

DELAWARE BASIN EAST

BULLDOG PROSPECT (NM-E)

GUNNER FEDERAL PROJECT (BULLDOG 2634)

GUNNER 8 FEDERAL COM 704H

OWB

Design: AWP

Standard Survey Report

07 July, 2020

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Project	BULLDOG PROSPECT (NM-E)		
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	GUNNER 8 FEDERAL COM 704H, ACTIVE			
Well Position	+N/-S	0.0 usft	Northing:	393,478.20 usfi
	+E/-W	0.0 usft	Easting:	760,060.20 usfi
Position Uncertainty		3.0 usft	Wellhead Elevation:	usfi
			Latitude:	32° 4' 44.419 N
			Longitude:	103° 29' 37.347 W
			Ground Level:	3,339.3 usfi

Wellbore	OWB
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Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2020	5/18/2020	6.62	59.82	47,528.63261102

Design	AWP
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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	184.79

Survey Program		Date	7/7/2020	
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	11,928.0	GYRO-INTER (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4
11,940.0	22,869.0	MWD-CURVE/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
	100.0	0.10	36.35	100.0	0.1	0.1	-0.1	0.10	0.10	0.00
	125.0	0.17	357.98	125.0	0.1	0.1	-0.1	0.44	0.28	-153.48
	150.0	0.12	30.13	150.0	0.2	0.1	-0.2	0.37	-0.20	128.60
	175.0	0.14	331.24	175.0	0.2	0.1	-0.2	0.52	0.08	-235.56
	200.0	0.25	290.44	200.0	0.3	0.0	-0.3	0.68	0.44	-163.20
	225.0	0.07	238.97	225.0	0.3	-0.1	-0.3	0.85	-0.72	-205.88
	250.0	0.11	305.68	250.0	0.3	-0.1	-0.3	0.42	0.16	266.84
	275.0	0.18	318.99	275.0	0.3	-0.1	-0.3	0.31	0.28	53.24
	300.0	0.29	303.54	300.0	0.4	-0.2	-0.4	0.50	0.44	-61.80
	325.0	0.30	291.28	325.0	0.5	-0.3	-0.4	0.26	0.04	-49.04
	350.0	0.16	278.97	350.0	0.5	-0.4	-0.5	0.59	-0.56	-49.24
	375.0	0.06	302.08	375.0	0.5	-0.5	-0.5	0.43	-0.40	92.44
	400.0	0.03	118.49	400.0	0.5	-0.5	-0.5	0.36	-0.12	705.64

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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)	
425.0	0.03	323.66	425.0	0.5	-0.5	-0.5	0.23	0.00	-619.32	
450.0	0.07	154.38	450.0	0.5	-0.5	-0.5	0.40	0.16	-677.12	
475.0	0.17	226.48	475.0	0.5	-0.5	-0.4	0.65	0.40	288.40	
500.0	0.30	206.55	500.0	0.4	-0.5	-0.3	0.61	0.52	-79.72	
525.0	0.32	161.90	525.0	0.3	-0.6	-0.2	0.94	0.08	-178.60	
550.0	0.41	166.71	550.0	0.1	-0.5	-0.1	0.38	0.36	19.24	
575.0	0.33	178.89	575.0	-0.1	-0.5	0.1	0.45	-0.32	48.72	
600.0	0.29	172.44	600.0	-0.2	-0.5	0.2	0.21	-0.16	-25.80	
625.0	0.26	213.43	625.0	-0.3	-0.5	0.3	0.78	-0.12	163.96	
650.0	0.37	190.37	650.0	-0.4	-0.5	0.5	0.66	0.44	-92.24	
675.0	0.40	193.13	675.0	-0.6	-0.6	0.6	0.14	0.12	11.04	
700.0	0.54	175.46	700.0	-0.8	-0.6	0.8	0.80	0.56	-70.68	
725.0	0.59	164.27	725.0	-1.0	-0.5	1.1	0.48	0.20	-44.76	
750.0	0.60	158.52	750.0	-1.3	-0.5	1.3	0.24	0.04	-23.00	
775.0	0.63	160.16	775.0	-1.5	-0.4	1.6	0.14	0.12	6.56	
800.0	0.50	165.35	800.0	-1.8	-0.3	1.8	0.56	-0.52	20.76	
825.0	0.59	173.00	825.0	-2.0	-0.3	2.0	0.46	0.36	30.60	
850.0	0.71	162.10	850.0	-2.3	-0.2	2.3	0.69	0.48	-43.60	
875.0	0.88	152.66	875.0	-2.6	-0.1	2.6	0.86	0.68	-37.76	
900.0	0.99	145.55	900.0	-2.9	0.2	2.9	0.64	0.44	-28.44	
925.0	0.98	138.15	925.0	-3.3	0.4	3.2	0.51	-0.04	-29.60	
950.0	1.04	129.91	950.0	-3.6	0.7	3.5	0.63	0.24	-32.96	
975.0	1.20	128.85	975.0	-3.9	1.1	3.8	0.65	0.64	-4.24	
1,000.0	1.04	129.75	1,000.0	-4.2	1.5	4.1	0.64	-0.64	3.60	
1,025.0	0.91	136.65	1,025.0	-4.5	1.8	4.3	0.70	-0.52	27.60	
1,050.0	1.02	135.98	1,050.0	-4.8	2.1	4.6	0.44	0.44	-2.68	
1,075.0	1.05	137.17	1,075.0	-5.1	2.4	4.9	0.15	0.12	4.76	
1,100.0	1.00	141.12	1,099.9	-5.5	2.7	5.2	0.35	-0.20	15.80	
1,125.0	1.26	133.66	1,124.9	-5.8	3.0	5.6	1.19	1.04	-29.84	
1,150.0	1.20	130.51	1,149.9	-6.2	3.4	5.9	0.36	-0.24	-12.60	
1,175.0	1.09	127.66	1,174.9	-6.5	3.8	6.2	0.50	-0.44	-11.40	
1,200.0	1.08	129.26	1,199.9	-6.8	4.2	6.4	0.13	-0.04	6.40	
1,225.0	0.85	138.84	1,224.9	-7.1	4.5	6.7	1.12	-0.92	38.32	
1,250.0	0.59	181.22	1,249.9	-7.4	4.6	6.9	2.30	-1.04	169.52	
1,275.0	0.95	242.00	1,274.9	-7.6	4.4	7.2	3.35	1.44	243.12	
1,300.0	1.36	253.71	1,299.9	-7.8	4.0	7.4	1.88	1.64	46.84	
1,325.0	1.38	254.43	1,324.9	-7.9	3.4	7.6	0.11	0.08	2.88	
1,350.0	1.44	254.55	1,349.9	-8.1	2.8	7.8	0.24	0.24	0.48	
1,375.0	1.40	252.79	1,374.9	-8.3	2.2	8.0	0.24	-0.16	-7.04	
1,400.0	1.37	247.49	1,399.9	-8.5	1.6	8.3	0.53	-0.12	-21.20	
1,425.0	1.34	252.37	1,424.9	-8.7	1.1	8.5	0.48	-0.12	19.52	
1,450.0	1.37	251.10	1,449.9	-8.9	0.5	8.8	0.17	0.12	-5.08	

