

NORTHERN DELAWARE BASIN

LEA COUNTY, NM

BULLDOG

STOVE PIPE FEDERAL COM #601H

OWB

Design: AWP

Standard Survey Report

10 February, 2020

Concho Resources LLC

Survey Report

Company: NORTHERN DELAWARE BASIN	Local Co-ordinate Reference: Well STOVE PIPE FEDERAL COM #601H
Project: LEA COUNTY, NM	TVD Reference: KB=30' @ 3351.7usft (Scan Quest)
Site: BULLDOG	MD Reference: KB=30' @ 3351.7usft (Scan Quest)
Well: STOVE PIPE FEDERAL COM #601H	North Reference: Grid
Wellbore: OWB	Survey Calculation Method: Minimum Curvature
Design: AWP	Database: edm

Project LEA COUNTY, NM	
Map System: US State Plane 1927 (Exact solution)	System Datum: Mean Sea Level
Geo Datum: NAD 1927 (NADCON CONUS)	
Map Zone: New Mexico East 3001	

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

Well STOVE PIPE FEDERAL COM #601H, ACTIVE		
Well Position +N/-S 0.0 usft	Northing: 425,829.70 usft	Latitude: 32° 10' 2.410 N
+E/-W 0.0 usft	Easting: 786,441.50 usft	Longitude: 103° 24' 27.522 W
Position Uncertainty 3.0 usft	Wellhead Elevation: usft	Ground Level: 3,321.7 usft

Wellbore OWB					
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	1/15/2020	6.59	60.00	47,656.86606367

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	181.41

Survey Program		Date 2/10/2020		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.0	11,422.0	GYRO-INTER (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4
11,800.0	23,128.0	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	0.53	204.75	100.0	-0.4	-0.2	0.4	0.53	0.53	0.00
125.0	0.43	223.81	125.0	-0.6	-0.3	0.6	0.75	-0.40	76.24
150.0	0.22	267.49	150.0	-0.7	-0.4	0.7	1.24	-0.84	174.72
175.0	0.18	339.98	175.0	-0.6	-0.5	0.6	0.95	-0.16	289.96
200.0	0.11	312.12	200.0	-0.6	-0.5	0.6	0.39	-0.28	-111.44
225.0	0.21	270.65	225.0	-0.6	-0.6	0.6	0.59	0.40	-165.88
250.0	0.21	216.81	250.0	-0.6	-0.6	0.6	0.76	0.00	-215.36
275.0	0.22	260.11	275.0	-0.6	-0.7	0.7	0.64	0.04	173.20
300.0	0.03	245.04	300.0	-0.7	-0.8	0.7	0.76	-0.76	-60.28

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)
325.0	0.20	137.17	325.0	-0.7	-0.8	0.7	0.84	0.68	-431.48
350.0	0.21	158.74	350.0	-0.8	-0.7	0.8	0.31	0.04	86.28
375.0	0.28	138.09	375.0	-0.8	-0.6	0.9	0.45	0.28	-82.60
400.0	0.95	129.02	400.0	-1.0	-0.4	1.0	2.70	2.68	-36.28
425.0	1.50	143.51	425.0	-1.4	-0.1	1.4	2.51	2.20	57.96
450.0	1.21	164.00	450.0	-1.9	0.2	1.9	2.24	-1.16	81.96
475.0	1.06	157.33	475.0	-2.4	0.3	2.4	0.80	-0.60	-26.68
500.0	1.12	124.87	500.0	-2.8	0.6	2.7	2.45	0.24	-129.84
525.0	1.59	139.04	525.0	-3.2	1.1	3.1	2.30	1.88	56.68
550.0	0.81	156.74	550.0	-3.6	1.4	3.5	3.42	-3.12	70.80
575.0	1.13	126.17	575.0	-3.9	1.6	3.8	2.39	1.28	-122.28
600.0	1.37	130.62	600.0	-4.2	2.0	4.2	1.03	0.96	17.80
625.0	1.37	118.27	624.9	-4.6	2.5	4.5	1.18	0.00	-49.40
650.0	1.39	112.26	649.9	-4.8	3.1	4.7	0.58	0.08	-24.04
675.0	1.23	125.73	674.9	-5.1	3.6	5.0	1.38	-0.64	53.88
700.0	1.17	114.91	699.9	-5.4	4.0	5.3	0.94	-0.24	-43.28
725.0	1.55	94.77	724.9	-5.5	4.6	5.4	2.42	1.52	-80.56
750.0	1.65	83.28	749.9	-5.5	5.3	5.3	1.34	0.40	-45.96
775.0	1.76	82.77	774.9	-5.4	6.0	5.2	0.44	0.44	-2.04
800.0	1.67	76.85	799.9	-5.3	6.8	5.1	0.79	-0.36	-23.68
825.0	1.63	64.72	824.9	-5.0	7.4	4.8	1.40	-0.16	-48.52
850.0	1.44	55.85	849.9	-4.7	8.0	4.5	1.21	-0.76	-35.48
875.0	1.57	47.73	874.9	-4.3	8.5	4.1	1.00	0.52	-32.48
900.0	1.56	39.14	899.8	-3.8	9.0	3.6	0.94	-0.04	-34.36
925.0	1.52	17.63	924.8	-3.2	9.3	3.0	2.30	-0.16	-86.04
950.0	1.50	5.32	949.8	-2.6	9.4	2.3	1.30	-0.08	-49.24
975.0	1.38	2.74	974.8	-1.9	9.5	1.7	0.55	-0.48	-10.32
1,000.0	1.31	4.45	999.8	-1.4	9.5	1.1	0.32	-0.28	6.84
1,025.0	0.85	342.32	1,024.8	-0.9	9.5	0.7	2.45	-1.84	-88.52
1,050.0	0.58	296.93	1,049.8	-0.7	9.3	0.4	2.42	-1.08	-181.56
1,075.0	0.91	207.06	1,074.8	-0.8	9.1	0.6	4.31	1.32	-359.48
1,100.0	0.96	249.81	1,099.8	-1.0	8.8	0.8	2.73	0.20	171.00
1,125.0	0.84	255.02	1,124.8	-1.2	8.5	0.9	0.58	-0.48	20.84
1,150.0	0.63	251.19	1,149.8	-1.2	8.2	1.0	0.86	-0.84	-15.32
1,175.0	0.94	199.37	1,174.8	-1.5	8.0	1.3	2.96	1.24	-207.28
1,200.0	1.28	219.48	1,199.8	-1.9	7.7	1.7	2.05	1.36	80.44
1,225.0	0.92	248.90	1,224.8	-2.2	7.3	2.0	2.63	-1.44	117.68
1,250.0	0.53	217.85	1,249.8	-2.3	7.1	2.2	2.16	-1.56	-124.20
1,275.0	0.65	195.70	1,274.8	-2.6	7.0	2.4	1.02	0.48	-88.60
1,300.0	0.74	223.97	1,299.8	-2.8	6.8	2.7	1.40	0.36	113.08
1,325.0	1.13	241.56	1,324.8	-3.1	6.5	2.9	1.92	1.56	70.36
1,350.0	1.41	269.99	1,349.8	-3.2	6.0	3.0	2.72	1.12	113.72
1,375.0	1.77	279.12	1,374.8	-3.1	5.3	3.0	1.76	1.44	36.52

