NORTHERN DELAWARE BASIN

LEA COUNTY, NM
BULLDOG
SQUINTS FED COM 8H

OWB

Design: AWP

Standard Survey Report

05 February, 2020

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	**Local Co-ordinate Reference:**	Well SQUINTS FED COM 8H
Project:	LEA COUNTY, NM	**TVD Reference:**	KB=25' @ 3429.0usft (LATSHAW 44)
Site:	BULLDOG	**MD Reference:**	KB=25' @ 3429.0usft (LATSHAW 44)
Well:	SQUINTS FED COM 8H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWP	**Database:**	edm

Project LEA COUNTY, NM

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		

Site BULLDOG

Site Position:		**Northing:**	398,637.10 usft	**Latitude:**	32° 5' 36.820 N
From:	Map	**Easting:**	741,887.40 usft	**Longitude:**	103° 33' 8.116 W
Position Uncertainty:	0.0 usft	**Slot Radius:**	13-3/16 "	**Grid Convergence:**	0.42 °

Well SQUINTS FED COM 8H, ACTIVE

Well Position	**+N/-S**	0.0 usft	**Northing:**	494,283.00 usft	**Latitude:**	32° 21' 21.246 N
	+E/-W	0.0 usft	**Easting:**	768,518.70 usft	**Longitude:**	103° 27' 49.565 W
Position Uncertainty		3.0 usft	**Wellhead Elevation:**	usft	**Ground Level:**	3,404.0 usft

Wellbore OWB

Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/6/2020	6.63	60.17	47,764.36391851

Design AWP

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	1.36

Survey Program **Date** 2/5/2020

From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
146.0	1,869.0	MWD-SURF (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction
1,955.0	20,343.0	MWD-INTER/CRV/LAT (OWB)	MWD+IFR1+FDIR	OWSG MWD + IFR1 + FDIR Correction

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
0.0	0.00	0.00	0.0	0.0	0.0	0.0	0.00	0.00	0.00
146.0	0.17	50.80	146.0	0.1	0.2	0.1	0.12	0.12	0.00
228.0	0.44	192.14	228.0	-0.1	0.2	-0.1	0.71	0.33	172.37
310.0	0.46	215.57	310.0	-0.7	-0.1	-0.7	0.22	0.02	28.57
394.0	0.25	207.45	394.0	-1.1	-0.3	-1.1	0.26	-0.25	-9.67
462.0	0.59	239.25	462.0	-1.4	-0.7	-1.4	0.59	0.50	46.76
551.0	0.66	237.30	551.0	-1.9	-1.5	-2.0	0.08	0.08	-2.19
636.0	0.54	234.06	636.0	-2.4	-2.3	-2.5	0.15	-0.14	-3.81
727.0	0.86	235.69	727.0	-3.1	-3.2	-3.1	0.35	0.35	1.79
811.0	1.31	228.45	811.0	-4.1	-4.4	-4.2	0.56	0.54	-8.62

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Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWP	**Database:**	edm

