

30-025-39767

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MAR 18 2011
HOBBSOCD

CONOCOPHILLIPS

Maljamar
Lea County, NM
MCA #482
VH - Job #32K0910672

Survey: Actual

SDI Standard Survey Report

13 September, 2010

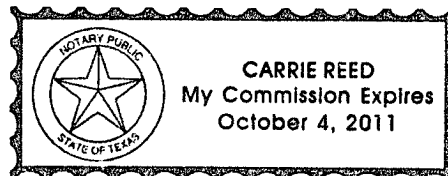
This survey is correct to the best of my knowledge and is supported by actual field data.

Fl. Barton

Notorized this date 5th of October, 2010.

Carrie Reed

Notary Signature
County of Midland
State of Texas



APR 20 2011

Scientific Drilling International, Inc.

SDI Standard Survey Report

Company:	CONOCOPHILLIPS	Local Co-ordinate Reference:	Well MCA #482
Project:	Maljamar	TVD Reference:	WELL @ 0.0usft (Original Well Elev)
Site:	Lea County, NM	MD Reference:	WELL @ 0.0usft (Original Well Elev)
Well:	MCA #482	North Reference:	Grid
Wellbore:	VH - Job #32K0910672	Survey Calculation Method:	Minimum Curvature
Design:	VH - Job #32K0910672	Database:	EDM-Regulatory

Project	Maljamar		
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		

Well	MCA #482, Vertical					
Well Position	+N/-S	0.0 usft	Northing:	656,082.30 usft	Latitude:	32° 48' 8.660 N
	+E/-W	0.0 usft	Easting:	672,180.38 usft	Longitude:	103° 46' 22.700 W
Position Uncertainty		0.0 usft	Wellhead Elevation:	usft	Ground Level:	0.0 usft

Wellbore	VH - Job #32K0910672				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2010	9/13/2010	7.88	60.72	49,085

Design	VH - Job #32K0910672				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.0
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	0.0	0.0	0.0	12.53	

Survey Program		Date 9/13/2010		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	4,050.0	Actual (VH - Job #32K0910672)	Keeper	Keeper Gyro

Survey								
Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)	
0.0	0.00	0.00	0.0	0.0	0.0	0.00	0.0	
100.0	0.08	258.27	100.0	0.0	-0.1	258.27	0.1	
150.0	0.28	275.15	150.0	0.0	-0.2	267.36	0.2	
200.0	0.15	245.06	200.0	0.0	-0.4	266.19	0.4	
250.0	0.31	342.02	250.0	0.1	-0.5	278.33	0.5	
300.0	0.34	313.41	300.0	0.3	-0.7	294.92	0.7	
350.0	0.06	274.88	350.0	0.4	-0.8	297.37	0.9	
400.0	0.15	267.75	400.0	0.4	-0.9	294.87	1.0	
450.0	0.35	353.03	450.0	0.6	-1.0	300.02	1.1	
500.0	0.18	38.97	500.0	0.8	-0.9	309.50	1.2	
550.0	0.11	321.47	550.0	0.9	-0.9	313.52	1.3	
600.0	0.36	8.52	600.0	1.1	-0.9	319.05	1.4	
650.0	0.13	23.69	650.0	1.3	-0.9	325.40	1.5	
700.0	0.43	357.07	700.0	1.5	-0.9	330.25	1.7	
750.0	0.32	13.36	750.0	1.8	-0.8	335.38	2.0	
800.0	0.48	327.72	800.0	2.1	-0.9	336.80	2.3	
850.0	0.50	3.25	850.0	2.5	-1.0	338.14	2.7	

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Design:	VH - Job #32K0910672	Database:	EDM-Regulatory

