



Caza Operating LLC

Sioux 25-36 State Fed Com 12H

Sioux 25-36 State Fed Com 12H

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Sioux 25-36 State Fed Com 12H

Survey: Sioux 25-36 State Fed Com 12H

Morcor Standard Plan

04 June, 2020

These surveys are true and accurate to the best of my knowledge.

A handwritten signature in black ink, appearing to read 'Steve Morris', with a long horizontal stroke extending to the right.

Steve Morris

Company:	Caza Operating LLC				Local Co-ordinate Reference:	Well Sioux 25-36 State Fed Com 12H	
Project:	Sioux 25-36 State Fed Com 12H				TVD Reference:	well @ 3109.0usft	
Site:	Sioux 25-36 State Fed Com 12H				MD Reference:	well @ 3109.0usft	
Well:	Sioux 25-36 State Fed Com 12H				North Reference:	Grid	
Wellbore:	Sioux 25-36 State Fed Com 12H				Survey Calculation Method:	Minimum Curvature	
Design:	Sioux 25-36 State Fed Com 12H				Database:	EDM 5000.1 Single User Db	

Project	Sioux 25-36 State Fed Com 12H						
Map System:	US State Plane 1983			System Datum:	Mean Sea Level		
Geo Datum:	North American Datum 1983						
Map Zone:	New Mexico Eastern Zone						

Site	Sioux 25-36 State Fed Com 12H						
Site Position:			Northing:	404,619.78 usft	Latitude:	32° 6' 29.894 N	
From:	Map		Easting:	855,901.01 usft	Longitude:	103° 19' 2.642 W	
Position Uncertainty:	1.0 usft		Slot Radius:	17-1/2 "	Grid Convergence:	0.54 °	

Well	Sioux 25-36 State Fed Com 12H						
Well Position	+N/-S	0.0 usft	Northing:	404,619.78 usft	Latitude:	32° 6' 29.894 N	
	+E/-W	0.0 usft	Easting:	855,901.01 usft	Longitude:	103° 19' 2.642 W	
Position Uncertainty	1.0 usft		Wellhead Elevation:	usft	Ground Level:	3,085.0 usft	

Wellbore	Sioux 25-36 State Fed Com 12H						
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)		
	IGRF2010	9/15/2018	6.56	59.93	47,849		

Design	Sioux 25-36 State Fed Com 12H						
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	173.74			

Survey Program	Date	6/4/2020					
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description			
126.0	22,350.0	Sioux 25-36 State Fed Com 12H (Sioux 25	MWD	MWD - Standard			

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Design:	Sioux 25-36 State Fed Com 12H	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
0.0	0.00	0.00	0.0	-3,109.0	0.0	0.0	855,901.01	404,619.78	0.00	0.00	
126.0	0.83	306.62	126.0	-2,983.0	0.5	-0.7	855,900.28	404,620.32	-0.62	0.66	
217.0	1.29	313.57	217.0	-2,892.0	1.6	-2.0	855,899.01	404,621.42	-1.85	0.52	
312.0	0.47	340.45	312.0	-2,797.0	2.7	-2.9	855,898.10	404,622.53	-3.05	0.94	
403.0	1.54	72.40	403.0	-2,706.0	3.5	-1.9	855,899.14	404,623.25	-3.65	1.79	
495.0	3.54	91.97	494.9	-2,614.1	3.7	2.1	855,903.16	404,623.53	-3.49	2.34	
587.0	4.25	91.38	586.6	-2,522.4	3.6	8.4	855,909.41	404,623.35	-2.63	0.77	
680.0	6.30	91.80	679.3	-2,429.7	3.3	16.9	855,917.95	404,623.10	-1.46	2.20	
772.0	8.45	92.67	770.5	-2,338.5	2.8	28.7	855,929.75	404,622.63	0.30	2.34	
864.0	9.29	98.61	861.4	-2,247.6	1.4	42.8	855,943.85	404,621.20	3.26	1.35	
956.0	9.10	93.86	952.2	-2,156.8	-0.2	57.4	855,958.45	404,619.60	6.44	0.85	
1,049.0	10.46	89.24	1,043.9	-2,065.1	-0.6	73.2	855,974.23	404,619.22	8.54	1.69	
1,100.0	11.12	88.45	1,094.0	-2,015.0	-0.4	82.8	855,983.77	404,619.41	9.39	1.33	
1,273.0	10.63	86.51	1,263.8	-1,845.2	1.1	115.4	856,016.38	404,620.83	11.53	0.35	
1,367.0	10.65	84.51	1,356.2	-1,752.8	2.4	132.7	856,033.68	404,622.19	12.07	0.39	
1,460.0	10.53	77.90	1,447.6	-1,661.4	5.0	149.5	856,050.54	404,624.80	11.32	1.31	
1,555.0	11.06	76.16	1,541.0	-1,568.0	9.0	166.9	856,067.88	404,628.80	9.23	0.65	
1,650.0	10.51	77.80	1,634.3	-1,474.7	13.0	184.2	856,085.19	404,632.81	7.13	0.66	
1,743.0	10.74	80.68	1,725.7	-1,383.3	16.2	201.0	856,102.03	404,636.00	5.79	0.62	
1,837.0	9.85	79.79	1,818.2	-1,290.8	19.1	217.6	856,118.59	404,638.85	4.77	0.96	
1,932.0	10.25	78.85	1,911.7	-1,197.3	22.1	233.9	856,134.88	404,641.92	3.49	0.46	
2,027.0	9.97	82.01	2,005.2	-1,103.8	24.9	250.3	856,151.32	404,644.70	2.52	0.65	
2,122.0	10.46	83.10	2,098.7	-1,010.3	27.1	267.0	856,168.02	404,646.88	2.18	0.55	
2,216.0	10.17	79.59	2,191.2	-917.8	29.6	283.6	856,184.66	404,649.40	1.48	0.74	
2,310.0	10.12	76.75	2,283.8	-825.2	33.0	299.8	856,200.86	404,652.80	-0.12	0.53	
2,404.0	11.15	77.24	2,376.1	-732.9	36.9	316.7	856,217.76	404,656.70	-2.16	1.10	
2,498.0	11.01	77.59	2,468.4	-640.6	40.9	334.4	856,235.39	404,660.63	-4.15	0.17	

