

UNITED STATES
DEPARTMENT OF INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

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
TO DRILL" for permit for such proposals

Use "APPLICATION
Bureau of Land Management
Farmington Field Office

MAY 13 2009

5 Lease Designation and Serial No
NMSF-078767
If Indian, Allottee or Tribe Name

SUBMIT IN TRIPLICATE

1. Type of Well
Oil Well Gas Well X Other

7 If Unit or CA, Agreement Designation
Rosa Unit

2 Name of Operator
WILLIAMS PRODUCTION COMPANY

8. Well Name and No
Rosa Unit 149C

3. Address and Telephone No
PO Box 640 Aztec, NM 87410-0640

9 API Well No
30-039-30723

4. Location of Well (Footage, Sec, T, R., M, or Survey Description)
Sur 1910' FNL & 2225' FWL, BHL 1200' FNL & 1500' FEL, Sec 12, T31N, R6W

10 Field and Pool, or Exploratory Area
BLANCO MV/BASIN DK/BASIN MC

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

X Notice of Intent
Subsequent Report
Final Abandonment

Abandonment
Recompletion
Plugging Back
Casing Repair
Altering Casing
Other

X 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.)*

Due to spacing requirements Williams Production plans to change the bottom hole location of this well to the above location. See attached C-102, operations plan and directional plan.

RCVD MAY 19 '09

OIL CONS. DIV.

DIST. 3

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 COM

Date 5/13/09

(This space for Federal or State office use)

Approved by Troy L. Salyers

Title Petroleum Engineer

Date 5/13/09

Conditions of approval, if any

Title 18 U.S.C. Section 1001, makes it a crime for any person knowingly and willfully 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

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 30-039-30723	'Pool Code 97232 / 72319 / 71599	'Pool Name BASIN MANCOS / BLANCO MESAVERDE / BASIN DAKOTA	
'Property Code 17033	'Property Name ROSA UNIT		'Well Number 149C
'OGRID No 120782	'Operator Name WILLIAMS PRODUCTION COMPANY		'Elevation 6286'

¹⁰ Surface Location

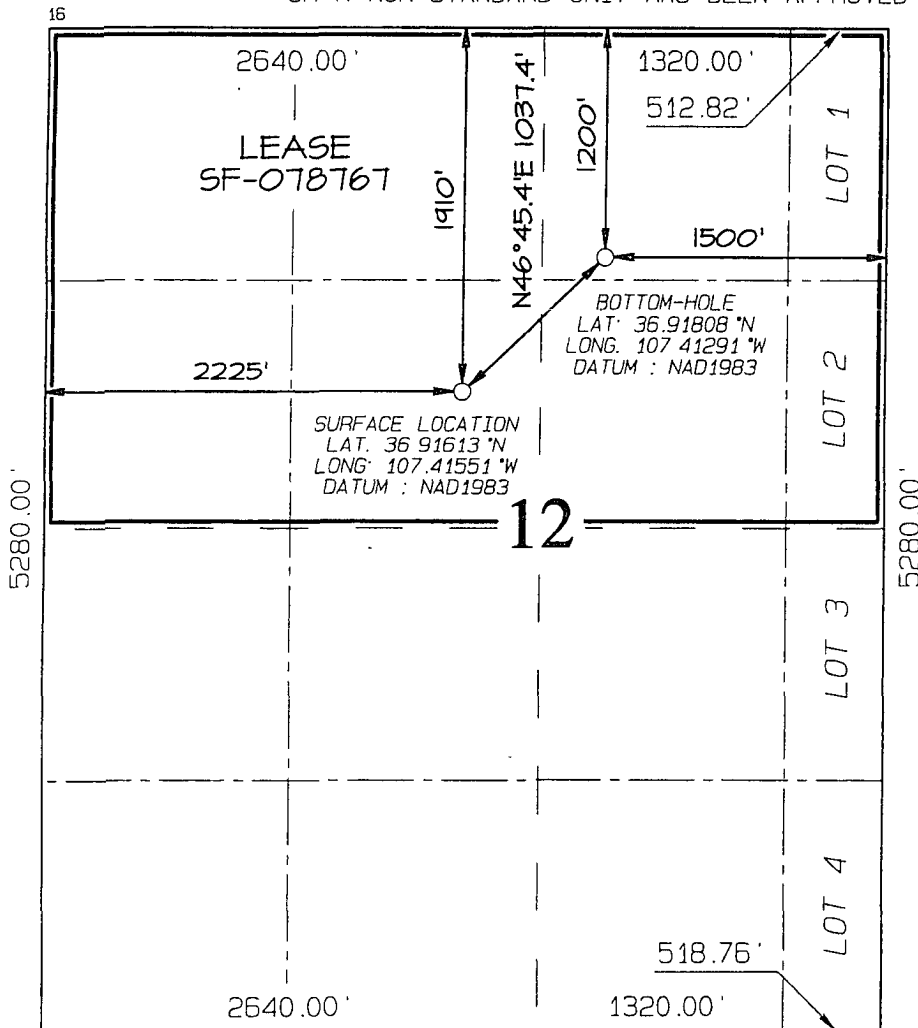
UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
F	12	31N	6W		1910	NORTH	2225	WEST	RIO ARRIBA

