

DELAWARE BASIN WEST

ATLAS PROSPECT (NM-E)

ADMIRAL FEDERAL PROJECT (ATLAS 2529)

ADMIRAL FEDERAL COM 501H

OWB

Design: AWP

Standard Survey Report

24 June, 2020

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 501H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Project	ATLAS 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	ADMIRAL FEDERAL COM 501H, ACTIVE				
Well Position	+N/-S	0.0 usft	Northing:	398,093.60 usft	Latitude: 32° 5' 38.480 N
	+E/-W	0.0 usft	Easting:	604,917.40 usft	Longitude: 103° 59' 40.340 W
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft	Ground Level: 2,983.3 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	3/23/2020	6.84	59.84	47,535.98655078

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	356.51	

Survey Program	Date	6/24/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	7,782.0	GYRO-INTER (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
7,829.0	18,852.0	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	0.52	324.38	100.0	0.4	-0.3	0.4	0.52	0.52	0.00	
125.0	0.56	317.60	125.0	0.6	-0.4	0.6	0.30	0.16	-27.12	
150.0	0.47	327.05	150.0	0.7	-0.6	0.8	0.49	-0.36	37.80	
175.0	0.48	333.14	175.0	0.9	-0.7	0.9	0.21	0.04	24.36	
200.0	0.54	328.23	200.0	1.1	-0.8	1.1	0.30	0.24	-19.64	
225.0	0.63	339.88	225.0	1.3	-0.9	1.4	0.59	0.36	46.60	
250.0	0.70	340.99	250.0	1.6	-1.0	1.7	0.28	0.28	4.44	
275.0	0.70	344.93	275.0	1.9	-1.1	2.0	0.19	0.00	15.76	
300.0	0.66	341.91	300.0	2.2	-1.1	2.2	0.21	-0.16	-12.08	
325.0	0.70	338.84	325.0	2.5	-1.2	2.5	0.22	0.16	-12.28	
350.0	0.68	337.26	350.0	2.7	-1.4	2.8	0.11	-0.08	-6.32	
375.0	0.69	325.57	375.0	3.0	-1.5	3.1	0.56	0.04	-46.76	
400.0	0.74	316.68	400.0	3.2	-1.7	3.3	0.49	0.20	-35.56	
425.0	0.76	307.58	425.0	3.5	-1.9	3.6	0.48	0.08	-36.40	

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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)
450.0	0.68	306.62	450.0	3.6	-2.2	3.8	0.32	-0.32	-3.84
475.0	0.64	307.90	475.0	3.8	-2.4	4.0	0.17	-0.16	5.12
500.0	0.65	307.77	500.0	4.0	-2.6	4.1	0.04	0.04	-0.52
525.0	0.59	304.57	525.0	4.2	-2.9	4.3	0.28	-0.24	-12.80
550.0	0.36	277.29	550.0	4.2	-3.0	4.4	1.27	-0.92	-109.12
575.0	0.29	260.51	575.0	4.2	-3.2	4.4	0.47	-0.28	-67.12
600.0	0.27	263.44	600.0	4.2	-3.3	4.4	0.10	-0.08	11.72
625.0	0.27	268.16	625.0	4.2	-3.4	4.4	0.09	0.00	18.88
650.0	0.42	251.43	650.0	4.2	-3.6	4.4	0.72	0.60	-66.92
675.0	0.46	240.63	675.0	4.1	-3.7	4.3	0.37	0.16	-43.20
700.0	0.46	236.90	700.0	4.0	-3.9	4.2	0.12	0.00	-14.92
725.0	0.57	222.40	725.0	3.9	-4.1	4.1	0.68	0.44	-58.00
750.0	0.58	221.19	750.0	3.7	-4.2	3.9	0.06	0.04	-4.84
775.0	0.72	214.72	775.0	3.4	-4.4	3.7	0.63	0.56	-25.88
800.0	0.77	216.07	800.0	3.2	-4.6	3.5	0.21	0.20	5.40
825.0	0.83	223.69	825.0	2.9	-4.8	3.2	0.49	0.24	30.48
850.0	0.83	225.93	850.0	2.7	-5.1	3.0	0.13	0.00	8.96
875.0	0.92	223.50	875.0	2.4	-5.4	2.7	0.39	0.36	-9.72
900.0	0.95	224.98	900.0	2.1	-5.6	2.4	0.15	0.12	5.92
925.0	1.14	219.91	924.9	1.8	-5.9	2.1	0.84	0.76	-20.28
950.0	1.26	230.66	949.9	1.4	-6.3	1.8	1.02	0.48	43.00
975.0	1.45	231.02	974.9	1.0	-6.8	1.4	0.76	0.76	1.44
1,000.0	1.55	227.94	999.9	0.6	-7.3	1.0	0.51	0.40	-12.32
1,025.0	1.52	228.20	1,024.9	0.1	-7.8	0.6	0.12	-0.12	1.04
1,050.0	1.57	228.78	1,049.9	-0.3	-8.3	0.2	0.21	0.20	2.32
1,075.0	1.64	232.20	1,074.9	-0.8	-8.8	-0.2	0.47	0.28	13.68
1,100.0	1.38	232.32	1,099.9	-1.2	-9.3	-0.6	1.04	-1.04	0.48
1,125.0	0.64	228.01	1,124.9	-1.4	-9.7	-0.8	2.97	-2.96	-17.24
1,150.0	0.32	210.91	1,149.9	-1.6	-9.8	-1.0	1.39	-1.28	-68.40
1,175.0	0.27	208.38	1,174.9	-1.7	-9.9	-1.1	0.21	-0.20	-10.12
1,200.0	0.27	198.67	1,199.9	-1.8	-9.9	-1.2	0.18	0.00	-38.84
1,225.0	0.31	185.72	1,224.9	-1.9	-10.0	-1.3	0.31	0.16	-51.80
1,250.0	0.42	187.36	1,249.9	-2.1	-10.0	-1.5	0.44	0.44	6.56
1,275.0	0.37	192.01	1,274.9	-2.3	-10.0	-1.6	0.24	-0.20	18.60
1,300.0	0.46	209.38	1,299.9	-2.4	-10.1	-1.8	0.61	0.36	69.48
1,325.0	0.50	204.96	1,324.9	-2.6	-10.2	-2.0	0.22	0.16	-17.68
1,350.0	0.58	209.94	1,349.9	-2.8	-10.3	-2.2	0.37	0.32	19.92
1,375.0	0.64	216.28	1,374.9	-3.0	-10.4	-2.4	0.36	0.24	25.36
1,400.0	0.71	235.92	1,399.9	-3.2	-10.6	-2.6	0.96	0.28	78.56
1,425.0	0.91	246.43	1,424.9	-3.4	-10.9	-2.7	0.99	0.80	42.04
1,450.0	1.11	253.05	1,449.9	-3.6	-11.4	-2.9	0.92	0.80	26.48
1,475.0	1.28	256.16	1,474.9	-3.7	-11.9	-3.0	0.73	0.68	12.44
1,500.0	1.39	256.00	1,499.9	-3.8	-12.4	-3.1	0.44	0.44	-0.64

