

Results of Directional Survey

API number:	30-025-41009	DD
OGRID:		Operator: CONOCOPHILLIPS COMPANY
	Property:	RUBY FEDERAL # 13

surface	ULSTR:	J	17	T 17S	R 32E
				1650 FSL	2235 FEL

BH Loc	ULSTR:	J	17	T 17S	R 32E
6964 MD		6923.5	TVD	1638 FSL	1601 FEL

Top Perf/OH	ULSTR:	J	17	T 17S	R 32E
5580 MD		5547.8	TVD	1653 FSL	1751 FEL

Bot Perf/OH	ULSTR:	J	17	T 17S	R 32E
6551 MD		6512.8	TVD	1643 FSL	1644 FEL

	MD	N/S	E/W	VD
	5553	2.83	481.02	5520.94
TOP PERFS/OH	5580	2.70	483.93	5547.78
	5642	2.39	490.62	5609.42
	6537	-7.21	589.71	6498.86
BOT PERFS/OH	6551	-7.39	591.22	6512.78
	6626	-8.35	599.33	6587.33

NEXT TO LAST	6913	-11.52	629.17	6872.75
LAST READING	6964	-11.92	633.87	6923.53
TD	6964	-11.92	633.87	6923.53

Surface Location	1650 FS	2235 FE
Projected BHL	1638 FS	1601 FE
Location of		
Top Perfs/OH	1653 FS	1751 FE
Bottom Perfs/OH	1643 FS	1644 FE

SUMMARY of Subsurface Locations

Surface Location	J-17-17S-32E	1650 FS	2235 FE	Vert. Depth
Top Perfs/OH	J-17-17S-32E	1653 FS	1751 FE	5547.78
Bottom Perfs/OH	J-17-17S-32E	1643 FS	1644 FE	6512.78
Projected TD	J-17-17S-32E	1638 FS	1601 FE	6923.53

