

PATRIOT DRILLING, LLC

NM OIL CONSERVATION

ARTESIA DISTRICT

SEP 23 2016

RECEIVED

OPERATOR: COG Operating, LLC
WELL/LEASE: Lajitas BWQ State Com 1H
COUNTY: Eddy Co., New Mexico
Sec. 26, T 18S, R 28E

15-43390

**STATE OF NEW MEXICO
DEVIATION REPORT**

<u>Depth</u>	<u>Deviation</u>	<u>Depth</u>	<u>Deviation</u>
486	2	3,550	1/4
947	1/2	3,960	1/2
1,138	3/4	4,435	3/4
1,579	1/2	4,875	3/4
2,083	1	5,317	1/2
2,336	1/2	5,746	1/2
2,620	1/2	6,204	3
3,060	1	6,505	1/2

Patriot Drilling, LLC

M. Leroy Peterson, Executive Vice-President

The foregoing instrument was acknowledged before me on this 31st day of May 2016 by M. Leroy Peterson, Executive Vice-President of Patriot Drilling, LLC.

My Commission Expires: 02/01/2019



Lori F. Rowan
Notary Public for Ector Co., Texas



May 20, 2016

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 23 2016

RECEIVED

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

Attn: Kanicia Castillo

RE: Lajitas BWQ State Com No 001H

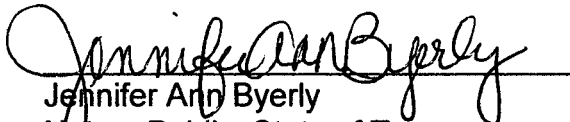
Please find enclosed a copy of the survey from 0' to 6700' ran on the above referenced well.

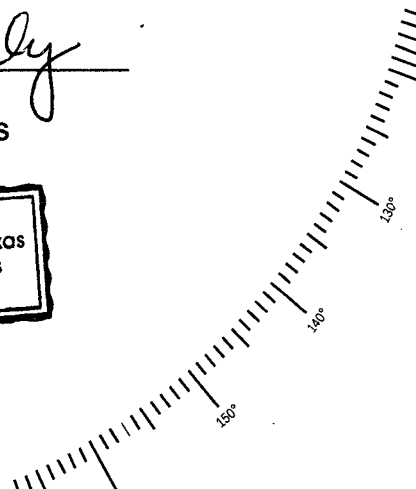
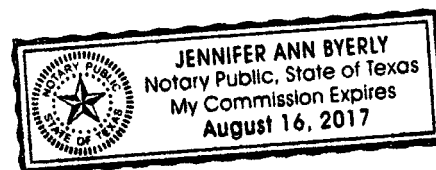
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 20th day of May,
A.D., 2016, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas



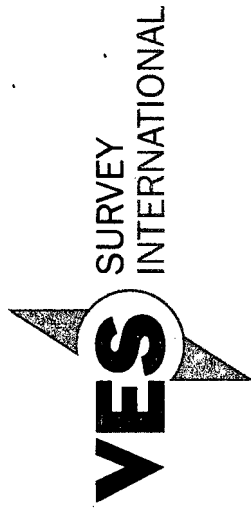


NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 23 2016

RECEIVED

Company: Concho
Lease/Well: Lajitas BWQ State Com No/001H
Rig Name: Patriot 2
State/County: New Mexico/Eddy
VS-Azi: 0.00 Degrees
Latitude: 32.71356, Longitude: -104.14650
Grid North = True North -0.10 degs (NAD 27)
Grid Correction Applied = -0.10 degs



Depth Reference : RKB = 20 Feet
DRILLOG HA GYRO SURVEY CALCULATIONS
Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 5/20/2016 / 09:23
VES Survey International
Midland, TX
432-563-5444
Surveyor: Andrew Askew
Lajitas BWQ State Com No 001H / API 30-015-43390

