



Shell Gulf of Mexico Inc.

Off Shore Zone 3

Posey

OCS-Y-2321 #001 (Burger J)

OCS-Y-2321 #001

55-352-00004-00

Sperry Drilling Definitive Survey Report

07 October, 2015



HALLIBURTON

Sperry Drilling

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Definitive Survey Report

Company: Shell Gulf of Mexico Inc.	Local Co-ordinate Reference: Well OCS-Y-2321 #001 (Burger J)
Project: Off Shore Zone 3	TVD Reference: Burger J @ 76.00usft (Polar Pioneer)
Site: Posey	MD Reference: Burger J @ 76.00usft (Polar Pioneer)
Well: OCS-Y-2321 #001 (Burger J)	North Reference: Grid
Wellbore: OCS-Y-2321 #001 (Burger J)	Survey Calculation Method: Minimum Curvature
Design: Burger J	Database: Sperry EDM - NORTH US + CANADA

Project Off Shore Zone 3			
Map System: Universal Transverse Mercator	System Datum: Mean Sea Level		
Geo Datum: North American Datum 1983	Using Well Reference Point		
Map Zone: Zone 03N (168 W to 162 W)	Using geodetic scale factor		

Well OCS-Y-2321 #001 (Burger J), Exploration Well					
Well Position	+N/-S	0.00 usft	Northing:	7,897,425.31 m	Latitude: 71° 10' 24.059 N
	+E/-W	0.00 usft	Easting:	555,034.55 m	Longitude: 163° 28' 18.666 W
Position Uncertainty		0.00 usft	Wellhead Depth:	-76.00 usft	Water Depth: 146.00 usft

Wellbore OCS-Y-2321 #001 (Burger J)					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	BGGM2015	7/25/2015	12.40	80.32	57,374

Design Burger J					
Audit Notes:					
Version:	1.0	Phase:	ACTUAL	Tie On Depth:	222.00
Vertical Section:	Depth From (TVD) (usft)	+N/-S (usft)	+E/-W (usft)	Direction (°)	
	222.00	0.00	0.00	0.00	

Survey Program Date 10/7/2015						
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	Survey Date	
320.88	1,378.50	Burger J Surveys (OCS-Y-2321 #001 (Bu	MWD+SC	Fixed:v2:standard dec & axial correction	09/30/2015	
1,540.18	2,646.22	Burger J Surveys (OCS-Y-2321 #001 (Bu	MWD+SC	Fixed:v2:standard dec & axial correction	09/30/2015	
2,743.03	5,364.19	Burger J Surveys (OCS-Y-2321 #001 (Bu	MWD+SC	Fixed:v2:standard dec & axial correction	09/30/2015	
5,429.20	6,745.09	Burger J Surveys (OCS-Y-2321 #001 (Bu	MWD+SC	Fixed:v2:standard dec & axial correction	09/30/2015	

MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (ft)	Map Easting (ft)	DLS (°/100')	Vertical Section (ft)	Survey Tool Name
222.00	0.00	0.00	222.00	146.00	0.00	0.00	7,897,425.31	555,034.55	0.00	0.00	UNDEFINED
320.88	0.51	129.60	320.88	244.88	-0.28	0.34	7,897,425.22	555,034.65	0.52	-0.28	MWD+SC (1)
406.77	0.31	89.93	406.77	330.77	-0.52	0.87	7,897,425.15	555,034.81	0.39	-0.52	MWD+SC (1)
495.25	0.99	122.22	495.24	419.24	-0.93	1.75	7,897,425.03	555,035.08	0.84	-0.93	MWD+SC (1)
590.43	0.31	82.72	590.41	514.41	-1.34	2.70	7,897,424.90	555,035.37	0.82	-1.34	MWD+SC (1)
684.05	0.64	327.24	684.03	608.03	-0.87	2.67	7,897,425.05	555,035.36	0.88	-0.86	MWD+SC (1)
866.10	0.28	101.20	866.08	790.08	-0.10	2.56	7,897,425.28	555,035.33	0.47	-0.10	MWD+SC (1)
957.99	0.00	269.46	957.97	881.97	-0.14	2.78	7,897,425.27	555,035.40	0.30	-0.14	MWD+SC (1)
1,051.65	0.14	176.72	1,051.63	975.63	-0.25	2.78	7,897,425.23	555,035.40	0.15	-0.25	MWD+SC (1)
1,144.54	0.26	120.65	1,144.52	1,068.52	-0.48	2.97	7,897,425.17	555,035.46	0.23	-0.47	MWD+SC (1)
1,235.66	0.41	134.11	1,235.64	1,159.64	-0.81	3.38	7,897,425.06	555,035.58	0.18	-0.81	MWD+SC (1)

