

NORTHERN DELAWARE BASIN

LEA COUNTY, NM

BULLDOG

STOVE PIPE FEDERAL COM #702H

OWB

Design: AWP

Standard Survey Report

15 January, 2020

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

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

Well	STOVE PIPE FEDERAL COM #702H, ACTIVE				
Well Position	+N/-S	0.0 usft	Northing:	425,829.90 usft	Latitude: 32° 10' 2.409 N
	+E/-W	0.0 usft	Easting:	786,471.50 usft	Longitude: 103° 24' 27.173 W
Position Uncertainty		3.0 usft	Wellhead Elevation:	usft	Ground Level: 3,321.3 usft

Wellbore	OWB				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2015	12/10/2019	6.60	60.00	47,667.00479893

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	179.08	

Survey Program	Date	1/15/2020			
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description	
100.0	11,830.0	GYRO-INTER (OWB)	Standard Keeper 104	Standard Wireline Keeper ver 1.0.4	
11,830.0	23,274.0	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	0.97	304.60	100.0	0.5	-0.7	-0.5	0.97	0.97	0.00	
125.0	1.15	303.51	125.0	0.7	-1.1	-0.8	0.72	0.72	-4.36	
150.0	1.30	303.41	150.0	1.0	-1.5	-1.1	0.60	0.60	-0.40	
175.0	1.50	304.33	175.0	1.4	-2.0	-1.4	0.81	0.80	3.68	
200.0	1.46	305.69	200.0	1.7	-2.6	-1.8	0.21	-0.16	5.44	
225.0	1.47	306.86	225.0	2.1	-3.1	-2.2	0.13	0.04	4.68	
250.0	1.41	306.92	250.0	2.5	-3.6	-2.6	0.24	-0.24	0.24	
275.0	1.39	309.01	274.9	2.9	-4.1	-2.9	0.22	-0.08	8.36	
300.0	0.97	308.62	299.9	3.2	-4.5	-3.3	1.68	-1.68	-1.56	
325.0	0.97	306.79	324.9	3.5	-4.8	-3.5	0.12	0.00	-7.32	
350.0	0.94	305.67	349.9	3.7	-5.1	-3.8	0.14	-0.12	-4.48	
375.0	0.84	307.60	374.9	3.9	-5.4	-4.0	0.42	-0.40	7.72	
400.0	0.82	309.81	399.9	4.2	-5.7	-4.3	0.15	-0.08	8.84	
425.0	0.90	310.70	424.9	4.4	-6.0	-4.5	0.32	0.32	3.56	

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Well:	STOVE PIPE FEDERAL COM #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
450.0	0.96	309.64	449.9	4.7	-6.3	-4.8	0.25	0.24	-4.24
475.0	1.07	306.65	474.9	4.9	-6.7	-5.0	0.49	0.44	-11.96
500.0	0.94	307.04	499.9	5.2	-7.0	-5.3	0.52	-0.52	1.56
525.0	1.03	312.94	524.9	5.5	-7.4	-5.6	0.54	0.36	23.60
550.0	1.23	317.18	549.9	5.8	-7.7	-6.0	0.87	0.80	16.96
575.0	1.38	319.98	574.9	6.3	-8.1	-6.4	0.65	0.60	11.20
600.0	1.40	323.78	599.9	6.7	-8.4	-6.9	0.38	0.08	15.20
625.0	1.47	330.29	624.9	7.3	-8.8	-7.4	0.71	0.28	26.04
650.0	1.49	346.08	649.9	7.9	-9.0	-8.0	1.63	0.08	63.16
675.0	1.45	11.40	674.9	8.5	-9.0	-8.6	2.58	-0.16	101.28
700.0	1.49	33.20	699.9	9.1	-8.8	-9.2	2.23	0.16	87.20
725.0	1.45	51.52	724.9	9.5	-8.4	-9.7	1.88	-0.16	73.28
750.0	1.43	73.61	749.8	9.8	-7.8	-9.9	2.21	-0.08	88.36
775.0	1.46	106.92	774.8	9.8	-7.2	-9.9	3.31	0.12	133.24
800.0	1.55	135.23	799.8	9.5	-6.7	-9.6	2.96	0.36	113.24
825.0	1.73	159.17	824.8	8.9	-6.3	-9.0	2.81	0.72	95.76
850.0	1.87	172.25	849.8	8.1	-6.1	-8.2	1.73	0.56	52.32
875.0	1.83	178.47	874.8	7.3	-6.1	-7.4	0.82	-0.16	24.88
900.0	1.81	180.50	899.8	6.5	-6.0	-6.6	0.27	-0.08	8.12
925.0	1.60	179.43	924.8	5.8	-6.0	-5.9	0.85	-0.84	-4.28
950.0	1.54	178.84	949.8	5.1	-6.0	-5.2	0.25	-0.24	-2.36
975.0	1.47	178.90	974.8	4.4	-6.0	-4.5	0.28	-0.28	0.24
1,000.0	1.50	179.50	999.7	3.8	-6.0	-3.9	0.14	0.12	2.40
1,025.0	1.44	181.03	1,024.7	3.2	-6.0	-3.3	0.29	-0.24	6.12
1,050.0	1.48	183.01	1,049.7	2.5	-6.0	-2.6	0.26	0.16	7.92
1,075.0	1.47	183.71	1,074.7	1.9	-6.1	-2.0	0.08	-0.04	2.80
1,100.0	1.48	182.10	1,099.7	1.2	-6.1	-1.3	0.17	0.04	-6.44
1,125.0	1.53	178.58	1,124.7	0.6	-6.1	-0.7	0.42	0.20	-14.08
1,150.0	1.45	181.67	1,149.7	-0.1	-6.1	0.0	0.45	-0.32	12.36
1,175.0	1.34	196.77	1,174.7	-0.7	-6.2	0.6	1.53	-0.44	60.40
1,200.0	1.29	208.61	1,199.7	-1.2	-6.4	1.1	1.10	-0.20	47.36
1,225.0	1.25	219.58	1,224.7	-1.7	-6.7	1.5	0.98	-0.16	43.88
1,250.0	1.25	216.91	1,249.7	-2.1	-7.1	2.0	0.23	0.00	-10.68
1,275.0	1.18	221.06	1,274.7	-2.5	-7.4	2.4	0.45	-0.28	16.60
1,300.0	1.16	224.73	1,299.7	-2.9	-7.8	2.7	0.31	-0.08	14.68
1,325.0	1.22	226.93	1,324.7	-3.2	-8.1	3.1	0.30	0.24	8.80
1,350.0	1.23	224.90	1,349.6	-3.6	-8.5	3.5	0.18	0.04	-8.12
1,375.0	1.25	223.09	1,374.6	-4.0	-8.9	3.8	0.18	0.08	-7.24
1,400.0	1.21	223.48	1,399.6	-4.4	-9.3	4.2	0.16	-0.16	1.56
1,425.0	1.20	222.58	1,424.6	-4.8	-9.6	4.6	0.09	-0.04	-3.60
1,450.0	1.16	224.61	1,449.6	-5.1	-10.0	5.0	0.23	-0.16	8.12
1,475.0	1.28	225.61	1,474.6	-5.5	-10.3	5.3	0.49	0.48	4.00
1,500.0	1.24	222.92	1,499.6	-5.9	-10.7	5.7	0.29	-0.16	-10.76

