

NORTHERN DELAWARE BASIN

LEA COUNTY, NM

BULLDOG

SEBASTIAN FEDERAL COM 703H

OWB

Design: AWP

Standard Survey Report

17 April, 2020

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	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		

Well	SEBASTIAN FEDERAL COM 703H, ACTIVE			
Well Position	+N/-S	0.0 usft	Northing:	446,197.70 usft
	+E/-W	0.0 usft	Easting:	755,503.60 usft
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft
			Ground Level:	3,585.0 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/30/2020	6.62	60.04	47,657.15337317

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	165.63	

Survey Program	Date	4/17/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	11,227.0	GYRO (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,414.0	16,988.0	MWD-CURVE/LATERAL (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	
100.0	0.75	349.05	100.0	0.6	-0.1	-0.7	0.75	0.75	0.00	
125.0	0.80	349.19	125.0	1.0	-0.2	-1.0	0.20	0.20	0.56	
150.0	0.86	348.53	150.0	1.3	-0.3	-1.4	0.24	0.24	-2.64	
175.0	0.89	351.44	175.0	1.7	-0.3	-1.7	0.21	0.12	11.64	
200.0	0.90	352.80	200.0	2.1	-0.4	-2.1	0.09	0.04	5.44	
225.0	0.88	352.68	225.0	2.5	-0.4	-2.5	0.08	-0.08	-0.48	
250.0	0.91	0.42	250.0	2.9	-0.4	-2.9	0.50	0.12	30.96	
275.0	0.90	353.95	275.0	3.3	-0.5	-3.3	0.41	-0.04	-25.88	
300.0	0.95	358.22	300.0	3.7	-0.5	-3.7	0.34	0.20	17.08	
325.0	0.87	353.39	325.0	4.1	-0.5	-4.1	0.44	-0.32	-19.32	
350.0	0.80	354.71	350.0	4.4	-0.6	-4.4	0.29	-0.28	5.28	
375.0	0.77	358.06	375.0	4.8	-0.6	-4.8	0.22	-0.12	13.40	
400.0	0.77	2.81	400.0	5.1	-0.6	-5.1	0.26	0.00	19.00	
425.0	0.77	3.36	425.0	5.4	-0.6	-5.4	0.03	0.00	2.20	

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Well:	SEBASTIAN FEDERAL COM 703H	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)
450.0	0.72	358.90	450.0	5.8	-0.6	-5.7	0.31	-0.20	-17.84
475.0	0.64	357.43	475.0	6.1	-0.6	-6.0	0.33	-0.32	-5.88
500.0	0.57	7.53	500.0	6.3	-0.6	-6.3	0.51	-0.28	40.40
525.0	0.45	359.28	525.0	6.5	-0.5	-6.5	0.56	-0.48	-33.00
550.0	0.46	5.99	550.0	6.7	-0.5	-6.7	0.22	0.04	26.84
575.0	0.43	6.84	575.0	6.9	-0.5	-6.8	0.12	-0.12	3.40
600.0	0.46	13.74	600.0	7.1	-0.5	-7.0	0.25	0.12	27.60
625.0	0.47	15.32	625.0	7.3	-0.4	-7.2	0.07	0.04	6.32
650.0	0.43	9.26	650.0	7.5	-0.4	-7.4	0.25	-0.16	-24.24
675.0	0.58	25.00	675.0	7.7	-0.3	-7.6	0.81	0.60	62.96
700.0	0.48	14.57	699.9	7.9	-0.2	-7.7	0.55	-0.40	-41.72
725.0	0.53	15.28	724.9	8.1	-0.2	-7.9	0.20	0.20	2.84
750.0	0.58	15.32	749.9	8.4	-0.1	-8.1	0.20	0.20	0.16
775.0	0.71	9.90	774.9	8.7	-0.1	-8.4	0.57	0.52	-21.68
800.0	0.71	6.43	799.9	9.0	0.0	-8.7	0.17	0.00	-13.88
825.0	0.67	1.35	824.9	9.3	0.0	-9.0	0.29	-0.16	-20.32
850.0	0.69	2.70	849.9	9.6	0.0	-9.3	0.10	0.08	5.40
875.0	0.63	4.64	874.9	9.8	0.0	-9.5	0.26	-0.24	7.76
900.0	0.62	7.67	899.9	10.1	0.1	-9.8	0.14	-0.04	12.12
925.0	0.64	8.54	924.9	10.4	0.1	-10.0	0.09	0.08	3.48
950.0	0.76	359.67	949.9	10.7	0.1	-10.3	0.65	0.48	-35.48
975.0	0.82	357.09	974.9	11.0	0.1	-10.7	0.28	0.24	-10.32
1,000.0	0.88	358.58	999.9	11.4	0.1	-11.0	0.26	0.24	5.96
1,025.0	0.93	355.95	1,024.9	11.8	0.1	-11.4	0.26	0.20	-10.52
1,050.0	1.00	347.57	1,049.9	12.2	0.0	-11.8	0.63	0.28	-33.52
1,075.0	1.00	338.85	1,074.9	12.6	-0.1	-12.3	0.61	0.00	-34.88
1,100.0	0.97	337.19	1,099.9	13.0	-0.3	-12.7	0.17	-0.12	-6.64
1,125.0	0.97	343.22	1,124.9	13.4	-0.4	-13.1	0.41	0.00	24.12
1,150.0	1.11	336.87	1,149.9	13.9	-0.6	-13.6	0.72	0.56	-25.40
1,175.0	1.19	339.21	1,174.9	14.3	-0.7	-14.1	0.37	0.32	9.36
1,200.0	1.39	331.28	1,199.9	14.8	-1.0	-14.6	1.07	0.80	-31.72
1,225.0	1.46	325.56	1,224.9	15.4	-1.3	-15.2	0.63	0.28	-22.88
1,250.0	1.48	328.36	1,249.9	15.9	-1.7	-15.8	0.30	0.08	11.20
1,275.0	1.47	329.21	1,274.9	16.4	-2.0	-16.4	0.10	-0.04	3.40
1,300.0	1.16	331.97	1,299.9	16.9	-2.3	-17.0	1.27	-1.24	11.04
1,325.0	0.98	335.25	1,324.9	17.4	-2.5	-17.4	0.76	-0.72	13.12
1,350.0	0.90	334.08	1,349.9	17.7	-2.7	-17.8	0.33	-0.32	-4.68
1,375.0	0.82	341.56	1,374.9	18.1	-2.8	-18.2	0.55	-0.32	29.92
1,400.0	0.76	347.74	1,399.9	18.4	-2.9	-18.6	0.42	-0.24	24.72
1,425.0	0.68	352.42	1,424.8	18.7	-3.0	-18.9	0.40	-0.32	18.72
1,450.0	1.00	50.35	1,449.8	19.0	-2.8	-19.1	3.44	1.28	231.72
1,475.0	1.34	62.97	1,474.8	19.3	-2.4	-19.3	1.70	1.36	50.48
1,500.0	1.49	63.17	1,499.8	19.6	-1.8	-19.4	0.60	0.60	0.80