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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)
1,475.0	1.35	246.64	1,474.9	-9.1	0.0	9.0	0.43	-0.08	-17.84
1,500.0	1.29	248.62	1,499.9	-9.3	-0.6	9.3	0.30	-0.24	7.92
1,525.0	1.42	251.92	1,524.9	-9.5	-1.1	9.5	0.61	0.52	13.20
1,550.0	1.36	250.09	1,549.8	-9.7	-1.7	9.8	0.30	-0.24	-7.32
1,575.0	1.30	244.71	1,574.8	-9.9	-2.2	10.1	0.55	-0.24	-21.52
1,600.0	1.38	251.78	1,599.8	-10.1	-2.8	10.3	0.73	0.32	28.28
1,625.0	1.32	248.75	1,624.8	-10.3	-3.3	10.6	0.37	-0.24	-12.12
1,650.0	1.27	248.92	1,649.8	-10.5	-3.9	10.8	0.20	-0.20	0.68
1,675.0	1.24	248.94	1,674.8	-10.7	-4.4	11.0	0.12	-0.12	0.08
1,700.0	1.23	245.67	1,699.8	-10.9	-4.9	11.3	0.28	-0.04	-13.08
1,725.0	1.22	245.40	1,724.8	-11.1	-5.4	11.6	0.05	-0.04	-1.08
1,750.0	1.22	239.07	1,749.8	-11.4	-5.8	11.8	0.54	0.00	-25.32
1,775.0	1.37	241.00	1,774.8	-11.7	-6.3	12.2	0.62	0.60	7.72
1,800.0	1.60	240.81	1,799.8	-12.0	-6.9	12.5	0.92	0.92	-0.76
1,825.0	1.65	245.84	1,824.8	-12.3	-7.5	12.9	0.60	0.20	20.12
1,850.0	1.66	246.70	1,849.8	-12.6	-8.2	13.2	0.11	0.04	3.44
1,875.0	1.70	248.41	1,874.7	-12.9	-8.9	13.6	0.26	0.16	6.84
1,900.0	1.58	247.68	1,899.7	-13.1	-9.5	13.9	0.49	-0.48	-2.92
1,925.0	1.45	247.20	1,924.7	-13.4	-10.1	14.2	0.52	-0.52	-1.92
1,950.0	1.49	241.01	1,949.7	-13.7	-10.7	14.5	0.65	0.16	-24.76
1,975.0	1.53	238.26	1,974.7	-14.0	-11.3	14.9	0.33	0.16	-11.00
2,000.0	1.69	242.23	1,999.7	-14.4	-11.9	15.3	0.78	0.64	15.88
2,025.0	1.64	240.22	2,024.7	-14.7	-12.5	15.7	0.31	-0.20	-8.04
2,050.0	1.65	241.41	2,049.7	-15.1	-13.1	16.1	0.14	0.04	4.76
2,075.0	1.66	243.32	2,074.7	-15.4	-13.8	16.5	0.22	0.04	7.64
2,100.0	1.76	245.79	2,099.7	-15.7	-14.5	16.9	0.50	0.40	9.88
2,125.0	1.75	248.70	2,124.6	-16.0	-15.2	17.2	0.36	-0.04	11.64
2,150.0	1.68	245.19	2,149.6	-16.3	-15.8	17.6	0.50	-0.28	-14.04
2,175.0	1.60	247.22	2,174.6	-16.6	-16.5	17.9	0.40	-0.32	8.12
2,200.0	1.43	247.75	2,199.6	-16.8	-17.1	18.2	0.68	-0.68	2.12
2,225.0	1.22	242.43	2,224.6	-17.1	-17.6	18.5	0.97	-0.84	-21.28
2,250.0	1.09	233.71	2,249.6	-17.4	-18.1	18.8	0.87	-0.52	-34.88
2,275.0	1.01	238.75	2,274.6	-17.6	-18.4	19.1	0.49	-0.32	20.16
2,300.0	0.89	249.68	2,299.6	-17.8	-18.8	19.3	0.87	-0.48	43.72
2,325.0	0.62	232.17	2,324.6	-17.9	-19.1	19.5	1.41	-1.08	-70.04
2,350.0	0.44	240.73	2,349.6	-18.1	-19.3	19.6	0.78	-0.72	34.24
2,375.0	0.20	205.26	2,374.6	-18.2	-19.4	19.7	1.20	-0.96	-141.88
2,400.0	0.21	197.74	2,399.6	-18.2	-19.4	19.8	0.11	0.04	-30.08
2,425.0	0.27	87.15	2,424.6	-18.3	-19.4	19.8	1.58	0.24	-442.36
2,450.0	0.49	90.92	2,449.6	-18.3	-19.2	19.8	0.89	0.88	15.08
2,475.0	0.53	101.90	2,474.6	-18.3	-19.0	19.8	0.42	0.16	43.92
2,500.0	0.58	101.02	2,499.6	-18.4	-18.8	19.9	0.20	0.20	-3.52
2,525.0	0.50	86.15	2,524.6	-18.4	-18.5	19.9	0.64	-0.32	-59.48

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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)
2,550.0	0.63	84.45	2,549.6	-18.3	-18.3	19.8	0.52	0.52	-6.80
2,575.0	0.33	99.71	2,574.6	-18.3	-18.1	19.8	1.29	-1.20	61.04
2,600.0	0.33	218.54	2,599.6	-18.4	-18.1	19.9	2.27	0.00	475.32
2,625.0	1.17	256.62	2,624.6	-18.5	-18.3	20.0	3.73	3.36	152.32
2,650.0	2.08	269.36	2,649.6	-18.6	-19.0	20.1	3.89	3.64	50.96
2,675.0	3.02	274.73	2,674.6	-18.5	-20.2	20.2	3.88	3.76	21.48
2,700.0	3.35	274.23	2,699.5	-18.4	-21.5	20.2	1.32	1.32	-2.00
2,725.0	3.43	277.91	2,724.5	-18.3	-23.0	20.1	0.93	0.32	14.72
2,750.0	3.38	278.02	2,749.4	-18.1	-24.5	20.1	0.20	-0.20	0.44
2,775.0	3.36	276.74	2,774.4	-17.9	-25.9	20.0	0.31	-0.08	-5.12
2,800.0	3.44	275.62	2,799.3	-17.7	-27.4	20.0	0.42	0.32	-4.48
2,825.0	3.31	278.27	2,824.3	-17.5	-28.9	19.9	0.81	-0.52	10.60
2,850.0	3.01	279.97	2,849.3	-17.3	-30.2	19.8	1.26	-1.20	6.80
2,875.0	2.86	281.65	2,874.2	-17.1	-31.5	19.7	0.69	-0.60	6.72
2,900.0	2.77	283.55	2,899.2	-16.8	-32.7	19.5	0.52	-0.36	7.60
2,925.0	2.62	283.44	2,924.2	-16.5	-33.8	19.3	0.60	-0.60	-0.44
2,950.0	2.68	280.66	2,949.1	-16.3	-35.0	19.2	0.57	0.24	-11.12
2,975.0	2.63	281.39	2,974.1	-16.1	-36.1	19.0	0.24	-0.20	2.92
3,000.0	2.42	286.42	2,999.1	-15.8	-37.2	18.9	1.22	-0.84	20.12
3,025.0	2.28	286.52	3,024.1	-15.5	-38.2	18.7	0.56	-0.56	0.40
3,050.0	2.11	289.30	3,049.0	-15.2	-39.1	18.4	0.80	-0.68	11.12
3,075.0	2.02	289.86	3,074.0	-14.9	-39.9	18.2	0.37	-0.36	2.24
3,100.0	1.92	288.79	3,099.0	-14.7	-40.7	18.0	0.43	-0.40	-4.28
3,125.0	2.50	281.44	3,124.0	-14.4	-41.7	17.8	2.58	2.32	-29.40
3,150.0	3.54	279.75	3,149.0	-14.2	-42.9	17.7	4.17	4.16	-6.76
3,175.0	3.82	279.17	3,173.9	-13.9	-44.5	17.6	1.13	1.12	-2.32
3,200.0	3.77	277.39	3,198.9	-13.7	-46.2	17.5	0.51	-0.20	-7.12
3,225.0	3.98	274.93	3,223.8	-13.5	-47.8	17.4	1.07	0.84	-9.84
3,250.0	4.27	272.70	3,248.7	-13.4	-49.6	17.5	1.33	1.16	-8.92
3,275.0	4.36	272.41	3,273.7	-13.3	-51.5	17.5	0.37	0.36	-1.16
3,300.0	4.41	272.88	3,298.6	-13.2	-53.4	17.6	0.25	0.20	1.88
3,325.0	4.30	273.73	3,323.5	-13.1	-55.3	17.7	0.51	-0.44	3.40
3,350.0	4.16	274.71	3,348.5	-13.0	-57.2	17.7	0.63	-0.56	3.92
3,375.0	3.93	277.28	3,373.4	-12.8	-58.9	17.6	1.17	-0.92	10.28
3,400.0	3.65	276.99	3,398.3	-12.6	-60.6	17.6	1.12	-1.12	-1.16
3,425.0	3.40	279.34	3,423.3	-12.3	-62.1	17.5	1.15	-1.00	9.40
3,450.0	3.23	279.48	3,448.2	-12.1	-63.5	17.4	0.68	-0.68	0.56
3,475.0	3.22	282.53	3,473.2	-11.8	-64.9	17.2	0.69	-0.04	12.20
3,500.0	2.78	282.21	3,498.2	-11.6	-66.2	17.0	1.76	-1.76	-1.28
3,525.0	2.53	280.97	3,523.1	-11.3	-67.3	16.9	1.03	-1.00	-4.96
3,550.0	2.45	279.15	3,548.1	-11.1	-68.4	16.8	0.45	-0.32	-7.28
3,575.0	2.55	280.54	3,573.1	-11.0	-69.4	16.7	0.47	0.40	5.56

