



END OF WELL REPORT

Prepared For:

**Kerr-McGee Oil & Gas Onshore LP
SPARBOE 37-35HZ PAD
SPARBOE 48E-26HZX
WELD,CO**

***Prepared By
Robert Scott, Denver Well Planner
Scientific Drilling
Rocky Mountain Region***

Scientific Drilling International
7237 W. Barton Rd., Casper, WY 82604
P.O. Box 1600, Mills, WY 82644
(307) 472-6621
robert.scott@scientificdrilling.com



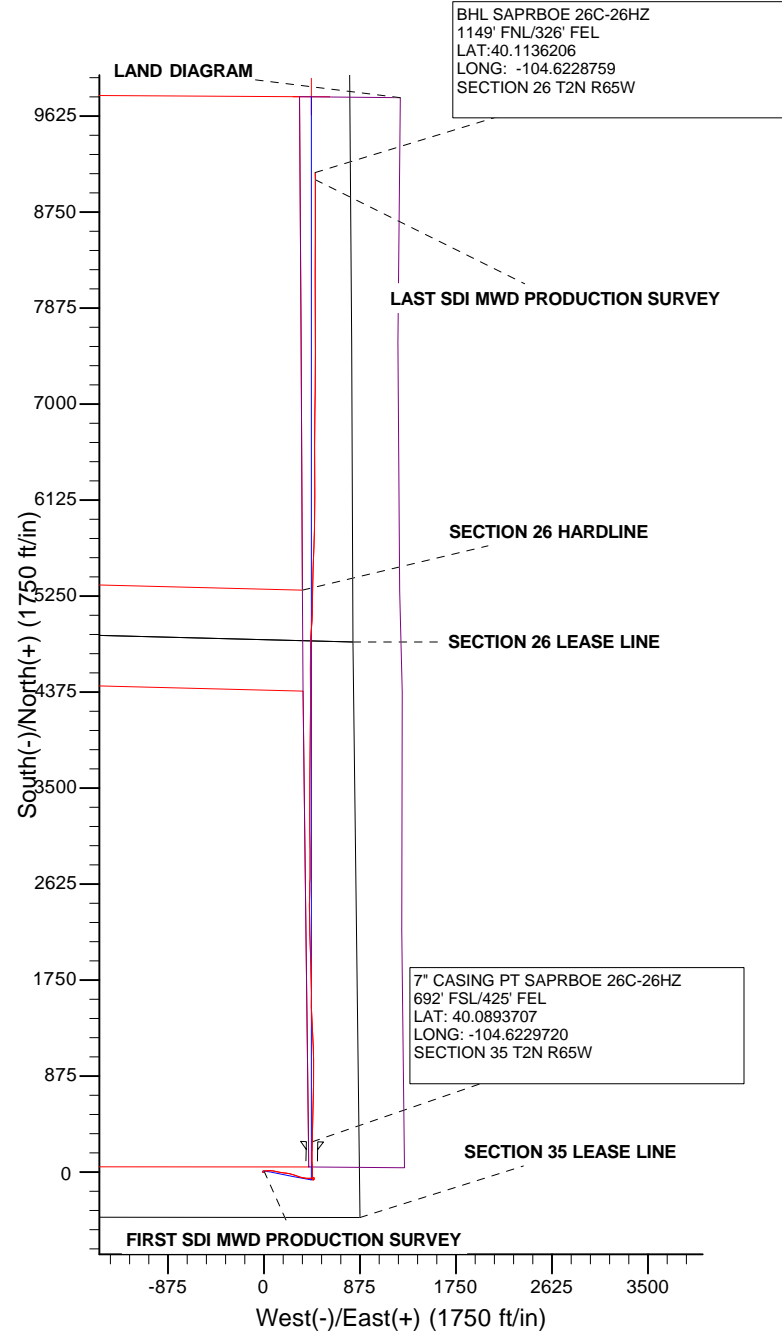
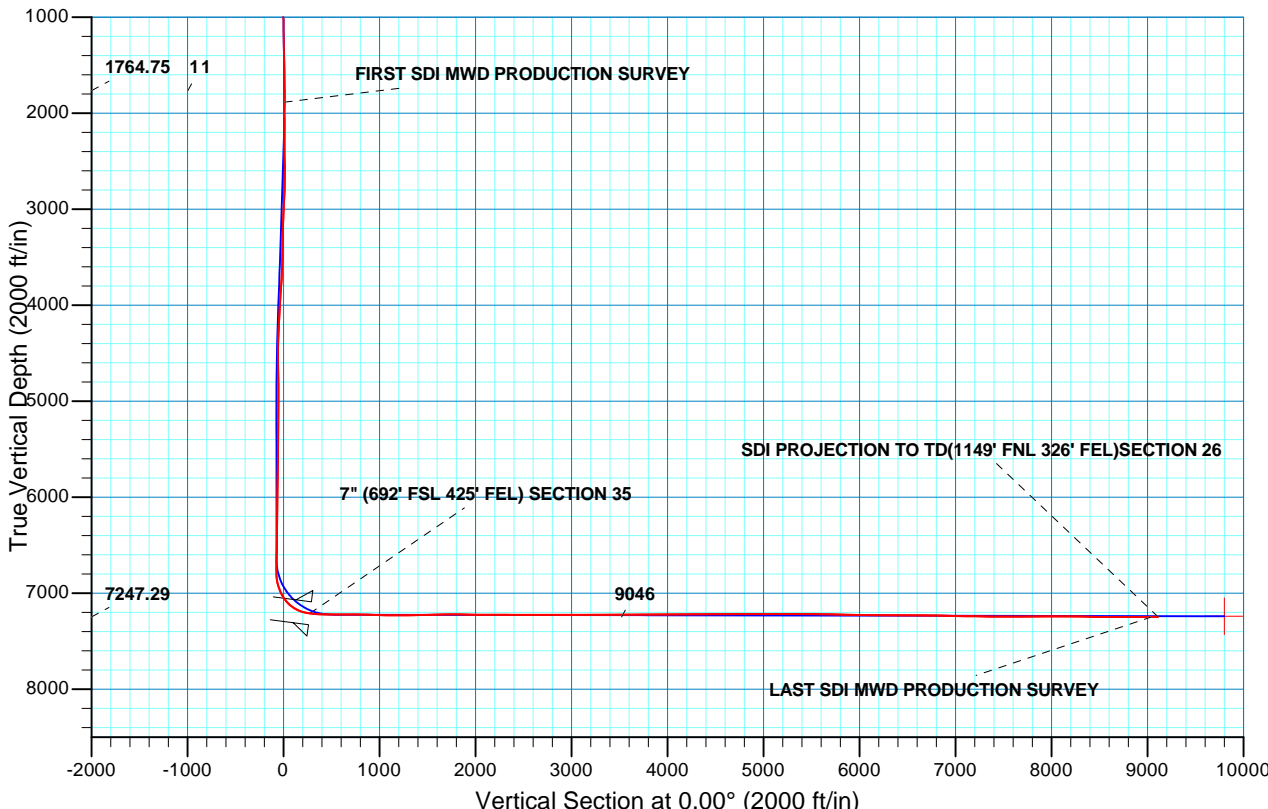
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WELL DETAILS: SPARBOE 26C-26HZ