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Kingwood, TX 77339
Cell: (281) 851-8112
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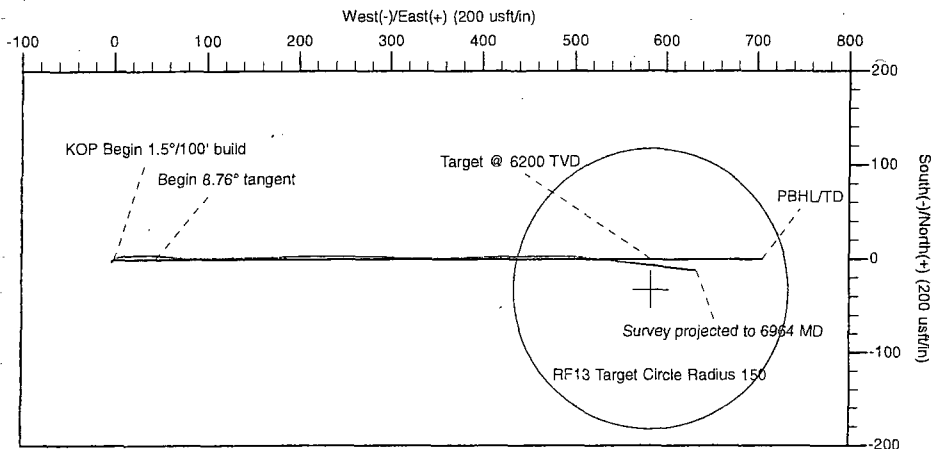
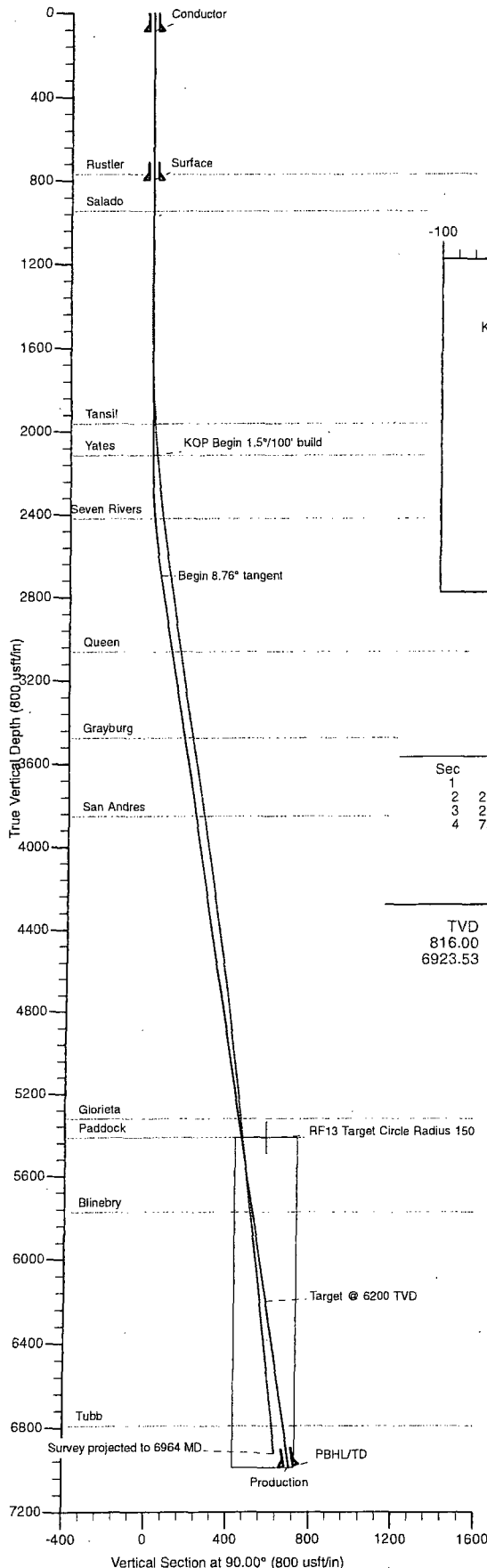
BlueStar MWD, LP performed a MWD survey for ConocoPhillips' Ruby Federal 13, located in Lea County, NM. The API number is: 30-025-41009. The surveys were taken from 816 MD to 6913 MD and ranged over the dates from 3-July-13 to 6-July-13 and are certified as being true and correct.

A handwritten signature in black ink, appearing to read "Greg Nazzal". The signature is fluid and cursive, written over the printed name and title.

Certification by Greg Nazzal
President



ConocoPhillips
Lea County, New Mexico
Ruby Federal
Ruby Federal 13
rev1
PD822



Section Details

Sec	MD	Inc	Azi	TVD	+N/-S	+E/-W	Diag	TFace	VSect	Annotation
1	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2	2115.00	0.00	0.00	2115.00	0.00	0.00	0.00	0.00	0.00	KOP Begin 1.5°/100' build
3	2698.89	8.76	90.00	2698.62	0.00	44.54	1.50	90.00	44.54	Begin 8.76° tangent
4	7042.93	8.76	90.00	6990.00	0.00	706.00	0.00	0.00	706.00	PBHL/TD

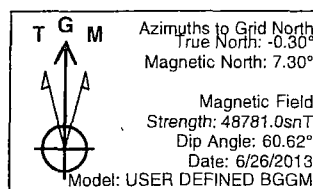
ANNOTATIONS

TVD	MD	Inc	Azi	+N/-S	+E/-W	VSect	Departure	Annotation
816.00	816.00	0.00	0.00	0.00	0.00	0.00	0.00	MWD surveys
6923.53	6964.00	5.30	94.80	-11.92	633.87	633.98	641.41	Survey projected to 6964 MD

RKB Elevation: RKB=4009+13 @ 4022.00usft (PD822)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	666761.25	667872.28	32° 49' 54.551058 N	103° 47' 12.525811 W

US State Plane 1927 (Exact solution)
NAD 1927 (NADCON CONUS)
Clarke 1866
New Mexico East 3001
Mean Sea Level