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
899.0	0.52	232.34	898.9	-5.0	-5.5	-5.1	0.90	-0.90	4.42
989.0	0.40	159.58	988.9	-5.5	-5.7	-5.6	0.62	-0.13	-80.84
1,071.0	0.70	162.08	1,070.9	-6.3	-5.5	-6.4	0.37	0.37	3.05
1,160.0	0.59	166.54	1,159.9	-7.2	-5.2	-7.3	0.14	-0.12	5.01
1,250.0	0.13	334.93	1,249.9	-7.6	-5.1	-7.7	0.80	-0.51	187.10
1,337.0	0.54	272.58	1,336.9	-7.5	-5.6	-7.6	0.57	0.47	-71.67
1,425.0	0.76	258.89	1,424.9	-7.6	-6.6	-7.7	0.30	0.25	-15.56
1,513.0	0.45	287.94	1,512.9	-7.6	-7.5	-7.7	0.48	-0.35	33.01
1,603.0	0.29	218.61	1,602.9	-7.6	-7.9	-7.8	0.49	-0.18	-77.03
1,693.0	0.41	222.12	1,692.9	-8.1	-8.3	-8.2	0.14	0.13	3.90
1,782.0	0.07	291.28	1,781.9	-8.3	-8.6	-8.5	0.44	-0.38	77.71
1,869.0	0.13	148.98	1,868.9	-8.3	-8.6	-8.5	0.22	0.07	-163.56
1,955.0	0.26	345.66	1,954.9	-8.2	-8.6	-8.4	0.45	0.15	-189.91
2,050.0	0.42	7.72	2,049.9	-7.7	-8.6	-7.9	0.21	0.17	23.22
2,145.0	0.64	6.56	2,144.9	-6.8	-8.5	-7.0	0.23	0.23	-1.22
2,239.0	1.08	357.89	2,238.9	-5.4	-8.4	-5.6	0.49	0.47	-9.22
2,334.0	1.55	0.87	2,333.9	-3.2	-8.4	-3.4	0.50	0.49	3.14
2,429.0	1.73	10.47	2,428.8	-0.5	-8.2	-0.7	0.35	0.19	10.11
2,524.0	2.06	15.73	2,523.8	2.5	-7.4	2.4	0.39	0.35	5.54
2,619.0	2.39	17.71	2,618.7	6.1	-6.4	5.9	0.36	0.35	2.08
2,713.0	2.72	20.71	2,712.6	10.0	-5.0	9.9	0.38	0.35	3.19
2,808.0	1.43	19.33	2,807.6	13.2	-3.8	13.1	1.36	-1.36	-1.45
2,903.0	0.88	27.28	2,902.5	15.0	-3.1	14.9	0.60	-0.58	8.37
2,998.0	0.23	104.64	2,997.5	15.6	-2.5	15.5	0.90	-0.68	81.43
3,093.0	1.20	66.88	3,092.5	15.9	-1.4	15.9	1.08	1.02	-39.75
3,188.0	1.69	64.57	3,187.5	16.9	0.7	17.0	0.52	0.52	-2.43
3,283.0	1.36	81.41	3,282.5	17.7	3.1	17.8	0.58	-0.35	17.73
3,378.0	1.66	103.56	3,377.4	17.6	5.6	17.7	0.68	0.32	23.32
3,472.0	1.50	126.99	3,471.4	16.5	7.9	16.7	0.70	-0.17	24.93
3,513.0	1.95	162.91	3,512.4	15.5	8.5	15.7	2.80	1.10	87.61
3,655.0	2.09	174.94	3,654.3	10.6	9.4	10.8	0.31	0.10	8.47
3,749.0	1.06	175.06	3,748.3	8.0	9.7	8.3	1.10	-1.10	0.13
3,844.0	0.34	204.28	3,843.2	6.9	9.6	7.1	0.82	-0.76	30.76
3,939.0	0.32	210.68	3,938.2	6.4	9.4	6.6	0.04	-0.02	6.74
4,033.0	0.38	217.94	4,032.2	6.0	9.1	6.2	0.08	0.06	7.72
4,128.0	0.44	222.06	4,127.2	5.4	8.6	5.6	0.07	0.06	4.34
4,223.0	0.38	216.18	4,222.2	4.9	8.2	5.1	0.08	-0.06	-6.19
4,318.0	0.26	212.22	4,317.2	4.5	7.9	4.7	0.13	-0.13	-4.17
4,412.0	0.31	350.83	4,411.2	4.5	7.7	4.7	0.57	0.05	147.46
4,507.0	1.33	14.51	4,506.2	5.9	8.0	6.1	1.11	1.07	24.93
4,602.0	1.32	25.58	4,601.2	7.9	8.7	8.1	0.27	-0.01	11.65
4,697.0	1.42	32.61	4,696.2	9.9	9.8	10.1	0.21	0.11	7.40
4,792.0	1.54	37.34	4,791.1	11.9	11.2	12.2	0.18	0.13	4.98

