

15-42432

January 19, 2015

Concho Resources, Inc.
One Concho Center
600 W. Illinois Avenue
Midland, Texas 79701

NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 23 2015
RECEIVED

Attn: Kanicia Castillo

RE: **Diamond 22 State Com 5H**

Please find enclosed a copy of the survey from 0' to 4560' ran on the above referenced well.

Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §

§

COUNTY OF NUECES §

This instrument was acknowledged before me on the 19 day of January
A.D., 2015, by Keith Havelka.

Jennifer Ann Byerly
Jennifer Ann Byerly
Notary Public, State of Texas





Company: CONCHO
Lease/Well: DIAMONDBACK 22 STATE COM/5H

Rig Name: SILVEROAK 1
State/County: NEW MEXICO/EDDY
Latitude: 32.03, Longitude: -104.07
GRID North is 0.14 Degrees East of True North
VS-Azi: 174.66 Degrees



NM OIL CONSERVATION
ARTESIA DISTRICT
MAR 23 2015
RECEIVED

Depth Reference : RKB:16.5 FEET

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 1/19/2015 / 12:30

VES Survey International
West Texas
(432) 563-5444
Surveyor: Jordan Shelleby
Diamondback 22 State Com 5H/API 30-015-42432

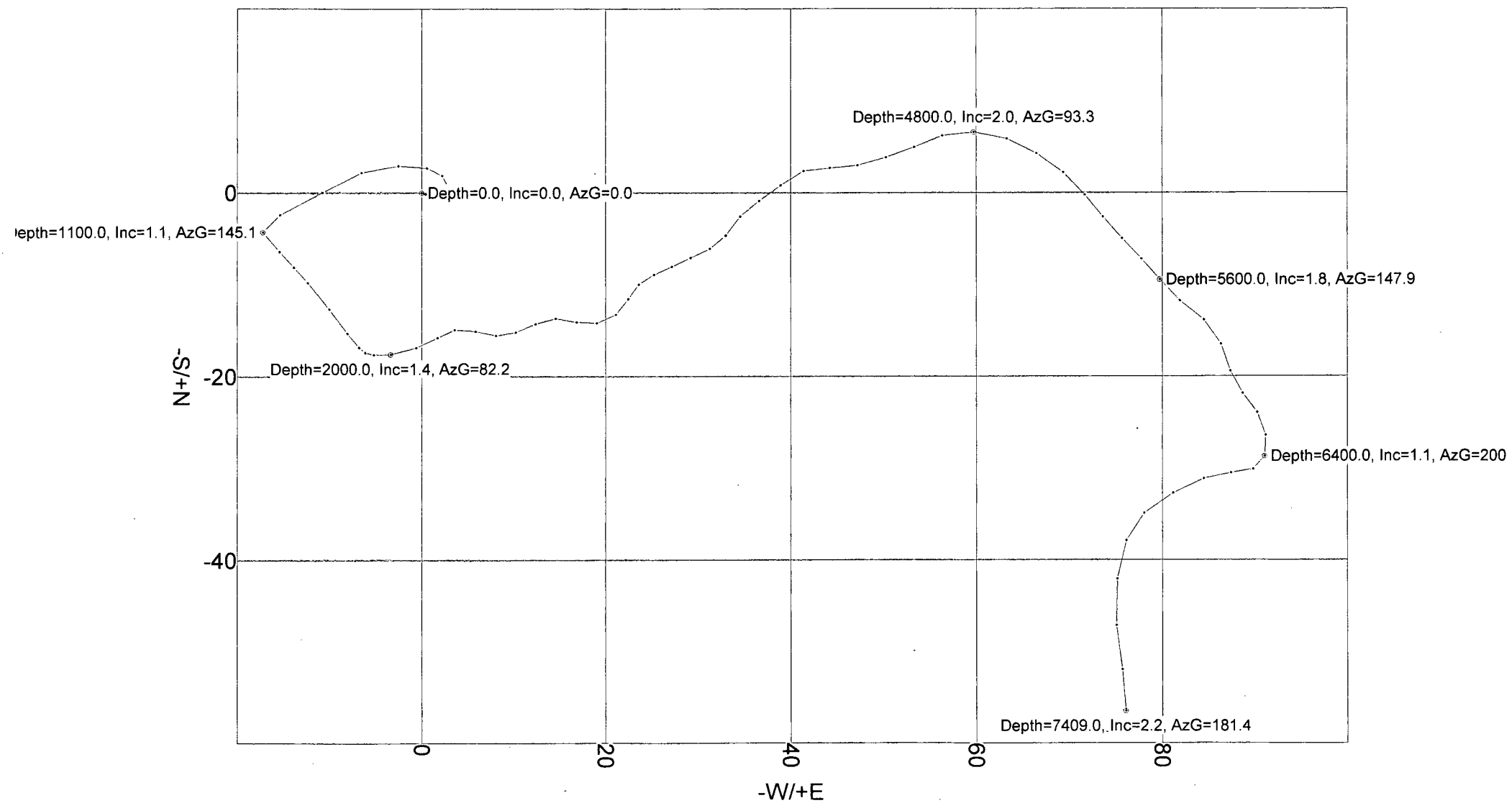
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	****
100.00	0.47	112.07	100.00	-0.15	0.38	0.19	0.41	112.07	0.47
200.00	0.63	65.78	199.99	-0.08	1.26	0.20	1.26	93.63	0.46
300.00	0.64	83.05	299.99	0.21	2.32	0.00	2.33	84.72	0.19
400.00	0.59	350.44	399.98	0.79	2.79	-0.52	2.90	74.27	0.89
500.00	0.87	321.44	499.98	1.88	2.23	-1.67	2.92	49.88	0.46
600.00	1.39	280.08	599.96	2.69	0.57	-2.62	2.75	11.92	0.94
700.00	2.26	270.55	699.91	2.92	-2.60	-3.15	3.91	318.29	0.92
800.00	2.52	249.90	799.82	2.18	-6.64	-2.79	6.99	288.20	0.89
900.00	2.96	237.58	899.71	0.04	-10.88	-1.05	10.88	270.22	0.74
1000.00	2.98	246.01	999.57	-2.40	-15.44	0.96	15.63	261.16	0.44
1100.00	1.14	145.12	1099.53	-4.28	-17.25	2.65	17.77	256.08	3.39
1200.00	2.06	137.71	1199.49	-6.42	-15.47	4.95	16.75	247.46	0.95
1300.00	0.54	138.05	1299.46	-8.10	-13.95	6.77	16.13	239.85	1.53
1400.00	2.04	137.95	1399.43	-9.77	-12.44	8.57	15.82	231.85	1.50
1500.00	2.20	144.88	1499.36	-12.67	-10.14	11.67	16.23	218.68	0.30
1600.00	1.57	141.27	1599.31	-15.31	-8.18	14.48	17.36	208.12	0.64
1700.00	0.68	136.62	1699.29	-16.81	-6.92	16.09	18.17	202.37	0.90
1800.00	0.35	118.80	1799.28	-17.39	-6.24	16.73	18.47	199.74	0.36