ConocoPhillips

**Lea County, New Mexico
Ruby Federal
Ruby Federal 13**

Original Hole

Design: Surveys Original Hole

Standard Survey Report

18 July, 2013

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Company:	ConocoPhillips	Local Co-ordinate Reference:	Well Ruby Federal 13
Project:	Lea County, New Mexico	TVD Reference:	RKB=4009+13 @ 4022.00usft (PD822)
Site:	Ruby Federal	MD Reference:	RKB=4009+13 @ 4022.00usft (PD822)
Well:	Ruby Federal 13	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	EDM 5000.1 Ddatabase

Project:	Lea County, New Mexico		
Map System:	US State Plane 1927 (Exact solution)	System Datum:	Mean Sea Level
Geo Datum:	NAD 1927 (NADCON CONUS)		
Map Zone:	New Mexico East 3001		

Site:	Ruby Federal		
Site Position:	Northing:	665,437.81 usft	Latitude: 32° 49' 41.500374 N
From: Map	Easting:	666,996.38 usft	Longitude: 103° 47' 22.870781 W
Position Uncertainty:	0.00 usft	Slot Radius: 13-3/16 "	Grid Convergence: 0.29 °

Well:	Ruby Federal 13		
Well Position	+N-S	0.00 usft	Northing: 666,761.25 usft
	+E-W	0.00 usft	Easting: 667,872.28 usft
Position Uncertainty	0.00 usft	Wellhead Elevation:	usft
		Ground Level:	4,009.00 usft

Wellbore:	Original Hole		
Magnetics	Model Name	Sample Date	Declination
	User Defined	6/26/2013	7.60
			Dip Angle
			60.62
			Field Strength
			48,781

Design:	Surveys Original Hole		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N-S	+E-W
	(usft)	(usft)	(usft)
	0.00	0.00	0.00
			Direction
			(°)
			91.08

Survey Program	Date 7/18/2013		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		
816.00	6,964.00	MWD (Original Hole)	MWD
			Description
			MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N-S	+E-W	Vertical	Dogleg	Build	Turn
Depth	(°)	(°)	Depth	(usft)	(usft)	Section	Rate	Rate	Rate
(usft)			(usft)			(usft)	(°/100usft)	(°/100usft)	(°/100usft)
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
816.00	0.00	0.00	816.00	0.00	0.00	0.00	0.00	0.00	0.00
MWD surveys									
851.00	0.30	225.40	851.00	-0.06	-0.07	-0.06	0.86	0.86	0.00
941.00	0.60	221.20	941.00	-0.58	-0.54	-0.53	0.34	0.33	-4.67
1,030.00	0.30	208.90	1,029.99	-1.14	-0.96	-0.94	0.35	-0.34	-13.82
1,120.00	0.30	212.40	1,119.99	-1.54	-1.20	-1.17	0.02	0.00	3.89
1,209.00	0.10	230.90	1,208.99	-1.79	-1.39	-1.35	0.23	-0.22	20.79
1,299.00	0.20	261.70	1,298.99	-1.86	-1.60	-1.57	0.14	0.11	34.22
1,389.00	0.30	319.50	1,388.99	-1.71	-1.91	-1.88	0.29	0.11	64.22
1,478.00	0.20	47.40	1,477.99	-1.42	-1.95	-1.92	0.40	-0.11	98.76

Company: ConocoPhillips
 Project: Lea County, New Mexico
 Site: Ruby Federal
 Well: Ruby Federal 13
 Wellbore: Original Hole
 Design: Surveys Original Hole

Local Co-ordinate Reference: Well Ruby Federal 13
 TVD Reference: RKB=4009+13 @ 4022.00usft (PD822)
 MD Reference: RKB=4009+13 @ 4022.00usft (PD822)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: EDM 5000.1 Ddatabase

