



30-015-40042

Murchison Oil and Gas

Paddock

Grizzly Bear 2H

Grizzly Bear 2H

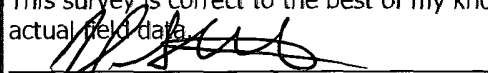
Grizzly Bear 2H

Survey: Grizzly Bear 002H

MOJO Survey

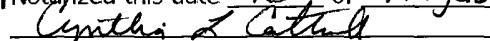
08 August, 2012

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

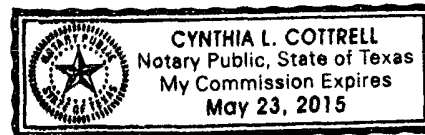


(Signature)

Notarized this date 10th of August, 2012.



Notary Signature
County of Collin
State of Texas



MOJO
DIRECTIONAL CORPORATION

Company:	Murchison Oil and Gas	Local Co-ordinate Reference:	Well Grizzly Bear 2H
Project:	Paddock	TVD Reference:	WELL @ 3728 3usft (HWD 4)
Site:	Grizzly Bear 2H	MD Reference:	WELL @ 3728 3usft (HWD 4)
Well:	Grizzly Bear 2H	North Reference:	Grid
Wellbore:	Grizzly Bear 2H	Survey Calculation Method:	Minimum Curvature
Design:	Grizzly Bear 2H	Database:	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	V. Sec (usft)	DLeg (°/100usft)
6,169.0	90.60	271.40	3,924.1	-195.8	22.3	-2,491.6	677,412.34	603,797.70	2,491.64	1.04
6,212.0	90.90	271.90	3,923.5	-195.2	23.5	-2,534.6	677,413.58	603,754.73	2,534.63	1.36
6,255.0	91.90	272.40	3,922.5	-194.2	25.1	-2,577.5	677,415.19	603,711.78	2,577.61	2.60
6,298.0	91.80	272.40	3,921.1	-192.8	26.9	-2,620.5	677,416.99	603,668.84	2,620.57	0.23
6,341.0	91.80	272.30	3,919.7	-191.4	28.7	-2,663.4	677,418.75	603,625.90	2,663.53	0.23
6,385.0	91.90	272.50	3,918.3	-190.0	30.5	-2,707.3	677,420.59	603,581.97	2,707.50	0.51
6,428.0	92.20	272.90	3,916.8	-188.5	32.6	-2,750.3	677,422.62	603,539.05	2,750.44	1.16
6,470.0	92.50	272.60	3,915.0	-186.7	34.6	-2,792.2	677,424.63	603,497.13	2,792.39	1.01
6,513.0	91.70	271.10	3,913.5	-185.2	36.0	-2,835.1	677,426.02	603,454.19	2,835.35	3.95
6,556.0	90.70	270.70	3,912.6	-184.3	36.6	-2,878.1	677,426.69	603,411.21	2,878.34	2.50
6,599.0	90.50	270.60	3,912.1	-183.8	37.1	-2,921.1	677,427.18	603,368.22	2,921.34	0.52
6,642.0	90.80	270.70	3,911.6	-183.3	37.6	-2,964.1	677,427.67	603,325.23	2,964.33	0.74
6,685.0	90.70	270.40	3,911.1	-182.8	38.0	-3,007.1	677,428.08	603,282.24	3,007.33	0.74
6,728.0	90.30	270.10	3,910.7	-182.4	38.2	-3,050.1	677,428.27	603,239.24	3,050.32	1.16
6,771.0	90.20	269.90	3,910.5	-182.2	38.2	-3,093.1	677,428.27	603,196.25	3,093.32	0.52
6,814.0	90.80	271.30	3,910.1	-181.8	38.7	-3,136.1	677,428.72	603,153.26	3,136.32	3.54
6,857.0	90.80	272.30	3,909.5	-181.2	40.0	-3,179.1	677,430.07	603,110.29	3,179.30	2.33
6,900.0	90.80	272.30	3,908.9	-180.6	41.7	-3,222.0	677,431.80	603,067.33	3,222.29	0.00
6,943.0	91.60	272.30	3,908.0	-179.7	43.5	-3,265.0	677,433.52	603,024.38	3,265.26	1.86
6,996.0	92.20	271.60	3,906.3	-178.0	45.3	-3,317.9	677,435.32	602,971.44	3,318.22	1.74
7,029.0	92.30	270.90	3,905.0	-176.7	46.0	-3,350.9	677,436.04	602,938.48	3,351.20	2.14
7,072.0	92.50	269.50	3,903.2	-174.9	46.1	-3,393.8	677,436.19	602,895.52	3,394.15	3.29
7,115.0	92.10	269.00	3,901.4	-173.1	45.6	-3,436.8	677,435.63	602,852.56	3,437.10	1.49
7,158.0	91.20	268.10	3,900.2	-171.9	44.5	-3,479.8	677,434.54	602,809.60	3,480.05	2.96
7,201.0	91.70	268.10	3,899.1	-170.8	43.1	-3,522.7	677,433.12	602,766.64	3,522.99	1.16
7,244.0	91.40	267.70	3,898.0	-169.7	41.5	-3,565.7	677,431.54	602,723.69	3,565.91	1.16
7,287.0	91.60	267.50	3,896.8	-168.5	39.7	-3,608.6	677,429.74	602,680.75	3,608.83	0.66