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
3,600.0	2.84	272.61	3,598.1	-10.8	-70.6	16.7	1.89	1.16	-31.72
3,625.0	3.65	268.24	3,623.0	-10.8	-72.0	16.8	3.39	3.24	-17.48
3,650.0	4.05	267.55	3,648.0	-10.9	-73.7	17.0	1.61	1.60	-2.76
3,675.0	4.35	266.54	3,672.9	-11.0	-75.5	17.2	1.24	1.20	-4.04
3,700.0	5.10	265.72	3,697.8	-11.1	-77.6	17.6	3.01	3.00	-3.28
3,725.0	6.00	266.73	3,722.7	-11.3	-80.0	17.9	3.62	3.60	4.04
3,750.0	6.22	267.29	3,747.6	-11.4	-82.7	18.3	0.91	0.88	2.24
3,775.0	6.37	266.15	3,772.4	-11.6	-85.4	18.7	0.78	0.60	-4.56
3,800.0	6.49	268.09	3,797.3	-11.7	-88.2	19.0	0.99	0.48	7.76
3,825.0	6.47	266.67	3,822.1	-11.8	-91.0	19.4	0.65	-0.08	-5.68
3,850.0	6.41	267.06	3,846.9	-12.0	-93.8	19.8	0.30	-0.24	1.56
3,875.0	6.58	267.53	3,871.8	-12.1	-96.6	20.2	0.71	0.68	1.88
3,900.0	6.31	267.52	3,896.6	-12.2	-99.4	20.5	1.08	-1.08	-0.04
3,925.0	6.40	267.69	3,921.5	-12.4	-102.2	20.9	0.37	0.36	0.68
3,950.0	6.22	267.47	3,946.3	-12.5	-104.9	21.2	0.73	-0.72	-0.88
3,975.0	6.11	267.17	3,971.2	-12.6	-107.6	21.5	0.46	-0.44	-1.20
4,000.0	5.71	267.30	3,996.0	-12.7	-110.2	21.9	1.60	-1.60	0.52
4,025.0	5.15	266.61	4,020.9	-12.9	-112.6	22.2	2.26	-2.24	-2.76
4,050.0	4.35	265.78	4,045.8	-13.0	-114.6	22.5	3.21	-3.20	-3.32
4,075.0	3.71	265.20	4,070.8	-13.1	-116.4	22.8	2.57	-2.56	-2.32
4,100.0	3.18	265.71	4,095.7	-13.2	-117.9	23.0	2.12	-2.12	2.04
4,125.0	2.91	264.97	4,120.7	-13.4	-119.2	23.3	1.09	-1.08	-2.96
4,150.0	2.70	263.96	4,145.7	-13.5	-120.4	23.5	0.86	-0.84	-4.04
4,175.0	2.50	260.52	4,170.6	-13.6	-121.5	23.7	1.01	-0.80	-13.76
4,200.0	2.21	255.30	4,195.6	-13.8	-122.5	24.0	1.44	-1.16	-20.88
4,225.0	2.13	253.74	4,220.6	-14.1	-123.4	24.4	0.40	-0.32	-6.24
4,250.0	2.14	247.87	4,245.6	-14.4	-124.3	24.7	0.88	0.04	-23.48
4,275.0	2.50	248.94	4,270.6	-14.8	-125.3	25.2	1.45	1.44	4.28
4,300.0	3.01	253.74	4,295.5	-15.1	-126.4	25.7	2.24	2.04	19.20
4,325.0	2.99	251.34	4,320.5	-15.5	-127.7	26.1	0.51	-0.08	-9.60
4,350.0	2.86	252.11	4,345.5	-15.9	-128.9	26.6	0.54	-0.52	3.08
4,375.0	2.79	248.29	4,370.4	-16.4	-130.0	27.2	0.80	-0.28	-15.28
4,400.0	2.59	249.97	4,395.4	-16.8	-131.1	27.7	0.86	-0.80	6.72
4,425.0	2.29	243.32	4,420.4	-17.2	-132.1	28.2	1.65	-1.20	-26.60
4,450.0	2.45	239.98	4,445.4	-17.7	-133.0	28.7	0.85	0.64	-13.36
4,475.0	2.58	244.52	4,470.3	-18.2	-134.0	29.3	0.95	0.52	18.16
4,500.0	2.70	242.20	4,495.3	-18.7	-135.0	29.9	0.64	0.48	-9.28
4,525.0	2.46	241.79	4,520.3	-19.2	-136.0	30.5	0.96	-0.96	-1.64
4,550.0	2.14	228.68	4,545.3	-19.8	-136.8	31.2	2.45	-1.28	-52.44
4,575.0	2.01	218.62	4,570.3	-20.5	-137.4	31.9	1.54	-0.52	-40.24
4,600.0	2.03	208.18	4,595.2	-21.2	-137.9	32.6	1.47	0.08	-41.76
4,625.0	2.24	200.82	4,620.2	-22.0	-138.3	33.5	1.38	0.84	-29.44
4,650.0	2.36	205.89	4,645.2	-22.9	-138.7	34.5	0.94	0.48	20.28

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
4,675.0	2.56	218.22	4,670.2	-23.9	-139.3	35.4	2.26	0.80	49.32
4,700.0	2.82	230.34	4,695.1	-24.7	-140.1	36.3	2.50	1.04	48.48
4,725.0	2.83	231.62	4,720.1	-25.5	-141.1	37.2	0.26	0.04	5.12
4,750.0	2.81	230.37	4,745.1	-26.2	-142.0	38.0	0.26	-0.08	-5.00
4,775.0	2.85	232.27	4,770.1	-27.0	-143.0	38.9	0.41	0.16	7.60
4,800.0	2.67	229.17	4,795.0	-27.8	-143.9	39.7	0.94	-0.72	-12.40
4,825.0	2.49	219.06	4,820.0	-28.6	-144.7	40.6	1.95	-0.72	-40.44
4,850.0	2.50	203.23	4,845.0	-29.5	-145.3	41.5	2.75	0.04	-63.32
4,875.0	2.57	199.65	4,870.0	-30.5	-145.7	42.6	0.69	0.28	-14.32
4,900.0	2.76	196.18	4,894.9	-31.6	-146.0	43.7	1.00	0.76	-13.88
4,925.0	3.13	197.07	4,919.9	-32.9	-146.4	45.0	1.49	1.48	3.56
4,950.0	3.56	205.77	4,944.9	-34.2	-146.9	46.4	2.66	1.72	34.80
4,975.0	3.85	212.54	4,969.8	-35.6	-147.7	47.8	2.10	1.16	27.08
5,000.0	3.99	210.68	4,994.7	-37.1	-148.6	49.4	0.76	0.56	-7.44
5,025.0	3.95	211.79	5,019.7	-38.5	-149.5	50.9	0.35	-0.16	4.44
5,050.0	3.96	211.96	5,044.6	-40.0	-150.4	52.4	0.06	0.04	0.68
5,075.0	4.06	210.80	5,069.6	-41.5	-151.3	54.0	0.52	0.40	-4.64
5,100.0	4.05	211.30	5,094.5	-43.0	-152.2	55.6	0.15	-0.04	2.00
5,125.0	4.12	226.55	5,119.4	-44.4	-153.3	57.0	4.34	0.28	61.00
5,150.0	4.32	236.96	5,144.4	-45.5	-154.8	58.3	3.16	0.80	41.64
5,175.0	4.22	240.82	5,169.3	-46.5	-156.4	59.4	1.22	-0.40	15.44
5,200.0	4.24	240.51	5,194.2	-47.4	-158.0	60.4	0.12	0.08	-1.24
5,225.0	4.13	242.14	5,219.2	-48.3	-159.6	61.4	0.65	-0.44	6.52
5,250.0	3.98	243.37	5,244.1	-49.1	-161.2	62.4	0.69	-0.60	4.92
5,275.0	3.98	240.82	5,269.0	-49.9	-162.7	63.3	0.71	0.00	-10.20
5,300.0	4.10	243.86	5,294.0	-50.7	-164.2	64.2	0.98	0.48	12.16
5,325.0	4.19	249.40	5,318.9	-51.4	-165.9	65.1	1.64	0.36	22.16
5,350.0	4.30	255.17	5,343.8	-52.0	-167.7	65.8	1.76	0.44	23.08
5,375.0	4.26	256.73	5,368.8	-52.4	-169.5	66.4	0.49	-0.16	6.24
5,400.0	4.37	255.92	5,393.7	-52.9	-171.3	67.0	0.50	0.44	-3.24
5,425.0	4.32	257.24	5,418.6	-53.3	-173.1	67.6	0.45	-0.20	5.28
5,450.0	4.22	258.45	5,443.6	-53.7	-175.0	68.1	0.54	-0.40	4.84
5,475.0	4.02	258.79	5,468.5	-54.1	-176.7	68.6	0.81	-0.80	1.36
5,500.0	4.08	259.43	5,493.4	-54.4	-178.5	69.1	0.30	0.24	2.56
5,525.0	4.06	256.72	5,518.4	-54.8	-180.2	69.6	0.77	-0.08	-10.84
5,550.0	4.06	257.43	5,543.3	-55.2	-181.9	70.2	0.20	0.00	2.84
5,575.0	4.18	258.57	5,568.2	-55.5	-183.7	70.7	0.58	0.48	4.56
5,600.0	4.32	261.99	5,593.2	-55.8	-185.5	71.1	1.16	0.56	13.68
5,625.0	5.00	273.91	5,618.1	-55.9	-187.5	71.4	4.72	2.72	47.68
5,650.0	5.37	277.29	5,643.0	-55.7	-189.8	71.3	1.92	1.48	13.52
5,675.0	5.54	276.12	5,667.9	-55.4	-192.1	71.3	0.81	0.68	-4.68
5,700.0	5.66	277.26	5,692.8	-55.1	-194.6	71.2	0.65	0.48	4.56