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.78	97.70	1899.28	-17.63	-5.29	17.06	18.40	196.71	0.47
2000.00	1.37	82.23	1999.26	-17.56	-3.43	17.16	17.89	191.05	0.65
2100.00	1.94	71.52	2099.22	-16.86	-0.64	16.72	16.87	182.17	0.64
2200.00	1.06	53.45	2199.18	-15.77	1.71	15.86	15.86	173.81	0.99
2300.00	1.35	73.91	2299.16	-14.89	3.59	15.16	15.32	166.46	0.52
2400.00	1.46	113.72	2399.13	-15.08	5.89	15.56	16.19	158.67	0.96
2500.00	1.21	86.60	2499.11	-15.53	8.11	16.22	17.52	152.42	0.67
2600.00	1.34	75.76	2599.08	-15.18	10.30	16.07	18.35	145.84	0.27
2700.00	1.36	58.16	2699.05	-14.27	12.44	15.36	18.93	138.92	0.41
2800.00	1.34	91.07	2799.03	-13.67	14.62	14.97	20.01	133.07	0.76
2900.00	1.32	108.68	2899.00	-14.06	16.88	15.57	21.97	129.78	0.41
3000.00	1.27	76.64	2998.98	-14.17	19.06	15.88	23.75	126.63	0.72
3100.00	1.35	55.65	3098.95	-13.25	21.11	15.15	24.92	122.11	0.48
3200.00	1.22	19.42	3198.93	-11.58	22.44	13.61	25.25	117.29	0.81
3300.00	1.11	52.62	3298.91	-9.98	23.56	12.13	25.59	112.97	0.67
3400.00	1.16	61.79	3398.89	-8.92	25.22	11.23	26.75	109.48	0.19
3500.00	1.29	69.90	3498.87	-8.05	27.17	10.55	28.34	106.51	0.22
3600.00	1.30	59.21	3598.84	-7.08	29.20	9.77	30.05	103.64	0.24
3700.00	1.34	70.00	3698.81	-6.10	31.28	8.99	31.87	101.04	0.25
3800.00	1.39	30.67	3798.79	-4.66	33.00	7.71	33.33	98.03	0.92
3900.00	1.59	41.48	3898.75	-2.57	34.54	5.78	34.63	94.26	0.34
4000.00	1.51	59.83	3998.72	-0.88	36.59	4.28	36.60	91.37	0.50
4100.00	1.77	48.22	4098.68	0.82	38.88	2.81	38.89	88.80	0.43
4200.00	1.62	68.43	4198.63	2.37	41.35	1.49	41.42	86.73	0.61
4300.00	1.77	97.40	4298.59	2.69	44.20	1.44	44.28	86.52	0.86
4400.00	1.76	71.08	4398.55	2.99	47.18	1.42	47.27	86.38	0.80
4500.00	1.89	77.24	4498.50	3.85	50.24	0.84	50.39	85.62	0.23
4600.00	1.86	62.28	4598.44	4.97	53.28	0.01	53.51	84.67	0.49
4700.00	1.93	73.37	4698.39	6.20	56.33	-0.93	56.67	83.72	0.37
4800.00	2.03	93.26	4798.33	6.58	59.71	-1.00	60.07	83.71	0.69
4900.00	2.19	108.67	4898.26	5.87	63.29	0.04	63.56	84.70	0.59
5000.00	1.94	125.92	4998.20	4.27	66.47	1.94	66.61	86.33	0.67
5100.00	2.10	125.70	5098.14	2.20	69.33	4.26	69.37	88.18	0.17
5200.00	1.83	148.97	5198.08	-0.24	71.65	6.90	71.65	90.19	0.84
5300.00	1.75	132.28	5298.03	-2.63	73.60	9.47	73.65	92.05	0.53
5400.00	1.85	144.49	5397.98	-4.98	75.68	12.00	75.84	93.76	0.40
5500.00	1.68	129.01	5497.93	-7.22	77.76	14.42	78.09	95.30	0.50
5600.00	1.81	147.94	5597.89	-9.48	79.74	16.86	80.30	96.78	0.59
5700.00	1.85	125.67	5697.84	-11.77	81.89	19.34	82.73	98.18	0.71

Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
5800.00	1.96	131.84	5797.78	-13.85	84.48	21.65	85.60	99.31	0.23
5900.00	1.82	158.35	5897.73	-16.47	86.34	24.43	87.89	100.80	0.88
6000.00	1.76	163.96	5997.68	-19.42	87.35	27.47	89.48	102.54	0.19
6100.00	1.52	136.51	6097.64	-21.86	88.68	30.01	91.33	103.84	0.81
6200.00	1.50	149.69	6197.61	-23.95	90.25	32.24	93.38	104.86	0.35
6300.00	1.59	169.65	6297.57	-26.45	91.16	34.82	94.92	106.18	0.54
6400.00	1.10	200.43	6397.55	-28.72	91.08	37.07	95.50	107.50	0.86
6500.00	1.20	241.75	6497.53	-30.12	89.82	38.35	94.73	108.54	0.82
6600.00	1.67	273.99	6597.50	-30.51	87.44	38.52	92.61	109.24	0.91
6700.00	1.91	244.61	6697.45	-31.13	84.48	38.85	90.03	110.23	0.94
6800.00	2.31	244.21	6797.38	-32.71	81.17	40.13	87.51	111.95	0.40
6900.00	2.12	225.46	6897.31	-34.89	78.04	42.00	85.48	114.09	0.74
7000.00	2.05	199.70	6997.25	-37.88	76.11	44.79	85.01	116.46	0.93
7100.00	2.91	188.08	7097.15	-42.08	75.15	48.89	86.13	119.25	0.99
7200.00	2.98	174.32	7197.02	-47.19	75.05	53.97	88.65	122.16	0.71
7300.00	2.59	170.16	7296.90	-52.00	75.69	58.82	91.84	124.49	0.44
7409.00	2.20	181.42	7405.81	-56.53	76.06	63.36	94.77	126.62	0.56



VES Survey International
West Texas
(432) 563-5444
Surveyor: Jordan Shelleby
Diamondback 22 State Com 5H/API 30-015-42432



V.E.S. Survey Date: 1/8/2015



COG Production LLC

Eddy County, NM

Diamondback 22 State Com #5H

SHL: 170' FNL, 990' FEL, T26S, R28E, Sec 22, Unit A

EOC: 8405.7' MD, 8105.0' TVD, -583.1 +N/-S, 114.8 +E/-W, 591.3' VS

BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P

Design: BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P

Survey Report - Geographic

17 January, 2015





TDS
Survey Report - Geographic



Company:	COG Production LLC	Local Co-ordinate Reference:	Site Diamondback 22 State Com #5H
Project:	Eddy County, NM	TVD Reference:	KB @ 3001.3usft
Site:	Diamondback 22 State Com #5H	MD Reference:	KB @ 3001.3usft
Well:	SHL: 170' FNL, 990' FEL, T26S, R28E, Sec 22, Unit A	North Reference:	Grid
Wellbore:	BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P	Survey Calculation Method:	Minimum Curvature
Design:	BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P	Database:	EDM 5000.1 Single User Db

Project	Eddy 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	Diamondback 22 State Com #5H		
Site Position:		Northing:	376,397.50 usft
From:	Map	Easting:	581,757.60 usft
Position Uncertainty:	0.0 usft	Slot Radius:	13-3/16 "
		Latitude:	32° 2' 4.404 N
		Longitude:	104° 4' 10.186 W
		Grid Convergence:	0.14 °

Well	SHL: 170' FNL, 990' FEL, T26S, R28E, Sec 22, Unit A		
Well Position	+N/-S	0.0 usft	Northing:
	+E/-W	0.0 usft	Easting:
Position Uncertainty	0.0 usft	Wellhead Elevation:	0.0 usft
		Latitude:	32° 2' 4.404 N
		Longitude:	104° 4' 10.186 W
		Ground Level:	2,984.3 usft

Wellbore	BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P		
Magnetics	Model Name	Sample Date	Declination
			(°)
	IGRF2010	12/17/2014	7.37
			Dip Angle
			(°)
			59.84
			Field Strength
			(nT)
			48,101

Design	BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.0
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(usft)	(usft)	(usft)
	0.0	0.0	0.0
			Direction
			(°)
			174.66

Survey Program	Date 1/17/2015		
From	To	Survey (Wellbore)	Tool Name
(usft)	(usft)		Description
100.0	7,409.0	GYRO #1 (BHL: 330' FSL, 510' FEL, T26S	MWD
7,494.0	12,495.0	MWD #1 (BHL: 330' FSL, 510' FEL, T26S,	MWD
			MWD - Standard
			MWD - Standard