Company: Murchison Oil and Gas		Local Co-ordinate Reference: Well Grizzly Bear 2H TVD Reference: WELL @ 3728 3usft (HWD 4) MD Reference: WELL @ 3728 3usft (HWD 4) North Reference: Grd Survey Calculation Method: Minimum Curvature Database: EDM 5000.1 Single User Db									
Project: Paddock											
Site: Grizzly Bear 2H											
Well: Grizzly Bear 2H											
Wellbore: Grizzly Bear 2H											
Design: Grizzly Bear 2H											
Survey:											
MD: (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Northing (usft)	Easting (usft)	V. Sec (usft)	DLeg (°/100usft)	
7,330.0	91.80	267.80	3,895.6	-167.3	37.9	-3,651.6	677,427.98	602,637.81	3,651.75	0.84	
7,373.0	91.10	269.60	3,894.5	-166.2	37.0	-3,694.6	677,427.01	602,594.84	3,694.70	4.49	
7,417.0	90.90	269.20	3,893.7	-165.4	36.5	-3,738.5	677,426.54	602,550.85	3,738.68	1.02	
7,460.0	90.60	269.20	3,893.1	-164.8	35.9	-3,781.5	677,425.94	602,507.86	3,781.66	0.70	
7,503.0	91.10	269.50	3,892.5	-164.2	35.4	-3,824.5	677,425.46	602,464.87	3,824.64	1.36	
7,546.0	91.00	270.60	3,891.7	-163.4	35.4	-3,867.5	677,425.49	602,421.88	3,867.63	2.57	
7,589.0	90.60	270.40	3,891.1	-162.8	35.8	-3,910.5	677,425.87	602,378.89	3,910.62	1.04	
7,632.0	90.20	270.10	3,890.8	-162.5	36.0	-3,953.5	677,426.06	602,335.90	3,953.62	1.16	
7,675.0	91.30	271.30	3,890.3	-162.0	36.5	-3,996.5	677,426.58	602,292.91	3,996.61	3.79	
7,718.0	91.60	271.60	3,889.2	-160.9	37.6	-4,039.5	677,427.67	602,249.94	4,039.60	0.99	
7,761.0	91.50	270.60	3,888.0	-159.7	38.4	-4,082.5	677,428.49	602,206.97	4,082.58	2.34	
7,804.0	91.80	270.90	3,886.8	-158.5	39.0	-4,125.4	677,429.06	602,164.00	4,125.56	0.99	
7,847.0	92.20	270.80	3,885.3	-157.0	39.6	-4,168.4	677,429.69	602,121.03	4,168.54	0.96	
7,890.0	92.20	270.70	3,883.6	-155.3	40.2	-4,211.4	677,430.26	602,078.07	4,211.50	0.23	
7,933.0	92.60	271.10	3,881.8	-153.5	40.9	-4,254.3	677,430.93	602,035.12	4,254.47	1.31	
7,976.0	93.10	271.30	3,879.7	-151.4	41.8	-4,297.3	677,431.83	601,992.18	4,297.41	1.25	
8,019.0	92.80	271.20	3,877.5	-149.2	42.7	-4,340.2	677,432.77	601,949.25	4,340.35	0.74	
8,062.0	92.00	270.90	3,875.7	-147.4	43.5	-4,383.1	677,433.55	601,906.30	4,383.32	1.99	
8,105.0	91.40	271.10	3,874.4	-146.1	44.3	-4,426.1	677,434.30	601,863.33	4,426.30	1.47	
8,148.0	91.00	270.80	3,873.5	-145.2	45.0	-4,469.1	677,435.02	601,820.35	4,469.29	1.16	
8,191.0	90.70	270.30	3,872.8	-144.5	45.4	-4,512.1	677,435.43	601,777.36	4,512.28	1.36	
8,234.0	90.20	270.90	3,872.5	-144.2	45.8	-4,555.1	677,435.88	601,734.37	4,555.28	1.82	
8,277.0	90.80	270.70	3,872.1	-143.8	46.4	-4,598.1	677,436.48	601,691.38	4,598.28	1.47	
8,320.0	91.00	270.10	3,871.5	-143.2	46.7	-4,641.1	677,436.78	601,648.39	4,641.27	1.47	
8,363.0	90.50	269.40	3,870.9	-142.6	46.5	-4,684.1	677,436.59	601,605.40	4,684.26	2.00	
8,414.0	90.50	269.40	3,870.4	-142.1	46.0	-4,735.1	677,436.06	601,554.41	4,735.24	0.00	