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
5,725.0	5.61	276.59	5,717.6	-54.8	-197.0	71.1	0.33	-0.20	-2.68
5,750.0	5.58	276.42	5,742.5	-54.5	-199.4	71.0	0.14	-0.12	-0.68
5,775.0	5.49	277.80	5,767.4	-54.2	-201.8	70.9	0.64	-0.36	5.52
5,800.0	5.25	276.80	5,792.3	-53.9	-204.1	70.8	1.03	-0.96	-4.00
5,825.0	5.13	274.43	5,817.2	-53.7	-206.4	70.8	0.98	-0.48	-9.48
5,850.0	5.03	274.10	5,842.1	-53.6	-208.6	70.8	0.42	-0.40	-1.32
5,875.0	4.97	275.77	5,867.0	-53.4	-210.8	70.8	0.63	-0.24	6.68
5,900.0	4.89	275.66	5,891.9	-53.2	-212.9	70.8	0.32	-0.32	-0.44
5,925.0	4.87	276.18	5,916.8	-52.9	-215.0	70.7	0.19	-0.08	2.08
5,950.0	4.83	275.10	5,941.7	-52.7	-217.1	70.7	0.40	-0.16	-4.32
5,975.0	5.00	274.84	5,966.6	-52.5	-219.2	70.7	0.69	0.68	-1.04
6,000.0	5.71	281.55	5,991.5	-52.2	-221.5	70.5	3.78	2.84	26.84
6,025.0	5.96	282.03	6,016.4	-51.7	-224.0	70.2	1.02	1.00	1.92
6,050.0	6.18	284.38	6,041.3	-51.1	-226.6	69.8	1.33	0.88	9.40
6,075.0	6.18	285.19	6,066.1	-50.4	-229.2	69.4	0.35	0.00	3.24
6,100.0	6.16	286.71	6,091.0	-49.7	-231.8	68.8	0.66	-0.08	6.08
6,125.0	6.13	284.61	6,115.8	-48.9	-234.4	68.3	0.91	-0.12	-8.40
6,150.0	6.12	284.45	6,140.7	-48.3	-237.0	67.9	0.08	-0.04	-0.64
6,175.0	6.18	286.02	6,165.5	-47.6	-239.5	67.4	0.71	0.24	6.28
6,200.0	6.13	285.39	6,190.4	-46.8	-242.1	66.9	0.34	-0.20	-2.52
6,225.0	6.00	283.63	6,215.3	-46.2	-244.7	66.4	0.91	-0.52	-7.04
6,250.0	5.88	283.70	6,240.1	-45.6	-247.2	66.0	0.48	-0.48	0.28
6,275.0	5.61	284.25	6,265.0	-45.0	-249.6	65.7	1.10	-1.08	2.20
6,300.0	5.65	282.55	6,289.9	-44.4	-252.0	65.3	0.69	0.16	-6.80
6,325.0	5.44	282.04	6,314.8	-43.9	-254.4	65.0	0.86	-0.84	-2.04
6,350.0	5.46	281.88	6,339.6	-43.4	-256.7	64.7	0.10	0.08	-0.64
6,375.0	5.50	283.54	6,364.5	-42.9	-259.0	64.3	0.65	0.16	6.64
6,400.0	5.32	283.74	6,389.4	-42.3	-261.3	64.0	0.72	-0.72	0.80
6,425.0	5.10	283.22	6,414.3	-41.8	-263.5	63.6	0.90	-0.88	-2.08
6,450.0	5.03	283.07	6,439.2	-41.3	-265.7	63.3	0.28	-0.28	-0.60
6,475.0	4.99	282.90	6,464.1	-40.8	-267.8	63.0	0.17	-0.16	-0.68
6,500.0	5.06	284.67	6,489.0	-40.3	-269.9	62.7	0.68	0.28	7.08
6,525.0	5.05	283.01	6,513.9	-39.7	-272.1	62.3	0.59	-0.04	-6.64
6,550.0	4.97	281.86	6,538.8	-39.3	-274.2	62.0	0.51	-0.32	-4.60
6,575.0	5.01	283.03	6,563.7	-38.8	-276.3	61.7	0.44	0.16	4.68
6,600.0	4.87	282.50	6,588.6	-38.3	-278.4	61.4	0.59	-0.56	-2.12
6,625.0	4.86	281.43	6,613.6	-37.9	-280.5	61.2	0.37	-0.04	-4.28
6,650.0	4.90	281.15	6,638.5	-37.5	-282.6	60.9	0.19	0.16	-1.12
6,675.0	5.02	280.51	6,663.4	-37.1	-284.7	60.7	0.53	0.48	-2.56
6,700.0	5.02	279.43	6,688.3	-36.7	-286.8	60.5	0.38	0.00	-4.32
6,725.0	5.37	280.51	6,713.2	-36.3	-289.1	60.3	1.45	1.40	4.32
6,750.0	5.92	281.24	6,738.0	-35.8	-291.5	60.0	2.22	2.20	2.92
6,775.0	6.36	282.90	6,762.9	-35.3	-294.1	59.7	1.90	1.76	6.64

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
6,800.0	6.38	282.95	6,787.7	-34.6	-296.8	59.3	0.08	0.08	0.20
6,825.0	6.57	282.08	6,812.6	-34.0	-299.6	58.9	0.86	0.76	-3.48
6,850.0	6.55	282.97	6,837.4	-33.4	-302.3	58.5	0.41	-0.08	3.56
6,875.0	6.46	283.32	6,862.3	-32.8	-305.1	58.1	0.39	-0.36	1.40
6,900.0	6.47	281.62	6,887.1	-32.2	-307.9	57.8	0.77	0.04	-6.80
6,925.0	6.49	280.70	6,911.9	-31.6	-310.6	57.4	0.42	0.08	-3.68
6,950.0	6.39	281.03	6,936.8	-31.1	-313.4	57.1	0.43	-0.40	1.32
6,975.0	6.41	281.14	6,961.6	-30.5	-316.1	56.8	0.09	0.08	0.44
7,000.0	6.30	280.47	6,986.5	-30.0	-318.8	56.6	0.53	-0.44	-2.68
7,025.0	6.35	280.38	7,011.3	-29.5	-321.5	56.3	0.20	0.20	-0.36
7,050.0	6.30	280.44	7,036.2	-29.0	-324.2	56.0	0.20	-0.20	0.24
7,075.0	6.31	278.65	7,061.0	-28.6	-327.0	55.8	0.79	0.04	-7.16
7,100.0	6.29	279.85	7,085.9	-28.1	-329.7	55.6	0.53	-0.08	4.80
7,125.0	6.17	279.02	7,110.7	-27.7	-332.3	55.4	0.60	-0.48	-3.32
7,150.0	6.05	278.80	7,135.6	-27.3	-335.0	55.2	0.49	-0.48	-0.88
7,175.0	6.06	278.38	7,160.4	-26.9	-337.6	55.0	0.18	0.04	-1.68
7,200.0	5.97	278.36	7,185.3	-26.5	-340.2	54.8	0.36	-0.36	-0.08
7,225.0	5.82	277.15	7,210.2	-26.2	-342.7	54.7	0.78	-0.60	-4.84
7,250.0	5.72	277.99	7,235.0	-25.8	-345.2	54.6	0.52	-0.40	3.36
7,275.0	5.66	277.17	7,259.9	-25.5	-347.7	54.4	0.40	-0.24	-3.28
7,300.0	5.59	275.79	7,284.8	-25.2	-350.1	54.4	0.61	-0.28	-5.52
7,325.0	5.63	276.77	7,309.7	-25.0	-352.5	54.3	0.42	0.16	3.92
7,350.0	5.46	275.34	7,334.6	-24.7	-354.9	54.3	0.88	-0.68	-5.72
7,375.0	5.54	275.35	7,359.5	-24.5	-357.3	54.2	0.32	0.32	0.04
7,400.0	5.41	276.38	7,384.3	-24.2	-359.7	54.2	0.65	-0.52	4.12
7,425.0	5.30	277.71	7,409.2	-23.9	-362.0	54.1	0.66	-0.44	5.32
7,450.0	5.33	275.59	7,434.1	-23.7	-364.3	54.0	0.79	0.12	-8.48
7,475.0	5.31	275.21	7,459.0	-23.5	-366.6	54.0	0.16	-0.08	-1.52
7,500.0	5.35	275.08	7,483.9	-23.3	-368.9	54.0	0.17	0.16	-0.52
7,525.0	5.22	274.75	7,508.8	-23.1	-371.2	54.0	0.53	-0.52	-1.32
7,550.0	5.10	274.38	7,533.7	-22.9	-373.5	54.0	0.50	-0.48	-1.48
7,575.0	4.90	274.34	7,558.6	-22.7	-375.6	54.0	0.80	-0.80	-0.16
7,600.0	4.75	273.09	7,583.5	-22.6	-377.7	54.0	0.73	-0.60	-5.00
7,625.0	4.76	273.44	7,608.4	-22.5	-379.8	54.1	0.12	0.04	1.40
7,650.0	4.85	272.96	7,633.3	-22.3	-381.9	54.2	0.39	0.36	-1.92
7,675.0	4.99	275.23	7,658.2	-22.2	-384.0	54.2	0.96	0.56	9.08
7,700.0	5.83	278.95	7,683.1	-21.9	-386.4	54.1	3.64	3.36	14.88
7,725.0	6.01	281.74	7,708.0	-21.4	-388.9	53.8	1.36	0.72	11.16
7,750.0	6.15	281.59	7,732.9	-20.9	-391.5	53.5	0.56	0.56	-0.60
7,775.0	6.09	282.22	7,757.7	-20.3	-394.1	53.2	0.36	-0.24	2.52
7,800.0	6.17	281.46	7,782.6	-19.8	-396.7	52.9	0.46	0.32	-3.04
7,825.0	5.97	280.05	7,807.4	-19.3	-399.3	52.6	1.00	-0.80	-5.64