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)
1,568.00	0.60	61.40	1,567.99	-1.09	-1.42	-1.40	0.45	0.44	15.56
1,658.00	0.90	46.50	1,657.98	-0.38	-0.49	-0.49	0.39	0.33	-16.56
1,747.00	1.40	62.10	1,746.96	0.61	0.97	0.96	0.66	0.56	17.53
1,837.00	2.80	72.00	1,836.90	1.80	4.04	4.00	1.60	1.56	11.00
1,926.00	3.40	79.50	1,925.77	2.96	8.70	8.64	0.81	0.67	8.43
1,971.00	4.20	82.30	1,970.67	3.42	11.64	11.58	1.82	1.78	6.22
2,061.00	5.20	88.50	2,060.37	3.97	18.99	18.91	1.24	1.11	6.89
2,150.00	5.00	86.10	2,149.02	4.34	26.89	26.80	0.33	-0.22	-2.70
2,240.00	5.70	92.70	2,238.62	4.40	35.27	35.18	1.03	0.78	7.33
2,330.00	6.20	91.90	2,328.14	4.02	44.59	44.50	0.56	0.56	-0.89
2,419.00	6.90	98.20	2,416.56	3.10	54.68	54.61	1.13	0.79	7.08
2,509.00	7.80	97.30	2,505.82	1.55	66.09	66.05	1.01	1.00	-1.00
2,598.00	8.40	88.80	2,593.93	0.92	78.58	78.55	1.50	0.67	-9.55
2,688.00	7.90	88.90	2,683.02	1.18	91.34	91.30	0.56	-0.56	0.11
2,778.00	8.30	88.40	2,772.13	1.48	104.02	103.97	0.45	0.44	-0.56
2,867.00	7.60	91.40	2,860.27	1.52	116.32	116.27	0.91	-0.79	3.37
2,957.00	7.80	89.50	2,949.46	1.42	128.38	128.33	0.36	0.22	-2.11
3,047.00	8.90	89.00	3,038.50	1.60	141.45	141.39	1.22	1.22	-0.56
3,136.00	8.30	90.70	3,126.50	1.64	154.75	154.69	0.73	-0.67	1.91
3,226.00	7.60	89.70	3,215.64	1.59	167.20	167.14	0.79	-0.78	-1.11
3,315.00	8.40	86.80	3,303.77	1.99	179.58	179.51	1.01	0.90	-3.26
3,405.00	7.90	87.30	3,392.86	2.64	192.32	192.23	0.56	-0.56	0.56
3,495.00	9.10	89.00	3,481.87	3.06	205.61	205.52	1.36	1.33	1.89
3,584.00	9.40	90.60	3,569.71	3.11	219.92	219.82	0.44	0.34	1.80
3,674.00	9.20	90.50	3,658.53	2.97	234.46	234.36	0.22	-0.22	-0.11
3,763.00	9.30	91.20	3,746.37	2.75	248.76	248.67	0.17	0.11	0.79
3,853.00	9.10	90.50	3,835.22	2.54	263.15	263.06	0.25	-0.22	-0.78
3,943.00	9.10	90.40	3,924.08	2.43	277.39	277.29	0.02	0.00	-0.11
4,032.00	8.80	93.00	4,012.00	2.02	291.22	291.13	0.57	-0.34	2.92
4,122.00	8.60	92.10	4,100.96	1.41	304.82	304.74	0.27	-0.22	-1.00
4,212.00	8.00	91.50	4,190.02	1.00	317.81	317.73	0.67	-0.67	-0.67
4,301.00	8.00	90.60	4,278.15	0.78	330.19	330.12	0.14	0.00	-1.01
4,391.00	8.20	89.10	4,367.26	0.81	342.87	342.80	0.32	0.22	-1.67
4,480.00	8.50	90.90	4,455.31	0.81	355.79	355.72	0.45	0.34	2.02
4,570.00	7.10	86.90	4,544.48	1.01	368.00	367.92	1.67	-1.56	-4.44
4,659.00	6.80	89.00	4,632.83	1.39	378.76	378.67	0.44	-0.34	2.36
4,748.00	6.70	88.20	4,721.21	1.65	389.22	389.12	0.15	-0.11	-0.90
4,838.00	6.70	88.40	4,810.59	1.96	399.71	399.61	0.03	0.00	0.22
4,927.00	6.90	90.00	4,898.97	2.11	410.25	410.14	0.31	0.22	1.80
5,017.00	6.70	89.80	4,988.33	2.12	420.91	420.79	0.22	-0.22	-0.22
5,106.00	6.80	89.10	5,076.72	2.23	431.37	431.25	0.15	0.11	-0.79
5,195.00	6.80	87.40	5,165.09	2.55	441.90	441.77	0.23	0.00	-1.91
5,285.00	6.60	89.20	5,254.48	2.86	452.39	452.28	0.32	-0.22	2.00

