

UNITED STATES
DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

JUL 10 2008

FORM APPROVED
Budget Bureau No. 1004-0135
Expires: March 31, 1993

SUNDRY NOTICE AND REPORTS ON WELLS

Do not use this form for proposals to drill or to deepen or reentry to a different reservoir. Use "APPLICATION FOR PERMIT TO DRILL" for permit for such proposals

Bureau of Land Management
Field Office NMSF-078769

SUBMIT IN TRIPLICATE		6. If Indian, Allottee or Tribe Name
1. Type of Well Oil Well Gas Well ☒ Other		7. If Unit or CA, Agreement Designation Rosa Unit
2. Name of Operator WILLIAMS PRODUCTION COMPANY		8. Well Name and No Rosa Unit #187C
3. Address and Telephone No. PO Box 640 Aztec, NM 87410-0640		9. API Well No 30-039-30185
4. Location of Well (Footage, Sec, T, R., M, or Survey Description) Surface - 1090' FSL & 1145 FWL / BIIL - 1650' FSL & 990' FWL, Sec. 21, T31, R5 NMPM		10. Field and Pool, or Exploratory Area BLANCO MESAVERDE / BASIN MANCOS / BASIN DAKOTA
		11. County or Parish, State Rio Arriba, New Mexico

CHECK APPROPRIATE BOX(s) TO INDICATE NATURE OF NOTICE, REPORT, OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION
☒ Notice of Intent	Abandonment
☒ Subsequent Report	Recompletion
Final Abandonment	Plugging Back
	Casing Repair
	Altering Casing
	☒ Other Multiple zone completion
	Change of Plans
	New Construction
	Non-Routine Fracturing
	Water Shut-Off
	Conversion to Injection
	Dispose Water
	(Note Report results of multiple completion on Well Completion or Recompletion Report and Log form.)

13. Describe Proposed or Completed Operations (Clearly state all pertinent details, and give pertinent dates, including estimated date of starting any proposed work. If well is directionally drilled, give subsurface locations and measured and true vertical depths for all markers and zones pertinent to this work.)*

Williams Production Company, LLC. requests authority to drill this as a Mesa Verde / Mancos / Dakota triple as per attached plat, directional plan and drilling plan.

RCVD JUL 28 '08
OIL CONS. DIV.
DIST. 3

NOTIFY AZTEC OGD 24 HRS.
PRIOR TO CASING & CEMENT

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

Hold C104
for Directional Survey
and "As Drilled" plat

14 I hereby certify that the foregoing is true and correct

Signed Larry Higgins
Larry Higgins

Title Drilling C O M

Date 7-10-08

(This space for Federal or State office use)

Approved by Troy L Salyers

Title Petroleum Engineer

Date 7-25-2008

Conditions of approval, if any

NMOCD

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	*Pool Code	*Pool Name
	97232 / 72319 / 71599	BASIN MANCOS / BLANCO MESAVERDE / BASIN DAKOTA
*Property Code	*Property Name	*Well Number
17033	ROSA UNIT	187C
*GRID No	*Operator Name	*Elevation
120782	WILLIAMS PRODUCTION COMPANY	6801'

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
M	21	31N	5W		1090	SOUTH	1145	WEST	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
L	21	31N	5W		1650	SOUTH	990	WEST	RIO ARriba

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

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 5280.00' LEASE SF-078769 5287.26' 21 5280.00' BOTTOM-HOLE LAT: 36.88235°N LONG: 107.37331°W DATUM: NAD83 990' 1145' 1650' 1090' 2643.30' 2643.30' SURFACE LOCATION LAT: 36.88081°N LONG: 107.37277°W DATUM: NAD83 N15°59.1'W 580.3'	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> 7-9-08 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. Date Revised: MARCH 11, 2008 Date of Survey: MAY 4, 2006 Signature and Seal of Professional Surveyor JASON C. EDWARDS NEW MEXICO 15269 REGISTERED PROFESSIONAL SURVEYOR <i>JASON C. EDWARDS</i> Certificate Number 15269
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Weatherford[®]

Drilling Services

PROPOSAL



WILLIAMS PRODUCTION COMPANY
ROSA UNIT #187-C
RIO ARRIBA COUNTY, NEW MEXICO
WELL FILE: **PLAN 1**

Submitted: April 7, 2008

Weatherford International Ltd.
P.O. Box 61028
Midland, Texas 79711 USA
+1.432.561.8892 Main
+1.432.561.8895 Fax
www.weatherford.com



