

1/23/07 DATE IN	SUSPENSE	D. CATANACH ENGINEER	1/24/07 LOGGED IN	NSL TYPE	APP NO. PTD50702450486
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ABOVE THIS LINE FOR DIVISION USE ONLY

NEW MEXICO OIL CONSERVATION DIVISION
 - Engineering Bureau -
 1220 South St. Francis Drive, Santa Fe, NM 87505



5562

ADMINISTRATIVE APPLICATION CHECKLIST

THIS CHECKLIST IS MANDATORY FOR ALL ADMINISTRATIVE APPLICATIONS FOR EXCEPTIONS TO DIVISION RULES AND REGULATIONS WHICH REQUIRE PROCESSING AT THE DIVISION LEVEL IN SANTA FE

Application Acronyms:

[NSL-Non-Standard Location] [NSP-Non-Standard Proration Unit] [SD-Simultaneous Dedication]
[DHC-Downhole Commingling] [CTB-Lease Commingling] [PLC-Pool/Lease Commingling]
[PC-Pool Commingling] [OLS - Off-Lease Storage] [OLM-Off-Lease Measurement]
[WFX-Waterflood Expansion] [PMX-Pressure Maintenance Expansion]
[SWD-Salt Water Disposal] [IPI-Injection Pressure Increase]
[EOR-Qualified Enhanced Oil Recovery Certification] [PPR-Positive Production Response]

[1] TYPE OF APPLICATION - Check Those Which Apply for [A]

[A] Location - Spacing Unit - Simultaneous Dedication
☒ NSL ☐ NSP ☐ SD

Check One Only for [B] or [C]

[B] Commingling - Storage - Measurement
☐ DHC ☐ CTB ☐ PLC ☐ PC ☐ OLS ☐ OLM

[C] Injection - Disposal - Pressure Increase - Enhanced Oil Recovery
☐ WFX ☐ PMX ☐ SWD ☐ IPI ☐ EOR ☐ PPR

[D] Other: Specify _____

[2] NOTIFICATION REQUIRED TO: - Check Those Which Apply, or Does Not Apply

[A] ☐ Working, Royalty or Overriding Royalty Interest Owners

[B] ☐ Offset Operators, Leaseholders or Surface Owner

[C] ☐ Application is One Which Requires Published Legal Notice

[D] ☐ Notification and/or Concurrent Approval by BLM or SLO
 U.S. Bureau of Land Management - Commissioner of Public Lands, State Land Office

[E] ☐ For all of the above, Proof of Notification or Publication is Attached, and/or,

[F] ☐ Waivers are Attached

71629

[3] SUBMIT ACCURATE AND COMPLETE INFORMATION REQUIRED TO PROCESS THE TYPE OF APPLICATION INDICATED ABOVE.

[4] CERTIFICATION: I hereby certify that the information submitted with this application for administrative approval is **accurate** and **complete** to the best of my knowledge. I also understand that **no action** will be taken on this application until the required information and notifications are submitted to the Division.

Note: Statement must be completed by an individual with managerial and/or supervisory capacity.

Print or Type Name

Signature

Title

Date

e-mail Address



January 9, 2007

Mr. Richard Ezeanyim
New Mexico Oil Conservation Division
1220 South St. Francis Drive
Santa Fe, NM 87505

Re: Non-Standard Location
Rosa Unit #360
API #: 30-039-29882
SHL: 310' FNL, 150' FWL
Section 16(D)-T31N-R5W
BHL: 666' FSL, 654' FWL
Section 9(M)-T31N-R5W
Rio Arriba County, NM
Basin Fruitland Coal

2007 JAN 23 AM 10 17

Dear Mr. Ezeanyim,

According to rule 104.C(2)(a) Williams Production Company hereby requests administrative approval for a non-standard location in the Basin Fruitland Coal pool for the referenced well. Our target bottom hole location was 660' FSL & 660' FWL, due to activities that occurred during the drilling of this well the actual bottom hole location is 666' FSL & 654' FWL.

As the Unit Operator of the Rosa Unit, Williams Production is the only offset operator. Attached is the original plat along with an amended plat showing the final bottom hole location. I am also including the original directional plan and the final directional survey.

Thank you for your consideration and approval of this application. If you have any questions, please do not hesitate to call me at (918) 573-6254.

Sincerely,

Ms. Tracy Ross
Sr. Production Analyst

CC: BLM Farmington NM
NMOCD Aztec NM

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 30-039-29882		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 360
*GRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6271'

