

UNITED STATES
DEPARTMENT OF THE INTERIOR
BUREAU OF LAND MANAGEMENT

RECEIVED

JUN 02 2011

FORM APPROVED
OMB No. 1004-0137
Expires: March 31, 2007

SUNDRY NOTICES AND REPORTS ON WELLS
Do not use this form for proposals to drill or to re-enter an abandoned well. Use Form 3160-3 (APD) for such proposals.

SUBMIT IN TRIPLICATE - Other instructions on page 2.

1. Type of Well ☐ Oil Well ☒ Gas Well ☐ Other		5. Lease Serial No. NMSF-078771
2. Name of Operator Williams Production Company, LLC		6. If Indian, Allottee or Tribe Name
3a. Address PO Box 640 Aztec, NM 87410	3b. Phone No. (include area code) 505-634-4208	7. If Unit of CA/Agreement, Name and/or No. Rosa Unit
4. Location of Well (Footage, Sec., T., R., M., or Survey Description) Sur: 1830' FNL & 1970' FEL, BHL: 2310' FNL & 2310' FEL, section 11, T31N, R6W		8. Well Name and No. Rosa Unit #36C
		9. API Well No. 30-039-30182
		10. Field and Pool or Exploratory Area Blanco Mesaverde/Basin Dakota
		11. Country or Parish, State Rio Arriba, NM

12. CHECK THE APPROPRIATE BOX(ES) TO INDICATE NATURE OF NOTICE, REPORT OR OTHER DATA

TYPE OF SUBMISSION	TYPE OF ACTION			
☒ Notice of Intent	☐ Acidize	☐ Deepen	☐ Production (Start/Resume)	☐ Water Shut-Off
☐ Subsequent Report	☐ Alter Casing	☐ Fracture Treat	☐ Reclamation	☐ Well Integrity
☐ Final Abandonment Notice	☐ Casing Repair	☐ New Construction	☐ Recomplete	☒ Other Add Dakota
	☐ Change Plans	☐ Plug and Abandon	☐ Temporarily Abandon	
	☐ Convert to Injection	☐ Plug Back	☐ Water Disposal	

13. Describe Proposed or Completed Operation: Clearly state all pertinent details, including estimated starting date of any proposed work and approximate duration thereof. If the proposal is to deepen directionally or recompleat horizontally, give subsurface locations and measured and true vertical depths of all pertinent markers and zones. Attach the Bond under which the work will be performed or provide the Bond No. on file with BLM/BIA. Required subsequent reports must be filed within 30 days following completion of the involved operations. If the operation results in a multiple completion or recompleat in a new interval, a Form 3160-4 must be filed once testing has been completed. Final Abandonment Notices must be filed only after all requirements, including reclamation, have been completed and the operator has determined that the site is ready for final inspection.)

Williams Production plans to drill this well to the Dakota and produce both Mesaverde and Dakota formations as per attached plat, operation plan and directional plan.

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

SEE ATTACHED FOR
CONDITIONS OF APPROVAL

* APD expires 9/5/2011

14. I hereby certify that the foregoing is true and correct. Name (Printed/Typed) Larry Higgins		Title Permit Supervisor	
Signature <i>Larry Higgins</i>		Date 6/2/11	
THIS SPACE FOR FEDERAL OR STATE OFFICE USE			
Approved by <i>Troy L. Solvers</i>		Title PE	Date 6/7/2011
Conditions of approval, if any, are attached. Approval of this notice 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.		Office FFO	

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 page 2)

for Directional Survey
and "As Drilled" plat

for Directional Survey
and "As Drilled" plat

NMCCD

CONDITIONS OF APPROVAL
Adhere to previously issued stipulations.

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
		72319 / 71599	BLANCO MESAVERDE / BASIN DAKOTA
*Property Code	*Property Name		*Well Number
17033	ROSA UNIT		36C
*OGRID No.	*Operator Name		*Elevation
120782	WILLIAMS PRODUCTION COMPANY		6421'