ROSA UNIT #187 C
RIO ARriba CO., NEW MEXICO

SECTION DETAILS

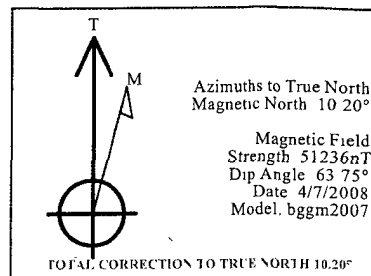
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	344.02	0.00	0.00	0.00	0.00	0.00	0.00	
2	500.00	0.00	344.02	500.00	0.00	0.00	0.00	0.00	0.00	
3	846.37	10.45	344.02	846.44	30.46	-8.73	3.00	344.02	31.68	
4	3523.42	10.45	344.02	3477.11	496.94	-142.36	0.00	0.00	516.93	
5	4220.17	0.00	344.02	4170.00	557.86	-159.81	1.50	180.00	580.30	Int. Csg.
6	8760.17	0.00	344.02	8710.00	557.86	-159.81	0.00	344.02	580.30	

WELL DETAILS

Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#187 C	0.00	0.00	2140269.54	2857795.81	36°52'50.920N	107°22'21.970W	N/A

TARGET DETAILS

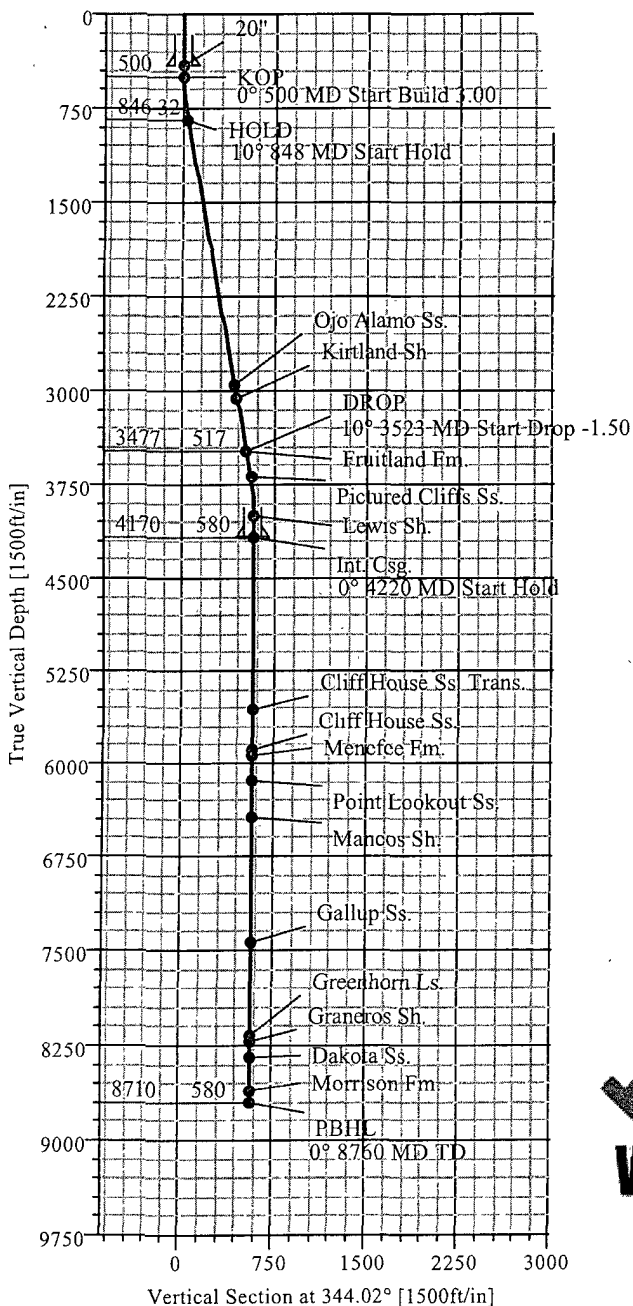
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Int. Csg.	4170.00	557.86	-159.81	36°52'56.436N	107°22'23.937W	Point



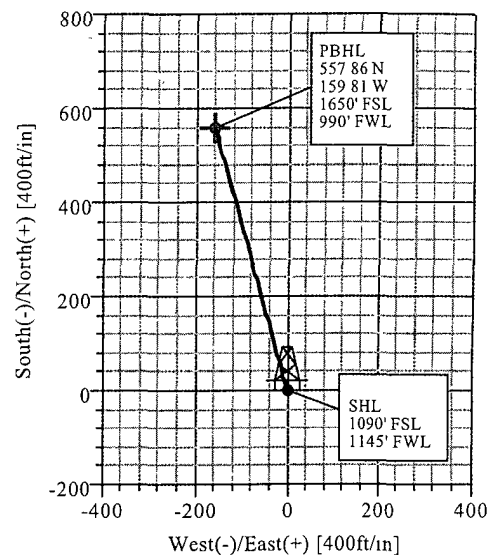
SITE DETAILS

Rosa Unit #187 C
1090' FSL 1145' FWL of SEC 21, T-31-N, R-5-W
Site Centre Latitude 36°52'50.920N
Longitude 107°22'21.970W
Ground Level 6801.00
Positional Uncertainty 0.00
Convergence 0.28

