

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

As-Drilled

WELL LOCATION AND ACREAGE DEDICATION PLAT

¹ API Number 30-039-24398	² Pool Code 71629	³ Pool Name BASIN FRUITLAND COAL
⁴ Property Code 17033	⁵ Property Name ROSA UNIT COM	⁶ Well Number 329A
⁷ GRID No. 120782	⁸ Operator Name WILLIAMS PRODUCTION COMPANY	⁹ Elevation 6315'

¹⁰ Surface Location

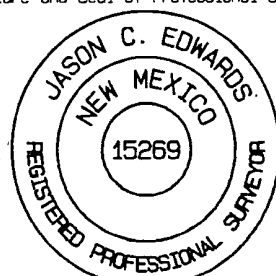
UL or lot no	Section	Township	Range	Lot Idn	Feet from the	North/South line	Feet from the	East/West line	County
I	34	32N	6W		2254	SOUTH	752	EAST	RIO ARriba

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
0	34	32N	6W		22	SOUTH	2013	EAST	RIO ARriba

¹² Dedicated Acres 320.0 Acres - (E/2)	¹³ Joint or Infill	¹⁴ Consolidation Code	¹⁵ Order No
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NO ALLOWABLE WILL BE ASSIGNED TO THIS COMPLETION UNTIL ALL INTERESTS HAVE BEEN CONSOLIDATED OR A NON-STANDARD UNIT HAS BEEN APPROVED BY THE DIVISION

16 2663.10' 5348.64' 34 2778.60' 2760.78' 2845.26' 5351.28' 752' 2254' 2013' 22' SURFACE LOCATION LAT: 36.93562°N LONG: 107.43810°W DATUM: NAD1927 LAT: 36.93563°N LONG: 107.43870°W DATUM: NAD1983 BOTTOM HOLE LAT: 36.92951°N LONG: 107.44244°W DATUM: NAD1927 LAT: 36.92952°N LONG: 107.44304°W DATUM: NAD1983 529°27.3'W 2563.7' LEASE SF-078712	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>R. Mitchell</i> 8/19/2011 Signature Date Ben Mitchell 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: AUGUST 11, 2011 Date of Survey: APRIL 25, 2011 Signature and Seal of Professional Surveyor  JASON C. EDWARDS Certificate Number 15269
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Williams Energy

Rosa Unit #329A STK
Sec34 T32N-R6W - 329A

Rio Arriba Co. NM

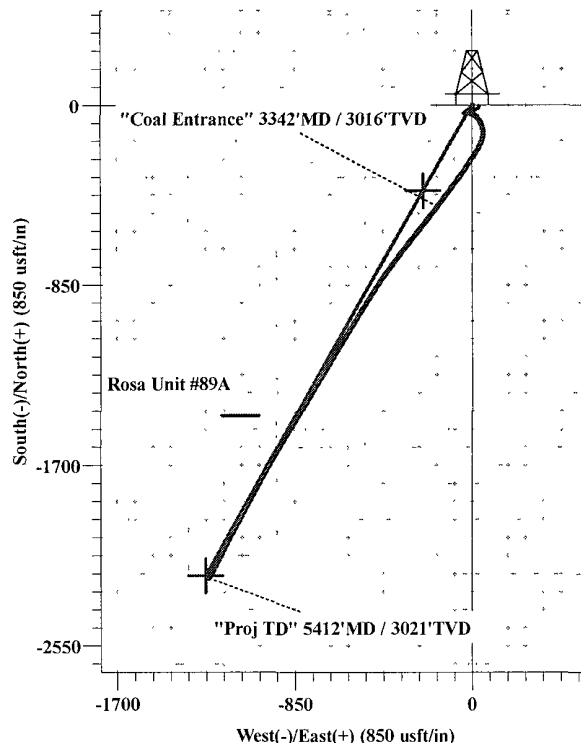
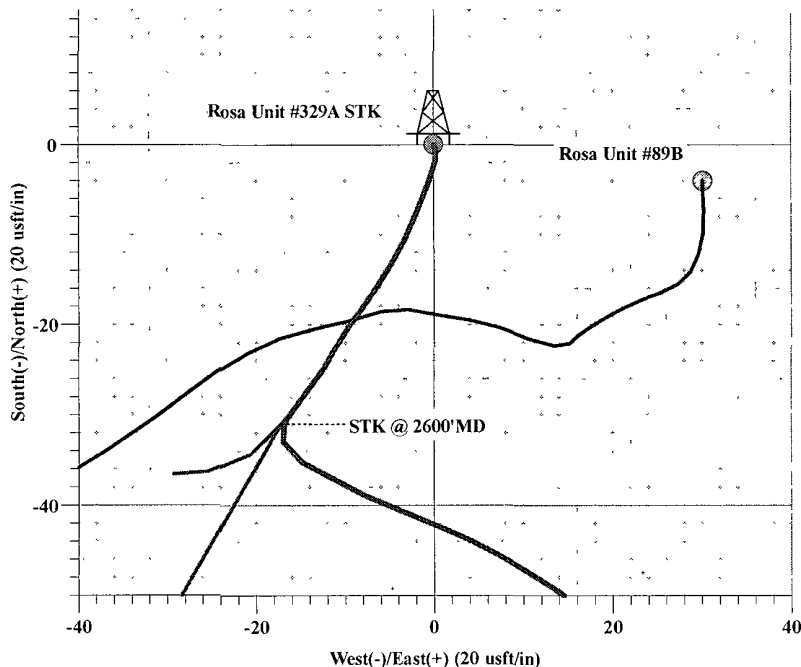
GL: 6692' KB: 14'