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)	
1,400.0	1.64	271.84	1,399.8	-3.0	4.5	2.9	1.01	-0.52	-29.12	
1,425.0	1.91	265.57	1,424.7	-3.1	3.8	3.0	1.33	1.08	-25.08	
1,450.0	2.27	263.83	1,449.7	-3.1	2.9	3.1	1.46	1.44	-6.96	
1,475.0	2.51	268.18	1,474.7	-3.2	1.8	3.2	1.20	0.96	17.40	
1,500.0	2.86	273.46	1,499.7	-3.2	0.7	3.2	1.71	1.40	21.12	
1,525.0	2.20	283.35	1,524.7	-3.0	-0.4	3.1	3.16	-2.64	39.56	
1,550.0	1.89	275.94	1,549.6	-2.9	-1.3	2.9	1.63	-1.24	-29.64	
1,575.0	1.87	271.59	1,574.6	-2.8	-2.1	2.9	0.58	-0.08	-17.40	
1,600.0	2.08	270.79	1,599.6	-2.8	-3.0	2.9	0.85	0.84	-3.20	
1,625.0	2.23	263.54	1,624.6	-2.9	-3.9	3.0	1.24	0.60	-29.00	
1,650.0	2.31	261.68	1,649.6	-3.0	-4.9	3.1	0.43	0.32	-7.44	
1,675.0	2.69	272.73	1,674.5	-3.0	-6.0	3.2	2.45	1.52	44.20	
1,700.0	2.43	287.91	1,699.5	-2.9	-7.1	3.0	2.89	-1.04	60.72	
1,725.0	1.93	287.15	1,724.5	-2.6	-8.0	2.8	2.00	-2.00	-3.04	
1,750.0	1.74	269.46	1,749.5	-2.4	-8.8	2.7	2.38	-0.76	-70.76	
1,775.0	2.65	275.72	1,774.5	-2.4	-9.7	2.6	3.76	3.64	25.04	
1,800.0	2.34	290.49	1,799.4	-2.2	-10.8	2.4	2.84	-1.24	59.08	
1,825.0	1.93	278.00	1,824.4	-1.9	-11.7	2.2	2.47	-1.64	-49.96	
1,850.0	2.51	272.66	1,849.4	-1.8	-12.6	2.1	2.46	2.32	-21.36	
1,875.0	2.85	285.58	1,874.4	-1.6	-13.8	2.0	2.76	1.36	51.68	
1,900.0	2.12	294.66	1,899.4	-1.3	-14.8	1.6	3.31	-2.92	36.32	
1,925.0	2.01	283.94	1,924.3	-1.0	-15.6	1.4	1.60	-0.44	-42.88	
1,950.0	2.39	277.73	1,949.3	-0.8	-16.6	1.2	1.79	1.52	-24.84	
1,975.0	2.60	292.37	1,974.3	-0.5	-17.6	1.0	2.68	0.84	58.56	
2,000.0	2.04	293.88	1,999.3	-0.1	-18.6	0.6	2.25	-2.24	6.04	
2,025.0	1.96	283.73	2,024.3	0.2	-19.4	0.3	1.45	-0.32	-40.60	
2,050.0	2.13	282.08	2,049.3	0.4	-20.3	0.1	0.72	0.68	-6.60	
2,075.0	2.23	278.23	2,074.2	0.5	-21.2	0.0	0.71	0.40	-15.40	
2,100.0	2.51	279.51	2,099.2	0.7	-22.2	-0.1	1.14	1.12	5.12	
2,125.0	2.36	297.20	2,124.2	1.0	-23.2	-0.4	3.05	-0.60	70.76	
2,150.0	2.02	287.08	2,149.2	1.4	-24.1	-0.8	2.05	-1.36	-40.48	
2,175.0	2.25	281.98	2,174.2	1.6	-25.0	-1.0	1.19	0.92	-20.40	
2,200.0	2.60	289.07	2,199.1	1.9	-26.0	-1.2	1.84	1.40	28.36	
2,225.0	2.00	297.85	2,224.1	2.3	-26.9	-1.6	2.78	-2.40	35.12	
2,250.0	1.78	285.34	2,249.1	2.6	-27.7	-1.9	1.86	-0.88	-50.04	
2,275.0	2.26	281.48	2,274.1	2.8	-28.5	-2.1	1.99	1.92	-15.44	
2,300.0	2.42	294.97	2,299.1	3.1	-29.5	-2.4	2.29	0.64	53.96	
2,325.0	1.87	300.28	2,324.0	3.5	-30.3	-2.8	2.34	-2.20	21.24	
2,350.0	1.91	283.80	2,349.0	3.8	-31.1	-3.1	2.17	0.16	-65.92	
2,375.0	2.50	282.58	2,374.0	4.1	-32.0	-3.3	2.37	2.36	-4.88	
2,400.0	2.52	294.39	2,399.0	4.4	-33.1	-3.6	2.07	0.08	47.24	
2,425.0	2.11	302.14	2,424.0	4.9	-33.9	-4.0	2.06	-1.64	31.00	
2,450.0	1.48	297.63	2,449.0	5.3	-34.6	-4.4	2.58	-2.52	-18.04	

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)
2,475.0	1.65	279.92	2,473.9	5.5	-35.3	-4.6	2.04	0.68	-70.84
2,500.0	2.03	281.16	2,498.9	5.6	-36.1	-4.7	1.53	1.52	4.96
2,525.0	2.24	279.34	2,523.9	5.8	-37.0	-4.9	0.88	0.84	-7.28
2,550.0	2.41	285.84	2,548.9	6.0	-38.0	-5.1	1.25	0.68	26.00
2,575.0	2.31	290.65	2,573.9	6.3	-38.9	-5.4	0.89	-0.40	19.24
2,600.0	1.89	288.06	2,598.9	6.6	-39.8	-5.7	1.72	-1.68	-10.36
2,625.0	1.71	294.78	2,623.8	6.9	-40.5	-5.9	1.11	-0.72	26.88
2,650.0	1.37	282.21	2,648.8	7.2	-41.2	-6.1	1.91	-1.36	-50.28
2,675.0	1.37	289.28	2,673.8	7.3	-41.7	-6.3	0.68	0.00	28.28
2,700.0	1.43	287.01	2,698.8	7.5	-42.3	-6.5	0.33	0.24	-9.08
2,725.0	1.71	301.99	2,723.8	7.8	-42.9	-6.7	1.98	1.12	59.92
2,750.0	1.44	317.37	2,748.8	8.2	-43.5	-7.1	2.00	-1.08	61.52
2,775.0	0.92	322.56	2,773.8	8.6	-43.8	-7.5	2.12	-2.08	20.76
2,800.0	0.76	289.63	2,798.8	8.8	-44.1	-7.7	2.00	-0.64	-131.72
2,825.0	1.35	288.03	2,823.8	9.0	-44.5	-7.9	2.36	2.36	-6.40
2,850.0	1.43	323.74	2,848.8	9.3	-45.0	-8.2	3.42	0.32	142.84
2,875.0	0.79	331.25	2,873.8	9.7	-45.2	-8.6	2.62	-2.56	30.04
2,900.0	0.90	278.04	2,898.8	9.9	-45.5	-8.8	3.05	0.44	-212.84
2,925.0	1.15	313.10	2,923.8	10.1	-45.9	-9.0	2.65	1.00	140.24
2,950.0	0.63	325.34	2,948.8	10.4	-46.2	-9.2	2.20	-2.08	48.96
2,975.0	1.09	298.54	2,973.8	10.6	-46.4	-9.5	2.40	1.84	-107.20
3,000.0	0.96	347.35	2,998.8	10.9	-46.7	-9.8	3.42	-0.52	195.24
3,025.0	0.44	344.66	3,023.8	11.2	-46.8	-10.1	2.08	-2.08	-10.76
3,050.0	0.84	316.98	3,048.8	11.4	-46.9	-10.3	1.98	1.60	-110.72
3,075.0	0.93	352.29	3,073.8	11.8	-47.1	-10.6	2.17	0.36	141.24
3,100.0	0.45	17.98	3,098.8	12.1	-47.1	-10.9	2.24	-1.92	102.76
3,125.0	0.34	317.69	3,123.8	12.2	-47.1	-11.1	1.63	-0.44	-241.16
3,150.0	1.03	335.85	3,148.8	12.5	-47.2	-11.3	2.86	2.76	72.64
3,175.0	0.64	29.55	3,173.8	12.8	-47.3	-11.6	3.32	-1.56	214.80
3,200.0	0.43	327.91	3,198.8	13.0	-47.2	-11.8	2.31	-0.84	-246.56
3,225.0	0.92	2.85	3,223.7	13.3	-47.3	-12.1	2.47	1.96	139.76
3,250.0	0.43	345.10	3,248.7	13.6	-47.3	-12.4	2.11	-1.96	-71.00
3,275.0	1.08	296.58	3,273.7	13.8	-47.5	-12.6	3.43	2.60	-194.08
3,300.0	0.90	332.73	3,298.7	14.1	-47.8	-12.9	2.55	-0.72	144.60
3,325.0	0.40	299.73	3,323.7	14.3	-48.0	-13.1	2.42	-2.00	-132.00
3,350.0	0.87	282.39	3,348.7	14.4	-48.3	-13.2	2.01	1.88	-69.36
3,375.0	1.15	303.22	3,373.7	14.5	-48.6	-13.3	1.83	1.12	83.32
3,400.0	0.50	354.08	3,398.7	14.8	-48.9	-13.6	3.68	-2.60	203.44
3,425.0	0.53	266.32	3,423.7	14.9	-49.0	-13.7	2.86	0.12	-351.04
3,450.0	0.79	285.98	3,448.7	14.9	-49.3	-13.7	1.36	1.04	78.64
3,475.0	0.98	310.83	3,473.7	15.1	-49.6	-13.9	1.69	0.76	99.40
3,500.0	0.72	338.69	3,498.7	15.4	-49.8	-14.2	1.92	-1.04	111.44
3,525.0	0.56	325.43	3,523.7	15.6	-49.9	-14.4	0.87	-0.64	-53.04
3,550.0	1.17	294.14	3,548.7	15.9	-50.2	-14.6	3.00	2.44	-125.16