KB ELEV: 6815'
GL ELEV: 6801'



VERTICAL SECTION 344.02°



CASING DETAILS

No	TVD	MD	Name	Size
1	400.00	400.00	20"	20.000
2	4170.00	4220.17	10 3/4"	10.750

FORMATION TOP DETAILS

No	TVDPath	MDPath	Formation
1	2960.00	2997.58	Ojo Alamo Ss
2	3060.00	3099.27	Kirtland Sh
3	3485.00	3531.44	Fruitland Fm
4	3695.00	3743.93	Pictured Cliffs Ss
5	3995.00	4045.10	Lewis Sh
6	5570.00	5620.17	Cliff House Ss Trans
7	5885.00	5935.17	Cliff House Ss
8	5930.00	5980.17	Menefee Fm
9	6135.00	6185.17	Point Lookout Ss
10	6445.00	6495.17	Mancos Sh
11	7445.00	7495.17	Gallup Ss
12	8165.00	8215.17	Greenhorn Ls
13	8220.00	8270.17	Granderos Sh
14	8350.00	8400.17	Dakota Ss
15	8610.00	8660.17	Morrison Fm.

FIELD DETAILS

Rio Arriba County (NAD 83)
Geodetic System US State Plane Coordinate System 1983
Ellipsoid GRS 1980
Zone New Mexico, Western Zone
Magnetic Model: bggm2007
System Datum Mean Sea Level
Local North True North

Plan Plan #1 (#187 C/1)

Created By: Lindsey Maddux

Date: 4/7/2008





Weatherford International, Inc.

Proposal Plan Report



Weatherford

Company: WILLIAMS PRODUCTION	Date: 4/7/2008	Time: 16:07:04	Page: 1
Field: Rio Arriba County (NAD 83)	Co-ordinate(NE) Reference: Site: Rosa Unit # 187 C, True North		
Site: Rosa Unit # 187 C	Vertical (TVD) Reference: SITE 6815.0		
Well: #187 C	Section (VS) Reference: Well: (0.00N,0.00E,344.02Azi)		
Wellpath: 1	Survey Calculation Method: Minimum Curvature	Db: Sybase	

Plan: Plan #1	Date Composed: 4/7/2008
Principal: Yes	Version: 1
	Tied-to: From Surface

Field: Rio Arriba County (NAD 83)			
Map System: US State Plane Coordinate System 1983		Map Zone: New Mexico, Western Zone	
Geo Datum: GRS 1980		Coordinate System: Site Centre	
Sys Datum: Mean Sea Level		Geomagnetic Model: bggm2007	

Site: Rosa Unit # 187 C
1090' FSL 1145' FWL of SEC 21, T-31-N, R-5-W
Site Position: Northing: 2140269.54 ft Latitude: 36 52 50.920 N
From: Geographic Easting: 2857795.81 ft Longitude: 107 22 21.970 W
Position Uncertainty: 0.00 ft North Reference: True
Ground Level: 6801.00 ft Grid Convergence: 0.28 deg

Well: #187 C		Slot Name:		
Well Position:	+N/-S 0.00 ft	Northing:	2140269.54 ft	Latitude: 36 52 50.920 N
	+E/-W 0.00 ft	Easting :	2857795.81 ft	Longitude: 107 22 21.970 W
Position Uncertainty:	0.00 ft			

Wellpath: 1	Drilled From: Surface
Current Datum: SITE	Tie-on Depth: 0.00 ft
Magnetic Data: 4/7/2008	Above System Datum: Mean Sea Level
Field Strength: 51236 nT	Declination: 10.20 deg
Vertical Section: Depth From (TVD)	Mag Dip Angle: 63.75 deg
ft	+N/-S
	ft
0.00	0.00
	ft
	ft
	deg
	deg
	344.02

