	Graneros Sh		0.00	0.00
8240.95	7847.00	Dakota Ss.		0.00	0.00

Annotation

MD ft	TVD ft	
400.00	400.00	KOP
1432.13	1345.10	HOLD
1966.68	1746.78	DROP
4030.95	3637.00	Int. Csg. Pt.
8370.95	7977.00	PBHL

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
300.00	300.00	10.750	12.250	10 3/4"
4030.95	3637.00	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)