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4,887.0	1.85	32.03	4,886.1	14.2	12.8	14.5	0.37	0.33	-5.59
4,981.0	0.55	43.86	4,980.1	15.8	13.9	16.2	1.40	-1.38	12.59
5,076.0	0.83	208.35	5,075.1	15.6	13.9	15.9	1.44	0.29	173.15
5,171.0	0.91	216.41	5,170.1	14.3	13.1	14.7	0.15	0.08	8.48
5,266.0	1.09	200.35	5,265.0	12.9	12.4	13.2	0.35	0.19	-16.91
5,361.0	1.02	195.80	5,360.0	11.2	11.8	11.5	0.11	-0.07	-4.79
5,447.0	1.00	196.99	5,446.0	9.8	11.4	10.0	0.03	-0.02	1.38
5,561.0	1.10	232.95	5,560.0	8.2	10.2	8.4	0.57	0.09	31.54
5,654.0	1.17	98.38	5,653.0	7.5	10.5	7.7	2.25	0.08	-144.70
5,749.0	2.44	114.93	5,747.9	6.5	13.3	6.8	1.43	1.34	17.42
5,844.0	7.94	130.81	5,842.5	1.3	20.1	1.8	5.93	5.79	16.72
5,939.0	8.10	127.52	5,936.6	-7.0	30.3	-6.3	0.51	0.17	-3.46
6,034.0	7.39	125.99	6,030.7	-14.7	40.6	-13.7	0.78	-0.75	-1.61
6,129.0	7.49	120.84	6,124.9	-21.4	50.9	-20.2	0.71	0.11	-5.42
6,223.0	8.14	120.29	6,218.1	-27.9	61.9	-26.5	0.70	0.69	-0.59
6,317.0	8.51	119.42	6,311.1	-34.7	73.7	-33.0	0.42	0.39	-0.93
6,412.0	8.27	115.30	6,405.0	-41.1	86.0	-39.0	0.68	-0.25	-4.34
6,506.0	9.24	125.79	6,498.0	-48.4	98.2	-46.1	1.98	1.03	11.16
6,601.0	8.77	126.58	6,591.8	-57.2	110.2	-54.5	0.51	-0.49	0.83
6,695.0	8.50	123.39	6,684.7	-65.3	121.8	-62.4	0.58	-0.29	-3.39
6,790.0	8.81	123.58	6,778.6	-73.2	133.7	-70.0	0.33	0.33	0.20
6,884.0	8.83	125.40	6,871.5	-81.3	145.6	-77.8	0.30	0.02	1.94
6,979.0	8.74	127.36	6,965.4	-89.9	157.2	-86.2	0.33	-0.09	2.06
7,074.0	8.07	126.38	7,059.4	-98.3	168.4	-94.2	0.72	-0.71	-1.03
7,169.0	7.99	126.96	7,153.5	-106.2	179.0	-101.9	0.12	-0.08	0.61
7,263.0	6.94	127.56	7,246.7	-113.6	188.7	-109.1	1.12	-1.12	0.64
7,358.0	6.11	132.97	7,341.0	-120.5	197.0	-115.8	1.09	-0.87	5.69
7,453.0	5.76	131.75	7,435.5	-127.1	204.2	-122.3	0.39	-0.37	-1.28
7,548.0	6.05	137.92	7,530.0	-134.0	211.1	-129.0	0.73	0.31	6.49
7,643.0	6.21	137.04	7,624.5	-141.5	218.0	-136.3	0.20	0.17	-0.93
7,738.0	6.68	122.88	7,718.9	-148.3	226.1	-142.9	1.74	0.49	-14.91
7,832.0	6.24	123.50	7,812.3	-154.0	235.0	-148.4	0.47	-0.47	0.66
7,927.0	5.26	121.30	7,906.8	-159.2	243.0	-153.4	1.06	-1.03	-2.32
8,021.0	4.51	128.13	8,000.5	-163.7	249.6	-157.7	1.01	-0.80	7.27
8,116.0	4.23	132.41	8,095.2	-168.3	255.1	-162.3	0.45	-0.29	4.51
8,211.0	3.69	129.49	8,190.0	-172.7	260.1	-166.4	0.61	-0.57	-3.07
8,306.0	3.90	133.90	8,284.8	-176.8	264.8	-170.5	0.38	0.22	4.64
8,401.0	3.16	131.16	8,379.6	-180.8	269.1	-174.4	0.80	-0.78	-2.88
8,496.0	1.28	124.63	8,474.5	-183.1	271.9	-176.6	1.99	-1.98	-6.87
8,591.0	1.21	138.23	8,569.5	-184.5	273.4	-178.0	0.32	-0.07	14.32
8,686.0	0.65	159.69	8,664.5	-185.7	274.3	-179.2	0.68	-0.59	22.59
8,781.0	0.32	25.08	8,759.5	-186.0	274.6	-179.4	0.95	-0.35	-141.69
8,876.0	0.92	328.24	8,854.5	-185.1	274.3	-178.6	0.83	0.63	-59.83