Plan Section Information

MD	Incl	Azim	TVD	+N/-S	+E/-W	DLS	Build	Turn	TFO	Target
ft	deg	deg	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	deg	
0.00	0.00	344.02	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
500.00	0.00	344.02	500.00	0.00	0.00	0.00	0.00	0.00	0.00	
848.37	10.45	344.02	846.44	30.46	-8.73	3.00	3.00	0.00	344.02	
3523.42	10.45	344.02	3477.11	496.94	-142.36	0.00	0.00	0.00	0.00	
4220.17	0.00	344.02	4170.00	557.86	-159.81	1.50	-1.50	0.00	180.00	Int. Csg.
8760.17	0.00	344.02	8710.00	557.86	-159.81	0.00	0.00	0.00	344.02	

Survey

MD	Incl	Azim	TVD	N/S	E/W	VS	Build	Turn	DLS	TFO	Comment
ft	deg	deg	ft	ft	ft	ft	deg/100ft	deg/100ft	deg/100ft	deg	
400.00	0.00	344.02	400.00	0.00	0.00	0.00	0.00	0.00	0.00	344.02	20"
500.00	0.00	344.02	500.00	0.00	0.00	0.00	0.00	0.00	0.00	344.02	KOP
600.00	3.00	344.02	599.95	2.52	-0.72	2.62	3.00	0.00	3.00	0.00	
700.00	6.00	344.02	699.63	10.06	-2.88	10.46	3.00	0.00	3.00	0.00	
800.00	9.00	344.02	798.77	22.60	-6.48	23.51	3.00	0.00	3.00	0.00	
848.37	10.45	344.02	846.44	30.46	-8.73	31.68	3.00	0.00	3.00	0.00	HOLD
900.00	10.45	344.02	897.21	39.46	-11.30	41.05	0.00	0.00	0.00	0.00	
1000.00	10.45	344.02	995.56	56.90	-16.30	59.19	0.00	0.00	0.00	0.00	
1100.00	10.45	344.02	1093.90	74.34	-21.30	77.33	0.00	0.00	0.00	0.00	
1200.00	10.45	344.02	1192.24	91.78	-26.29	95.47	0.00	0.00	0.00	0.00	
1300.00	10.45	344.02	1290.58	109.22	-31.29	113.61	0.00	0.00	0.00	0.00	
1400.00	10.45	344.02	1388.92	126.65	-36.28	131.75	0.00	0.00	0.00	0.00	
1500.00	10.45	344.02	1487.26	144.09	-41.28	149.89	0.00	0.00	0.00	0.00	
1600.00	10.45	344.02	1585.60	161.53	-46.27	168.03	0.00	0.00	0.00	0.00	
1700.00	10.45	344.02	1683.94	178.97	-51.27	186.17	0.00	0.00	0.00	0.00	



Weatherford International, Inc.