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Wellbore:	Sioux 25-36 State Fed Com 12H	Survey Calculation Method:	Minimum Curvature
Design:	Sioux 25-36 State Fed Com 12H	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
2,592.0	9.73	82.37	2,560.8	-548.2	43.8	351.0	856,252.03	404,663.62	-5.30	1.64	
2,687.0	8.66	84.08	2,654.6	-454.4	45.6	366.1	856,267.10	404,665.42	-5.45	1.16	
2,780.0	9.23	81.33	2,746.5	-362.5	47.5	380.4	856,281.44	404,667.27	-5.72	0.77	
2,874.0	9.44	93.95	2,839.3	-269.7	48.1	395.6	856,296.58	404,667.87	-4.67	2.18	
2,968.0	8.30	88.59	2,932.1	-176.9	47.7	410.0	856,311.06	404,667.51	-2.73	1.50	
3,062.0	9.09	91.44	3,025.1	-83.9	47.7	424.3	856,325.26	404,667.49	-1.16	0.96	
3,156.0	8.68	90.60	3,117.9	8.9	47.4	438.8	856,339.78	404,667.23	0.68	0.46	
3,251.0	8.98	86.42	3,211.8	102.8	47.8	453.3	856,354.35	404,667.61	1.88	0.75	
3,346.0	8.04	78.15	3,305.8	196.8	49.7	467.2	856,368.25	404,669.44	1.58	1.62	
3,439.0	7.69	74.88	3,397.9	288.9	52.6	479.6	856,380.62	404,672.40	-0.01	0.61	
3,534.0	7.50	77.18	3,492.1	383.1	55.7	491.8	856,392.80	404,675.43	-1.70	0.38	
3,629.0	7.93	77.62	3,586.2	477.2	58.4	504.2	856,405.25	404,678.22	-3.10	0.46	
3,724.0	8.81	79.84	3,680.2	571.2	61.1	517.8	856,418.81	404,680.90	-4.30	0.99	
3,819.0	8.78	84.56	3,774.1	665.1	63.1	532.2	856,433.19	404,682.87	-4.69	0.76	
3,913.0	7.96	85.73	3,867.1	758.1	64.3	545.8	856,446.82	404,684.04	-4.36	0.89	
4,007.0	7.30	85.94	3,960.2	851.2	65.2	558.3	856,459.27	404,684.95	-3.90	0.70	
4,101.0	6.87	83.81	4,053.5	944.5	66.2	569.8	856,470.82	404,685.98	-3.67	0.54	
4,196.0	7.28	86.63	4,147.8	1,038.8	67.2	581.5	856,482.48	404,686.94	-3.36	0.57	
4,289.0	7.79	87.41	4,240.0	1,131.0	67.8	593.6	856,494.65	404,687.57	-2.66	0.56	
4,384.0	8.02	86.73	4,334.1	1,225.1	68.5	606.7	856,507.70	404,688.24	-1.90	0.26	
4,479.0	7.91	80.15	4,428.2	1,319.2	70.0	619.7	856,520.76	404,689.74	-1.96	0.97	
4,572.0	8.28	82.49	4,520.2	1,411.2	71.9	632.7	856,533.70	404,691.71	-2.51	0.53	
4,666.0	7.77	76.28	4,613.3	1,504.3	74.3	645.6	856,546.59	404,694.10	-3.48	1.07	
4,760.0	7.68	73.16	4,706.5	1,597.5	77.6	657.8	856,558.77	404,697.43	-5.46	0.46	
4,854.0	8.18	76.94	4,799.6	1,690.6	81.0	670.3	856,571.30	404,700.76	-7.41	0.77	
4,947.0	8.61	78.71	4,891.6	1,782.6	83.8	683.6	856,584.57	404,703.62	-8.80	0.54	
5,041.0	9.19	78.30	4,984.4	1,875.4	86.7	697.8	856,598.82	404,706.52	-10.13	0.62	