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Survey

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1,525.0	1.48	254.25	1,524.8	-4.0	-13.0	-3.2	0.40	0.36	-7.00
1,550.0	1.54	255.77	1,549.8	-4.2	-13.7	-3.3	0.29	0.24	6.08
1,575.0	1.43	255.63	1,574.8	-4.3	-14.3	-3.4	0.44	-0.44	-0.56
1,600.0	1.57	256.20	1,599.8	-4.5	-14.9	-3.6	0.56	0.56	2.28
1,625.0	1.69	252.08	1,624.8	-4.7	-15.6	-3.7	0.67	0.48	-16.48
1,650.0	1.76	251.11	1,649.8	-4.9	-16.3	-3.9	0.30	0.28	-3.88
1,675.0	1.79	251.66	1,674.8	-5.2	-17.1	-4.1	0.14	0.12	2.20
1,700.0	1.78	254.25	1,699.8	-5.4	-17.8	-4.3	0.33	-0.04	10.36
1,725.0	1.86	251.37	1,724.8	-5.6	-18.6	-4.5	0.49	0.32	-11.52
1,750.0	1.79	252.83	1,749.8	-5.9	-19.3	-4.7	0.34	-0.28	5.84
1,775.0	1.44	275.19	1,774.7	-6.0	-20.0	-4.7	2.86	-1.40	89.44
1,800.0	1.35	310.89	1,799.7	-5.7	-20.5	-4.5	3.44	-0.36	142.80
1,825.0	1.61	330.88	1,824.7	-5.2	-20.9	-4.0	2.30	1.04	79.96
1,850.0	1.75	341.57	1,849.7	-4.6	-21.2	-3.3	1.37	0.56	42.76
1,875.0	1.77	346.82	1,874.7	-3.8	-21.4	-2.5	0.65	0.08	21.00
1,900.0	1.88	347.08	1,899.7	-3.1	-21.6	-1.7	0.44	0.44	1.04
1,925.0	2.00	348.05	1,924.7	-2.2	-21.8	-0.9	0.50	0.48	3.88
1,950.0	2.00	350.39	1,949.7	-1.4	-22.0	0.0	0.33	0.00	9.36
1,975.0	2.10	350.80	1,974.6	-0.5	-22.1	0.9	0.40	0.40	1.64
2,000.0	2.12	349.09	1,999.6	0.4	-22.3	1.8	0.26	0.08	-6.84
2,025.0	2.08	348.13	2,024.6	1.3	-22.4	2.7	0.21	-0.16	-3.84
2,050.0	1.66	349.73	2,049.6	2.1	-22.6	3.5	1.69	-1.68	6.40
2,075.0	0.78	346.12	2,074.6	2.6	-22.7	4.0	3.53	-3.52	-14.44
2,100.0	0.14	265.45	2,099.6	2.8	-22.8	4.2	3.08	-2.56	-322.68
2,125.0	0.44	192.25	2,124.6	2.7	-22.8	4.1	1.69	1.20	-292.80
2,150.0	0.51	189.77	2,149.6	2.5	-22.9	3.9	0.29	0.28	-9.92
2,175.0	0.56	189.44	2,174.6	2.3	-22.9	3.7	0.20	0.20	-1.32
2,200.0	0.48	194.11	2,199.6	2.0	-23.0	3.4	0.36	-0.32	18.68
2,225.0	0.37	191.53	2,224.6	1.9	-23.0	3.3	0.45	-0.44	-10.32
2,250.0	0.49	154.65	2,249.6	1.7	-23.0	3.1	1.18	0.48	-147.52
2,275.0	0.63	134.49	2,274.6	1.5	-22.8	2.9	0.96	0.56	-80.64
2,300.0	1.15	114.78	2,299.6	1.3	-22.5	2.7	2.38	2.08	-78.84
2,325.0	1.61	108.44	2,324.6	1.1	-21.9	2.4	1.94	1.84	-25.36
2,350.0	1.88	104.34	2,349.6	0.9	-21.2	2.2	1.19	1.08	-16.40
2,375.0	2.24	100.82	2,374.5	0.7	-20.3	1.9	1.53	1.44	-14.08
2,400.0	2.46	100.63	2,399.5	0.5	-19.3	1.7	0.88	0.88	-0.76
2,425.0	2.52	104.88	2,424.5	0.2	-18.3	1.4	0.78	0.24	17.00
2,450.0	2.44	116.49	2,449.5	-0.1	-17.3	0.9	2.03	-0.32	46.44
2,475.0	2.37	139.19	2,474.5	-0.8	-16.4	0.2	3.80	-0.28	90.80
2,500.0	2.60	153.00	2,499.4	-1.7	-15.8	-0.7	2.56	0.92	55.24
2,525.0	2.85	156.98	2,524.4	-2.7	-15.3	-1.8	1.25	1.00	15.92
2,550.0	3.19	154.30	2,549.4	-3.9	-14.8	-3.0	1.47	1.36	-10.72
2,575.0	3.43	150.39	2,574.3	-5.2	-14.1	-4.3	1.32	0.96	-15.64