¹¹Bottom 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
B	12	31N	6W		1200	NORTH	1500	EAST	RIO ARRIBA

¹² Dedicated Acres	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No
271.17 Acres - (N/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



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

Signature Larry Higgins Date 5-13-09

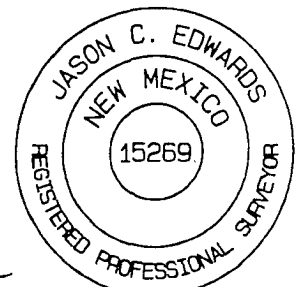
LARRY HIGGINS
Printed Name

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 Revised: MAY 12, 2009
Survey Date: DECEMBER 2, 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: 3/17/2009 **FIELD:** Basin DK/ Basin MC/BlancoMV
WELL NAME: Rosa #149C **SURFACE:** BLM
BH LOCATION: NWNE Sec 12-31N-6W **MINERALS:** BLM
Rio Arriba, NM
ELEVATION: 6,286' GR **LEASE #** SF-078767
MEASURED DEPTH: 8,241'

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

Name		TVD	MD		Name		TVD	MD
Ojo Alamo		2,365	2,532		Point Lookout		5,600	5,811
Kirtland		2,475	2,653		Mancos		5,965	6,179
Fruitland		2,880	3,082		Gallup		6,915	7,126
Pictured Cliffs		3,150	3,359		Greenhorn		7,640	7,851
Lewis		3,430	3,641		Graneros		7,700	7,911
Cliff House		5,340	5,551		Dakota		7,830	8,041
Menefee		5,385	5,596		Morrison		8,050	8,161
					TD		8,130	8,241

- 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	3,821	7 5/8	26.4	K-55
Longstring	6 3/4	8,241	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 **Test csg. 1500 psi. 30 min**
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

for 
Gary Sizemore
Sr. Drilling Engineer



Weatherford[®]

Drilling Services

PROPOSAL



WILLIAMS PRODUCTION COMPANY
ROSA UNIT #149C
RIO ARRIBA COUNTY, NEW MEXICO
WELL FILE: **PLAN 2** ✓

Submitted: May 13, 2009

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 #149C
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	46.95	0.00	0.00	0.00	0.00	0.00	0.00	
2	400.00	0.00	46.95	400.00	0.00	0.00	0.00	0.00	0.00	
3	1008.92	24.36	46.95	990.74	87.03	93.17	4.00	46.95	127.49	
4	2603.63	24.36	46.95	2443.52	535.97	573.79	0.00	0.00	785.17	
5	3821.46	0.00	46.95	3625.00	710.02	760.12	2.00	180.00	1040.15	Int Csg. Pt. 2
6	8181.46	0.00	46.95	7985.00	710.02	760.12	0.00	46.95	1040.15	PBHL 2