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Definitive Survey Report

Company:	Shell Gulf of Mexico Inc.	Local Co-ordinate Reference:	Well OCS-Y-2321 #001 (Burger J)
Project:	Off Shore Zone 3	TVD Reference:	Burger J @ 76.00usft (Polar Pioneer)
Site:	Posey	MD Reference:	Burger J @ 76.00usft (Polar Pioneer)
Well:	OCS-Y-2321 #001 (Burger J)	North Reference:	Grid
Wellbore:	OCS-Y-2321 #001 (Burger J)	Survey Calculation Method:	Minimum Curvature
Design:	Burger J	Database:	Sperry EDM - NORTH US + CANADA

Survey											
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (ft)	Map Easting (ft)	DLS (°/100')	Vertical Section (ft)	Survey Tool Name
1,328.60	0.51	59.75	1,328.57	1,252.57	-0.83	3.98	7,897,425.06	555,035.76	0.60	-0.83	MWD+SC (1)
1,378.50	0.25	111.62	1,378.47	1,302.47	-0.76	4.27	7,897,425.08	555,035.85	0.81	-0.76	MWD+SC (1)
1,540.18	0.12	50.83	1,540.15	1,464.15	-0.78	4.73	7,897,425.07	555,035.99	0.13	-0.78	MWD+SC (2)
1,723.74	0.39	34.99	1,723.71	1,647.71	-0.15	5.24	7,897,425.26	555,036.15	0.15	-0.15	MWD+SC (2)
1,818.58	0.58	50.01	1,818.55	1,742.55	0.42	5.79	7,897,425.44	555,036.31	0.24	0.42	MWD+SC (2)
2,003.18	1.06	39.81	2,003.13	1,927.13	2.34	7.60	7,897,426.02	555,036.87	0.27	2.34	MWD+SC (2)
2,095.93	0.87	35.51	2,095.86	2,019.86	3.57	8.56	7,897,426.40	555,037.16	0.22	3.57	MWD+SC (2)
2,186.15	0.69	72.12	2,186.08	2,110.08	4.29	9.47	7,897,426.62	555,037.44	0.58	4.29	MWD+SC (2)
2,373.34	0.75	76.36	2,373.25	2,297.25	4.93	11.74	7,897,426.81	555,038.13	0.04	4.93	MWD+SC (2)
2,463.93	0.78	75.65	2,463.83	2,387.83	5.22	12.91	7,897,426.90	555,038.48	0.03	5.22	MWD+SC (2)
2,555.30	0.79	70.25	2,555.20	2,479.20	5.59	14.11	7,897,427.01	555,038.85	0.08	5.59	MWD+SC (2)
2,646.22	0.79	76.51	2,646.11	2,570.11	5.95	15.31	7,897,427.12	555,039.21	0.09	5.95	MWD+SC (2)
2,743.03	0.70	74.08	2,742.91	2,666.91	6.26	16.52	7,897,427.22	555,039.58	0.10	6.27	MWD+SC (3)
2,837.42	0.74	67.59	2,837.29	2,761.29	6.65	17.64	7,897,427.34	555,039.93	0.10	6.66	MWD+SC (3)
2,875.38	0.64	69.95	2,875.25	2,799.25	6.82	18.07	7,897,427.39	555,040.06	0.27	6.82	MWD+SC (3)
2,978.31	0.74	64.69	2,978.17	2,902.17	7.30	19.21	7,897,427.53	555,040.40	0.11	7.30	MWD+SC (3)
3,074.55	0.58	52.33	3,074.40	2,998.40	7.86	20.16	7,897,427.71	555,040.69	0.22	7.87	MWD+SC (3)