Survey									
Measured	Inclination	Azimuth	Vertical	+N/-S	+E/-W	Map	Map	Latitude	Longitude
Depth	(°)	(°)	Depth	(usft)	(usft)	Northing	Easting		
(usft)			(usft)			(usft)	(usft)		
0.0	0.00	0.00	0.0	0.0	0.0	376,397.50	581,757.60	32° 2' 4.404 N	104° 4' 10.186 W
100.0	0.47	112.07	100.0	-0.2	0.4	376,397.34	581,757.98	32° 2' 4.403 N	104° 4' 10.181 W
200.0	0.63	65.78	200.0	-0.1	1.3	376,397.42	581,758.86	32° 2' 4.404 N	104° 4' 10.171 W
300.0	0.64	83.05	300.0	0.2	2.3	376,397.71	581,759.92	32° 2' 4.406 N	104° 4' 10.159 W
400.0	0.59	350.44	400.0	0.8	2.8	376,398.28	581,760.39	32° 2' 4.412 N	104° 4' 10.153 W
500.0	0.87	321.44	500.0	1.9	2.2	376,399.39	581,759.83	32° 2' 4.423 N	104° 4' 10.160 W
600.0	1.39	280.08	600.0	2.7	0.6	376,400.19	581,758.16	32° 2' 4.431 N	104° 4' 10.179 W
700.0	2.26	270.55	699.9	2.9	-2.6	376,400.42	581,755.00	32° 2' 4.433 N	104° 4' 10.216 W
800.0	2.52	249.90	799.8	2.2	-6.6	376,399.69	581,750.96	32° 2' 4.426 N	104° 4' 10.263 W



TDS
Survey Report - Geographic



Company:	COG Production LLC	Local Co-ordinate Reference:	Site Diamondback 22 State Com #5H
Project:	Eddy County, NM	TVD Reference:	KB @ 3001.3usft
Site:	Diamondback 22 State Com #5H	MD Reference:	KB @ 3001.3usft
Well:	SHL: 170' FNL, 990' FEL, T26S, R28E, Sec 22, Unit A	North Reference:	Grid
Wellbore:	BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P	Survey Calculation Method:	Minimum Curvature
Design:	BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P	Database:	EDM 5000.1 Single User Db