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1,525.0	1.51	64.03	1,524.8	19.8	-1.2	-19.5	0.12	0.08	3.44
1,550.0	1.51	65.10	1,549.8	20.1	-0.6	-19.7	0.11	0.00	4.28
1,575.0	1.55	64.41	1,574.8	20.4	0.0	-19.8	0.18	0.16	-2.76
1,600.0	1.76	68.01	1,599.8	20.7	0.6	-19.9	0.94	0.84	14.40
1,625.0	2.55	75.64	1,624.8	21.0	1.5	-20.0	3.36	3.16	30.52
1,650.0	2.68	76.84	1,649.8	21.3	2.6	-19.9	0.56	0.52	4.80
1,675.0	2.72	78.13	1,674.7	21.5	3.8	-19.9	0.29	0.16	5.16
1,700.0	2.79	77.81	1,699.7	21.8	4.9	-19.9	0.29	0.28	-1.28
1,725.0	2.78	78.02	1,724.7	22.0	6.1	-19.8	0.06	-0.04	0.84
1,750.0	2.73	78.72	1,749.6	22.3	7.3	-19.7	0.24	-0.20	2.80
1,775.0	2.84	78.80	1,774.6	22.5	8.5	-19.7	0.44	0.44	0.32
1,800.0	2.81	79.74	1,799.6	22.7	9.7	-19.6	0.22	-0.12	3.76
1,825.0	2.97	85.25	1,824.5	22.9	11.0	-19.5	1.28	0.64	22.04
1,850.0	3.07	88.16	1,849.5	23.0	12.3	-19.2	0.73	0.40	11.64
1,875.0	3.05	88.31	1,874.5	23.0	13.6	-18.9	0.09	-0.08	0.60
1,900.0	3.06	88.67	1,899.4	23.0	14.9	-18.6	0.09	0.04	1.44
1,925.0	3.04	88.35	1,924.4	23.1	16.3	-18.3	0.11	-0.08	-1.28
1,950.0	3.05	89.32	1,949.4	23.1	17.6	-18.0	0.21	0.04	3.88
1,975.0	3.17	90.22	1,974.3	23.1	19.0	-17.7	0.52	0.48	3.60
2,000.0	3.50	99.40	1,999.3	23.0	20.4	-17.2	2.51	1.32	36.72
2,025.0	3.53	102.43	2,024.2	22.7	21.9	-16.5	0.75	0.12	12.12
2,050.0	3.59	103.42	2,049.2	22.3	23.4	-15.8	0.34	0.24	3.96
2,075.0	3.42	108.25	2,074.1	21.9	24.9	-15.1	1.36	-0.68	19.32
2,100.0	3.18	116.02	2,099.1	21.4	26.2	-14.2	2.03	-0.96	31.08
2,125.0	3.13	117.57	2,124.1	20.8	27.4	-13.3	0.40	-0.20	6.20
2,150.0	3.16	117.46	2,149.0	20.1	28.7	-12.4	0.12	0.12	-0.44
2,175.0	3.20	118.76	2,174.0	19.5	29.9	-11.5	0.33	0.16	5.20
2,200.0	3.19	117.52	2,199.0	18.8	31.1	-10.5	0.28	-0.04	-4.96
2,225.0	3.12	116.87	2,223.9	18.2	32.3	-9.6	0.31	-0.28	-2.60
2,250.0	3.13	116.09	2,248.9	17.6	33.6	-8.7	0.17	0.04	-3.12
2,275.0	3.04	116.60	2,273.8	17.0	34.8	-7.8	0.38	-0.36	2.04
2,300.0	3.05	115.16	2,298.8	16.4	36.0	-7.0	0.31	0.04	-5.76
2,325.0	3.01	114.80	2,323.8	15.9	37.2	-6.1	0.18	-0.16	-1.44
2,350.0	2.91	114.73	2,348.7	15.3	38.3	-5.3	0.40	-0.40	-0.28
2,375.0	2.81	112.57	2,373.7	14.8	39.5	-4.6	0.59	-0.40	-8.64
2,400.0	2.83	111.95	2,398.7	14.3	40.6	-3.8	0.15	0.08	-2.48
2,425.0	2.83	110.64	2,423.6	13.9	41.8	-3.1	0.26	0.00	-5.24
2,450.0	2.78	110.88	2,448.6	13.5	42.9	-2.4	0.21	-0.20	0.96
2,475.0	2.76	110.59	2,473.6	13.0	44.0	-1.7	0.10	-0.08	-1.16
2,500.0	2.75	109.75	2,498.6	12.6	45.2	-1.0	0.17	-0.04	-3.36
2,525.0	2.72	108.94	2,523.5	12.2	46.3	-0.4	0.20	-0.12	-3.24
2,550.0	2.69	107.74	2,548.5	11.9	47.4	0.3	0.26	-0.12	-4.80
2,575.0	2.69	108.67	2,573.5	11.5	48.5	0.9	0.17	0.00	3.72

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2,600.0	2.71	108.06	2,598.4	11.1	49.6	1.5	0.14	0.08	-2.44
2,625.0	2.68	106.88	2,623.4	10.8	50.8	2.2	0.25	-0.12	-4.72
2,650.0	2.62	107.16	2,648.4	10.4	51.9	2.8	0.25	-0.24	1.12
2,675.0	2.69	108.14	2,673.4	10.1	53.0	3.4	0.33	0.28	3.92
2,700.0	2.66	106.95	2,698.3	9.7	54.1	4.0	0.25	-0.12	-4.76
2,725.0	2.59	107.11	2,723.3	9.4	55.2	4.6	0.28	-0.28	0.64
2,750.0	2.61	108.34	2,748.3	9.0	56.3	5.2	0.24	0.08	4.92
2,775.0	2.66	106.91	2,773.3	8.7	57.4	5.8	0.33	0.20	-5.72
2,800.0	2.59	106.69	2,798.2	8.4	58.4	6.4	0.28	-0.28	-0.88
2,825.0	2.56	106.16	2,823.2	8.0	59.5	7.0	0.15	-0.12	-2.12
2,850.0	2.63	105.46	2,848.2	7.7	60.6	7.5	0.31	0.28	-2.80
2,875.0	2.65	105.21	2,873.2	7.4	61.7	8.1	0.09	0.08	-1.00
2,900.0	2.62	105.32	2,898.1	7.1	62.8	8.7	0.12	-0.12	0.44
2,925.0	2.60	105.02	2,923.1	6.8	63.9	9.2	0.10	-0.08	-1.20
2,950.0	2.64	104.57	2,948.1	6.5	65.0	9.8	0.18	0.16	-1.80
2,975.0	2.78	105.17	2,973.1	6.2	66.2	10.4	0.57	0.56	2.40
3,000.0	3.02	97.29	2,998.0	6.0	67.4	10.9	1.86	0.96	-31.52
3,025.0	2.98	103.70	3,023.0	5.8	68.7	11.5	1.35	-0.16	25.64
3,050.0	2.78	101.22	3,048.0	5.5	69.9	12.0	0.94	-0.80	-9.92
3,075.0	2.71	100.13	3,072.9	5.3	71.1	12.5	0.35	-0.28	-4.36
3,100.0	2.76	101.05	3,097.9	5.0	72.3	13.0	0.27	0.20	3.68
3,125.0	2.78	99.85	3,122.9	4.8	73.5	13.6	0.25	0.08	-4.80
3,150.0	2.77	99.12	3,147.8	4.6	74.7	14.0	0.15	-0.04	-2.92
3,175.0	2.77	97.76	3,172.8	4.4	75.9	14.5	0.26	0.00	-5.44
3,200.0	2.71	99.27	3,197.8	4.3	77.0	15.0	0.38	-0.24	6.04
3,225.0	2.77	100.84	3,222.8	4.1	78.2	15.5	0.38	0.24	6.28
3,250.0	2.78	100.04	3,247.7	3.8	79.4	16.0	0.16	0.04	-3.20
3,275.0	2.87	99.59	3,272.7	3.6	80.6	16.5	0.37	0.36	-1.80
3,300.0	3.12	99.18	3,297.7	3.4	81.9	17.0	1.00	1.00	-1.64
3,325.0	3.61	102.72	3,322.6	3.1	83.3	17.6	2.13	1.96	14.16
3,350.0	3.81	105.06	3,347.6	2.8	84.9	18.4	1.00	0.80	9.36
3,375.0	3.97	105.21	3,372.5	2.3	86.6	19.2	0.64	0.64	0.60
3,400.0	3.96	105.29	3,397.4	1.9	88.2	20.1	0.05	-0.04	0.32
3,425.0	3.97	104.91	3,422.4	1.4	89.9	20.9	0.11	0.04	-1.52
3,450.0	4.07	103.41	3,447.3	1.0	91.6	21.8	0.58	0.40	-6.00
3,475.0	4.17	103.35	3,472.3	0.6	93.3	22.6	0.40	0.40	-0.24
3,500.0	4.20	103.51	3,497.2	0.1	95.1	23.5	0.13	0.12	0.64
3,525.0	4.15	102.90	3,522.1	-0.3	96.9	24.3	0.27	-0.20	-2.44
3,550.0	4.22	102.50	3,547.1	-0.7	98.7	25.1	0.30	0.28	-1.60
3,575.0	4.31	101.19	3,572.0	-1.1	100.5	26.0	0.53	0.36	-5.24
3,600.0	4.35	100.45	3,596.9	-1.4	102.3	26.8	0.27	0.16	-2.96
3,625.0	4.31	100.42	3,621.8	-1.8	104.2	27.6	0.16	-0.16	-0.12
3,650.0	4.29	100.38	3,646.8	-2.1	106.0	28.3	0.08	-0.08	-0.16
3,675.0	4.37	100.79	3,671.7	-2.4	107.9	29.1	0.34	0.32	1.64