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Well:	Sioux 25-36 State Fed Com 12H	North Reference:	Grid
Wellbore:	Sioux 25-36 State Fed Com 12H	Survey Calculation Method:	Minimum Curvature
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Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
5,134.0	8.93	81.11	5,076.3	1,967.3	89.4	712.2	856,613.22	404,709.14	-11.16	0.55	
5,228.0	8.14	82.34	5,169.2	2,060.2	91.4	726.0	856,627.03	404,711.15	-11.66	0.86	
5,321.0	8.51	83.41	5,261.3	2,152.3	93.0	739.4	856,640.39	404,712.82	-11.86	0.43	
5,415.0	8.69	82.45	5,354.2	2,245.2	94.8	753.3	856,654.34	404,714.55	-12.06	0.24	
5,507.0	8.87	80.90	5,445.1	2,336.1	96.8	767.2	856,668.23	404,716.58	-12.57	0.32	
5,602.0	9.54	79.44	5,538.9	2,429.9	99.4	782.2	856,683.20	404,719.19	-13.52	0.75	
5,695.0	9.73	76.43	5,630.6	2,521.6	102.7	797.4	856,698.42	404,722.44	-15.10	0.58	
5,789.0	9.60	75.70	5,723.3	2,614.3	106.5	812.7	856,713.73	404,726.24	-17.21	0.19	
5,883.0	9.07	75.70	5,816.0	2,707.0	110.2	827.5	856,728.51	404,730.01	-19.34	0.56	
5,977.0	9.55	75.24	5,908.8	2,799.8	114.0	842.2	856,743.23	404,733.82	-21.53	0.52	
6,070.0	10.15	77.15	6,000.4	2,891.4	117.8	857.7	856,758.68	404,737.61	-23.61	0.73	
6,164.0	9.97	83.63	6,093.0	2,984.0	120.6	873.8	856,774.84	404,740.36	-24.58	1.22	
6,258.0	10.42	82.84	6,185.5	3,076.5	122.5	890.4	856,791.36	404,742.32	-24.73	0.50	
6,352.0	10.38	83.37	6,277.9	3,168.9	124.6	907.2	856,808.21	404,744.36	-24.91	0.11	
6,446.0	9.28	87.96	6,370.6	3,261.6	125.8	923.2	856,824.20	404,745.61	-24.41	1.44	
6,541.0	8.12	88.52	6,464.5	3,355.5	126.3	937.5	856,838.56	404,746.05	-23.29	1.22	
6,635.0	7.62	90.13	6,557.6	3,448.6	126.4	950.4	856,851.43	404,746.21	-22.04	0.58	
6,730.0	6.52	92.09	6,651.8	3,542.8	126.2	962.1	856,863.12	404,746.00	-20.56	1.19	
6,824.0	5.16	97.69	6,745.4	3,636.4	125.5	971.6	856,872.64	404,745.24	-18.76	1.57	
6,918.0	4.03	106.32	6,839.1	3,730.1	124.0	979.0	856,880.00	404,743.74	-16.47	1.41	
7,012.0	2.83	107.65	6,932.9	3,823.9	122.3	984.4	856,885.38	404,742.11	-14.27	1.28	
7,105.0	1.54	125.51	7,025.8	3,916.8	120.9	987.6	856,888.59	404,740.69	-12.50	1.55	
7,199.0	0.95	170.06	7,119.8	4,010.8	119.4	988.7	856,889.75	404,739.19	-10.88	1.16	
7,293.0	0.74	206.02	7,213.8	4,104.8	118.1	988.6	856,889.62	404,737.87	-9.59	0.59	
7,386.0	0.68	211.31	7,306.8	4,197.8	117.1	988.1	856,889.07	404,736.86	-8.65	0.10	
7,480.0	0.62	198.08	7,400.8	4,291.8	116.1	987.6	856,888.62	404,735.90	-7.74	0.17	
7,575.0	0.68	239.99	7,495.8	4,386.8	115.4	987.0	856,887.97	404,735.13	-7.05	0.49	