A Schlumberger Company

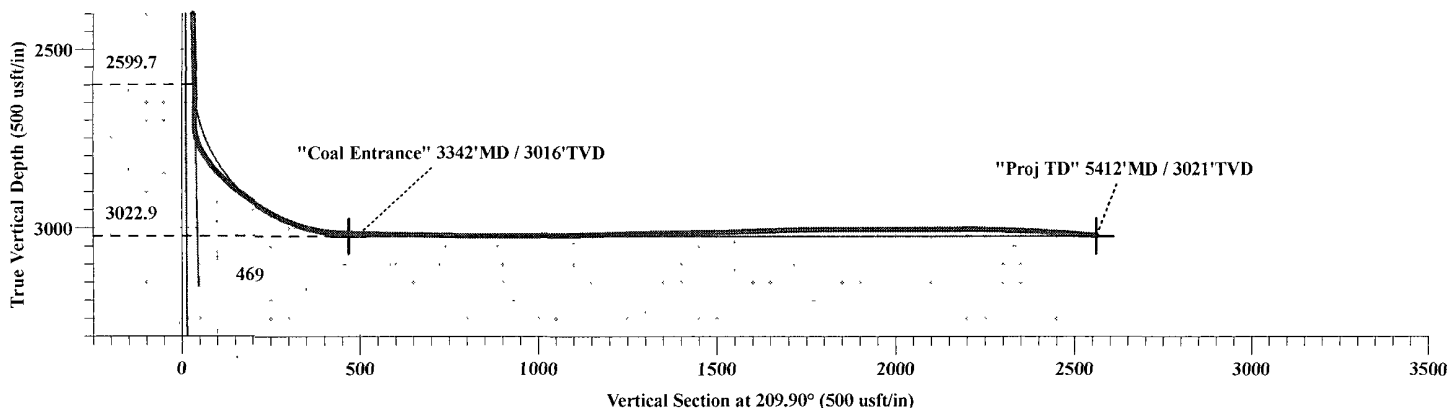
WELLBORE TARGET DETAILS (MAP CO-ORDINATES)

Name	TVD	+N/-S	+E/-W	Northing	Easting	Shape
LAND-329	3023 0	-406 2	-233 8	2161555 94	152524 38	Point
TD-329	3023 0	-2221 0	-1277 4	2159754 30	151458 21	Point



WELL DETAILS Rosa Unit #329A STK

Northing	Easting	Latitude	Longitude
2161959.20	152763 23	36° 56' 8 232 N	107° 26' 17 160 W



SECTION DETAILS

MD	Inc	Azi	TVD	+N/-S	+E/-W	Dleg	TFace	VSec	Target
2600 0	1 35	214 75	2599 7	-31 0	-17 1	0 00	0 00	35 4	
3270 6	90 00	209 90	3022 9	-406 2	-233 8	13 22	-4 85	468 7	
5364 1	90 00	209 90	3023 0	-2221 0	-1277 4	0 00	0 00	2562 2	TD-329

Plan: Design #2 (Rosa Unit #329A STK/STK)