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
7,850.0	5.98	279.27	7,832.3	-18.9	-401.9	52.4	0.33	0.04	-3.12
7,875.0	5.96	279.85	7,857.2	-18.4	-404.4	52.1	0.25	-0.08	2.32
7,900.0	5.95	279.82	7,882.0	-18.0	-407.0	51.9	0.04	-0.04	-0.12
7,925.0	5.87	279.34	7,906.9	-17.6	-409.5	51.7	0.38	-0.32	-1.92
7,950.0	5.83	279.49	7,931.8	-17.1	-412.0	51.5	0.17	-0.16	0.60
7,975.0	5.69	278.77	7,956.6	-16.7	-414.5	51.3	0.63	-0.56	-2.88
8,000.0	5.60	279.69	7,981.5	-16.3	-416.9	51.1	0.51	-0.36	3.68
8,025.0	5.47	278.25	8,006.4	-16.0	-419.3	50.9	0.76	-0.52	-5.76
8,050.0	5.44	277.38	8,031.3	-15.6	-421.7	50.8	0.35	-0.12	-3.48
8,075.0	5.28	277.70	8,056.2	-15.3	-424.0	50.7	0.65	-0.64	1.28
8,100.0	5.22	276.84	8,081.1	-15.1	-426.3	50.6	0.40	-0.24	-3.44
8,125.0	5.11	275.70	8,106.0	-14.8	-428.5	50.5	0.60	-0.44	-4.56
8,150.0	5.00	275.78	8,130.9	-14.6	-430.7	50.5	0.44	-0.44	0.32
8,175.0	4.92	275.19	8,155.8	-14.4	-432.8	50.5	0.38	-0.32	-2.36
8,200.0	4.82	274.68	8,180.7	-14.2	-435.0	50.5	0.44	-0.40	-2.04
8,225.0	4.78	274.93	8,205.6	-14.0	-437.0	50.5	0.18	-0.16	1.00
8,250.0	4.63	275.23	8,230.5	-13.8	-439.1	50.5	0.61	-0.60	1.20
8,275.0	4.60	275.85	8,255.4	-13.6	-441.1	50.4	0.23	-0.12	2.48
8,300.0	4.57	274.18	8,280.4	-13.5	-443.1	50.4	0.55	-0.12	-6.68
8,325.0	5.39	275.94	8,305.3	-13.3	-445.2	50.4	3.34	3.28	7.04
8,350.0	6.77	283.82	8,330.1	-12.8	-447.8	50.2	6.44	5.52	31.52
8,375.0	7.48	286.37	8,354.9	-12.0	-450.8	49.6	3.11	2.84	10.20
8,400.0	7.51	287.99	8,379.7	-11.0	-453.9	48.9	0.85	0.12	6.48
8,425.0	7.50	286.91	8,404.5	-10.1	-457.1	48.2	0.57	-0.04	-4.32
8,450.0	7.46	287.69	8,429.3	-9.1	-460.2	47.5	0.44	-0.16	3.12
8,475.0	7.47	287.62	8,454.1	-8.1	-463.3	46.8	0.05	0.04	-0.28
8,500.0	7.50	287.07	8,478.9	-7.1	-466.4	46.1	0.31	0.12	-2.20
8,525.0	7.42	287.13	8,503.7	-6.2	-469.5	45.4	0.32	-0.32	0.24
8,550.0	7.34	286.28	8,528.4	-5.3	-472.6	44.7	0.54	-0.32	-3.40
8,575.0	7.20	285.86	8,553.2	-4.4	-475.6	44.1	0.60	-0.56	-1.68
8,600.0	7.00	286.89	8,578.1	-3.5	-478.6	43.5	0.95	-0.80	4.12
8,625.0	6.86	287.89	8,602.9	-2.6	-481.4	42.8	0.74	-0.56	4.00
8,650.0	6.65	287.45	8,627.7	-1.7	-484.2	42.1	0.87	-0.84	-1.76
8,675.0	6.53	287.64	8,652.5	-0.8	-487.0	41.5	0.49	-0.48	0.76
8,700.0	6.36	287.26	8,677.4	0.0	-489.6	40.9	0.70	-0.68	-1.52
8,725.0	6.23	286.61	8,702.2	0.8	-492.3	40.3	0.59	-0.52	-2.60
8,750.0	6.07	286.85	8,727.1	1.6	-494.8	39.8	0.65	-0.64	0.96
8,775.0	5.96	286.07	8,751.9	2.3	-497.3	39.2	0.55	-0.44	-3.12
8,800.0	5.86	286.06	8,776.8	3.0	-499.8	38.7	0.40	-0.40	-0.04
8,825.0	5.67	286.26	8,801.7	3.7	-502.2	38.2	0.76	-0.76	0.80
8,850.0	5.59	286.65	8,826.6	4.4	-504.6	37.7	0.35	-0.32	1.56
8,875.0	5.51	286.12	8,851.4	5.1	-506.9	37.3	0.38	-0.32	-2.12
8,900.0	5.31	286.87	8,876.3	5.8	-509.2	36.8	0.85	-0.80	3.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
8,925.0	5.27	286.01	8,901.2	6.4	-511.4	36.3	0.36	-0.16	-3.44
8,950.0	5.18	283.55	8,926.1	7.0	-513.6	35.9	0.97	-0.36	-9.84
8,975.0	5.19	283.58	8,951.0	7.5	-515.8	35.6	0.04	0.04	0.12
9,000.0	5.17	284.80	8,975.9	8.1	-518.0	35.2	0.45	-0.08	4.88
9,025.0	5.04	284.62	9,000.8	8.6	-520.1	34.8	0.52	-0.52	-0.72
9,050.0	4.99	284.45	9,025.7	9.2	-522.2	34.5	0.21	-0.20	-0.68
9,075.0	5.39	286.51	9,050.6	9.8	-524.4	34.0	1.76	1.60	8.24
9,100.0	6.57	289.35	9,075.5	10.6	-526.9	33.4	4.86	4.72	11.36
9,125.0	7.15	290.86	9,100.3	11.6	-529.7	32.6	2.43	2.32	6.04
9,150.0	7.26	290.70	9,125.1	12.7	-532.6	31.8	0.45	0.44	-0.64
9,175.0	7.16	290.42	9,149.9	13.9	-535.6	30.9	0.42	-0.40	-1.12
9,200.0	7.01	290.59	9,174.7	14.9	-538.4	30.1	0.61	-0.60	0.68
9,225.0	6.87	290.58	9,199.5	16.0	-541.3	29.3	0.56	-0.56	-0.04
9,250.0	6.82	290.27	9,224.4	17.0	-544.1	28.5	0.25	-0.20	-1.24
9,275.0	6.80	290.37	9,249.2	18.1	-546.8	27.7	0.09	-0.08	0.40
9,300.0	6.74	288.63	9,274.0	19.0	-549.6	26.9	0.85	-0.24	-6.96
9,325.0	6.62	289.90	9,298.8	20.0	-552.4	26.2	0.76	-0.48	5.08
9,350.0	6.56	288.16	9,323.7	20.9	-555.1	25.5	0.83	-0.24	-6.96
9,375.0	6.53	281.83	9,348.5	21.7	-557.8	25.0	2.89	-0.12	-25.32
9,400.0	6.51	280.14	9,373.4	22.2	-560.6	24.7	0.77	-0.08	-6.76
9,425.0	6.50	279.21	9,398.2	22.7	-563.4	24.4	0.42	-0.04	-3.72
9,450.0	6.41	278.56	9,423.0	23.1	-566.2	24.2	0.46	-0.36	-2.60
9,475.0	6.25	278.67	9,447.9	23.5	-568.9	24.1	0.64	-0.64	0.44
9,500.0	6.04	279.77	9,472.7	24.0	-571.5	23.9	0.96	-0.84	4.40
9,525.0	5.85	278.73	9,497.6	24.4	-574.1	23.6	0.87	-0.76	-4.16
9,550.0	5.66	279.11	9,522.5	24.8	-576.6	23.5	0.78	-0.76	1.52
9,575.0	5.45	279.17	9,547.4	25.2	-579.0	23.3	0.84	-0.84	0.24
9,600.0	5.24	278.55	9,572.2	25.5	-581.3	23.1	0.87	-0.84	-2.48
9,625.0	4.98	279.78	9,597.1	25.9	-583.5	23.0	1.13	-1.04	4.92
9,650.0	4.72	281.71	9,622.1	26.3	-585.5	22.7	1.23	-1.04	7.72
9,675.0	4.55	282.73	9,647.0	26.7	-587.5	22.5	0.76	-0.68	4.08
9,700.0	4.37	283.70	9,671.9	27.1	-589.4	22.2	0.78	-0.72	3.88
9,725.0	4.18	282.67	9,696.8	27.6	-591.2	21.9	0.82	-0.76	-4.12
9,750.0	4.04	281.79	9,721.8	27.9	-593.0	21.7	0.61	-0.56	-3.52
9,775.0	3.94	280.83	9,746.7	28.3	-594.7	21.5	0.48	-0.40	-3.84
9,800.0	3.81	280.26	9,771.7	28.6	-596.3	21.3	0.54	-0.52	-2.28
9,825.0	3.71	279.10	9,796.6	28.9	-598.0	21.2	0.50	-0.40	-4.64
9,850.0	3.61	279.51	9,821.5	29.1	-599.5	21.0	0.41	-0.40	1.64
9,875.0	3.64	278.58	9,846.5	29.4	-601.1	20.9	0.26	0.12	-3.72
9,900.0	3.67	279.00	9,871.4	29.6	-602.7	20.8	0.16	0.12	1.68
9,925.0	3.73	277.65	9,896.4	29.9	-604.3	20.7	0.42	0.24	-5.40
9,950.0	3.78	276.72	9,921.3	30.1	-605.9	20.7	0.32	0.20	-3.72