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	True Vertical Depth	North/South (usft)	East/West (usft)	Closure Azimuth (°)	Closure Distance (usft)
900.0	0.60	342.09	900.0	3.0	-1.1	340.13	3.2
950.0	0.80	3.02	950.0	3.6	-1.1	342.32	3.8
1,000.0	0.65	357.82	1,000.0	4.2	-1.1	344.92	4.4
1,050.0	0.87	353.01	1,050.0	4.9	-1.2	346.25	5.0
1,100.0	0.75	8.20	1,100.0	5.6	-1.2	347.92	5.7
1,150.0	0.66	353.62	1,150.0	6.2	-1.2	349.21	6.3
1,200.0	0.94	6.88	1,200.0	6.9	-1.2	350.41	7.0
1,250.0	0.81	21.78	1,250.0	7.6	-1.0	352.64	7.7
1,300.0	0.73	3.93	1,300.0	8.3	-0.8	354.26	8.3
1,350.0	0.93	12.35	1,349.9	9.0	-0.7	355.40	9.0
1,400.0	0.83	20.88	1,399.9	9.7	-0.5	357.01	9.7
1,450.0	0.34	23.45	1,449.9	10.2	-0.3	358.20	10.2
1,500.0	0.88	15.33	1,499.9	10.7	-0.2	359.15	10.7
1,550.0	0.78	24.56	1,549.9	11.4	0.1	0.42	11.4
1,600.0	0.95	13.38	1,599.9	12.1	0.3	1.52	12.1
1,650.0	1.15	19.07	1,649.9	13.0	0.6	2.56	13.0
1,700.0	1.06	30.33	1,699.9	13.9	1.0	4.04	13.9
1,750.0	1.03	14.08	1,749.9	14.7	1.3	5.14	14.7
1,800.0	1.34	23.40	1,799.9	15.7	1.7	6.06	15.8
1,850.0	1.36	34.26	1,849.9	16.7	2.2	7.61	16.8
1,900.0	1.51	24.80	1,899.9	17.8	2.8	9.07	18.0
1,950.0	1.80	30.36	1,949.8	19.1	3.5	10.44	19.4
2,000.0	1.83	30.17	1,999.8	20.4	4.3	11.92	20.9
2,050.0	1.51	28.72	2,049.8	21.7	5.0	13.05	22.3
2,100.0	1.94	33.52	2,099.8	23.0	5.8	14.20	23.7
2,150.0	1.77	34.76	2,149.7	24.3	6.7	15.45	25.2
2,200.0	1.87	26.48	2,199.7	25.7	7.5	16.33	26.8
2,250.0	2.00	32.18	2,249.7	27.1	8.4	17.10	28.4
2,300.0	1.72	30.94	2,299.7	28.5	9.2	17.88	30.0
2,350.0	1.91	23.80	2,349.6	29.9	9.9	18.34	31.5
2,400.0	2.03	27.12	2,399.6	31.5	10.7	18.71	33.2
2,450.0	1.71	26.15	2,449.6	32.9	11.4	19.08	34.9
2,500.0	1.89	18.43	2,499.6	34.4	12.0	19.21	36.4
2,550.0	1.88	25.25	2,549.5	35.9	12.6	19.33	38.1
2,600.0	1.66	21.21	2,599.5	37.3	13.2	19.48	39.6
2,650.0	1.75	16.05	2,649.5	38.7	13.7	19.45	41.1
2,700.0	1.54	13.18	2,699.5	40.1	14.0	19.29	42.5
2,750.0	1.82	21.73	2,749.4	41.5	14.5	19.24	44.0
2,800.0	1.76	13.16	2,799.4	43.0	15.0	19.18	45.5
2,850.0	2.10	8.66	2,849.4	44.7	15.3	18.88	47.2
2,900.0	2.06	12.41	2,899.4	46.4	15.6	18.57	49.0
2,950.0	1.93	12.02	2,949.3	48.1	16.0	18.36	50.7
3,000.0	2.06	4.91	2,999.3	49.9	16.2	18.03	52.4
3,050.0	2.24	4.59	3,049.3	51.7	16.4	17.57	54.3

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Design:	VH - Job #32K0910672	Database:	EDM-Regulatory

Survey

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3,100.0	2.27	11.67	3,099.2	53.7	16.7	17.24	56.2
3,150.0	2.22	9.88	3,149.2	55.6	17.0	17.03	58.2
3,200.0	2.32	3.47	3,199.1	57.6	17.3	16.68	60.1
3,250.0	2.51	1.69	3,249.1	59.7	17.3	16.21	62.1
3,300.0	2.65	6.69	3,299.0	61.9	17.5	15.80	64.3
3,350.0	2.47	5.98	3,349.0	64.1	17.8	15.48	66.5
3,400.0	2.53	0.08	3,399.0	66.3	17.9	15.09	68.7
3,450.0	2.46	4.54	3,448.9	68.5	18.0	14.70	70.8
3,500.0	2.54	0.85	3,498.9	70.7	18.1	14.34	72.9
3,550.0	2.54	6.24	3,548.8	72.9	18.2	14.02	75.1
3,600.0	2.56	3.55	3,598.8	75.1	18.4	13.76	77.3
3,650.0	2.61	5.74	3,648.7	77.3	18.6	13.51	79.5
3,700.0	2.58	8.08	3,698.7	79.6	18.8	13.32	81.8
3,750.0	2.60	5.50	3,748.6	81.8	19.1	13.15	84.0
3,800.0	2.40	8.32	3,798.6	84.0	19.4	12.99	86.2
3,850.0	2.35	7.39	3,848.5	86.0	19.7	12.87	88.3
3,900.0	2.12	15.90	3,898.5	87.9	20.0	12.84	90.2
3,950.0	2.03	3.10	3,948.4	89.7	20.3	12.77	92.0
4,000.0	2.01	6.18	3,998.4	91.5	20.5	12.62	93.7
4,050.0	1.94	8.38	4,048.4	93.2	20.7	12.53	95.5



Project: Maljamar
Lea County, NM
Well: MCA #482
Wellbore: VH - Job #32K0910672
Design: VH - Job #32K0910672