Company:	ConocoPhillips	Local Co-ordinate Reference:	Well Ruby Federal-13
Project:	Lea County, New Mexico	TVD Reference:	RKB=4009+13 @ 4022.00usft (PD822)
Site:	Ruby Federal	MD Reference:	RKB=4009+13 @ 4022.00usft (PD822)
Well:	Ruby Federal-13	North Reference:	Grid
Wellbore:	Original Hole	Survey Calculation Method:	Minimum Curvature
Design:	Surveys Original Hole	Database:	EDM 5000.1 Ddatabase

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)
5,374.00	6.20	89.80	5,342.92	2.95	462.31	462.17	0.46	-0.45	0.67
5,464.00	5.80	90.00	5,432.43	2.97	471.72	471.58	0.45	-0.44	0.22
5,553.00	6.20	91.60	5,520.94	2.83	481.02	480.88	0.49	0.45	1.80
5,642.00	6.20	93.70	5,609.42	2.39	490.62	490.49	0.25	0.00	2.36
5,732.00	6.30	91.10	5,698.89	1.98	500.41	500.28	0.33	0.11	-2.89
5,821.00	6.50	95.00	5,787.33	1.45	510.31	510.19	0.54	0.22	4.38
5,911.00	6.40	94.10	5,876.76	0.64	520.39	520.28	0.16	-0.11	-1.00
6,000.00	6.60	95.40	5,965.19	-0.19	530.43	530.34	0.28	0.22	1.46
6,090.00	6.30	95.80	6,054.62	-1.18	540.49	540.41	0.34	-0.33	0.44
6,179.00	6.50	97.90	6,143.07	-2.36	550.34	550.28	0.35	0.22	2.36
6,268.00	6.40	96.30	6,231.50	-3.60	560.26	560.22	0.23	-0.11	-1.80
6,358.00	6.30	96.60	6,320.95	-4.72	570.15	570.14	0.12	-0.11	0.33
6,447.00	6.40	98.10	6,409.40	-5.98	579.91	579.92	0.22	0.11	1.69
6,537.00	6.20	96.20	6,498.86	-7.21	589.71	589.74	0.32	-0.22	-2.11
6,626.00	6.30	97.30	6,587.33	-8.35	599.33	599.38	0.18	0.11	1.24
6,715.00	6.40	96.90	6,675.79	-9.57	609.10	609.17	0.12	0.11	-0.45
6,805.00	5.90	95.00	6,765.27	-10.57	618.68	618.77	0.60	-0.56	-2.11
6,894.00	5.40	95.40	6,853.83	-11.36	627.41	627.51	0.56	-0.56	0.45
6,913.00	5.30	94.80	6,872.75	-11.52	629.17	629.28	0.60	-0.53	-3.16
6,964.00	5.30	94.80	6,923.53	-11.92	633.87	633.98	0.00	0.00	0.00

Survey projected to 6964 MD

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N-S (usft)	+E-W (usft)	
816.00	816.00	0.00	0.00	MWD surveys
6,964.00	6,923.53	-11.92	633.87	Survey projected to 6964 MD

Checked By: _____ Approved By: _____ Date: _____