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8,970.0	0.77	316.50	8,948.5	-184.0	273.5	-177.5	0.24	-0.16	-12.49
9,065.0	0.97	277.98	9,043.4	-183.4	272.2	-176.9	0.64	0.21	-40.55
9,160.0	1.36	303.65	9,138.4	-182.7	270.5	-176.2	0.68	0.41	27.02
9,255.0	1.79	310.53	9,233.4	-181.1	268.4	-174.7	0.49	0.45	7.24
9,349.0	1.88	296.70	9,327.3	-179.5	265.9	-173.1	0.48	0.10	-14.71
9,434.0	1.55	273.43	9,412.3	-178.8	263.6	-172.5	0.90	-0.39	-27.38
9,477.0	2.07	266.16	9,455.3	-178.8	262.2	-172.5	1.32	1.21	-16.91
9,524.0	3.13	336.64	9,502.2	-177.7	260.8	-171.4	6.64	2.26	149.96
9,572.0	8.19	0.37	9,550.0	-173.0	260.3	-166.8	11.40	10.54	49.44
9,619.0	14.22	1.02	9,596.1	-163.9	260.5	-157.7	12.83	12.83	1.38
9,666.0	19.54	359.68	9,641.0	-150.3	260.5	-144.1	11.35	11.32	-2.85
9,713.0	24.38	359.83	9,684.6	-132.7	260.5	-126.5	10.30	10.30	0.32
9,747.7	26.05	359.05	9,716.0	-117.9	260.3	-111.7	4.91	4.81	-2.26
FTP @ 9747.7'MD / 9716'TVD									
9,761.0	26.69	358.77	9,727.9	-112.0	260.2	-105.8	4.91	4.82	-2.08
9,808.0	27.78	357.85	9,769.7	-90.5	259.6	-84.3	2.49	2.32	-1.96
9,856.0	30.07	358.58	9,811.7	-67.3	258.8	-61.2	4.83	4.77	1.52
9,903.0	32.32	3.32	9,851.9	-43.0	259.3	-36.8	7.08	4.79	10.09
9,951.0	34.73	1.74	9,892.0	-16.5	260.4	-10.3	5.34	5.02	-3.29
9,998.0	37.38	0.13	9,929.9	11.1	260.9	17.3	5.99	5.64	-3.43
10,045.0	39.28	1.20	9,966.8	40.3	261.2	46.5	4.28	4.04	2.28
10,092.0	43.99	0.91	10,001.9	71.5	261.8	77.7	10.03	10.02	-0.62
10,140.0	46.41	1.65	10,035.8	105.6	262.6	111.7	5.16	5.04	1.54
10,226.0	52.55	2.41	10,091.6	170.9	264.9	177.1	7.17	7.14	0.88
10,273.0	60.41	2.33	10,117.5	210.0	266.5	216.2	16.72	16.72	-0.17
10,321.0	69.00	4.52	10,138.0	253.2	269.1	259.6	18.36	17.90	4.56
10,384.0	80.39	7.25	10,154.6	313.6	275.4	320.0	18.55	18.08	4.33
10,416.0	86.33	8.15	10,158.3	345.1	279.6	351.6	18.77	18.56	2.81
10,514.0	88.81	2.45	10,162.5	442.5	288.7	449.2	6.34	2.53	-5.82
10,609.0	91.18	2.53	10,162.5	537.4	292.8	544.2	2.50	2.49	0.08
10,704.0	92.24	0.83	10,159.7	632.3	295.6	639.2	2.11	1.12	-1.79
10,798.0	93.26	0.54	10,155.2	726.2	296.7	733.0	1.13	1.09	-0.31
10,893.0	94.18	359.95	10,149.0	821.0	297.1	827.8	1.15	0.97	-0.62
10,985.0	94.20	359.27	10,142.3	912.8	296.5	919.5	0.74	0.02	-0.74
11,080.0	87.71	359.95	10,140.7	1,007.7	295.8	1,014.4	6.87	-6.83	0.72
11,174.0	87.54	359.59	10,144.6	1,101.6	295.5	1,108.3	0.42	-0.18	-0.38
11,272.0	91.34	358.88	10,145.5	1,199.6	294.2	1,206.2	3.94	3.88	-0.72
11,366.0	91.51	358.77	10,143.2	1,293.5	292.2	1,300.1	0.22	0.18	-0.12
11,461.0	91.89	357.83	10,140.4	1,388.4	289.4	1,394.9	1.07	0.40	-0.99
11,555.0	90.66	359.51	10,138.3	1,482.4	287.2	1,488.8	2.21	-1.31	1.79
11,650.0	89.40	1.01	10,138.2	1,577.4	287.7	1,583.8	2.06	-1.33	1.58
11,743.0	89.30	0.77	10,139.3	1,670.4	289.1	1,676.7	0.28	-0.11	-0.26
11,837.0	88.92	0.65	10,140.8	1,764.4	290.3	1,770.7	0.42	-0.40	-0.13
11,931.0	88.18	0.36	10,143.1	1,858.3	291.1	1,864.7	0.85	-0.79	-0.31