GL 4946 & KB 25 @ 4971.00ft (HP 311)

+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
0.00	0.00	1276334.40	3244938.93	40.0886100	-104.6245460





Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

SPARBOE 37-35HZ

SPARBOE 26C-26HZ

OH

Design: OH

Standard Survey Report

04 April, 2013

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well SPARBOE 26C-26HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Site:	SPARBOE 37-35HZ	MD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Well:	SPARBOE 26C-26HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site	SPARBOE 37-35HZ, SECTION 26 T2N R65W				
Site Position:		Northing:	1,276,334.39 usft	Latitude:	40.0886100
From:	Lat/Long	Easting:	3,244,938.93 usft	Longitude:	-104.6245460
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.57 °

Well	SPARBOE 26C-26HZ, 399 FSL 859 FEL					
Well Position	+N/-S	0.00 ft	Northing:	1,276,334.39 usft	Latitude:	40.0886100
	+E/-W	0.00 ft	Easting:	3,244,938.93 usft	Longitude:	-104.6245460
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,946.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	2013/02/05	8.60	66.74	52,718

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00		0.00

Survey Program	Date	2013/04/04			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
25.00	1,765.00	Survey #1 MS GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,886.00	16,270.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI_MWD+CRUST_1.0	SDI MWD + Crustal anomaly, Version 1.0	

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)	
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
25.00	0.00	0.00	25.00	0.00	0.00	0.00	0.00	0.00	0.00	
125.00	0.41	236.75	125.00	-0.20	-0.30	-0.20	0.41	0.41	0.00	
FIRST MS GYRO SURVEY										
225.00	0.61	200.74	225.00	-0.89	-0.79	-0.89	0.37	0.20	-36.01	
325.00	0.65	224.93	324.99	-1.79	-1.38	-1.79	0.27	0.04	24.19	
425.00	0.59	261.17	424.98	-2.27	-2.29	-2.27	0.39	-0.06	36.24	
525.00	0.80	288.47	524.98	-2.13	-3.46	-2.13	0.39	0.21	27.30	
625.00	1.08	281.05	624.96	-1.73	-5.04	-1.73	0.30	0.28	-7.42	
725.00	0.89	272.65	724.95	-1.51	-6.74	-1.51	0.24	-0.19	-8.40	