Survey										
Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
900.0	2.96	237.58	899.7	0.0	-10.9	376,397.55	581,746.72	32° 2' 4.405 N	104° 4' 10.312 W	
1,000.0	2.98	246.01	999.6	-2.4	-15.4	376,395.11	581,742.16	32° 2' 4.381 N	104° 4' 10.365 W	
1,100.0	1.14	145.12	1,099.5	-4.3	-17.2	376,393.23	581,740.36	32° 2' 4.363 N	104° 4' 10.386 W	
1,200.0	2.06	137.71	1,199.5	-6.4	-15.5	376,391.09	581,742.13	32° 2' 4.341 N	104° 4' 10.366 W	
1,300.0	0.54	138.05	1,299.5	-8.1	-13.9	376,389.41	581,743.66	32° 2' 4.325 N	104° 4' 10.348 W	
1,400.0	2.04	137.95	1,399.4	-9.8	-12.4	376,387.73	581,745.17	32° 2' 4.308 N	104° 4' 10.330 W	
1,500.0	2.20	144.88	1,499.4	-12.7	-10.1	376,384.84	581,747.46	32° 2' 4.279 N	104° 4' 10.304 W	
1,600.0	1.57	141.27	1,599.3	-15.3	-8.2	376,382.20	581,749.42	32° 2' 4.253 N	104° 4' 10.281 W	
1,700.0	0.68	136.62	1,699.3	-16.8	-6.9	376,380.70	581,750.69	32° 2' 4.238 N	104° 4' 10.266 W	
1,800.0	0.35	118.80	1,799.3	-17.4	-6.2	376,380.13	581,751.36	32° 2' 4.233 N	104° 4' 10.259 W	
1,900.0	0.78	97.70	1,899.3	-17.6	-5.3	376,379.89	581,752.31	32° 2' 4.230 N	104° 4' 10.248 W	
2,000.0	1.37	82.23	1,999.3	-17.5	-3.4	376,379.96	581,754.16	32° 2' 4.231 N	104° 4' 10.226 W	
2,100.0	1.94	71.52	2,099.2	-16.8	-0.6	376,380.66	581,756.95	32° 2' 4.238 N	104° 4' 10.194 W	
2,200.0	1.06	53.45	2,199.2	-15.8	1.7	376,381.74	581,759.30	32° 2' 4.248 N	104° 4' 10.166 W	
2,300.0	1.35	73.91	2,299.2	-14.9	3.6	376,382.62	581,761.18	32° 2' 4.257 N	104° 4' 10.145 W	
2,400.0	1.46	113.72	2,399.1	-15.1	5.9	376,382.43	581,763.48	32° 2' 4.255 N	104° 4' 10.118 W	
2,500.0	1.21	86.60	2,499.1	-15.5	8.1	376,381.98	581,765.70	32° 2' 4.251 N	104° 4' 10.092 W	
2,600.0	1.34	75.76	2,599.1	-15.2	10.3	376,382.33	581,767.88	32° 2' 4.254 N	104° 4' 10.067 W	
2,700.0	1.36	58.16	2,699.1	-14.3	12.4	376,383.25	581,770.03	32° 2' 4.263 N	104° 4' 10.042 W	
2,800.0	1.34	91.07	2,799.0	-13.6	14.6	376,383.85	581,772.20	32° 2' 4.269 N	104° 4' 10.016 W	
2,900.0	1.32	108.68	2,899.0	-14.0	16.9	376,383.46	581,774.46	32° 2' 4.265 N	104° 4' 9.990 W	
3,000.0	1.27	76.64	2,999.0	-14.1	19.0	376,383.35	581,776.63	32° 2' 4.264 N	104° 4' 9.965 W	
3,100.0	1.35	55.65	3,099.0	-13.2	21.1	376,384.27	581,778.68	32° 2' 4.273 N	104° 4' 9.941 W	
3,200.0	1.22	19.42	3,198.9	-11.6	22.4	376,385.94	581,780.01	32° 2' 4.289 N	104° 4' 9.926 W	
3,300.0	1.11	52.62	3,298.9	-10.0	23.5	376,387.53	581,781.13	32° 2' 4.305 N	104° 4' 9.913 W	
3,400.0	1.16	61.79	3,398.9	-8.9	25.2	376,388.60	581,782.79	32° 2' 4.316 N	104° 4' 9.893 W	
3,500.0	1.29	69.90	3,498.9	-8.0	27.1	376,389.46	581,784.74	32° 2' 4.324 N	104° 4' 9.871 W	
3,600.0	1.30	59.21	3,598.8	-7.1	29.2	376,390.43	581,786.78	32° 2' 4.334 N	104° 4' 9.847 W	
3,700.0	1.34	70.00	3,698.8	-6.1	31.2	376,391.41	581,788.85	32° 2' 4.343 N	104° 4' 9.823 W	
3,800.0	1.39	30.67	3,798.8	-4.6	33.0	376,392.85	581,790.57	32° 2' 4.358 N	104° 4' 9.803 W	
3,900.0	1.59	41.48	3,898.8	-2.6	34.5	376,394.94	581,792.10	32° 2' 4.378 N	104° 4' 9.785 W	
4,000.0	1.51	59.83	3,998.7	-0.9	36.6	376,396.64	581,794.16	32° 2' 4.395 N	104° 4' 9.761 W	
4,100.0	1.77	48.22	4,098.7	0.8	38.8	376,398.33	581,796.45	32° 2' 4.412 N	104° 4' 9.734 W	
4,200.0	1.62	68.43	4,198.6	2.4	41.3	376,399.88	581,798.92	32° 2' 4.427 N	104° 4' 9.706 W	
4,300.0	1.77	97.40	4,298.6	2.7	44.2	376,400.20	581,801.76	32° 2' 4.430 N	104° 4' 9.673 W	
4,400.0	1.76	71.08	4,398.5	3.0	47.1	376,400.50	581,804.75	32° 2' 4.433 N	104° 4' 9.638 W	
4,500.0	1.89	77.24	4,498.5	3.9	50.2	376,401.36	581,807.81	32° 2' 4.441 N	104° 4' 9.602 W	
4,600.0	1.86	62.28	4,598.4	5.0	53.3	376,402.48	581,810.86	32° 2' 4.452 N	104° 4' 9.567 W	
4,700.0	1.93	73.37	4,698.4	6.2	56.3	376,403.72	581,813.91	32° 2' 4.465 N	104° 4' 9.531 W	
4,800.0	2.03	93.26	4,798.3	6.6	59.7	376,404.10	581,817.29	32° 2' 4.468 N	104° 4' 9.492 W	
4,900.0	2.19	108.67	4,898.3	5.9	63.3	376,403.38	581,820.87	32° 2' 4.461 N	104° 4' 9.451 W	
5,000.0	1.94	125.92	4,998.2	4.3	66.4	376,401.78	581,824.05	32° 2' 4.445 N	104° 4' 9.414 W	
5,100.0	2.10	125.70	5,098.1	2.2	69.3	376,399.72	581,826.91	32° 2' 4.425 N	104° 4' 9.381 W	
5,200.0	1.83	148.97	5,198.1	-0.2	71.6	376,397.28	581,829.22	32° 2' 4.401 N	104° 4' 9.354 W	
5,300.0	1.75	132.28	5,298.0	-2.6	73.6	376,394.88	581,831.17	32° 2' 4.377 N	104° 4' 9.331 W	
5,400.0	1.85	144.49	5,398.0	-5.0	75.6	376,392.54	581,833.24	32° 2' 4.354 N	104° 4' 9.307 W	
5,500.0	1.68	129.01	5,497.9	-7.2	77.7	376,390.31	581,835.31	32° 2' 4.331 N	104° 4' 9.283 W	
5,600.0	1.81	147.94	5,597.9	-9.5	79.7	376,388.05	581,837.29	32° 2' 4.309 N	104° 4' 9.260 W	
5,700.0	1.85	125.67	5,697.8	-11.7	81.8	376,385.77	581,839.44	32° 2' 4.286 N	104° 4' 9.235 W	
5,800.0	1.96	131.84	5,797.8	-13.8	84.4	376,383.68	581,842.03	32° 2' 4.266 N	104° 4' 9.205 W	
5,900.0	1.82	158.35	5,897.7	-16.4	86.3	376,381.07	581,843.88	32° 2' 4.240 N	104° 4' 9.184 W	
6,000.0	1.76	163.96	5,997.7	-19.4	87.3	376,378.12	581,844.90	32° 2' 4.210 N	104° 4' 9.172 W	