¹⁰ Surface Location

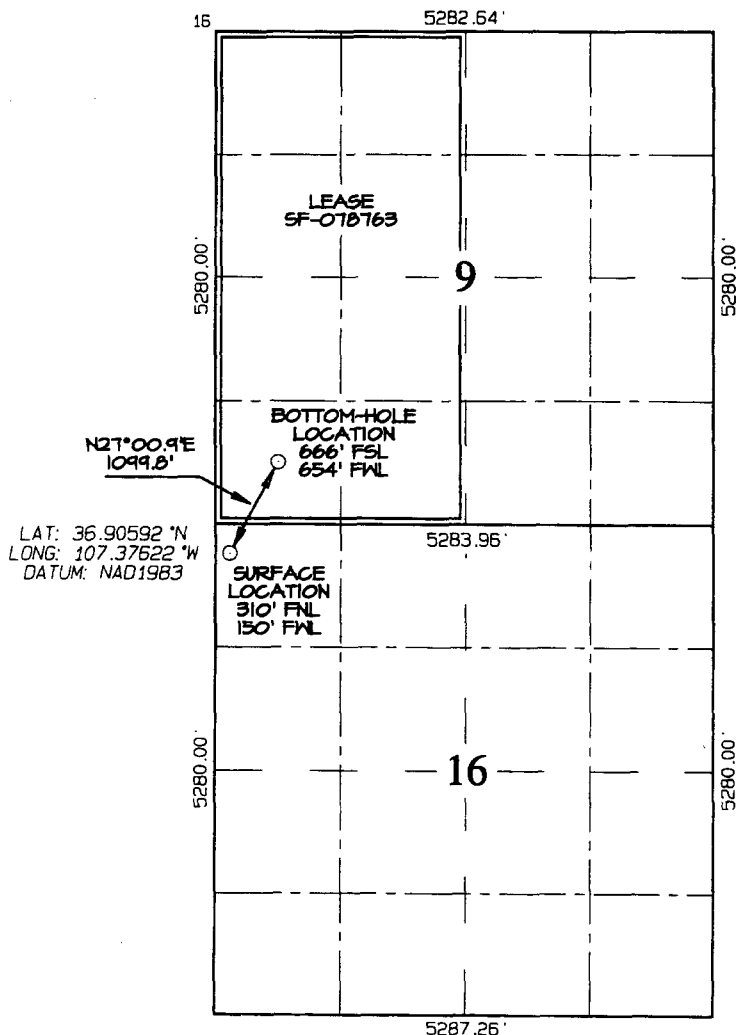
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
D	16	31N	5W		310	NORTH	150	WEST	RIO ARriba

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
M	9	31N	5W		666	SOUTH	654	WEST	RIO ARriba

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

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.

Tracy Ross 1-9-07
Signature Date

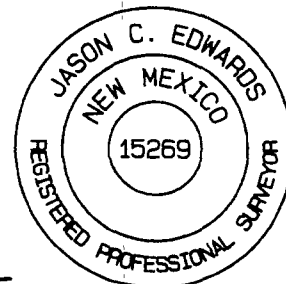
Tracy Ross
Printed Name

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: JANUARY 9, 2007
Date of Survey: JUNE 9, 2005

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269



Weatherford

Drilling Services

Final Survey Report



WILLIAMS PRODUCTION COMPANY

ROSA UNIT 360

API # 30-039-29882

Prepared by: Jose A Perez

Submitted: 10/05/06

Weatherford Drilling Services

3611 Plaza East Court
Granbury, Texas 76049 USA
+1.817.573.8500 Main
+1.817.573.8001 Fax
www.weatherford.com



Weatherford Drilling Services

Survey Report



Weatherford

Company: WILLIAMS PRODUCTION Date: 10/5/2006 Time: 14:11:51 Page: 1
 Field: RIO ARRIBA COUNTY (NAD 27) Co-ordinate(NE) Reference: Site: Rosa Unit 360, True North
 Site: Rosa Unit 360 Vertical (TVD) Reference: SITE 6285.0
 Well: Rosa Unit 360 Section (VS) Reference: Well (0.00N,0.00E,27.45Azi)
 Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Field: RIO ARRIBA COUNTY (NAD 27)
 NEW MEXICO

Map System: US State Plane Coordinate System 1927
 Geo Datum: NAD27 (Clarke 1866)
 Sys Datum: Mean Sea Level

Map Zone: New Mexico, Western Zone
 Coordinate System: Site Centre
 Geomagnetic Model: igrf2005

Site: Rosa Unit 360

Rio Arriba County, NM

Site Position: Northing: 2149308.69 ft Latitude: 36 54 21.000 N
 From: Geographic Easting: 633843.15 ft Longitude: 107 22 32.000 W
 Position Uncertainty: 0.00 ft North Reference: True
 Ground Level: 6271.00 ft Grid Convergence: 0.27 deg

Well: Rosa Unit 360
 S well

Slot Name:

Well Position: +N/-S 0.00 ft Northing: 2149308.69 ft Latitude: 36 54 21.000 N
 +E/-W 0.00 ft Easting: 633843.15 ft Longitude: 107 22 32.000 W
 Position Uncertainty: 0.00 ft

Wellpath: 1

310' FNL & 150' FWL

Current Datum: SITE Height: 6285.00 ft

Magnetic Data: 6/29/2006

Field Strength: 51443 nT

Vertical Section: Depth From (TVD)

+N/-S

Drilled From: Surface

Tie-on Depth: 0.00 ft

Above System Datum: Mean Sea Level

Declination: 10.35 deg

Mag Dip Angle: 63.80 deg

+E/-W Direction

deg

0.00

0.00

0.00

27.45

Survey: MWD Surveys

Start Date: 7/25/2006

Company: Weatherford Drilling Services

Engineer:

Tool:

Tied-to:

From Surface

Survey: MWD Surveys

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	Surface Casing First MWD Survey
342.00	0.00	0.00	342.00	0.00	0.00	0.00	0.00	0.00	0.00	
378.00	1.94	245.35	377.99	-0.25	-0.55	-0.48	5.39	5.39	0.00	
439.00	0.44	281.35	438.98	-0.64	-1.72	-1.36	2.63	-2.46	59.02	
500.00	1.75	55.78	499.97	-0.07	-1.18	-0.61	3.41	2.15	220.38	
561.00	4.25	48.60	560.88	1.95	1.28	2.32	4.14	4.10	-11.77	
622.00	6.44	40.23	621.61	6.06	5.19	7.77	3.80	3.59	-13.72	
683.00	10.19	32.35	681.96	13.23	10.29	16.48	6.41	6.15	-12.92	
744.00	13.63	32.73	741.64	23.84	17.06	29.02	5.64	5.64	0.62	
804.00	17.25	33.85	799.47	37.18	25.84	44.91	6.05	6.03	1.87	
865.00	21.13	34.48	857.07	53.76	37.11	64.81	6.37	6.36	1.03	
926.00	24.38	30.98	913.31	73.62	49.82	88.30	5.77	5.33	-5.74	
986.00	26.38	29.85	967.52	95.80	62.83	113.98	3.43	3.33	-1.88	
1046.00	28.44	28.60	1020.78	119.91	76.31	141.59	3.56	3.43	-2.08	
1106.00	30.25	28.85	1073.08	145.69	90.44	170.98	3.02	3.02	0.42	
1169.00	32.06	26.85	1126.99	174.51	105.65	203.57	3.31	2.87	-3.17	
1231.00	34.63	26.23	1178.78	205.00	120.87	237.64	4.18	4.15	-1.00	
1294.00	34.94	26.35	1230.52	237.23	136.79	273.57	0.50	0.49	0.19	
1357.00	35.94	25.73	1281.85	270.05	152.82	310.09	1.69	1.59	-0.98	
1419.00	38.00	27.23	1331.38	303.42	169.46	347.37	3.63	3.32	2.42	
1482.00	38.63	26.98	1380.82	338.18	187.25	386.43	1.03	1.00	-0.40	
1545.00	39.38	27.60	1429.77	373.42	205.43	426.08	1.34	1.19	0.98	
1607.00	38.94	27.60	1477.85	408.12	223.57	465.23	0.71	-0.71	0.00	
1670.00	40.81	26.48	1526.19	444.09	241.93	505.62	3.18	2.97	-1.78	



Weatherford Drilling Services

Survey Report

**Weatherford**

Company: WILLIAMS PRODUCTION Date: 10/5/2006 Time: 14:11:51 Page: 2
Field: RIO ARRIBA COUNTY (NAD 27) Co-ordinate(NE) Reference: Site: Rosa Unit 360, True North
Site: Rosa Unit 360 Vertical (TVD) Reference: SITE 6285.0
Well: Rosa Unit 360 Section (VS) Reference: Well (0.00N,0.00E,27.45Azi)
Wellpath: 1 Survey Calculation Method: Minimum Curvature Db: Sybase

Survey: MWD Surveys

MD ft	Incl deg	Azim deg	TVD ft	+N/-S ft	+E/-W ft	VS ft	DLS deg/100ft	Build deg/100ft	Turn deg/100ft	Tool/Comment
1730.00	40.88	26.73	1571.58	479.18	259.50	544.85	0.30	0.12	0.42	
1761.00	40.75	27.35	1595.04	497.23	268.71	565.12	1.37	-0.42	2.00	
1793.00	39.25	24.00	1619.56	515.76	277.63	585.67	8.20	-4.69	-10.47	
1855.00	39.25	26.73	1667.58	551.19	294.43	624.86	2.79	0.00	4.40	
1916.00	36.38	25.10	1715.76	584.82	310.79	662.24	4.98	-4.70	-2.67	
1979.00	34.75	25.60	1767.01	617.93	326.47	698.86	2.63	-2.59	0.79	
2041.00	32.44	24.73	1818.65	648.98	341.07	733.13	3.81	-3.73	-1.40	
2103.00	31.31	25.48	1871.30	678.62	354.95	765.85	1.93	-1.82	1.21	
2134.00	31.13	26.48	1897.81	693.07	361.99	781.91	1.77	-0.58	3.23	
2165.00	31.38	27.23	1924.31	707.42	369.26	797.99	1.49	0.81	2.42	
2196.00	31.56	28.35	1950.75	721.73	376.80	814.17	1.97	0.58	3.61	
2227.00	30.88	27.10	1977.26	735.96	384.28	830.24	3.03	-2.19	-4.03	
2258.00	30.13	26.60	2003.97	749.99	391.39	845.98	2.55	-2.42	-1.61	
2289.00	29.25	26.10	2030.90	763.75	398.20	861.33	2.95	-2.84	-1.61	
2352.00	27.06	25.35	2086.44	790.53	411.11	891.04	3.52	-3.48	-1.19	
2415.00	24.75	26.73	2143.11	815.26	423.18	918.55	3.79	-3.67	2.19	
2477.00	23.19	25.85	2199.76	837.84	434.34	943.73	2.58	-2.52	-1.42	
2509.00	22.06	27.85	2229.30	848.82	439.90	956.04	4.27	-3.53	6.25	
2540.00	20.88	27.23	2258.15	858.88	445.14	967.38	3.88	-3.81	-2.00	
2601.00	18.69	28.48	2315.54	877.14	454.78	988.03	3.66	-3.59	2.05	
2633.00	17.56	28.10	2345.95	885.91	459.50	997.98	3.55	-3.53	-1.19	
2664.00	17.00	26.73	2375.55	894.08	463.74	1007.19	2.23	-1.81	-4.42	
2695.00	16.19	25.73	2405.26	902.02	467.65	1016.04	2.77	-2.61	-3.23	
2726.00	14.88	25.23	2435.13	909.52	471.23	1024.34	4.25	-4.23	-1.61	
2818.00	12.25	26.10	2524.56	928.97	480.56	1045.90	2.87	-2.86	0.95	
2881.00	10.31	25.73	2586.34	940.05	485.95	1058.22	3.08	-3.08	-0.59	
2944.00	9.06	25.60	2648.44	949.60	490.54	1068.82	1.98	-1.98	-0.21	
3006.00	7.25	30.23	2709.81	957.39	494.62	1077.60	3.10	-2.92	7.47	
3068.00	5.94	24.85	2771.40	963.68	497.93	1084.72	2.33	-2.11	-8.68	
3131.00	4.69	24.98	2834.12	968.97	500.39	1090.55	1.98	-1.98	0.21	
3194.00	3.38	27.23	2896.97	972.96	502.33	1094.98	2.09	-2.08	3.57	Last MWD Survey
3248.00	3.38	27.23	2950.87	975.79	503.79	1098.16	0.00	0.00	0.00	Projection to TD