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	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)
3,700.0	4.29	99.21	3,696.6	-2.8	109.8	29.9	0.57	-0.32	-6.32
3,725.0	4.30	98.51	3,721.6	-3.1	111.6	30.7	0.21	0.04	-2.80
3,750.0	4.28	97.86	3,746.5	-3.3	113.5	31.4	0.21	-0.08	-2.60
3,775.0	4.24	96.91	3,771.4	-3.6	115.3	32.1	0.32	-0.16	-3.80
3,800.0	4.14	96.01	3,796.4	-3.8	117.1	32.7	0.48	-0.40	-3.60
3,825.0	4.04	95.30	3,821.3	-3.9	118.9	33.3	0.45	-0.40	-2.84
3,850.0	3.90	94.47	3,846.2	-4.1	120.6	33.9	0.61	-0.56	-3.32
3,875.0	3.84	94.91	3,871.2	-4.2	122.3	34.4	0.27	-0.24	1.76
3,900.0	3.85	94.19	3,896.1	-4.4	124.0	35.0	0.20	0.04	-2.88
3,925.0	3.86	92.30	3,921.1	-4.5	125.6	35.5	0.51	0.04	-7.56
3,950.0	3.82	93.29	3,946.0	-4.5	127.3	36.0	0.31	-0.16	3.96
3,975.0	3.90	94.00	3,971.0	-4.7	129.0	36.5	0.37	0.32	2.84
4,000.0	3.92	93.55	3,995.9	-4.8	130.7	37.0	0.15	0.08	-1.80
4,025.0	3.91	94.13	4,020.8	-4.9	132.4	37.6	0.16	-0.04	2.32
4,050.0	3.89	92.07	4,045.8	-5.0	134.1	38.1	0.57	-0.08	-8.24
4,075.0	3.85	93.48	4,070.7	-5.1	135.8	38.6	0.41	-0.16	5.64
4,100.0	4.02	93.86	4,095.7	-5.2	137.5	39.1	0.69	0.68	1.52
4,125.0	3.99	92.42	4,120.6	-5.3	139.2	39.6	0.42	-0.12	-5.76
4,150.0	4.08	92.37	4,145.5	-5.3	141.0	40.1	0.36	0.36	-0.20
4,175.0	4.10	90.57	4,170.5	-5.4	142.8	40.6	0.52	0.08	-7.20
4,200.0	4.05	91.72	4,195.4	-5.4	144.5	41.1	0.38	-0.20	4.60
4,225.0	4.07	92.33	4,220.3	-5.5	146.3	41.6	0.19	0.08	2.44
4,250.0	3.94	91.22	4,245.3	-5.5	148.1	42.1	0.61	-0.52	-4.44
4,275.0	4.11	92.23	4,270.2	-5.6	149.8	42.6	0.74	0.68	4.04
4,300.0	4.09	92.03	4,295.2	-5.6	151.6	43.1	0.10	-0.08	-0.80
4,325.0	4.15	91.64	4,320.1	-5.7	153.4	43.6	0.26	0.24	-1.56
4,350.0	4.26	91.93	4,345.0	-5.8	155.2	44.1	0.45	0.44	1.16
4,375.0	4.32	92.10	4,370.0	-5.8	157.1	44.6	0.25	0.24	0.68
4,400.0	4.45	93.46	4,394.9	-5.9	159.0	45.2	0.67	0.52	5.44
4,425.0	4.63	94.21	4,419.8	-6.1	161.0	45.8	0.76	0.72	3.00
4,450.0	4.76	94.58	4,444.7	-6.2	163.0	46.5	0.53	0.52	1.48
4,475.0	4.89	94.67	4,469.6	-6.4	165.1	47.2	0.52	0.52	0.36
4,500.0	4.98	94.15	4,494.5	-6.5	167.3	47.8	0.40	0.36	-2.08
4,525.0	4.98	92.89	4,519.4	-6.7	169.4	48.5	0.44	0.00	-5.04
4,550.0	4.98	93.07	4,544.4	-6.8	171.6	49.2	0.06	0.00	0.72
4,575.0	4.99	92.79	4,569.3	-6.9	173.8	49.8	0.11	0.04	-1.12
4,600.0	5.08	93.07	4,594.2	-7.0	176.0	50.5	0.37	0.36	1.12
4,625.0	5.04	93.30	4,619.1	-7.1	178.2	51.1	0.18	-0.16	0.92
4,650.0	4.97	92.80	4,644.0	-7.3	180.3	51.8	0.33	-0.28	-2.00
4,675.0	5.05	93.59	4,668.9	-7.4	182.5	52.4	0.42	0.32	3.16
4,700.0	5.17	94.10	4,693.8	-7.5	184.7	53.1	0.51	0.48	2.04
4,725.0	5.35	94.67	4,718.7	-7.7	187.0	53.9	0.75	0.72	2.28
4,750.0	5.44	94.99	4,743.6	-7.9	189.4	54.6	0.38	0.36	1.28