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)
3,575.0	1.21	280.65	3,573.7	16.0	-50.7	-14.7	1.13	0.16	-53.96
3,600.0	0.96	245.64	3,598.7	16.0	-51.2	-14.7	2.78	-1.00	-140.04
3,625.0	1.42	247.71	3,623.7	15.8	-51.7	-14.5	1.85	1.84	8.28
3,650.0	1.43	277.99	3,648.7	15.7	-52.3	-14.4	2.98	0.04	121.12
3,675.0	0.92	273.39	3,673.7	15.7	-52.8	-14.4	2.07	-2.04	-18.40
3,700.0	0.79	244.06	3,698.7	15.7	-53.1	-14.4	1.80	-0.52	-117.32
3,725.0	1.30	251.90	3,723.7	15.5	-53.6	-14.2	2.11	2.04	31.36
3,750.0	1.47	276.60	3,748.7	15.5	-54.1	-14.1	2.46	0.68	98.80
3,775.0	0.80	281.30	3,773.7	15.5	-54.6	-14.2	2.70	-2.68	18.80
3,800.0	0.76	244.20	3,798.7	15.5	-55.0	-14.1	1.99	-0.16	-148.40
3,825.0	1.26	251.60	3,823.7	15.3	-55.4	-14.0	2.06	2.00	29.60
3,850.0	1.50	275.48	3,848.7	15.3	-55.9	-13.9	2.47	0.96	95.52
3,875.0	0.85	299.24	3,873.7	15.4	-56.4	-14.0	3.20	-2.60	95.04
3,900.0	0.54	258.30	3,898.7	15.5	-56.7	-14.1	2.26	-1.24	-163.76
3,925.0	1.10	243.37	3,923.7	15.3	-57.0	-13.9	2.38	2.24	-59.72
3,950.0	1.40	271.29	3,948.6	15.2	-57.6	-13.8	2.68	1.20	111.68
3,975.0	0.86	284.98	3,973.6	15.3	-58.1	-13.9	2.40	-2.16	54.76
4,000.0	0.96	242.30	3,998.6	15.2	-58.4	-13.8	2.68	0.40	-170.72
4,025.0	1.31	257.55	4,023.6	15.1	-58.9	-13.6	1.84	1.40	61.00
4,050.0	1.06	280.10	4,048.6	15.1	-59.4	-13.6	2.10	-1.00	90.20
4,075.0	0.79	257.03	4,073.6	15.1	-59.8	-13.6	1.82	-1.08	-92.28
4,100.0	1.32	253.61	4,098.6	14.9	-60.2	-13.5	2.13	2.12	-13.68
4,125.0	0.90	282.69	4,123.6	14.9	-60.7	-13.4	2.76	-1.68	116.32
4,150.0	1.01	240.27	4,148.6	14.8	-61.1	-13.3	2.79	0.44	-169.68
4,175.0	1.07	273.63	4,173.6	14.8	-61.5	-13.2	2.40	0.24	133.44
4,200.0	0.66	250.61	4,198.6	14.7	-61.9	-13.2	2.12	-1.64	-92.08
4,225.0	1.26	261.29	4,223.6	14.6	-62.3	-13.1	2.49	2.40	42.72
4,250.0	0.98	283.88	4,248.6	14.6	-62.8	-13.1	2.07	-1.12	90.36
4,275.0	0.53	254.96	4,273.6	14.7	-63.1	-13.1	2.30	-1.80	-115.68
4,300.0	0.90	231.86	4,298.6	14.5	-63.3	-12.9	1.85	1.48	-92.40
4,325.0	1.41	254.83	4,323.6	14.3	-63.8	-12.7	2.72	2.04	91.88
4,350.0	0.82	285.06	4,348.6	14.3	-64.3	-12.7	3.26	-2.36	120.92
4,375.0	0.86	228.71	4,373.6	14.2	-64.6	-12.6	3.18	0.16	-225.40
4,400.0	1.32	250.89	4,398.6	14.0	-65.0	-12.4	2.46	1.84	88.72
4,425.0	0.79	270.87	4,423.6	13.9	-65.4	-12.3	2.55	-2.12	79.92
4,450.0	0.55	227.51	4,448.6	13.8	-65.7	-12.2	2.17	-0.96	-173.44
4,475.0	1.34	247.12	4,473.6	13.6	-66.1	-12.0	3.37	3.16	78.44
4,500.0	0.80	281.17	4,498.6	13.5	-66.5	-11.9	3.25	-2.16	136.20
4,525.0	1.11	230.07	4,523.6	13.4	-66.9	-11.8	3.48	1.24	-204.40
4,550.0	1.31	259.42	4,548.6	13.2	-67.3	-11.5	2.57	0.80	117.40
4,575.0	0.69	271.13	4,573.6	13.2	-67.8	-11.5	2.60	-2.48	46.84
4,600.0	0.71	229.57	4,598.5	13.1	-68.0	-11.4	1.99	0.08	-166.24
4,625.0	1.01	230.52	4,623.5	12.8	-68.3	-11.1	1.20	1.20	3.80

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)
4,650.0	1.03	246.49	4,648.5	12.6	-68.7	-10.9	1.14	0.08	63.88
4,675.0	0.76	274.79	4,673.5	12.5	-69.1	-10.8	2.04	-1.08	113.20
4,700.0	0.91	299.35	4,698.5	12.6	-69.4	-10.9	1.54	0.60	98.24
4,725.0	1.12	313.84	4,723.5	12.9	-69.7	-11.2	1.32	0.84	57.96
4,750.0	0.89	332.34	4,748.5	13.2	-70.0	-11.5	1.58	-0.92	74.00
4,775.0	0.52	342.71	4,773.5	13.5	-70.1	-11.8	1.56	-1.48	41.48
4,800.0	0.30	79.56	4,798.5	13.6	-70.1	-11.9	2.52	-0.88	387.40
4,825.0	0.47	7.25	4,823.5	13.7	-70.0	-12.0	1.90	0.68	-289.24
4,850.0	0.98	51.29	4,848.5	14.0	-69.8	-12.3	2.88	2.04	176.16
4,875.0	0.43	55.75	4,873.5	14.2	-69.6	-12.4	2.21	-2.20	17.84
4,900.0	0.89	33.29	4,898.5	14.4	-69.4	-12.7	2.08	1.84	-89.84
4,925.0	1.09	52.79	4,923.5	14.7	-69.1	-13.0	1.56	0.80	78.00
4,950.0	1.14	53.11	4,948.5	15.0	-68.7	-13.3	0.20	0.20	1.28
4,975.0	1.21	317.31	4,973.5	15.3	-68.7	-13.6	6.98	0.28	-383.20
5,000.0	1.40	328.28	4,998.5	15.8	-69.1	-14.1	1.25	0.76	43.88
5,025.0	1.28	313.17	5,023.5	16.2	-69.4	-14.5	1.49	-0.48	-60.44
5,050.0	1.09	312.84	5,048.5	16.6	-69.8	-14.9	0.76	-0.76	-1.32
5,075.0	0.86	290.46	5,073.5	16.8	-70.1	-15.1	1.76	-0.92	-89.52
5,100.0	0.65	258.96	5,098.5	16.8	-70.5	-15.1	1.83	-0.84	-126.00
5,125.0	0.61	231.92	5,123.5	16.7	-70.7	-15.0	1.19	-0.16	-108.16
5,150.0	0.67	216.63	5,148.5	16.5	-70.9	-14.8	0.72	0.24	-61.16
5,175.0	0.39	153.65	5,173.5	16.3	-70.9	-14.6	2.41	-1.12	-251.92
5,200.0	0.16	158.30	5,198.5	16.2	-70.9	-14.5	0.92	-0.92	18.60
5,225.0	0.71	176.30	5,223.5	16.0	-70.9	-14.3	2.24	2.20	72.00
5,250.0	0.04	201.81	5,248.5	15.9	-70.9	-14.1	2.70	-2.68	102.04
5,275.0	0.52	169.93	5,273.5	15.8	-70.8	-14.0	1.95	1.92	-127.52
5,300.0	0.06	177.24	5,298.5	15.6	-70.8	-13.9	1.84	-1.84	29.24
5,325.0	0.61	132.73	5,323.5	15.5	-70.7	-13.8	2.28	2.20	-178.04
5,350.0	0.45	182.07	5,348.5	15.3	-70.6	-13.6	1.86	-0.64	197.36
5,375.0	0.37	308.14	5,373.5	15.3	-70.7	-13.6	2.93	-0.32	504.28
5,400.0	0.56	14.51	5,398.5	15.5	-70.7	-13.7	2.13	0.76	265.48
5,425.0	0.32	5.36	5,423.5	15.7	-70.7	-13.9	1.00	-0.96	-36.60
5,450.0	1.73	302.08	5,448.5	15.9	-71.0	-14.2	6.45	5.64	-253.12
5,475.0	2.15	315.43	5,473.5	16.5	-71.7	-14.7	2.46	1.68	53.40
5,500.0	2.02	292.52	5,498.4	17.0	-72.4	-15.2	3.35	-0.52	-91.64
5,525.0	1.86	304.92	5,523.4	17.4	-73.1	-15.6	1.79	-0.64	49.60
5,550.0	2.24	293.13	5,548.4	17.8	-73.9	-16.0	2.26	1.52	-47.16
5,575.0	2.09	312.56	5,573.4	18.3	-74.7	-16.4	2.98	-0.60	77.72
5,600.0	1.91	294.67	5,598.4	18.8	-75.4	-16.9	2.59	-0.72	-71.56
5,625.0	2.28	310.70	5,623.4	19.3	-76.2	-17.4	2.76	1.48	64.12
5,650.0	1.91	300.23	5,648.3	19.8	-76.9	-17.9	2.12	-1.48	-41.88
5,675.0	2.21	309.93	5,673.3	20.3	-77.6	-18.4	1.84	1.20	38.80
5,700.0	2.33	298.11	5,698.3	20.9	-78.5	-18.9	1.93	0.48	-47.28