Annotation

MD ft	TVD ft	
342.00	342.00	Surface Casing
378.00	377.99	First MWD Survey
3194.00	2896.97	Last MWD Survey
3248.00	2950.87	Projection to TD

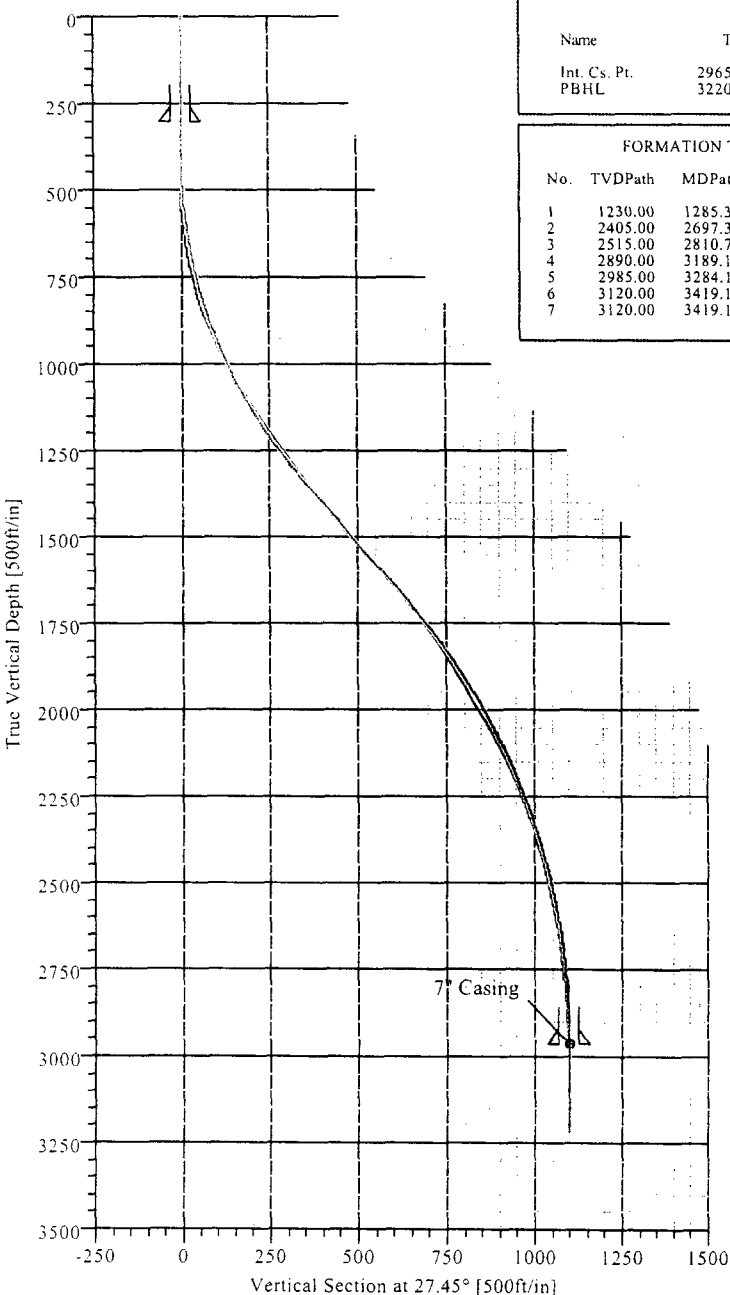
Williams



Weatherford

ROSA UNIT 360
Section 16 T 31N R 5W
310' FNL & 150' FWL
RIO ARriba COUNTY, NM
Plan vs. Actual

KB ELEVATION: 6285'
GR ELEVATION: 6271'

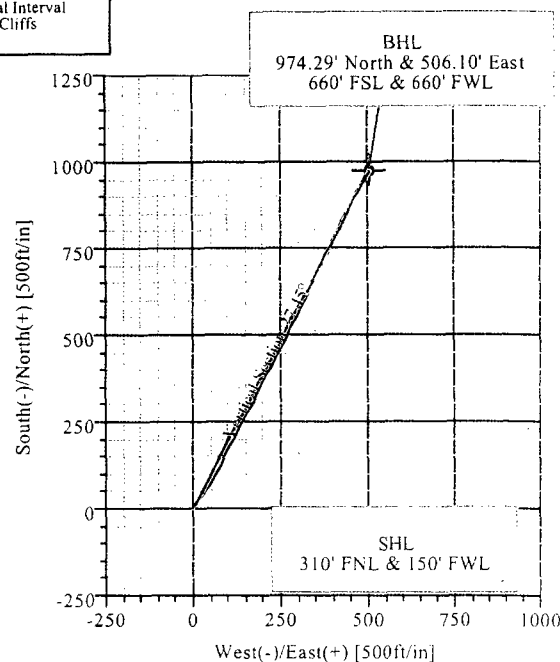


SECTION DETAILS									
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec
1	0.00	0.00	27.45	0.00	0.00	0.00	0.00	0.00	0.00
2	400.00	0.00	27.45	400.00	0.00	0.00	0.00	0.00	0.00
3	1400.00	40.00	27.45	1320.73	297.39	154.48	4.00	27.45	335.12
4	1881.46	40.00	27.45	1689.54	572.02	297.14	0.00	0.00	644.59
5	3234.15	0.00	27.45	2935.00	974.29	506.10	2.96	180.00	1097.90
6	3264.15	0.00	27.45	2965.00	974.29	506.10	0.00	0.00	1097.90
7	3519.15	0.00	27.45	3220.00	974.29	506.10	0.00	27.45	1097.90