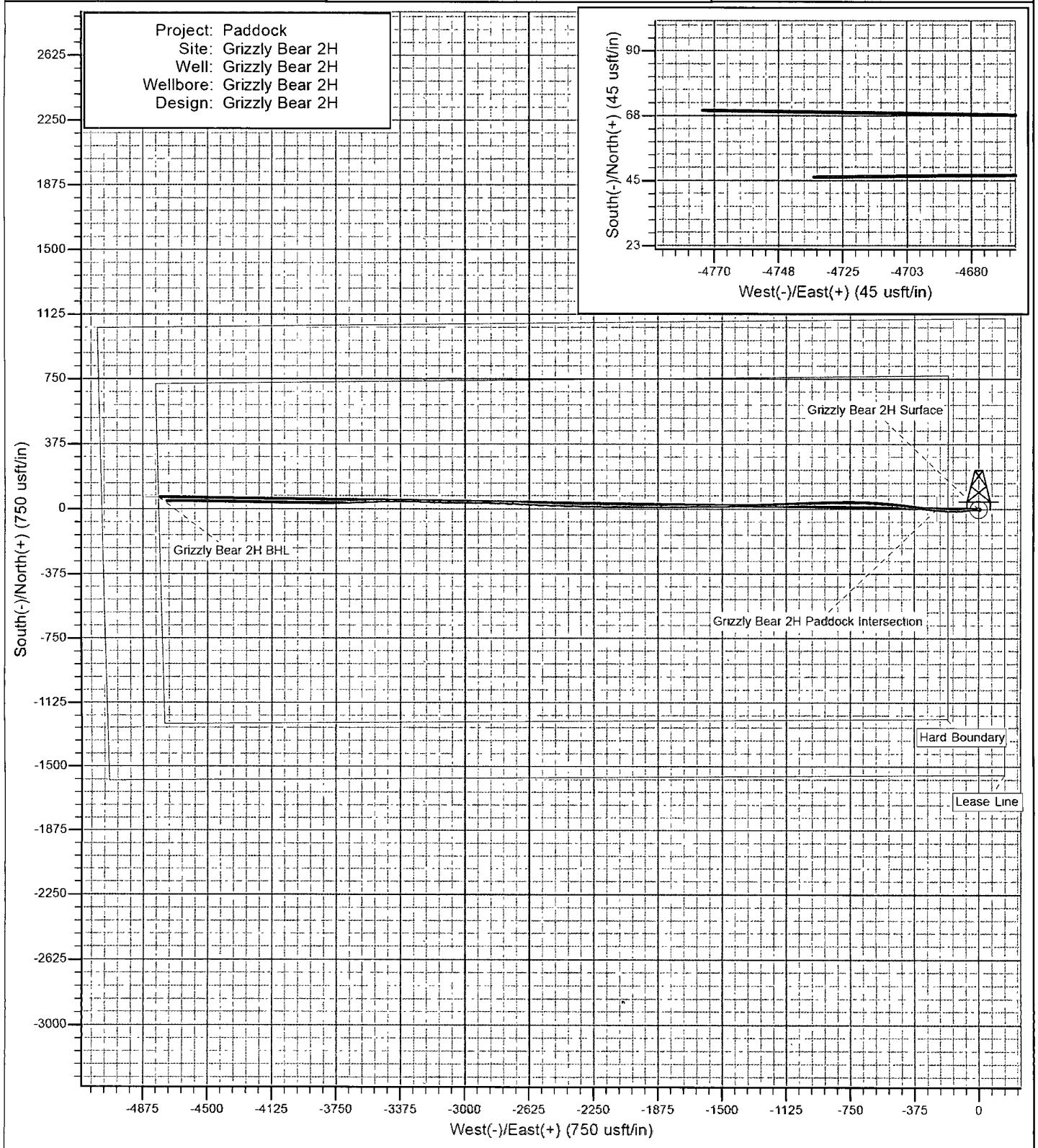
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Site:	Grizzly Bear 2H	MD Reference:	WELL @ 3728 3usft (HWD 4)
Well:	Grizzly Bear 2H	North Reference:	Grid
Wellbore:	Grizzly Bear 2H	Survey Calculation Method:	Minimum Curvature
Design:	Grizzly Bear 2H	Database:	EDM 5000 1 Single User Db