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1,525.0	1.27	220.33	1,524.6	-6.3	-11.1	6.1	0.26	0.12	-10.36
1,550.0	1.20	223.50	1,549.6	-6.7	-11.5	6.5	0.39	-0.28	12.68
1,575.0	1.18	220.70	1,574.6	-7.1	-11.8	6.9	0.25	-0.08	-11.20
1,600.0	1.17	222.73	1,599.6	-7.5	-12.1	7.3	0.17	-0.04	8.12
1,625.0	1.22	221.11	1,624.6	-7.9	-12.5	7.7	0.24	0.20	-6.48
1,650.0	1.25	223.59	1,649.6	-8.3	-12.9	8.1	0.25	0.12	9.92
1,675.0	1.28	225.78	1,674.6	-8.7	-13.2	8.4	0.23	0.12	8.76
1,700.0	1.28	223.21	1,699.6	-9.1	-13.6	8.8	0.23	0.00	-10.28
1,725.0	1.24	219.81	1,724.6	-9.5	-14.0	9.2	0.34	-0.16	-13.60
1,750.0	1.22	219.67	1,749.6	-9.9	-14.3	9.7	0.08	-0.08	-0.56
1,775.0	1.23	219.88	1,774.5	-10.3	-14.7	10.1	0.04	0.04	0.84
1,800.0	1.28	215.78	1,799.5	-10.7	-15.0	10.5	0.41	0.20	-16.40
1,825.0	1.30	212.75	1,824.5	-11.2	-15.3	10.9	0.28	0.08	-12.12
1,850.0	1.22	215.44	1,849.5	-11.6	-15.6	11.4	0.40	-0.32	10.76
1,875.0	1.23	213.93	1,874.5	-12.1	-15.9	11.8	0.14	0.04	-6.04
1,900.0	1.24	217.87	1,899.5	-12.5	-16.3	12.3	0.34	0.04	15.76
1,925.0	1.30	214.53	1,924.5	-13.0	-16.6	12.7	0.38	0.24	-13.36
1,950.0	1.32	213.22	1,949.5	-13.4	-16.9	13.2	0.14	0.08	-5.24
1,975.0	1.26	212.84	1,974.5	-13.9	-17.2	13.6	0.24	-0.24	-1.52
2,000.0	1.22	217.83	1,999.5	-14.4	-17.5	14.1	0.46	-0.16	19.96
2,025.0	1.26	216.25	2,024.5	-14.8	-17.8	14.5	0.21	0.16	-6.32
2,050.0	1.27	217.26	2,049.5	-15.2	-18.2	14.9	0.10	0.04	4.04
2,075.0	1.28	215.26	2,074.5	-15.7	-18.5	15.4	0.18	0.04	-8.00
2,100.0	1.30	210.86	2,099.5	-16.2	-18.8	15.8	0.40	0.08	-17.60
2,125.0	1.25	215.36	2,124.5	-16.6	-19.1	16.3	0.45	-0.20	18.00
2,150.0	1.28	214.79	2,149.5	-17.1	-19.4	16.8	0.13	0.12	-2.28
2,175.0	1.30	218.00	2,174.4	-17.5	-19.8	17.2	0.30	0.08	12.84
2,200.0	1.34	212.97	2,199.4	-18.0	-20.1	17.7	0.49	0.16	-20.12
2,225.0	1.27	213.29	2,224.4	-18.5	-20.4	18.1	0.28	-0.28	1.28
2,250.0	1.25	215.28	2,249.4	-18.9	-20.7	18.6	0.19	-0.08	7.96
2,275.0	1.29	214.98	2,274.4	-19.4	-21.0	19.0	0.16	0.16	-1.20
2,300.0	0.99	215.34	2,299.4	-19.8	-21.3	19.4	1.20	-1.20	1.44
2,325.0	0.11	315.04	2,324.4	-19.9	-21.5	19.6	4.06	-3.52	398.80
2,350.0	0.57	25.21	2,349.4	-19.8	-21.4	19.5	2.17	1.84	280.68
2,375.0	0.68	22.59	2,374.4	-19.6	-21.3	19.2	0.45	0.44	-10.48
2,400.0	0.74	21.49	2,399.4	-19.3	-21.2	18.9	0.25	0.24	-4.40
2,425.0	0.78	27.22	2,424.4	-19.0	-21.1	18.6	0.34	0.16	22.92
2,450.0	0.81	25.78	2,449.4	-18.7	-20.9	18.3	0.14	0.12	-5.76
2,475.0	0.84	33.05	2,474.4	-18.4	-20.7	18.0	0.44	0.12	29.08
2,500.0	0.93	27.10	2,499.4	-18.0	-20.5	17.7	0.51	0.36	-23.80
2,525.0	0.93	28.16	2,524.4	-17.7	-20.4	17.3	0.07	0.00	4.24
2,550.0	0.94	27.64	2,549.4	-17.3	-20.2	17.0	0.05	0.04	-2.08
2,575.0	1.00	32.57	2,574.4	-16.9	-20.0	16.6	0.41	0.24	19.72

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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)
2,600.0	1.05	36.18	2,599.4	-16.6	-19.7	16.2	0.33	0.20	14.44
2,625.0	1.06	34.44	2,624.4	-16.2	-19.4	15.9	0.13	0.04	-6.96
2,650.0	1.09	38.42	2,649.4	-15.8	-19.2	15.5	0.32	0.12	15.92
2,675.0	1.05	42.65	2,674.4	-15.5	-18.9	15.1	0.35	-0.16	16.92
2,700.0	1.12	48.81	2,699.4	-15.1	-18.5	14.8	0.54	0.28	24.64
2,725.0	1.22	49.90	2,724.4	-14.8	-18.1	14.5	0.41	0.40	4.36
2,750.0	1.21	47.68	2,749.4	-14.4	-17.7	14.2	0.19	-0.04	-8.88
2,775.0	1.15	48.30	2,774.4	-14.1	-17.3	13.8	0.25	-0.24	2.48
2,800.0	1.14	50.07	2,799.4	-13.8	-17.0	13.5	0.15	-0.04	7.08
2,825.0	1.23	54.52	2,824.3	-13.5	-16.6	13.2	0.51	0.36	17.80
2,850.0	1.23	49.77	2,849.3	-13.1	-16.1	12.9	0.41	0.00	-19.00
2,875.0	0.95	44.39	2,874.3	-12.8	-15.8	12.6	1.19	-1.12	-21.52
2,900.0	0.53	43.94	2,899.3	-12.6	-15.6	12.3	1.68	-1.68	-1.80
2,925.0	0.48	40.58	2,924.3	-12.4	-15.4	12.2	0.23	-0.20	-13.44
2,950.0	0.53	44.96	2,949.3	-12.3	-15.3	12.0	0.25	0.20	17.52
2,975.0	0.55	36.86	2,974.3	-12.1	-15.1	11.8	0.32	0.08	-32.40
3,000.0	0.55	37.82	2,999.3	-11.9	-15.0	11.6	0.04	0.00	3.84
3,025.0	0.56	24.15	3,024.3	-11.7	-14.8	11.4	0.53	0.04	-54.68
3,050.0	0.56	44.92	3,049.3	-11.5	-14.7	11.2	0.81	0.00	83.08
3,075.0	0.66	58.48	3,074.3	-11.3	-14.5	11.1	0.70	0.40	54.24
3,100.0	0.70	78.59	3,099.3	-11.2	-14.2	11.0	0.96	0.16	80.44
3,125.0	0.79	81.93	3,124.3	-11.2	-13.9	10.9	0.40	0.36	13.36
3,150.0	0.72	83.05	3,149.3	-11.1	-13.6	10.9	0.29	-0.28	4.48
3,175.0	0.60	117.88	3,174.3	-11.2	-13.3	10.9	1.65	-0.48	139.32
3,200.0	0.63	133.52	3,199.3	-11.3	-13.1	11.1	0.68	0.12	62.56
3,225.0	0.57	134.40	3,224.3	-11.5	-12.9	11.3	0.24	-0.24	3.52
3,250.0	0.45	199.40	3,249.3	-11.7	-12.8	11.5	2.23	-0.48	260.00
3,275.0	1.06	233.76	3,274.3	-11.9	-13.1	11.7	2.94	2.44	137.44
3,300.0	1.12	236.94	3,299.3	-12.2	-13.5	12.0	0.34	0.24	12.72
3,325.0	1.16	239.98	3,324.3	-12.4	-13.9	12.2	0.29	0.16	12.16
3,350.0	1.21	240.22	3,349.3	-12.7	-14.3	12.5	0.20	0.20	0.96
3,375.0	1.13	234.43	3,374.3	-13.0	-14.8	12.7	0.57	-0.32	-23.16
3,400.0	1.13	232.35	3,399.3	-13.3	-15.2	13.0	0.16	0.00	-8.32
3,425.0	1.21	227.64	3,424.3	-13.6	-15.5	13.3	0.50	0.32	-18.84
3,450.0	1.17	215.80	3,449.3	-14.0	-15.9	13.7	0.99	-0.16	-47.36
3,475.0	1.12	220.69	3,474.3	-14.4	-16.2	14.1	0.44	-0.20	19.56
3,500.0	1.22	218.14	3,499.3	-14.8	-16.5	14.5	0.45	0.40	-10.20
3,525.0	1.24	217.38	3,524.3	-15.2	-16.8	14.9	0.10	0.08	-3.04
3,550.0	1.19	216.71	3,549.3	-15.6	-17.2	15.3	0.21	-0.20	-2.68
3,575.0	1.18	217.61	3,574.2	-16.0	-17.5	15.7	0.08	-0.04	3.60
3,600.0	1.16	212.85	3,599.2	-16.4	-17.8	16.1	0.40	-0.08	-19.04
3,625.0	1.07	208.91	3,624.2	-16.9	-18.0	16.6	0.47	-0.36	-15.76
3,650.0	1.06	207.31	3,649.2	-17.3	-18.2	17.0	0.13	-0.04	-6.40
3,675.0	1.10	208.93	3,674.2	-17.7	-18.5	17.4	0.20	0.16	6.48