¹⁰ Surface Location

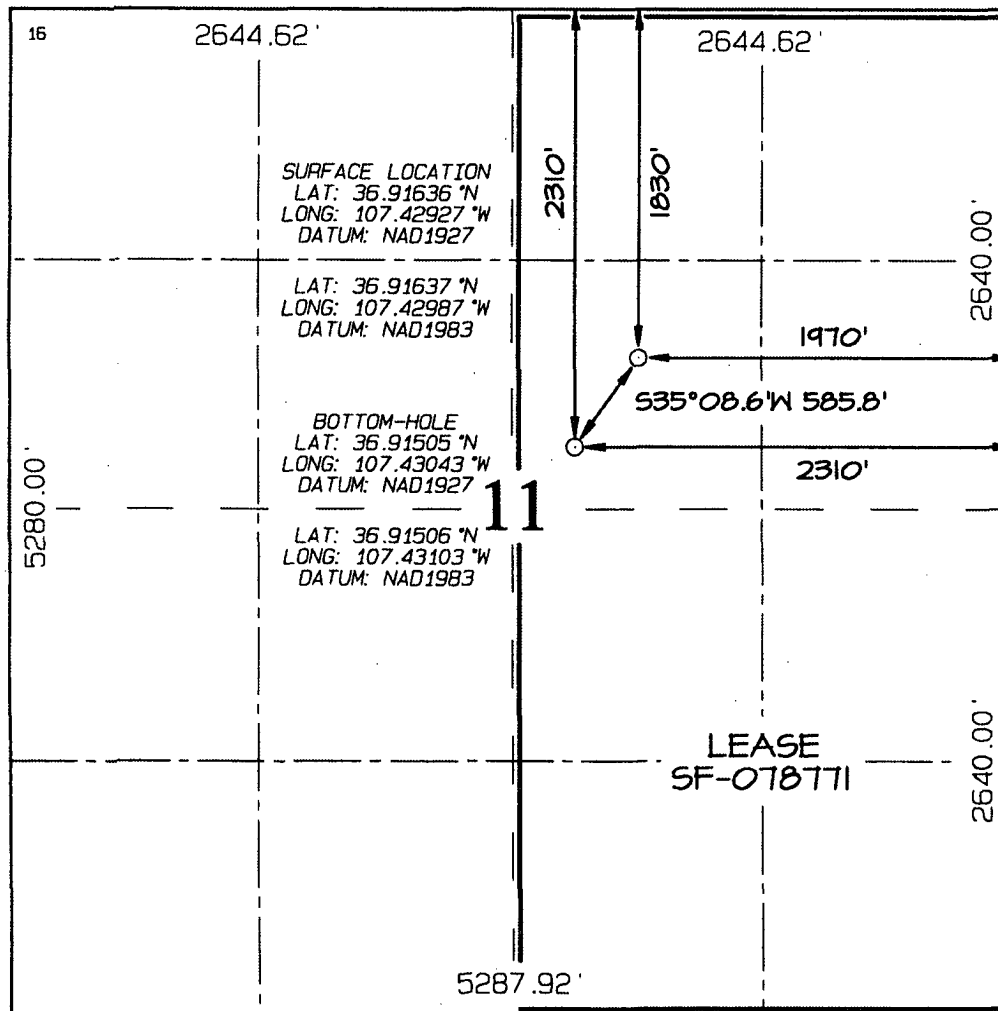
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
G	11	31N	6W		1830	NORTH	1970	EAST	RIO ARriba

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
G	11	31N	6W		2310	NORTH	2310	EAST	RIO ARriba

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

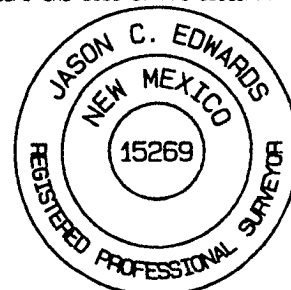
Larry Higgins 6-2-11
Signature Date
LARRY HIGGINS
Printed Name

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 Revisions: MAY 20, 2011
Date of Survey: APRIL 26, 2006

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: 6/1/2011 **FIELD:** Basin DK/ BlancoMV
WELL NAME: Rosa #36C **SURFACE:** BLM
BH LOCATION: SWNE Sec 11-31N-6W **MINERALS:** BLM
Rio Arriba, NM
ELEVATION: 6,421' GR **LEASE #** SF-78771
MEASURED DEPTH: 8,306'