3,169.04	0.67	47.05	3,168.89	3,092.89	8.53	20.94	7,897,427.91	555,040.93	0.11	8.54	MWD+SC (3)
3,258.93	0.77	27.36	3,258.77	3,182.77	9.43	21.60	7,897,428.18	555,041.13	0.30	9.43	MWD+SC (3)
3,351.80	0.94	33.05	3,351.63	3,275.63	10.62	22.30	7,897,428.55	555,041.35	0.20	10.62	MWD+SC (3)
3,445.40	0.89	33.34	3,445.22	3,369.22	11.87	23.12	7,897,428.93	555,041.59	0.05	11.87	MWD+SC (3)
3,537.90	0.88	39.68	3,537.71	3,461.71	13.02	23.97	7,897,429.28	555,041.85	0.11	13.02	MWD+SC (3)
3,630.29	0.86	29.57	3,630.09	3,554.09	14.17	24.77	7,897,429.63	555,042.10	0.17	14.17	MWD+SC (3)
3,724.13	1.05	46.97	3,723.91	3,647.92	15.37	25.74	7,897,429.99	555,042.39	0.37	15.37	MWD+SC (3)
3,815.47	1.16	37.46	3,815.24	3,739.24	16.67	26.92	7,897,430.39	555,042.75	0.23	16.67	MWD+SC (3)
3,909.95	1.11	27.77	3,909.70	3,833.70	18.24	27.92	7,897,430.87	555,043.06	0.21	18.24	MWD+SC (3)
4,001.96	1.54	18.87	4,001.68	3,925.68	20.20	28.74	7,897,431.46	555,043.31	0.52	20.20	MWD+SC (3)
4,095.18	1.55	21.22	4,094.87	4,018.87	22.56	29.60	7,897,432.18	555,043.57	0.07	22.56	MWD+SC (3)
4,189.17	1.52	19.27	4,188.83	4,112.83	24.92	30.47	7,897,432.90	555,043.83	0.06	24.92	MWD+SC (3)
4,280.67	1.73	13.84	4,280.29	4,204.29	27.41	31.20	7,897,433.66	555,044.06	0.28	27.41	MWD+SC (3)
4,373.26	2.11	22.24	4,372.83	4,296.83	30.34	32.18	7,897,434.56	555,044.36	0.51	30.35	MWD+SC (3)
4,465.71	1.69	19.56	4,465.23	4,389.23	33.20	33.28	7,897,435.43	555,044.69	0.46	33.21	MWD+SC (3)
4,559.04	2.02	19.56	4,558.51	4,482.51	36.05	34.29	7,897,436.29	555,045.00	0.35	36.05	MWD+SC (3)
4,651.17	2.19	23.91	4,650.58	4,574.58	39.19	35.55	7,897,437.25	555,045.38	0.25	39.19	MWD+SC (3)
4,743.27	2.64	25.07	4,742.59	4,666.59	42.72	37.16	7,897,438.33	555,045.87	0.49	42.72	MWD+SC (3)
4,836.87	3.09	32.03	4,836.08	4,760.08	46.81	39.41	7,897,439.57	555,046.56	0.61	46.81	MWD+SC (3)
4,929.20	3.15	34.87	4,928.27	4,852.27	51.00	42.18	7,897,440.85	555,047.40	0.18	51.00	MWD+SC (3)
5,021.52	3.28	37.85	5,020.45	4,944.45	55.17	45.26	7,897,442.12	555,048.34	0.23	55.17	MWD+SC (3)
5,113.59	3.34	39.69	5,112.36	5,036.36	59.31	48.58	7,897,443.38	555,049.35	0.13	59.32	MWD+SC (3)
5,206.14	3.59	47.76	5,204.74	5,128.74	63.33	52.45	7,897,444.61	555,050.53	0.59	63.34	MWD+SC (3)