WELL DETAILS						
Name	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
Rosa Unit 360	0.00	0.00	2149308.69	633843.15	36°54'21.000N	107°22'32.000W

TARGET DETAILS						
Name	TVD	+N/-S	+E/-W	Latitude	Longitude	Shape
Int. Cs. Pt.	2965.00	974.29	506.10	36°54'30.634N	107°22'25.768W	Point
PBHL	3220.00	974.29	506.10	36°54'30.634N	107°22'25.768W	Circle (Radius: 50)

FORMATION TOP DETAILS			
No.	TVDPath	MDPath	Formation
1	1230.00	1285.30	Nacimiento
2	2405.00	2697.31	Ojo Alamo
3	2515.00	2810.79	Kirtland
4	2890.00	3189.14	Fruitland
5	2985.00	3284.15	Top Coal Interval
6	3120.00	3419.15	Base Coal Interval
7	3120.00	3419.15	Pictured Cliffs



T
M
 Azimuths to True North
 Magnetic North: 10.35°
 Magnetic Field
 Strength: 51443nT
 Dip Angle: 63.80°
 Date: 6/29/2006
 Model: igr2005

Plan: Plan #1 (Rosa Unit 360) pva
 Created By: Jose Perez Date: 10/05/06
 Weatherford Drilling Services
 1611 Plaza East Court
 Granbury, TX 76049
 (817) 573 8500 MAIN
 (817) 573 8001 FAX

District I
PO Box 1980, Hobbs, NM 88241-1980

District II
PO Drawer DD, Artesia, NM 88211-0719

District III
1000 Rio Brazos Rd., Aztec, NM 87410

District IV
PO Box 2088, Santa Fe, NM 87504-2088

State of New Mexico
Energy, Minerals & Natural Resources Department

OIL CONSERVATION DIVISION
PO Box 2088
Santa Fe, NM 87504-2088

Form C-102
Revised February 21, 1994
Instructions on back
Submit to Appropriate District Office
State Lease - 4 Copies
Free Lease - 3 Copies

REVIEW ☐ AMENDED REPORT

WELL LOCATION AND ACREAGE DEDICATION PLAT

*API Number 30-039-29882		*Pool Code 71629	*Pool Name BASIN FRUITLAND COAL
*Property Code 17033	*Property Name ROSA UNIT		*Well Number 360
*DGRID No. 120782	*Operator Name WILLIAMS PRODUCTION COMPANY		*Elevation 6271'

¹⁰ Surface Location

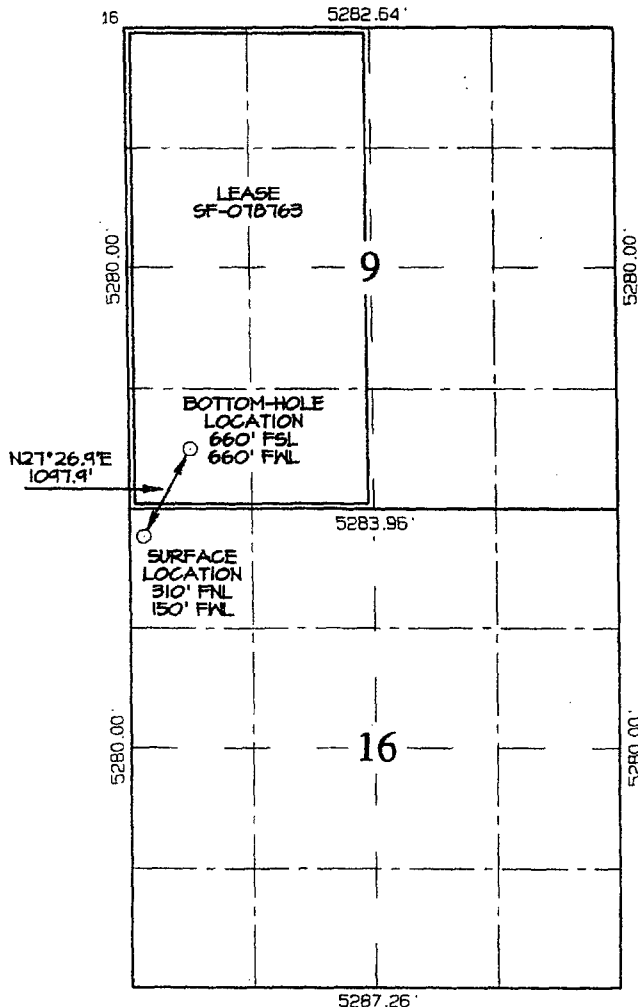
UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
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¹¹ Bottom Hole Location If Different From Surface

UL or lot no.	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
M	9	31N	5W		660	SOUTH	660	WEST	RIO ARriba

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

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

Larry Higgins
Signature

LARRY HIGGINS
Printed Name

DRILLING COM
Title

4-17-06
Date

¹⁸ SURVEYOR CERTIFICATION

I hereby certify that the well location shown on this plat was plotted from field notes of actual surveys made by me or under my supervision, and that the same is true and correct to the best of my belief.