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well SPARBOE 26C-26HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Site:	SPARBOE 37-35HZ	MD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Well:	SPARBOE 26C-26HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
825.00	0.84	295.21	824.94	-1.16	-8.18	-1.16	0.34	-0.05	22.56
925.00	0.73	306.30	924.93	-0.47	-9.36	-0.47	0.19	-0.11	11.09
1,025.00	0.85	312.65	1,024.92	0.41	-10.42	0.41	0.15	0.12	6.35
1,125.00	0.78	342.15	1,124.91	1.56	-11.17	1.56	0.42	-0.07	29.50
1,225.00	1.09	15.75	1,224.90	3.12	-11.12	3.12	0.62	0.31	33.60
1,325.00	1.23	15.59	1,324.88	5.07	-10.58	5.07	0.14	0.14	-0.16
1,425.00	1.21	30.90	1,424.85	7.01	-9.75	7.01	0.33	-0.02	15.31
1,525.00	1.45	53.45	1,524.83	8.67	-8.19	8.67	0.57	0.24	22.55
1,625.00	1.34	59.61	1,624.80	10.01	-6.16	10.01	0.19	-0.11	6.16
1,725.00	1.49	81.59	1,724.77	10.80	-3.87	10.80	0.56	0.15	21.98
1,765.00	1.73	93.71	1,764.75	10.83	-2.75	10.83	1.04	0.60	30.30
LAST MS GYRO SURVEY									
1,886.00	1.14	115.48	1,885.71	10.20	0.16	10.20	0.66	-0.49	17.99
FIRST SDI MWD PRODUCTION SURVEY									
2,070.00	2.92	76.69	2,069.60	10.49	6.37	10.49	1.17	0.97	-21.08
2,254.00	5.28	100.20	2,253.13	10.07	19.27	10.07	1.55	1.28	12.78
2,438.00	6.14	73.54	2,436.24	11.36	37.04	11.36	1.50	0.47	-14.49
2,622.00	7.42	82.79	2,618.96	15.64	58.27	15.64	0.91	0.70	5.03
2,806.00	10.33	105.68	2,800.79	12.67	85.95	12.67	2.46	1.58	12.44
2,995.00	10.70	106.36	2,986.62	3.15	119.10	3.15	0.21	0.20	0.36
3,184.00	10.63	98.65	3,172.36	-4.42	153.17	-4.42	0.76	-0.04	-4.08
3,373.00	10.35	94.85	3,358.21	-8.47	187.32	-8.47	0.39	-0.15	-2.01
3,562.00	9.90	94.66	3,544.26	-11.23	220.43	-11.23	0.24	-0.24	-0.10
3,751.00	10.87	110.33	3,730.20	-18.74	253.35	-18.74	1.57	0.51	8.29
3,940.00	9.81	109.08	3,916.13	-30.20	285.27	-30.20	0.57	-0.56	-0.66
4,129.00	10.26	109.04	4,102.24	-40.95	316.40	-40.95	0.24	0.24	-0.02
4,318.00	11.82	102.79	4,287.74	-50.73	351.19	-50.73	1.04	0.83	-3.31
4,507.00	12.88	93.77	4,472.38	-56.40	391.09	-56.40	1.16	0.56	-4.77
4,696.00	9.01	80.52	4,657.94	-55.35	426.73	-55.35	2.43	-2.05	-7.01
4,885.00	4.18	79.86	4,845.63	-51.70	448.12	-51.70	2.56	-2.56	-0.35
5,074.00	0.60	130.82	5,034.44	-51.13	455.65	-51.13	2.03	-1.89	26.96
5,263.00	0.83	146.15	5,223.43	-52.91	457.16	-52.91	0.16	0.12	8.11
5,453.00	0.95	194.60	5,413.41	-55.58	457.53	-55.58	0.39	0.06	25.50
5,642.00	0.26	185.18	5,602.40	-57.52	457.10	-57.52	0.37	-0.37	-4.98
5,831.00	1.25	133.60	5,791.38	-59.37	458.55	-59.37	0.59	0.52	-27.29
6,020.00	0.74	174.30	5,980.35	-62.01	460.17	-62.01	0.45	-0.27	21.53
6,209.00	1.24	210.98	6,169.33	-64.98	459.24	-64.98	0.41	0.26	19.41
6,398.00	1.19	280.48	6,358.29	-66.37	456.25	-66.37	0.73	-0.03	36.77
6,587.00	1.49	215.80	6,547.25	-68.01	452.89	-68.01	0.77	0.16	-34.22
6,776.00	2.52	209.39	6,736.13	-73.62	449.41	-73.62	0.56	0.54	-3.39
6,866.00	4.91	330.91	6,826.02	-71.98	446.56	-71.98	7.32	2.66	135.02
6,897.00	8.74	347.90	6,856.80	-68.52	445.42	-68.52	13.84	12.35	54.81
6,929.00	12.49	355.98	6,888.25	-62.68	444.67	-62.68	12.58	11.72	25.25