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2,600.0	3.64	144.08	2,599.3	-6.5	-13.3	-5.7	1.77	0.84	-25.24	
2,625.0	3.70	142.63	2,624.2	-7.8	-12.3	-7.0	0.44	0.24	-5.80	
2,650.0	3.33	142.23	2,649.2	-9.0	-11.4	-8.3	1.48	-1.48	-1.60	
2,675.0	2.76	141.96	2,674.2	-10.1	-10.6	-9.4	2.28	-2.28	-1.08	
2,700.0	2.83	138.31	2,699.1	-11.0	-9.8	-10.4	0.76	0.28	-14.60	
2,725.0	2.84	136.36	2,724.1	-11.9	-9.0	-11.3	0.39	0.04	-7.80	
2,750.0	2.86	132.88	2,749.1	-12.8	-8.1	-12.3	0.70	0.08	-13.92	
2,775.0	3.00	129.96	2,774.0	-13.6	-7.1	-13.2	0.82	0.56	-11.68	
2,800.0	2.94	128.71	2,799.0	-14.4	-6.1	-14.0	0.35	-0.24	-5.00	
2,825.0	3.10	127.67	2,824.0	-15.2	-5.1	-14.9	0.68	0.64	-4.16	
2,850.0	3.03	127.69	2,848.9	-16.1	-4.0	-15.8	0.28	-0.28	0.08	
2,875.0	3.01	127.19	2,873.9	-16.9	-3.0	-16.7	0.13	-0.08	-2.00	
2,900.0	2.94	126.68	2,898.9	-17.6	-1.9	-17.5	0.30	-0.28	-2.04	
2,925.0	3.02	127.45	2,923.8	-18.4	-0.9	-18.3	0.36	0.32	3.08	
2,950.0	3.03	129.77	2,948.8	-19.3	0.1	-19.2	0.49	0.04	9.28	
2,975.0	2.77	133.04	2,973.8	-20.1	1.1	-20.1	1.23	-1.04	13.08	
3,000.0	2.63	134.21	2,998.7	-20.9	1.9	-21.0	0.60	-0.56	4.68	
3,025.0	2.74	135.61	3,023.7	-21.7	2.8	-21.9	0.51	0.44	5.60	
3,050.0	2.81	137.49	3,048.7	-22.6	3.6	-22.8	0.46	0.28	7.52	
3,075.0	2.78	135.19	3,073.6	-23.5	4.4	-23.7	0.46	-0.12	-9.20	
3,100.0	1.95	148.44	3,098.6	-24.3	5.1	-24.5	3.95	-3.32	53.00	
3,125.0	1.13	181.41	3,123.6	-24.9	5.3	-25.2	4.70	-3.28	131.88	
3,150.0	0.98	212.49	3,148.6	-25.3	5.2	-25.6	2.33	-0.60	124.32	
3,175.0	1.02	217.81	3,173.6	-25.7	4.9	-25.9	0.40	0.16	21.28	
3,200.0	1.83	226.76	3,198.6	-26.1	4.5	-26.3	3.35	3.24	35.80	
3,225.0	2.74	233.37	3,223.6	-26.8	3.7	-26.9	3.78	3.64	26.44	
3,250.0	3.63	235.81	3,248.5	-27.6	2.6	-27.7	3.60	3.56	9.76	
3,275.0	3.90	236.38	3,273.5	-28.5	1.2	-28.5	1.09	1.08	2.28	
3,300.0	4.18	239.62	3,298.4	-29.4	-0.3	-29.3	1.44	1.12	12.96	
3,325.0	5.13	244.97	3,323.3	-30.3	-2.1	-30.2	4.17	3.80	21.40	
3,350.0	5.81	248.66	3,348.2	-31.3	-4.3	-30.9	3.06	2.72	14.76	
3,375.0	5.89	248.74	3,373.1	-32.2	-6.6	-31.7	0.32	0.32	0.32	
3,400.0	5.99	249.11	3,398.0	-33.1	-9.0	-32.5	0.43	0.40	1.48	
3,425.0	5.98	248.99	3,422.8	-34.1	-11.5	-33.3	0.06	-0.04	-0.48	
3,450.0	6.12	250.94	3,447.7	-35.0	-14.0	-34.0	0.99	0.56	7.80	
3,475.0	6.25	254.16	3,472.5	-35.8	-16.5	-34.7	1.48	0.52	12.88	
3,500.0	6.29	257.07	3,497.4	-36.4	-19.2	-35.2	1.28	0.16	11.64	
3,525.0	6.25	256.94	3,522.2	-37.1	-21.8	-35.7	0.17	-0.16	-0.52	
3,550.0	6.60	258.27	3,547.1	-37.7	-24.6	-36.1	1.52	1.40	5.32	
3,575.0	7.12	260.82	3,571.9	-38.2	-27.5	-36.4	2.41	2.08	10.20	
3,600.0	7.55	263.05	3,596.7	-38.6	-30.7	-36.7	2.06	1.72	8.92	
3,625.0	8.21	263.12	3,621.5	-39.1	-34.1	-36.9	2.64	2.64	0.28	
3,650.0	9.47	264.50	3,646.2	-39.5	-37.9	-37.1	5.11	5.04	5.52	
3,675.0	10.37	265.83	3,670.8	-39.8	-42.2	-37.2	3.71	3.60	5.32	

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 501H	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	10.69	265.76	3,695.4	-40.2	-46.7	-37.2	1.28	1.28	-0.28
3,725.0	10.68	265.66	3,719.9	-40.5	-51.4	-37.3	0.08	-0.04	-0.40
3,750.0	10.54	265.70	3,744.5	-40.9	-55.9	-37.4	0.56	-0.56	0.16
3,775.0	10.05	264.99	3,769.1	-41.2	-60.4	-37.5	2.02	-1.96	-2.84
3,800.0	9.53	263.79	3,793.7	-41.6	-64.6	-37.6	2.23	-2.08	-4.80
3,825.0	8.96	262.45	3,818.4	-42.1	-68.6	-37.9	2.44	-2.28	-5.36
3,850.0	8.42	261.66	3,843.1	-42.6	-72.4	-38.1	2.21	-2.16	-3.16
3,875.0	8.29	260.75	3,867.9	-43.2	-75.9	-38.5	0.74	-0.52	-3.64
3,900.0	8.24	260.95	3,892.6	-43.8	-79.5	-38.8	0.23	-0.20	0.80
3,925.0	8.34	260.56	3,917.3	-44.3	-83.0	-39.2	0.46	0.40	-1.56
3,950.0	8.34	260.82	3,942.1	-44.9	-86.6	-39.6	0.15	0.00	1.04
3,975.0	8.42	260.43	3,966.8	-45.5	-90.2	-39.9	0.39	0.32	-1.56
4,000.0	8.17	259.83	3,991.6	-46.1	-93.8	-40.3	1.06	-1.00	-2.40
4,025.0	8.27	258.73	4,016.3	-46.8	-97.3	-40.8	0.75	0.40	-4.40
4,050.0	8.12	258.40	4,041.0	-47.5	-100.8	-41.3	0.63	-0.60	-1.32
4,075.0	8.06	257.70	4,065.8	-48.2	-104.2	-41.8	0.46	-0.24	-2.80
4,100.0	8.05	257.94	4,090.5	-49.0	-107.6	-42.3	0.14	-0.04	0.96
4,125.0	8.00	256.58	4,115.3	-49.7	-111.0	-42.9	0.79	-0.20	-5.44
4,150.0	7.98	256.54	4,140.1	-50.5	-114.4	-43.5	0.08	-0.08	-0.16
4,175.0	8.16	256.45	4,164.8	-51.4	-117.8	-44.1	0.72	0.72	-0.36
4,200.0	8.34	254.56	4,189.5	-52.3	-121.3	-44.8	1.30	0.72	-7.56
4,225.0	9.27	255.30	4,214.3	-53.3	-125.0	-45.6	3.75	3.72	2.96
4,250.0	9.52	254.79	4,238.9	-54.3	-129.0	-46.4	1.05	1.00	-2.04
4,275.0	9.54	254.98	4,263.6	-55.4	-132.9	-47.2	0.15	0.08	0.76
4,300.0	9.67	255.14	4,288.2	-56.5	-137.0	-48.0	0.53	0.52	0.64
4,325.0	9.56	254.70	4,312.9	-57.6	-141.0	-48.9	0.53	-0.44	-1.76
4,350.0	9.31	254.25	4,337.5	-58.7	-145.0	-49.7	1.04	-1.00	-1.80
4,375.0	8.91	253.49	4,362.2	-59.8	-148.8	-50.6	1.67	-1.60	-3.04
4,400.0	8.76	252.59	4,386.9	-60.9	-152.4	-51.5	0.82	-0.60	-3.60
4,425.0	8.88	252.50	4,411.6	-62.0	-156.1	-52.4	0.48	0.48	-0.36
4,450.0	8.89	252.68	4,436.3	-63.2	-159.8	-53.3	0.12	0.04	0.72
4,475.0	8.95	252.47	4,461.0	-64.3	-163.5	-54.3	0.27	0.24	-0.84
4,500.0	8.92	252.95	4,485.7	-65.5	-167.2	-55.2	0.32	-0.12	1.92
4,525.0	8.88	252.18	4,510.4	-66.6	-170.9	-56.1	0.50	-0.16	-3.08
4,550.0	8.56	249.54	4,535.1	-67.9	-174.5	-57.1	2.05	-1.28	-10.56
4,575.0	8.34	248.04	4,559.9	-69.2	-177.9	-58.3	1.25	-0.88	-6.00
4,600.0	8.17	247.28	4,584.6	-70.6	-181.2	-59.4	0.81	-0.68	-3.04
4,625.0	8.08	246.86	4,609.3	-72.0	-184.5	-60.6	0.43	-0.36	-1.68
4,650.0	7.83	245.49	4,634.1	-73.4	-187.6	-61.8	1.25	-1.00	-5.48
4,675.0	7.78	244.13	4,658.9	-74.8	-190.7	-63.1	0.77	-0.20	-5.44
4,700.0	7.50	245.36	4,683.7	-76.2	-193.7	-64.3	1.30	-1.12	4.92
4,725.0	7.45	244.55	4,708.4	-77.6	-196.6	-65.5	0.47	-0.20	-3.24
4,750.0	7.41	244.78	4,733.2	-79.0	-199.6	-66.7	0.20	-0.16	0.92