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	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	1.07	203.30	3,699.2	-18.1	-18.7	17.8	0.44	-0.12	-22.52
3,725.0	1.00	202.13	3,724.2	-18.5	-18.8	18.2	0.29	-0.28	-4.68
3,750.0	0.98	201.50	3,749.2	-18.9	-19.0	18.6	0.09	-0.08	-2.52
3,775.0	1.00	200.11	3,774.2	-19.3	-19.2	19.0	0.13	0.08	-5.56
3,800.0	0.98	191.66	3,799.2	-19.7	-19.3	19.4	0.59	-0.08	-33.80
3,825.0	0.99	188.46	3,824.2	-20.2	-19.4	19.8	0.22	0.04	-12.80
3,850.0	1.01	190.46	3,849.2	-20.6	-19.4	20.3	0.16	0.08	8.00
3,875.0	1.10	182.67	3,874.2	-21.0	-19.5	20.7	0.68	0.36	-31.16
3,900.0	1.30	165.11	3,899.2	-21.6	-19.4	21.2	1.66	0.80	-70.24
3,925.0	1.49	159.53	3,924.2	-22.1	-19.2	21.8	0.93	0.76	-22.32
3,950.0	1.61	160.32	3,949.2	-22.8	-19.0	22.5	0.49	0.48	3.16
3,975.0	1.89	155.57	3,974.2	-23.5	-18.7	23.2	1.26	1.12	-19.00
4,000.0	1.99	152.79	3,999.2	-24.2	-18.3	23.9	0.55	0.40	-11.12
4,025.0	2.04	153.86	4,024.1	-25.0	-17.9	24.7	0.25	0.20	4.28
4,050.0	2.05	154.18	4,049.1	-25.8	-17.6	25.5	0.06	0.04	1.28
4,075.0	2.12	152.30	4,074.1	-26.6	-17.1	26.4	0.39	0.28	-7.52
4,100.0	2.09	153.40	4,099.1	-27.5	-16.7	27.2	0.20	-0.12	4.40
4,125.0	2.15	158.10	4,124.1	-28.3	-16.3	28.0	0.74	0.24	18.80
4,150.0	2.29	157.74	4,149.1	-29.2	-16.0	28.9	0.56	0.56	-1.44
4,175.0	2.26	156.89	4,174.0	-30.1	-15.6	29.9	0.18	-0.12	-3.40
4,200.0	1.86	160.20	4,199.0	-30.9	-15.3	30.7	1.67	-1.60	13.24
4,225.0	1.26	181.30	4,224.0	-31.6	-15.1	31.4	3.28	-2.40	84.40
4,250.0	1.12	193.82	4,249.0	-32.1	-15.2	31.9	1.18	-0.56	50.08
4,275.0	1.14	195.06	4,274.0	-32.6	-15.3	32.3	0.13	0.08	4.96
4,300.0	1.16	197.23	4,299.0	-33.1	-15.5	32.8	0.19	0.08	8.68
4,325.0	1.14	200.86	4,324.0	-33.6	-15.6	33.3	0.30	-0.08	14.52
4,350.0	1.22	201.36	4,349.0	-34.0	-15.8	33.8	0.32	0.32	2.00
4,375.0	1.33	202.46	4,374.0	-34.5	-16.0	34.3	0.45	0.44	4.40
4,400.0	1.32	200.23	4,399.0	-35.1	-16.2	34.8	0.21	-0.04	-8.92
4,425.0	1.30	199.44	4,424.0	-35.6	-16.4	35.4	0.11	-0.08	-3.16
4,450.0	1.30	202.25	4,449.0	-36.2	-16.6	35.9	0.25	0.00	11.24
4,475.0	1.36	203.13	4,473.9	-36.7	-16.9	36.4	0.25	0.24	3.52
4,500.0	1.43	200.85	4,498.9	-37.3	-17.1	37.0	0.36	0.28	-9.12
4,525.0	1.46	195.80	4,523.9	-37.9	-17.3	37.6	0.52	0.12	-20.20
4,550.0	1.45	198.25	4,548.9	-38.5	-17.5	38.2	0.25	-0.04	9.80
4,575.0	1.59	197.12	4,573.9	-39.1	-17.7	38.8	0.57	0.56	-4.52
4,600.0	1.65	194.48	4,598.9	-39.8	-17.9	39.5	0.38	0.24	-10.56
4,625.0	1.63	193.63	4,623.9	-40.5	-18.0	40.2	0.13	-0.08	-3.40
4,650.0	1.55	195.45	4,648.9	-41.1	-18.2	40.8	0.38	-0.32	7.28
4,675.0	1.61	187.66	4,673.9	-41.8	-18.3	41.5	0.89	0.24	-31.16
4,700.0	1.52	181.35	4,698.9	-42.5	-18.4	42.2	0.78	-0.36	-25.24
4,725.0	1.53	181.78	4,723.9	-43.2	-18.4	42.9	0.06	0.04	1.72
4,750.0	1.75	172.92	4,748.8	-43.9	-18.4	43.6	1.34	0.88	-35.44

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	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	1.92	164.41	4,773.8	-44.6	-18.2	44.3	1.28	0.68	-34.04
4,800.0	2.32	156.65	4,798.8	-45.5	-17.9	45.2	1.97	1.60	-31.04
4,825.0	2.45	156.56	4,823.8	-46.5	-17.5	46.2	0.52	0.52	-0.36
4,850.0	2.53	155.71	4,848.8	-47.5	-17.1	47.2	0.35	0.32	-3.40
4,875.0	2.06	157.73	4,873.8	-48.4	-16.7	48.1	1.91	-1.88	8.08
4,900.0	1.64	162.83	4,898.7	-49.1	-16.4	48.9	1.80	-1.68	20.40
4,925.0	1.57	164.80	4,923.7	-49.8	-16.2	49.5	0.36	-0.28	7.88
4,950.0	1.56	163.25	4,948.7	-50.5	-16.0	50.2	0.17	-0.04	-6.20
4,975.0	1.58	164.83	4,973.7	-51.1	-15.8	50.9	0.19	0.08	6.32
5,000.0	1.55	167.51	4,998.7	-51.8	-15.6	51.5	0.32	-0.12	10.72
5,025.0	1.65	163.20	5,023.7	-52.5	-15.5	52.2	0.63	0.40	-17.24
5,050.0	2.04	164.18	5,048.7	-53.2	-15.2	53.0	1.57	1.56	3.92
5,075.0	2.40	170.43	5,073.7	-54.2	-15.0	53.9	1.73	1.44	25.00
5,100.0	2.44	171.31	5,098.6	-55.2	-14.9	55.0	0.22	0.16	3.52
5,125.0	2.46	171.93	5,123.6	-56.3	-14.7	56.0	0.13	0.08	2.48
5,150.0	2.37	175.99	5,148.6	-57.3	-14.6	57.1	0.77	-0.36	16.24
5,175.0	2.11	180.84	5,173.6	-58.3	-14.6	58.1	1.29	-1.04	19.40
5,200.0	2.14	177.89	5,198.6	-59.2	-14.6	59.0	0.45	0.12	-11.80
5,225.0	1.85	183.16	5,223.5	-60.1	-14.6	59.9	1.37	-1.16	21.08
5,250.0	1.23	189.38	5,248.5	-60.8	-14.6	60.5	2.56	-2.48	24.88
5,275.0	0.41	203.15	5,273.5	-61.1	-14.7	60.9	3.35	-3.28	55.08
5,300.0	0.31	212.67	5,298.5	-61.3	-14.8	61.0	0.46	-0.40	38.08
5,325.0	0.35	212.98	5,323.5	-61.4	-14.9	61.1	0.16	0.16	1.24
5,350.0	0.40	204.99	5,348.5	-61.5	-14.9	61.3	0.29	0.20	-31.96
5,375.0	0.39	206.08	5,373.5	-61.7	-15.0	61.4	0.05	-0.04	4.36
5,400.0	0.35	198.76	5,398.5	-61.8	-15.1	61.6	0.25	-0.16	-29.28
5,425.0	0.33	205.17	5,423.5	-62.0	-15.1	61.7	0.17	-0.08	25.64
5,450.0	0.38	212.11	5,448.5	-62.1	-15.2	61.8	0.26	0.20	27.76
5,475.0	0.34	204.34	5,473.5	-62.2	-15.3	62.0	0.25	-0.16	-31.08
5,500.0	0.32	212.37	5,498.5	-62.4	-15.3	62.1	0.20	-0.08	32.12
5,525.0	0.39	213.52	5,523.5	-62.5	-15.4	62.2	0.28	0.28	4.60
5,550.0	0.40	208.24	5,548.5	-62.6	-15.5	62.4	0.15	0.04	-21.12
5,575.0	0.35	198.26	5,573.5	-62.8	-15.6	62.5	0.33	-0.20	-39.92
5,600.0	0.32	215.81	5,598.5	-62.9	-15.6	62.7	0.43	-0.12	70.20
5,625.0	0.39	204.90	5,623.5	-63.1	-15.7	62.8	0.39	0.28	-43.64
5,650.0	0.33	213.23	5,648.5	-63.2	-15.8	62.9	0.32	-0.24	33.32
5,675.0	0.37	208.84	5,673.5	-63.3	-15.9	63.1	0.19	0.16	-17.56
5,700.0	0.36	222.01	5,698.5	-63.4	-16.0	63.2	0.34	-0.04	52.68
5,725.0	0.35	203.61	5,723.5	-63.6	-16.1	63.3	0.46	-0.04	-73.60
5,750.0	0.30	171.83	5,748.5	-63.7	-16.1	63.4	0.74	-0.20	-127.12
5,775.0	0.24	164.52	5,773.5	-63.8	-16.1	63.6	0.28	-0.24	-29.24
5,800.0	0.18	138.03	5,798.5	-63.9	-16.0	63.6	0.45	-0.24	-105.96
5,825.0	0.50	70.88	5,823.5	-63.9	-15.9	63.6	1.84	1.28	-268.60