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well SPARBOE 26C-26HZ
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Site:	SPARBOE 37-35HZ	MD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Well:	SPARBOE 26C-26HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
6,960.00	16.40	358.76	6,918.26	-54.96	444.34	-54.96	12.81	12.61	8.97
6,992.00	19.80	359.26	6,948.68	-45.02	444.17	-45.02	10.64	10.63	1.56
7,024.00	23.43	359.28	6,978.42	-33.24	444.02	-33.24	11.34	11.34	0.06
7,055.00	26.87	359.32	7,006.48	-20.07	443.86	-20.07	11.10	11.10	0.13
7,087.00	30.10	359.32	7,034.60	-4.81	443.68	-4.81	10.09	10.09	0.00
7,118.00	34.64	358.28	7,060.78	11.78	443.33	11.78	14.75	14.65	-3.35
7,150.00	39.77	357.39	7,086.25	31.11	442.59	31.11	16.12	16.03	-2.78
7,181.00	45.50	356.09	7,109.05	52.06	441.38	52.06	18.70	18.48	-4.19
7,213.00	51.12	355.80	7,130.33	75.89	439.69	75.89	17.58	17.56	-0.91
7,244.00	56.40	356.97	7,148.65	100.83	438.12	100.83	17.30	17.03	3.77
7,276.00	60.74	359.95	7,165.33	128.12	437.40	128.12	15.72	13.56	9.31
7,307.00	65.61	1.68	7,179.32	155.77	437.81	155.77	16.48	15.71	5.58
7,339.00	70.41	1.87	7,191.30	185.42	438.73	185.42	15.01	15.00	0.59
7,370.00	75.96	0.80	7,200.26	215.07	439.41	215.07	18.21	17.90	-3.45
7,401.00	81.06	0.89	7,206.43	245.44	439.86	245.44	16.45	16.45	0.29
7,433.00	82.43	1.01	7,211.03	277.10	440.39	277.10	4.31	4.29	0.37
7" (692' FSL 425' FEL) SECTION 35									
7,549.00	87.41	1.43	7,221.29	392.58	442.84	392.58	4.31	4.29	0.36
7,738.00	90.98	1.58	7,223.95	581.47	447.81	581.47	1.89	1.89	0.08
7,927.00	89.19	1.25	7,223.67	770.40	452.47	770.40	0.96	-0.95	-0.17
8,111.00	88.25	359.61	7,227.78	954.34	453.85	954.34	1.03	-0.51	-0.89
8,294.00	89.39	357.68	7,231.55	1,137.24	449.53	1,137.24	1.22	0.62	-1.05
8,477.00	90.84	357.12	7,231.18	1,320.05	441.23	1,320.05	0.85	0.79	-0.31
8,661.00	91.95	358.12	7,226.70	1,503.83	433.59	1,503.83	0.81	0.60	0.54
8,846.00	91.17	0.40	7,221.66	1,688.73	431.20	1,688.73	1.30	-0.42	1.23
8,966.00	88.72	358.88	7,221.78	1,808.72	430.45	1,808.72	2.40	-2.04	-1.27
9,155.00	88.93	358.48	7,225.65	1,997.63	426.09	1,997.63	0.24	0.11	-0.21
9,344.00	90.91	357.67	7,225.92	2,186.51	419.74	2,186.51	1.13	1.05	-0.43
9,533.00	88.52	359.73	7,226.86	2,375.43	415.46	2,375.43	1.67	-1.26	1.09
9,722.00	91.35	1.88	7,227.07	2,564.38	418.11	2,564.38	1.88	1.50	1.14
9,903.00	89.97	359.83	7,224.99	2,745.34	420.81	2,745.34	1.37	-0.76	-1.13
10,086.00	89.26	0.02	7,226.22	2,928.33	420.57	2,928.33	0.40	-0.39	0.10
10,269.00	90.64	359.26	7,226.38	3,111.32	419.42	3,111.32	0.86	0.75	-0.42
10,453.00	90.70	0.12	7,224.23	3,295.31	418.43	3,295.31	0.47	0.03	0.47
10,636.00	90.30	359.76	7,222.63	3,478.30	418.24	3,478.30	0.29	-0.22	-0.20
10,819.00	89.76	0.59	7,222.53	3,661.29	418.79	3,661.29	0.54	-0.30	0.45
11,004.00	89.43	1.23	7,223.84	3,846.27	421.73	3,846.27	0.39	-0.18	0.35
11,189.00	90.54	0.09	7,223.89	4,031.25	423.86	4,031.25	0.86	0.60	-0.62
11,375.00	90.44	0.21	7,222.30	4,217.24	424.35	4,217.24	0.08	-0.05	0.06
11,559.00	91.14	359.52	7,219.76	4,401.22	423.92	4,401.22	0.53	0.38	-0.38
11,743.00	88.56	0.50	7,220.24	4,585.20	423.95	4,585.20	1.50	-1.40	0.53
11,927.00	91.21	0.31	7,220.61	4,769.18	425.25	4,769.18	1.44	1.44	-0.10
12,111.00	90.94	4.80	7,217.16	4,952.92	433.45	4,952.92	2.44	-0.15	2.44
12,295.00	90.54	0.72	7,214.78	5,136.65	442.31	5,136.65	2.23	-0.22	-2.22