Created By: Frank C. Scardino

Date: 7/22/2011

Williams Energy

Rio Arriba Co. NM

Sec34 T32N-R6W - 329A

Rosa Unit #329A STK

STK

Design: STK

Standard Survey Report

08 August, 2011

Survey Report

Company:	Williams Energy	Local Co-ordinate Reference:	Site Sec34 T32N-R6W - 329A
Project:	Rio Arriba Co. NM	TVD Reference:	WELL @ 6329.0usft (Original Well Elev)
Site:	Sec34 T32N-R6W - 329A	MD Reference:	WELL @ 6329.0usft (Original Well Elev)
Well:	Rosa Unit #329A STK	North Reference:	True
Wellbore:	STK	Survey Calculation Method:	Minimum Curvature
Design:	STK	Database:	EDM 5000.1 Single User Db

Project:	Rio Arriba Co. NM		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico Central 3002		

Site:	Sec34 T32N-R6W - 329A				
Site Position:	Northing:	2,161,959.19 usft	Latitude:	36° 56' 8.232 N	
From:	Lat/Long	Easting:	152,763.23 usft	Longitude:	107° 26' 17.160 W
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "	Grid Convergence:	-0.71 °

Well:	Rosa Unit #329A STK					
Well Position	+N-S	0.0 usft	Northing:	2,161,959.19 usft	Latitude:	36° 56' 8.232 N
	+E-W	0.0 usft	Easting:	152,763.23 usft	Longitude:	107° 26' 17.160 W
Position Uncertainty	0.0 usft	Wellhead Elevation:	usft	Ground Level:	6,315.0 usft	

Wellbore:	STK				
Magnetics	Model Name	Sample Date	Declination	Dip Angle	Field Strength
	IGRF2010	06/13/11	(°) 9.78	(°) 63.69	(nT) 50,891

Design:	STK				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N-S	+E-W	Direction	
	(usft)	(usft)	(usft)	(°)	
	0.0	0.0	0.0	209.90	

Survey Program	Date	08/08/11			
From	To	Survey (Wellbore)	Tool Name	Description	
(usft)	(usft)				
200.0	5,412.0	Survey #1 (STK)	MWD	MWD - Standard	

Survey	Measured Depth	Inclination	Azimuth	Vertical Depth	+N-S	+E-W	Vertical Section	Dogleg Rate	Build Rate	Turn Rate
	(usft)	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(°/100usft)	(°/100usft)	(°/100usft)
	0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
	200.0	0.30	156.00	200.0	-0.5	0.2	0.3	0.15	0.15	0.00
	400.0	0.48	191.81	400.0	-1.8	0.3	1.4	0.15	0.09	17.91
	600.0	0.84	201.40	600.0	-4.0	-0.5	3.7	0.19	0.18	4.80
	800.0	1.09	202.20	800.0	-7.1	-1.7	7.0	0.13	0.13	0.40
	1,000.0	1.07	206.05	999.9	-10.5	-3.2	10.7	0.04	-0.01	1.93
	1,200.0	0.90	212.57	1,199.9	-13.5	-4.9	14.2	0.10	-0.09	3.26
	1,400.0	0.84	212.84	1,399.9	-16.1	-6.6	17.2	0.03	-0.03	0.14
	1,600.0	0.75	218.65	1,599.8	-18.3	-8.2	20.0	0.06	-0.05	2.91
	1,800.0	0.68	215.28	1,799.8	-20.3	-9.7	22.4	0.04	-0.04	-1.69