I. GEOLOGY: Surface formation - San Jose

A. FORMATION TOPS: (KB)

Name	TVD	MD	Name	TVD	MD
Ojo Alamo	2,470	2,502	Point Lookout	5,720	5,771
Kirtland	2,570	2,603	Mancos	6,060	6,111
Fruitland	2,980	3,021	Gallup	7,065	7,116
Pictured Cliffs	3,240	3,285	Greenhorn	7,775	7,826
Lewis	3,535	3,584	Graneros	7,825	7,846
Cliff House	5,440	5,491	Dakota	7,955	8,006
Menefee	5,485	5,536	Morrison	8,205	8,256
			TD	8,255	8,306

B. MUD LOGGING PROGRAM: Mudlogger on location from intermediate csg to TD. Mud logger to pick TD.

C. LOGGING PROGRAM: HRI/Temp/SDL/DSN from intermediate casing to TD

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" 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" 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	12 1/4	300	9 5/8	36	K-55
Intermediate	8 3/4	3,766	7	23	K-55
Longstring	6 1/4	8,306	4 1/2	11.6	P-110

B. FLOAT EQUIPMENT:

1. SURFACE CASING: 9-5/8" notched regular pattern guide shoe. Run (1) standard centralizer on each of the bottom (4) joints of Surface Casing.
2. INTERMEDIATE CASING: 7" 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: 4-1/2" 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: 200sx (359.2 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 - 400 sx (1089.2 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.). Total volume = 1207 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: 610 sx (853 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. Total volume (853) 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 4-1/2" 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. Stimulate Point Lookout with approximately 40,000# 20/40 Ottawa sand in slick water.
4. Isolate Point Lookout with a RBP.
5. Perforate the Menefee/Cliff House as determined from the open hole logs.
6. Stimulate with approximately 40,000# 20/40 Ottawa sand in slick water.
7. 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


1502 Gary Sizemore
Sr. Drilling Engineer



Rosa Unit #36C
RIO ARRIBA CO. NM

SECTION DETAILS										
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	215.14	0.00	0.00	0.00	0.00	0.00	0.00	
2	400.00	0.00	215.14	400.00	0.00	0.00	0.00	0.00	0.00	
3	755.17	10.66	215.14	753.13	-26.93	-18.96	3.00	215.14	32.93	
4	3389.11	10.66	215.14	3341.65	-425.16	-299.29	0.00	0.00	519.94	
5	4099.46	0.00	215.14	4047.91	-479.02	-337.20	1.50	180.00	585.80	
6	8306.55	0.00	215.14	8255.00	-479.02	-337.20	0.00	0.00	585.80	Pbhl