Proposal Plan Report



Weatherford

Company: WILLIAMS PRODUCTION	Date: 4/7/2008	Time: 16:07:04	Page: 2
Field: Rio Arriba County (NAD 83)	Co-ordinate(NE) Reference:	Site: Rosa Unit # 187 C, True North	
Site: Rosa Unit # 187 C	Vertical (TVD) Reference:	SITE: 6815.0	
Well: #187 C	Section (VS) Reference:	Well (0.00N;0.00E;344.02Azi)	
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
1800.00	10.45	344.02	1782.28	196.41	-56.26	204.31	0.00	0.00	0.00	0.00	
1900.00	10.45	344.02	1880.62	213.85	-61.26	222.45	0.00	0.00	0.00	0.00	
2000.00	10.45	344.02	1978.97	231.28	-66.25	240.59	0.00	0.00	0.00	0.00	
2100.00	10.45	344.02	2077.31	248.72	-71.25	258.73	0.00	0.00	0.00	0.00	
2200.00	10.45	344.02	2175.65	266.16	-76.24	276.87	0.00	0.00	0.00	0.00	
2300.00	10.45	344.02	2273.99	283.60	-81.24	295.01	0.00	0.00	0.00	0.00	
2400.00	10.45	344.02	2372.33	301.04	-86.24	313.15	0.00	0.00	0.00	0.00	
2500.00	10.45	344.02	2470.67	318.48	-91.23	331.29	0.00	0.00	0.00	0.00	
2600.00	10.45	344.02	2569.01	335.91	-96.23	349.42	0.00	0.00	0.00	0.00	
2700.00	10.45	344.02	2667.35	353.35	-101.22	367.56	0.00	0.00	0.00	0.00	
2800.00	10.45	344.02	2765.69	370.79	-106.22	385.70	0.00	0.00	0.00	0.00	
2900.00	10.45	344.02	2864.03	388.23	-111.21	403.84	0.00	0.00	0.00	0.00	
2997.58	10.45	344.02	2960.00	405.25	-116.09	421.55	0.00	0.00	0.00	0.00	Ojo Alamo Ss.
3000.00	10.45	344.02	2962.38	405.67	-116.21	421.98	0.00	0.00	0.00	0.00	
3099.27	10.45	344.02	3060.00	422.98	-121.17	439.99	0.00	0.00	0.00	0.00	Kirtland Sh.
3100.00	10.45	344.02	3060.72	423.11	-121.20	440.12	0.00	0.00	0.00	0.00	
3200.00	10.45	344.02	3159.06	440.54	-126.20	458.26	0.00	0.00	0.00	0.00	
3300.00	10.45	344.02	3257.40	457.98	-131.19	476.40	0.00	0.00	0.00	0.00	
3400.00	10.45	344.02	3355.74	475.42	-136.19	494.54	0.00	0.00	0.00	0.00	
3500.00	10.45	344.02	3454.08	492.86	-141.19	512.68	0.00	0.00	0.00	0.00	
3523.42	10.45	344.02	3477.11	496.94	-142.36	516.93	0.00	0.00	0.00	0.00	DROP
3531.44	10.33	344.02	3485.00	498.33	-142.75	518.38	-1.50	0.00	1.50	180.00	Fruitland Fm.
3600.00	9.30	344.02	3552.56	509.57	-145.97	530.07	-1.50	0.00	1.50	180.00	
3700.00	7.80	344.02	3651.44	523.87	-150.07	544.94	-1.50	0.00	1.50	180.00	
3743.93	7.14	344.02	3695.00	529.36	-151.64	550.65	-1.50	0.00	1.50	180.00	Pictured Cliffs Ss.
3800.00	6.30	344.02	3750.68	535.67	-153.45	557.21	-1.50	0.00	1.50	180.00	
3900.00	4.80	344.02	3850.21	544.97	-156.11	566.89	-1.50	0.00	1.50	180.00	
4000.00	3.30	344.02	3949.96	551.76	-158.06	573.96	-1.50	0.00	1.50	180.00	
4045.10	2.63	344.02	3995.00	554.01	-158.70	576.29	-1.50	0.00	1.50	180.00	Lewis Sh.
4100.00	1.80	344.02	4049.85	556.05	-159.29	578.41	-1.50	0.00	1.50	180.00	
4200.00	0.30	344.02	4149.83	557.81	-159.79	580.25	-1.50	0.00	1.50	180.00	
4220.17	0.00	344.02	4170.00	557.86	-159.81	580.30	-1.50	0.00	1.50	180.00	Int. Csg.
4300.00	0.00	344.02	4249.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
4400.00	0.00	344.02	4349.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
4500.00	0.00	344.02	4449.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
4600.00	0.00	344.02	4549.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
4700.00	0.00	344.02	4649.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
4800.00	0.00	344.02	4749.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
4900.00	0.00	344.02	4849.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5000.00	0.00	344.02	4949.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5100.00	0.00	344.02	5049.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5200.00	0.00	344.02	5149.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5300.00	0.00	344.02	5249.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5400.00	0.00	344.02	5349.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5500.00	0.00	344.02	5449.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5600.00	0.00	344.02	5549.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5620.17	0.00	344.02	5570.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	Cliff House Ss. Tra
5700.00	0.00	344.02	5649.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5800.00	0.00	344.02	5749.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5900.00	0.00	344.02	5849.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
5935.17	0.00	344.02	5885.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	Cliff House Ss.
5980.17	0.00	344.02	5930.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	Menefee Fm.
6000.00	0.00	344.02	5949.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	



Weatherford International, Inc.