Date of Survey: JUNE 9, 2005

Signature and Seal of Professional Surveyor



JASON C. EDWARDS
Certificate Number 15269

Williams Production

New Mexico

Sec 16-T31N-R05W

Rosa Unit #360

Wellbore #1

Plan: Plan 031806

API# 30-039-29882

Sperry Drilling Services Combo Report

18 March, 2006

Well Coordinates: 2,149,308.69 N, 633,843.15 E (36° 54' 21.00" N, 107° 22' 32.00" W)
Ground Level: 6,271.00 ft

Local Coordinate Origin:

Viewing Datum:

TVDs to System:

North Reference:

Unit System:

Centered on Well Rosa Unit #360

WELL @ 6283.00ft (Original Well Elev)

N

True

API - US Survey Feet

Version: 2003.14 Build: 77

HALLIBURTON

HALLIBURTON

Plan Report for Rosa Unit #360 - Wellbore #1 - Plan 031806

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft)	Easting (ft)	Map Coordinates Northing (ft)	Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)	Comments
0.00	0.00	0.00	6,283.00	0.00	0.00 N	0.00 E	2,149,308.69	633,843.15	0.00	0.00	
12.00	0.00	0.00	6,271.00	12.00	0.00 N	0.00 E	2,149,308.69	633,843.15	0.00	0.00	San Jose Fm
100.00	0.00	0.00	6,183.00	100.00	0.00 N	0.00 E	2,149,308.69	633,843.15	0.00	0.00	
200.00	0.00	0.00	6,083.00	200.00	0.00 N	0.00 E	2,149,308.69	633,843.15	0.00	0.00	
300.00	0.00	0.00	5,983.00	300.00	0.00 N	0.00 E	2,149,308.69	633,843.15	0.00	0.00	
400.00	0.00	0.00	5,883.00	400.00	0.00 N	0.00 E	2,149,308.69	633,843.15	0.00	0.00	Start Build 3.50
500.00	3.50	27.73	5,783.06	499.94	2.70 N	1.42 E	2,149,311.40	633,844.56	3.50	3.05	
600.00	7.00	27.73	5,683.50	599.50	10.80 N	5.68 E	2,149,319.51	633,848.77	3.50	12.20	
700.00	10.50	27.73	5,584.68	698.32	24.26 N	12.76 E	2,149,333.01	633,855.79	3.50	27.41	
800.00	14.00	27.73	5,486.97	796.03	43.04 N	22.63 E	2,149,351.83	633,865.57	3.50	48.63	
900.00	17.50	27.73	5,390.74	892.26	67.06 N	35.26 E	2,149,375.92	633,878.09	3.50	75.77	
1,000.00	21.00	27.73	5,296.34	986.66	96.24 N	50.60 E	2,149,405.17	633,893.29	3.50	108.73	
1,100.00	24.50	27.73	5,204.14	1,078.86	130.46 N	68.59 E	2,149,439.48	633,911.11	3.50	147.40	
1,200.00	28.00	27.73	5,114.46	1,168.54	169.60 N	89.17 E	2,149,478.72	633,931.51	3.50	191.62	
1,268.12	30.38	27.73	5,055.00	1,228.00	199.01 N	104.63 E	2,149,508.20	633,946.83	3.50	224.84	Nacimiento Fm
1,300.00	31.50	27.73	5,027.66	1,255.34	213.52 N	112.26 E	2,149,522.74	633,954.38	3.50	241.23	
1,400.00	35.00	27.73	4,944.04	1,338.96	262.04 N	137.77 E	2,149,571.38	633,979.66	3.50	296.05	
1,484.41	37.95	27.73	4,876.18	1,406.82	306.45 N	161.12 E	2,149,615.91	634,002.80	3.50	346.23	Start 621.86 hold at 1484.41 MD
1,500.00	37.95	27.73	4,863.88	1,419.12	314.94 N	165.59 E	2,149,624.42	634,007.22	0.00	355.82	
1,600.00	37.95	27.73	4,785.03	1,497.97	369.38 N	194.21 E	2,149,678.99	634,035.58	0.00	417.32	
1,700.00	37.95	27.73	4,706.18	1,576.82	423.81 N	222.83 E	2,149,733.56	634,063.94	0.00	478.82	
1,800.00	37.95	27.73	4,627.33	1,655.67	478.25 N	251.45 E	2,149,788.14	634,092.30	0.00	540.33	
1,900.00	37.95	27.73	4,548.48	1,734.52	532.69 N	280.07 E	2,149,842.71	634,120.66	0.00	601.83	
2,000.00	37.95	27.73	4,469.63	1,813.37	587.13 N	308.70 E	2,149,897.29	634,149.02	0.00	663.33	
2,106.27	37.95	27.73	4,385.84	1,897.16	644.98 N	339.11 E	2,149,955.28	634,179.16	0.00	728.69	Start Drop -3.30
2,200.00	34.86	27.73	4,310.41	1,972.59	694.21 N	365.00 E	2,150,004.64	634,204.81	3.30	784.32	
2,300.00	31.56	27.73	4,226.76	2,056.24	742.68 N	390.48 E	2,150,053.24	634,230.06	3.30	839.08	
2,400.00	28.26	27.73	4,140.09	2,142.91	786.82 N	413.69 E	2,150,097.46	634,253.05	3.30	888.94	
2,500.00	24.96	27.73	4,050.70	2,232.30	826.46 N	434.53 E	2,150,137.22	634,273.71	3.30	933.73	
2,600.00	21.66	27.73	3,958.87	2,324.13	861.48 N	452.94 E	2,150,172.33	634,291.95	3.30	973.29	
2,684.09	18.89	27.73	3,880.00	2,403.00	887.27 N	466.50 E	2,150,198.18	634,305.39	3.30	1,002.43	Ojo Alamo Ss
2,700.00	18.36	27.73	3,864.92	2,418.08	891.76 N	468.87 E	2,150,202.69	634,307.73	3.30	1,007.51	
2,799.13	15.09	27.73	3,770.00	2,513.00	917.01 N	482.14 E	2,150,228.00	634,320.88	3.30	1,036.03	Kirkland Shale
2,800.00	15.06	27.73	3,769.16	2,513.84	917.21 N	482.24 E	2,150,228.20	634,320.99	3.30	1,036.26	
2,900.00	11.76	27.73	3,671.90	2,611.10	937.74 N	493.04 E	2,150,248.78	634,331.68	3.30	1,059.45	
3,000.00	8.46	27.73	3,573.47	2,709.53	953.27 N	501.21 E	2,150,264.35	634,339.77	3.30	1,077.00	
3,100.00	5.16	27.73	3,474.19	2,808.81	963.77 N	506.72 E	2,150,274.88	634,345.24	3.30	1,088.86	
3,179.37	2.54	27.73	3,395.00	2,888.00	968.49 N	509.21 E	2,150,279.61	634,347.70	3.30	1,094.19	Fruitland Fm
3,200.00	1.86	27.73	3,374.39	2,908.61	969.19 N	509.57 E	2,150,280.31	634,348.07	3.30	1,094.99	