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	**Local Co-ordinate Reference:**	Well SQUINTS FED COM 8H
Project:	LEA COUNTY, NM	**TVD Reference:**	KB=25' @ 3429.0usft (LATSHAW 44)
Site:	BULLDOG	**MD Reference:**	KB=25' @ 3429.0usft (LATSHAW 44)
Well:	SQUINTS FED COM 8H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWP	**Database:**	edm

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
12,026.0	90.87	1.77	10,143.9	1,953.3	292.9	1,959.7	3.20	2.83	1.48
12,121.0	90.84	2.31	10,142.5	2,048.2	296.3	2,054.7	0.57	-0.03	0.57
12,215.0	91.48	2.53	10,140.6	2,142.1	300.2	2,148.6	0.72	0.68	0.23
12,309.0	89.87	1.72	10,139.5	2,236.0	303.7	2,242.6	1.92	-1.71	-0.86
12,403.0	89.63	1.86	10,139.9	2,330.0	306.6	2,336.6	0.30	-0.26	0.15
12,497.0	89.94	1.09	10,140.3	2,424.0	309.1	2,430.6	0.88	0.33	-0.82
12,592.0	87.56	355.85	10,142.3	2,518.9	306.5	2,525.4	6.06	-2.51	-5.52
12,686.0	87.82	355.60	10,146.1	2,612.5	299.5	2,618.9	0.38	0.28	-0.27
12,780.0	87.73	356.87	10,149.8	2,706.2	293.4	2,712.4	1.35	-0.10	1.35
12,875.0	88.93	358.42	10,152.5	2,801.1	289.5	2,807.2	2.06	1.26	1.63
12,969.0	89.07	358.87	10,154.2	2,895.1	287.2	2,901.1	0.50	0.15	0.48
13,063.0	89.80	359.30	10,155.1	2,989.1	285.7	2,995.0	0.90	0.78	0.46
13,157.0	90.93	358.88	10,154.5	3,083.0	284.2	3,088.9	1.28	1.20	-0.45
13,252.0	91.00	358.78	10,152.9	3,178.0	282.3	3,183.8	0.13	0.07	-0.11
13,345.0	92.14	358.65	10,150.4	3,271.0	280.2	3,276.7	1.23	1.23	-0.14
13,439.0	89.44	359.33	10,149.1	3,364.9	278.6	3,370.6	2.96	-2.87	0.72
13,534.0	89.68	359.50	10,149.8	3,459.9	277.6	3,465.5	0.31	0.25	0.18
13,628.0	92.47	1.60	10,148.0	3,553.9	278.5	3,559.5	3.71	2.97	2.23
13,723.0	91.33	3.56	10,144.9	3,648.7	282.8	3,654.4	2.39	-1.20	2.06
13,817.0	88.83	3.20	10,144.7	3,742.6	288.3	3,748.3	2.69	-2.66	-0.38
13,911.0	87.32	3.04	10,147.9	3,836.4	293.4	3,842.2	1.62	-1.61	-0.17