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well SPARBOE 26C-26HZ
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Site:	SPARBOE 37-35HZ	MD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Well:	SPARBOE 26C-26HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Vertical Section (ft)	Dogleg Rate (°/100ft)	Build Rate (°/100ft)	Turn Rate (°/100ft)
12,479.00	89.36	0.86	7,214.94	5,320.63	444.84	5,320.63	0.65	-0.64	0.08
12,668.00	88.99	1.53	7,217.66	5,509.57	448.78	5,509.57	0.40	-0.20	0.35
12,857.00	88.73	2.26	7,221.42	5,698.42	455.03	5,698.42	0.41	-0.14	0.39
13,045.00	88.49	1.06	7,225.98	5,886.29	460.48	5,886.29	0.65	-0.13	-0.64
13,234.00	89.87	1.20	7,228.69	6,075.23	464.20	6,075.23	0.73	0.73	0.07
13,423.00	89.33	359.19	7,230.01	6,264.21	464.85	6,264.21	1.10	-0.29	-1.06
13,612.00	90.00	359.78	7,231.11	6,453.20	463.15	6,453.20	0.47	0.35	0.31
13,801.00	89.73	0.19	7,231.56	6,642.20	463.10	6,642.20	0.26	-0.14	0.22
13,990.00	88.22	0.15	7,234.94	6,831.16	463.66	6,831.16	0.80	-0.80	-0.02
14,179.00	88.93	1.39	7,239.64	7,020.08	466.20	7,020.08	0.76	0.38	0.66
14,368.00	89.97	0.29	7,241.45	7,209.04	468.97	7,209.04	0.80	0.55	-0.58
14,557.00	89.56	0.40	7,242.23	7,398.04	470.11	7,398.04	0.22	-0.22	0.06
14,746.00	89.36	359.59	7,244.01	7,587.03	470.09	7,587.03	0.44	-0.11	-0.43
14,935.00	90.27	359.69	7,244.62	7,776.02	468.90	7,776.02	0.48	0.48	0.05
15,124.00	91.27	359.25	7,242.08	7,964.99	467.16	7,964.99	0.58	0.53	-0.23
15,313.00	89.29	0.94	7,241.16	8,153.97	467.47	8,153.97	1.38	-1.05	0.89
15,502.00	88.35	359.93	7,245.05	8,342.92	468.90	8,342.92	0.73	-0.50	-0.53
15,691.00	89.56	0.06	7,248.50	8,531.89	468.89	8,531.89	0.64	0.64	0.07
15,881.00	90.37	0.39	7,248.61	8,721.89	469.63	8,721.89	0.46	0.43	0.17
16,070.00	89.93	0.10	7,248.12	8,910.88	470.44	8,910.88	0.28	-0.23	-0.15
16,205.00	90.77	358.50	7,247.29	9,045.87	468.79	9,045.87	1.34	0.62	-1.19
LAST SDI MWD PRODUCTION SURVEY									
16,270.00	90.77	358.50	7,246.42	9,110.84	467.09	9,110.84	0.00	0.00	0.00
SDI PROJECTION TO TD(1149' FNL 326' FEL)SECTION 26									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
7,433.00	7,211.03	7" (692' FSL 425' FEL) SECTION 35	7.000	7.500	

Design Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
125.00	125.00	-0.20	-0.30	FIRST MS GYRO SURVEY	
1,765.00	1,764.75	10.83	-2.75	LAST MS GYRO SURVEY	
1,886.00	1,885.71	10.20	0.16	FIRST SDI MWD PRODUCTION SURVEY	
16,205.00	7,247.29	9,045.87	468.79	LAST SDI MWD PRODUCTION SURVEY	
16,270.00	7,246.42	9,110.84	467.09	SDI PROJECTION TO TD(1149' FNL 326' FEL)SECTION 26	

Checked By: _____	Approved By: _____	Date: _____
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Scientific Drilling

US ROCKIES REGION PLANNING

COLORADO NORTHERN ZONE - 83

SPARBOE 37-35HZ

SPARBOE 26C-26HZ

OH

Survey: Survey #2 SDI MWD PRODUCTION

Survey Report - Geographic

04 April, 2013

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well SPARBOE 26C-26HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Site:	SPARBOE 37-35HZ	MD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Well:	SPARBOE 26C-26HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

Project	COLORADO NORTHERN ZONE - 83, KERR MCGEE OIL & GAS ONSHORE LP		
Map System:	US State Plane 1983	System Datum:	Mean Sea Level
Geo Datum:	North American Datum 1983		
Map Zone:	Colorado Northern Zone		

Site		SPARBOE 37-35HZ, SECTION 26 T2N R65W			
Site Position:		Northing:	1,276,334.39 usft	Latitude:	40.0886100
From:	Lat/Long	Easting:	3,244,938.93 usft	Longitude:	-104.6245460
Position Uncertainty:	0.00 ft	Slot Radius:	13.200 in	Grid Convergence:	0.57 °

Well	SPARBOE 26C-26HZ, 399 FSL 859 FEL					
Well Position	+N/-S	0.00 ft	Northing:	1,276,334.39 usft	Latitude:	40.0886100
	+E/-W	0.00 ft	Easting:	3,244,938.93 usft	Longitude:	-104.6245460
Position Uncertainty		0.00 ft	Wellhead Elevation:	ft	Ground Level:	4,946.00 ft

Wellbore	OH				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2012	2013/02/05	8.60	66.74	52,718

Design	OH				
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	0.00
Vertical Section:	Depth From (TVD) (ft)	+N/-S (ft)	+E/-W (ft)	Direction (°)	
	0.00	0.00	0.00		0.00

Survey Program	Date	2013/04/04			
From (ft)	To (ft)	Survey (Wellbore)	Tool Name	Description	
25.00	1,765.00	Survey #1 MS GYRO (OH)	NS-GYRO-MS	North sensing gyrocompassing m/s	
1,886.00	16,270.00	Survey #2 SDI MWD PRODUCTION (OH)	SDI_MWD+CRUST_1.0	SDI MWD + Crustal anomaly, Version 1.0	