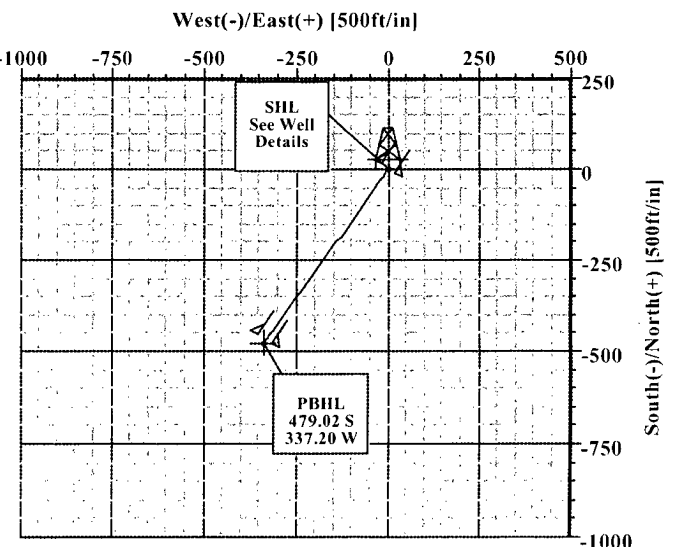
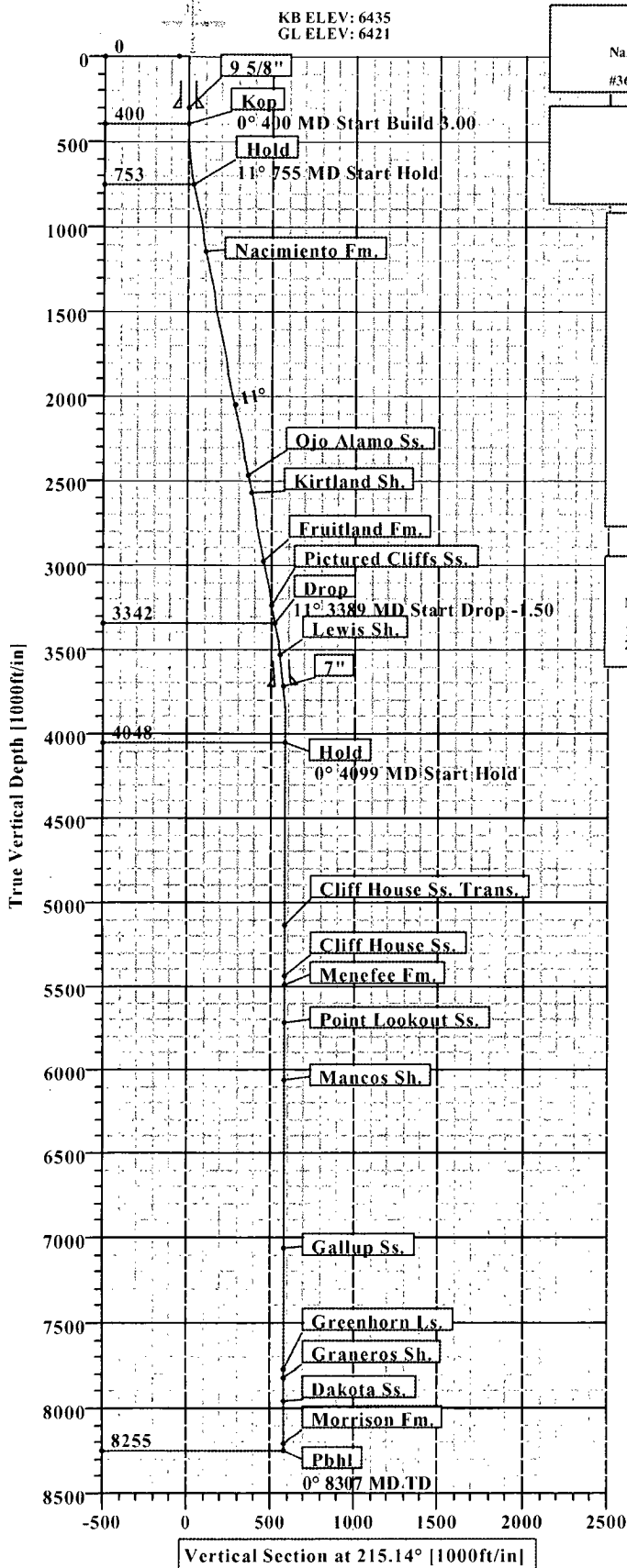
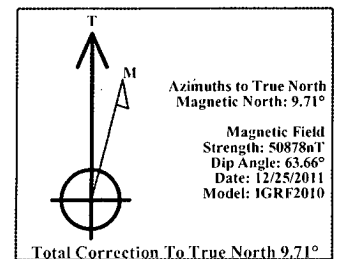
WELL DETAILS						
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
#36C	0.00	0.00	2154987.69	1295509.57	36°54'58.932N	107°25'47.532W

TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Pbhl	8255.00	-479.02	-337.20	36°54'54.196N	107°25'51.684W	Point

FORMATION TOP DETAILS		
No.	TVDPath	MDPath
1	1150.00	1159.01
2	2470.00	2502.17
3	2570.00	2603.92
4	2980.00	3021.11
5	3240.00	3285.68
6	3535.00	3584.99
7	5135.00	5186.55
8	5440.00	5491.55
9	5485.00	5536.55
10	5720.00	5771.55
11	6060.00	6111.55
12	7065.00	7116.55
13	7775.00	7826.55
14	7825.00	7876.55
15	7955.00	8006.55
16	8205.00	8256.55

CASING DETAILS			
No.	TVD	MD	Name
1	300.00	300.00	9 5/8"
2	3715.00	3766.12	7"

SITE DETAILS	
Rosa Unit #36C	
Site Centre Latitude: 36°54'58.932N	
Longitude: 107°25'47.532W	
Ground Level: 6421.00	
Positional Uncertainty: 0.00	
Convergence: -0.71	





Weatherford International Ltd.