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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	2.29	313.85	5,723.3	21.5	-79.3	-19.5	2.53	-0.16	62.96	
5,750.0	2.66	306.42	5,748.3	22.1	-80.1	-20.2	1.96	1.48	-29.72	
5,775.0	2.36	314.83	5,773.2	22.9	-80.9	-20.9	1.90	-1.20	33.64	
5,800.0	2.72	307.24	5,798.2	23.6	-81.8	-21.6	1.97	1.44	-30.36	
5,825.0	2.25	310.32	5,823.2	24.3	-82.6	-22.2	1.95	-1.88	12.32	
5,850.0	2.85	314.80	5,848.2	25.0	-83.4	-22.9	2.53	2.40	17.92	
5,875.0	2.83	306.97	5,873.1	25.8	-84.4	-23.7	1.55	-0.08	-31.32	
5,900.0	2.47	314.40	5,898.1	26.6	-85.2	-24.5	1.99	-1.44	29.72	
5,925.0	3.22	314.05	5,923.1	27.4	-86.1	-25.3	3.00	3.00	-1.40	
5,950.0	2.74	311.86	5,948.0	28.3	-87.1	-26.2	1.97	-1.92	-8.76	
5,975.0	2.98	304.38	5,973.0	29.1	-88.1	-26.9	1.77	0.96	-29.92	
6,000.0	3.48	308.09	5,998.0	29.9	-89.2	-27.7	2.17	2.00	14.84	
6,025.0	3.61	313.80	6,022.9	30.9	-90.4	-28.7	1.50	0.52	22.84	
6,050.0	3.49	310.43	6,047.9	32.0	-91.5	-29.7	0.96	-0.48	-13.48	
6,075.0	3.50	309.07	6,072.8	32.9	-92.7	-30.6	0.33	0.04	-5.44	
6,100.0	3.35	293.37	6,097.8	33.7	-93.9	-31.4	3.79	-0.60	-62.80	
6,125.0	3.47	295.41	6,122.7	34.3	-95.3	-32.0	0.68	0.48	8.16	
6,150.0	2.61	295.57	6,147.7	34.9	-96.5	-32.5	3.44	-3.44	0.64	
6,175.0	3.21	290.23	6,172.7	35.4	-97.7	-33.0	2.63	2.40	-21.36	
6,200.0	3.15	300.64	6,197.6	36.0	-98.9	-33.5	2.32	-0.24	41.64	
6,225.0	2.73	289.61	6,222.6	36.5	-100.1	-34.1	2.81	-1.68	-44.12	
6,250.0	3.64	290.09	6,247.6	37.0	-101.4	-34.5	3.64	3.64	1.92	
6,275.0	2.88	302.75	6,272.5	37.6	-102.6	-35.1	4.17	-3.04	50.64	
6,300.0	2.85	289.20	6,297.5	38.2	-103.8	-35.6	2.71	-0.12	-54.20	
6,325.0	3.25	286.92	6,322.5	38.6	-105.0	-36.0	1.67	1.60	-9.12	
6,350.0	3.53	292.07	6,347.4	39.1	-106.4	-36.4	1.65	1.12	20.60	
6,375.0	3.44	296.65	6,372.4	39.7	-107.8	-37.0	1.17	-0.36	18.32	
6,400.0	3.43	291.14	6,397.3	40.3	-109.2	-37.6	1.32	-0.04	-22.04	
6,425.0	3.35	283.78	6,422.3	40.7	-110.6	-38.0	1.77	-0.32	-29.44	
6,450.0	3.29	286.57	6,447.2	41.1	-112.0	-38.3	0.69	-0.24	11.16	
6,475.0	3.26	291.72	6,472.2	41.6	-113.3	-38.8	1.18	-0.12	20.60	
6,500.0	2.76	281.07	6,497.2	42.0	-114.6	-39.1	2.99	-2.00	-42.60	
6,525.0	2.97	269.20	6,522.1	42.1	-115.8	-39.2	2.51	0.84	-47.48	
6,550.0	3.10	270.37	6,547.1	42.1	-117.1	-39.2	0.58	0.52	4.68	
6,575.0	3.49	268.37	6,572.1	42.0	-118.6	-39.1	1.63	1.56	-8.00	
6,600.0	3.48	266.46	6,597.0	42.0	-120.1	-39.0	0.47	-0.04	-7.64	
6,625.0	3.42	269.24	6,622.0	41.9	-121.6	-38.9	0.71	-0.24	11.12	
6,650.0	3.07	266.98	6,646.9	41.9	-123.0	-38.8	1.49	-1.40	-9.04	
6,675.0	2.90	267.26	6,671.9	41.8	-124.3	-38.7	0.68	-0.68	1.12	
6,700.0	3.23	266.06	6,696.9	41.7	-125.6	-38.6	1.34	1.32	-4.80	
6,725.0	3.41	268.32	6,721.8	41.7	-127.1	-38.5	0.89	0.72	9.04	
6,750.0	3.27	273.00	6,746.8	41.7	-128.5	-38.5	1.23	-0.56	18.72	
6,775.0	2.56	276.91	6,771.7	41.8	-129.8	-38.6	2.95	-2.84	15.64	
6,800.0	2.80	264.10	6,796.7	41.8	-131.0	-38.5	2.57	0.96	-51.24	

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)
6,825.0	3.02	264.91	6,821.7	41.7	-132.2	-38.4	0.90	0.88	3.24
6,850.0	3.21	266.07	6,846.6	41.6	-133.6	-38.3	0.80	0.76	4.64
6,875.0	2.64	277.69	6,871.6	41.6	-134.8	-38.3	3.28	-2.28	46.48
6,900.0	2.36	270.25	6,896.6	41.7	-135.9	-38.3	1.71	-1.12	-29.76
6,925.0	2.99	268.17	6,921.6	41.7	-137.1	-38.3	2.55	2.52	-8.32
6,950.0	2.45	282.77	6,946.5	41.7	-138.3	-38.3	3.50	-2.16	58.40
6,975.0	2.54	260.60	6,971.5	41.8	-139.3	-38.3	3.85	0.36	-88.68
7,000.0	2.63	280.92	6,996.5	41.8	-140.4	-38.3	3.66	0.36	81.28
7,025.0	2.54	269.11	7,021.5	41.9	-141.6	-38.4	2.16	-0.36	-47.24
7,050.0	2.85	281.59	7,046.4	42.0	-142.7	-38.5	2.65	1.24	49.92
7,075.0	2.46	268.15	7,071.4	42.1	-143.9	-38.6	2.93	-1.56	-53.76
7,100.0	2.78	273.57	7,096.4	42.1	-145.0	-38.5	1.62	1.28	21.68
7,125.0	2.22	272.17	7,121.4	42.2	-146.1	-38.6	2.25	-2.24	-5.60
7,150.0	2.75	267.00	7,146.3	42.2	-147.2	-38.5	2.30	2.12	-20.68
7,175.0	2.41	279.20	7,171.3	42.2	-148.3	-38.6	2.58	-1.36	48.80
7,200.0	2.52	263.74	7,196.3	42.3	-149.4	-38.6	2.69	0.44	-61.84
7,225.0	2.90	267.67	7,221.3	42.2	-150.5	-38.4	1.69	1.52	15.72
7,250.0	2.76	277.10	7,246.2	42.2	-151.8	-38.5	1.94	-0.56	37.72
7,275.0	2.16	268.87	7,271.2	42.3	-152.8	-38.5	2.78	-2.40	-32.92
7,300.0	2.36	262.72	7,296.2	42.2	-153.8	-38.4	1.26	0.80	-24.60
7,325.0	2.81	265.90	7,321.2	42.1	-154.9	-38.3	1.89	1.80	12.72
7,350.0	2.32	277.13	7,346.1	42.1	-156.1	-38.3	2.80	-1.96	44.92
7,375.0	1.97	268.11	7,371.1	42.2	-157.0	-38.3	1.94	-1.40	-36.08
7,400.0	2.33	263.13	7,396.1	42.1	-157.9	-38.2	1.62	1.44	-19.92
7,425.0	2.34	275.30	7,421.1	42.1	-158.9	-38.1	1.98	0.04	48.68
7,450.0	1.99	266.07	7,446.1	42.1	-159.9	-38.1	1.97	-1.40	-36.92
7,475.0	2.56	267.13	7,471.0	42.0	-160.9	-38.1	2.29	2.28	4.24
7,500.0	2.07	275.74	7,496.0	42.1	-161.9	-38.1	2.40	-1.96	34.44
7,525.0	2.02	260.00	7,521.0	42.0	-162.8	-38.0	2.25	-0.20	-62.96
7,550.0	2.26	257.77	7,546.0	41.8	-163.7	-37.8	1.02	0.96	-8.92
7,575.0	2.59	267.09	7,571.0	41.7	-164.7	-37.6	2.05	1.32	37.28
7,600.0	2.00	276.93	7,595.9	41.7	-165.7	-37.6	2.83	-2.36	39.36
7,625.0	1.63	264.19	7,620.9	41.8	-166.5	-37.6	2.18	-1.48	-50.96
7,650.0	1.87	259.45	7,645.9	41.6	-167.3	-37.5	1.12	0.96	-18.96
7,675.0	1.90	255.01	7,670.9	41.5	-168.1	-37.3	0.60	0.12	-17.76
7,700.0	2.19	258.35	7,695.9	41.3	-168.9	-37.1	1.25	1.16	13.36
7,725.0	2.12	255.79	7,720.9	41.0	-169.8	-36.8	0.48	-0.28	-10.24
7,750.0	2.37	264.14	7,745.9	40.9	-170.8	-36.7	1.64	1.00	33.40
7,775.0	2.12	258.00	7,770.8	40.7	-171.8	-36.5	1.39	-1.00	-24.56
7,800.0	2.24	258.96	7,795.8	40.5	-172.7	-36.3	0.50	0.48	3.84
7,825.0	2.20	257.71	7,820.8	40.3	-173.7	-36.1	0.25	-0.16	-5.00
7,850.0	2.01	257.30	7,845.8	40.1	-174.6	-35.8	0.76	-0.76	-1.64
7,875.0	2.11	266.39	7,870.8	40.0	-175.4	-35.7	1.37	0.40	36.36