Proposal Plan Report



Weatherford

Company: WILLIAMS PRODUCTION	Date: 4/7/2008	Time: 16:07:04	Page: 3
Field: Rio Arriba County (NAD 83)	Co-ordinate(NE) Reference:	Site: Rosa Unit # 187 C, True North	
Site: Rosa Unit # 187 C	Vertical (TVD) Reference:	SITE: 6815.0	
Well: #187 C	Section (VS) Reference:	Well: (0.00N,0.00E,344.02Az)	
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	344.02	6049.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
6185.17	0.00	344.02	6135.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	Point Lookout Ss.
6200.00	0.00	344.02	6149.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
6300.00	0.00	344.02	6249.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
6400.00	0.00	344.02	6349.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
6495.17	0.00	344.02	6445.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	Mancos Sh.
6500.00	0.00	344.02	6449.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
6600.00	0.00	344.02	6549.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
6700.00	0.00	344.02	6649.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
6800.00	0.00	344.02	6749.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
6900.00	0.00	344.02	6849.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
7000.00	0.00	344.02	6949.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
7100.00	0.00	344.02	7049.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
7200.00	0.00	344.02	7149.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
7300.00	0.00	344.02	7249.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
7400.00	0.00	344.02	7349.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
7495.17	0.00	344.02	7445.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	Gallup Ss.
7500.00	0.00	344.02	7449.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
7600.00	0.00	344.02	7549.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
7700.00	0.00	344.02	7649.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
7800.00	0.00	344.02	7749.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
7900.00	0.00	344.02	7849.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
8000.00	0.00	344.02	7949.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
8100.00	0.00	344.02	8049.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
8200.00	0.00	344.02	8149.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
8215.17	0.00	344.02	8165.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	Greenhorn Ls.
8270.17	0.00	344.02	8220.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	Graneros Sh.
8300.00	0.00	344.02	8249.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
8400.00	0.00	344.02	8349.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
8400.17	0.00	344.02	8350.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	Dakota Ss.
8500.00	0.00	344.02	8449.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
8600.00	0.00	344.02	8549.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
8660.17	0.00	344.02	8610.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	Morrison Fm.
8700.00	0.00	344.02	8649.83	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	
8760.17	0.00	344.02	8710.00	557.86	-159.81	580.30	0.00	0.00	0.00	344.02	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.			4170.00	557.86	-159.81	2140826.63	2857633.32	36 52 56.436 N	107 22 23.937 W
-Plan hit target									

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
2997.58	2960.00	Ojo Alamo Ss.		0.00	0.00
3099.27	3060.00	Kirtland Sh.		0.00	0.00
3531.44	3485.00	Fruitland Fm.		0.00	0.00
3743.93	3695.00	Pictured Cliffs Ss.		0.00	0.00
4045.10	3995.00	Lewis Sh.		0.00	0.00
5620.17	5570.00	Cliff House Ss. Trans.		0.00	0.00
5935.17	5885.00	Cliff House Ss.		0.00	0.00



Weatherford International, Inc.

Proposal Plan Report

**Weatherford**

Company:	WILLIAMS PRODUCTION	Date:	4/7/2008	Time:	16:07:04	Page:	4
Field:	Rio Arriba County (NAD 83)	Co-ordinate(NE) Reference:	Site: Rosa Unit # 187 C, True North				
Site:	Rosa Unit # 187 C	Vertical (TVD) Reference:	SITE 6815.0				
Well:	#187 C	Section (VS) Reference:	Well (0.00N,0.00E,344.02Azi)				
Wellpath:	1	Survey Calculation Method:	Minimum Curvature			Db:	Sybase

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
5980.17	5930.00	Menefee Fm.		0.00	0.00
6185.17	6135.00	Point Lookout Ss.		0.00	0.00
6495.17	6445.00	Mancos Sh.		0.00	0.00
7495.17	7445.00	Gallup Ss.		0.00	0.00
8215.17	8165.00	Greenhorn Ls.		0.00	0.00
8270.17	8220.00	Graneros Sh.		0.00	0.00
8400.17	8350.00	Dakota Ss.		0.00	0.00
8660.17	8610.00	Morrison Fm.		0.00	0.00

Annotation

MD ft	TVD ft	
500.00	500.00	KOP
848.37	846.44	HOLD
3523.42	3477.11	DROP
4220.17	4170.00	Int. Csg.
8760.17	8710.00	PBHL

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
400.00	400.00	20.000	26.000	20"
4220.17	4170.00	10.750	12.250	10 3/4"



WILLIAMS PRODUCTION COMPANY

DRILLING PLAN (DRAFT)

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

DATE: 7/10/2008

WELL NAME: Rosa Unit #187C

FIELD: Blanco MV/DK/Mancos

SURFACE LOCATION: NW/4 SW/4 Sec. 21- T31N-R5W
Rio Arriba, NM

SURFACE: BLM

ELEVATION: 6,801ft. (GL)

MINERALS: BLM

LEASE # SF-078769

API#: 30-039-30185

TOTAL DEPTH: 8,760ft. (MD)

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

	<u>TVD</u>	<u>MD</u>		<u>TVD</u>	<u>MD</u>
Ojo Alamo	2,960'	2,998'	Menefee	5,930'	5,980'
Kirtland	3,060'	3,099'	Point Lookout	6,135'	6,185'
Fruitland Fmtn	3,485'	3,531'	Prot. Liner	6,445'	6,495'
Pictured Cliffs	3,695'	3,744'	Mancos sh	6,445'	6,495'
Lewis Sh	3,995'	4,045'	Gallup	7,445'	7,495'
Int. Casing	4,170'	4,220'	Greenhorn	8,165'	8,215'
Cliff House Trans	5,570'	5,620'	Graneros	8,220'	8,270'
Cliff House	5,885'	5,935'	Dakota	8,350'	8,400'
			5-1/2" Casing	8,710'	8,760'
			Total Depth	8,710'	8,760'