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	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)
4,775.0	5.62	95.73	4,768.4	-8.1	191.8	55.5	0.77	0.72	2.96
4,800.0	5.64	96.02	4,793.3	-8.4	194.2	56.3	0.14	0.08	1.16
4,825.0	5.77	96.51	4,818.2	-8.6	196.7	57.2	0.56	0.52	1.96
4,850.0	5.85	96.74	4,843.1	-8.9	199.2	58.1	0.33	0.32	0.92
4,875.0	6.07	97.56	4,867.9	-9.3	201.8	59.0	0.94	0.88	3.28
4,900.0	6.05	96.97	4,892.8	-9.6	204.4	60.0	0.26	-0.08	-2.36
4,925.0	5.97	95.96	4,917.7	-9.9	207.0	60.9	0.53	-0.32	-4.04
4,950.0	5.99	96.11	4,942.5	-10.2	209.6	61.8	0.10	0.08	0.60
4,975.0	6.03	95.53	4,967.4	-10.4	212.2	62.8	0.29	0.16	-2.32
5,000.0	6.07	94.44	4,992.2	-10.7	214.8	63.6	0.49	0.16	-4.36
5,025.0	5.88	92.71	5,017.1	-10.8	217.4	64.4	1.05	-0.76	-6.92
5,050.0	5.85	92.96	5,042.0	-10.9	219.9	65.2	0.16	-0.12	1.00
5,075.0	5.95	93.87	5,066.8	-11.1	222.5	66.0	0.55	0.40	3.64
5,100.0	6.00	93.60	5,091.7	-11.3	225.1	66.8	0.23	0.20	-1.08
5,125.0	5.99	91.68	5,116.6	-11.4	227.7	67.5	0.80	-0.04	-7.68
5,150.0	5.94	92.14	5,141.4	-11.5	230.3	68.3	0.28	-0.20	1.84
5,175.0	5.92	92.58	5,166.3	-11.6	232.9	69.0	0.20	-0.08	1.76
5,200.0	5.99	92.73	5,191.2	-11.7	235.5	69.8	0.29	0.28	0.60
5,225.0	6.04	91.84	5,216.0	-11.8	238.1	70.5	0.42	0.20	-3.56
5,250.0	5.92	91.59	5,240.9	-11.9	240.7	71.2	0.49	-0.48	-1.00
5,275.0	5.91	91.84	5,265.8	-12.0	243.3	72.0	0.11	-0.04	1.00
5,300.0	5.91	91.70	5,290.6	-12.0	245.9	72.7	0.06	0.00	-0.56
5,325.0	5.98	91.59	5,315.5	-12.1	248.4	73.4	0.28	0.28	-0.44
5,350.0	6.04	90.33	5,340.4	-12.2	251.1	74.1	0.58	0.24	-5.04
5,375.0	5.85	90.43	5,365.2	-12.2	253.7	74.7	0.76	-0.76	0.40
5,400.0	5.97	91.60	5,390.1	-12.2	256.2	75.4	0.68	0.48	4.68
5,425.0	5.96	91.41	5,415.0	-12.3	258.8	76.1	0.09	-0.04	-0.76
5,450.0	5.92	90.50	5,439.8	-12.3	261.4	76.8	0.41	-0.16	-3.64
5,475.0	5.87	89.92	5,464.7	-12.3	264.0	77.5	0.31	-0.20	-2.32
5,500.0	5.89	90.50	5,489.6	-12.4	266.5	78.1	0.25	0.08	2.32
5,525.0	5.90	90.42	5,514.4	-12.4	269.1	78.8	0.05	0.04	-0.32
5,550.0	5.93	90.25	5,539.3	-12.4	271.7	79.4	0.14	0.12	-0.68
5,575.0	5.95	89.71	5,564.2	-12.4	274.3	80.1	0.24	0.08	-2.16
5,600.0	5.88	88.98	5,589.0	-12.4	276.8	80.7	0.41	-0.28	-2.92
5,625.0	5.84	89.22	5,613.9	-12.3	279.4	81.3	0.19	-0.16	0.96
5,650.0	5.85	88.99	5,638.8	-12.3	281.9	81.9	0.10	0.04	-0.92
5,675.0	5.82	88.42	5,663.6	-12.2	284.5	82.4	0.26	-0.12	-2.28
5,700.0	5.87	87.10	5,688.5	-12.1	287.0	83.0	0.57	0.20	-5.28
5,725.0	5.74	87.20	5,713.4	-12.0	289.6	83.5	0.52	-0.52	0.40
5,750.0	5.72	87.22	5,738.3	-11.9	292.0	84.0	0.08	-0.08	0.08
5,775.0	5.76	87.15	5,763.1	-11.8	294.5	84.5	0.16	0.16	-0.28
5,800.0	5.77	86.70	5,788.0	-11.6	297.1	85.0	0.19	0.04	-1.80
5,825.0	5.76	86.10	5,812.9	-11.5	299.6	85.4	0.24	-0.04	-2.40

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	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)
5,850.0	5.64	85.49	5,837.8	-11.3	302.0	85.9	0.54	-0.48	-2.44
5,875.0	5.58	85.25	5,862.6	-11.1	304.5	86.3	0.26	-0.24	-0.96
5,900.0	5.58	85.51	5,887.5	-10.9	306.9	86.7	0.10	0.00	1.04
5,925.0	5.59	85.00	5,912.4	-10.7	309.3	87.1	0.20	0.04	-2.04
5,950.0	5.48	84.86	5,937.3	-10.5	311.7	87.5	0.44	-0.44	-0.56
5,975.0	5.48	83.50	5,962.2	-10.2	314.1	87.8	0.52	0.00	-5.44
6,000.0	5.47	83.59	5,987.0	-10.0	316.5	88.2	0.05	-0.04	0.36
6,025.0	5.42	82.85	6,011.9	-9.7	318.8	88.5	0.34	-0.20	-2.96
6,050.0	5.34	82.00	6,036.8	-9.4	321.1	88.8	0.45	-0.32	-3.40
6,075.0	5.47	81.38	6,061.7	-9.0	323.5	89.0	0.57	0.52	-2.48
6,100.0	5.23	81.32	6,086.6	-8.7	325.8	89.2	0.96	-0.96	-0.24
6,125.0	5.08	79.79	6,111.5	-8.3	328.0	89.4	0.81	-0.60	-6.12
6,150.0	5.05	79.31	6,136.4	-7.9	330.2	89.6	0.21	-0.12	-1.92
6,175.0	5.01	79.20	6,161.3	-7.5	332.3	89.7	0.16	-0.16	-0.44
6,200.0	5.00	78.79	6,186.2	-7.1	334.5	89.9	0.15	-0.04	-1.64
6,225.0	5.00	77.75	6,211.1	-6.6	336.6	90.0	0.36	0.00	-4.16
6,250.0	4.94	76.43	6,236.0	-6.2	338.7	90.0	0.52	-0.24	-5.28
6,275.0	4.87	75.08	6,260.9	-5.6	340.8	90.0	0.54	-0.28	-5.40
6,300.0	4.74	74.51	6,285.8	-5.1	342.8	90.0	0.55	-0.52	-2.28
6,325.0	4.72	73.92	6,310.8	-4.5	344.8	89.9	0.21	-0.08	-2.36
6,350.0	4.66	70.51	6,335.7	-3.9	346.7	89.8	1.14	-0.24	-13.64
6,375.0	4.71	69.77	6,360.6	-3.2	348.6	89.6	0.31	0.20	-2.96
6,400.0	4.68	69.63	6,385.5	-2.5	350.6	89.4	0.13	-0.12	-0.56
6,425.0	4.74	69.58	6,410.4	-1.8	352.5	89.2	0.24	0.24	-0.20
6,450.0	4.66	69.01	6,435.3	-1.1	354.4	89.0	0.37	-0.32	-2.28
6,475.0	4.65	69.11	6,460.3	-0.3	356.3	88.7	0.05	-0.04	0.40
6,500.0	4.70	69.66	6,485.2	0.4	358.2	88.5	0.27	0.20	2.20
6,525.0	4.97	71.38	6,510.1	1.1	360.2	88.3	1.23	1.08	6.88
6,550.0	5.21	72.01	6,535.0	1.8	362.3	88.2	0.99	0.96	2.52
6,575.0	5.36	71.84	6,559.9	2.5	364.5	88.0	0.60	0.60	-0.68
6,600.0	5.32	71.90	6,584.8	3.2	366.7	87.9	0.16	-0.16	0.24
6,625.0	5.33	72.07	6,609.7	3.9	368.9	87.7	0.07	0.04	0.68
6,650.0	5.32	71.90	6,634.6	4.7	371.1	87.6	0.07	-0.04	-0.68
6,675.0	5.34	71.92	6,659.5	5.4	373.3	87.4	0.08	0.08	0.08
6,700.0	5.27	71.47	6,684.3	6.1	375.5	87.3	0.33	-0.28	-1.80
6,725.0	5.33	71.67	6,709.2	6.8	377.7	87.1	0.25	0.24	0.80
6,750.0	5.35	70.97	6,734.1	7.6	379.9	86.9	0.27	0.08	-2.80
6,775.0	5.30	69.76	6,759.0	8.4	382.1	86.7	0.49	-0.20	-4.84
6,800.0	5.27	67.61	6,783.9	9.2	384.2	86.4	0.80	-0.12	-8.60
6,825.0	5.23	68.53	6,808.8	10.1	386.4	86.1	0.37	-0.16	3.68
6,850.0	5.27	68.35	6,833.7	10.9	388.5	85.8	0.17	0.16	-0.72
6,875.0	5.26	68.13	6,858.6	11.7	390.6	85.6	0.09	-0.04	-0.88
6,900.0	5.37	68.17	6,883.5	12.6	392.8	85.2	0.44	0.44	0.16
6,925.0	5.32	66.11	6,908.4	13.5	394.9	84.9	0.79	-0.20	-8.24