WFT Plan Report Lat, Long



Weatherford

Company: Williams Production Date: 6/1/2011 Time: 10:16:02 Page: 1
 Field: RIO ARRIBA CO. NM.(NAD 83) Co-ordinate(NE) Reference: Well: #36C, True North
 Site: Rosa Unit #36C Vertical (TVD) Reference: SITE 6435.0
 Well: #36C Section (VS) Reference: Well (0.00N,0.00E,215.14Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Plan: Plan #1 Date Composed: 6/1/2011
 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: IGRF2010

Site: Rosa Unit #36C

Site Position: Northing: 2154987.69 ft Latitude: 36 54 58.932 N
 From: Geographic Easting: 1295509.57 ft Longitude: 107 25 47.532 W
 Position Uncertainty: 0.00 ft North Reference: True
 Ground Level: 6421.00 ft Grid Convergence: -0.71 deg

Well: #36C Slot Name:
 Well Position: +N/-S 0.00 ft Northing: 2154987.69 ft Latitude: 36 54 58.932 N
 +E/-W 0.00 ft Easting: 1295509.57 ft Longitude: 107 25 47.532 W
 Position Uncertainty: 0.00 ft

Wellpath: 1 Drilled From: Surface
 Current Datum: SITE Height 6435.00 ft Tie-on Depth: 0.00 ft
 Magnetic Data: 12/25/2011 Above System Datum: Mean Sea Level
 Field Strength: 50878 nT Declination: 9.71 deg
 Vertical Section: Depth From (TVD) +N/-S +E/-W Mag Dip Angle: 63.66 deg
 ft ft ft deg
 0.00 0.00 0.00 215.14

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	215.14	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
400.00	0.00	215.14	400.00	0.00	0.00	0.00	0.00	0.00	0.00	
755.17	10.66	215.14	753.13	-26.93	-18.96	3.00	3.00	0.00	215.14	
3389.11	10.66	215.14	3341.65	-425.16	-299.29	0.00	0.00	0.00	0.00	
4099.46	0.00	215.14	4047.91	-479.02	-337.20	1.50	-1.50	0.00	180.00	
8306.55	0.00	215.14	8255.00	-479.02	-337.20	0.00	0.00	0.00	0.00	Pbhl

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Lat	Min	Sec	Long	Min	Sec	Comment
300.00	0.00	215.14	300.00	0.00	0.00	0.00	0.00	36	54	58.932	107	25	47.532	9 5/8" Kop
400.00	0.00	215.14	400.00	0.00	0.00	0.00	0.00	36	54	58.932	107	25	47.532	
500.00	3.00	215.14	499.95	-2.14	-1.51	2.62	3.00	36	54	58.911	107	25	47.551	
600.00	6.00	215.14	599.63	-8.56	-6.02	10.46	3.00	36	54	58.847	107	25	47.606	
700.00	9.00	215.14	698.77	-19.23	-13.53	23.51	3.00	36	54	58.742	107	25	47.699	
755.17	10.66	215.14	753.13	-26.93	-18.96	32.93	3.00	36	54	58.666	107	25	47.765	Hold
800.00	10.66	215.14	797.18	-33.71	-23.73	41.22	0.00	36	54	58.599	107	25	47.824	
900.00	10.66	215.14	895.46	-48.82	-34.37	59.71	0.00	36	54	58.449	107	25	47.955	
1000.00	10.66	215.14	993.73	-63.94	-45.01	78.20	0.00	36	54	58.300	107	25	48.086	
1100.00	10.66	215.14	1092.01	-79.06	-55.66	96.69	0.00	36	54	58.150	107	25	48.217	
1159.01	10.66	215.14	1150.00	-87.99	-61.94	107.60	0.00	36	54	58.062	107	25	48.295	Nacimiento
1200.00	10.66	215.14	1190.29	-94.18	-66.30	115.18	0.00	36	54	58.001	107	25	48.348	
1300.00	10.66	215.14	1288.56	-109.30	-76.94	133.67	0.00	36	54	57.851	107	25	48.479	
1400.00	10.66	215.14	1386.84	-124.42	-87.59	152.16	0.00	36	54	57.702	107	25	48.610	
1500.00	10.66	215.14	1485.11	-139.54	-98.23	170.65	0.00	36	54	57.552	107	25	48.742	



Weatherford International Ltd.