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7,670.0	0.71	271.49	7,590.8	4,481.8	115.1	985.9	856,886.89	404,734.87	-6.90	0.40
7,764.0	0.68	275.64	7,684.8	4,575.8	115.2	984.7	856,885.76	404,734.94	-7.09	0.06
7,857.0	0.50	248.93	7,777.7	4,668.7	115.1	983.8	856,884.83	404,734.84	-7.10	0.35
7,951.0	0.24	298.34	7,871.7	4,762.7	115.0	983.3	856,884.27	404,734.79	-7.11	0.41
8,046.0	0.35	347.17	7,966.7	4,857.7	115.4	983.0	856,884.03	404,735.17	-7.51	0.28
8,139.0	0.20	48.88	8,059.7	4,950.7	115.8	983.1	856,884.09	404,735.55	-7.89	0.33
8,233.0	0.72	43.17	8,153.7	5,044.7	116.3	983.6	856,884.62	404,736.09	-8.36	0.55
8,327.0	0.50	48.06	8,247.7	5,138.7	117.0	984.3	856,885.33	404,736.80	-8.99	0.24
8,421.0	0.46	99.77	8,341.7	5,232.7	117.2	985.0	856,886.01	404,737.01	-9.12	0.45
8,515.0	0.79	107.74	8,435.7	5,326.7	117.0	986.0	856,887.00	404,736.74	-8.75	0.36
8,703.0	0.64	66.60	8,623.7	5,514.7	117.0	988.2	856,889.19	404,736.77	-8.54	0.28
8,796.0	0.64	33.99	8,716.7	5,607.7	117.6	989.0	856,889.96	404,737.40	-9.09	0.39
8,889.0	0.47	60.50	8,809.7	5,700.7	118.2	989.6	856,890.58	404,738.02	-9.63	0.33
8,984.0	0.58	38.84	8,904.7	5,795.7	118.8	990.2	856,891.22	404,738.59	-10.13	0.24
9,077.0	0.26	283.68	8,997.7	5,888.7	119.2	990.3	856,891.31	404,739.00	-10.53	0.78
9,142.0	0.49	274.70	9,062.7	5,953.7	119.3	989.9	856,890.89	404,739.06	-10.63	0.36
9,239.0	0.50	281.60	9,159.7	6,050.7	119.4	989.1	856,890.07	404,739.18	-10.84	0.06
9,332.0	0.80	243.90	9,252.7	6,143.7	119.2	988.1	856,889.08	404,738.98	-10.75	0.55
9,427.0	1.10	247.40	9,347.7	6,238.7	118.6	986.6	856,887.65	404,738.33	-10.26	0.32
9,521.0	1.50	257.20	9,441.7	6,332.7	117.9	984.6	856,885.61	404,737.72	-9.87	0.49
9,616.0	1.60	256.60	9,536.6	6,427.6	117.4	982.1	856,883.11	404,737.13	-9.56	0.11
9,710.0	1.20	268.60	9,630.6	6,521.6	117.0	979.8	856,880.85	404,736.80	-9.48	0.53
9,806.0	0.80	281.00	9,726.6	6,617.6	117.1	978.2	856,879.19	404,736.91	-9.77	0.47
9,900.0	0.80	280.00	9,820.6	6,711.6	117.4	976.9	856,877.90	404,737.15	-10.15	0.01
9,994.0	0.90	289.10	9,914.6	6,805.6	117.7	975.5	856,876.55	404,737.50	-10.65	0.18
10,088.0	1.20	300.60	10,008.5	6,899.5	118.5	974.0	856,875.01	404,738.25	-11.55	0.39
10,181.0	1.40	307.90	10,101.5	6,992.5	119.7	972.3	856,873.27	404,739.44	-12.93	0.28

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Site:	Sioux 25-36 State Fed Com 12H	MD Reference:	well @ 3109.0usft
Well:	Sioux 25-36 State Fed Com 12H	North Reference:	Grid
Wellbore:	Sioux 25-36 State Fed Com 12H	Survey Calculation Method:	Minimum Curvature
Design:	Sioux 25-36 State Fed Com 12H	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
10,274.0	1.60	324.70	10,194.5	7,085.5	121.4	970.6	856,871.63	404,741.20	-14.86	0.52	
10,367.0	1.80	342.00	10,287.4	7,178.4	123.9	969.4	856,870.43	404,743.65	-17.42	0.59	
10,461.0	1.20	319.20	10,381.4	7,272.4	126.0	968.3	856,869.33	404,745.79	-19.68	0.89	
10,555.0	1.20	205.90	10,475.4	7,366.4	125.9	967.2	856,868.25	404,745.65	-19.65	2.13	
10,649.0	2.40	221.60	10,569.4	7,460.4	123.5	965.5	856,866.52	404,743.30	-17.50	1.37	
10,743.0	3.90	231.30	10,663.2	7,554.2	120.0	961.7	856,862.72	404,739.83	-14.47	1.69	
10,837.0	4.80	228.50	10,756.9	7,647.9	115.4	956.3	856,857.27	404,735.22	-10.48	0.98	
10,932.0	3.30	232.50	10,851.7	7,742.7	111.1	951.1	856,852.13	404,730.92	-6.77	1.61	
11,026.0	2.90	240.90	10,945.6	7,836.6	108.3	946.9	856,847.90	404,728.12	-4.44	0.64	
11,120.0	3.80	245.40	11,039.4	7,930.4	105.9	942.0	856,842.99	404,725.67	-2.54	1.00	
11,214.0	3.60	230.70	11,133.2	8,024.2	102.7	936.9	856,837.88	404,722.50	0.05	1.03	
11,309.0	3.00	223.80	11,228.0	8,119.0	99.0	932.8	856,833.85	404,718.82	3.27	0.76	
11,404.0	2.50	224.50	11,322.9	8,213.9	95.8	929.7	856,830.68	404,715.54	6.18	0.53	
11,499.0	2.20	230.60	11,417.9	8,308.9	93.1	926.8	856,827.82	404,712.91	8.49	0.41	
11,595.0	5.90	185.40	11,513.6	8,404.6	87.0	924.9	856,825.93	404,706.82	14.33	4.81	
11,689.0	17.90	180.70	11,605.4	8,496.4	67.7	924.3	856,825.29	404,687.50	33.47	12.80	
11,783.0	27.90	180.00	11,691.9	8,582.9	31.2	924.1	856,825.12	404,650.97	69.76	10.64	
11,877.0	36.00	173.40	11,771.6	8,662.6	-18.3	927.3	856,828.30	404,601.44	119.35	9.37	
11,971.0	42.40	172.10	11,844.4	8,735.4	-77.2	934.8	856,835.84	404,542.54	178.71	6.86	
12,066.0	47.10	170.40	11,911.9	8,802.9	-143.3	945.0	856,846.05	404,476.47	245.51	5.10	
12,161.0	54.20	168.40	11,972.1	8,863.1	-215.5	958.6	856,859.62	404,404.32	318.70	7.65	
12,255.0	62.30	168.20	12,021.5	8,912.5	-293.7	974.8	856,875.82	404,326.12	398.21	8.62	
12,348.0	68.10	170.70	12,060.5	8,951.5	-376.6	990.2	856,891.22	404,243.16	482.35	6.70	
12,442.0	77.60	172.80	12,088.2	8,979.2	-465.4	1,003.0	856,904.06	404,154.37	572.01	10.33	
12,536.0	81.40	173.30	12,105.3	8,996.3	-557.1	1,014.2	856,915.23	404,062.64	664.41	4.08	
12,630.0	84.10	175.50	12,117.2	9,008.2	-649.9	1,023.3	856,924.33	403,969.85	757.64	3.69	
12,756.0	85.00	178.10	12,129.2	9,020.2	-775.2	1,030.3	856,931.33	403,844.62	882.88	2.17	

Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well Sioux 25-36 State Fed Com 12H
Project:	Sioux 25-36 State Fed Com 12H	TVD Reference:	well @ 3109.0usft
Site:	Sioux 25-36 State Fed Com 12H	MD Reference:	well @ 3109.0usft
Well:	Sioux 25-36 State Fed Com 12H	North Reference:	Grid
Wellbore:	Sioux 25-36 State Fed Com 12H	Survey Calculation Method:	Minimum Curvature
Design:	Sioux 25-36 State Fed Com 12H	Database:	EDM 5000.1 Single User Db

Survey										
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)
12,851.0	86.60	180.20	12,136.1	9,027.1	-869.9	1,031.7	856,932.73	403,749.90	977.19	2.77
12,944.0	87.00	181.30	12,141.3	9,032.3	-962.7	1,030.5	856,931.51	403,657.05	1,069.35	1.26
13,037.0	85.60	181.70	12,147.3	9,038.3	-1,055.5	1,028.1	856,929.09	403,564.28	1,161.31	1.57
13,131.0	84.10	181.50	12,155.7	9,046.7	-1,149.1	1,025.5	856,926.47	403,470.70	1,254.04	1.61
13,227.0	84.40	181.30	12,165.4	9,056.4	-1,244.6	1,023.1	856,924.14	403,375.21	1,348.71	0.37
13,321.0	89.50	179.50	12,170.4	9,061.4	-1,338.4	1,022.5	856,923.49	403,281.38	1,441.91	5.75
13,415.0	92.60	179.30	12,168.6	9,059.6	-1,432.4	1,023.5	856,924.47	403,187.41	1,535.42	3.30
13,510.0	94.10	177.90	12,163.1	9,054.1	-1,527.2	1,025.8	856,926.79	403,092.61	1,629.91	2.16
13,603.0	95.50	177.80	12,155.3	9,046.3	-1,619.8	1,029.3	856,930.26	403,000.00	1,722.35	1.51
13,698.0	97.20	177.60	12,144.8	9,035.8	-1,714.1	1,033.0	856,934.05	402,905.67	1,816.54	1.80
13,792.0	97.50	177.20	12,132.8	9,023.8	-1,807.2	1,037.3	856,938.28	402,812.53	1,909.57	0.53
13,887.0	98.00	176.80	12,120.0	9,011.0	-1,901.2	1,042.2	856,943.21	402,718.53	2,003.55	0.67
13,982.0	96.00	177.10	12,108.4	8,999.4	-1,995.4	1,047.2	856,948.22	402,624.38	2,097.69	2.13
14,075.0	94.20	177.10	12,100.1	8,991.1	-2,087.9	1,051.9	856,952.91	402,531.87	2,190.16	1.94
14,169.0	94.90	176.80	12,092.7	8,983.7	-2,181.5	1,056.9	856,957.89	402,438.30	2,283.72	0.81
14,264.0	93.10	177.30	12,086.0	8,977.0	-2,276.1	1,061.8	856,962.77	402,343.66	2,378.32	1.97
14,359.0	87.60	178.00	12,085.5	8,976.5	-2,371.0	1,065.7	856,966.66	402,248.78	2,473.06	5.84
14,452.0	87.70	178.90	12,089.3	8,980.3	-2,463.9	1,068.2	856,969.18	402,155.89	2,565.67	0.97
14,547.0	88.30	180.30	12,092.6	8,983.6	-2,558.8	1,068.8	856,969.84	402,060.96	2,660.11	1.60
14,641.0	92.30	182.20	12,092.1	8,983.1	-2,652.8	1,066.8	856,967.79	401,967.00	2,753.28	4.71
14,735.0	92.40	182.30	12,088.2	8,979.2	-2,746.6	1,063.1	856,964.10	401,873.15	2,846.17	0.15
14,829.0	94.20	181.30	12,082.8	8,973.8	-2,840.4	1,060.1	856,961.16	401,779.36	2,939.08	2.19
14,923.0	94.10	180.00	12,076.0	8,967.0	-2,934.2	1,059.1	856,960.09	401,685.62	3,032.15	1.38
15,017.0	91.30	180.00	12,071.6	8,962.6	-3,028.1	1,059.1	856,960.09	401,591.73	3,125.48	2.98
15,111.0	89.00	178.70	12,071.4	8,962.4	-3,122.0	1,060.1	856,961.16	401,497.74	3,219.02	2.81
15,205.0	87.00	178.20	12,074.6	8,965.6	-3,215.9	1,062.7	856,963.70	401,403.84	3,312.64	2.19
15,299.0	84.80	177.70	12,081.4	8,972.4	-3,309.6	1,066.0	856,967.05	401,310.15	3,406.14	2.40

Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well Sioux 25-36 State Fed Com 12H
Project:	Sioux 25-36 State Fed Com 12H	TVD Reference:	well @ 3109.0usft
Site:	Sioux 25-36 State Fed Com 12H	MD Reference:	well @ 3109.0usft
Well:	Sioux 25-36 State Fed Com 12H	North Reference:	Grid
Wellbore:	Sioux 25-36 State Fed Com 12H	Survey Calculation Method:	Minimum Curvature
Design:	Sioux 25-36 State Fed Com 12H	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
15,392.0	81.60	177.80	12,092.4	8,983.4	-3,401.9	1,069.7	856,970.68	401,217.88	3,498.25	3.44	
15,487.0	80.70	177.30	12,107.0	8,998.0	-3,495.7	1,073.7	856,974.69	401,124.10	3,591.91	1.08	
15,581.0	81.70	178.60	12,121.4	9,012.4	-3,588.5	1,077.0	856,978.01	401,031.27	3,684.55	1.73	
15,675.0	82.20	178.60	12,134.5	9,025.5	-3,681.6	1,079.3	856,980.28	400,938.23	3,777.29	0.53	
15,769.0	84.50	179.80	12,145.4	9,036.4	-3,774.9	1,080.6	856,981.59	400,844.88	3,870.22	2.76	
15,862.0	84.20	179.50	12,154.6	9,045.6	-3,867.5	1,081.1	856,982.15	400,752.33	3,962.28	0.46	
15,957.0	87.60	180.40	12,161.4	9,052.4	-3,962.2	1,081.2	856,982.23	400,657.59	4,056.46	3.70	
16,051.0	88.70	181.00	12,164.4	9,055.4	-4,056.1	1,080.1	856,981.08	400,563.65	4,149.72	1.33	
16,145.0	88.30	180.80	12,166.9	9,057.9	-4,150.1	1,078.6	856,979.61	400,469.69	4,242.96	0.48	
16,240.0	90.20	180.90	12,168.1	9,059.1	-4,245.1	1,077.2	856,978.20	400,374.71	4,337.21	2.00	
16,335.0	89.90	180.80	12,168.0	9,059.0	-4,340.1	1,075.8	856,976.79	400,279.72	4,431.48	0.33	
16,430.0	87.00	180.00	12,170.6	9,061.6	-4,435.0	1,075.1	856,976.13	400,184.77	4,525.80	3.17	
16,524.0	89.30	179.20	12,173.6	9,064.6	-4,529.0	1,075.8	856,976.78	400,090.83	4,619.25	2.59	
16,661.0	89.00	178.00	12,175.7	9,066.7	-4,665.9	1,079.1	856,980.13	399,953.89	4,755.74	0.90	
16,756.0	88.90	177.80	12,177.4	9,068.4	-4,760.8	1,082.6	856,983.61	399,858.97	4,850.47	0.24	
16,850.0	89.10	177.60	12,179.0	9,070.0	-4,854.7	1,086.4	856,987.38	399,765.06	4,944.23	0.30	
16,944.0	88.70	178.70	12,180.8	9,071.8	-4,948.7	1,089.4	856,990.42	399,671.13	5,037.94	1.24	
17,037.0	88.30	177.40	12,183.3	9,074.3	-5,041.6	1,092.6	856,993.58	399,578.21	5,130.64	1.46	
17,131.0	88.60	177.00	12,185.8	9,076.8	-5,135.4	1,097.2	856,998.17	399,484.36	5,224.43	0.53	
17,224.0	88.20	177.90	12,188.4	9,079.4	-5,228.3	1,101.3	857,002.31	399,391.49	5,317.20	1.06	
17,318.0	89.20	178.70	12,190.5	9,081.5	-5,322.2	1,104.1	857,005.09	399,297.56	5,410.88	1.36	
17,412.0	86.40	177.60	12,194.2	9,085.2	-5,416.1	1,107.1	857,008.12	399,203.69	5,504.52	3.20	
17,506.0	88.20	178.50	12,198.6	9,089.6	-5,509.9	1,110.3	857,011.32	399,109.85	5,598.14	2.14	
17,600.0	92.30	182.20	12,198.2	9,089.2	-5,603.9	1,109.7	857,010.75	399,015.89	5,691.48	5.87	
17,694.0	94.90	182.20	12,192.3	9,083.3	-5,697.6	1,106.1	857,007.14	398,922.15	5,784.27	2.77	
17,789.0	97.10	181.70	12,182.3	9,073.3	-5,792.0	1,102.9	857,003.93	398,827.73	5,877.77	2.37	
17,884.0	97.40	182.20	12,170.4	9,061.4	-5,886.2	1,099.7	857,000.72	398,733.55	5,971.05	0.61	

Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well Sioux 25-36 State Fed Com 12H
Project:	Sioux 25-36 State Fed Com 12H	TVD Reference:	well @ 3109.0usft
Site:	Sioux 25-36 State Fed Com 12H	MD Reference:	well @ 3109.0usft
Well:	Sioux 25-36 State Fed Com 12H	North Reference:	Grid
Wellbore:	Sioux 25-36 State Fed Com 12H	Survey Calculation Method:	Minimum Curvature
Design:	Sioux 25-36 State Fed Com 12H	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
17,978.0	98.40	182.80	12,157.4	9,048.4	-5,979.3	1,095.7	856,996.66	398,640.53	6,063.07	1.24	
18,071.0	96.90	181.40	12,145.1	9,036.1	-6,071.4	1,092.3	856,993.29	398,548.42	6,154.26	2.20	
18,166.0	97.10	180.90	12,133.5	9,024.5	-6,165.6	1,090.4	856,991.39	398,454.15	6,247.76	0.56	
18,260.0	96.80	181.00	12,122.1	9,013.1	-6,258.9	1,088.8	856,989.85	398,360.86	6,340.33	0.34	
18,355.0	96.40	180.70	12,111.2	9,002.2	-6,353.3	1,087.4	856,988.45	398,266.50	6,433.98	0.53	
18,450.0	96.40	180.70	12,100.6	8,991.6	-6,447.7	1,086.3	856,987.29	398,172.09	6,527.69	0.00	
18,546.0	96.60	180.80	12,089.7	8,980.7	-6,543.1	1,085.0	856,986.04	398,076.72	6,622.36	0.23	
18,640.0	94.20	179.20	12,080.9	8,971.9	-6,636.6	1,085.0	856,986.05	397,983.15	6,715.37	3.06	
18,735.0	92.10	177.30	12,075.7	8,966.7	-6,731.4	1,087.9	856,988.95	397,888.34	6,809.93	2.98	
18,831.0	91.90	177.10	12,072.3	8,963.3	-6,827.3	1,092.6	856,993.63	397,792.52	6,905.69	0.29	
18,925.0	92.20	177.00	12,068.9	8,959.9	-6,921.1	1,097.5	856,998.47	397,698.70	6,999.48	0.34	
19,019.0	90.40	177.20	12,066.8	8,957.8	-7,014.9	1,102.2	857,003.22	397,604.85	7,093.29	1.93	
19,114.0	87.40	175.10	12,068.6	8,959.6	-7,109.7	1,108.6	857,009.60	397,510.10	7,188.17	3.85	
19,209.0	89.10	176.60	12,071.5	8,962.5	-7,204.4	1,115.5	857,016.47	397,415.40	7,283.05	2.39	
19,305.0	91.60	179.00	12,070.9	8,961.9	-7,300.3	1,119.1	857,020.15	397,319.49	7,378.80	3.61	
19,399.0	89.20	176.80	12,070.3	8,961.3	-7,394.2	1,122.6	857,023.60	397,225.56	7,472.53	3.46	
19,493.0	92.50	178.40	12,068.9	8,959.9	-7,488.1	1,126.5	857,027.53	397,131.67	7,566.29	3.90	
19,587.0	92.30	178.10	12,065.0	8,956.0	-7,582.0	1,129.4	857,030.40	397,037.80	7,659.92	0.38	
19,682.0	92.50	178.60	12,061.0	8,952.0	-7,676.9	1,132.1	857,033.13	396,942.92	7,754.53	0.57	
19,777.0	92.00	177.50	12,057.3	8,948.3	-7,771.7	1,135.4	857,036.36	396,848.05	7,849.19	1.27	
19,871.0	90.20	179.60	12,055.4	8,946.4	-7,865.7	1,137.7	857,038.74	396,754.11	7,942.83	2.94	
19,967.0	89.80	180.20	12,055.4	8,946.4	-7,961.7	1,137.9	857,038.91	396,658.11	8,038.27	0.75	
20,062.0	90.30	181.00	12,055.4	8,946.4	-8,056.7	1,136.9	857,037.91	396,563.12	8,132.59	0.99	
20,156.0	89.30	180.60	12,055.7	8,946.7	-8,150.7	1,135.6	857,036.60	396,469.13	8,225.88	1.15	
20,252.0	88.40	179.60	12,057.6	8,948.6	-8,246.6	1,135.4	857,036.43	396,373.15	8,321.27	1.40	
20,347.0	90.50	181.30	12,058.5	8,949.5	-8,341.6	1,134.7	857,035.69	396,278.16	8,415.60	2.84	
20,442.0	90.50	181.70	12,057.7	8,948.7	-8,436.6	1,132.2	857,033.20	396,183.20	8,509.73	0.42	