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	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	0.98	59.95	5,848.5	-63.8	-15.6	63.5	1.99	1.92	-43.72
5,875.0	1.07	58.56	5,873.5	-63.5	-15.2	63.3	0.37	0.36	-5.56
5,900.0	0.98	57.56	5,898.5	-63.3	-14.8	63.0	0.37	-0.36	-4.00
5,925.0	1.02	54.57	5,923.5	-63.0	-14.5	62.8	0.26	0.16	-11.96
5,950.0	1.07	62.75	5,948.5	-62.8	-14.1	62.6	0.63	0.20	32.72
5,975.0	1.02	60.40	5,973.5	-62.6	-13.7	62.4	0.26	-0.20	-9.40
6,000.0	0.99	56.98	5,998.5	-62.4	-13.3	62.1	0.27	-0.12	-13.68
6,025.0	1.03	60.13	6,023.5	-62.1	-12.9	61.9	0.27	0.16	12.60
6,050.0	1.07	61.02	6,048.5	-61.9	-12.5	61.7	0.17	0.16	3.56
6,075.0	1.03	59.98	6,073.5	-61.7	-12.1	61.5	0.18	-0.16	-4.16
6,100.0	1.01	61.16	6,098.5	-61.5	-11.7	61.3	0.12	-0.08	4.72
6,125.0	1.10	63.10	6,123.5	-61.3	-11.3	61.1	0.39	0.36	7.76
6,150.0	1.10	59.03	6,148.5	-61.0	-10.9	60.8	0.31	0.00	-16.28
6,175.0	1.06	62.12	6,173.5	-60.8	-10.5	60.6	0.28	-0.16	12.36
6,200.0	1.09	64.83	6,198.5	-60.6	-10.1	60.4	0.24	0.12	10.84
6,225.0	1.20	64.53	6,223.5	-60.4	-9.6	60.2	0.44	0.44	-1.20
6,250.0	1.18	66.24	6,248.4	-60.2	-9.2	60.0	0.16	-0.08	6.84
6,275.0	1.09	74.25	6,273.4	-60.0	-8.7	59.8	0.73	-0.36	32.04
6,300.0	1.27	108.28	6,298.4	-60.0	-8.2	59.9	2.85	0.72	136.12
6,325.0	1.47	119.67	6,323.4	-60.3	-7.7	60.1	1.35	0.80	45.56
6,350.0	1.40	118.11	6,348.4	-60.6	-7.1	60.4	0.32	-0.28	-6.24
6,375.0	1.43	122.23	6,373.4	-60.9	-6.6	60.7	0.42	0.12	16.48
6,400.0	1.43	121.32	6,398.4	-61.2	-6.1	61.1	0.09	0.00	-3.64
6,425.0	1.47	121.22	6,423.4	-61.5	-5.5	61.4	0.16	0.16	-0.40
6,450.0	1.46	119.72	6,448.4	-61.8	-5.0	61.8	0.16	-0.04	-6.00
6,475.0	1.47	118.09	6,473.4	-62.2	-4.4	62.1	0.17	0.04	-6.52
6,500.0	1.48	114.72	6,498.4	-62.4	-3.8	62.4	0.35	0.04	-13.48
6,525.0	1.59	112.26	6,523.4	-62.7	-3.2	62.6	0.51	0.44	-9.84
6,550.0	1.42	115.54	6,548.4	-63.0	-2.6	62.9	0.76	-0.68	13.12
6,575.0	1.54	116.19	6,573.3	-63.3	-2.0	63.2	0.48	0.48	2.60
6,600.0	1.52	115.06	6,598.3	-63.5	-1.4	63.5	0.14	-0.08	-4.52
6,625.0	1.56	110.51	6,623.3	-63.8	-0.8	63.8	0.51	0.16	-18.20
6,650.0	1.43	110.17	6,648.3	-64.0	-0.2	64.0	0.52	-0.52	-1.36
6,675.0	1.32	102.40	6,673.3	-64.2	0.4	64.2	0.86	-0.44	-31.08
6,700.0	1.25	84.12	6,698.3	-64.2	0.9	64.2	1.66	-0.28	-73.12
6,725.0	1.16	75.18	6,723.3	-64.1	1.4	64.2	0.83	-0.36	-35.76
6,750.0	1.17	76.16	6,748.3	-64.0	1.9	64.0	0.09	0.04	3.92
6,775.0	1.18	78.61	6,773.3	-63.9	2.4	63.9	0.20	0.04	9.80
6,800.0	1.19	76.32	6,798.3	-63.8	2.9	63.8	0.19	0.04	-9.16
6,825.0	1.19	75.19	6,823.3	-63.7	3.4	63.7	0.09	0.00	-4.52
6,850.0	0.98	88.28	6,848.3	-63.6	3.9	63.6	1.29	-0.84	52.36
6,875.0	1.07	116.43	6,873.3	-63.7	4.3	63.7	2.02	0.36	112.60
6,900.0	1.18	130.54	6,898.3	-64.0	4.7	64.0	1.19	0.44	56.44
6,925.0	1.30	134.85	6,923.3	-64.3	5.1	64.4	0.61	0.48	17.24

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	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	1.26	138.46	6,948.3	-64.7	5.5	64.8	0.36	-0.16	14.44
6,975.0	1.30	139.46	6,973.3	-65.2	5.9	65.2	0.18	0.16	4.00
7,000.0	1.26	137.35	6,998.2	-65.6	6.3	65.7	0.25	-0.16	-8.44
7,025.0	1.30	138.76	7,023.2	-66.0	6.6	66.1	0.20	0.16	5.64
7,050.0	1.29	141.32	7,048.2	-66.4	7.0	66.5	0.23	-0.04	10.24
7,075.0	1.28	142.17	7,073.2	-66.9	7.3	67.0	0.09	-0.04	3.40
7,100.0	1.38	139.26	7,098.2	-67.3	7.7	67.4	0.48	0.40	-11.64
7,125.0	1.29	138.86	7,123.2	-67.7	8.1	67.9	0.36	-0.36	-1.60
7,150.0	1.30	143.73	7,148.2	-68.2	8.4	68.3	0.44	0.04	19.48
7,175.0	1.21	147.41	7,173.2	-68.6	8.7	68.8	0.48	-0.36	14.72
7,200.0	1.19	147.61	7,198.2	-69.1	9.0	69.2	0.08	-0.08	0.80
7,225.0	1.14	146.94	7,223.2	-69.5	9.3	69.6	0.21	-0.20	-2.68
7,250.0	1.15	150.87	7,248.2	-69.9	9.6	70.1	0.32	0.04	15.72
7,275.0	1.21	149.97	7,273.2	-70.4	9.8	70.5	0.25	0.24	-3.60
7,300.0	1.23	145.35	7,298.2	-70.8	10.1	71.0	0.40	0.08	-18.48
7,325.0	1.17	146.49	7,323.2	-71.3	10.4	71.4	0.26	-0.24	4.56
7,350.0	1.27	131.63	7,348.2	-71.7	10.7	71.8	1.32	0.40	-59.44
7,375.0	1.45	120.11	7,373.2	-72.0	11.2	72.2	1.31	0.72	-46.08
7,400.0	1.43	119.18	7,398.1	-72.3	11.8	72.5	0.12	-0.08	-3.72
7,425.0	1.39	118.71	7,423.1	-72.6	12.3	72.8	0.17	-0.16	-1.88
7,450.0	1.44	118.27	7,448.1	-72.9	12.9	73.1	0.20	0.20	-1.76
7,475.0	1.48	120.89	7,473.1	-73.2	13.4	73.4	0.31	0.16	10.48
7,500.0	1.50	117.81	7,498.1	-73.5	14.0	73.8	0.33	0.08	-12.32
7,525.0	1.48	117.15	7,523.1	-73.8	14.5	74.1	0.11	-0.08	-2.64
7,550.0	1.44	119.63	7,548.1	-74.1	15.1	74.4	0.30	-0.16	9.92
7,575.0	1.46	121.09	7,573.1	-74.5	15.7	74.7	0.17	0.08	5.84
7,600.0	1.48	118.87	7,598.1	-74.8	16.2	75.0	0.24	0.08	-8.88
7,625.0	1.45	117.38	7,623.1	-75.1	16.8	75.3	0.19	-0.12	-5.96
7,650.0	1.42	115.70	7,648.1	-75.4	17.3	75.6	0.21	-0.12	-6.72
7,675.0	1.47	116.50	7,673.1	-75.6	17.9	75.9	0.22	0.20	3.20
7,700.0	1.50	117.32	7,698.1	-75.9	18.5	76.2	0.15	0.12	3.28
7,725.0	1.53	115.09	7,723.0	-76.2	19.1	76.5	0.26	0.12	-8.92
7,750.0	1.44	116.42	7,748.0	-76.5	19.7	76.8	0.39	-0.36	5.32
7,775.0	1.48	116.01	7,773.0	-76.8	20.2	77.1	0.17	0.16	-1.64
7,800.0	1.54	116.81	7,798.0	-77.1	20.8	77.4	0.25	0.24	3.20
7,825.0	1.61	113.92	7,823.0	-77.4	21.4	77.7	0.42	0.28	-11.56
7,850.0	1.58	113.44	7,848.0	-77.7	22.1	78.0	0.13	-0.12	-1.92
7,875.0	1.59	115.54	7,873.0	-77.9	22.7	78.3	0.24	0.04	8.40
7,900.0	1.69	116.35	7,898.0	-78.3	23.3	78.6	0.41	0.40	3.24
7,925.0	1.60	115.53	7,923.0	-78.6	24.0	78.9	0.37	-0.36	-3.28
7,950.0	1.61	115.67	7,948.0	-78.9	24.6	79.3	0.04	0.04	0.56
7,975.0	1.60	118.07	7,972.9	-79.2	25.2	79.6	0.27	-0.04	9.60
8,000.0	1.65	115.49	7,997.9	-79.5	25.9	79.9	0.35	0.20	-10.32