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)	
7,900.0	1.85	271.60	7,895.7	40.0	-176.3	-35.6	1.26	-1.04	20.84	
7,925.0	1.61	245.44	7,920.7	39.9	-177.0	-35.5	3.27	-0.96	-104.64	
7,950.0	2.02	253.48	7,945.7	39.6	-177.8	-35.2	1.93	1.64	32.16	
7,975.0	1.64	264.37	7,970.7	39.4	-178.5	-35.0	2.05	-1.52	43.56	
8,000.0	1.45	243.73	7,995.7	39.3	-179.2	-34.8	2.34	-0.76	-82.56	
8,025.0	2.08	255.30	8,020.7	39.0	-179.9	-34.6	2.88	2.52	46.28	
8,050.0	1.35	268.83	8,045.7	38.9	-180.6	-34.4	3.32	-2.92	54.12	
8,075.0	1.91	246.61	8,070.7	38.7	-181.3	-34.2	3.34	2.24	-88.88	
8,100.0	1.64	263.57	8,095.7	38.5	-182.1	-34.0	2.35	-1.08	67.84	
8,125.0	1.67	242.93	8,120.6	38.3	-182.7	-33.8	2.37	0.12	-82.56	
8,150.0	1.97	259.07	8,145.6	38.1	-183.5	-33.5	2.36	1.20	64.56	
8,175.0	1.38	232.56	8,170.6	37.8	-184.1	-33.2	3.84	-2.36	-106.04	
8,200.0	1.63	255.15	8,195.6	37.5	-184.7	-33.0	2.55	1.00	90.36	
8,225.0	1.44	230.92	8,220.6	37.2	-185.3	-32.6	2.68	-0.76	-96.92	
8,250.0	1.31	249.65	8,245.6	36.9	-185.8	-32.3	1.86	-0.52	74.92	
8,275.0	1.62	234.70	8,270.6	36.6	-186.4	-32.0	1.96	1.24	-59.80	
8,300.0	1.59	235.55	8,295.6	36.2	-187.0	-31.6	0.15	-0.12	3.40	
8,325.0	1.72	249.87	8,320.6	35.9	-187.6	-31.3	1.73	0.52	57.28	
8,350.0	1.36	235.05	8,345.6	35.6	-188.2	-31.0	2.14	-1.44	-59.28	
8,375.0	1.98	224.36	8,370.6	35.1	-188.7	-30.5	2.77	2.48	-42.76	
8,400.0	1.85	237.91	8,395.5	34.6	-189.4	-29.9	1.88	-0.52	54.20	
8,425.0	1.81	208.39	8,420.5	34.0	-189.9	-29.3	3.73	-0.16	-118.08	
8,450.0	2.01	209.23	8,445.5	33.3	-190.3	-28.6	0.81	0.80	3.36	
8,475.0	2.26	215.37	8,470.5	32.5	-190.8	-27.8	1.35	1.00	24.56	
8,500.0	2.24	227.32	8,495.5	31.8	-191.5	-27.1	1.87	-0.08	47.80	
8,525.0	1.70	221.66	8,520.5	31.2	-192.1	-26.4	2.29	-2.16	-22.64	
8,550.0	1.55	212.84	8,545.5	30.6	-192.5	-25.9	1.16	-0.60	-35.28	
8,575.0	2.05	217.98	8,570.4	30.0	-192.9	-25.2	2.10	2.00	20.56	
8,600.0	2.44	225.85	8,595.4	29.3	-193.6	-24.5	1.99	1.56	31.48	
8,625.0	2.43	209.71	8,620.4	28.4	-194.2	-23.6	2.73	-0.04	-64.56	
8,650.0	2.64	211.96	8,645.4	27.5	-194.8	-22.7	0.93	0.84	9.00	
8,675.0	2.91	228.42	8,670.3	26.6	-195.6	-21.7	3.35	1.08	65.84	
8,700.0	3.14	231.59	8,695.3	25.7	-196.6	-20.9	1.14	0.92	12.68	
8,725.0	3.42	228.23	8,720.3	24.8	-197.7	-19.9	1.36	1.12	-13.44	
8,750.0	3.57	233.65	8,745.2	23.8	-198.9	-18.9	1.45	0.60	21.68	
8,775.0	3.12	236.52	8,770.2	23.0	-200.1	-18.1	1.92	-1.80	11.48	
8,800.0	3.03	238.68	8,795.1	22.3	-201.2	-17.3	0.59	-0.36	8.64	
8,825.0	3.04	240.24	8,820.1	21.6	-202.3	-16.6	0.33	0.04	6.24	
8,850.0	3.15	241.83	8,845.1	21.0	-203.5	-15.9	0.56	0.44	6.36	
8,875.0	3.14	251.18	8,870.0	20.4	-204.8	-15.4	2.05	-0.04	37.40	
8,900.0	3.29	255.90	8,895.0	20.0	-206.1	-14.9	1.22	0.60	18.88	
8,925.0	3.27	259.94	8,920.0	19.7	-207.5	-14.6	0.93	-0.08	16.16	
8,950.0	3.19	259.16	8,944.9	19.5	-208.9	-14.3	0.37	-0.32	-3.12	

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)	
8,975.0	3.27	261.87	8,969.9	19.2	-210.3	-14.0	0.69	0.32	10.84	
9,000.0	2.92	260.80	8,994.8	19.0	-211.6	-13.8	1.42	-1.40	-4.28	
9,025.0	2.77	268.08	9,019.8	18.9	-212.9	-13.7	1.56	-0.60	29.12	
9,050.0	2.09	270.89	9,044.8	18.9	-213.9	-13.6	2.76	-2.72	11.24	
9,075.0	1.95	265.79	9,069.8	18.9	-214.8	-13.6	0.91	-0.56	-20.40	
9,100.0	2.01	262.66	9,094.8	18.8	-215.7	-13.5	0.49	0.24	-12.52	
9,125.0	2.00	265.29	9,119.7	18.7	-216.5	-13.4	0.37	-0.04	10.52	
9,150.0	1.98	271.02	9,144.7	18.7	-217.4	-13.3	0.80	-0.08	22.92	
9,175.0	1.87	271.86	9,169.7	18.7	-218.2	-13.3	0.45	-0.44	3.36	
9,200.0	1.81	263.02	9,194.7	18.7	-219.0	-13.2	1.16	-0.24	-35.36	
9,225.0	2.20	266.82	9,219.7	18.6	-219.9	-13.2	1.65	1.56	15.20	
9,250.0	2.45	277.81	9,244.7	18.6	-220.9	-13.2	2.04	1.00	43.96	
9,275.0	2.52	280.33	9,269.6	18.8	-222.0	-13.3	0.52	0.28	10.08	
9,300.0	2.65	282.98	9,294.6	19.0	-223.1	-13.5	0.71	0.52	10.60	
9,325.0	3.01	284.14	9,319.6	19.3	-224.3	-13.8	1.46	1.44	4.64	
9,350.0	3.04	287.56	9,344.5	19.7	-225.6	-14.1	0.73	0.12	13.68	
9,375.0	2.84	287.09	9,369.5	20.1	-226.8	-14.5	0.81	-0.80	-1.88	
9,400.0	2.93	290.12	9,394.5	20.5	-228.0	-14.8	0.71	0.36	12.12	
9,425.0	2.72	287.39	9,419.5	20.9	-229.1	-15.2	1.00	-0.84	-10.92	
9,450.0	2.64	286.72	9,444.4	21.2	-230.3	-15.5	0.34	-0.32	-2.68	
9,475.0	2.44	288.91	9,469.4	21.5	-231.3	-15.8	0.89	-0.80	8.76	
9,500.0	2.27	290.79	9,494.4	21.9	-232.3	-16.2	0.75	-0.68	7.52	
9,525.0	2.28	295.60	9,519.4	22.3	-233.2	-16.5	0.76	0.04	19.24	
9,550.0	2.37	298.63	9,544.3	22.7	-234.1	-17.0	0.61	0.36	12.12	
9,575.0	2.37	298.55	9,569.3	23.2	-235.0	-17.4	0.01	0.00	-0.32	
9,600.0	2.12	292.95	9,594.3	23.7	-235.9	-17.8	1.33	-1.00	-22.40	
9,625.0	2.05	295.18	9,619.3	24.0	-236.7	-18.2	0.43	-0.28	8.92	
9,650.0	1.87	299.99	9,644.3	24.4	-237.5	-18.6	0.97	-0.72	19.24	
9,675.0	1.63	304.49	9,669.3	24.8	-238.1	-19.0	1.11	-0.96	18.00	
9,700.0	1.43	294.17	9,694.2	25.2	-238.7	-19.3	1.36	-0.80	-41.28	
9,725.0	0.83	271.69	9,719.2	25.3	-239.2	-19.4	2.94	-2.40	-89.92	
9,750.0	1.17	279.00	9,744.2	25.3	-239.6	-19.4	1.45	1.36	29.24	
9,775.0	1.34	296.94	9,769.2	25.5	-240.1	-19.6	1.70	0.68	71.76	
9,800.0	1.14	286.97	9,794.2	25.7	-240.6	-19.8	1.17	-0.80	-39.88	
9,825.0	0.87	315.23	9,819.2	25.9	-241.0	-20.0	2.22	-1.08	113.04	
9,850.0	0.80	315.39	9,844.2	26.2	-241.2	-20.2	0.28	-0.28	0.64	
9,875.0	0.57	309.57	9,869.2	26.4	-241.5	-20.4	0.96	-0.92	-23.28	
9,900.0	0.56	289.90	9,894.2	26.5	-241.7	-20.5	0.77	-0.04	-78.68	
9,925.0	0.33	225.96	9,919.2	26.5	-241.8	-20.5	2.04	-0.92	-255.76	
9,950.0	0.67	151.29	9,944.2	26.3	-241.8	-20.3	2.66	1.36	-298.68	
9,975.0	0.50	172.94	9,969.2	26.1	-241.7	-20.1	1.10	-0.68	86.60	
10,000.0	1.05	201.16	9,994.2	25.8	-241.8	-19.8	2.61	2.20	112.88	
10,025.0	1.73	213.32	10,019.2	25.2	-242.1	-19.3	2.95	2.72	48.64	
10,050.0	1.61	210.22	10,044.2	24.6	-242.5	-18.6	0.60	-0.48	-12.40	