Survey Report

Company:	Williams Energy	Local Co-ordinate Reference:	Site Sec34 T32N-R6W - 329A
Project:	Rio Arriba Co. NM	TVD Reference:	WELL @ 6329.0usft (Original Well Elev)
Site:	Sec34 T32N-R6W - 329A	MD Reference:	WELL @ 6329.0usft (Original Well Elev)
Well:	Rosa Unit #329A STK	North Reference:	True
Wellbore:	STK	Survey Calculation Method:	Minimum Curvature
Design:	STK	Database:	EDM 5000 1. Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
2,000.0	0.73	209.56	1,999.8	-22.4	-11.0	24.9	0.04	0.03	-2.86
2,200.0	0.89	209.51	2,199.8	-24.9	-12.4	27.7	0.08	0.08	-0.03
2,400.0	1.11	222.62	2,399.8	-27.6	-14.5	31.2	0.16	0.11	6.56
2,493.0	1.40	211.00	2,492.7	-29.3	-15.6	33.2	0.41	0.31	-12.49
2,525.0	1.30	220.40	2,524.7	-29.9	-16.1	33.9	0.76	-0.31	29.38
2,557.0	3.55	211.36	2,556.7	-31.0	-16.8	35.3	7.11	7.03	-28.25
2,590.0	4.17	158.24	2,589.6	-33.0	-16.9	37.0	10.59	1.88	-160.97
2,620.0	8.18	126.79	2,619.5	-35.3	-14.8	38.0	17.02	13.37	-104.83
2,658.0	16.36	112.53	2,656.6	-39.0	-7.7	37.6	22.80	21.53	-37.53
2,686.0	22.95	112.16	2,682.9	-42.5	1.0	36.4	23.54	23.54	-1.32
2,718.0	28.49	123.41	2,711.8	-49.1	13.2	36.0	23.01	17.31	35.16
2,750.0	33.77	136.12	2,739.2	-59.7	25.7	39.0	26.27	16.50	39.72
2,782.0	38.34	147.37	2,765.1	-74.5	37.3	46.0	25.09	14.28	35.16
2,813.0	41.24	159.80	2,788.9	-92.3	46.0	57.0	27.27	9.35	40.10
2,845.0	43.26	170.35	2,812.6	-113.0	51.5	72.3	23.03	6.31	32.97
2,877.0	45.02	180.82	2,835.6	-135.1	53.2	90.7	23.42	5.50	32.72
2,908.0	46.96	191.87	2,857.2	-157.2	50.7	111.0	26.37	6.26	35.65
2,941.0	49.07	202.07	2,879.3	-180.6	43.5	134.9	23.83	6.39	30.91
2,972.0	51.44	211.10	2,899.1	-201.9	32.8	158.6	23.65	7.65	29.13
3,005.0	54.69	212.79	2,919.0	-224.3	18.9	185.0	10.66	9.85	5.12
3,037.0	57.60	213.16	2,936.8	-246.5	4.4	211.5	9.14	9.09	1.16
3,068.0	60.15	213.97	2,952.8	-268.7	-10.3	238.0	8.52	8.23	2.61
3,099.0	62.96	214.21	2,967.6	-291.2	-25.5	265.2	9.09	9.06	0.77
3,131.0	66.83	215.32	2,981.2	-315.0	-42.1	294.1	12.49	12.09	3.47
3,162.0	71.67	216.17	2,992.1	-338.5	-59.0	322.9	15.82	15.61	2.74
3,195.0	76.94	216.24	3,001.1	-364.2	-77.8	354.5	15.97	15.97	0.21
3,227.0	80.55	216.78	3,007.3	-389.4	-96.4	385.6	11.40	11.28	1.69
3,258.0	84.50	217.40	3,011.3	-413.9	-115.0	416.1	12.90	12.74	2.00
3,290.0	86.88	217.45	3,013.7	-439.2	-134.3	447.7	7.44	7.44	0.16
3,342.0	88.84	217.52	3,015.7	-480.5	-166.0	499.3	3.76	3.76	0.13
"Coal Entrance" 3342°MD / 3016°TVD									
3,353.0	89.25	217.53	3,015.9	-489.2	-172.7	510.2	3.76	3.76	0.13
3,417.0	88.90	218.15	3,016.9	-539.7	-211.9	573.5	1.11	-0.55	0.97
3,481.0	88.55	218.67	3,018.3	-589.9	-251.7	636.8	0.98	-0.55	0.81
3,545.0	88.81	219.24	3,019.8	-639.6	-291.9	700.0	0.98	0.41	0.89
3,608.0	89.08	218.05	3,021.0	-688.8	-331.2	762.3	1.94	0.43	-1.89
3,672.0	89.87	216.43	3,021.6	-739.8	-370.0	825.7	2.82	1.23	-2.53
3,736.0	89.96	216.00	3,021.6	-791.4	-407.8	889.3	0.69	0.14	-0.67
3,799.0	89.69	214.18	3,021.8	-843.0	-444.0	952.1	2.92	-0.43	-2.89
3,862.0	90.40	212.74	3,021.8	-895.5	-478.7	1,015.0	2.55	1.13	-2.29
3,925.0	91.28	212.02	3,020.9	-948.7	-512.5	1,077.9	1.80	1.40	-1.14
3,989.0	91.28	211.88	3,019.4	-1,003.0	-546.3	1,141.8	0.22	0.00	-0.22
4,052.0	91.80	212.19	3,017.7	-1,056.4	-579.7	1,204.8	0.96	0.83	0.49
4,116.0	91.80	211.81	3,015.7	-1,110.6	-613.6	1,268.7	0.59	0.00	-0.59