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
8,025.0	1.64	113.43	8,022.9	-79.8	26.5	80.2	0.24	-0.04	-8.24
8,050.0	1.61	114.14	8,047.9	-80.1	27.2	80.5	0.14	-0.12	2.84
8,075.0	1.60	113.33	8,072.9	-80.4	27.8	80.8	0.10	-0.04	-3.24
8,100.0	1.45	103.93	8,097.9	-80.6	28.5	81.0	1.16	-0.60	-37.60
8,125.0	1.29	74.07	8,122.9	-80.6	29.0	81.0	2.89	-0.64	-119.44
8,150.0	1.26	73.43	8,147.9	-80.4	29.6	80.9	0.13	-0.12	-2.56
8,175.0	1.31	74.32	8,172.9	-80.3	30.1	80.7	0.22	0.20	3.56
8,200.0	1.31	74.11	8,197.9	-80.1	30.7	80.6	0.02	0.00	-0.84
8,225.0	1.31	75.89	8,222.9	-80.0	31.2	80.5	0.16	0.00	7.12
8,250.0	1.20	72.62	8,247.9	-79.8	31.7	80.3	0.52	-0.44	-13.08
8,275.0	1.16	72.94	8,272.9	-79.7	32.2	80.2	0.16	-0.16	1.28
8,300.0	1.22	74.37	8,297.9	-79.5	32.7	80.0	0.27	0.24	5.72
8,325.0	1.13	72.93	8,322.8	-79.4	33.2	79.9	0.38	-0.36	-5.76
8,350.0	1.11	73.16	8,347.8	-79.2	33.7	79.8	0.08	-0.08	0.92
8,375.0	1.03	76.88	8,372.8	-79.1	34.1	79.7	0.42	-0.32	14.88
8,400.0	1.10	74.35	8,397.8	-79.0	34.6	79.5	0.34	0.28	-10.12
8,425.0	1.11	74.74	8,422.8	-78.9	35.0	79.4	0.05	0.04	1.56
8,450.0	1.10	79.24	8,447.8	-78.8	35.5	79.3	0.35	-0.04	18.00
8,475.0	1.18	76.44	8,472.8	-78.7	36.0	79.2	0.39	0.32	-11.20
8,500.0	1.08	74.57	8,497.8	-78.5	36.5	79.1	0.43	-0.40	-7.48
8,525.0	1.06	80.18	8,522.8	-78.4	36.9	79.0	0.43	-0.08	22.44
8,550.0	1.03	78.07	8,547.8	-78.3	37.4	78.9	0.20	-0.12	-8.44
8,575.0	0.97	80.76	8,572.8	-78.3	37.8	78.9	0.30	-0.24	10.76
8,600.0	0.96	79.46	8,597.8	-78.2	38.2	78.8	0.10	-0.04	-5.20
8,625.0	1.01	80.77	8,622.8	-78.1	38.6	78.7	0.22	0.20	5.24
8,650.0	1.05	79.79	8,647.8	-78.0	39.1	78.7	0.17	0.16	-3.92
8,675.0	1.06	83.82	8,672.8	-78.0	39.5	78.6	0.30	0.04	16.12
8,700.0	1.08	80.76	8,697.8	-77.9	40.0	78.6	0.24	0.08	-12.24
8,725.0	1.02	79.81	8,722.8	-77.8	40.5	78.5	0.25	-0.24	-3.80
8,750.0	1.09	81.02	8,747.8	-77.8	40.9	78.4	0.29	0.28	4.84
8,775.0	1.12	76.61	8,772.8	-77.7	41.4	78.3	0.36	0.12	-17.64
8,800.0	1.16	78.79	8,797.8	-77.6	41.9	78.2	0.24	0.16	8.72
8,825.0	1.14	81.07	8,822.8	-77.5	42.4	78.1	0.20	-0.08	9.12
8,850.0	1.22	78.86	8,847.8	-77.4	42.9	78.1	0.37	0.32	-8.84
8,875.0	1.21	79.52	8,872.7	-77.3	43.4	78.0	0.07	-0.04	2.64
8,900.0	1.24	81.09	8,897.7	-77.2	43.9	77.9	0.18	0.12	6.28
8,925.0	1.31	79.57	8,922.7	-77.1	44.5	77.8	0.31	0.28	-6.08
8,950.0	1.30	80.29	8,947.7	-77.0	45.0	77.7	0.08	-0.04	2.88
8,975.0	1.39	81.96	8,972.7	-76.9	45.6	77.6	0.39	0.36	6.68
9,000.0	1.41	79.06	8,997.7	-76.8	46.2	77.5	0.29	0.08	-11.60
9,025.0	1.43	80.75	9,022.7	-76.7	46.8	77.4	0.19	0.08	6.76
9,050.0	1.52	84.19	9,047.7	-76.6	47.5	77.4	0.50	0.36	13.76
9,075.0	1.54	82.55	9,072.7	-76.5	48.1	77.3	0.19	0.08	-6.56

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
9,100.0	1.48	83.82	9,097.7	-76.5	48.8	77.2	0.27	-0.24	5.08
9,125.0	1.58	84.34	9,122.7	-76.4	49.4	77.2	0.40	0.40	2.08
9,150.0	1.71	94.42	9,147.7	-76.4	50.2	77.2	1.27	0.52	40.32
9,175.0	1.78	101.01	9,172.6	-76.5	50.9	77.3	0.85	0.28	26.36
9,200.0	1.81	102.05	9,197.6	-76.7	51.7	77.5	0.18	0.12	4.16
9,225.0	1.76	100.77	9,222.6	-76.8	52.4	77.6	0.26	-0.20	-5.12
9,250.0	1.78	102.41	9,247.6	-77.0	53.2	77.8	0.22	0.08	6.56
9,275.0	1.90	101.74	9,272.6	-77.1	54.0	78.0	0.49	0.48	-2.68
9,300.0	1.86	101.73	9,297.6	-77.3	54.8	78.2	0.16	-0.16	-0.04
9,325.0	1.73	106.69	9,322.6	-77.5	55.5	78.4	0.81	-0.52	19.84
9,350.0	1.55	134.62	9,347.6	-77.8	56.1	78.7	3.24	-0.72	111.72
9,375.0	1.53	140.46	9,372.6	-78.3	56.6	79.2	0.63	-0.08	23.36
9,400.0	1.47	144.19	9,397.5	-78.8	57.0	79.8	0.46	-0.24	14.92
9,425.0	1.54	143.48	9,422.5	-79.4	57.4	80.3	0.29	0.28	-2.84
9,450.0	1.48	142.27	9,447.5	-79.9	57.8	80.8	0.27	-0.24	-4.84
9,475.0	1.57	136.41	9,472.5	-80.4	58.2	81.3	0.72	0.36	-23.44
9,500.0	1.64	133.64	9,497.5	-80.9	58.7	81.8	0.42	0.28	-11.08
9,525.0	1.72	129.36	9,522.5	-81.4	59.3	82.3	0.60	0.32	-17.12
9,550.0	1.72	124.68	9,547.5	-81.8	59.9	82.8	0.56	0.00	-18.72
9,575.0	1.78	126.18	9,572.5	-82.3	60.5	83.2	0.30	0.24	6.00
9,600.0	1.82	125.74	9,597.5	-82.7	61.1	83.7	0.17	0.16	-1.76
9,625.0	1.61	120.23	9,622.5	-83.1	61.7	84.1	1.07	-0.84	-22.04
9,650.0	1.37	109.91	9,647.4	-83.4	62.3	84.4	1.44	-0.96	-41.28
9,675.0	1.27	105.71	9,672.4	-83.6	62.9	84.6	0.56	-0.40	-16.80
9,700.0	1.29	104.87	9,697.4	-83.7	63.4	84.8	0.11	0.08	-3.36
9,725.0	1.35	99.19	9,722.4	-83.9	64.0	84.9	0.58	0.24	-22.72
9,750.0	1.41	97.35	9,747.4	-84.0	64.6	85.0	0.30	0.24	-7.36
9,775.0	1.31	98.01	9,772.4	-84.0	65.2	85.1	0.40	-0.40	2.64
9,800.0	1.26	99.91	9,797.4	-84.1	65.7	85.2	0.26	-0.20	7.60
9,825.0	1.02	99.89	9,822.4	-84.2	66.2	85.3	0.96	-0.96	-0.08
9,850.0	0.82	101.46	9,847.4	-84.3	66.6	85.3	0.81	-0.80	6.28
9,875.0	0.66	102.88	9,872.4	-84.3	66.9	85.4	0.64	-0.64	5.68
9,900.0	0.68	111.71	9,897.4	-84.4	67.2	85.5	0.42	0.08	35.32
9,925.0	0.63	116.60	9,922.4	-84.6	67.5	85.6	0.30	-0.20	19.56
9,950.0	0.68	115.92	9,947.4	-84.7	67.7	85.8	0.20	0.20	-2.72
9,975.0	0.60	109.77	9,972.4	-84.8	68.0	85.9	0.42	-0.32	-24.60
10,000.0	0.53	121.11	9,997.4	-84.9	68.2	86.0	0.53	-0.28	45.36
10,025.0	0.57	120.76	10,022.4	-85.0	68.4	86.1	0.16	0.16	-1.40
10,050.0	0.58	118.28	10,047.4	-85.1	68.6	86.2	0.11	0.04	-9.92
10,075.0	0.56	117.41	10,072.4	-85.3	68.8	86.4	0.09	-0.08	-3.48
10,100.0	0.53	124.69	10,097.4	-85.4	69.0	86.5	0.30	-0.12	29.12
10,125.0	0.64	131.04	10,122.4	-85.5	69.2	86.6	0.51	0.44	25.40
10,150.0	0.65	131.77	10,147.4	-85.7	69.4	86.8	0.05	0.04	2.92
10,175.0	0.67	129.01	10,172.4	-85.9	69.7	87.0	0.15	0.08	-11.04