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)
10,075.0	1.24	230.17	10,069.2	24.1	-242.9	-18.1	2.45	-1.48	79.80
10,100.0	1.68	232.86	10,094.2	23.7	-243.4	-17.7	1.78	1.76	10.76
10,125.0	1.69	232.57	10,119.2	23.3	-243.9	-17.3	0.05	0.04	-1.16
10,150.0	1.22	224.07	10,144.2	22.9	-244.4	-16.8	2.06	-1.88	-34.00
10,175.0	1.61	221.97	10,169.2	22.4	-244.8	-16.4	1.57	1.56	-8.40
10,200.0	1.58	217.61	10,194.1	21.9	-245.3	-15.8	0.50	-0.12	-17.44
10,225.0	1.59	200.62	10,219.1	21.3	-245.6	-15.2	1.87	0.04	-67.96
10,250.0	1.70	196.09	10,244.1	20.6	-245.8	-14.5	0.68	0.44	-18.12
10,275.0	1.60	201.18	10,269.1	19.9	-246.1	-13.9	0.71	-0.40	20.36
10,300.0	2.20	206.33	10,294.1	19.2	-246.4	-13.1	2.49	2.40	20.60
10,325.0	1.83	186.13	10,319.1	18.4	-246.7	-12.3	3.18	-1.48	-80.80
10,350.0	2.25	192.71	10,344.1	17.5	-246.8	-11.4	1.92	1.68	26.32
10,375.0	2.58	194.04	10,369.0	16.5	-247.1	-10.4	1.34	1.32	5.32
10,400.0	2.11	194.81	10,394.0	15.5	-247.3	-9.4	1.88	-1.88	3.08
10,425.0	2.63	196.59	10,419.0	14.5	-247.6	-8.4	2.10	2.08	7.12
10,450.0	2.52	194.32	10,444.0	13.4	-247.9	-7.3	0.60	-0.44	-9.08
10,475.0	2.06	190.60	10,469.0	12.4	-248.1	-6.3	1.93	-1.84	-14.88
10,500.0	0.95	207.94	10,493.9	11.8	-248.3	-5.7	4.75	-4.44	69.36
10,525.0	0.64	237.36	10,518.9	11.5	-248.5	-5.4	2.01	-1.24	117.68
10,550.0	0.64	273.27	10,543.9	11.5	-248.8	-5.3	1.58	0.00	143.64
10,575.0	0.60	303.09	10,568.9	11.5	-249.0	-5.4	1.29	-0.16	119.28
10,600.0	0.85	313.90	10,593.9	11.7	-249.3	-5.6	1.14	1.00	43.24
10,625.0	0.68	304.87	10,618.9	12.0	-249.5	-5.8	0.83	-0.68	-36.12
10,650.0	1.02	316.58	10,643.9	12.2	-249.8	-6.0	1.52	1.36	46.84
10,675.0	1.08	335.33	10,668.9	12.6	-250.0	-6.4	1.39	0.24	75.00
10,700.0	0.94	320.02	10,693.9	12.9	-250.3	-6.8	1.21	-0.56	-61.24
10,725.0	0.91	340.85	10,718.9	13.3	-250.5	-7.1	1.34	-0.12	83.32
10,750.0	1.37	343.88	10,743.9	13.8	-250.6	-7.6	1.86	1.84	12.12
10,775.0	2.21	317.74	10,768.9	14.4	-251.0	-8.2	4.60	3.36	-104.56
10,800.0	2.78	316.77	10,793.9	15.2	-251.8	-9.0	2.29	2.28	-3.88
10,825.0	2.90	317.88	10,818.9	16.1	-252.6	-9.9	0.53	0.48	4.44
10,850.0	3.02	320.08	10,843.8	17.1	-253.4	-10.8	0.66	0.48	8.80
10,875.0	2.61	323.12	10,868.8	18.1	-254.2	-11.8	1.74	-1.64	12.16
10,900.0	2.41	322.62	10,893.8	18.9	-254.9	-12.6	0.80	-0.80	-2.00
10,925.0	2.53	318.97	10,918.7	19.8	-255.6	-13.5	0.79	0.48	-14.60
10,950.0	2.33	315.17	10,943.7	20.5	-256.3	-14.2	1.03	-0.80	-15.20
10,975.0	2.28	315.08	10,968.7	21.3	-257.0	-14.9	0.20	-0.20	-0.36
11,000.0	2.36	311.35	10,993.7	21.9	-257.7	-15.6	0.68	0.32	-14.92
11,025.0	2.09	312.79	11,018.7	22.6	-258.4	-16.2	1.10	-1.08	5.76
11,050.0	1.97	306.04	11,043.6	23.2	-259.1	-16.8	1.07	-0.48	-27.00
11,075.0	1.87	300.76	11,068.6	23.6	-259.8	-17.2	0.81	-0.40	-21.12
11,100.0	1.90	293.62	11,093.6	24.0	-260.6	-17.6	0.95	0.12	-28.56
11,125.0	1.70	294.12	11,118.6	24.3	-261.3	-17.9	0.80	-0.80	2.00

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)	
11,150.0	2.49	277.83	11,143.6	24.5	-262.1	-18.1	3.93	3.16	-65.16	
11,175.0	2.71	277.63	11,168.6	24.7	-263.3	-18.2	0.88	0.88	-0.80	
11,200.0	2.81	278.97	11,193.5	24.9	-264.5	-18.3	0.48	0.40	5.36	
11,225.0	2.73	278.79	11,218.5	25.0	-265.7	-18.5	0.32	-0.32	-0.72	
11,250.0	2.64	282.25	11,243.5	25.3	-266.8	-18.7	0.74	-0.36	13.84	
11,275.0	2.77	281.46	11,268.4	25.5	-268.0	-18.9	0.54	0.52	-3.16	
11,300.0	2.88	287.03	11,293.4	25.8	-269.2	-19.2	1.18	0.44	22.28	
11,325.0	2.56	298.30	11,318.4	26.3	-270.2	-19.6	2.49	-1.28	45.08	
11,350.0	2.58	300.21	11,343.4	26.8	-271.2	-20.1	0.35	0.08	7.64	
11,375.0	2.56	304.65	11,368.3	27.4	-272.2	-20.7	0.80	-0.08	17.76	
11,400.0	2.95	302.04	11,393.3	28.1	-273.2	-21.3	1.64	1.56	-10.44	
11,422.0	2.55	297.75	11,415.3	28.6	-274.1	-21.8	2.04	-1.82	-19.50	
11,800.0	4.03	275.17	11,792.7	33.7	-294.8	-26.4	0.51	0.39	-5.97	
11,895.0	3.28	270.19	11,887.5	34.0	-300.8	-26.6	0.86	-0.79	-5.24	
11,959.0	3.17	246.09	11,951.4	33.3	-304.2	-25.8	2.11	-0.17	-37.66	
11,990.0	4.37	218.96	11,982.3	32.0	-305.8	-24.5	6.83	3.87	-87.52	
12,021.0	6.63	204.07	12,013.2	29.5	-307.2	-21.9	8.56	7.29	-48.03	
12,053.0	9.84	197.42	12,044.8	25.2	-308.8	-17.6	10.45	10.03	-20.78	
12,084.0	12.61	194.84	12,075.2	19.4	-310.5	-11.7	9.08	8.94	-8.32	
12,115.0	15.88	194.94	12,105.3	12.0	-312.4	-4.3	10.55	10.55	0.32	
12,147.0	18.22	196.51	12,135.9	3.0	-315.0	4.8	7.45	7.31	4.91	
12,178.0	20.26	196.27	12,165.1	-6.8	-317.9	14.6	6.59	6.58	-0.77	
12,210.0	23.38	193.80	12,194.8	-18.3	-320.9	26.2	10.16	9.75	-7.72	
12,241.0	26.53	191.10	12,222.9	-31.1	-323.7	39.0	10.80	10.16	-8.71	
12,272.0	30.37	188.19	12,250.2	-45.6	-326.2	53.7	13.17	12.39	-9.39	
12,304.0	35.10	184.72	12,277.1	-62.8	-328.1	70.9	15.90	14.78	-10.84	
12,335.0	38.46	182.53	12,301.9	-81.3	-329.3	89.4	11.63	10.84	-7.06	
12,367.0	41.26	181.03	12,326.5	-101.8	-329.9	109.9	9.25	8.75	-4.69	
12,398.0	44.81	179.91	12,349.2	-123.0	-330.1	131.1	11.71	11.45	-3.61	
12,429.0	48.37	178.37	12,370.5	-145.5	-329.7	153.6	12.04	11.48	-4.97	
12,461.0	51.91	177.27	12,391.0	-170.0	-328.8	178.1	11.37	11.06	-3.44	
12,492.0	53.91	176.54	12,409.7	-194.7	-327.4	202.7	6.72	6.45	-2.35	
12,524.0	55.69	175.90	12,428.1	-220.8	-325.7	228.8	5.80	5.56	-2.00	
12,555.0	57.44	175.40	12,445.2	-246.6	-323.7	254.5	5.80	5.65	-1.61	
12,587.0	59.05	175.60	12,462.0	-273.7	-321.6	281.6	5.06	5.03	0.63	
12,618.0	61.23	175.60	12,477.5	-300.5	-319.5	308.3	7.03	7.03	0.00	
12,649.0	63.06	176.31	12,491.9	-327.9	-317.6	335.6	6.24	5.90	2.29	
12,681.0	64.98	176.76	12,506.0	-356.6	-315.9	364.3	6.13	6.00	1.41	
12,698.3	66.07	177.67	12,513.1	-372.3	-315.1	380.0	7.90	6.28	5.26	
FTP @ 12698.3'MD / 12513.1'TVD										
12,712.0	66.93	178.38	12,518.6	-384.9	-314.7	392.5	7.90	6.31	5.18	
12,744.0	68.46	180.45	12,530.7	-414.5	-314.4	422.1	7.66	4.78	6.47	
12,775.0	70.27	182.00	12,541.7	-443.5	-315.0	451.1	7.48	5.84	5.00	