WFT Plan Report Lat, Long

**Weatherford**

Company: Williams Production
Field: RIO ARRIBA CO. NM (NAD 83)
Site: Rosa Unit #36C
Well: #36C
Wellpath: 1

Date: 6/1/2011 Time: 10:16:02 Page: 2
Co-ordinate(NE) Reference: Well: #36C, True North
Vertical (TVD) Reference: SITE 6435.0
Section (VS) Reference: Well (0.00N,0.00E,215.14Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Lat	Min	Sec	Long	Min	Sec	Comment
1600.00	10.66	215.14	1583.39	-154.66	-108.87	189.14	0.00	36	54	57.403	107	25	48.873	
1700.00	10.66	215.14	1681.67	-169.78	-119.51	207.63	0.00	36	54	57.253	107	25	49.004	
1800.00	10.66	215.14	1779.94	-184.90	-130.16	226.12	0.00	36	54	57.104	107	25	49.135	
1900.00	10.66	215.14	1878.22	-200.02	-140.80	244.61	0.00	36	54	56.954	107	25	49.266	
2000.00	10.66	215.14	1976.49	-215.14	-151.44	263.10	0.00	36	54	56.805	107	25	49.397	
2100.00	10.66	215.14	2074.77	-230.26	-162.09	281.59	0.00	36	54	56.655	107	25	49.528	
2200.00	10.66	215.14	2173.04	-245.38	-172.73	300.08	0.00	36	54	56.506	107	25	49.659	
2300.00	10.66	215.14	2271.32	-260.50	-183.37	318.57	0.00	36	54	56.356	107	25	49.790	
2400.00	10.66	215.14	2369.60	-275.62	-194.02	337.06	0.00	36	54	56.207	107	25	49.921	
2500.00	10.66	215.14	2467.87	-290.74	-204.66	355.55	0.00	36	54	56.057	107	25	50.052	
2502.17	10.66	215.14	2470.00	-291.06	-204.89	355.95	0.00	36	54	56.054	107	25	50.055	Ojo Alamo S
2600.00	10.66	215.14	2566.15	-305.86	-215.30	374.04	0.00	36	54	55.908	107	25	50.183	
2603.92	10.66	215.14	2570.00	-306.45	-215.72	374.76	0.00	36	54	55.902	107	25	50.188	Kirtland Sh
2700.00	10.66	215.14	2664.42	-320.97	-225.95	392.53	0.00	36	54	55.758	107	25	50.314	
2800.00	10.66	215.14	2762.70	-336.09	-236.59	411.02	0.00	36	54	55.609	107	25	50.445	
2900.00	10.66	215.14	2860.97	-351.21	-247.23	429.51	0.00	36	54	55.459	107	25	50.576	
3000.00	10.66	215.14	2959.25	-366.33	-257.88	448.00	0.00	36	54	55.310	107	25	50.707	
3021.11	10.66	215.14	2980.00	-369.53	-260.12	451.90	0.00	36	54	55.278	107	25	50.735	Fruitland F
3100.00	10.66	215.14	3057.53	-381.45	-268.52	466.49	0.00	36	54	55.160	107	25	50.838	
3200.00	10.66	215.14	3155.80	-396.57	-279.16	484.98	0.00	36	54	55.011	107	25	50.969	
3285.68	10.66	215.14	3240.00	-409.53	-288.28	500.82	0.00	36	54	54.883	107	25	51.082	Pictured C
3300.00	10.66	215.14	3254.08	-411.69	-289.81	503.46	0.00	36	54	54.862	107	25	51.100	
3389.11	10.66	215.14	3341.65	-425.16	-299.29	519.94	0.00	36	54	54.728	107	25	51.217	Drop
3400.00	10.49	215.14	3352.36	-426.80	-300.44	521.94	1.50	36	54	54.712	107	25	51.231	
3500.00	8.99	215.14	3450.91	-440.63	-310.18	538.86	1.50	36	54	54.575	107	25	51.351	
3584.99	7.72	215.14	3535.00	-450.73	-317.29	551.21	1.50	36	54	54.476	107	25	51.439	Lewis Sh.
3600.00	7.49	215.14	3549.88	-452.36	-318.43	553.19	1.50	36	54	54.459	107	25	51.453	
3700.00	5.99	215.14	3649.18	-461.96	-325.19	564.93	1.50	36	54	54.365	107	25	51.536	
3766.12	5.00	215.14	3715.00	-467.13	-328.83	571.27	1.50	36	54	54.313	107	25	51.581	7"
3800.00	4.49	215.14	3748.76	-469.43	-330.45	574.07	1.50	36	54	54.291	107	25	51.601	
3900.00	2.99	215.14	3848.54	-474.76	-334.20	580.60	1.50	36	54	54.238	107	25	51.647	
4000.00	1.49	215.14	3948.46	-477.96	-336.45	584.51	1.50	36	54	54.206	107	25	51.675	
4099.46	0.00	215.14	4047.91	-479.02	-337.20	585.80	1.50	36	54	54.196	107	25	51.684	Hold
4100.00	0.00	215.14	4048.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
4200.00	0.00	215.14	4148.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
4300.00	0.00	215.14	4248.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
4400.00	0.00	215.14	4348.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
4500.00	0.00	215.14	4448.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
4600.00	0.00	215.14	4548.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
4700.00	0.00	215.14	4648.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
4800.00	0.00	215.14	4748.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
4900.00	0.00	215.14	4848.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
5000.00	0.00	215.14	4948.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
5100.00	0.00	215.14	5048.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
5186.55	0.00	215.14	5135.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	Cliff House
5200.00	0.00	215.14	5148.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
5300.00	0.00	215.14	5248.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
5400.00	0.00	215.14	5348.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
5491.55	0.00	215.14	5440.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	Cliff House
5500.00	0.00	215.14	5448.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
5536.55	0.00	215.14	5485.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	Menefee Fm.
5600.00	0.00	215.14	5548.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
5700.00	0.00	215.14	5648.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	