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Survey									
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Vertical Section (usft)	Dogleg Rate (°/100usft)	Build Rate (°/100usft)	Turn Rate (°/100usft)
10,200.0	0.68	139.28	10,197.4	-86.1	69.9	87.2	0.48	0.04	41.08
10,225.0	0.70	143.63	10,222.4	-86.3	70.1	87.5	0.22	0.08	17.40
10,250.0	0.69	157.36	10,247.4	-86.6	70.2	87.7	0.67	-0.04	54.92
10,275.0	0.76	164.36	10,272.4	-86.9	70.3	88.0	0.45	0.28	28.00
10,300.0	0.72	162.02	10,297.4	-87.2	70.4	88.3	0.20	-0.16	-9.36
10,325.0	0.71	161.82	10,322.4	-87.5	70.5	88.6	0.04	-0.04	-0.80
10,350.0	0.71	162.38	10,347.4	-87.8	70.6	88.9	0.03	0.00	2.24
10,375.0	0.67	170.94	10,372.4	-88.1	70.7	89.2	0.44	-0.16	34.24
10,400.0	0.68	177.23	10,397.4	-88.4	70.7	89.5	0.30	0.04	25.16
10,425.0	0.59	174.67	10,422.4	-88.7	70.7	89.8	0.38	-0.36	-10.24
10,450.0	0.34	165.78	10,447.4	-88.9	70.7	90.0	1.04	-1.00	-35.56
10,475.0	0.18	155.08	10,472.4	-89.0	70.8	90.1	0.67	-0.64	-42.80
10,500.0	0.16	116.71	10,497.4	-89.0	70.8	90.2	0.45	-0.08	-153.48
10,525.0	0.33	98.01	10,522.4	-89.1	70.9	90.2	0.74	0.68	-74.80
10,550.0	0.37	96.84	10,547.4	-89.1	71.1	90.2	0.16	0.16	-4.68
10,575.0	0.45	93.21	10,572.4	-89.1	71.3	90.2	0.34	0.32	-14.52
10,600.0	0.58	91.03	10,597.4	-89.1	71.5	90.2	0.53	0.52	-8.72
10,625.0	0.64	90.44	10,622.4	-89.1	71.8	90.2	0.24	0.24	-2.36
10,650.0	0.66	87.09	10,647.4	-89.1	72.0	90.2	0.17	0.08	-13.40
10,675.0	0.75	86.32	10,672.4	-89.1	72.3	90.2	0.36	0.36	-3.08
10,700.0	0.82	78.76	10,697.3	-89.0	72.7	90.2	0.50	0.28	-30.24
10,725.0	0.83	68.98	10,722.3	-88.9	73.0	90.1	0.56	0.04	-39.12
10,750.0	0.93	60.92	10,747.3	-88.8	73.4	89.9	0.64	0.40	-32.24
10,775.0	1.08	56.78	10,772.3	-88.5	73.7	89.7	0.67	0.60	-16.56
10,800.0	1.22	57.53	10,797.3	-88.3	74.2	89.4	0.56	0.56	3.00
10,825.0	1.37	48.84	10,822.3	-87.9	74.6	89.1	0.99	0.60	-34.76
10,850.0	1.40	40.81	10,847.3	-87.5	75.0	88.7	0.78	0.12	-32.12
10,875.0	1.47	42.03	10,872.3	-87.0	75.5	88.2	0.31	0.28	4.88
10,900.0	1.60	39.92	10,897.3	-86.5	75.9	87.7	0.57	0.52	-8.44
10,925.0	1.65	33.01	10,922.3	-86.0	76.3	87.2	0.81	0.20	-27.64
10,950.0	1.64	31.06	10,947.3	-85.3	76.7	86.6	0.23	-0.04	-7.80
10,975.0	1.79	26.86	10,972.3	-84.7	77.1	85.9	0.78	0.60	-16.80
11,000.0	1.89	21.19	10,997.3	-84.0	77.4	85.2	0.83	0.40	-22.68
11,025.0	1.94	19.55	11,022.2	-83.2	77.7	84.4	0.30	0.20	-6.56
11,050.0	2.00	19.48	11,047.2	-82.4	78.0	83.6	0.24	0.24	-0.28
11,075.0	2.08	18.25	11,072.2	-81.5	78.2	82.8	0.36	0.32	-4.92
11,100.0	2.05	15.38	11,097.2	-80.7	78.5	81.9	0.43	-0.12	-11.48
11,125.0	1.95	13.56	11,122.2	-79.8	78.7	81.1	0.47	-0.40	-7.28
11,150.0	1.53	24.01	11,147.2	-79.1	79.0	80.4	2.10	-1.68	41.80
11,175.0	1.20	41.93	11,172.2	-78.6	79.3	79.9	2.14	-1.32	71.68
11,200.0	1.19	41.60	11,197.2	-78.2	79.6	79.5	0.05	-0.04	-1.32
11,225.0	1.15	40.50	11,222.2	-77.8	80.0	79.1	0.18	-0.16	-4.40
11,250.0	1.26	45.17	11,247.1	-77.4	80.3	78.7	0.59	0.44	18.68

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	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)
11,275.0	1.26	45.19	11,272.1	-77.1	80.7	78.3	0.00	0.00	0.08
11,300.0	1.34	47.66	11,297.1	-76.7	81.1	78.0	0.39	0.32	9.88
11,325.0	1.34	43.27	11,322.1	-76.3	81.5	77.6	0.41	0.00	-17.56
11,350.0	1.33	43.76	11,347.1	-75.8	81.9	77.1	0.06	-0.04	1.96
11,375.0	1.31	43.94	11,372.1	-75.4	82.3	76.7	0.08	-0.08	0.72
11,400.0	1.32	41.63	11,397.1	-75.0	82.7	76.3	0.22	0.04	-9.24
11,425.0	1.16	45.08	11,422.1	-74.6	83.1	75.9	0.71	-0.64	13.80
11,450.0	0.94	43.14	11,447.1	-74.3	83.4	75.6	0.89	-0.88	-7.76
11,475.0	0.84	39.25	11,472.1	-74.0	83.7	75.3	0.47	-0.40	-15.56
11,500.0	0.57	32.15	11,497.1	-73.7	83.8	75.1	1.13	-1.08	-28.40
11,525.0	0.38	20.32	11,522.1	-73.5	83.9	74.9	0.85	-0.76	-47.32
11,550.0	0.16	349.13	11,547.1	-73.4	84.0	74.8	1.03	-0.88	-124.76
11,575.0	0.11	320.39	11,572.1	-73.4	83.9	74.7	0.33	-0.20	-114.96
11,600.0	0.06	281.36	11,597.1	-73.4	83.9	74.7	0.30	-0.20	-156.12
11,625.0	0.10	214.60	11,622.1	-73.4	83.9	74.7	0.38	0.16	-267.04
11,650.0	0.14	217.73	11,647.1	-73.4	83.9	74.8	0.16	0.16	12.52
11,675.0	0.32	237.83	11,672.1	-73.5	83.8	74.8	0.78	0.72	80.40
11,700.0	0.29	206.80	11,697.1	-73.6	83.7	74.9	0.66	-0.12	-124.12
11,725.0	0.30	194.17	11,722.1	-73.7	83.6	75.0	0.26	0.04	-50.52
11,750.0	0.38	172.93	11,747.1	-73.8	83.6	75.2	0.59	0.32	-84.96
11,775.0	0.44	231.36	11,772.1	-74.0	83.6	75.3	1.61	0.24	233.72
11,800.0	0.74	237.81	11,797.1	-74.1	83.4	75.5	1.23	1.20	25.80
11,825.0	1.04	241.86	11,822.1	-74.3	83.0	75.7	1.23	1.20	16.20
11,830.0	1.09	239.75	11,827.1	-74.4	82.9	75.7	1.27	1.00	-42.20
12,019.0	1.14	198.24	12,016.1	-77.1	80.8	78.4	0.42	0.03	-21.96
12,114.0	1.48	190.04	12,111.0	-79.2	80.3	80.4	0.41	0.36	-8.63
12,208.0	1.55	187.42	12,205.0	-81.6	79.9	82.9	0.10	0.07	-2.79
12,271.0	4.19	188.00	12,267.9	-84.7	79.5	86.0	4.19	4.19	0.92
12,302.0	7.59	187.85	12,298.7	-87.9	79.1	89.2	10.97	10.97	-0.48
12,333.0	12.53	189.28	12,329.3	-93.2	78.2	94.5	15.95	15.94	4.61
12,365.0	15.11	181.94	12,360.3	-100.8	77.5	102.1	9.73	8.06	-22.94
12,396.0	17.25	178.81	12,390.1	-109.5	77.5	110.7	7.45	6.90	-10.10
12,428.0	20.73	172.42	12,420.4	-119.8	78.3	121.1	12.65	10.88	-19.97
12,459.0	24.11	171.04	12,449.0	-131.5	80.0	132.8	11.03	10.90	-4.45
12,491.0	26.73	173.02	12,477.9	-145.1	81.9	146.4	8.61	8.19	6.19
12,522.0	29.42	172.51	12,505.3	-159.6	83.8	160.9	8.71	8.68	-1.65
12,553.0	33.25	172.53	12,531.7	-175.6	85.9	177.0	12.35	12.35	0.06
12,585.0	37.53	175.32	12,557.8	-194.0	87.8	195.4	14.29	13.38	8.72
12,616.0	42.55	177.50	12,581.5	-213.9	89.0	215.3	16.81	16.19	7.03
12,648.0	46.23	179.09	12,604.4	-236.3	89.7	237.7	12.01	11.50	4.97
12,679.0	49.65	177.31	12,625.2	-259.3	90.4	260.7	11.83	11.03	-5.74
12,710.0	51.22	175.96	12,644.9	-283.1	91.8	284.6	6.08	5.06	-4.35
12,742.0	53.36	181.34	12,664.5	-308.4	92.4	309.9	14.88	6.69	16.81