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	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)
12,806.0	72.52	182.71	12,551.5	-472.8	-316.2	480.5	7.58	7.26	2.29
12,838.0	76.06	183.13	12,560.2	-503.6	-317.8	511.3	11.13	11.06	1.31
12,869.0	78.29	182.81	12,567.1	-533.8	-319.3	541.5	7.26	7.19	-1.03
12,900.0	80.71	182.48	12,572.7	-564.2	-320.8	572.0	7.88	7.81	-1.06
12,932.0	83.22	182.86	12,577.2	-595.9	-322.2	603.6	7.93	7.84	1.19
12,963.0	84.79	183.21	12,580.5	-626.7	-323.9	634.4	5.19	5.06	1.13
12,994.0	88.35	184.18	12,582.3	-657.5	-325.9	665.4	11.90	11.48	3.13
13,026.0	90.09	185.69	12,582.7	-689.4	-328.6	697.3	7.20	5.44	4.72
13,120.0	89.98	180.71	12,582.7	-783.2	-333.9	791.2	5.30	-0.12	-5.30
13,214.0	86.17	175.59	12,585.8	-877.1	-330.8	885.0	6.79	-4.05	-5.45
13,308.0	85.29	176.29	12,592.8	-970.6	-324.2	978.3	1.19	-0.94	0.74
13,402.0	86.19	177.26	12,599.8	-1,064.2	-318.9	1,071.7	1.41	0.96	1.03
13,496.0	89.27	179.95	12,603.5	-1,158.0	-316.6	1,165.5	4.35	3.28	2.86
13,591.0	89.35	179.89	12,604.7	-1,253.0	-316.5	1,260.5	0.11	0.08	-0.06
13,685.0	90.34	180.13	12,604.9	-1,347.0	-316.5	1,354.4	1.08	1.05	0.26
13,780.0	90.21	179.25	12,604.5	-1,442.0	-316.0	1,449.4	0.94	-0.14	-0.93
13,874.0	91.77	179.65	12,602.9	-1,536.0	-315.1	1,543.3	1.71	1.66	0.43
13,969.0	91.07	179.39	12,600.5	-1,631.0	-314.3	1,638.2	0.79	-0.74	-0.27
14,063.0	89.90	180.83	12,599.7	-1,725.0	-314.5	1,732.2	1.97	-1.24	1.53
14,157.0	90.13	180.81	12,599.7	-1,819.0	-315.8	1,826.2	0.25	0.24	-0.02
14,251.0	91.74	180.41	12,598.2	-1,912.9	-316.8	1,920.2	1.76	1.71	-0.43
14,345.0	90.36	179.76	12,596.4	-2,006.9	-317.0	2,014.1	1.62	-1.47	-0.69
14,439.0	91.83	179.07	12,594.6	-2,100.9	-316.0	2,108.1	1.73	1.56	-0.73
14,533.0	90.12	178.53	12,593.0	-2,194.9	-314.0	2,201.9	1.91	-1.82	-0.57
14,627.0	90.20	178.27	12,592.8	-2,288.8	-311.4	2,295.8	0.29	0.09	-0.28
14,721.0	89.91	179.66	12,592.7	-2,382.8	-309.7	2,389.7	1.51	-0.31	1.48
14,816.0	88.61	179.83	12,593.9	-2,477.8	-309.3	2,484.7	1.38	-1.37	0.18
14,910.0	89.79	180.22	12,595.2	-2,571.8	-309.3	2,578.6	1.32	1.26	0.41
15,004.0	87.16	181.99	12,597.7	-2,665.7	-311.2	2,672.6	3.37	-2.80	1.88
15,098.0	86.68	181.42	12,602.8	-2,759.5	-313.9	2,766.4	0.79	-0.51	-0.61
15,192.0	85.42	180.60	12,609.3	-2,853.3	-315.6	2,860.2	1.60	-1.34	-0.87
15,286.0	87.42	181.31	12,615.1	-2,947.1	-317.2	2,954.0	2.26	2.13	0.76
15,371.0	90.16	182.20	12,616.9	-3,032.0	-319.8	3,039.0	3.39	3.22	1.05
15,465.0	90.33	182.06	12,616.5	-3,126.0	-323.3	3,133.0	0.23	0.18	-0.15
15,560.0	90.72	182.27	12,615.6	-3,220.9	-326.8	3,228.0	0.47	0.41	0.22
15,654.0	90.71	182.38	12,614.5	-3,314.8	-330.7	3,322.0	0.12	-0.01	0.12
15,748.0	90.41	181.86	12,613.6	-3,408.7	-334.1	3,415.9	0.64	-0.32	-0.55
15,842.0	89.78	182.07	12,613.4	-3,502.7	-337.4	3,509.9	0.71	-0.67	0.22
15,936.0	90.69	179.60	12,613.0	-3,596.7	-338.7	3,603.9	2.80	0.97	-2.63
16,030.0	90.83	179.32	12,611.8	-3,690.7	-337.8	3,697.9	0.33	0.15	-0.30
16,124.0	91.59	180.97	12,609.8	-3,784.6	-338.1	3,791.8	1.93	0.81	1.76
16,219.0	91.36	180.05	12,607.3	-3,879.6	-338.9	3,886.8	1.00	-0.24	-0.97
16,313.0	91.87	177.92	12,604.7	-3,973.5	-337.3	3,980.6	2.33	0.54	-2.27
16,407.0	91.92	177.42	12,601.6	-4,067.4	-333.4	4,074.4	0.53	0.05	-0.53