TDS
Survey Report - Geographic



Company:	COG Production LLC	Local Co-ordinate Reference:	Site Diamondback 22 State Com #5H
Project:	Eddy County, NM	TVD Reference:	KB @ 3001.3usft
Site:	Diamondback 22 State Com #5H	MD Reference:	KB @ 3001.3usft
Well:	SHL: 170' FNL, 990' FEL, T26S, R28E, Sec 22, Unit A	North Reference:	Grid
Wellbore:	BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P	Survey Calculation Method:	Minimum Curvature
Design:	BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
6,100.0	1.52	136.51	6,097.6	-21.8	88.6	376,375.68	581,846.23	32° 2' 4.186 N	104° 4' 9.157 W
6,200.0	1.50	149.69	6,197.6	-23.9	90.2	376,373.58	581,847.81	32° 2' 4.166 N	104° 4' 9.138 W
6,300.0	1.59	169.65	6,297.6	-26.4	91.1	376,371.09	581,848.72	32° 2' 4.141 N	104° 4' 9.128 W
6,400.0	1.10	200.43	6,397.5	-28.7	91.0	376,368.83	581,848.63	32° 2' 4.118 N	104° 4' 9.129 W
6,500.0	1.20	241.75	6,497.5	-30.1	89.8	376,367.43	581,847.37	32° 2' 4.105 N	104° 4' 9.144 W
6,600.0	1.67	273.99	6,597.5	-30.5	87.4	376,367.04	581,845.00	32° 2' 4.101 N	104° 4' 9.171 W
6,700.0	1.91	244.61	6,697.5	-31.1	84.4	376,366.42	581,842.04	32° 2' 4.095 N	104° 4' 9.206 W
6,800.0	2.31	244.21	6,797.4	-32.7	81.1	376,364.83	581,838.72	32° 2' 4.079 N	104° 4' 9.244 W
6,900.0	2.12	225.46	6,897.3	-34.8	78.0	376,362.66	581,835.58	32° 2' 4.058 N	104° 4' 9.281 W
7,000.0	2.05	199.70	6,997.2	-37.8	76.1	376,359.68	581,833.66	32° 2' 4.028 N	104° 4' 9.303 W
7,100.0	2.91	188.08	7,097.2	-42.0	75.1	376,355.48	581,832.70	32° 2' 3.987 N	104° 4' 9.314 W
7,200.0	2.98	174.32	7,197.0	-47.1	75.0	376,350.38	581,832.60	32° 2' 3.936 N	104° 4' 9.316 W
7,300.0	2.59	170.16	7,296.9	-51.9	75.6	376,345.57	581,833.25	32° 2' 3.889 N	104° 4' 9.308 W
7,409.0	2.20	181.42	7,405.8	-56.4	76.0	376,341.05	581,833.62	32° 2' 3.844 N	104° 4' 9.304 W
7,494.0	2.70	168.60	7,490.7	-60.0	76.4	376,337.45	581,833.97	32° 2' 3.808 N	104° 4' 9.300 W
7,527.0	5.70	187.10	7,523.6	-62.4	76.3	376,335.07	581,833.92	32° 2' 3.785 N	104° 4' 9.301 W
7,559.0	8.30	177.30	7,555.4	-66.3	76.2	376,331.18	581,833.83	32° 2' 3.746 N	104° 4' 9.302 W
7,591.0	12.00	171.80	7,586.9	-71.9	76.8	376,325.58	581,834.42	32° 2' 3.691 N	104° 4' 9.295 W
7,623.0	15.70	172.30	7,618.0	-79.5	77.9	376,317.99	581,835.47	32° 2' 3.616 N	104° 4' 9.283 W
7,655.0	19.10	170.70	7,648.5	-89.0	79.3	376,308.53	581,836.90	32° 2' 3.522 N	104° 4' 9.267 W
7,686.0	22.90	171.80	7,677.4	-99.9	81.0	376,297.55	581,838.58	32° 2' 3.413 N	104° 4' 9.248 W
7,717.0	26.50	171.80	7,705.6	-112.8	82.8	376,284.74	581,840.43	32° 2' 3.286 N	104° 4' 9.227 W
7,749.0	30.00	171.80	7,733.8	-127.8	85.0	376,269.75	581,842.59	32° 2' 3.138 N	104° 4' 9.202 W
7,781.0	33.10	170.80	7,761.0	-144.3	87.5	376,253.20	581,845.13	32° 2' 2.974 N	104° 4' 9.173 W