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)	
9,975.0	3.89	275.54	9,946.3	30.2	-607.6	20.6	0.54	0.44	-4.72	
10,000.0	3.87	277.38	9,971.2	30.4	-609.2	20.6	0.50	-0.08	7.36	
10,025.0	3.84	279.68	9,996.2	30.7	-610.9	20.5	0.63	-0.12	9.20	
10,050.0	3.77	279.45	10,021.1	30.9	-612.5	20.3	0.29	-0.28	-0.92	
10,075.0	3.66	280.25	10,046.1	31.2	-614.1	20.2	0.49	-0.44	3.20	
10,100.0	3.60	281.36	10,071.0	31.5	-615.7	20.0	0.37	-0.24	4.44	
10,125.0	3.76	279.45	10,096.0	31.8	-617.3	19.9	0.81	0.64	-7.64	
10,150.0	3.83	277.11	10,120.9	32.0	-618.9	19.8	0.68	0.28	-9.36	
10,175.0	3.89	272.58	10,145.8	32.2	-620.6	19.8	1.24	0.24	-18.12	
10,200.0	3.95	271.09	10,170.8	32.2	-622.3	19.8	0.47	0.24	-5.96	
10,225.0	3.89	271.21	10,195.7	32.3	-624.0	19.9	0.24	-0.24	0.48	
10,250.0	3.91	270.31	10,220.7	32.3	-625.7	20.1	0.26	0.08	-3.60	
10,275.0	3.86	270.34	10,245.6	32.3	-627.4	20.2	0.20	-0.20	0.12	
10,300.0	3.81	268.81	10,270.6	32.3	-629.1	20.4	0.46	-0.20	-6.12	
10,325.0	3.64	265.54	10,295.5	32.2	-630.7	20.6	1.09	-0.68	-13.08	
10,350.0	3.67	262.83	10,320.5	32.1	-632.3	20.9	0.70	0.12	-10.84	
10,375.0	3.60	262.70	10,345.4	31.9	-633.8	21.2	0.28	-0.28	-0.52	
10,400.0	3.48	268.73	10,370.4	31.7	-635.4	21.4	1.56	-0.48	24.12	
10,425.0	3.52	260.81	10,395.3	31.6	-636.9	21.7	1.94	0.16	-31.68	
10,450.0	3.38	261.27	10,420.3	31.4	-638.4	22.1	0.57	-0.56	1.84	
10,475.0	3.34	257.62	10,445.2	31.1	-639.8	22.4	0.87	-0.16	-14.60	
10,500.0	3.19	255.45	10,470.2	30.8	-641.2	22.9	0.78	-0.60	-8.68	
10,525.0	3.05	255.63	10,495.1	30.4	-642.5	23.3	0.56	-0.56	0.72	
10,550.0	3.15	254.64	10,520.1	30.1	-643.8	23.8	0.45	0.40	-3.96	
10,575.0	3.17	252.39	10,545.1	29.7	-645.1	24.3	0.50	0.08	-9.00	
10,600.0	3.43	258.11	10,570.0	29.3	-646.5	24.8	1.68	1.04	22.88	
10,625.0	3.81	259.96	10,595.0	29.0	-648.1	25.2	1.59	1.52	7.40	
10,650.0	4.08	261.44	10,619.9	28.8	-649.8	25.6	1.15	1.08	5.92	
10,675.0	4.27	261.76	10,644.9	28.5	-651.6	26.0	0.77	0.76	1.28	
10,700.0	5.18	261.39	10,669.8	28.2	-653.6	26.5	3.64	3.64	-1.48	
10,725.0	6.20	263.07	10,694.6	27.9	-656.1	27.0	4.13	4.08	6.72	
10,750.0	6.61	265.97	10,719.5	27.6	-658.9	27.5	2.09	1.64	11.60	
10,775.0	6.58	266.17	10,744.3	27.4	-661.7	28.0	0.15	-0.12	0.80	
10,800.0	6.15	266.84	10,769.2	27.2	-664.5	28.4	1.75	-1.72	2.68	
10,825.0	5.76	267.08	10,794.0	27.1	-667.1	28.7	1.56	-1.56	0.96	
10,850.0	5.39	267.27	10,818.9	27.0	-669.5	29.0	1.48	-1.48	0.76	
10,875.0	5.28	266.87	10,843.8	26.8	-671.8	29.4	0.46	-0.44	-1.60	
10,900.0	5.09	267.96	10,868.7	26.7	-674.1	29.6	0.86	-0.76	4.36	
10,925.0	4.90	268.74	10,893.6	26.7	-676.3	29.9	0.81	-0.76	3.12	
10,950.0	4.90	268.62	10,918.5	26.6	-678.4	30.1	0.04	0.00	-0.48	
10,975.0	4.90	268.14	10,943.4	26.6	-680.5	30.4	0.16	0.00	-1.92	
11,000.0	4.51	268.50	10,968.3	26.5	-682.6	30.6	1.56	-1.56	1.44	
11,025.0	4.59	267.86	10,993.3	26.4	-684.6	30.8	0.38	0.32	-2.56	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
11,050.0	4.66	266.75	11,018.2	26.4	-686.6	31.1	0.45	0.28	-4.44
11,075.0	5.13	263.41	11,043.1	26.2	-688.7	31.4	2.20	1.88	-13.36
11,100.0	6.36	260.92	11,068.0	25.8	-691.2	32.0	5.02	4.92	-9.96
11,125.0	7.02	259.06	11,092.8	25.3	-694.0	32.7	2.78	2.64	-7.44
11,150.0	7.10	259.14	11,117.6	24.7	-697.1	33.6	0.32	0.32	0.32
11,175.0	6.92	258.89	11,142.4	24.2	-700.0	34.4	0.73	-0.72	-1.00
11,200.0	6.70	258.61	11,167.2	23.6	-703.0	35.2	0.89	-0.88	-1.12
11,225.0	6.01	260.51	11,192.1	23.1	-705.7	36.0	2.88	-2.76	7.60
11,250.0	5.61	260.18	11,217.0	22.6	-708.2	36.6	1.61	-1.60	-1.32
11,275.0	5.42	258.39	11,241.8	22.2	-710.5	37.2	1.03	-0.76	-7.16
11,300.0	5.24	256.78	11,266.7	21.7	-712.8	37.9	0.94	-0.72	-6.44
11,325.0	5.12	256.77	11,291.6	21.2	-715.0	38.6	0.48	-0.48	-0.04
11,350.0	5.13	256.99	11,316.5	20.7	-717.2	39.3	0.09	0.04	0.88
11,375.0	4.85	259.99	11,341.4	20.2	-719.3	39.9	1.53	-1.12	12.00
11,400.0	4.50	264.88	11,366.4	20.0	-721.3	40.3	2.12	-1.40	19.56
11,425.0	4.45	266.56	11,391.3	19.8	-723.3	40.7	0.56	-0.20	6.72
11,450.0	4.73	270.31	11,416.2	19.8	-725.3	40.9	1.64	1.12	15.00
11,475.0	5.54	273.48	11,441.1	19.9	-727.5	41.0	3.43	3.24	12.68
11,500.0	5.87	274.24	11,466.0	20.0	-730.0	41.0	1.35	1.32	3.04
11,525.0	5.94	274.45	11,490.8	20.2	-732.5	41.0	0.29	0.28	0.84
11,550.0	5.76	273.66	11,515.7	20.4	-735.1	41.1	0.79	-0.72	-3.16
11,575.0	5.39	272.44	11,540.6	20.5	-737.5	41.1	1.55	-1.48	-4.88
11,600.0	5.05	271.31	11,565.5	20.6	-739.8	41.3	1.42	-1.36	-4.52
11,625.0	4.90	271.15	11,590.4	20.6	-742.0	41.4	0.60	-0.60	-0.64
11,650.0	4.89	268.66	11,615.3	20.6	-744.1	41.6	0.85	-0.04	-9.96
11,675.0	4.86	268.59	11,640.2	20.6	-746.2	41.8	0.12	-0.12	-0.28
11,700.0	4.83	269.66	11,665.1	20.6	-748.3	42.0	0.38	-0.12	4.28
11,725.0	4.58	268.50	11,690.0	20.5	-750.4	42.2	1.07	-1.00	-4.64
11,750.0	4.44	265.31	11,715.0	20.4	-752.3	42.5	1.15	-0.56	-12.76
11,775.0	4.18	264.67	11,739.9	20.3	-754.2	42.8	1.06	-1.04	-2.56
11,800.0	3.98	263.93	11,764.8	20.1	-756.0	43.1	0.83	-0.80	-2.96
11,825.0	3.82	264.24	11,789.8	19.9	-757.7	43.4	0.65	-0.64	1.24
11,850.0	3.58	267.63	11,814.7	19.8	-759.3	43.7	1.30	-0.96	13.56
11,875.0	3.53	270.74	11,839.7	19.8	-760.8	43.8	0.80	-0.20	12.44
11,900.0	3.32	272.41	11,864.6	19.8	-762.3	43.9	0.93	-0.84	6.68
11,925.0	2.99	275.19	11,889.6	19.9	-763.7	44.0	1.45	-1.32	11.12
11,928.0	3.00	272.74	11,892.6	19.9	-763.8	44.0	4.28	0.33	-81.67
11,940.0	2.71	273.53	11,904.6	19.9	-764.4	44.0	2.44	-2.42	6.58
12,034.0	1.75	270.14	11,998.5	20.1	-768.1	44.1	1.03	-1.02	-3.61
12,129.0	0.74	274.58	12,093.5	20.1	-770.2	44.3	1.07	-1.06	4.67
12,160.0	0.66	265.84	12,124.5	20.1	-770.5	44.3	0.43	-0.26	-28.19
12,223.0	0.61	232.72	12,187.5	19.9	-771.2	44.6	0.58	-0.08	-52.57