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	0.66	212.91	100.00	-0.48	-0.31	-0.48	0.57	212.91	0.66
200.00	0.62	144.35	199.99	-1.40	-0.31	-1.40	1.44	192.38	0.72
300.00	1.73	114.37	299.97	-2.47	1.38	-2.47	2.83	150.74	1.23
400.00	2.20	126.80	399.91	-4.24	4.29	-4.24	6.03	134.64	0.63
500.00	1.68	114.53	499.86	-5.99	7.16	-5.99	9.34	129.93	0.66
600.00	1.96	123.68	599.81	-7.55	9.92	-7.55	12.46	127.29	0.40
700.00	1.89	115.31	699.75	-9.20	12.83	-9.20	15.78	125.66	0.29
800.00	1.52	104.73	799.70	-10.24	15.60	-10.24	18.66	123.29	0.48
900.00	1.16	120.36	899.68	-11.09	17.76	-11.09	20.94	121.99	0.51
1000.00	0.45	139.94	999.67	-11.91	18.89	-11.91	22.33	122.23	0.75
1100.00	0.36	128.91	1099.66	-12.41	19.39	-12.41	23.02	122.62	0.12
1200.00	0.53	137.35	1199.66	-12.95	19.95	-12.95	23.78	122.99	0.18
1300.00	0.48	153.72	1299.66	-13.66	20.44	-13.66	24.59	123.75	0.15
1400.00	0.48	135.81	1399.65	-14.34	20.92	-14.34	25.37	124.42	0.15
1500.00	0.33	134.88	1499.65	-14.85	21.42	-14.85	26.06	124.72	0.15
1600.00	0.39	130.76	1599.65	-15.27	21.88	-15.27	26.68	124.91	0.06

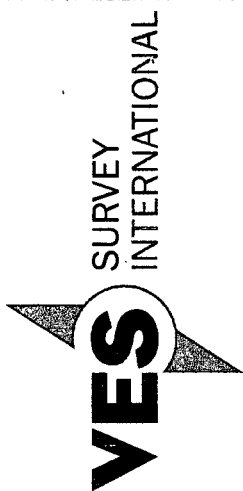
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/S FT	+E/W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1700.00	0.46	110.92	1699.65	-15.63	22.51	-15.63	27.41	124.78	0.16
1800.00	0.46	107.82	1799.64	-15.90	23.27	-15.90	28.19	124.34	0.03
1900.00	0.59	128.51	1899.64	-16.34	24.06	-16.34	29.08	124.19	0.22
2000.00	0.65	139.92	1999.63	-17.10	24.82	-17.10	30.14	124.56	0.14
2100.00	0.77	115.36	2099.63	-17.82	25.80	-17.82	31.35	124.63	0.33
2200.00	0.81	133.24	2199.62	-18.59	26.92	-18.59	32.72	124.63	0.25
2300.00	0.50	95.75	2299.61	-19.12	27.87	-19.12	33.80	124.45	0.51
2400.00	0.39	104.07	2399.61	-19.25	28.63	-19.25	34.50	123.91	0.13
2500.00	1.05	103.42	2499.60	-19.54	29.85	-19.54	35.68	123.21	0.66
2600.00	0.70	127.49	2599.59	-20.12	31.22	-20.12	37.15	122.80	0.50
2700.00	0.89	90.41	2699.58	-20.50	32.49	-20.50	38.42	122.26	0.54
2800.00	1.10	101.55	2799.56	-20.70	34.21	-20.70	39.98	121.18	0.29
2900.00	1.17	112.96	2899.54	-21.29	36.09	-21.29	41.91	120.54	0.24
3000.00	0.89	97.62	2999.53	-21.79	37.80	-21.79	43.63	119.97	0.39
3100.00	0.86	100.86	3099.52	-22.04	39.30	-22.04	45.06	119.28	0.06
3200.00	0.83	115.34	3199.51	-22.49	40.69	-22.49	46.49	118.93	0.21
3300.00	0.71	142.18	3299.50	-23.29	41.73	-23.29	47.79	119.17	0.37
3400.00	0.61	153.35	3399.49	-24.26	42.35	-24.26	48.81	119.81	0.17
3500.00	0.42	168.67	3499.49	-25.10	42.66	-25.10	49.50	120.47	0.24
3600.00	0.33	190.52	3599.48	-25.74	42.68	-25.74	49.84	121.09	0.17
3700.00	0.27	157.43	3699.48	-26.24	42.72	-26.24	50.13	121.56	0.18
3800.00	0.26	171.52	3799.48	-26.68	42.84	-26.68	50.47	121.91	0.07
3900.00	0.48	182.73	3899.48	-27.32	42.86	-27.32	50.82	122.52	0.23
4000.00	0.59	190.43	3999.48	-28.25	42.74	-28.25	51.23	123.46	0.13
4100.00	0.69	207.47	4099.47	-29.29	42.37	-29.29	51.51	124.65	0.21
4200.00	0.77	256.50	4199.46	-29.97	41.44	-29.97	51.15	125.88	0.61
4300.00	0.66	265.72	4299.45	-30.17	40.21	-30.17	50.28	126.88	0.16
4400.00	0.89	238.33	4399.45	-30.63	38.98	-30.63	49.57	128.16	0.43
4500.00	0.59	213.07	4499.44	-31.47	38.03	-31.47	49.36	129.61	0.44
4600.00	0.61	228.74	4599.43	-32.25	37.35	-32.25	49.35	130.81	0.16
4700.00	0.48	231.47	4699.43	-32.87	36.62	-32.87	49.21	131.91	0.13
4800.00	0.61	267.97	4799.42	-33.15	35.76	-33.15	48.76	132.83	0.36
4900.00	0.90	248.44	4899.41	-33.46	34.49	-33.46	48.05	134.13	0.38
5000.00	0.54	268.24	4999.41	-33.76	33.29	-33.76	47.41	135.40	0.43
5100.00	0.35	219.36	5099.40	-34.01	32.62	-34.01	47.13	136.20	0.41
5200.00	0.19	252.43	5199.40	-34.30	32.27	-34.30	47.09	136.75	0.22
5300.00	0.25	335.38	5299.40	-34.15	32.02	-34.15	46.82	136.85	0.29
5400.00	0.63	332.84	5399.40	-33.47	31.68	-33.47	46.08	136.57	0.39
5500.00	0.54	3.37	5499.39	-32.50	31.45	-32.50	45.23	135.94	0.32