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
16,501.0	92.05	177.54	12,598.3	-4,161.3	-329.3	4,168.1	0.19	0.14	0.13
16,595.0	91.06	177.94	12,595.8	-4,255.1	-325.6	4,261.9	1.14	-1.05	0.43
16,689.0	90.21	177.64	12,594.7	-4,349.1	-322.0	4,355.7	0.96	-0.90	-0.32
16,783.0	92.12	178.17	12,592.8	-4,443.0	-318.5	4,449.5	2.11	2.03	0.56
16,877.0	91.93	177.92	12,589.5	-4,536.9	-315.3	4,543.3	0.33	-0.20	-0.27
16,972.0	91.49	178.53	12,586.7	-4,631.8	-312.4	4,638.1	0.79	-0.46	0.64
17,066.0	91.64	178.78	12,584.1	-4,725.7	-310.2	4,731.9	0.31	0.16	0.27
17,160.0	91.47	179.61	12,581.5	-4,819.7	-308.9	4,825.8	0.90	-0.18	0.88
17,254.0	90.80	178.46	12,579.7	-4,913.6	-307.3	4,919.7	1.42	-0.71	-1.22
17,349.0	90.94	178.72	12,578.2	-5,008.6	-305.0	5,014.6	0.31	0.15	0.27
17,443.0	89.19	179.62	12,578.1	-5,102.6	-303.6	5,108.5	2.09	-1.86	0.96
17,537.0	88.87	179.38	12,579.7	-5,196.6	-302.8	5,202.5	0.43	-0.34	-0.26
17,631.0	88.54	179.39	12,581.8	-5,290.5	-301.8	5,296.4	0.35	-0.35	0.01
17,726.0	88.44	179.24	12,584.4	-5,385.5	-300.6	5,391.3	0.19	-0.11	-0.16
17,820.0	88.72	179.14	12,586.7	-5,479.5	-299.3	5,485.2	0.32	0.30	-0.11
17,914.0	89.12	178.78	12,588.5	-5,573.4	-297.6	5,579.1	0.57	0.43	-0.38
18,008.0	90.77	179.64	12,588.5	-5,667.4	-296.3	5,673.0	1.98	1.76	0.91
18,103.0	90.39	179.41	12,587.6	-5,762.4	-295.5	5,767.9	0.47	-0.40	-0.24
18,198.0	91.51	179.58	12,586.0	-5,857.4	-294.7	5,862.9	1.19	1.18	0.18
18,292.0	90.92	178.92	12,584.0	-5,951.4	-293.4	5,956.8	0.94	-0.63	-0.70
18,387.0	91.56	178.74	12,582.0	-6,046.3	-291.5	6,051.7	0.70	0.67	-0.19
18,482.0	91.67	178.54	12,579.3	-6,141.3	-289.3	6,146.5	0.24	0.12	-0.21
18,577.0	91.54	179.17	12,576.6	-6,236.2	-287.4	6,241.4	0.68	-0.14	0.66
18,672.0	93.21	183.08	12,572.7	-6,331.1	-289.2	6,336.3	4.47	1.76	4.12
18,767.0	92.79	182.32	12,567.7	-6,425.8	-293.7	6,431.1	0.91	-0.44	-0.80
18,861.0	92.36	181.97	12,563.5	-6,519.7	-297.2	6,525.0	0.59	-0.46	-0.37
18,956.0	91.61	180.87	12,560.2	-6,614.6	-299.6	6,620.0	1.40	-0.79	-1.16
19,050.0	91.05	180.86	12,558.0	-6,708.6	-301.0	6,713.9	0.60	-0.60	-0.01
19,145.0	92.54	180.41	12,555.0	-6,803.5	-302.0	6,808.9	1.64	1.57	-0.47
19,240.0	92.76	180.74	12,550.6	-6,898.4	-303.0	6,903.8	0.42	0.23	0.35
19,335.0	92.57	180.07	12,546.2	-6,993.3	-303.6	6,998.6	0.73	-0.20	-0.71
19,430.0	91.90	178.87	12,542.5	-7,088.2	-302.8	7,093.5	1.45	-0.71	-1.26
19,525.0	91.61	178.37	12,539.6	-7,183.1	-300.5	7,188.4	0.61	-0.31	-0.53
19,620.0	90.72	177.71	12,537.7	-7,278.1	-297.2	7,283.2	1.17	-0.94	-0.69
19,714.0	91.36	178.01	12,536.0	-7,372.0	-293.7	7,377.0	0.75	0.68	0.32
19,809.0	91.44	178.13	12,533.7	-7,466.9	-290.5	7,471.8	0.15	0.08	0.13
19,904.0	90.15	179.01	12,532.3	-7,561.9	-288.2	7,566.7	1.64	-1.36	0.93
19,999.0	90.70	179.04	12,531.6	-7,656.8	-286.5	7,661.6	0.58	0.58	0.03
20,094.0	91.78	179.86	12,529.6	-7,751.8	-285.6	7,756.5	1.43	1.14	0.86
20,188.0	92.00	179.80	12,526.5	-7,845.8	-285.3	7,850.4	0.24	0.23	-0.06
20,283.0	91.40	179.32	12,523.7	-7,940.7	-284.6	7,945.3	0.81	-0.63	-0.51
20,378.0	90.80	179.30	12,521.8	-8,035.7	-283.5	8,040.2	0.63	-0.63	-0.02
20,473.0	89.57	178.68	12,521.5	-8,130.7	-281.8	8,135.1	1.45	-1.29	-0.65

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)	
20,568.0	89.06	178.27	12,522.7	-8,225.6	-279.3	8,230.0	0.69	-0.54	-0.43	
20,663.0	89.42	179.31	12,523.9	-8,320.6	-277.3	8,324.9	1.16	0.38	1.09	
20,758.0	90.68	179.95	12,523.8	-8,415.6	-276.7	8,419.9	1.49	1.33	0.67	
20,853.0	90.73	180.70	12,522.7	-8,510.6	-277.2	8,514.8	0.79	0.05	0.79	
20,948.0	89.93	180.40	12,522.1	-8,605.6	-278.1	8,609.8	0.90	-0.84	-0.32	
21,043.0	91.11	180.85	12,521.3	-8,700.6	-279.1	8,704.8	1.33	1.24	0.47	
21,139.0	91.02	179.44	12,519.5	-8,796.5	-279.4	8,800.8	1.47	-0.09	-1.47	
21,234.0	90.57	179.14	12,518.2	-8,891.5	-278.2	8,895.7	0.57	-0.47	-0.32	
21,329.0	90.70	179.45	12,517.1	-8,986.5	-277.0	8,990.6	0.35	0.14	0.33	
21,423.0	89.71	179.12	12,516.8	-9,080.5	-275.9	9,084.5	1.11	-1.05	-0.35	
21,518.0	90.09	180.10	12,516.9	-9,175.5	-275.2	9,179.5	1.11	0.40	1.03	
21,613.0	90.16	181.21	12,516.7	-9,270.5	-276.3	9,274.5	1.17	0.07	1.17	
21,708.0	89.59	181.63	12,516.9	-9,365.5	-278.7	9,369.5	0.75	-0.60	0.44	
21,803.0	89.46	181.79	12,517.7	-9,460.4	-281.5	9,464.5	0.22	-0.14	0.17	
21,898.0	89.60	183.19	12,518.5	-9,555.3	-285.6	9,559.5	1.48	0.15	1.47	
21,993.0	87.96	182.95	12,520.5	-9,650.2	-290.7	9,654.4	1.74	-1.73	-0.25	
22,088.0	87.74	181.52	12,524.1	-9,745.0	-294.4	9,749.3	1.52	-0.23	-1.51	
22,183.0	90.52	180.21	12,525.5	-9,840.0	-295.8	9,844.3	3.23	2.93	-1.38	
22,278.0	88.74	177.80	12,526.1	-9,935.0	-294.2	9,939.2	3.15	-1.87	-2.54	
22,372.0	86.30	175.85	12,530.2	-10,028.7	-289.0	10,032.8	3.32	-2.60	-2.07	
22,467.0	90.74	176.24	12,532.7	-10,123.4	-282.4	10,127.3	4.69	4.67	0.41	
22,561.0	91.88	176.98	12,530.5	-10,217.2	-276.9	10,221.0	1.45	1.21	0.79	
22,655.0	93.57	176.57	12,526.0	-10,311.0	-271.6	10,314.5	1.85	1.80	-0.44	
22,750.0	93.19	177.65	12,520.4	-10,405.7	-266.8	10,409.1	1.20	-0.40	1.14	
22,844.0	92.97	177.35	12,515.4	-10,499.5	-262.7	10,502.8	0.40	-0.23	-0.32	
22,938.0	91.48	176.54	12,511.7	-10,593.3	-257.7	10,596.4	1.80	-1.59	-0.86	
23,059.0	90.84	176.40	12,509.3	-10,714.0	-250.3	10,716.9	0.54	-0.53	-0.12	
FINAL MWD SVY @ 23059'MD										
23,080.6	90.84	176.40	12,509.0	-10,735.6	-248.9	10,738.4	0.00	0.00	0.00	
LTP @ 23080.6'MD / 12509'TVD										
23,128.0	90.84	176.40	12,508.3	-10,782.9	-245.9	10,785.6	0.00	0.00	0.00	
PTD @ 23128'MD										

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #601H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.7usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #601H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Design Targets

Target Name	Dip Angle	Dip Dir.	TVD	+N/-S	+E/-W	Northing	Easting	Latitude	Longitude
- hit/miss target	(°)	(°)	(usft)	(usft)	(usft)	(usft)	(usft)		
- Shape									
PBHL (STOVE PIPE F - actual wellpath misses target center by 22.0usft at 23128.0usft MD (12508.3 TVD, -10782.9 N, -245.9 E) - Rectangle (sides W100.0 H3,290.0 D20.0)	0.50	359.59	12,500.0	-10,785.7	-266.1	415,044.00	786,175.40	32° 8' 15.706 N	103° 24' 31.695 W
LTP (STOVE PIPE FE - actual wellpath misses target center by 20.7usft at 23079.5usft MD (12509.0 TVD, -10734.4 N, -249.0 E) - Point	0.00	0.00	12,520.0	-10,735.7	-266.5	415,094.00	786,175.00	32° 8' 16.201 N	103° 24' 31.695 W
7500'VS (STOVE PIP - actual wellpath misses target center by 2.9usft at 19844.4usft MD (12532.9 TVD, -7502.3 N, -289.5 E) - Rectangle (sides W100.0 H1,283.0 D20.0)	2.13	359.59	12,530.0	-7,502.3	-289.5	418,327.42	786,151.95	32° 8' 48.198 N	103° 24' 31.640 W
FTP (STOVE PIPE FE - actual wellpath misses target center by 77.1usft at 12728.2usft MD (12524.8 TVD, -399.8 N, -314.4 E) - Circle (radius 50.0)	0.00	0.00	12,592.0	-372.5	-340.7	425,457.20	786,100.80	32° 9' 58.753 N	103° 24' 31.523 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,698.3	12,513.1	-372.3	-315.1	FTP @ 12698.3'MD / 12513.1'TVD
23,059.0	12,509.3	-10,714.0	-250.3	FINAL MWD SVY @ 23059'MD
23,080.6	12,509.0	-10,735.6	-248.9	LTP @ 23080.6'MD / 12509'TVD
23,128.0	12,508.3	-10,782.9	-245.9	PTD @ 23128'MD

Checked By: _____ Approved By: _____ Date: _____