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,765.00	1.73	93.71	1,764.75	10.83	-2.75	1,276,345.20	3,244,936.07	40.0886398	-104.6245558
1,886.00	1.14	115.48	1,885.71	10.20	0.16	1,276,344.59	3,244,938.99	40.0886380	-104.6245454
FIRST SDI MWD PRODUCTION SURVEY									
2,070.00	2.92	76.69	2,069.60	10.49	6.37	1,276,344.95	3,244,945.20	40.0886388	-104.6245232
2,254.00	5.28	100.20	2,253.13	10.07	19.27	1,276,344.65	3,244,958.10	40.0886377	-104.6244771
2,438.00	6.14	73.54	2,436.24	11.36	37.04	1,276,346.12	3,244,975.86	40.0886412	-104.6244136
2,622.00	7.42	82.79	2,618.96	15.64	58.27	1,276,350.61	3,244,997.04	40.0886529	-104.6243377
2,806.00	10.33	105.68	2,800.79	12.67	85.95	1,276,347.91	3,245,024.75	40.0886448	-104.6242388
2,995.00	10.70	106.36	2,986.62	3.15	119.10	1,276,338.72	3,245,058.00	40.0886187	-104.6241203
3,184.00	10.63	98.65	3,172.36	-4.42	153.17	1,276,331.49	3,245,092.14	40.0885979	-104.6239985
3,373.00	10.35	94.85	3,358.21	-8.47	187.32	1,276,327.77	3,245,126.33	40.0885868	-104.6238765