WELL DETAILS

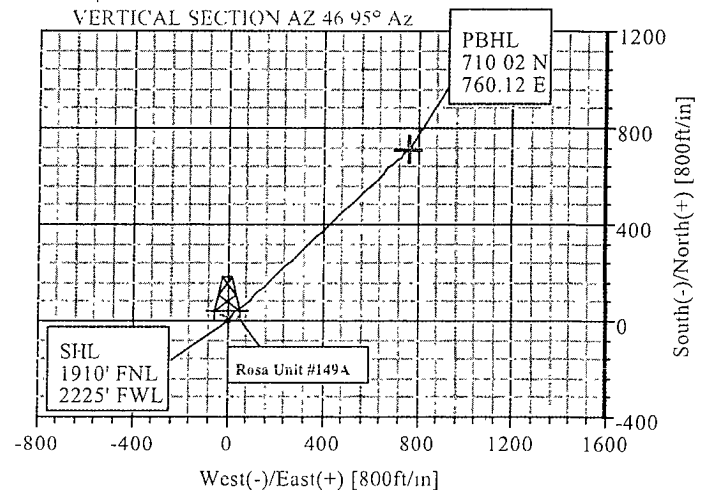
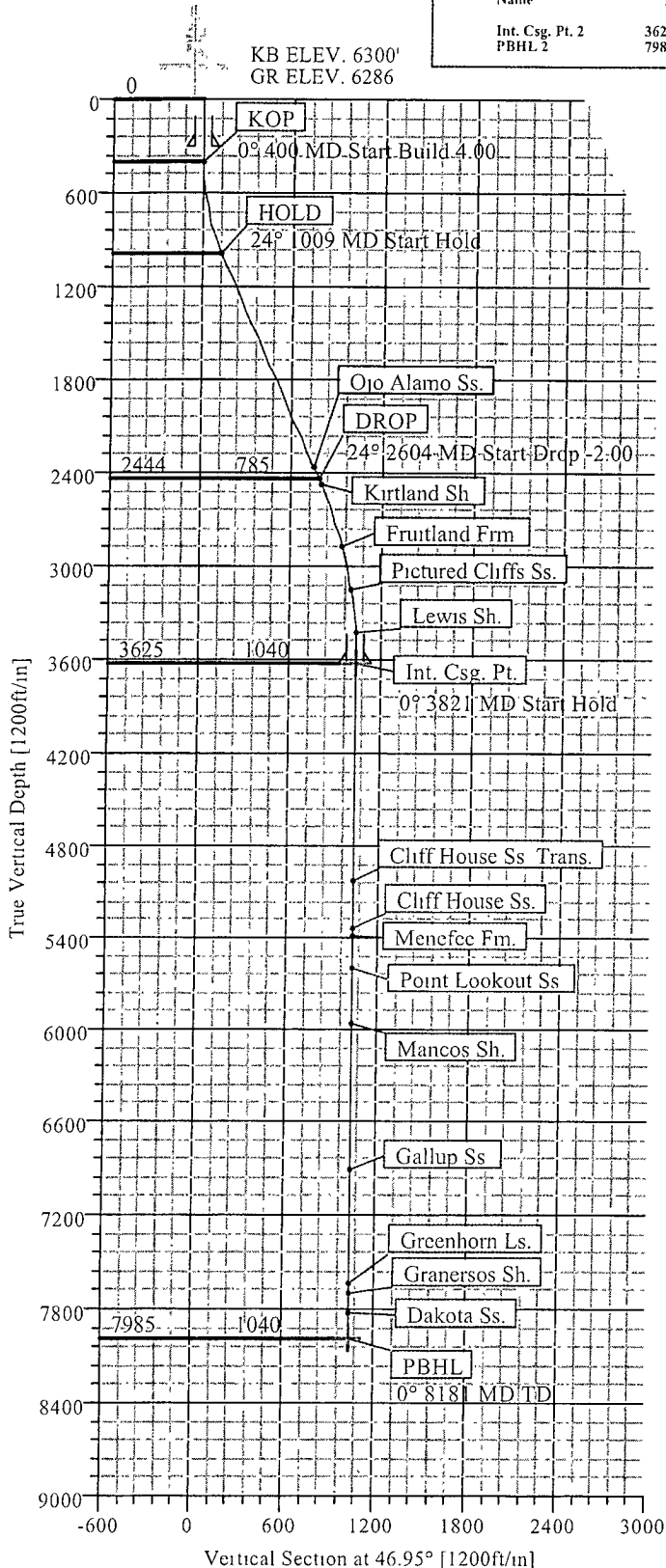
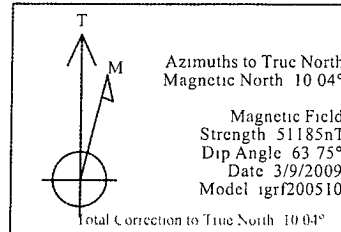
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
#149C	0.00	0.00	2154848.90	1299706.19	36°54'58.070N	107°24'55.840W	N/A