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	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)
6,950.0	5.36	67.21	6,933.3	14.4	397.0	84.5	0.44	0.16	4.40
6,975.0	5.40	68.06	6,958.2	15.3	399.2	84.2	0.36	0.16	3.40
7,000.0	5.65	68.83	6,983.0	16.2	401.5	83.9	1.04	1.00	3.08
7,025.0	5.89	70.37	7,007.9	17.1	403.8	83.7	1.14	0.96	6.16
7,050.0	6.01	70.99	7,032.8	17.9	406.3	83.4	0.54	0.48	2.48
7,075.0	6.05	70.94	7,057.6	18.8	408.7	83.2	0.16	0.16	-0.20
7,100.0	6.05	70.82	7,082.5	19.7	411.2	83.0	0.05	0.00	-0.48
7,125.0	6.02	70.50	7,107.4	20.5	413.7	82.8	0.18	-0.12	-1.28
7,150.0	5.96	70.53	7,132.2	21.4	416.2	82.5	0.24	-0.24	0.12
7,175.0	5.92	70.41	7,157.1	22.3	418.6	82.3	0.17	-0.16	-0.48
7,200.0	5.91	70.59	7,182.0	23.1	421.0	82.1	0.08	-0.04	0.72
7,225.0	5.79	70.07	7,206.8	24.0	423.4	81.8	0.52	-0.48	-2.08
7,250.0	5.76	70.05	7,231.7	24.8	425.8	81.6	0.12	-0.12	-0.08
7,275.0	5.87	69.78	7,256.6	25.7	428.2	81.3	0.45	0.44	-1.08
7,300.0	5.87	69.16	7,281.4	26.6	430.6	81.1	0.25	0.00	-2.48
7,325.0	5.74	69.52	7,306.3	27.5	432.9	80.8	0.54	-0.52	1.44
7,350.0	5.71	69.79	7,331.2	28.4	435.3	80.5	0.16	-0.12	1.08
7,375.0	5.68	69.83	7,356.1	29.2	437.6	80.3	0.12	-0.12	0.16
7,400.0	5.77	69.43	7,380.9	30.1	439.9	80.0	0.39	0.36	-1.60
7,425.0	5.59	70.13	7,405.8	30.9	442.3	79.8	0.77	-0.72	2.80
7,450.0	5.64	69.61	7,430.7	31.8	444.6	79.5	0.29	0.20	-2.08
7,475.0	5.66	70.07	7,455.6	32.6	446.9	79.3	0.20	0.08	1.84
7,500.0	5.61	70.47	7,480.5	33.5	449.2	79.0	0.25	-0.20	1.60
7,525.0	5.74	69.49	7,505.3	34.3	451.5	78.8	0.65	0.52	-3.92
7,550.0	5.70	71.38	7,530.2	35.1	453.9	78.6	0.77	-0.16	7.56
7,575.0	5.67	70.48	7,555.1	36.0	456.2	78.4	0.38	-0.12	-3.60
7,600.0	5.69	70.16	7,580.0	36.8	458.5	78.1	0.15	0.08	-1.28
7,625.0	5.69	70.06	7,604.8	37.6	460.9	77.9	0.04	0.00	-0.40
7,650.0	5.71	70.21	7,629.7	38.5	463.2	77.7	0.10	0.08	0.60
7,675.0	5.89	72.41	7,654.6	39.3	465.6	77.5	1.14	0.72	8.80
7,700.0	5.77	71.39	7,679.5	40.1	468.0	77.3	0.63	-0.48	-4.08
7,725.0	5.82	71.26	7,704.3	40.9	470.4	77.1	0.21	0.20	-0.52
7,750.0	5.77	70.57	7,729.2	41.7	472.8	76.9	0.34	-0.20	-2.76
7,775.0	5.78	70.50	7,754.1	42.5	475.1	76.7	0.05	0.04	-0.28
7,800.0	6.05	71.72	7,779.0	43.4	477.6	76.5	1.19	1.08	4.88
7,825.0	6.19	72.10	7,803.8	44.2	480.1	76.3	0.58	0.56	1.52
7,850.0	6.42	74.18	7,828.7	45.0	482.7	76.2	1.30	0.92	8.32
7,875.0	6.96	83.09	7,853.5	45.6	485.6	76.4	4.67	2.16	35.64
7,900.0	7.27	87.72	7,878.3	45.8	488.7	76.9	2.61	1.24	18.52
7,925.0	6.98	92.12	7,903.1	45.8	491.8	77.6	2.47	-1.16	17.60
7,950.0	6.87	93.01	7,927.9	45.7	494.8	78.5	0.61	-0.44	3.56
7,975.0	6.92	93.61	7,952.7	45.5	497.8	79.4	0.35	0.20	2.40
8,000.0	6.90	94.10	7,977.6	45.3	500.8	80.4	0.25	-0.08	1.96

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	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)
8,025.0	6.71	94.12	8,002.4	45.1	503.7	81.3	0.76	-0.76	0.08
8,050.0	6.43	94.62	8,027.2	44.9	506.6	82.2	1.14	-1.12	2.00
8,075.0	6.34	94.28	8,052.1	44.7	509.4	83.1	0.39	-0.36	-1.36
8,100.0	6.07	93.86	8,076.9	44.5	512.1	84.0	1.10	-1.08	-1.68
8,125.0	5.82	93.25	8,101.8	44.3	514.6	84.8	1.03	-1.00	-2.44
8,150.0	5.70	93.43	8,126.7	44.2	517.1	85.5	0.49	-0.48	0.72
8,175.0	5.62	93.13	8,151.5	44.0	519.6	86.3	0.34	-0.32	-1.20
8,200.0	5.52	92.82	8,176.4	43.9	522.0	87.0	0.42	-0.40	-1.24
8,225.0	5.46	93.27	8,201.3	43.8	524.4	87.7	0.30	-0.24	1.80
8,250.0	5.40	93.61	8,226.2	43.6	526.8	88.5	0.27	-0.24	1.36
8,275.0	5.18	92.66	8,251.1	43.5	529.1	89.1	0.95	-0.88	-3.80
8,300.0	5.13	92.48	8,276.0	43.4	531.3	89.8	0.21	-0.20	-0.72
8,325.0	5.04	92.19	8,300.9	43.3	533.5	90.4	0.37	-0.36	-1.16
8,350.0	4.90	92.04	8,325.8	43.2	535.7	91.1	0.56	-0.56	-0.60
8,375.0	4.80	91.41	8,350.7	43.2	537.8	91.6	0.45	-0.40	-2.52
8,400.0	4.72	91.32	8,375.6	43.1	539.9	92.2	0.32	-0.32	-0.36
8,425.0	4.55	90.51	8,400.5	43.1	541.9	92.7	0.73	-0.68	-3.24
8,450.0	4.31	89.62	8,425.5	43.1	543.8	93.2	1.00	-0.96	-3.56
8,475.0	4.21	89.12	8,450.4	43.1	545.7	93.7	0.43	-0.40	-2.00
8,500.0	4.21	89.20	8,475.3	43.1	547.5	94.1	0.02	0.00	0.32
8,525.0	4.18	89.57	8,500.3	43.1	549.4	94.5	0.16	-0.12	1.48
8,550.0	4.00	89.02	8,525.2	43.2	551.1	94.9	0.74	-0.72	-2.20
8,575.0	3.90	88.74	8,550.1	43.2	552.9	95.3	0.41	-0.40	-1.12
8,600.0	3.78	88.64	8,575.1	43.2	554.5	95.7	0.48	-0.48	-0.40
8,625.0	3.60	88.27	8,600.0	43.3	556.1	96.1	0.73	-0.72	-1.48
8,650.0	3.48	88.54	8,625.0	43.3	557.7	96.4	0.48	-0.48	1.08
8,675.0	3.46	88.52	8,649.9	43.4	559.2	96.8	0.08	-0.08	-0.08
8,700.0	3.47	88.77	8,674.9	43.4	560.7	97.1	0.07	0.04	1.00
8,725.0	3.58	89.33	8,699.8	43.4	562.3	97.4	0.46	0.44	2.24
8,750.0	3.45	87.27	8,724.8	43.5	563.8	97.8	0.72	-0.52	-8.24
8,775.0	3.50	88.07	8,749.7	43.5	565.3	98.1	0.28	0.20	3.20
8,800.0	3.41	87.16	8,774.7	43.6	566.8	98.4	0.42	-0.36	-3.64
8,825.0	3.20	85.85	8,799.7	43.7	568.2	98.7	0.89	-0.84	-5.24
8,850.0	3.11	85.35	8,824.6	43.8	569.6	98.9	0.38	-0.36	-2.00
8,875.0	2.96	84.45	8,849.6	43.9	570.9	99.1	0.63	-0.60	-3.60
8,900.0	2.91	85.59	8,874.5	44.0	572.2	99.3	0.31	-0.20	4.56
8,925.0	2.92	86.63	8,899.5	44.1	573.5	99.6	0.22	0.04	4.16
8,950.0	2.86	85.70	8,924.5	44.2	574.7	99.8	0.30	-0.24	-3.72
8,975.0	2.83	85.24	8,949.5	44.3	576.0	100.0	0.15	-0.12	-1.84
9,000.0	3.13	91.84	8,974.4	44.3	577.3	100.3	1.82	1.20	26.40
9,025.0	3.25	90.88	8,999.4	44.3	578.7	100.7	0.53	0.48	-3.84
9,050.0	3.30	90.31	9,024.3	44.3	580.1	101.1	0.24	0.20	-2.28
9,075.0	3.26	90.14	9,049.3	44.3	581.5	101.4	0.16	-0.16	-0.68