Weatherford International Ltd.

WFT Plan Report Lat, Long



Weatherford

Company: Williams Production
Field: RIO ARRIBA CO. NM (NAD.83)
Site: Rosa Unit #36C
Well: #36C
Wellpath: 1

Date: 6/1/2011 Time: 10:16:02 Page: 3
Co-ordinate(NE) Reference: Well: #36C, True North
Vertical (TVD) Reference: SITE 6435.0
Section (VS) Reference: Well (0.00N,0.00E,215.14Azi)
Survey Calculation Method: Minimum Curvature Db: Sybase

Survey

MD ft	Incl deg	Azim deg	TVD ft	N/S ft	E/W ft	VS ft	DLS deg/100ft	Lat	Min	Sec	Long	Min	Sec	Comment
5771.55	0.00	215.14	5720.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	Point Looko
5800.00	0.00	215.14	5748.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
5900.00	0.00	215.14	5848.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	Mancos Sh.
6000.00	0.00	215.14	5948.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
6100.00	0.00	215.14	6048.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
6111.55	0.00	215.14	6060.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
6200.00	0.00	215.14	6148.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
6300.00	0.00	215.14	6248.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
6400.00	0.00	215.14	6348.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	Gallup Ss.
6500.00	0.00	215.14	6448.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
6600.00	0.00	215.14	6548.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
6700.00	0.00	215.14	6648.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
6800.00	0.00	215.14	6748.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
6900.00	0.00	215.14	6848.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7000.00	0.00	215.14	6948.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	Greenhorn L Graneros Sh
7100.00	0.00	215.14	7048.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7116.55	0.00	215.14	7065.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7200.00	0.00	215.14	7148.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7300.00	0.00	215.14	7248.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7400.00	0.00	215.14	7348.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7500.00	0.00	215.14	7448.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	Dakota Ss
7600.00	0.00	215.14	7548.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7700.00	0.00	215.14	7648.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7800.00	0.00	215.14	7748.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7826.55	0.00	215.14	7775.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7876.55	0.00	215.14	7825.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
7900.00	0.00	215.14	7848.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	Morrison Fm
8000.00	0.00	215.14	7948.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
8006.55	0.00	215.14	7955.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
8100.00	0.00	215.14	8048.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
8200.00	0.00	215.14	8148.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
8256.55	0.00	215.14	8205.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	
8300.00	0.00	215.14	8248.45	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	Pbhl
8306.55	0.00	215.14	8255.00	-479.02	-337.20	585.80	0.00	36	54	54.196	107	25	51.684	

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		
Pbhl			8255.00	-479.02	-337.20	2154512.88	1295166.47	36	54	54.196 N	107	25	51.684 W
-Plan hit target													

Casing Points

MD ft	TVD ft	Diameter in	Hole Size in	Name
300.00	300.00	9.625	12.250	9 5/8"
3766.12	3715.00	7.000	8.500	7"



Weatherford International Ltd.