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Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Site:	SPARBOE 37-35HZ	MD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Well:	SPARBOE 26C-26HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
3,562.00	9.90	94.66	3,544.26	-11.23	220.43	1,276,325.34	3,245,159.47	40.0885792	-104.6237581
3,751.00	10.87	110.33	3,730.20	-18.74	253.35	1,276,318.15	3,245,192.45	40.0885586	-104.6236405
3,940.00	9.81	109.08	3,916.13	-30.20	285.27	1,276,307.01	3,245,224.49	40.0885271	-104.6235264
4,129.00	10.26	109.04	4,102.24	-40.95	316.40	1,276,296.57	3,245,255.72	40.0884976	-104.6234151
4,318.00	11.82	102.79	4,287.74	-50.73	351.19	1,276,287.13	3,245,290.61	40.0884708	-104.6232908
4,507.00	12.88	93.77	4,472.38	-56.40	391.09	1,276,281.86	3,245,330.56	40.0884552	-104.6231482
4,696.00	9.01	80.52	4,657.94	-55.35	426.73	1,276,283.26	3,245,366.19	40.0884581	-104.6230208
4,885.00	4.18	79.86	4,845.63	-51.70	448.12	1,276,287.13	3,245,387.54	40.0884681	-104.6229444
5,074.00	0.60	130.82	5,034.44	-51.13	455.65	1,276,287.77	3,245,395.07	40.0884696	-104.6229174
5,263.00	0.83	146.15	5,223.43	-52.91	457.16	1,276,286.00	3,245,396.60	40.0884648	-104.6229120
5,453.00	0.95	194.60	5,413.41	-55.58	457.53	1,276,283.33	3,245,396.99	40.0884574	-104.6229107
5,642.00	0.26	185.18	5,602.40	-57.52	457.10	1,276,281.39	3,245,396.58	40.0884521	-104.6229123
5,831.00	1.25	133.60	5,791.38	-59.37	458.55	1,276,279.55	3,245,398.05	40.0884470	-104.6229071
6,020.00	0.74	174.30	5,980.35	-62.01	460.17	1,276,276.93	3,245,399.69	40.0884398	-104.6229013
6,209.00	1.24	210.98	6,169.33	-64.98	459.24	1,276,273.96	3,245,398.79	40.0884316	-104.6229046
6,398.00	1.19	280.48	6,358.29	-66.37	456.25	1,276,272.53	3,245,395.82	40.0884278	-104.6229153
6,587.00	1.49	215.80	6,547.25	-68.01	452.89	1,276,270.86	3,245,392.47	40.0884233	-104.6229273
6,776.00	2.52	209.39	6,736.13	-73.62	449.41	1,276,265.21	3,245,389.05	40.0884079	-104.6229397
6,866.00	4.91	330.91	6,826.02	-71.98	446.56	1,276,266.83	3,245,386.18	40.0884124	-104.6229499
6,897.00	8.74	347.90	6,856.80	-68.52	445.42	1,276,270.28	3,245,385.01	40.0884219	-104.6229540
6,929.00	12.49	355.98	6,888.25	-62.68	444.67	1,276,276.10	3,245,384.20	40.0884379	-104.6229567
6,960.00	16.40	358.76	6,918.26	-54.96	444.34	1,276,283.82	3,245,383.79	40.0884591	-104.6229579
6,992.00	19.80	359.26	6,948.68	-45.02	444.17	1,276,293.76	3,245,383.53	40.0884864	-104.6229585
7,024.00	23.43	359.28	6,978.42	-33.24	444.02	1,276,305.54	3,245,383.26	40.0885188	-104.6229590
7,055.00	26.87	359.32	7,006.48	-20.07	443.86	1,276,318.71	3,245,382.97	40.0885549	-104.6229596
7,087.00	30.10	359.32	7,034.60	-4.81	443.68	1,276,333.97	3,245,382.64	40.0885968	-104.6229602
7,118.00	34.64	358.28	7,060.78	11.78	443.33	1,276,350.55	3,245,382.12	40.0886423	-104.6229615
7,150.00	39.77	357.39	7,086.25	31.11	442.59	1,276,369.87	3,245,381.19	40.0886954	-104.6229641
7,181.00	45.50	356.09	7,109.05	52.06	441.38	1,276,390.81	3,245,379.78	40.0887529	-104.6229684
7,213.00	51.12	355.80	7,130.33	75.89	439.69	1,276,414.62	3,245,377.85	40.0888183	-104.6229745
7,244.00	56.40	356.97	7,148.65	100.83	438.12	1,276,439.55	3,245,376.04	40.0888868	-104.6229801
7,276.00	60.74	359.95	7,165.33	128.12	437.40	1,276,466.82	3,245,375.05	40.0889617	-104.6229826
7,307.00	65.61	1.68	7,179.32	155.77	437.81	1,276,494.48	3,245,375.18	40.0890376	-104.6229812
7,339.00	70.41	1.87	7,191.30	185.42	438.73	1,276,524.13	3,245,375.80	40.0891190	-104.6229779
7,370.00	75.96	0.80	7,200.26	215.07	439.41	1,276,553.79	3,245,376.20	40.0892004	-104.6229755
7,401.00	81.06	0.89	7,206.43	245.44	439.86	1,276,584.16	3,245,376.35	40.0892838	-104.6229739
7,433.00	82.43	1.01	7,211.03	277.10	440.39	1,276,615.83	3,245,376.56	40.0893707	-104.6229720
7" (692' FSL 425' FEL) SECTION 35									
7,549.00	87.41	1.43	7,221.29	392.58	442.84	1,276,731.33	3,245,377.88	40.0896877	-104.6229632
7,738.00	90.98	1.58	7,223.95	581.47	447.81	1,276,920.25	3,245,380.98	40.0902062	-104.6229454
7,927.00	89.19	1.25	7,223.67	770.40	452.47	1,277,109.22	3,245,383.78	40.0907249	-104.6229287
8,111.00	88.25	359.61	7,227.78	954.34	453.85	1,277,293.17	3,245,383.34	40.0912298	-104.6229238
8,294.00	89.39	357.68	7,231.55	1,137.24	449.53	1,277,476.02	3,245,377.21	40.0917319	-104.6229392
8,477.00	90.84	357.12	7,231.18	1,320.05	441.23	1,277,658.73	3,245,367.10	40.0922337	-104.6229689
8,661.00	91.95	358.12	7,226.70	1,503.83	433.59	1,277,842.43	3,245,357.65	40.0927382	-104.6229962
8,846.00	91.17	0.40	7,221.66	1,688.73	431.20	1,278,027.30	3,245,353.44	40.0932458	-104.6230047
8,966.00	88.72	358.88	7,221.78	1,808.72	430.45	1,278,147.27	3,245,351.50	40.0935752	-104.6230074
9,155.00	88.93	358.48	7,225.65	1,997.63	426.09	1,278,336.13	3,245,345.28	40.0940938	-104.6230230
9,344.00	90.91	357.67	7,225.92	2,186.51	419.74	1,278,524.94	3,245,337.07	40.0946123	-104.6230456
9,533.00	88.52	359.73	7,226.86	2,375.43	415.46	1,278,713.81	3,245,330.92	40.0951309	-104.6230609
9,722.00	91.35	1.88	7,227.07	2,564.38	418.11	1,278,902.78	3,245,331.71	40.0956496	-104.6230514
9,903.00	89.97	359.83	7,224.99	2,745.34	420.81	1,279,083.75	3,245,332.62	40.0961464	-104.6230418
10,086.00	89.26	0.02	7,226.22	2,928.33	420.57	1,279,266.73	3,245,330.57	40.0966487	-104.6230426
10,269.00	90.64	359.26	7,226.38	3,111.32	419.42	1,279,449.70	3,245,327.62	40.0971511	-104.6230467
10,453.00	90.70	0.12	7,224.23	3,295.31	418.43	1,279,633.66	3,245,324.81	40.0976561	-104.6230503

Company:	US ROCKIES REGION PLANNING	Local Co-ordinate Reference:	Well SPARBOE 26C-26HZ
Project:	COLORADO NORTHERN ZONE - 83	TVD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Site:	SPARBOE 37-35HZ	MD Reference:	GL 4946 & KB 25 @ 4971.00ft (HP 311)
Well:	SPARBOE 26C-26HZ	North Reference:	True
Wellbore:	OH	Survey Calculation Method:	Minimum Curvature
Design:	OH	Database:	EDM5000-RobertS-Local