14,006.0	87.36	3.30	10,152.3	3,931.1	298.7	3,937.1	0.28	0.04	0.27
14,100.0	87.54	0.81	10,156.5	4,024.9	302.0	4,031.0	2.65	0.19	-2.65
14,195.0	90.25	359.35	10,158.3	4,119.9	302.2	4,125.9	3.24	2.85	-1.54
14,289.0	89.84	359.04	10,158.3	4,213.9	300.8	4,219.9	0.55	-0.44	-0.33
14,384.0	91.26	359.24	10,157.3	4,308.9	299.4	4,314.8	1.51	1.49	0.21
14,478.0	89.41	358.64	10,156.8	4,402.9	297.7	4,408.7	2.07	-1.97	-0.64
14,572.0	90.10	359.47	10,157.2	4,496.9	296.1	4,502.6	1.15	0.73	0.88
14,667.0	90.28	359.67	10,156.9	4,591.9	295.4	4,597.6	0.28	0.19	0.21
14,761.0	89.98	359.28	10,156.7	4,685.8	294.6	4,691.5	0.52	-0.32	-0.41
14,855.0	90.45	359.13	10,156.3	4,779.8	293.3	4,785.4	0.52	0.50	-0.16
14,949.0	90.34	358.51	10,155.7	4,873.8	291.3	4,879.3	0.67	-0.12	-0.66
15,033.0	89.21	358.34	10,156.0	4,957.8	289.0	4,963.2	1.36	-1.35	-0.20
15,127.0	88.94	358.25	10,157.5	5,051.7	286.2	5,057.1	0.30	-0.29	-0.10
15,221.0	89.23	358.45	10,159.0	5,145.7	283.5	5,150.9	0.37	0.31	0.21
15,316.0	88.11	357.81	10,161.2	5,240.6	280.4	5,245.8	1.36	-1.18	-0.67
15,411.0	88.73	357.95	10,163.8	5,335.5	276.9	5,340.6	0.67	0.65	0.15
15,506.0	88.83	358.13	10,165.9	5,430.4	273.6	5,435.4	0.22	0.11	0.19
15,600.0	88.67	358.10	10,167.9	5,524.3	270.6	5,529.2	0.17	-0.17	-0.03
15,694.0	89.00	357.87	10,169.8	5,618.3	267.3	5,623.0	0.43	0.35	-0.24
15,788.0	88.94	357.75	10,171.5	5,712.2	263.7	5,716.8	0.14	-0.06	-0.13
15,883.0	89.11	357.68	10,173.1	5,807.1	259.9	5,811.6	0.19	0.18	-0.07
15,978.0	89.20	357.78	10,174.5	5,902.0	256.1	5,906.4	0.14	0.09	0.11

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	**Local Co-ordinate Reference:**	Well SQUINTS FED COM 8H
Project:	LEA COUNTY, NM	**TVD Reference:**	KB=25' @ 3429.0usft (LATSHAW 44)
Site:	BULLDOG	**MD Reference:**	KB=25' @ 3429.0usft (LATSHAW 44)
Well:	SQUINTS FED COM 8H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWP	**Database:**	edm