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	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)
9,100.0	3.16	90.30	9,074.3	44.3	582.9	101.8	0.40	-0.40	0.64
9,125.0	3.01	88.64	9,099.2	44.3	584.3	102.1	0.70	-0.60	-6.64
9,150.0	2.66	88.35	9,124.2	44.3	585.5	102.4	1.40	-1.40	-1.16
9,175.0	2.48	87.96	9,149.2	44.3	586.6	102.6	0.72	-0.72	-1.56
9,200.0	2.49	86.56	9,174.1	44.4	587.7	102.8	0.25	0.04	-5.60
9,225.0	2.40	86.18	9,199.1	44.5	588.8	103.0	0.37	-0.36	-1.52
9,250.0	2.15	85.57	9,224.1	44.5	589.8	103.2	1.00	-1.00	-2.44
9,275.0	1.85	71.25	9,249.1	44.7	590.6	103.3	2.32	-1.20	-57.28
9,300.0	1.77	58.57	9,274.1	45.0	591.3	103.1	1.63	-0.32	-50.72
9,325.0	1.61	48.15	9,299.1	45.5	591.9	102.8	1.38	-0.64	-41.68
9,350.0	1.56	39.28	9,324.1	46.0	592.4	102.5	1.00	-0.20	-35.48
9,375.0	1.64	35.77	9,349.0	46.5	592.8	102.0	0.51	0.32	-14.04
9,400.0	2.01	43.59	9,374.0	47.1	593.3	101.6	1.78	1.48	31.28
9,425.0	2.21	45.74	9,399.0	47.8	594.0	101.1	0.86	0.80	8.60
9,450.0	2.30	45.52	9,424.0	48.5	594.7	100.6	0.36	0.36	-0.88
9,475.0	2.27	46.07	9,449.0	49.2	595.4	100.1	0.15	-0.12	2.20
9,500.0	2.63	43.41	9,474.0	49.9	596.1	99.6	1.51	1.44	-10.64
9,525.0	2.92	39.83	9,498.9	50.8	596.9	98.9	1.35	1.16	-14.32
9,550.0	3.23	36.25	9,523.9	51.9	597.8	98.1	1.46	1.24	-14.32
9,575.0	3.36	34.73	9,548.8	53.0	598.6	97.1	0.63	0.52	-6.08
9,600.0	3.45	34.36	9,573.8	54.3	599.4	96.2	0.37	0.36	-1.48
9,625.0	3.44	34.34	9,598.8	55.5	600.3	95.2	0.04	-0.04	-0.08
9,650.0	3.41	34.57	9,623.7	56.7	601.1	94.2	0.13	-0.12	0.92
9,675.0	3.39	34.38	9,648.7	58.0	602.0	93.2	0.09	-0.08	-0.76
9,700.0	3.45	34.15	9,673.6	59.2	602.8	92.2	0.25	0.24	-0.92
9,725.0	3.35	34.46	9,698.6	60.4	603.6	91.3	0.41	-0.40	1.24
9,750.0	3.62	36.13	9,723.5	61.7	604.5	90.3	1.15	1.08	6.68
9,775.0	3.76	38.60	9,748.5	62.9	605.5	89.3	0.85	0.56	9.88
9,800.0	3.70	40.31	9,773.4	64.2	606.5	88.3	0.51	-0.24	6.84
9,825.0	3.58	43.17	9,798.4	65.4	607.6	87.4	0.87	-0.48	11.44
9,850.0	3.58	45.19	9,823.3	66.5	608.7	86.6	0.50	0.00	8.08
9,875.0	3.43	46.85	9,848.3	67.6	609.8	85.9	0.72	-0.60	6.64
9,900.0	3.34	47.57	9,873.2	68.6	610.9	85.2	0.40	-0.36	2.88
9,925.0	3.33	48.92	9,898.2	69.5	611.9	84.5	0.32	-0.04	5.40
9,950.0	4.11	59.01	9,923.1	70.5	613.3	83.9	4.06	3.12	40.36
9,975.0	4.88	67.22	9,948.1	71.3	615.0	83.5	4.01	3.08	32.84
10,000.0	5.10	70.23	9,973.0	72.1	617.0	83.2	1.37	0.88	12.04
10,025.0	5.30	72.41	9,997.9	72.9	619.2	83.1	1.12	0.80	8.72
10,050.0	5.92	80.26	10,022.8	73.4	621.6	83.1	3.94	2.48	31.40
10,075.0	6.24	83.29	10,047.6	73.8	624.2	83.4	1.81	1.28	12.12
10,100.0	6.22	84.31	10,072.5	74.1	626.9	83.8	0.45	-0.08	4.08
10,125.0	6.26	85.03	10,097.3	74.3	629.6	84.2	0.35	0.16	2.88
10,150.0	6.21	86.10	10,122.2	74.6	632.3	84.7	0.51	-0.20	4.28
10,175.0	6.27	85.78	10,147.0	74.7	635.0	85.2	0.28	0.24	-1.28