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
10,636.00	90.30	359.76	7,222.63	3,478.30	418.24	1,279,816.64	3,245,322.81	40.0981585	-104.6230509
10,819.00	89.76	0.59	7,222.53	3,661.29	418.79	1,279,999.64	3,245,321.56	40.0986608	-104.6230489
11,004.00	89.43	1.23	7,223.84	3,846.27	421.73	1,280,184.63	3,245,322.67	40.0991686	-104.6230384
11,189.00	90.54	0.09	7,223.89	4,031.25	423.86	1,280,369.62	3,245,322.98	40.0996764	-104.6230308
11,375.00	90.44	0.21	7,222.30	4,217.24	424.35	1,280,555.61	3,245,321.63	40.1001870	-104.6230290
11,559.00	91.14	359.52	7,219.76	4,401.22	423.92	1,280,739.58	3,245,319.38	40.1006920	-104.6230306
11,743.00	88.56	0.50	7,220.24	4,585.20	423.95	1,280,923.55	3,245,317.59	40.1011971	-104.6230305
11,927.00	91.21	0.31	7,220.61	4,769.18	425.25	1,281,107.53	3,245,317.08	40.1017021	-104.6230258
12,111.00	90.94	4.80	7,217.16	4,952.92	433.45	1,281,291.34	3,245,323.46	40.1022065	-104.6229965
12,295.00	90.54	0.72	7,214.78	5,136.65	442.31	1,281,475.15	3,245,330.50	40.1027109	-104.6229648
12,479.00	89.36	0.86	7,214.94	5,320.63	444.84	1,281,659.14	3,245,331.22	40.1032159	-104.6229557
12,668.00	88.99	1.53	7,217.66	5,509.57	448.78	1,281,848.11	3,245,333.30	40.1037346	-104.6229416
12,857.00	88.73	2.26	7,221.42	5,698.42	455.03	1,282,037.02	3,245,337.68	40.1042530	-104.6229193
13,045.00	88.49	1.06	7,225.98	5,886.29	460.48	1,282,224.93	3,245,341.27	40.1047688	-104.6228998
13,234.00	89.87	1.20	7,228.69	6,075.23	464.20	1,282,413.89	3,245,343.14	40.1052874	-104.6228865
13,423.00	89.33	359.19	7,230.01	6,264.21	464.85	1,282,602.88	3,245,341.91	40.1058062	-104.6228841
13,612.00	90.00	359.78	7,231.11	6,453.20	463.15	1,282,791.84	3,245,338.35	40.1063250	-104.6228902
13,801.00	89.73	0.19	7,231.56	6,642.20	463.10	1,282,980.82	3,245,336.43	40.1068438	-104.6228904
13,990.00	88.22	0.15	7,234.94	6,831.16	463.66	1,283,169.78	3,245,335.13	40.1073626	-104.6228884
14,179.00	88.93	1.39	7,239.64	7,020.08	466.20	1,283,358.72	3,245,335.80	40.1078812	-104.6228793
14,368.00	89.97	0.29	7,241.45	7,209.04	468.97	1,283,547.70	3,245,336.71	40.1083999	-104.6228693
14,557.00	89.56	0.40	7,242.23	7,398.04	470.11	1,283,736.70	3,245,335.98	40.1089187	-104.6228653
14,746.00	89.36	359.59	7,244.01	7,587.03	470.09	1,283,925.68	3,245,334.10	40.1094375	-104.6228653
14,935.00	90.27	359.69	7,244.62	7,776.02	468.90	1,284,114.65	3,245,331.04	40.1099564	-104.6228695
15,124.00	91.27	359.25	7,242.08	7,964.99	467.16	1,284,303.60	3,245,327.43	40.1104751	-104.6228758
15,313.00	89.29	0.94	7,241.16	8,153.97	467.47	1,284,492.57	3,245,325.88	40.1109939	-104.6228746
15,502.00	88.35	359.93	7,245.05	8,342.92	468.90	1,284,681.53	3,245,325.45	40.1115126	-104.6228695
15,691.00	89.56	0.06	7,248.50	8,531.89	468.89	1,284,870.48	3,245,323.57	40.1120313	-104.6228695
15,881.00	90.37	0.39	7,248.61	8,721.89	469.63	1,285,060.48	3,245,322.44	40.1125529	-104.6228669
16,070.00	89.93	0.10	7,248.12	8,910.88	470.44	1,285,249.47	3,245,321.38	40.1130717	-104.6228640
16,205.00	90.77	358.50	7,247.29	9,045.87	468.79	1,285,384.43	3,245,318.40	40.1134423	-104.6228699
LAST SDI MWD PRODUCTION SURVEY									
16,270.00	90.77	358.50	7,246.42	9,110.84	467.09	1,285,449.38	3,245,316.05	40.1136206	-104.6228759
SDI PROJECTION TO TD(1149' FNL 326' FEL)SECTION 26									

Casing Points					
Measured Depth (ft)	Vertical Depth (ft)	Name	Casing Diameter (in)	Hole Diameter (in)	
7,433.00	7,211.03	7" (692' FSL 425' FEL) SECTION 35	7.000	7.500	

Survey Annotations					
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates			
		+N/-S (ft)	+E/-W (ft)	Comment	
1,886.00	1,885.71	10.20	0.16	FIRST SDI MWD PRODUCTION SURVEY	
16,205.00	7,247.29	9,045.87	468.79	LAST SDI MWD PRODUCTION SURVEY	
16,270.00	7,246.42	9,110.84	467.09	SDI PROJECTION TO TD(1149' FNL 326' FEL)SECTION 26	

Checked By: _____ Approved By: _____ Date: _____