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
12,255.0	0.71	233.93	12,219.5	19.7	-771.5	44.8	0.32	0.31	3.78
12,318.0	4.64	198.84	12,282.4	17.0	-772.6	47.5	6.48	6.24	-55.70
12,350.0	9.53	191.00	12,314.1	13.2	-773.5	51.4	15.54	15.28	-24.50
12,397.0	16.41	186.53	12,359.9	2.8	-775.0	62.0	14.78	14.64	-9.51
12,445.0	23.02	180.38	12,405.1	-13.4	-775.9	78.1	14.42	13.77	-12.81
12,492.0	30.71	182.09	12,447.0	-34.6	-776.4	99.3	16.44	16.36	3.64
12,539.0	38.04	185.63	12,485.7	-61.0	-778.2	125.8	16.16	15.60	7.53
12,587.0	45.88	187.60	12,521.4	-92.9	-782.0	157.8	16.56	16.33	4.10
12,634.0	51.48	185.67	12,552.4	-127.9	-786.0	193.1	12.31	11.91	-4.11
12,682.0	54.92	186.07	12,581.2	-166.1	-789.9	231.5	7.20	7.17	0.83
12,729.0	59.24	185.21	12,606.7	-205.4	-793.8	271.0	9.32	9.19	-1.83
12,776.0	61.83	185.09	12,629.8	-246.1	-797.5	311.9	5.52	5.51	-0.26
12,823.0	62.47	185.21	12,651.8	-287.5	-801.2	353.4	1.38	1.36	0.26
12,871.0	64.47	185.52	12,673.2	-330.3	-805.2	396.4	4.21	4.17	0.65
12,918.0	66.35	183.68	12,692.8	-372.9	-808.6	439.1	5.35	4.00	-3.91
12,966.0	66.65	182.78	12,711.9	-416.8	-811.1	483.1	1.83	0.63	-1.88
13,013.0	67.49	183.88	12,730.2	-460.0	-813.6	526.4	2.80	1.79	2.34
13,061.0	73.59	186.14	12,746.2	-505.1	-817.6	571.6	13.46	12.71	4.71
13,108.0	79.70	183.91	12,757.1	-550.6	-821.6	617.3	13.79	13.00	-4.74
13,156.0	85.04	183.75	12,763.4	-598.1	-824.8	664.9	11.13	11.13	-0.33
13,202.0	89.24	185.98	12,765.7	-643.8	-828.7	710.8	10.33	9.13	4.85
13,297.0	88.67	185.31	12,767.5	-738.4	-838.0	805.8	0.93	-0.60	-0.71
13,391.0	87.38	183.45	12,770.7	-832.0	-845.2	899.7	2.41	-1.37	-1.98
13,486.0	90.60	189.02	12,772.4	-926.4	-855.5	994.6	6.77	3.39	5.86
13,580.0	90.18	188.73	12,771.8	-1,019.3	-870.0	1,088.4	0.54	-0.45	-0.31
13,674.0	88.76	187.82	12,772.6	-1,112.3	-883.5	1,182.2	1.79	-1.51	-0.97
13,768.0	85.56	186.37	12,777.3	-1,205.4	-895.1	1,276.0	3.74	-3.40	-1.54
13,863.0	90.82	184.21	12,780.3	-1,299.9	-903.9	1,370.9	5.98	5.54	-2.27
13,957.0	89.28	183.51	12,780.2	-1,393.7	-910.2	1,464.9	1.80	-1.64	-0.74
14,051.0	88.66	182.71	12,781.9	-1,487.6	-915.3	1,558.8	1.08	-0.66	-0.85
14,146.0	86.48	181.20	12,785.9	-1,582.4	-918.5	1,653.6	2.79	-2.29	-1.59
14,171.0	86.75	181.44	12,787.4	-1,607.4	-919.1	1,678.5	1.44	1.08	0.96
14,266.0	88.54	182.18	12,791.3	-1,702.2	-922.1	1,773.3	2.04	1.88	0.78
14,361.0	88.72	181.31	12,793.6	-1,797.2	-925.0	1,868.2	0.93	0.19	-0.92
14,456.0	91.05	180.13	12,793.8	-1,892.2	-926.2	1,962.9	2.75	2.45	-1.24
14,551.0	91.12	180.11	12,792.0	-1,987.1	-926.4	2,057.6	0.08	0.07	-0.02
14,645.0	88.35	177.50	12,792.4	-2,081.1	-924.4	2,151.0	4.05	-2.95	-2.78
14,740.0	90.92	180.62	12,793.0	-2,176.1	-922.9	2,245.5	4.25	2.71	3.28
14,835.0	93.45	182.88	12,789.4	-2,270.9	-925.8	2,340.3	3.57	2.66	2.38
14,929.0	93.87	182.57	12,783.4	-2,364.6	-930.2	2,434.1	0.55	0.45	-0.33
15,023.0	93.38	182.56	12,777.4	-2,458.4	-934.4	2,527.8	0.52	-0.52	-0.01
15,118.0	89.50	184.53	12,775.0	-2,553.1	-940.3	2,622.7	4.58	-4.08	2.07
15,212.0	87.53	183.65	12,777.5	-2,646.8	-947.0	2,716.7	2.30	-2.10	-0.94