7,813.0	36.60	170.40	7,787.3	-162.3	90.5	376,235.16	581,848.11	32° 2' 2.796 N	104° 4' 9.139 W
7,845.0	40.20	170.10	7,812.4	-181.9	93.9	376,215.58	581,851.48	32° 2' 2.602 N	104° 4' 9.100 W
7,877.0	43.60	170.40	7,836.2	-203.0	97.5	376,194.52	581,855.10	32° 2' 2.393 N	104° 4' 9.059 W
7,909.0	47.70	172.10	7,858.5	-225.6	101.0	376,171.90	581,858.57	32° 2' 2.169 N	104° 4' 9.019 W
7,941.0	49.20	174.30	7,879.8	-249.4	103.8	376,148.13	581,861.40	32° 2' 1.934 N	104° 4' 8.987 W
7,973.0	50.60	175.50	7,900.4	-273.7	106.0	376,123.75	581,863.57	32° 2' 1.693 N	104° 4' 8.962 W
8,005.0	52.70	175.40	7,920.2	-298.8	108.0	376,098.73	581,865.56	32° 2' 1.445 N	104° 4' 8.940 W
8,037.0	56.40	175.30	7,938.8	-324.7	110.1	376,072.76	581,867.67	32° 2' 1.188 N	104° 4' 8.916 W
8,069.0	59.30	176.00	7,955.8	-351.8	112.1	376,045.74	581,869.73	32° 2' 0.921 N	104° 4' 8.893 W
8,101.0	62.10	176.40	7,971.5	-379.6	114.0	376,017.90	581,871.57	32° 2' 0.645 N	104° 4' 8.872 W
8,131.0	64.60	177.10	7,984.9	-406.4	115.5	375,991.13	581,873.09	32° 2' 0.380 N	104° 4' 8.856 W
8,163.0	67.20	178.10	7,998.0	-435.5	116.7	375,961.95	581,874.31	32° 2' 0.091 N	104° 4' 8.842 W
8,195.0	68.90	178.50	8,010.0	-465.2	117.6	375,932.29	581,875.19	32° 1' 59.798 N	104° 4' 8.833 W
8,227.0	70.10	177.60	8,021.2	-495.2	118.6	375,902.33	581,876.21	32° 1' 59.501 N	104° 4' 8.822 W
8,259.0	71.10	176.90	8,031.8	-525.3	120.1	375,872.18	581,877.66	32° 1' 59.203 N	104° 4' 8.806 W
8,291.0	71.80	176.70	8,042.0	-555.6	121.8	375,841.89	581,879.36	32° 1' 58.903 N	104° 4' 8.787 W
8,323.0	71.60	176.70	8,052.0	-585.9	123.5	375,811.56	581,881.11	32° 1' 58.603 N	104° 4' 8.768 W
8,355.0	74.10	176.90	8,061.5	-616.5	125.2	375,781.04	581,882.81	32° 1' 58.300 N	104° 4' 8.749 W
8,387.0	77.30	177.00	8,069.4	-647.4	126.9	375,750.07	581,884.46	32° 1' 57.994 N	104° 4' 8.730 W
8,419.0	79.80	177.60	8,075.7	-678.7	128.3	375,718.75	581,885.94	32° 1' 57.684 N	104° 4' 8.714 W
8,451.0	81.30	177.60	8,081.0	-710.3	129.7	375,687.21	581,887.26	32° 1' 57.372 N	104° 4' 8.700 W
8,481.0	82.90	177.30	8,085.1	-740.0	131.0	375,657.53	581,888.58	32° 1' 57.078 N	104° 4' 8.685 W
8,513.0	85.20	177.80	8,088.4	-771.8	132.3	375,625.73	581,889.94	32° 1' 56.763 N	104° 4' 8.670 W
8,545.0	86.00	178.00	8,090.9	-803.7	133.5	375,593.85	581,891.11	32° 1' 56.448 N	104° 4' 8.658 W
8,577.0	87.20	178.00	8,092.8	-835.6	134.6	375,561.92	581,892.23	32° 1' 56.132 N	104° 4' 8.645 W
8,609.0	89.10	178.10	8,093.8	-867.5	135.7	375,529.96	581,893.31	32° 1' 55.815 N	104° 4' 8.634 W
8,641.0	89.00	178.00	8,094.3	-899.5	136.8	375,497.98	581,894.40	32° 1' 55.499 N	104° 4' 8.622 W
8,673.0	88.90	177.70	8,094.9	-931.5	138.0	375,466.01	581,895.60	32° 1' 55.183 N	104° 4' 8.609 W