Casing Points					
Measured Depth (usft)	Vertical Depth (usft)	Name	Casing Diameter (")	Hole Diameter (")	
52.0	52.0	14" Conductor	14	15	
377.0	377.0	9 5/8" Surface Casing	9-5/8	12-1/4	
3,885.0	3,823.8	7"	7	8-3/4	

Formations					
Measured Depth (usft)	Vertical Depth (usft)	Name	Lithology	Dip (°)	Dip Direction (°)
2,403.0	2,402.9	San Andres		0.00	
3,797.0	3,759.9	Glorietta		0.00	
1,066.0	1,065.9	Seven Rivers		0.00	
1,615.0	1,614.9	Queen		0.00	

Checked By: _____	Approved By: _____	Date: _____
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 Azimuths to Grid North True North -0.12° Magnetic North 7.67° Magnetic Field Strength 48902.2snT Dip Angle 60.69° Date 10/03/2012 Model: IGRF200510	COMPANY DETAILS: Murchison Oil and Gas	PROJECT DETAILS: Paddock
	Drilling Calculation Method: Minimum Curvature Error System: ISCWSA Scan Method: Closest Approach 3D Error Surface: Elliptical Conic Warning Method: Error Ratio	Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: New Mexico Eastern Zone System Datum: Mean Sea Level



	Azimuths to Grd North True North: -0.12° Magnetic North: 7.67° Magnetic Field Strength: 48902 2snT Dip Angle: 60.69° Date: 10/03/2012 Model: IGRF200510	COMPANY DETAILS: Murchison Oil and Gas Drilling Calculation Method: Minimum Curvature Error System: ISCWSA Scan Method: Closest Approach 3D Error Surface: Elliptical Conic Warning Method: Error Ratio	PROJECT DETAILS: Paddock Geodetic System: US State Plane 1983 Datum: North American Datum 1983 Ellipsoid: GRS 1980 Zone: New Mexico Eastern Zone System Datum: Mean Sea Level
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