B. LOGGING PROGRAM: (SEE ATTACHED GEOLOGICAL PROGNOSIS).

C. NATURAL GAUGES: Gauge any noticeable increases in gas flow. Record all gauges in Tour book and on morning reports.

II. DRILLING

- A. **SURFACE HOLE:** PU 12 1/4", 17 1/2" 26" in. Bit, Drill / ream to +400 ft. (MD). Drill with water and Gel sweeps. RU and run 20 in. Surface Casing, set at 400 ft.+ (MD). NU 20in. SOW X 21-1/4 in. 2000 psi Braden Head. NU 20in annular preventer. The surface casing will be pressure tested to 1400 psi in conjunction with the BOP test before drilling out cement. Run TOTCO surveys at 200ft. and 400ft.
- B. **INTERMEDIATE HOLE:** Drill out of 20in. csg. with a 14-3/4in. Tri-cone bit. Use LSND Mud System to 10-3/4 in. intermediate casing point. Increase Viscosity of mud system to 40+ to run casing. Treat for lost circulation as necessary. Obtain 100% returns prior to cementing. Notify Engineering of any mud losses. Circulate cement to surface. NU 21-1/4in 2,000 psi X 13-5/8 in. "B" Section. Run TOTCO Surveys each 500 ft.
- C. **INTERMEDIATE LINER HOLE:** Drill out of 10-3/4in. csg. with a 9-7/8in. air hammer bit. Use Air Drilling System, to 7-5/8 in. intermediate casing point. Run & set 7-5/8" liner. Circulate cement to 100ft. above TOL. Run TOTCO Surveys each 500 ft.
- D. **PRODUCTION HOLE:** Drill out of 7-5/8in. csg with a 6-3/4in tri-cone bit. Use Dispersed Mud System with water loss less than 8 ml/30 min. POOH, run OH logs. Increase Viscosity of mud system to 40+ to run casing. Treat for lost circulation as necessary. Notify Engineering of any mud losses.
- E. **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 surface and Intermediate casing will be pressure tested to **1500 psi for 30 minutes** after the BOPE test before drilling out cement. The drum brakes will be inspected and tested each tour. **All tests, inspections and SPR's will be recorded in the tour book as to time and results.**

III. MATERIALS

A. **CASING PROGRAM:**

<u>CASING TYPE</u>	<u>HOLE SIZE</u>	<u>DEPTH</u>	<u>CASING SIZE</u>	<u>WT. & GRADE</u>
Surface	26in.	+/- 400'	20in.	94#/ft X-52-BUTT
Intermediate	14-3/4in.	+/- 4,220'	10-3/4in.	45.5#/ft K-55-BUTT
Drilling Liner	9-7/8in.	+/- 4,020ft.- 6,495ft.	7-5/8in.	26.4#/ft K-55-LTC
Longstring	6-3/4in.	+/- 8,760ft.	5-1/2in.	17#/ft N-80-LTC

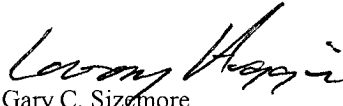
B. **FLOAT EQUIPMENT:**

1. **SURFACE CASING:** 20in. notched regular pattern guide shoe. Run one (1) standard centralizer on each of the bottom three (3) joints
2. **INTERMEDIATE CASING:** 10-3/4in. cement nose guide shoe with a self-fill insert float. Place float collar one joint above the shoe. Install one Turbulent centralizer on each of the bottom (3) joints and one standard centralizer every (3) joints to the surface casing.
3. **DRILLING LINER:** 7-5/8in. Whirler type cement nose guide shoe with a latch collar on top of bottom joint.
4. **PRODUCTION CASING:** 5-1/2" whirl type cement nose guide shoe with a float collar on top of bottom joint. Place marker joint above 5,600'. Place one turbolizer every third joint thru Dakota and Mesa Verde intervals. (**Call this in to BLM for approval. If denied, follow what is in the Operations Plan in the Permit package.**)