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 501H	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	7.98	246.57	4,758.0	-80.4	-202.6	-67.9	2.47	2.28	7.16
4,800.0	9.10	250.85	4,782.7	-81.7	-206.1	-69.0	5.15	4.48	17.12
4,825.0	9.88	253.40	4,807.4	-83.0	-210.0	-70.0	3.54	3.12	10.20
4,850.0	10.18	253.21	4,832.0	-84.2	-214.2	-71.0	1.21	1.20	-0.76
4,875.0	10.10	252.78	4,856.6	-85.5	-218.4	-72.0	0.44	-0.32	-1.72
4,900.0	10.23	253.84	4,881.2	-86.8	-222.6	-73.1	0.91	0.52	4.24
4,925.0	9.97	253.04	4,905.8	-88.0	-226.8	-74.0	1.18	-1.04	-3.20
4,950.0	10.01	253.48	4,930.5	-89.3	-231.0	-75.0	0.34	0.16	1.76
4,975.0	9.96	254.00	4,955.1	-90.5	-235.1	-76.0	0.41	-0.20	2.08
5,000.0	10.10	253.05	4,979.7	-91.7	-239.3	-77.0	0.87	0.56	-3.80
5,025.0	9.68	253.62	5,004.3	-92.9	-243.4	-78.0	1.73	-1.68	2.28
5,050.0	9.18	252.21	5,029.0	-94.1	-247.3	-78.9	2.20	-2.00	-5.64
5,075.0	9.07	252.19	5,053.7	-95.4	-251.1	-79.9	0.44	-0.44	-0.08
5,100.0	9.02	251.14	5,078.4	-96.6	-254.8	-80.9	0.69	-0.20	-4.20
5,125.0	8.84	250.52	5,103.1	-97.9	-258.5	-82.0	0.82	-0.72	-2.48
5,150.0	8.42	249.55	5,127.8	-99.1	-262.0	-83.0	1.78	-1.68	-3.88
5,175.0	8.07	248.45	5,152.5	-100.4	-265.4	-84.1	1.54	-1.40	-4.40
5,200.0	7.75	248.66	5,177.3	-101.7	-268.6	-85.2	1.29	-1.28	0.84
5,225.0	7.74	248.05	5,202.0	-102.9	-271.7	-86.2	0.33	-0.04	-2.44
5,250.0	7.48	247.61	5,226.8	-104.2	-274.8	-87.3	1.07	-1.04	-1.76
5,275.0	7.24	246.28	5,251.6	-105.4	-277.7	-88.3	1.18	-0.96	-5.32
5,300.0	7.01	246.21	5,276.4	-106.7	-280.6	-89.4	0.92	-0.92	-0.28
5,325.0	6.97	244.94	5,301.2	-107.9	-283.3	-90.5	0.64	-0.16	-5.08
5,350.0	6.85	244.95	5,326.1	-109.2	-286.0	-91.6	0.48	-0.48	0.04
5,375.0	6.74	243.67	5,350.9	-110.5	-288.7	-92.7	0.75	-0.44	-5.12
5,400.0	6.74	243.16	5,375.7	-111.8	-291.3	-93.9	0.24	0.00	-2.04
5,425.0	6.76	243.05	5,400.5	-113.1	-294.0	-95.0	0.10	0.08	-0.44
5,450.0	6.60	241.74	5,425.4	-114.5	-296.5	-96.2	0.88	-0.64	-5.24
5,475.0	6.42	241.57	5,450.2	-115.8	-299.0	-97.4	0.72	-0.72	-0.68
5,500.0	6.20	241.71	5,475.1	-117.1	-301.4	-98.6	0.88	-0.88	0.56
5,525.0	5.96	242.08	5,499.9	-118.4	-303.8	-99.7	0.97	-0.96	1.48
5,550.0	6.23	245.20	5,524.8	-119.6	-306.2	-100.7	1.71	1.08	12.48
5,575.0	6.38	246.76	5,549.6	-120.7	-308.7	-101.7	0.91	0.60	6.24
5,600.0	6.51	247.10	5,574.5	-121.8	-311.2	-102.6	0.54	0.52	1.36
5,625.0	6.39	247.59	5,599.3	-122.9	-313.8	-103.5	0.53	-0.48	1.96
5,650.0	6.34	246.34	5,624.2	-123.9	-316.4	-104.5	0.59	-0.20	-5.00
5,675.0	6.29	246.17	5,649.0	-125.0	-318.9	-105.4	0.21	-0.20	-0.68
5,700.0	6.42	246.57	5,673.8	-126.2	-321.4	-106.4	0.55	0.52	1.60
5,725.0	6.68	246.84	5,698.7	-127.3	-324.1	-107.3	1.05	1.04	1.08
5,750.0	7.40	251.05	5,723.5	-128.4	-326.9	-108.2	3.54	2.88	16.84
5,775.0	7.66	251.80	5,748.3	-129.4	-330.0	-109.1	1.11	1.04	3.00
5,800.0	7.64	250.96	5,773.1	-130.5	-333.2	-110.0	0.45	-0.08	-3.36
5,825.0	7.62	251.26	5,797.8	-131.6	-336.3	-110.8	0.18	-0.08	1.20