WFT Plan Report Lat, Long



Weatherford

Company:	Williams Production	Date:	6/1/2011	Time:	10:16:02	Page:	4
Field:	RIO ARRIBA CO. NM (NAD 83)	Co-ordinate(NE) Reference:	Well: #36C, True North				
Site:	Rosa Unit #36C	Vertical (TVD) Reference:	SITE 6435.0				
Well:	#36C	Section (VS) Reference:	Well (0.00N,0.00E,215.14Azi)				
Wellpath:	1	Survey Calculation Method:	Minimum Curvature Db: Sybase				

Formations

MD ft	TVD ft	Formations	Lithology	Dip Angle deg	Dip Direction deg
1159.01	1150.00	Nacimiento Fm.		0.00	0.00
2502.17	2470.00	Ojo Alamo Ss.		0.00	0.00
2603.92	2570.00	Kirtland Sh.		0.00	0.00
3021.11	2980.00	Fruitland Fm.		0.00	0.00
3285.68	3240.00	Pictured Cliffs Ss.		0.00	0.00
3584.99	3535.00	Lewis Sh.		0.00	0.00
5186.55	5135.00	Cliff House Ss. Trans.		0.00	0.00
5491.55	5440.00	Cliff House Ss.		0.00	0.00
5536.55	5485.00	Menefee Fm.		0.00	0.00
5771.55	5720.00	Point Lookout Ss.		0.00	0.00
6111.55	6060.00	Mancos Sh.		0.00	0.00
7116.55	7065.00	Gallup Ss.		0.00	0.00
7826.55	7775.00	Greenhorn Ls.		0.00	0.00
7876.55	7825.00	Graneros Sh.		0.00	0.00
8006.55	7955.00	Dakota Ss.		0.00	0.00
8256.55	8205.00	Morrison Fm.		0.00	0.00

Annotation

MD ft	TVD ft	
400.00	400.00	Kop
755.17	753.13	Hold
3389.11	3341.65	Drop
3766.12	3715.00	Csg Pt
4099.46	4047.91	Hold
8306.54	8254.99	Pbhl

**Weatherford****Weatherford Drilling Services**

GeoDec v5.03

Report Date: June 01, 2011
Job Number: _____
Customer: Williams
Well Name: Rosa Unit #36C
API Number: _____
Rig Name: _____
Location: Rio Arriba Co, NM (Nad 83)
Block: _____
Engineer: RWJ

Geodetic Latitude / Longitude	Geodetic Latitude / Longitude
System: Latitude / Longitude	System: Latitude / Longitude
Projection: Geodetic Latitude and Longitude	Projection: Geodetic Latitude and Longitude
Datum: North American Datum 1983	Datum: North American Datum 1983
Ellipsoid: GRS 1980	Ellipsoid: GRS 1980
Latitude 36.9163700 DEG	Latitude 36 54 58.9320000 DMS
Longitude -107.4298700 DEG	Longitude -107 25 47.5320000 DMS

Geodetic Location WGS84 Elevation = 0.0 Meters
Latitude = 36.91637° N 36° 54 min 58.932 sec
Longitude = 107.42987° W 107° 25 min 47.532 sec

Magnetic Declination = 9.71° [True North Offset]
Local Gravity = 9992 g CheckSum = 6717
Local Field Strength = 50873 nT Magnetic Vector X = 22247 nT
Magnetic Dip = 63.66° Magnetic Vector Y = 3809 nT
Magnetic Model = IGRF-2010g11 Magnetic Vector Z = 45593 nT
Spud Date = Dec 25, 2011 Magnetic Vector H = 22570 nT

Signed: _____

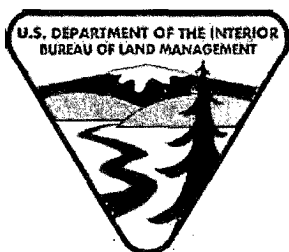
Date: _____

DRILLING CONDITIONS OF APPROVAL

Operator: Williams Production
Lease No.: NMSF-078771
Well Name: Rosa Unit #36C
Well Location: Sec.11, T31N, R6W; 1830' FNL & 1970' FEL

Refer to Onshore Order 2 III.

- 1) Pressure test the surface casing to a minimum of 600 psi for 30 minutes.
- 2) Pressure test the intermediate casing to a minimum of 1500 psi for 30 minutes



After hour contact: Troy Salyers 505-360-9815