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
5600.00	0.12	316.33	5599.39	-31.96	31.41	-31.96	44.81	135.50	0.47
5700.00	0.13	230.56	5699.39	-31.96	31.25	-31.96	44.70	135.64	0.17
5800.00	0.44	224.11	5799.39	-32.31	30.89	-32.31	44.70	136.28	0.31
5900.00	0.79	207.77	5899.38	-33.19	30.30	-33.19	44.95	137.61	0.39
6000.00	2.07	202.36	5999.35	-35.47	29.29	-35.47	46.01	140.45	1.28
6100.00	2.96	192.97	6099.25	-39.65	28.03	-39.65	48.56	144.75	0.98
6200.00	3.09	187.70	6199.12	-44.84	27.09	-44.84	52.39	148.86	0.31
6300.00	2.09	209.39	6299.01	-49.10	25.84	-49.10	55.48	152.25	1.39
6400.00	1.02	185.48	6398.98	-51.57	24.86	-51.57	57.25	154.27	1.22
6500.00	0.58	165.69	6498.97	-52.95	24.90	-52.95	58.51	154.82	0.51
6600.00	0.59	145.33	6598.96	-53.87	25.32	-53.87	59.52	154.83	0.21
6700.00	0.73	152.45	6698.96	-54.85	25.90	-54.85	60.66	154.72	0.16