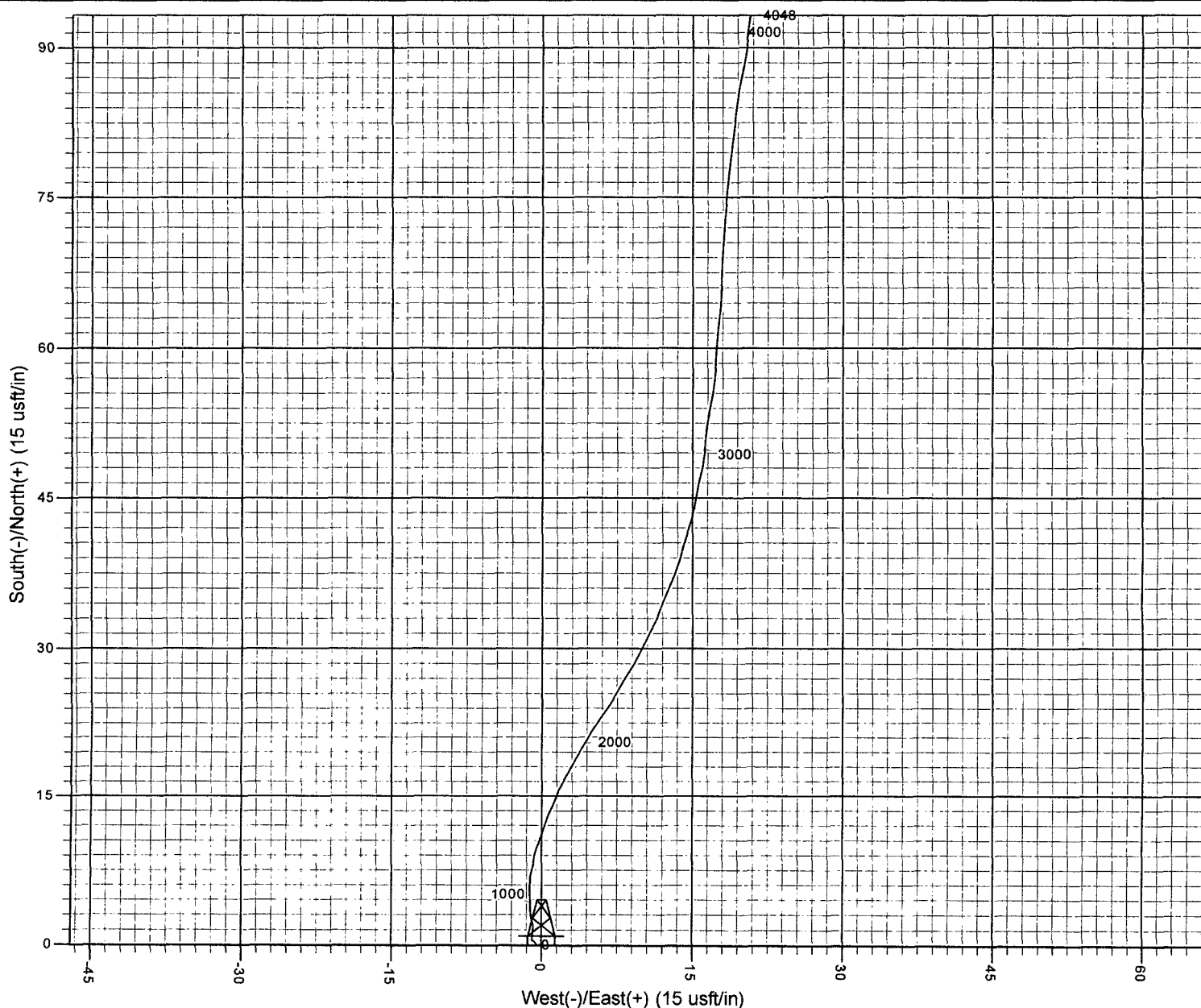


Azimuths to Grid North
True North: -0.30°
Magnetic North: 7.57°

Magnetic Field
Strength: 49084.6snT
Dip Angle: 60.72°
Date: 9/13/2010
Model: BGGM2010

WELL DETAILS: MCA #482
WELL @ 0.0usft (Original Well Elev)
Ground Level: 0.0

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude	Slot
0.0	0.0	656082.30	672180.38	$32^\circ 48' 8.660 \text{ N}$	$103^\circ 46' 22.700 \text{ W}$	



PROJECT DETAILS: Maljamar
Geodetic System: US State Plane 1927 (Exact solution)
Datum: NAD 1927 (NADCON CONUS)
Ellipsoid: Clarke 1866
Zone: New Mexico East 3001
System Datum: Mean Sea Level

SITE DETAILS: Lea County, NM
Site Centre Latitude: $32^\circ 47' 35.550 \text{ N}$
Longitude: $103^\circ 45' 59.640 \text{ W}$
Positional Uncertainty: 0.0
Convergence: 0.31
Local North: Grid