TDS
Survey Report - Geographic



Company:	COG Production LLC	Local Co-ordinate Reference:	Site Diamondback 22 State Com #5H
Project:	Eddy County, NM	TVD Reference:	KB @ 3001.3usft
Site:	Diamondback 22 State Com #5H	MD Reference:	KB @ 3001.3usft
Well:	SHL: 170' FNL, 990' FEL, T26S, R28E, Sec 22, Unit A	North Reference:	Grid
Wellbore:	BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P	Survey Calculation Method:	Minimum Curvature
Design:	BHL: 330' FSL, 510' FEL, T26S, R28E, Sec 22, Unit P	Database:	EDM 5000.1 Single User Db

Survey

Measured Depth (usft)	Inclination (°)	Azimuth (°)	Vertical Depth (usft)	+N/-S (usft)	+E/-W (usft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
8,769.0	88.40	177.60	8,097.2	-1,027.4	141.9	375,370.12	581,899.54	32° 1' 54.233 N	104° 4' 8.566 W
8,865.0	89.40	176.50	8,099.0	-1,123.2	146.9	375,274.27	581,904.48	32° 1' 53.285 N	104° 4' 8.511 W
8,960.0	89.30	176.40	8,100.1	-1,218.0	152.8	375,179.45	581,910.36	32° 1' 52.346 N	104° 4' 8.446 W
9,054.0	89.20	176.30	8,101.3	-1,311.8	158.7	375,085.65	581,916.34	32° 1' 51.418 N	104° 4' 8.379 W
9,148.0	90.90	177.80	8,101.2	-1,405.7	163.6	374,991.78	581,921.18	32° 1' 50.489 N	104° 4' 8.325 W
9,241.0	91.00	178.20	8,099.7	-1,498.6	166.8	374,898.85	581,924.43	32° 1' 49.569 N	104° 4' 8.290 W
9,336.0	91.30	177.90	8,097.8	-1,593.6	170.1	374,803.93	581,927.66	32° 1' 48.629 N	104° 4' 8.255 W
9,430.0	90.20	177.90	8,096.6	-1,687.5	173.5	374,710.00	581,931.10	32° 1' 47.700 N	104° 4' 8.218 W
9,523.0	89.10	176.90	8,097.1	-1,780.4	177.7	374,617.10	581,935.32	32° 1' 46.780 N	104° 4' 8.172 W
9,618.0	88.90	176.60	8,098.8	-1,875.2	183.1	374,522.27	581,940.71	32° 1' 45.842 N	104° 4' 8.112 W
9,711.0	89.50	177.00	8,100.1	-1,968.1	188.3	374,429.42	581,945.90	32° 1' 44.923 N	104° 4' 8.054 W
9,805.0	89.90	176.80	8,100.6	-2,061.9	193.4	374,335.56	581,950.98	32° 1' 43.994 N	104° 4' 7.998 W
9,899.0	90.00	176.50	8,100.7	-2,155.8	198.9	374,241.72	581,956.47	32° 1' 43.065 N	104° 4' 7.937 W
9,992.0	91.60	177.30	8,099.4	-2,248.6	203.9	374,148.87	581,961.50	32° 1' 42.146 N	104° 4' 7.881 W
10,085.0	91.10	177.40	8,097.2	-2,341.5	208.2	374,056.00	581,965.80	32° 1' 41.226 N	104° 4' 7.834 W
10,179.0	90.40	178.10	8,095.9	-2,435.4	211.9	373,962.08	581,969.49	32° 1' 40.297 N	104° 4' 7.793 W
10,273.0	89.40	178.40	8,096.1	-2,529.4	214.8	373,868.12	581,972.36	32° 1' 39.367 N	104° 4' 7.763 W
10,367.0	91.70	179.80	8,095.2	-2,623.4	216.2	373,774.15	581,973.84	32° 1' 38.437 N	104° 4' 7.748 W
10,462.0	87.60	177.20	8,095.8	-2,718.3	218.7	373,679.21	581,976.32	32° 1' 37.497 N	104° 4' 7.722 W
10,556.0	87.10	176.50	8,100.1	-2,812.0	223.9	373,585.45	581,981.48	32° 1' 36.569 N	104° 4' 7.665 W
10,650.0	87.00	176.30	8,105.0	-2,905.7	229.8	373,491.76	581,987.38	32° 1' 35.642 N	104° 4' 7.599 W
10,743.0	88.60	175.60	8,108.5	-2,998.4	236.3	373,399.07	581,993.94	32° 1' 34.724 N	104° 4' 7.525 W
10,836.0	89.60	174.90	8,110.0	-3,091.1	244.0	373,306.40	582,001.64	32° 1' 33.807 N	104° 4' 7.439 W
10,930.0	89.50	174.70	8,110.7	-3,184.7	252.6	373,212.79	582,010.16	32° 1' 32.881 N	104° 4' 7.342 W
11,023.0	89.90	174.20	8,111.2	-3,277.3	261.6	373,120.23	582,019.15	32° 1' 31.964 N	104° 4' 7.240 W
11,116.0	90.10	173.50	8,111.2	-3,369.7	271.5	373,027.76	582,029.12	32° 1' 31.049 N	104° 4' 7.127 W
11,211.0	90.20	173.00	8,111.0	-3,464.1	282.7	372,933.42	582,040.28	32° 1' 30.115 N	104° 4' 7.000 W
11,304.0	90.40	172.90	8,110.5	-3,556.4	294.1	372,841.13	582,051.70	32° 1' 29.201 N	104° 4' 6.870 W
11,398.0	90.70	172.90	8,109.6	-3,649.6	305.7	372,747.85	582,063.32	32° 1' 28.278 N	104° 4' 6.738 W
11,491.0	90.50	172.40	8,108.6	-3,741.9	317.6	372,655.62	582,075.21	32° 1' 27.365 N	104° 4' 6.602 W
11,586.0	91.10	172.30	8,107.3	-3,836.0	330.3	372,561.48	582,087.86	32° 1' 26.433 N	104° 4' 6.458 W
11,679.0	90.60	172.30	8,105.9	-3,928.2	342.7	372,469.33	582,100.32	32° 1' 25.521 N	104° 4' 6.316 W
11,772.0	91.00	172.30	8,104.6	-4,020.3	355.2	372,377.17	582,112.78	32° 1' 24.608 N	104° 4' 6.174 W
11,866.0	91.00	172.10	8,103.0	-4,113.4	367.9	372,284.06	582,125.53	32° 1' 23.686 N	104° 4' 6.029 W
11,960.0	90.10	172.20	8,102.1	-4,206.6	380.8	372,190.94	582,138.37	32° 1' 22.765 N	104° 4' 5.882 W
12,053.0	90.40	172.60	8,101.7	-4,298.7	393.1	372,098.76	582,150.67	32° 1' 21.852 N	104° 4' 5.742 W
12,147.0	89.40	172.30	8,101.8	-4,391.9	405.4	372,005.58	582,163.02	32° 1' 20.930 N	104° 4' 5.601 W
12,241.0	89.80	171.90	8,102.5	-4,485.0	418.3	371,912.47	582,175.94	32° 1' 20.008 N	104° 4' 5.454 W
12,336.0	90.30	171.80	8,102.4	-4,579.1	431.8	371,818.43	582,189.41	32° 1' 19.077 N	104° 4' 5.300 W
12,430.0	90.30	171.50	8,101.9	-4,672.1	445.5	371,725.43	582,203.06	32° 1' 18.156 N	104° 4' 5.144 W
Final MWD Survey									
12,495.0	90.30	171.50	8,101.6	-4,736.4	455.1	371,661.15	582,212.66	32° 1' 17.520 N	104° 4' 5.034 W
Projection to Bit/TD									

Design Annotations

Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
12,430.0	8,101.9	-4,672.1	445.5	Final MWD Survey
12,495.0	8,101.6	-4,736.4	455.1	Projection to Bit/TD