Survey Report

Company:	Williams Energy	Local Co-ordinate Reference:	Site Sec34 T32N-R6W - 329A
Project:	Rio Arriba Co NM	TVD Reference:	WELL @ 6329 0usft (Original Well Elev)
Site:	Sec34 T32N-R6W - 329A	MD Reference:	WELL @ 6329 0usft (Original Well Elev)
Well:	Rosa Unit #329A STK	North Reference:	True
Wellbore:	STK	Survey Calculation Method:	Minimum Curvature
Design:	STK	Database:	EDM-5000.1 Single User Db

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
4,180 0	90 92	211 53	3,014 2	-1,165 1	-647 2	1,332 6	1 44	-1 38	-0 44
4,244 0	90 84	211 49	3,013 2	-1,219 6	-680 7	1,396 6	0 14	-0 13	-0 06
4,308 0	90 84	211 56	3,012 3	-1,274 2	-714 1	1,460 6	0 11	0 00	0 11
4,371 0	91 36	211 08	3,011 1	-1,328 0	-746 9	1,523 5	1 12	0 83	-0 76
4,434 0	91 89	210 34	3,009 3	-1,382 1	-779 0	1,586 5	1 44	0 84	-1 17
4,497 0	91 80	210 95	3,007 3	-1,436 3	-811 1	1,649 5	0 98	-0 14	0 97
4,561 0	91 10	211 73	3,005 7	-1,491 0	-844 4	1,713 4	1 64	-1 09	1 22
4,624 0	90 31	211 13	3,004 9	-1,544 7	-877 2	1,776 4	1 57	-1 25	-0 95
4,688 0	90 57	211 91	3,004 4	-1,599 3	-910 7	1,840 4	1 28	0 41	1 22
4,751 0	91 01	211 45	3,003 5	-1,652 9	-943 8	1,903 3	1 01	0 70	-0 73
4,815 0	89 43	210 11	3,003 3	-1,707 9	-976 5	1,967 3	3 24	-2 47	-2 09
4,879 0	89 96	209 02	3,003 6	-1,763 5	-1,008 1	2,031 3	1 89	0 83	-1 70
4,943 0	89 78	208 17	3,003 8	-1,819 7	-1,038 7	2,095 3	1 36	-0 28	-1 33
5,008 0	90 57	208 75	3,003 6	-1,876 9	-1,069 7	2,160 3	1 51	1 22	0 89
5,072 0	89 08	208 55	3,003 8	-1,933 0	-1,100 4	2,224 3	2 35	-2 33	-0 31
5,136 0	87 32	208 51	3,005 8	-1,989 2	-1,130 9	2,288 2	2 75	-2 75	-0 06
5,200 0	88 90	208 74	3,007 9	-2,045 4	-1,161 6	2,352 2	2 49	2 47	0 36
5,264 0	86 35	208 19	3,010 5	-2,101 6	-1,192 1	2,416 1	4 08	-3 98	-0 86
5,328 0	85 82	207 74	3,014 9	-2,158 0	-1,222 0	2,479 9	1 09	-0 83	-0 70
5,356 0	86 09	207 42	3,016 9	-2,182 7	-1,234 9	2,507 8	1 49	0 96	-1 14
5,412 0	86 09	207 42	3,020 7	-2,232 3	-1,260 7	2,563 6	0 00	0 00	0 00
"Proj TD" 5412'MD / 3021'TVD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
3,342 0	3,015 7	-480 5	-166 0	"Coal Entrance" 3342'MD / 3016'TVD
5,412 0	3,020 7	-2,232 3	-1,260 7	"Proj TD" 5412'MD / 3021'TVD

Checked By: _____	Approved By: _____	Date: _____
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SHL: 2254' FSL & 752' FEL
 NE/4 SE/4 Sec 34(I), T32N, R6W
 Rio Arriba, New Mexico
BHL: End - 46' FSL and 2042' FEL
 SW/4 SE/4 Sec 34(O), T32N, R6W
 Rio Arriba, New Mexico