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,073.0	88.27	358.53	10,176.6	5,996.9	253.1	6,001.2	1.26	-0.98	0.79
16,167.0	88.57	358.73	10,179.2	6,090.9	250.8	6,095.1	0.38	0.32	0.21
16,262.0	89.05	358.86	10,181.2	6,185.8	248.8	6,190.0	0.52	0.51	0.14
16,356.0	87.91	359.97	10,183.7	6,279.8	247.8	6,283.9	1.69	-1.21	1.18
16,451.0	87.91	0.74	10,187.2	6,374.7	248.4	6,378.8	0.81	0.00	0.81
16,545.0	87.18	1.55	10,191.2	6,468.6	250.3	6,472.7	1.16	-0.78	0.86
16,640.0	87.52	2.25	10,195.6	6,563.5	253.5	6,567.6	0.82	0.36	0.74
16,735.0	88.14	0.89	10,199.2	6,658.4	256.1	6,662.6	1.57	0.65	-1.43
16,829.0	88.36	1.70	10,202.0	6,752.3	258.2	6,756.5	0.89	0.23	0.86
16,923.0	88.21	2.04	10,204.9	6,846.2	261.3	6,850.5	0.40	-0.16	0.36
17,017.0	87.89	0.87	10,208.0	6,940.1	263.6	6,944.4	1.29	-0.34	-1.24
17,112.0	88.55	1.71	10,211.0	7,035.0	265.8	7,039.4	1.12	0.69	0.88
17,207.0	88.09	1.31	10,213.8	7,130.0	268.3	7,134.3	0.64	-0.48	-0.42
17,301.0	89.27	1.52	10,216.0	7,223.9	270.6	7,228.3	1.28	1.26	0.22
17,396.0	86.87	359.81	10,219.1	7,318.8	271.7	7,323.2	3.10	-2.53	-1.80
17,490.0	86.87	0.16	10,224.3	7,412.7	271.7	7,417.1	0.37	0.00	0.37
17,585.0	88.76	359.76	10,227.9	7,507.6	271.6	7,512.0	2.03	1.99	-0.42
17,679.0	88.57	359.03	10,230.1	7,601.6	270.6	7,605.9	0.80	-0.20	-0.78
17,774.0	87.86	358.52	10,233.1	7,696.5	268.6	7,700.7	0.92	-0.75	-0.54
17,868.0	87.88	358.46	10,236.5	7,790.4	266.1	7,794.5	0.07	0.02	-0.06
17,963.0	87.36	357.98	10,240.5	7,885.3	263.2	7,889.3	0.74	-0.55	-0.51
18,057.0	88.03	357.99	10,244.3	7,979.2	259.9	7,983.1	0.71	0.71	0.01
18,152.0	88.38	358.57	10,247.2	8,074.1	257.0	8,077.9	0.71	0.37	0.61
18,246.0	88.85	359.43	10,249.5	8,168.0	255.4	8,171.8	1.04	0.50	0.91
18,341.0	89.15	0.62	10,251.2	8,263.0	255.4	8,266.7	1.29	0.32	1.25
18,435.0	89.74	1.01	10,252.1	8,357.0	256.7	8,360.7	0.75	0.63	0.41
18,530.0	91.96	359.33	10,250.7	8,452.0	257.0	8,455.7	2.93	2.34	-1.77
18,624.0	91.78	359.63	10,247.6	8,545.9	256.2	8,549.6	0.37	-0.19	0.32
18,718.0	92.99	0.25	10,243.7	8,639.8	256.1	8,643.5	1.45	1.29	0.66
18,813.0	91.27	358.79	10,240.2	8,734.8	255.3	8,738.4	2.37	-1.81	-1.54
18,912.0	91.83	359.05	10,237.5	8,833.7	253.4	8,837.2	0.62	0.57	0.26
19,006.0	93.07	358.93	10,233.5	8,927.6	251.8	8,931.1	1.33	1.32	-0.13
19,101.0	90.52	358.22	10,230.5	9,022.5	249.4	9,025.9	2.79	-2.68	-0.75
19,194.0	90.57	357.96	10,229.6	9,115.5	246.3	9,118.7	0.28	0.05	-0.28
19,289.0	90.85	358.28	10,228.4	9,210.4	243.2	9,213.6	0.45	0.29	0.34
19,384.0	90.62	358.24	10,227.2	9,305.4	240.3	9,308.4	0.25	-0.24	-0.04
19,478.0	91.28	358.33	10,225.7	9,399.3	237.5	9,402.3	0.71	0.70	0.10
19,572.0	91.40	358.43	10,223.5	9,493.2	234.8	9,496.1	0.17	0.13	0.11
19,667.0	91.19	358.61	10,221.3	9,588.2	232.4	9,591.0	0.29	-0.22	0.19
19,761.0	91.18	357.96	10,219.4	9,682.1	229.6	9,684.8	0.69	-0.01	-0.69
19,856.0	91.80	357.92	10,216.9	9,777.0	226.2	9,779.6	0.65	0.65	-0.04
19,951.0	91.66	357.92	10,214.0	9,871.9	222.7	9,874.4	0.15	-0.15	0.00
20,045.0	91.81	358.61	10,211.2	9,965.8	219.9	9,968.2	0.75	0.16	0.73