TARGET DETAILS

Name	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Shape
Int. Csg. Pt. 2	3625.00	710.02	760.12	2155549.58	1300474.93	36°55'05.090N	107°24'46.480W	Point
PBHL 2	7985.00	710.02	760.12	2155549.58	1300474.93	36°55'05.090N	107°24'46.480W	Point

FORMATION TOP DETAILS

No.	TVDPath	MDPath	Formation
1	2365.00	2517.44	Ojo Alamo Ss.
2	2475.00	2638.09	Kirtland Sh.
3	2880.00	3067.80	Fruitland Frm.
4	3150.00	3344.26	Pictured Cliffs Ss.
5	3430.00	3626.31	Lewis Sh.
6	5030.00	5226.46	Cliff House Ss. Trans.
7	5340.00	5536.46	Cliff House Ss.
8	5385.00	5581.46	Menefee Fm.
9	5600.00	5796.46	Point Lookout Ss.
10	5965.00	6161.46	Mancos Sh.
11	6915.00	7111.46	Gallup Ss.
12	7640.00	7836.46	Greenhorn Ls.
13	7700.00	7896.46	Graneros Sh.
14	7830.00	8026.46	Dakota Ss.



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CASING DETAILS

No.	TVD	MD	Name	Size
1	300.00	300.00	10 3/4"	10.750
2	3625.00	3821.46	7 5/8" Int Csg	0.000

Plan Plan #2 (#149C/1)

Created By: Lindsey Maddux

Date: 5/13/2009



Weatherford International, Inc.

Proposal Plan Report



Weatherford

Company: WILLIAMS PRODUCTION Date: 5/13/2009 Time: 13:08:41 Page: 1
 Field: Rio Arriba Co., NM (NAD 83) Co-ordinate(NE) Reference: Well: #149C, True North
 Site: Rosa Unit #149C Vertical (TVD) Reference: SITE 6300.0
 Well: #149C Section (VS) Reference: Well (0.00N, 0.00E, 46.95Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Plan: Plan #2 Date Composed: 5/13/2009
 Principal: Yes Version: 1
 Tied-to: From Surface

Field: Rio Arriba Co., NM (NAD 83)

Map System: US State Plane Coordinate System 1983 Map Zone: New Mexico, Central Zone
 Geo Datum: GRS 1980 Coordinate System: Well Centre
 Sys Datum: Mean Sea Level Geomagnetic Model: igrf200510

Site: Rosa Unit #149C

1910' FNL 2225' FWL of SEC 12 T31N R6W

Site Position: Northing: 2154848.90 ft Latitude: 36 54 58.070 N
 From: Geographic Easting: 1299706.19 ft Longitude: 107 24 55.840 W
 Position Uncertainty: 0.00 ft North Reference: True
 Ground Level: 6286.00 ft Grid Convergence: -0.70 deg

Well: #149C

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 2154848.90 ft Latitude: 36 54 58.070 N
 +E/-W 0.00 ft Easting: 1299706.19 ft Longitude: 107 24 55.840 W
 Position Uncertainty: 0.00 ft