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	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)
12,773.0	54.84	175.62	12,682.7	-333.5	93.1	335.0	15.69	4.77	-18.45
12,805.0	56.48	174.60	12,700.7	-359.8	95.3	361.3	5.76	5.13	-3.19
12,836.0	58.38	174.21	12,717.4	-385.8	97.9	387.4	6.22	6.13	-1.26
12,867.0	60.06	174.40	12,733.3	-412.3	100.5	413.9	5.44	5.42	0.61
12,899.0	61.31	175.93	12,749.0	-440.1	102.9	441.7	5.71	3.91	4.78
12,908.8	62.28	176.09	12,753.6	-448.8	103.5	450.4	9.97	9.87	1.64
FTP (STOVE PIPE FEDERAL COM #702H)									
12,930.0	64.37	176.43	12,763.1	-467.6	104.7	469.3	9.97	9.87	1.60
12,961.0	66.62	177.31	12,776.0	-495.8	106.3	497.5	7.70	7.26	2.84
12,993.0	69.66	178.00	12,787.9	-525.5	107.5	527.1	9.71	9.50	2.16
13,024.0	70.73	178.82	12,798.4	-554.6	108.3	556.3	4.26	3.45	2.65
13,055.0	70.91	179.23	12,808.6	-583.9	108.8	585.6	1.38	0.58	1.32
13,087.0	72.74	179.83	12,818.5	-614.3	109.0	616.0	5.99	5.72	1.88
13,118.0	75.49	179.54	12,827.0	-644.1	109.2	645.8	8.92	8.87	-0.94
13,149.0	78.35	179.51	12,834.0	-674.3	109.4	676.0	9.23	9.23	-0.10
13,181.0	81.57	180.23	12,839.6	-705.8	109.5	707.5	10.30	10.06	2.25
13,212.0	82.78	181.75	12,843.8	-736.5	109.0	738.2	6.23	3.90	4.90
13,243.0	82.13	182.06	12,847.9	-767.2	108.0	768.9	2.32	-2.10	1.00
13,275.0	83.18	183.16	12,852.0	-798.9	106.5	800.6	4.73	3.28	3.44
13,306.0	84.36	183.54	12,855.4	-829.7	104.7	831.3	4.00	3.81	1.23
13,337.0	89.03	182.94	12,857.2	-860.6	103.0	862.1	15.19	15.06	-1.94
13,432.0	89.82	179.74	12,858.1	-955.6	100.7	957.1	3.47	0.83	-3.37
13,526.0	88.99	180.57	12,859.1	-1,049.6	100.5	1,051.0	1.25	-0.88	0.88
13,621.0	91.73	181.76	12,858.5	-1,144.5	98.6	1,146.0	3.14	2.88	1.25
13,715.0	89.90	182.34	12,857.2	-1,238.4	95.2	1,239.8	2.04	-1.95	0.62
13,810.0	90.96	179.43	12,856.4	-1,333.4	93.7	1,334.8	3.26	1.12	-3.06
13,904.0	89.87	180.17	12,855.8	-1,427.4	94.1	1,428.7	1.40	-1.16	0.79
13,998.0	88.72	177.41	12,856.9	-1,521.4	96.0	1,522.7	3.18	-1.22	-2.94
14,092.0	88.72	178.62	12,859.0	-1,615.3	99.3	1,616.7	1.29	0.00	1.29
14,186.0	91.59	179.48	12,858.8	-1,709.3	100.9	1,710.7	3.19	3.05	0.91
14,281.0	93.02	179.03	12,854.9	-1,804.2	102.1	1,805.6	1.58	1.51	-0.47
14,374.0	92.94	178.91	12,850.1	-1,897.0	103.8	1,898.5	0.15	-0.09	-0.13
14,468.0	91.77	179.68	12,846.2	-1,991.0	104.9	1,992.4	1.49	-1.24	0.82
14,562.0	91.40	180.79	12,843.6	-2,084.9	104.5	2,086.3	1.24	-0.39	1.18
14,656.0	89.62	179.92	12,842.8	-2,178.9	103.9	2,180.3	2.11	-1.89	-0.93
14,750.0	87.71	178.73	12,845.0	-2,272.9	105.1	2,274.3	2.39	-2.03	-1.27
14,844.0	91.57	179.77	12,845.6	-2,366.8	106.3	2,368.2	4.25	4.11	1.11
14,938.0	88.41	179.44	12,845.6	-2,460.8	106.9	2,462.2	3.38	-3.36	-0.35
15,032.0	89.73	177.92	12,847.1	-2,554.8	109.1	2,556.2	2.14	1.40	-1.62
15,126.0	87.12	176.89	12,849.7	-2,648.6	113.4	2,650.1	2.98	-2.78	-1.10
15,220.0	87.62	178.89	12,854.0	-2,742.5	116.8	2,744.0	2.19	0.53	2.13
15,314.0	93.28	180.44	12,853.3	-2,836.4	117.4	2,837.9	6.24	6.02	1.65
15,408.0	93.35	181.79	12,847.9	-2,930.2	115.5	2,931.7	1.44	0.07	1.44
15,502.0	85.99	180.66	12,848.4	-3,024.2	113.5	3,025.6	7.92	-7.83	-1.20

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	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)
15,596.0	86.84	178.63	12,854.3	-3,118.0	114.1	3,119.4	2.34	0.90	-2.16
15,691.0	87.16	176.11	12,859.2	-3,212.7	118.5	3,214.2	2.67	0.34	-2.65
15,785.0	92.87	177.04	12,859.2	-3,306.5	124.1	3,308.1	6.15	6.07	0.99
15,879.0	93.82	179.99	12,853.7	-3,400.3	126.5	3,401.9	3.29	1.01	3.14
15,973.0	93.38	183.82	12,847.8	-3,494.1	123.4	3,495.6	4.09	-0.47	4.07
16,067.0	87.16	184.43	12,847.4	-3,587.8	116.6	3,589.2	6.65	-6.62	0.65
16,161.0	86.85	184.33	12,852.3	-3,681.4	109.5	3,682.7	0.35	-0.33	-0.11
16,256.0	89.31	184.38	12,855.5	-3,776.0	102.2	3,777.2	2.59	2.59	0.05
16,350.0	92.99	183.75	12,853.6	-3,869.8	95.6	3,870.8	3.97	3.91	-0.67
16,444.0	93.22	182.26	12,848.5	-3,963.5	90.7	3,964.4	1.60	0.24	-1.59
16,538.0	94.72	179.75	12,842.0	-4,057.2	89.0	4,058.2	3.11	1.60	-2.67
16,632.0	95.10	179.39	12,833.9	-4,150.9	89.7	4,151.8	0.56	0.40	-0.38
16,726.0	90.98	179.21	12,829.0	-4,244.7	90.9	4,245.6	4.39	-4.38	-0.19
16,820.0	93.74	181.94	12,825.1	-4,338.6	89.9	4,339.5	4.13	2.94	2.90
16,914.0	94.19	180.07	12,818.6	-4,432.4	88.3	4,433.2	2.04	0.48	-1.99
17,009.0	93.16	175.92	12,812.5	-4,527.1	91.6	4,528.0	4.49	-1.08	-4.37
17,103.0	91.60	175.01	12,808.6	-4,620.7	99.0	4,621.7	1.92	-1.66	-0.97
17,197.0	90.51	174.92	12,806.9	-4,714.4	107.3	4,715.5	1.16	-1.16	-0.10
17,291.0	90.62	177.40	12,805.9	-4,808.1	113.6	4,809.3	2.64	0.12	2.64
17,386.0	91.29	177.17	12,804.4	-4,903.0	118.1	4,904.3	0.75	0.71	-0.24
17,480.0	91.25	179.89	12,802.3	-4,996.9	120.5	4,998.2	2.89	-0.04	2.89
17,575.0	89.11	180.38	12,802.0	-5,091.9	120.3	5,093.2	2.31	-2.25	0.52
17,669.0	91.61	181.18	12,801.4	-5,185.9	119.0	5,187.2	2.79	2.66	0.85
17,763.0	88.85	178.80	12,801.0	-5,279.9	119.0	5,281.1	3.88	-2.94	-2.53
17,857.0	89.67	179.03	12,802.2	-5,373.9	120.8	5,375.1	0.91	0.87	0.24
17,951.0	90.54	179.75	12,802.0	-5,467.9	121.8	5,469.1	1.20	0.93	0.77
18,045.0	88.33	180.25	12,803.0	-5,561.9	121.8	5,563.1	2.41	-2.35	0.53
18,140.0	89.82	184.13	12,804.5	-5,656.8	118.1	5,657.9	4.37	1.57	4.08
18,235.0	90.50	181.53	12,804.2	-5,751.6	113.5	5,752.7	2.83	0.72	-2.74
18,330.0	91.37	178.26	12,802.7	-5,846.6	113.6	5,847.7	3.56	0.92	-3.44
18,424.0	91.98	177.75	12,799.9	-5,940.5	116.9	5,941.6	0.85	0.65	-0.54
18,519.0	88.63	178.87	12,799.4	-6,035.5	119.7	6,036.6	3.72	-3.53	1.18
18,614.0	88.77	181.54	12,801.6	-6,130.4	119.4	6,131.5	2.81	0.15	2.81
18,709.0	88.93	179.55	12,803.5	-6,225.4	118.5	6,226.5	2.10	0.17	-2.09
18,804.0	88.69	180.22	12,805.5	-6,320.4	118.6	6,321.5	0.75	-0.25	0.71
18,898.0	91.33	182.98	12,805.5	-6,414.3	116.0	6,415.4	4.06	2.81	2.94
18,993.0	90.94	183.98	12,803.6	-6,509.1	110.3	6,510.1	1.13	-0.41	1.05
19,088.0	87.88	180.88	12,804.6	-6,604.0	106.2	6,604.9	4.58	-3.22	-3.26
19,183.0	86.73	185.52	12,809.0	-6,698.7	100.9	6,699.5	5.03	-1.21	4.88
19,253.0	88.16	185.85	12,812.1	-6,768.3	94.0	6,768.9	2.10	2.04	0.47
19,347.0	89.15	184.04	12,814.4	-6,861.9	85.9	6,862.4	2.19	1.05	-1.93
19,442.0	88.73	184.03	12,816.1	-6,956.7	79.2	6,957.1	0.44	-0.44	-0.01
19,537.0	88.32	183.97	12,818.6	-7,051.4	72.6	7,051.7	0.44	-0.43	-0.06