HALLIBURTON

Williams Production
New Mexico

Plan Report for Rosa Unit #360 - Wellbore #1 - Plan 031806

Measured Depth (ft)	Inclination (°)	Azimuth (°)	TVD below System (ft)	Vertical Depth (ft)	Local Coordinates Northing (ft) Easting (ft)	Map Coordinates Northing (ft) Easting (ft)	Dogleg Rate (°/100ft)	Vertical Section (ft)	Comments
3,256.40	0.00	27.46	3,318.00	2,965.00	970.00 N 510.00 E	2,150,281.12 634,348.49	3.30	1,095.90	Start 255.00 hold at 3256.40 MD - 7" - 7" Csg Pt
3,274.40	0.00	27.46	3,300.00	2,983.00	970.00 N 510.00 E	2,150,281.12 634,348.49	0.00	1,095.90	Top Coal Interval
3,300.00	0.00	27.46	3,274.40	3,008.60	970.00 N 510.00 E	2,150,281.12 634,348.49	0.00	1,095.90	
3,400.00	0.00	27.46	3,174.40	3,108.60	970.00 N 510.00 E	2,150,281.12 634,348.49	0.00	1,095.90	
3,409.40	0.00	27.46	3,165.00	3,118.00	970.00 N 510.00 E	2,150,281.12 634,348.49	0.00	1,095.90	Pictured Cliffs Ss
3,500.00	0.00	27.46	3,074.40	3,208.60	970.00 N 510.00 E	2,150,281.12 634,348.49	0.00	1,095.90	
3,511.40	0.00	27.46	3,063.00	3,220.00	970.00 N 510.00 E	2,150,281.12 634,348.49	0.00	1,095.90	TD at 3511.40

Plan Annotations

Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates +N/-S (ft) +E/-W (ft)	Comment
400.00	400.00	0.00	Start Build 3.50
1,484.41	1,406.82	306.45 161.12	Start 621.86 hold at 1484.41 MD
2,106.27	1,897.16	644.98 339.11	Start Drop -3.30
3,256.40	2,965.00	970.00 510.00	Start 255.00 hold at 3256.40 MD
3,511.40	3,220.00	970.00 510.00	TD at 3511.40

Vertical Section Information

Angle Type	Target	Azimuth (°)	Origin Type	Origin +N/-S (ft) +E/-W (ft)	Start TVD (ft)
TD	No Target (Freehand)	27.73	Slot	0.00 0.00	0.00

Survey tool program

From (ft)	To (ft)	Survey/Plan	Survey Tool
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Casing Details

Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (")	Hole Diameter (")
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HALLIBURTON

North Reference Sheet for Sec 16-T31N-R05W - Rosa Unit #360 - Wellbore #1

All data is in US Feet unless otherwise stated. Directions and Coordinates are relative to True North Reference.

Vertical Depths are relative to WELL @ 6283.00ft (Original Well Elev). Northing and Easting are relative to Rosa Unit #360

Coordinate System is US State Plane 1927 (Exact solution), New Mexico West 3003 using datum NAD 1927 (NADCON CONUS), ellipsoid Clarke 1866

Projection method is Transverse Mercator (Gauss-Kruger)

Central Meridian is 107° 50' 0.000 W°, Longitude Origin: 0° 0' 0.000 E°, Latitude Origin: 0° 0' 0.000 N°

False Easting: 500,000.00ft, False Northing: 0.00ft, Scale Reduction: 0.99993716

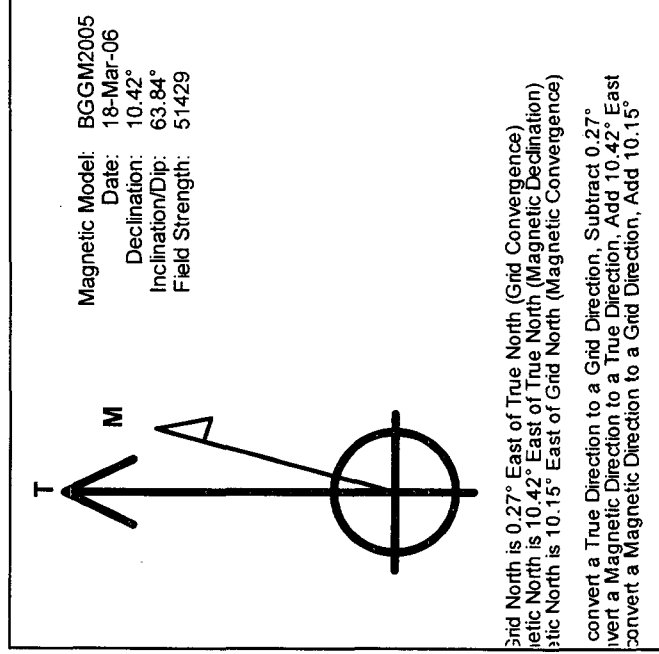
Grid Coordinates of Well: 2,149,308.69 ft N, 633,843.15 ft E

Geographical Coordinates of Well: 36° 54' 21.00" N, 107° 22' 32.00" W

Grid Convergence at Surface is: 0.27°

Based upon Minimum Curvature type calculations, at a Measured Depth of 3,511.40ft the Bottom Hole Displacement is 1,095.90ft in the Direction of 27.73° (Grid).