Wellpath: 1

Current Datum: SITE Height 6300.00 ft Drilled From: Surface
 Magnetic Data: 3/9/2009 Tie-on Depth: 0.00 ft
 Field Strength: 51185 nT Above System Datum: Mean Sea Level
 Vertical Section: Depth From (TVD) Declination: 10.04 deg
 ft +N/-S ft +E/-W ft Mag Dip Angle: 63.75 deg
 Direction deg
 0.00 0.00 0.00 46.95

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	46.95	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	46.95	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
1008.92	24.36	46.95	990.74	87.03	93.17	4.00	4.00	0.00	46.95	
2603.63	24.36	46.95	2443.52	535.97	573.79	0.00	0.00	0.00	0.00	
3821.46	0.00	46.95	3625.00	710.02	760.12	2.00	-2.00	0.00	180.00	Int. Csg. Pt. 2
8181.46	0.00	46.95	7985.00	710.02	760.12	0.00	0.00	0.00	46.95	PBHL 2

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
300.00	0.00	46.95	300.00	0.00	0.00	0.00	0.00	0.00	0.00	46.95	10 3/4"
400.00	0.00	46.95	400.00	0.00	0.00	0.00	0.00	0.00	0.00	46.95	KOP
500.00	4.00	46.95	499.92	2.38	2.55	3.49	4.00	0.00	4.00	0.00	
600.00	8.00	46.95	599.35	9.52	10.19	13.94	4.00	0.00	4.00	0.00	
700.00	12.00	46.95	697.81	21.37	22.87	31.30	4.00	0.00	4.00	360.00	
800.00	16.00	46.95	794.82	37.88	40.55	55.49	4.00	0.00	4.00	0.00	
900.00	20.00	46.95	889.91	58.97	63.13	86.38	4.00	0.00	4.00	0.00	
1008.92	24.36	46.95	990.74	87.03	93.17	127.49	4.00	0.00	4.00	0.00	HOLD
1100.00	24.36	46.95	1073.72	112.67	120.62	165.05	0.00	0.00	0.00	0.00	
1200.00	24.36	46.95	1164.82	140.82	150.76	206.29	0.00	0.00	0.00	0.00	
1300.00	24.36	46.95	1255.92	168.97	180.90	247.54	0.00	0.00	0.00	0.00	
1400.00	24.36	46.95	1347.02	197.12	211.03	288.78	0.00	0.00	0.00	0.00	
1500.00	24.36	46.95	1438.12	225.28	241.17	330.02	0.00	0.00	0.00	0.00	
1600.00	24.36	46.95	1529.22	253.43	271.31	371.26	0.00	0.00	0.00	0.00	
1700.00	24.36	46.95	1620.32	281.58	301.45	412.50	0.00	0.00	0.00	0.00	



Weatherford International, Inc.