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	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)
19,632.0	87.76	184.41	12,821.8	-7,146.1	65.7	7,146.2	0.75	-0.59	0.46
19,708.0	88.99	183.36	12,824.0	-7,221.9	60.5	7,221.9	2.13	1.62	-1.38
19,803.0	90.96	181.66	12,824.0	-7,316.8	56.4	7,316.8	2.74	2.07	-1.79
19,898.0	92.61	180.22	12,821.0	-7,411.7	54.8	7,411.7	2.30	1.74	-1.52
19,993.0	92.13	178.84	12,817.1	-7,506.6	55.6	7,506.6	1.54	-0.51	-1.45
20,088.0	92.64	177.48	12,813.2	-7,601.5	58.6	7,601.5	1.53	0.54	-1.43
20,182.0	92.54	175.82	12,808.9	-7,695.3	64.1	7,695.3	1.77	-0.11	-1.77
20,277.0	93.00	175.76	12,804.3	-7,789.9	71.1	7,790.0	0.49	0.48	-0.06
20,372.0	92.70	175.31	12,799.6	-7,884.5	78.5	7,884.7	0.57	-0.32	-0.47
20,467.0	91.94	175.11	12,795.7	-7,979.1	86.4	7,979.4	0.83	-0.80	-0.21
20,562.0	92.40	175.67	12,792.2	-8,073.7	94.0	8,074.2	0.76	0.48	0.59
20,657.0	91.73	176.04	12,788.7	-8,168.4	100.9	8,168.9	0.81	-0.71	0.39
20,752.0	90.68	174.51	12,786.7	-8,263.0	108.7	8,263.7	1.95	-1.11	-1.61
20,847.0	90.84	175.72	12,785.5	-8,357.7	116.8	8,358.5	1.28	0.17	1.27
20,942.0	89.25	177.32	12,785.4	-8,452.5	122.6	8,453.4	2.37	-1.67	1.68
21,037.0	87.45	178.87	12,788.1	-8,547.4	125.7	8,548.3	2.50	-1.89	1.63
21,133.0	89.35	180.80	12,790.8	-8,643.4	126.0	8,644.3	2.82	1.98	2.01
21,228.0	88.51	180.45	12,792.6	-8,738.3	125.0	8,739.2	0.96	-0.88	-0.37
21,322.0	89.63	180.90	12,794.1	-8,832.3	123.9	8,833.2	1.28	1.19	0.48
21,417.0	89.16	179.31	12,795.1	-8,927.3	123.7	8,928.1	1.75	-0.49	-1.67
21,512.0	92.74	181.01	12,793.5	-9,022.3	123.4	9,023.1	4.17	3.77	1.79
21,607.0	92.51	180.64	12,789.2	-9,117.2	122.0	9,117.9	0.46	-0.24	-0.39
21,702.0	91.99	179.03	12,785.5	-9,212.1	122.3	9,212.9	1.78	-0.55	-1.69
21,797.0	92.12	179.33	12,782.1	-9,307.0	123.7	9,307.8	0.34	0.14	0.32
21,892.0	90.68	176.97	12,779.7	-9,401.9	126.7	9,402.7	2.91	-1.52	-2.48
21,987.0	91.48	178.48	12,777.9	-9,496.8	130.5	9,497.7	1.80	0.84	1.59
22,082.0	91.70	178.85	12,775.3	-9,591.8	132.7	9,592.7	0.45	0.23	0.39
22,177.0	90.13	178.45	12,773.8	-9,686.7	135.0	9,687.6	1.71	-1.65	-0.42
22,272.0	89.39	178.04	12,774.2	-9,781.7	137.9	9,782.6	0.89	-0.78	-0.43
22,366.0	88.47	177.83	12,775.9	-9,875.6	141.3	9,876.6	1.00	-0.98	-0.22
22,461.0	87.39	177.53	12,779.4	-9,970.5	145.1	9,971.5	1.18	-1.14	-0.32
22,555.0	87.17	177.32	12,783.8	-10,064.3	149.3	10,065.4	0.32	-0.23	-0.22
22,649.0	87.99	178.01	12,787.8	-10,158.1	153.2	10,159.2	1.14	0.87	0.73
22,744.0	89.17	177.76	12,790.2	-10,253.0	156.7	10,254.2	1.27	1.24	-0.26
22,838.0	91.08	179.43	12,790.0	-10,347.0	159.0	10,348.2	2.70	2.03	1.78
22,932.0	91.31	178.43	12,788.0	-10,440.9	160.7	10,442.2	1.09	0.24	-1.06
23,026.0	93.28	179.97	12,784.2	-10,534.8	162.0	10,536.1	2.66	2.10	1.64
23,120.0	92.25	179.07	12,779.7	-10,628.7	162.8	10,630.0	1.45	-1.10	-0.96
23,207.0	91.10	177.12	12,777.1	-10,715.6	165.7	10,716.9	2.60	-1.32	-2.24
LTP (STOVE PIPE FEDERAL COM #702H) R1									
23,274.0	91.10	177.12	12,775.9	-10,782.5	169.1	10,783.9	0.00	0.00	0.00
PBHL (STOVE PIPE FEDERAL COM #702H) R1									

Concho Resources LLC

Survey Report

Company:	NORTHERN DELAWARE BASIN	Local Co-ordinate Reference:	Well STOVE PIPE FEDERAL COM #702H
Project:	LEA COUNTY, NM	TVD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Site:	BULLDOG	MD Reference:	KB=30' @ 3351.3usft (Scan Quest)
Well:	STOVE PIPE FEDERAL COM #702H	North Reference:	Grid
Wellbore:	OWB	Survey Calculation Method:	Minimum Curvature
Design:	AWP	Database:	edm

Design Targets

Target Name - hit/miss target - Shape	Dip Angle (°)	Dip Dir. (°)	TVD (usft)	+N/-S (usft)	+E/-W (usft)	Northing (usft)	Easting (usft)	Latitude	Longitude
LTP (STOVE PIPE FE - actual wellpath misses target center by 19.2usft at 23207.0usft MD (12777.1 TVD, -10715.6 N, 165.7 E) - Point	0.00	0.00	12,779.6	-10,733.0	173.5	415,096.93	786,645.04	32° 8' 16.190 N	103° 24' 26.229 W
PBHL (STOVE PIPE F - actual wellpath misses target center by 6.4usft at 23274.0usft MD (12775.9 TVD, -10782.5 N, 169.1 E) - Point	0.23	359.60	12,780.0	-10,783.0	173.9	415,046.92	786,645.40	32° 8' 15.695 N	103° 24' 26.229 W
FTP (STOVE PIPE FE - actual wellpath misses target center by 173.3usft at 12908.8usft MD (12753.6 TVD, -448.8 N, 103.5 E) - Circle (radius 50.0)	0.00	0.00	12,906.0	-369.0	124.3	425,460.90	786,595.80	32° 9' 58.747 N	103° 24' 25.764 W

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,019.0	12,016.1	-77.1	80.8	Fiirst PHX MWD @ 12019'MD
12,692.1	12,633.6	-269.3	91.0	Enter Section @ 12692.1'MD
12,809.9	12,703.4	-363.9	95.7	FTP @ 12809.9'MD 12703.4'TVD
23,207.0	12,777.1	-10,715.6	165.7	Last PHX MWD Svy @ 23207'MD
23,244.5	12,776.4	-10,753.1	167.6	LTP @ 23244.5'MD / 12776.4'TVD
23,274.0	12,775.9	-10,782.5	169.1	PTD @ 23274'MD

Checked By: _____ Approved By: _____ Date: _____