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
15,307.0	90.81	179.14	12,778.9	-2,741.8	-949.3	2,811.5	5.87	3.45	-4.75
15,402.0	90.45	179.85	12,777.8	-2,836.8	-948.5	2,906.1	0.84	-0.38	0.75
15,497.0	88.99	182.75	12,778.3	-2,931.7	-950.6	3,000.9	3.42	-1.54	3.05
15,592.0	89.20	181.94	12,779.8	-3,026.6	-954.5	3,095.8	0.88	0.22	-0.85
15,687.0	89.06	181.53	12,781.2	-3,121.6	-957.4	3,190.6	0.46	-0.15	-0.43
15,782.0	87.50	179.69	12,784.1	-3,216.5	-958.4	3,285.3	2.54	-1.64	-1.94
15,876.0	87.68	179.06	12,788.0	-3,310.4	-957.4	3,378.8	0.70	0.19	-0.67
15,971.0	88.26	177.48	12,791.4	-3,405.3	-954.5	3,473.1	1.77	0.61	-1.66
16,066.0	89.41	179.42	12,793.3	-3,500.3	-952.0	3,567.5	2.37	1.21	2.04
16,160.0	89.01	179.87	12,794.6	-3,594.3	-951.4	3,661.2	0.64	-0.43	0.48
16,255.0	88.94	179.88	12,796.3	-3,689.2	-951.2	3,755.8	0.07	-0.07	0.01
16,350.0	89.19	180.55	12,797.9	-3,784.2	-951.5	3,850.5	0.75	0.26	0.71
16,445.0	89.63	181.13	12,798.8	-3,879.2	-952.9	3,945.2	0.77	0.46	0.61
16,540.0	89.63	179.19	12,799.5	-3,974.2	-953.2	4,039.9	2.04	0.00	-2.04
16,636.0	89.29	178.59	12,800.4	-4,070.2	-951.3	4,135.4	0.72	-0.35	-0.63
16,731.0	88.72	177.81	12,802.0	-4,165.1	-948.3	4,229.8	1.02	-0.60	-0.82
16,825.0	91.61	175.00	12,801.7	-4,258.9	-942.4	4,322.7	4.29	3.07	-2.99
16,920.0	92.06	177.57	12,798.7	-4,353.7	-936.3	4,416.6	2.75	0.47	2.71
17,015.0	91.99	177.43	12,795.3	-4,448.5	-932.1	4,510.8	0.16	-0.07	-0.15
17,110.0	92.25	177.72	12,791.8	-4,543.4	-928.1	4,605.0	0.41	0.27	0.31
17,205.0	90.95	180.43	12,789.2	-4,638.3	-926.6	4,699.5	3.16	-1.37	2.85
17,300.0	90.22	179.38	12,788.2	-4,733.3	-926.4	4,794.1	1.35	-0.77	-1.11
17,394.0	90.49	178.10	12,787.6	-4,827.3	-924.4	4,887.6	1.39	0.29	-1.36
17,489.0	88.82	174.95	12,788.2	-4,922.1	-918.6	4,981.6	3.75	-1.76	-3.32
17,583.0	91.50	179.10	12,787.9	-5,015.9	-913.7	5,074.7	5.26	2.85	4.41
17,678.0	87.78	177.71	12,788.5	-5,110.9	-911.1	5,169.1	4.18	-3.92	-1.46
17,773.0	90.23	180.85	12,790.2	-5,205.8	-909.9	5,263.6	4.19	2.58	3.31
17,868.0	88.65	182.13	12,791.1	-5,300.8	-912.4	5,358.5	2.14	-1.66	1.35
17,963.0	87.73	181.57	12,794.1	-5,395.7	-915.4	5,453.3	1.13	-0.97	-0.59
18,057.0	87.54	181.92	12,798.0	-5,489.6	-918.3	5,547.1	0.42	-0.20	0.37
18,151.0	87.71	181.66	12,801.9	-5,583.4	-921.2	5,640.9	0.33	0.18	-0.28
18,246.0	88.12	181.47	12,805.3	-5,678.3	-923.8	5,735.6	0.48	0.43	-0.20
18,340.0	88.54	182.51	12,808.1	-5,772.2	-927.1	5,829.5	1.19	0.45	1.11
18,435.0	88.33	183.01	12,810.7	-5,867.1	-931.7	5,924.4	0.57	-0.22	0.53
18,530.0	87.94	180.75	12,813.8	-5,962.0	-934.8	6,019.2	2.41	-0.41	-2.38
18,625.0	90.62	178.72	12,815.0	-6,057.0	-934.3	6,113.8	3.54	2.82	-2.14
18,720.0	91.38	178.09	12,813.3	-6,151.9	-931.7	6,208.2	1.04	0.80	-0.66
18,815.0	90.71	175.98	12,811.6	-6,246.8	-926.8	6,302.3	2.33	-0.71	-2.22
18,910.0	90.10	174.56	12,810.9	-6,341.4	-918.9	6,396.0	1.63	-0.64	-1.49
19,005.0	91.58	176.47	12,809.5	-6,436.1	-911.5	6,489.8	2.54	1.56	2.01
19,099.0	91.36	177.00	12,807.1	-6,529.9	-906.2	6,582.8	0.61	-0.23	0.56
19,194.0	91.27	178.55	12,804.9	-6,624.8	-902.5	6,677.1	1.63	-0.09	1.63

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
19,288.0	90.90	178.42	12,803.1	-6,718.8	-900.0	6,770.5	0.42	-0.39	-0.14
19,383.0	90.62	178.00	12,801.9	-6,813.7	-897.0	6,864.8	0.53	-0.29	-0.44
19,478.0	90.29	179.87	12,801.1	-6,908.7	-895.3	6,959.3	2.00	-0.35	1.97
19,572.0	89.11	181.90	12,801.6	-7,002.7	-896.7	7,053.1	2.50	-1.26	2.16
19,667.0	88.89	183.16	12,803.3	-7,097.6	-900.9	7,148.0	1.35	-0.23	1.33
19,762.0	89.30	181.19	12,804.8	-7,192.5	-904.5	7,242.9	2.12	0.43	-2.07
19,856.0	90.56	182.50	12,804.9	-7,286.4	-907.5	7,336.8	1.93	1.34	1.39
19,951.0	90.76	182.72	12,803.8	-7,381.3	-911.9	7,431.7	0.31	0.21	0.23
20,046.0	89.70	179.70	12,803.4	-7,476.3	-913.9	7,526.5	3.37	-1.12	-3.18
20,140.0	90.53	180.85	12,803.2	-7,570.3	-914.3	7,620.2	1.51	0.88	1.22
20,234.0	92.07	181.84	12,801.1	-7,664.2	-916.5	7,714.0	1.95	1.64	1.05
20,329.0	90.73	179.25	12,798.8	-7,759.2	-917.4	7,808.7	3.07	-1.41	-2.73
20,423.0	90.68	180.01	12,797.6	-7,853.2	-916.8	7,902.3	0.81	-0.05	0.81
20,518.0	87.77	177.63	12,798.9	-7,948.1	-914.9	7,996.8	3.96	-3.06	-2.51
20,612.0	88.19	178.07	12,802.2	-8,042.0	-911.3	8,090.0	0.65	0.45	0.47
20,707.0	88.82	178.36	12,804.7	-8,136.9	-908.4	8,184.4	0.73	0.66	0.31
20,801.0	87.90	177.02	12,807.4	-8,230.8	-904.6	8,277.6	1.73	-0.98	-1.43
20,896.0	89.06	179.44	12,809.9	-8,325.7	-901.7	8,371.9	2.82	1.22	2.55
20,990.0	91.57	179.47	12,809.4	-8,419.7	-900.8	8,465.5	2.67	2.67	0.03
21,085.0	92.30	179.33	12,806.2	-8,514.7	-899.8	8,560.1	0.78	0.77	-0.15
21,180.0	91.96	177.96	12,802.6	-8,609.6	-897.5	8,654.4	1.48	-0.36	-1.44
21,275.0	90.36	178.79	12,800.7	-8,704.5	-894.8	8,748.8	1.90	-1.68	0.87
21,370.0	90.41	177.89	12,800.1	-8,799.5	-892.1	8,843.2	0.95	0.05	-0.95
21,464.0	90.48	177.36	12,799.3	-8,893.4	-888.2	8,936.5	0.57	0.07	-0.56
21,559.0	89.42	180.24	12,799.4	-8,988.3	-886.2	9,031.0	3.23	-1.12	3.03
21,653.0	88.47	180.94	12,801.2	-9,082.3	-887.2	9,124.7	1.26	-1.01	0.74
21,748.0	88.46	181.27	12,803.7	-9,177.3	-889.0	9,219.5	0.35	-0.01	0.35
21,843.0	89.10	181.31	12,805.7	-9,272.2	-891.1	9,314.3	0.67	0.67	0.04
21,936.0	89.03	180.91	12,807.2	-9,365.2	-892.9	9,407.0	0.44	-0.08	-0.43
22,031.0	89.00	180.98	12,808.9	-9,460.2	-894.5	9,501.8	0.08	-0.03	0.07
22,126.0	88.88	180.82	12,810.6	-9,555.1	-896.0	9,596.6	0.21	-0.13	-0.17
22,221.0	89.75	182.71	12,811.8	-9,650.1	-898.9	9,691.4	2.19	0.92	1.99
22,315.0	89.99	181.98	12,812.0	-9,744.0	-902.8	9,785.4	0.82	0.26	-0.78
22,409.0	89.83	178.22	12,812.1	-9,838.0	-902.9	9,879.0	4.00	-0.17	-4.00
22,503.0	89.27	177.04	12,812.9	-9,931.9	-899.0	9,972.3	1.39	-0.60	-1.26
22,597.0	91.31	178.44	12,812.4	-10,025.8	-895.3	10,065.6	2.63	2.17	1.49
22,692.0	92.07	179.20	12,809.6	-10,120.8	-893.4	10,160.0	1.13	0.80	0.80
22,787.0	92.32	179.32	12,806.0	-10,215.7	-892.2	10,254.5	0.29	0.26	0.13
22,810.0	92.46	179.38	12,805.0	-10,238.7	-891.9	10,277.4	0.66	0.61	0.26
LAST MWD @ 22810'MD									
22,820.9	92.46	179.38	12,804.5	-10,249.5	-891.8	10,288.2	0.00	0.00	0.00
LTP @ 22820.9'MD									
22,869.0	92.46	179.38	12,802.5	-10,297.6	-891.3	10,336.1	0.00	0.00	0.00

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN EAST	Local Co-ordinate Reference:	Well GUNNER 8 FEDERAL COM 704H
Project:	BULLDOG PROSPECT (NM-E)	TVD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Site:	GUNNER FEDERAL PROJECT (BULLDOG 2634)	MD Reference:	KB=26' @ 3365.3usft (McVAY 8)
Well:	GUNNER 8 FEDERAL COM 704H	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)
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PTD @ 22869'MD

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
22,810.0	12,805.0	-10,238.7	-891.9	LAST MWD @ 22810'MD
22,820.9	12,804.5	-10,249.5	-891.8	LTP @ 22820.9'MD
22,869.0	12,802.5	-10,297.6	-891.3	PTD @ 22869'MD

Checked By: _____ Approved By: _____ Date: _____