Proposal Plan Report



Weatherford

Company: WILLIAMS PRODUCTION Date: 5/13/2009 Time: 13:08:41 Page: 2
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 Site: Rosa Unit #149C Vertical (TVD) Reference: SITE 6300.0
 Well: #149C Section (VS) Reference: Well (0.00N,0.00E,46.95Azi)
 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	24.36	46.95	1711.42	309.73	331.59	453.74	0.00	0.00	0.00	0.00	
1900.00	24.36	46.95	1802.51	337.88	361.73	494.99	0.00	0.00	0.00	0.00	
2000.00	24.36	46.95	1893.61	366.03	391.87	536.23	0.00	0.00	0.00	0.00	
2100.00	24.36	46.95	1984.71	394.19	422.00	577.47	0.00	0.00	0.00	0.00	
2200.00	24.36	46.95	2075.81	422.34	452.14	618.71	0.00	0.00	0.00	0.00	
2300.00	24.36	46.95	2166.91	450.49	482.28	659.95	0.00	0.00	0.00	0.00	
2400.00	24.36	46.95	2258.01	478.64	512.42	701.19	0.00	0.00	0.00	0.00	
2500.00	24.36	46.95	2349.11	506.79	542.56	742.44	0.00	0.00	0.00	0.00	
2517.44	24.36	46.95	2365.00	511.70	547.81	749.63	0.00	0.00	0.00	0.00	Ojo Alamo Ss.
2603.63	24.36	46.95	2443.52	535.97	573.79	785.17	0.00	0.00	0.00	0.00	DROP
2638.09	23.67	46.95	2475.00	545.54	584.04	799.20	-2.00	0.00	2.00	180.00	Kirtland Sh.
2700.00	22.43	46.95	2531.96	562.09	601.75	823.43	-2.00	0.00	2.00	180.00	
2800.00	20.43	46.95	2625.05	587.02	628.45	859.97	-2.00	0.00	2.00	180.00	
2900.00	18.43	46.95	2719.35	609.73	652.76	893.23	-2.00	0.00	2.00	180.00	
3000.00	16.43	46.95	2814.75	630.17	674.64	923.18	-2.00	0.00	2.00	180.00	
3067.80	15.07	46.95	2880.00	642.74	688.09	941.59	-2.00	0.00	2.00	180.00	Fruitland Frm.
3100.00	14.43	46.95	2911.14	648.33	694.09	949.79	-2.00	0.00	2.00	180.00	
3200.00	12.43	46.95	3008.40	664.19	711.06	973.01	-2.00	0.00	2.00	180.00	
3300.00	10.43	46.95	3106.41	677.71	725.54	992.82	-2.00	0.00	2.00	180.00	
3344.26	9.54	46.95	3150.00	682.95	731.15	1000.50	-2.00	0.00	2.00	180.00	Pictured Cliffs Ss.
3400.00	8.43	46.95	3205.06	688.89	737.51	1009.21	-2.00	0.00	2.00	180.00	
3500.00	6.43	46.95	3304.21	697.72	746.96	1022.13	-2.00	0.00	2.00	180.00	
3600.00	4.43	46.95	3403.76	704.18	753.87	1031.60	-2.00	0.00	2.00	180.00	
3626.31	3.90	46.95	3430.00	705.48	755.27	1033.51	-2.00	0.00	2.00	180.00	Lewis Sh.
3700.00	2.43	46.95	3503.58	708.26	758.24	1037.58	-2.00	0.00	2.00	180.00	
3800.00	0.43	46.95	3603.54	709.96	760.07	1040.07	-2.00	0.00	2.00	180.00	
3821.46	0.00	46.95	3625.00	710.02	760.12	1040.15	-2.00	0.00	2.00	180.00	Int. Csg Pt 2
3900.00	0.00	46.95	3703.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
4000.00	0.00	46.95	3803.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
4100.00	0.00	46.95	3903.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
4200.00	0.00	46.95	4003.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
4300.00	0.00	46.95	4103.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
4400.00	0.00	46.95	4203.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
4500.00	0.00	46.95	4303.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
4600.00	0.00	46.95	4403.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
4700.00	0.00	46.95	4503.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
4800.00	0.00	46.95	4603.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
4900.00	0.00	46.95	4703.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
5000.00	0.00	46.95	4803.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
5100.00	0.00	46.95	4903.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
5200.00	0.00	46.95	5003.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
5226.46	0.00	46.95	5030.00	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	Cliff House Ss. Trans
5300.00	0.00	46.95	5103.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
5400.00	0.00	46.95	5203.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
5500.00	0.00	46.95	5303.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
5536.46	0.00	46.95	5340.00	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	Cliff House Ss.
5581.46	0.00	46.95	5385.00	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	Menefee Fm.
5600.00	0.00	46.95	5403.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
5700.00	0.00	46.95	5503.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
5796.46	0.00	46.95	5600.00	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	Point Lookout Ss
5800.00	0.00	46.95	5603.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
5900.00	0.00	46.95	5703.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
6000.00	0.00	46.95	5803.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	



Weatherford International, Inc.