C. CEMENTING:

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

1. SURFACE: Lead: 480 sx (826 cu.ft.) of class Premium Lite FM, 8% gel+1% CaCl₂+1/4# cello-flake/sk (Yield = 1.72 cu.ft./sk, Weight = 12.1 #/gal.). Tail: 270sx (381 cu.ft.) of class "Type III" with 1/4# cello-flake/sk+1% CaCl₂ (Yield = 1.41 cu.ft./sk, Weight = 14.5#/gal.). 125% excess in lead and tail to circulate to surface. Total volume = ~~983 cu.ft.~~ **1207 ft³** WOC 12 hours. Run a temperature survey after 8 hours if cement is not circulated.
2. INTERMEDIATE: 10 bbl fresh water spacer Lead: 2460sx (5117 cu.ft.) of class "Premium Lite FM" with 8% gel and 1/4# cello-flake/sk + 2% pheno seal (Yield = 2.08 cu.ft./sk, Weight = 12.1 #/gal.). Tail: 200sx (278 cu.ft.) of class "Type III" with 1/4# cello-flake/sk (Yield = 1.39 cu.ft./sk, Weight = 14.5#/gal.). **NO EXCESS IN EITHER SLURRY PUMP AS WRITTEN**. Total volume = 5395 cu.ft. WOC 12 hours. Run a temperature survey after 8 hours if cement is not circulated.
3. DRILLING LINER: 10 bbl gelled water +0.25 gal/bbl XLFC-5 spacer and 10 bbl fresh water spacer. 400 sx (854 cu. Ft.) "Premium Lite HS FM"+1% FL-52+0.2%CD-32+5 lb/sk LCM-1 (gilsonite)+3 lb/sk CSE+1/4 lb/sk cello-flake (Yield = 2.14 cu ft/sk, weight = 12.3 #/gal). **NO EXCESS PUMP AS WRITTEN**. Total volume 854 ft³. WOC 12 hours.
4. LONGSTRING: 20 bbl Mud Clean II as spacer Lead: 273 sx (349 cu ft) Premium Lite HS FM +1% FL-52+0.2% CD-32+3 #/sk CSE+2% Pheno Seal+1/4 #/sk cello-flake (Yield=2.44 #/sx, Weight=11.8 #/gal). Tail: 135 sx (289 cu ft) Premium Lite HS FM+1% FL-52+0.2% CD-32+3 #/skCSE+2% Pheno Seal+1/4 #/sk Cello-flake (Yield=2.14 cu ft/sk, Weight =12.30 #/gal) Displace cement at a minimum of 8 BPM. **NO EXCESS IN EITHER SLURRY PUMP AS WRITTEN**. Total volume 638 ft³. WOC 12 hours.

for 
Gary C. Sizemore
Sr. Drilling Engineer

GEOLOGIC PROGNOSIS

Company: Williams Production Company. LLC
Project: 2008 Drilling Plan
Area: Rosa Unit

Operator: Williams Production Company. LLC
Rosa Unit No. 187C (Kmv/Kg/Kd-
Directional)
Well Name:
Location: SWSW 21-31N-05W
Footage: 1090' FSL & 1145' FWL
County/State: Rio Arriba/New Mexico

Surveyed GL: 6801 Est: (14') KB: 6815

<u>Formation</u>	<u>Thickness</u>	<u>Depth</u>	<u>Struct. Elev.</u>
San Jose Fm.	2960	Surface	6801
Ojo Alamo Ss.	100	2960	3855
Kirtland Sh.	425	3060	3755
Fruitland Fm.	210	3485	3330
Pictured Cliffs Ss.	300	3695	3120
Lewis Sh.	175	3995	2820
<u>Int. Csg. Depth</u>	1400	<u>4170</u>	2645
Cliff House Ss. Trans.	315	5570	1245
Cliff House Ss.	45	5885	930
Menefee Fm.	205	5930	885
Point Lookout Ss.	310	6135	680
Mancos Sh.	0	6445	370
<u>Prot. Lnr. Depth</u>	1000	6445	370
Gallup Ss.	720	7445	-630
Greenhorn Ls.	55	8165	-1350
Graneros Sh.	130	8220	-1405
Dakota Ss.	260	8350	-1535
Morrison Fm.	100	8610	-1795
<u>Total Depth</u>	NA	<u>8710</u>	-1895

Mud Log: Mud log (5"=100') from protection liner to TD
(mud logger to pick TD)

Cores: None

Mechanical Logs: Schlumberger: PEX-ECS-HNGS from surface to TD;
FMI-Sonic Scanner and MSCT over intervals of interest

Correlation Logs: Rosa Unit No. 111 (SESW 21-31N-05W)

Notes: This well will be directionally drilled to a BHL 1650' FSL
& 0990' FWL 21-31N-05W

Revised to deepen well into Morrison,
revise
casing program, revise logging program, and
put on mud logger at protection liner
point