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 501H	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	7.50	249.99	5,822.6	-132.7	-339.4	-111.7	0.82	-0.48	-5.08
5,875.0	7.39	248.97	5,847.4	-133.8	-342.5	-112.7	0.69	-0.44	-4.08
5,900.0	7.25	248.16	5,872.2	-135.0	-345.4	-113.7	0.70	-0.56	-3.24
5,925.0	7.22	248.72	5,897.0	-136.1	-348.4	-114.7	0.31	-0.12	2.24
5,950.0	7.18	247.31	5,921.8	-137.3	-351.3	-115.6	0.72	-0.16	-5.64
5,975.0	7.18	247.21	5,946.6	-138.5	-354.1	-116.7	0.05	0.00	-0.40
6,000.0	7.13	246.73	5,971.4	-139.7	-357.0	-117.7	0.31	-0.20	-1.92
6,025.0	7.75	252.78	5,996.2	-140.8	-360.0	-118.6	3.99	2.48	24.20
6,050.0	8.22	255.94	6,021.0	-141.8	-363.4	-119.4	2.57	1.88	12.64
6,075.0	8.46	256.67	6,045.7	-142.6	-366.9	-120.0	1.05	0.96	2.92
6,100.0	8.50	256.63	6,070.4	-143.5	-370.5	-120.6	0.16	0.16	-0.16
6,125.0	8.38	256.58	6,095.2	-144.3	-374.1	-121.3	0.48	-0.48	-0.20
6,150.0	8.21	256.25	6,119.9	-145.2	-377.6	-121.9	0.71	-0.68	-1.32
6,175.0	7.91	255.56	6,144.6	-146.0	-381.0	-122.6	1.26	-1.20	-2.76
6,200.0	7.59	253.69	6,169.4	-146.9	-384.2	-123.2	1.63	-1.28	-7.48
6,225.0	7.40	253.01	6,194.2	-147.8	-387.3	-124.0	0.84	-0.76	-2.72
6,250.0	7.32	251.65	6,219.0	-148.8	-390.4	-124.8	0.77	-0.32	-5.44
6,275.0	6.91	250.67	6,243.8	-149.8	-393.3	-125.6	1.71	-1.64	-3.92
6,300.0	6.63	248.81	6,268.6	-150.8	-396.1	-126.4	1.42	-1.12	-7.44
6,325.0	6.23	248.13	6,293.5	-151.9	-398.7	-127.3	1.63	-1.60	-2.72
6,350.0	6.28	247.79	6,318.3	-152.9	-401.2	-128.2	0.25	0.20	-1.36
6,375.0	6.38	247.91	6,343.2	-153.9	-403.8	-129.1	0.40	0.40	0.48
6,400.0	6.74	249.05	6,368.0	-155.0	-406.4	-129.9	1.53	1.44	4.56
6,425.0	7.16	251.16	6,392.8	-156.0	-409.3	-130.8	1.97	1.68	8.44
6,450.0	7.22	251.16	6,417.6	-157.0	-412.2	-131.6	0.24	0.24	0.00
6,475.0	7.29	251.22	6,442.4	-158.0	-415.2	-132.5	0.28	0.28	0.24
6,500.0	6.85	249.77	6,467.2	-159.0	-418.1	-133.3	1.90	-1.76	-5.80
6,525.0	6.55	248.70	6,492.1	-160.1	-420.9	-134.2	1.30	-1.20	-4.28
6,550.0	6.32	248.96	6,516.9	-161.1	-423.5	-135.0	0.93	-0.92	1.04
6,575.0	6.57	249.63	6,541.8	-162.1	-426.1	-135.9	1.04	1.00	2.68
6,600.0	7.21	253.20	6,566.6	-163.0	-428.9	-136.6	3.08	2.56	14.28
6,625.0	7.68	254.55	6,591.4	-163.9	-432.0	-137.3	2.01	1.88	5.40
6,650.0	7.91	255.23	6,616.1	-164.8	-435.3	-138.0	0.99	0.92	2.72
6,675.0	8.88	258.86	6,640.9	-165.6	-438.9	-138.6	4.42	3.88	14.52
6,700.0	9.96	263.09	6,665.5	-166.3	-442.9	-139.0	5.13	4.32	16.92
6,725.0	10.17	263.62	6,690.1	-166.8	-447.3	-139.2	0.92	0.84	2.12
6,750.0	10.11	264.78	6,714.8	-167.2	-451.6	-139.4	0.85	-0.24	4.64
6,775.0	10.32	267.89	6,739.4	-167.5	-456.1	-139.4	2.36	0.84	12.44
6,800.0	10.53	270.51	6,763.9	-167.6	-460.6	-139.2	2.07	0.84	10.48
6,825.0	10.40	271.25	6,788.5	-167.5	-465.1	-138.9	0.75	-0.52	2.96
6,850.0	9.67	271.52	6,813.1	-167.4	-469.5	-138.5	2.93	-2.92	1.08
6,875.0	8.49	270.35	6,837.8	-167.3	-473.4	-138.2	4.78	-4.72	-4.68
6,900.0	7.57	269.87	6,862.6	-167.3	-476.9	-138.0	3.69	-3.68	-1.92
6,925.0	6.92	270.70	6,887.4	-167.3	-480.1	-137.8	2.63	-2.60	3.32