ROSA 329A BASIN FRUITLAND COAL HORIZONTAL

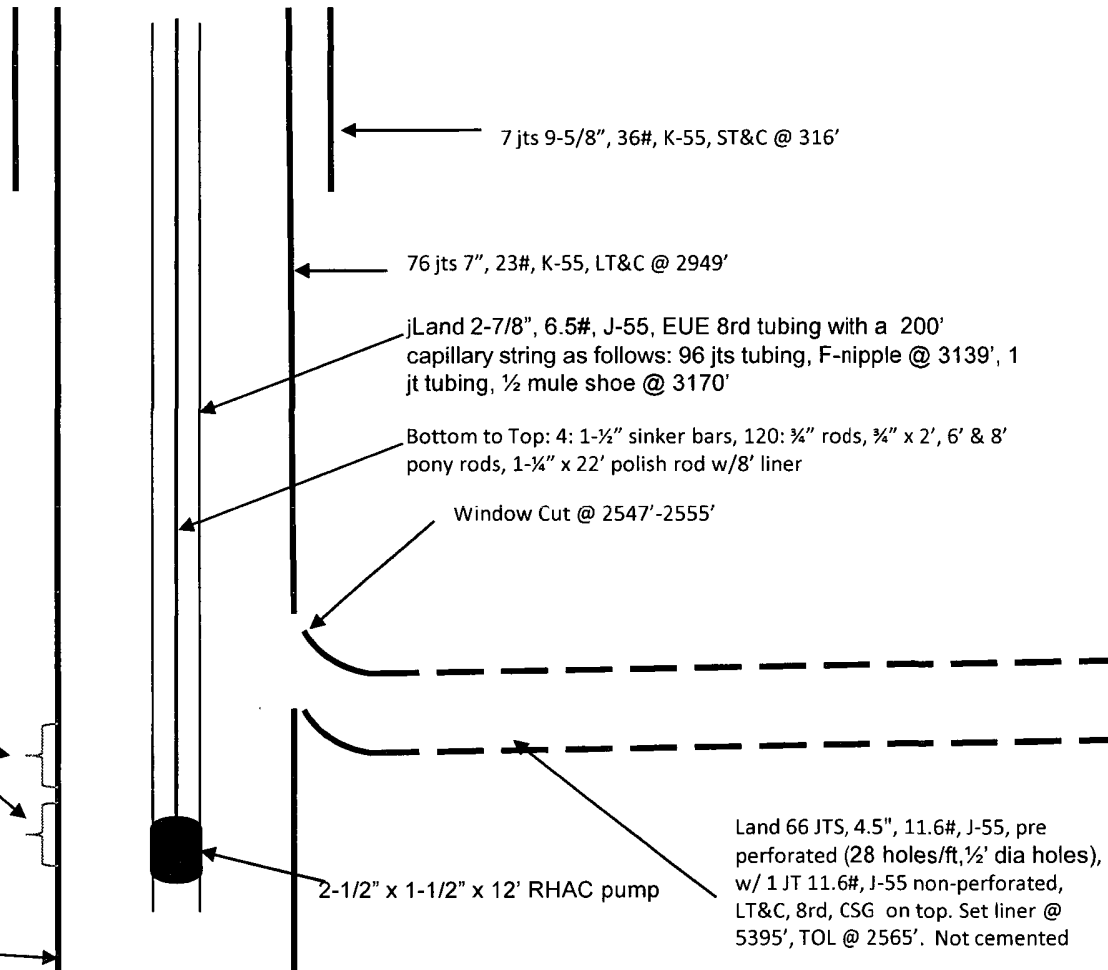
Spud 9/23//2005
 1st Delivery 11/4/2005
 Horiz re entry 8/10/11

Elevation: 6315' GR
 API # 30-039-29398

Top	Depth
Ojo Alamo	2322'
Kirtland	2432'
Fruitland	2857'
Pictured Cliffs	3107'

Fruitland coal perforation
 intervals: 2976'-2986', 3018'-
 3028', 3031'-3061', 3094'-3110'
 total of 72, 0.43" dia holes

PBTD 7" @ 3206'



Land 66 JTS, 4.5", 11.6#, J-55, pre
 perforated (28 holes/ft, 1/2' dia holes),
 w/ 1 JT 11.6#, J-55 non-perforated,
 LT&C, 8rd, CSG on top. Set liner @
 5395', TOL @ 2565'. Not cemented

TD@ 5412' MD
 PBTD @ 5395' MD
 TVD @ 3020'

Hole Size	Casing	Cement	Volume	Top of Cmt
12-1/4"	9-5/8", 36#	220sx	310 cu. ft.	Surface
8-3/4"	7", 23#	540 sx	1099 cu. ft.	Surface
6-1/4"	4-1/2", 11.6#	None	None	N/A