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	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)
10,200.0	6.25	85.77	10,171.9	74.9	637.7	85.6	0.08	-0.08	-0.04
10,225.0	6.11	85.36	10,196.7	75.2	640.4	86.1	0.59	-0.56	-1.64
10,250.0	5.95	84.25	10,221.6	75.4	643.0	86.5	0.79	-0.64	-4.44
10,275.0	5.89	82.53	10,246.5	75.7	645.6	86.9	0.75	-0.24	-6.88
10,300.0	5.92	82.06	10,271.3	76.0	648.1	87.2	0.23	0.12	-1.88
10,325.0	5.94	81.28	10,296.2	76.4	650.7	87.4	0.33	0.08	-3.12
10,350.0	5.93	81.66	10,321.1	76.8	653.2	87.7	0.16	-0.04	1.52
10,375.0	5.77	81.16	10,345.9	77.2	655.8	88.0	0.67	-0.64	-2.00
10,400.0	5.69	81.10	10,370.8	77.6	658.2	88.2	0.32	-0.32	-0.24
10,425.0	5.51	80.35	10,395.7	77.9	660.6	88.4	0.78	-0.72	-3.00
10,450.0	5.22	78.77	10,420.6	78.4	662.9	88.6	1.30	-1.16	-6.32
10,475.0	4.89	79.20	10,445.5	78.8	665.1	88.7	1.33	-1.32	1.72
10,500.0	4.81	79.74	10,470.4	79.2	667.2	88.8	0.37	-0.32	2.16
10,525.0	4.86	80.25	10,495.3	79.5	669.2	89.0	0.26	0.20	2.04
10,550.0	4.78	79.72	10,520.2	79.9	671.3	89.2	0.37	-0.32	-2.12
10,575.0	4.41	79.05	10,545.1	80.3	673.3	89.3	1.50	-1.48	-2.68
10,600.0	4.10	79.87	10,570.1	80.6	675.1	89.4	1.26	-1.24	3.28
10,625.0	4.07	80.23	10,595.0	80.9	676.9	89.6	0.16	-0.12	1.44
10,650.0	3.96	84.43	10,619.9	81.2	678.6	89.8	1.26	-0.44	16.80
10,675.0	3.98	85.45	10,644.9	81.3	680.3	90.0	0.29	0.08	4.08
10,700.0	4.04	86.88	10,669.8	81.4	682.1	90.4	0.47	0.24	5.72
10,725.0	4.02	87.74	10,694.7	81.5	683.8	90.7	0.25	-0.08	3.44
10,750.0	3.73	88.73	10,719.7	81.6	685.5	91.1	1.19	-1.16	3.96
10,775.0	3.55	88.48	10,744.6	81.6	687.1	91.4	0.72	-0.72	-1.00
10,800.0	3.43	90.67	10,769.6	81.6	688.6	91.8	0.72	-0.48	8.76
10,825.0	3.20	89.41	10,794.6	81.6	690.1	92.2	0.97	-0.92	-5.04
10,850.0	3.23	88.19	10,819.5	81.6	691.5	92.5	0.30	0.12	-4.88
10,875.0	3.30	88.50	10,844.5	81.7	692.9	92.8	0.29	0.28	1.24
10,900.0	3.37	89.49	10,869.4	81.7	694.3	93.1	0.36	0.28	3.96
10,925.0	3.51	89.15	10,894.4	81.7	695.8	93.5	0.57	0.56	-1.36
10,950.0	3.52	87.29	10,919.3	81.8	697.4	93.8	0.46	0.04	-7.44
10,975.0	3.44	87.28	10,944.3	81.8	698.9	94.1	0.32	-0.32	-0.04
11,000.0	3.34	86.89	10,969.2	81.9	700.4	94.4	0.41	-0.40	-1.56
11,025.0	3.34	88.81	10,994.2	82.0	701.8	94.7	0.45	0.00	7.68
11,050.0	3.37	89.77	11,019.2	82.0	703.3	95.1	0.25	0.12	3.84
11,075.0	3.38	88.10	11,044.1	82.0	704.7	95.4	0.40	0.04	-6.68
11,100.0	3.14	88.49	11,069.1	82.1	706.2	95.7	0.96	-0.96	1.56
11,125.0	3.09	87.92	11,094.0	82.1	707.5	96.0	0.24	-0.20	-2.28
11,150.0	2.89	88.73	11,119.0	82.1	708.8	96.3	0.82	-0.80	3.24
11,175.0	2.69	86.40	11,144.0	82.2	710.0	96.6	0.92	-0.80	-9.32
11,200.0	2.82	83.84	11,168.9	82.3	711.2	96.8	0.72	0.52	-10.24
11,225.0	2.31	86.38	11,193.9	82.4	712.4	96.9	2.09	-2.04	10.16
11,227.0	2.26	88.44	11,195.9	82.4	712.4	97.0	4.81	-2.50	103.00

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	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)
11,414.0	0.94	93.53	11,382.8	82.4	717.7	98.2	0.71	-0.71	2.72
11,509.0	1.27	115.46	11,477.8	81.9	719.4	99.2	0.56	0.35	23.08
11,540.0	6.52	131.06	11,508.7	80.6	721.0	100.8	17.12	16.94	50.32
11,572.0	11.85	130.71	11,540.3	77.3	724.9	105.0	16.66	16.66	-1.09
11,603.0	15.83	128.65	11,570.4	72.5	730.6	111.0	12.93	12.84	-6.65
11,650.0	21.07	130.24	11,615.0	63.1	742.1	123.0	11.20	11.15	3.38
11,697.0	25.42	135.37	11,658.2	50.4	755.6	138.6	10.20	9.26	10.91
11,745.0	31.04	139.23	11,700.4	33.7	770.9	158.6	12.31	11.71	8.04
11,792.0	37.92	139.94	11,739.2	13.5	788.2	182.5	14.66	14.64	1.51
11,839.0	41.31	143.76	11,775.4	-10.1	806.6	210.0	8.88	7.21	8.13
11,886.0	47.26	145.09	11,809.0	-36.8	825.7	240.5	12.81	12.66	2.83
11,933.0	48.50	144.82	11,840.5	-65.3	845.7	273.2	2.67	2.64	-0.57
11,980.0	53.44	147.30	11,870.1	-95.6	866.1	307.6	11.28	10.51	5.28
11,994.0	54.26	146.90	11,878.4	-105.1	872.2	318.3	6.28	5.84	-2.85
ENTER LEASE @ 11994'MD									
12,027.0	56.19	145.99	11,897.2	-127.7	887.2	343.9	6.28	5.86	-2.76
12,074.0	62.41	145.86	11,921.2	-161.2	909.8	381.9	13.24	13.23	-0.28
12,121.0	65.79	145.03	11,941.7	-196.0	933.8	421.6	7.36	7.19	-1.77
12,169.0	68.99	146.79	11,960.2	-232.7	958.6	463.3	7.48	6.67	3.67
12,200.0	68.20	145.88	11,971.5	-256.7	974.6	490.5	3.74	-2.55	-2.94
12,232.0	69.11	146.46	11,983.1	-281.5	991.2	518.6	3.31	2.84	1.81
12,263.0	72.60	147.77	11,993.3	-306.1	1,007.1	546.4	11.94	11.26	4.23
12,294.0	76.40	147.40	12,001.6	-331.3	1,023.1	574.8	12.31	12.26	-1.19
12,326.0	80.70	146.88	12,007.9	-357.6	1,040.2	604.5	13.53	13.44	-1.63
12,357.0	84.10	144.53	12,012.0	-383.0	1,057.5	633.4	13.29	10.97	-7.58
12,451.0	87.67	149.31	12,018.8	-461.5	1,108.6	722.2	6.34	3.80	5.09
12,546.0	89.35	154.41	12,021.2	-545.2	1,153.4	814.4	5.65	1.77	5.37
12,640.0	90.26	157.74	12,021.6	-631.1	1,191.5	907.0	3.67	0.97	3.54
12,734.0	91.03	165.24	12,020.5	-720.2	1,221.3	1,000.7	8.02	0.82	7.98
12,830.0	86.97	171.91	12,022.2	-814.2	1,240.3	1,096.5	8.13	-4.23	6.95
12,924.0	90.64	176.93	12,024.1	-907.7	1,249.4	1,189.3	6.61	3.90	5.34
13,019.0	91.98	178.59	12,022.0	-1,002.6	1,253.2	1,282.2	2.25	1.41	1.75
13,113.0	87.75	174.63	12,022.2	-1,096.4	1,258.7	1,374.4	6.16	-4.50	-4.21
13,207.0	87.44	178.06	12,026.1	-1,190.1	1,264.7	1,466.7	3.66	-0.33	3.65
13,303.0	90.71	184.16	12,027.7	-1,286.0	1,262.8	1,559.1	7.21	3.41	6.35
13,397.0	89.76	183.26	12,027.3	-1,379.8	1,256.8	1,648.5	1.39	-1.01	-0.96
13,492.0	88.56	182.10	12,028.7	-1,474.7	1,252.3	1,739.3	1.76	-1.26	-1.22
13,586.0	87.67	180.69	12,031.8	-1,568.6	1,250.0	1,829.7	1.77	-0.95	-1.50
13,680.0	87.46	180.09	12,035.8	-1,662.5	1,249.4	1,920.5	0.68	-0.22	-0.64
13,775.0	86.36	179.99	12,040.9	-1,757.4	1,249.3	2,012.4	1.16	-1.16	-0.11
13,869.0	86.42	179.48	12,046.8	-1,851.2	1,249.8	2,103.4	0.55	0.06	-0.54
13,963.0	86.49	177.81	12,052.6	-1,945.0	1,252.0	2,194.8	1.77	0.07	-1.78
14,057.0	87.33	178.05	12,057.7	-2,038.8	1,255.4	2,286.5	0.93	0.89	0.26