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 501H	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	6.34	275.29	6,912.2	-167.1	-482.9	-137.4	3.14	-2.32	18.36
6,975.0	5.86	281.29	6,937.1	-166.8	-485.6	-136.9	3.19	-1.92	24.00
7,000.0	5.60	285.46	6,962.0	-166.2	-488.0	-136.2	1.96	-1.04	16.68
7,025.0	5.57	285.57	6,986.8	-165.5	-490.3	-135.4	0.13	-0.12	0.44
7,050.0	5.68	285.38	7,011.7	-164.9	-492.7	-134.6	0.45	0.44	-0.76
7,075.0	6.04	285.59	7,036.6	-164.2	-495.2	-133.8	1.44	1.44	0.84
7,100.0	6.26	286.56	7,061.4	-163.5	-497.7	-132.9	0.97	0.88	3.88
7,125.0	6.03	284.08	7,086.3	-162.8	-500.3	-132.0	1.40	-0.92	-9.92
7,150.0	5.96	280.24	7,111.2	-162.2	-502.9	-131.3	1.63	-0.28	-15.36
7,175.0	6.04	276.43	7,136.0	-161.8	-505.5	-130.8	1.62	0.32	-15.24
7,200.0	5.95	273.74	7,160.9	-161.6	-508.1	-130.4	1.18	-0.36	-10.76
7,225.0	5.99	271.10	7,185.8	-161.5	-510.6	-130.1	1.11	0.16	-10.56
7,250.0	6.37	267.72	7,210.6	-161.5	-513.3	-130.0	2.10	1.52	-13.52
7,275.0	6.87	263.69	7,235.4	-161.7	-516.2	-130.0	2.73	2.00	-16.12
7,300.0	6.68	260.59	7,260.3	-162.1	-519.1	-130.2	1.65	-0.76	-12.40
7,325.0	6.47	259.07	7,285.1	-162.6	-521.9	-130.6	1.09	-0.84	-6.08
7,350.0	6.65	257.40	7,309.9	-163.2	-524.7	-131.0	1.05	0.72	-6.68
7,375.0	6.86	256.48	7,334.8	-163.9	-527.6	-131.5	0.94	0.84	-3.68
7,400.0	6.65	256.59	7,359.6	-164.6	-530.5	-132.0	0.84	-0.84	0.44
7,425.0	5.94	257.47	7,384.4	-165.2	-533.1	-132.4	2.87	-2.84	3.52
7,450.0	5.40	259.14	7,409.3	-165.7	-535.6	-132.8	2.26	-2.16	6.68
7,475.0	5.01	257.11	7,434.2	-166.2	-537.8	-133.1	1.72	-1.56	-8.12
7,500.0	4.97	255.09	7,459.1	-166.7	-539.9	-133.5	0.72	-0.16	-8.08
7,525.0	4.99	253.80	7,484.0	-167.3	-542.0	-134.0	0.46	0.08	-5.16
7,550.0	4.62	253.95	7,508.9	-167.8	-544.0	-134.4	1.48	-1.48	0.60
7,575.0	4.07	254.51	7,533.9	-168.4	-545.8	-134.8	2.21	-2.20	2.24
7,600.0	3.44	257.81	7,558.8	-168.8	-547.4	-135.1	2.66	-2.52	13.20
7,625.0	2.45	252.83	7,583.8	-169.1	-548.6	-135.4	4.09	-3.96	-19.92
7,650.0	1.40	244.44	7,608.8	-169.4	-549.4	-135.6	4.34	-4.20	-33.56
7,675.0	1.07	238.72	7,633.8	-169.6	-549.9	-135.8	1.41	-1.32	-22.88
7,700.0	1.38	201.35	7,658.8	-170.0	-550.2	-136.2	3.35	1.24	-149.48
7,725.0	1.39	230.83	7,683.7	-170.5	-550.6	-136.7	2.82	0.04	117.92
7,750.0	1.64	234.48	7,708.7	-170.9	-551.1	-137.0	1.07	1.00	14.60
7,775.0	1.79	238.30	7,733.7	-171.3	-551.7	-137.4	0.75	0.60	15.28
7,782.0	1.82	238.55	7,740.7	-171.4	-551.9	-137.5	0.44	0.43	3.57
7,829.0	2.09	256.96	7,787.7	-172.0	-553.4	-138.0	1.45	0.57	39.17
7,909.0	2.54	249.11	7,867.6	-173.0	-556.4	-138.8	0.69	0.56	-9.81
8,004.0	3.32	289.81	7,962.5	-172.8	-561.0	-138.3	2.28	0.82	42.84
8,051.0	7.63	340.09	8,009.3	-169.4	-563.3	-134.8	12.91	9.17	106.98
8,098.0	11.79	351.65	8,055.6	-161.7	-565.1	-127.0	9.73	8.85	24.60
8,145.0	18.59	0.23	8,101.0	-149.4	-565.8	-114.7	15.20	14.47	18.26
8,193.0	23.89	4.13	8,145.7	-132.1	-565.0	-97.4	11.42	11.04	8.13
8,221.4	26.51	6.58	8,171.4	-120.0	-563.9	-85.5	9.92	9.21	8.62

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 501H	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)
FTP @ 8221.4'MD									
8,240.0	28.24	7.95	8,187.9	-111.6	-562.8	-77.1	9.92	9.32	7.38
8,288.0	29.17	6.59	8,230.0	-88.7	-559.9	-54.5	2.37	1.94	-2.83
8,335.0	31.46	3.51	8,270.6	-65.1	-557.8	-31.0	5.89	4.87	-6.55
8,383.0	34.55	1.82	8,310.8	-39.0	-556.6	-5.0	6.72	6.44	-3.52
8,430.0	38.00	1.27	8,348.7	-11.2	-555.9	22.7	7.37	7.34	-1.17
8,478.0	39.09	357.12	8,386.3	18.7	-556.3	52.6	5.85	2.27	-8.65
8,525.0	42.68	357.36	8,421.8	49.5	-557.8	83.3	7.65	7.64	0.51
8,573.0	47.85	358.11	8,455.6	83.5	-559.1	117.4	10.83	10.77	1.56
8,620.0	54.34	358.86	8,485.1	120.1	-560.1	153.9	13.86	13.81	1.60
8,668.0	57.07	359.64	8,512.1	159.7	-560.6	193.5	5.84	5.69	1.63
8,715.0	59.55	357.93	8,536.8	199.7	-561.5	233.5	6.12	5.28	-3.64
8,762.0	65.21	355.82	8,558.6	241.2	-563.8	275.1	12.68	12.04	-4.49
8,809.0	72.17	355.76	8,575.7	284.9	-567.0	318.9	14.81	14.81	-0.13
8,857.0	76.21	356.82	8,588.7	331.0	-570.0	365.0	8.68	8.42	2.21
8,904.0	77.84	358.26	8,599.3	376.7	-571.9	410.8	4.58	3.47	3.06
8,952.0	80.36	359.04	8,608.4	423.8	-573.0	457.9	5.49	5.25	1.63
9,047.0	83.11	0.27	8,622.0	517.8	-573.6	551.8	3.17	2.89	1.29
9,142.0	85.43	1.10	8,631.5	612.3	-572.5	646.1	2.59	2.44	0.87
9,237.0	86.81	1.36	8,637.9	707.1	-570.4	740.5	1.48	1.45	0.27
9,331.0	91.03	1.73	8,639.7	801.0	-567.9	834.1	4.51	4.49	0.39
9,427.0	92.36	1.99	8,636.9	896.9	-564.8	929.6	1.41	1.39	0.27
9,522.0	93.37	2.01	8,632.1	991.8	-561.5	1,024.1	1.06	1.06	0.02
9,617.0	92.10	2.59	8,627.6	1,086.6	-557.7	1,118.5	1.47	-1.34	0.61
9,711.0	92.53	3.38	8,623.8	1,180.4	-552.8	1,211.8	0.96	0.46	0.84
9,806.0	91.67	2.34	8,620.3	1,275.2	-548.0	1,306.2	1.42	-0.91	-1.09
9,901.0	88.85	1.70	8,619.9	1,370.1	-544.7	1,400.7	3.04	-2.97	-0.67
9,996.0	88.19	1.04	8,622.3	1,465.1	-542.4	1,495.3	0.98	-0.69	-0.69
10,090.0	88.59	0.60	8,625.0	1,559.0	-541.1	1,589.0	0.63	0.43	-0.47
10,185.0	89.42	0.21	8,626.6	1,654.0	-540.4	1,683.8	0.97	0.87	-0.41
10,280.0	90.35	0.74	8,626.8	1,749.0	-539.6	1,778.6	1.13	0.98	0.56
10,375.0	91.00	0.52	8,625.7	1,844.0	-538.6	1,873.3	0.72	0.68	-0.23
10,412.0	91.14	359.43	8,625.0	1,881.0	-538.6	1,910.3	2.97	0.38	-2.95
10,507.0	93.08	0.32	8,621.5	1,975.9	-538.8	2,005.0	2.25	2.04	0.94
10,602.0	91.15	359.78	8,618.0	2,070.8	-538.7	2,099.8	2.11	-2.03	-0.57
10,696.0	86.28	356.88	8,620.1	2,164.7	-541.4	2,193.7	6.03	-5.18	-3.09
10,791.0	86.99	356.14	8,625.7	2,259.4	-547.2	2,288.5	1.08	0.75	-0.78
10,886.0	87.95	356.41	8,629.9	2,354.1	-553.4	2,383.4	1.05	1.01	0.28
10,981.0	89.65	356.40	8,631.9	2,448.9	-559.3	2,478.4	1.79	1.79	-0.01
11,076.0	90.47	357.74	8,631.8	2,543.7	-564.2	2,573.4	1.65	0.86	1.41
11,170.0	91.25	358.36	8,630.3	2,637.7	-567.4	2,667.3	1.06	0.83	0.66
11,265.0	92.59	358.34	8,627.2	2,732.6	-570.1	2,762.2	1.41	1.41	-0.02
11,360.0	90.83	358.47	8,624.3	2,827.5	-572.8	2,857.1	1.86	-1.85	0.14