Magnetic Convergence at surface is: -10.15° (18 March 2006, BGGM2005)



Williams Production

HALLIBURTON
Sperry Drilling Services

Project: New Mexico
Site: Sec 16-T31N-R05W
Well: Rosa Unit #360
Wellbore: Wellbore #1

Plan: Plan 031806 (Rosa Unit #360/Wellbore #1)



CASING DETAILS			
TVD	MD	Name	Size
2965.00	3256.40	7"	7

SECTION DETAILS

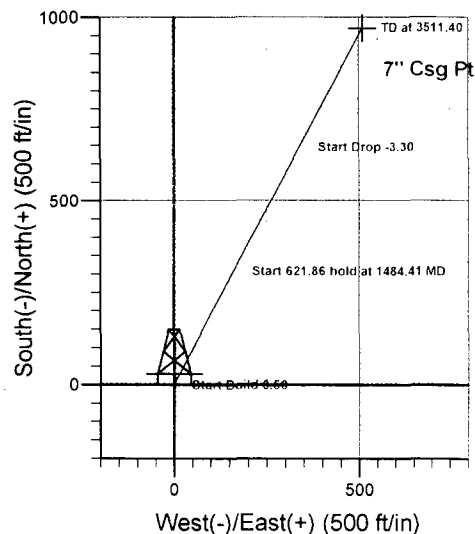
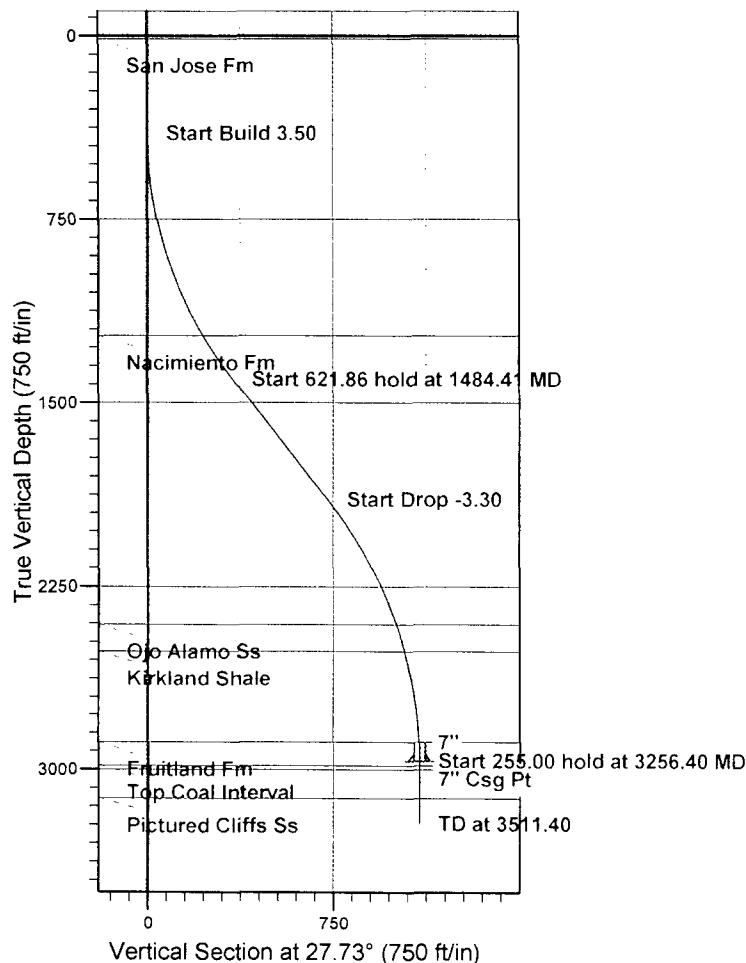
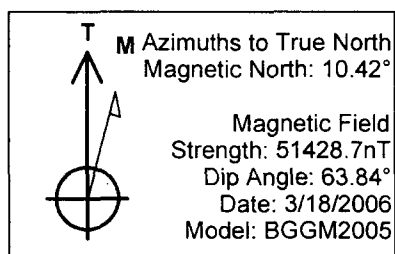
Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	DLeg	TFace	VSec	Target
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
K.O.P.	400.00	0.00	0.00	400.00	0.00	0.00	0.00	0.00	0.00	
End Build	1484.41	37.95	27.73	1406.82	306.45	161.12	3.50	27.73	346.23	
Start Drop	2106.27	37.95	27.73	1897.16	644.98	339.11	0.00	0.00	728.69	
End Drop	3256.40	0.00	27.46	2965.00	970.00	510.00	3.30	180.00	1095.90	7" Csg Pt
Target	3511.40	0.00	27.46	3220.00	970.00	510.00	0.00	27.46	1095.90	

WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
7" Csg Pt	2965.00	970.00	510.00	2150281.12	634348.49	Point

WELL DETAILS: Rosa Unit #360

Ground Level: 6271.00			
Northing	Easting	Latitude	Longitude
2149308.69	633843.15	36° 54' 21.000 N	107° 22' 32.000 W



Plan: Plan 031806 (Rosa Unit #360/Wellbore #1)

Created By: Dennis Cook Date: 3/18/2006

Checked: _____ Date: _____

Reviewed: _____ Date: _____

Approved: _____ Date: _____