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	**Local Co-ordinate Reference:**	Well SQUINTS FED COM 8H
Project:	LEA COUNTY, NM	**TVD Reference:**	KB=25' @ 3429.0usft (LATSHAW 44)
Site:	BULLDOG	**MD Reference:**	KB=25' @ 3429.0usft (LATSHAW 44)
Well:	SQUINTS FED COM 8H	**North Reference:**	Grid
Wellbore:	OWB	**Survey Calculation Method:**	Minimum Curvature
Design:	AWP	**Database:**	edm

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
20,139.0	91.91	358.69	10,208.1	10,059.8	217.6	10,062.1	0.14	0.11	0.09
20,233.0	91.96	358.50	10,205.0	10,153.7	215.3	10,155.9	0.21	0.05	-0.20
20,282.0	92.23	358.64	10,203.2	10,202.6	214.1	10,204.8	0.62	0.55	0.29
Last MWD SVY @ 20282'MD									
20,321.6	92.23	358.64	10,201.6	10,242.2	213.2	10,244.4	0.00	0.00	0.00
LTP @ 20321.6'MD / 10201.6'TVD									
20,343.0	92.23	358.64	10,200.8	10,263.6	212.7	10,265.7	0.00	0.00	0.00
PTD @ 20343'MD									

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
FTP (SQUINTS FED (	0.00	0.00	10,145.0	-117.6	305.6	494,165.40	768,824.30	32° 21' 20.057 N	103° 27' 46.013 W
- actual wellpath misses target center by 240.0usft at 10073.8usft MD (9988.7 TVD, 59.1 N, 261.6 E)									
- Circle (radius 50.0)									
4000'VS (SQUINTS F	0.00	180.66	10,145.0	3,994.4	281.6	498,277.44	768,800.32	32° 22' 0.748 N	103° 27' 45.903 W
- actual wellpath misses target center by 22.2usft at 14068.3usft MD (10155.1 TVD, 3993.3 N, 301.4 E)									
- Point									
LTP (SQUINTS FED (	0.00	0.00	10,176.2	10,242.5	244.2	504,525.50	768,762.90	32° 23' 2.576 N	103° 27' 45.746 W
- actual wellpath misses target center by 40.1usft at 20321.6usft MD (10201.6 TVD, 10242.2 N, 213.2 E)									
- Point									
PBHL (SQUINTS FEI	1.55	179.66	10,195.0	10,292.5	243.9	504,575.50	768,762.60	32° 23' 3.070 N	103° 27' 45.745 W
- actual wellpath misses target center by 43.0usft at 20343.0usft MD (10200.8 TVD, 10263.6 N, 212.7 E)									
- Rectangle (sides W60.0 H2,295.5 D30.0)									
8000'VS (SQUINTS F	-1.20	179.66	10,248.0	7,996.1	257.7	502,279.13	768,776.35	32° 22' 40.347 N	103° 27' 45.803 W
- actual wellpath misses target center by 3.5usft at 18074.1usft MD (10244.9 TVD, 7996.3 N, 259.3 E)									
- Point									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates +N/-S (usft)	Local Coordinates +E/-W (usft)	Comment
9,747.7	9,716.0	-117.9	260.3	FTP @ 9747.7'MD / 9716'TVD
20,282.0	10,203.2	10,202.6	214.1	Last MWD SVY @ 20282'MD
20,321.6	10,201.6	10,242.2	213.2	LTP @ 20321.6'MD / 10201.6'TVD
20,343.0	10,200.8	10,263.6	212.7	PTD @ 20343'MD

Checked By: _____ Approved By: _____ Date: _____