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 501H	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)
11,455.0	90.03	357.90	8,623.6	2,922.5	-575.8	2,952.1	1.03	-0.84	-0.60
11,550.0	90.87	357.66	8,622.9	3,017.4	-579.5	3,047.0	0.92	0.88	-0.25
11,644.0	89.18	357.21	8,622.8	3,111.3	-583.7	3,141.0	1.86	-1.80	-0.48
11,739.0	90.17	359.54	8,623.4	3,206.2	-586.4	3,236.0	2.66	1.04	2.45
11,834.0	91.88	0.22	8,621.7	3,301.2	-586.6	3,330.8	1.94	1.80	0.72
11,929.0	91.55	356.56	8,618.8	3,396.1	-589.2	3,425.7	3.87	-0.35	-3.85
12,024.0	90.98	359.73	8,616.7	3,491.0	-592.3	3,520.6	3.39	-0.60	3.34
12,119.0	89.91	0.60	8,616.0	3,586.0	-592.0	3,615.4	1.45	-1.13	0.92
12,213.0	91.09	0.33	8,615.2	3,680.0	-591.3	3,709.2	1.29	1.26	-0.29
12,308.0	91.91	359.14	8,612.7	3,775.0	-591.7	3,804.0	1.52	0.86	-1.25
12,403.0	91.70	0.40	8,609.7	3,869.9	-592.1	3,898.8	1.34	-0.22	1.33
12,498.0	91.16	1.89	8,607.3	3,964.9	-590.2	3,993.4	1.67	-0.57	1.57
12,592.0	89.67	2.55	8,606.6	4,058.8	-586.5	4,087.0	1.73	-1.59	0.70
12,687.0	89.63	2.88	8,607.2	4,153.7	-582.0	4,181.4	0.35	-0.04	0.35
12,782.0	90.68	2.95	8,607.0	4,248.6	-577.2	4,275.8	1.11	1.11	0.07
12,877.0	88.63	2.60	8,607.5	4,343.4	-572.6	4,370.2	2.19	-2.16	-0.37
12,971.0	88.70	1.70	8,609.7	4,437.4	-569.1	4,463.8	0.96	0.07	-0.96
13,066.0	89.45	1.27	8,611.3	4,532.3	-566.6	4,558.4	0.91	0.79	-0.45
13,161.0	90.57	1.15	8,611.2	4,627.3	-564.6	4,653.1	1.19	1.18	-0.13
13,256.0	91.67	1.20	8,609.4	4,722.2	-562.7	4,747.7	1.16	1.16	0.05
13,351.0	90.41	1.89	8,607.7	4,817.2	-560.1	4,842.4	1.51	-1.33	0.73
13,445.0	89.45	1.71	8,607.8	4,911.1	-557.2	4,936.0	1.04	-1.02	-0.19
13,540.0	90.28	1.26	8,608.0	5,006.1	-554.7	5,030.6	0.99	0.87	-0.47
13,635.0	88.31	0.80	8,609.2	5,101.1	-553.0	5,125.3	2.13	-2.07	-0.48
13,730.0	87.04	0.33	8,613.0	5,196.0	-552.0	5,220.0	1.43	-1.34	-0.49
13,825.0	88.12	0.28	8,617.0	5,290.9	-551.5	5,314.7	1.14	1.14	-0.05
13,920.0	89.84	0.33	8,618.7	5,385.9	-551.0	5,409.4	1.81	1.81	0.05
14,015.0	91.15	0.18	8,617.9	5,480.9	-550.6	5,504.2	1.39	1.38	-0.16
14,110.0	90.43	1.58	8,616.6	5,575.9	-549.2	5,599.0	1.66	-0.76	1.47
14,205.0	90.97	0.43	8,615.4	5,670.8	-547.5	5,693.7	1.34	0.57	-1.21
14,300.0	92.53	0.64	8,612.5	5,765.8	-546.6	5,788.4	1.66	1.64	0.22
14,394.0	91.27	359.85	8,609.4	5,859.7	-546.2	5,882.1	1.58	-1.34	-0.84
14,489.0	89.49	358.74	8,608.8	5,954.7	-547.4	5,977.0	2.21	-1.87	-1.17
14,584.0	90.30	358.74	8,609.0	6,049.7	-549.5	6,071.9	0.85	0.85	0.00
14,679.0	92.25	359.03	8,606.8	6,144.7	-551.3	6,166.8	2.08	2.05	0.31
14,773.0	91.85	358.90	8,603.5	6,238.6	-553.0	6,260.7	0.45	-0.43	-0.14
14,868.0	88.97	358.18	8,602.8	6,333.5	-555.4	6,355.6	3.12	-3.03	-0.76
14,963.0	87.81	358.08	8,605.5	6,428.4	-558.5	6,450.5	1.23	-1.22	-0.11
15,058.0	88.26	359.28	8,608.7	6,523.4	-560.7	6,545.4	1.35	0.47	1.26
15,153.0	89.07	359.04	8,610.9	6,618.3	-562.1	6,640.3	0.89	0.85	-0.25
15,248.0	87.46	359.15	8,613.8	6,713.3	-563.6	6,735.1	1.70	-1.69	0.12
15,343.0	85.04	358.98	8,620.0	6,808.0	-565.1	6,829.8	2.55	-2.55	-0.18
15,438.0	85.45	358.71	8,627.9	6,902.7	-567.1	6,924.4	0.52	0.43	-0.28
15,533.0	86.83	358.81	8,634.3	6,997.5	-569.1	7,019.1	1.46	1.45	0.11