Company:	Caza Operating LLC	Local Co-ordinate Reference:	Well Sioux 25-36 State Fed Com 12H
Project:	Sioux 25-36 State Fed Com 12H	TVD Reference:	well @ 3109.0usft
Site:	Sioux 25-36 State Fed Com 12H	MD Reference:	well @ 3109.0usft
Well:	Sioux 25-36 State Fed Com 12H	North Reference:	Grid
Wellbore:	Sioux 25-36 State Fed Com 12H	Survey Calculation Method:	Minimum Curvature
Design:	Sioux 25-36 State Fed Com 12H	Database:	EDM 5000.1 Single User Db

Survey											
MD (usft)	Inc (°)	Azi (azimuth) (°)	TVD (usft)	TVDSS (usft)	N/S (usft)	E/W (usft)	Easting (usft)	Northing (usft)	V. Sec (usft)	DLeg (°/100usft)	
20,535.0	89.40	181.10	12,057.8	8,948.8	-8,529.5	1,129.9	857,030.93	396,090.23	8,601.90	1.35	
20,630.0	90.60	180.50	12,057.8	8,948.8	-8,624.5	1,128.6	857,029.60	395,995.24	8,696.17	1.41	
20,725.0	90.70	180.20	12,056.7	8,947.7	-8,719.5	1,128.0	857,029.02	395,900.25	8,790.54	0.33	
20,820.0	92.40	180.90	12,054.1	8,945.1	-8,814.5	1,127.1	857,028.11	395,805.29	8,884.83	1.94	
20,915.0	90.70	180.10	12,051.6	8,942.6	-8,909.4	1,126.3	857,027.28	395,710.34	8,979.13	1.98	
21,010.0	91.50	178.70	12,049.7	8,940.7	-9,004.4	1,127.3	857,028.28	395,615.36	9,073.65	1.70	
21,105.0	92.00	179.20	12,046.8	8,937.8	-9,099.4	1,129.0	857,030.02	395,520.42	9,168.21	0.74	
21,199.0	93.20	178.50	12,042.6	8,933.6	-9,193.2	1,130.9	857,031.90	395,426.54	9,261.74	1.48	
21,294.0	92.80	178.80	12,037.6	8,928.6	-9,288.1	1,133.1	857,034.14	395,331.70	9,356.26	0.53	
21,388.0	90.70	176.20	12,034.7	8,925.7	-9,381.9	1,137.2	857,038.23	395,237.84	9,450.00	3.55	
21,483.0	91.40	175.10	12,033.0	8,924.0	-9,476.6	1,144.4	857,045.44	395,143.14	9,544.93	1.37	
21,579.0	90.90	173.70	12,031.1	8,922.1	-9,572.2	1,153.8	857,054.80	395,047.62	9,640.90	1.55	
21,673.0	91.60	177.40	12,029.0	8,920.0	-9,665.8	1,161.1	857,062.10	394,953.94	9,734.81	4.01	
21,769.0	92.50	178.10	12,025.6	8,916.6	-9,761.7	1,164.9	857,065.86	394,858.08	9,830.51	1.19	
21,862.0	94.20	178.80	12,020.1	8,911.1	-9,854.5	1,167.4	857,068.37	394,765.27	9,923.04	1.98	
21,957.0	92.70	177.40	12,014.4	8,905.4	-9,949.3	1,170.5	857,071.52	394,670.50	10,017.59	2.16	
22,052.0	93.50	178.10	12,009.3	8,900.3	-10,044.1	1,174.2	857,075.24	394,575.72	10,112.21	1.12	
22,146.0	92.50	176.40	12,004.4	8,895.4	-10,137.8	1,178.7	857,079.75	394,481.96	10,205.90	2.10	
22,241.0	93.10	176.10	11,999.7	8,890.7	-10,232.5	1,184.9	857,085.95	394,387.27	10,300.70	0.71	
22,290.0	93.20	176.20	11,997.0	8,888.0	-10,281.3	1,188.2	857,089.24	394,338.46	10,349.58	0.29	
22,350.0	93.20	176.20	11,993.7	8,884.7	-10,341.1	1,192.2	857,093.21	394,278.68	10,409.43	0.00	

Checked By: _____	Approved By: _____	Date: _____
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