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	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)
14,151.0	88.28	178.39	12,061.3	-2,132.7	1,258.3	2,378.2	1.07	1.01	0.36
14,245.0	87.70	177.02	12,064.6	-2,226.5	1,262.0	2,470.1	1.58	-0.62	-1.46
14,340.0	87.14	177.36	12,068.9	-2,321.3	1,266.7	2,563.0	0.69	-0.59	0.36
14,434.0	87.76	177.68	12,073.1	-2,415.1	1,270.8	2,654.9	0.74	0.66	0.34
14,529.0	85.35	178.03	12,078.8	-2,509.9	1,274.3	2,747.6	2.56	-2.54	0.37
14,624.0	90.48	177.06	12,082.2	-2,604.7	1,278.4	2,840.5	5.50	5.40	-1.02
14,718.0	91.68	178.63	12,080.4	-2,698.6	1,281.9	2,932.3	2.10	1.28	1.67
14,812.0	91.99	180.15	12,077.4	-2,792.6	1,282.9	3,023.6	1.65	0.33	1.62
14,906.0	91.14	180.87	12,074.9	-2,886.5	1,282.1	3,114.4	1.18	-0.90	0.77
15,000.0	90.29	180.40	12,073.7	-2,980.5	1,281.0	3,205.2	1.03	-0.90	-0.50
15,095.0	90.10	180.39	12,073.4	-3,075.5	1,280.4	3,297.0	0.20	-0.20	-0.01
15,190.0	89.99	180.60	12,073.3	-3,170.5	1,279.6	3,388.9	0.25	-0.12	0.22
15,285.0	89.80	179.74	12,073.5	-3,265.5	1,279.3	3,480.8	0.93	-0.20	-0.91
15,379.0	88.99	178.81	12,074.5	-3,359.5	1,280.5	3,572.2	1.31	-0.86	-0.99
15,474.0	87.85	178.93	12,077.1	-3,454.4	1,282.3	3,664.6	1.21	-1.20	0.13
15,569.0	87.37	178.61	12,081.0	-3,549.3	1,284.4	3,757.0	0.61	-0.51	-0.34
15,664.0	89.16	178.92	12,083.9	-3,644.3	1,286.4	3,849.5	1.91	1.88	0.33
15,758.0	91.85	180.76	12,083.1	-3,738.2	1,286.7	3,940.6	3.47	2.86	1.96
15,852.0	92.20	180.24	12,079.8	-3,832.2	1,285.9	4,031.4	0.67	0.37	-0.55
15,947.0	92.04	179.81	12,076.3	-3,927.1	1,285.8	4,123.4	0.48	-0.17	-0.45
16,042.0	90.75	180.99	12,073.9	-4,022.1	1,285.2	4,215.2	1.84	-1.36	1.24
16,137.0	90.15	181.49	12,073.2	-4,117.1	1,283.1	4,306.7	0.82	-0.63	0.53
16,232.0	88.27	182.04	12,074.5	-4,212.0	1,280.2	4,397.9	2.06	-1.98	0.58
16,327.0	88.64	182.83	12,077.1	-4,306.9	1,276.1	4,488.8	0.92	0.39	0.83
16,421.0	86.28	181.83	12,081.2	-4,400.7	1,272.3	4,578.8	2.73	-2.51	-1.06
16,515.0	84.66	181.12	12,088.7	-4,494.4	1,269.9	4,668.9	1.88	-1.72	-0.76
16,609.0	85.58	179.60	12,096.7	-4,588.0	1,269.3	4,759.5	1.89	0.98	-1.62
16,704.0	87.89	178.09	12,102.1	-4,682.8	1,271.2	4,851.8	2.90	2.43	-1.59
16,799.0	86.88	177.03	12,106.4	-4,777.7	1,275.3	4,944.7	1.54	-1.06	-1.12
16,894.0	84.82	175.98	12,113.3	-4,872.2	1,281.1	5,037.7	2.43	-2.17	-1.11
16,919.0	84.31	175.72	12,115.6	-4,897.0	1,282.9	5,062.2	2.29	-2.04	-1.04
Final GORDON MWD @ 16919'MD									
16,939.7	84.31	175.72	12,117.7	-4,917.6	1,284.4	5,082.5	0.00	0.00	0.00
LTP @ 16939.7'MD									
16,988.0	84.31	175.72	12,122.5	-4,965.5	1,288.0	5,129.8	0.00	0.00	0.00
PTD @ 16988'MD									

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well SEBASTIAN FEDERAL COM 703H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Site:	BULLDOG	MD Reference:	KB=30' @ 3615.0usft (SCAN QUEST)
Well:	SEBASTIAN FEDERAL COM 703H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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
SEBASTIAN FEDER ^A - actual wellpath misses target center by 440.3usft at 12027.6usft MD (11897.5 TVD, -128.1 N, 887.5 E) - Circle (radius 50.0)	0.00	0.00	12,002.0	160.4	1,203.2	446,358.10	756,706.80	32° 13' 27.946 N	103° 30' 11.581 W
4000'VS SEBASTIAN - actual wellpath misses target center by 22.1usft at 15825.1usft MD (12080.8 TVD, -3805.3 N, 1286.0 E) - Rectangle (sides W100.0 H1,160.0 D20.0)	-0.23	359.51	12,085.0	-3,805.3	1,264.3	442,392.40	756,767.90	32° 12' 48.699 N	103° 30' 11.227 W
SEBASTIAN FEDER ^A - actual wellpath misses target center by 14.4usft at 16938.3usft MD (12117.6 TVD, -4916.2 N, 1284.3 E) - Point	0.00	0.00	12,110.0	-4,917.9	1,272.1	441,279.80	756,775.70	32° 12' 37.689 N	103° 30' 11.236 W
SEBASTIAN FEDER ^A - actual wellpath misses target center by 20.0usft at 16988.0usft MD (12122.5 TVD, -4965.5 N, 1288.0 E) - Rectangle (sides W100.0 H1,168.0 D20.0)	-1.27	359.51	12,110.0	-4,967.9	1,272.5	441,229.80	756,776.10	32° 12' 37.194 N	103° 30' 11.236 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
11,994.0	11,878.4	-105.1	872.2	ENTER LEASE @ 11994'MD
16,919.0	12,115.6	-4,897.0	1,282.9	Final GORDON MWD @ 16919'MD
16,939.7	12,117.7	-4,917.6	1,284.4	LTP @ 16939.7'MD
16,988.0	12,122.5	-4,965.5	1,288.0	PTD @ 16988'MD

Checked By: _____ Approved By: _____ Date: _____