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Project: Off Shore Zone 3	TVD Reference: Burger J @ 76.00usft (Polar Pioneer)
Site: Posey	MD Reference: Burger J @ 76.00usft (Polar Pioneer)
Well: OCS-Y-2321 #001 (Burger J)	North Reference: Grid
Wellbore: OCS-Y-2321 #001 (Burger J)	Survey Calculation Method: Minimum Curvature
Design: Burger J	Database: Sperry EDM - NORTH US + CANADA

Survey											
MD (usft)	Inc (°)	Azi (°)	TVD (usft)	TVDSS (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (ft)	Map Easting (ft)	DLS (°/100')	Vertical Section (ft)	Survey Tool Name
5,299.05	3.70	48.27	5,297.46	5,221.47	67.28	56.84	7,897,445.81	555,051.87	0.12	67.29	MWD+SC (3)
5,364.19	3.45	52.11	5,362.48	5,286.48	69.89	59.96	7,897,446.60	555,052.82	0.53	69.89	MWD+SC (3)
5,429.81	3.65	46.91	5,427.97	5,351.97	72.53	63.04	7,897,447.41	555,053.76	0.58	72.53	MWD+SC (4)
5,518.31	3.73	45.18	5,516.29	5,440.29	76.48	67.14	7,897,448.61	555,055.01	0.15	76.49	MWD+SC (4)
5,612.70	3.58	42.26	5,610.49	5,534.49	80.83	71.30	7,897,449.94	555,056.27	0.25	80.83	MWD+SC (4)
5,704.09	3.56	42.97	5,701.70	5,625.70	85.01	75.15	7,897,451.21	555,057.45	0.05	85.02	MWD+SC (4)
5,795.19	3.47	41.51	5,792.63	5,716.63	89.15	78.91	7,897,452.47	555,058.59	0.14	89.15	MWD+SC (4)
5,889.32	3.48	42.48	5,886.59	5,810.59	93.39	82.72	7,897,453.76	555,059.76	0.06	93.39	MWD+SC (4)
5,980.70	3.42	42.67	5,977.80	5,901.80	97.44	86.44	7,897,455.00	555,060.89	0.07	97.44	MWD+SC (4)
6,075.07	3.43	41.69	6,072.00	5,996.00	101.61	90.23	7,897,456.27	555,062.04	0.06	101.62	MWD+SC (4)
6,167.81	3.55	39.12	6,164.57	6,088.57	105.91	93.89	7,897,457.58	555,063.16	0.21	105.92	MWD+SC (4)
6,259.59	3.53	39.52	6,256.17	6,180.17	110.30	97.48	7,897,458.92	555,064.25	0.03	110.31	MWD+SC (4)
6,346.61	3.75	37.26	6,343.02	6,267.02	114.63	100.91	7,897,460.24	555,065.29	0.30	114.64	MWD+SC (4)
6,445.34	3.99	34.54	6,441.52	6,365.52	120.03	104.81	7,897,461.88	555,066.48	0.31	120.04	MWD+SC (4)
6,536.48	3.96	35.37	6,532.44	6,456.44	125.21	108.43	7,897,463.46	555,067.59	0.07	125.22	MWD+SC (4)
6,628.63	3.92	37.01	6,624.38	6,548.38	130.32	112.17	7,897,465.02	555,068.73	0.13	130.33	MWD+SC (4)
6,721.62	3.89	35.41	6,717.15	6,641.15	135.43	115.91	7,897,466.57	555,069.87	0.12	135.44	MWD+SC (4)
6,745.05	3.99	35.86	6,740.53	6,664.53	136.73	116.84	7,897,466.97	555,070.15	0.45	136.74	MWD+SC (4)
6,800.00	3.99	35.86	6,795.34	6,719.34	139.83	119.08	7,897,467.92	555,070.83	0.00	139.84	PROJECTED to TD

Checked By: _____	Approved By: _____	Date: _____
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