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 501H	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)
15,628.0	89.07	358.22	8,637.7	7,092.4	-571.6	7,114.0	2.44	2.36	-0.62
15,722.0	89.96	358.23	8,638.5	7,186.3	-574.5	7,207.9	0.95	0.95	0.01
15,817.0	90.93	358.79	8,637.8	7,281.3	-577.0	7,302.9	1.18	1.02	0.59
15,912.0	92.35	359.16	8,635.0	7,376.2	-578.6	7,397.8	1.54	1.49	0.39
15,992.0	92.60	358.70	8,631.6	7,456.1	-580.1	7,477.6	0.65	0.31	-0.58
16,087.0	90.31	358.53	8,629.2	7,551.1	-582.4	7,572.5	2.42	-2.41	-0.18
16,182.0	90.99	357.79	8,628.1	7,646.0	-585.5	7,667.5	1.06	0.72	-0.78
16,277.0	88.02	357.73	8,628.9	7,740.9	-589.2	7,762.4	3.13	-3.13	-0.06
16,372.0	87.95	357.66	8,632.2	7,835.8	-593.0	7,857.3	0.10	-0.07	-0.07
16,467.0	88.06	357.34	8,635.6	7,930.6	-597.2	7,952.3	0.36	0.12	-0.34
16,562.0	88.12	357.24	8,638.7	8,025.5	-601.6	8,047.2	0.12	0.06	-0.11
16,657.0	89.30	357.15	8,640.9	8,120.3	-606.3	8,142.2	1.25	1.24	-0.09
16,751.0	89.69	357.39	8,641.7	8,214.2	-610.8	8,236.2	0.49	0.41	0.26
16,846.0	89.27	357.06	8,642.6	8,309.1	-615.4	8,331.2	0.56	-0.44	-0.35
16,941.0	88.81	356.64	8,644.1	8,403.9	-620.6	8,426.1	0.66	-0.48	-0.44
17,036.0	89.60	358.93	8,645.5	8,498.9	-624.3	8,521.1	2.55	0.83	2.41
17,130.0	88.64	359.64	8,646.9	8,592.8	-625.4	8,615.0	1.27	-1.02	0.76
17,225.0	88.71	359.41	8,649.1	8,687.8	-626.2	8,709.8	0.25	0.07	-0.24
17,320.0	89.60	359.59	8,650.5	8,782.8	-627.1	8,804.7	0.96	0.94	0.19
17,415.0	90.92	359.98	8,650.1	8,877.8	-627.4	8,899.5	1.45	1.39	0.41
17,510.0	90.52	359.83	8,648.9	8,972.8	-627.6	8,994.3	0.45	-0.42	-0.16
17,605.0	91.19	0.13	8,647.5	9,067.8	-627.6	9,089.2	0.77	0.71	0.32
17,699.0	89.91	359.31	8,646.6	9,161.8	-628.1	9,183.0	1.62	-1.36	-0.87
17,794.0	90.08	359.71	8,646.6	9,256.8	-628.9	9,277.9	0.46	0.18	0.42
17,888.0	91.74	0.57	8,645.1	9,350.7	-628.6	9,371.7	1.99	1.77	0.91
17,983.0	91.20	0.47	8,642.6	9,445.7	-627.8	9,466.4	0.58	-0.57	-0.11
18,078.0	90.70	0.43	8,641.1	9,540.7	-627.0	9,561.2	0.53	-0.53	-0.04
18,173.0	90.26	1.20	8,640.3	9,635.7	-625.7	9,655.9	0.93	-0.46	0.81
18,267.0	90.62	1.46	8,639.5	9,729.7	-623.5	9,749.6	0.47	0.38	0.28
18,362.0	90.68	1.14	8,638.5	9,824.6	-621.3	9,844.2	0.34	0.06	-0.34
18,457.0	91.18	1.55	8,636.9	9,919.6	-619.1	9,938.9	0.68	0.53	0.43
18,552.0	91.47	1.71	8,634.7	10,014.5	-616.4	10,033.5	0.35	0.31	0.17
18,646.0	91.82	1.75	8,632.0	10,108.4	-613.6	10,127.0	0.37	0.37	0.04
18,741.0	92.15	1.92	8,628.7	10,203.3	-610.5	10,221.6	0.39	0.35	0.18
18,787.0	92.34	2.13	8,626.9	10,249.3	-608.9	10,267.3	0.62	0.41	0.46
LAST MWD SVY @ 18787'MD									
18,831.3	92.34	2.13	8,625.1	10,293.5	-607.3	10,311.4	0.00	0.00	0.00
LTP @ 18831.3'MD									
18,852.0	92.34	2.13	8,624.3	10,314.2	-606.5	10,332.0	0.00	0.00	0.00
PTD @ 18852'MD									

Concho Resources LLC

Survey Report

Company:	DELAWARE BASIN WEST	Local Co-ordinate Reference:	Well ADMIRAL FEDERAL COM 501H
Project:	ATLAS PROSPECT (NM-E)	TVD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Site:	ADMIRAL FEDERAL PROJECT (ATLAS 2529)	MD Reference:	KB=25' @ 3008.3usft (Pioneer 84)
Well:	ADMIRAL FEDERAL COM 501H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
8,221.4	8,171.4	-120.0	-563.9	FTP @ 8221.4'MD
18,787.0	8,626.9	10,249.3	-608.9	LAST MWD SVY @ 18787'MD
18,831.3	8,625.1	10,293.5	-607.3	LTP @ 18831.3'MD
18,852.0	8,624.3	10,314.2	-606.5	PTD @ 18852'MD

Checked By: _____	Approved By: _____	Date: _____
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