Proposal Plan Report



Weatherford®

Company: WILLIAMS PRODUCTION Date: 5/13/2009 Time: 13:08:41 Page: 3
 Field: Rio Arriba Co. NM (NAD 83) Co-ordinate(NE) Reference: Well: #149C True North
 Site: Rosa Unit #149C Vertical (TVD) Reference: SITE 6300.0
 Well: #149C Section (VS) Reference: Well (0.00N,0.00E,46.95Azi)
 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	46.95	5903.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
6161.46	0.00	46.95	5965.00	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	Mancos Sh.
6200.00	0.00	46.95	6003.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
6300.00	0.00	46.95	6103.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
6400.00	0.00	46.95	6203.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
6500.00	0.00	46.95	6303.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
6600.00	0.00	46.95	6403.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
6700.00	0.00	46.95	6503.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
6800.00	0.00	46.95	6603.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
6900.00	0.00	46.95	6703.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
7000.00	0.00	46.95	6803.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
7100.00	0.00	46.95	6903.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
7111.46	0.00	46.95	6915.00	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	Gallup Ss.
7200.00	0.00	46.95	7003.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
7300.00	0.00	46.95	7103.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
7400.00	0.00	46.95	7203.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
7500.00	0.00	46.95	7303.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
7600.00	0.00	46.95	7403.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
7700.00	0.00	46.95	7503.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
7800.00	0.00	46.95	7603.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
7836.46	0.00	46.95	7640.00	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	Greenhorn Ls.
7896.46	0.00	46.95	7700.00	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	Graneros Sh.
7900.00	0.00	46.95	7703.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
8000.00	0.00	46.95	7803.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
8026.46	0.00	46.95	7830.00	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	Dakota Ss.
8100.00	0.00	46.95	7903.54	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	
8181.46	0.00	46.95	7985.00	710.02	760.12	1040.15	0.00	0.00	0.00	46.95	PBHL 2

Targets

Name	Description	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			3625.00	710.02	760.12	2155549.58	1300474.93	36 55 5.090 N	107 24 46.480 W
-Plan hit target									
PBHL 2			7985.00	710.02	760.12	2155549.58	1300474.93	36 55 5.090 N	107 24 46.480 W
-Plan hit target									

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
2517.44	2365.00	Ojo Alamo Ss.		0.00	0.00
2638.09	2475.00	Kirtland Sh.		0.00	0.00
3067.80	2880.00	Fruitland Frm.		0.00	0.00
3344.26	3150.00	Pictured Cliffs Ss.		0.00	0.00
3626.31	3430.00	Lewis Sh.		0.00	0.00
5226.46	5030.00	Cliff House Ss Trans.		0.00	0.00
5536.46	5340.00	Cliff House Ss		0.00	0.00
5581.46	5385.00	Menefee Fm.		0.00	0.00
5796.46	5600.00	Point Lookout Ss		0.00	0.00
6161.46	5965.00	Mancos Sh.		0.00	0.00
7111.46	6915.00	Gallup Ss		0.00	0.00
7836.46	7640.00	Greenhorn Ls		0.00	0.00
7896.46	7700.00	Graneros Sh		0.00	0.00
8026.46	7830.00	Dakota Ss.		0.00	0.00



Weatherford International, Inc.

Proposal Plan Report



Weatherford

Company: WILLIAMS PRODUCTION
Field: Rio Arriba Co., NM (NAD 83)
Site: Rosa Unit #149C
Well: #149C
Wellpath: 1

Date: 5/13/2009
Co-ordinate(NE) Reference: Well: #149C, True North
Vertical (TVD) Reference: SITE 6300.0
Section (VS) Reference: Well (0.00N, 0.00E, 46.95Azi)
Survey Calculation Method: Minimum Curvature
Db: Sybase

Page: 4

Annotation

MD ft	TVD ft	
400.00	400.00	KOP
1008.92	990.74	HOLD
2603.63	2443.52	DROP
3821.46	3625.00	Int. Csg. Pt.
8181.46	7985.00	PBHL

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
300.00	300.00	10.750	12.250	10 3/4"
3821.46	3625.00	0.000	0.000	7 5/8" Int. Csg.