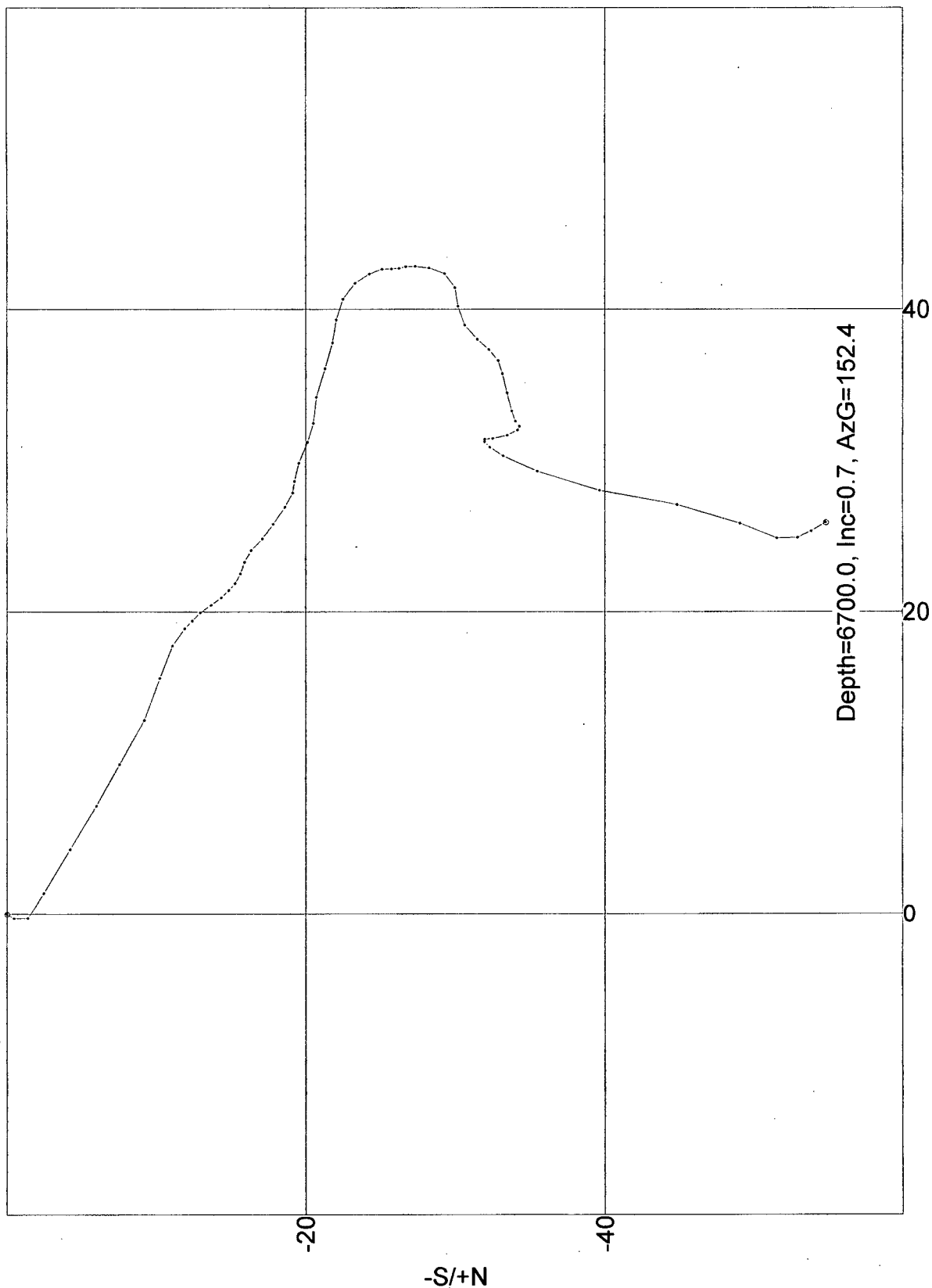


VES Survey International
Midland, TX
432-563-5444

Surveyor: Andrew Askew
Lajitas BWQ State Com No 001H / API 30-015-43390



Depth=0.0, Inc=0.0, AzG=0.0

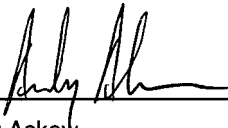


-W/+E

V.E.S. Survey Date: 5/12/2016



I Andy Askew certify that I am employed by VES Survey International. That I did on the day(s) of 05/12/16 through 05/12/16 conduct or supervise the taking of a Rate Gyro survey from a depth of 0.00 feet to a depth of 6,700.00 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Vaughn Energy Services, that I am authorized and qualified to make this report; that this survey was conducted at the request of Concho for the Lajitas BWQ State Com Well # 1H API # 30-015-43390 in Eddy County / Parish New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by VES Survey International.



Andy Askew
Service Technician
VES Survey International

NM OIL CONSERVATION
ARTESIA DISTRICT

SEP 23 2016

RECEIVED

COG Production L L C

Eddy County, NM (NAD 27 NME)

Sec. 26, T 18S. , R 28 E

Lajitas BWQ State C #1H

Wellbore #1

Design: Wellbore #1

Survey Report - Geographic

31 May, 2016

Integrity Directional Services, LLC

Survey Report - Geographic

Company:	COG Production L.L.C.	Local Co-ordinate Reference:	Site Sec. 26-T 18S R 28 E
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=20' @ 3512.01ft
Site:	Sec. 26, T 18S R 28 E	MD Reference:	KB=20' @ 3512.01ft
Well:	Lajitas BWQ State C #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Project:	Eddy County, NM (NAD 27 NME)		
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:	Sec. 26, T 18S R 28 E		
Site Position:		Northing:	623,311.40 usft
From:	Map	Easting:	557,622.00 usft
Position Uncertainty:	5.00 ft	Slot Radius:	13-3/16 "
		Latitude:	32° 42' 48.384 N
		Longitude:	104° 8' 45.556 W
		Grid Convergence:	0.10 °

Well:	Lajitas BWQ State C #1H		
Well Position	+N/-S	0.01 ft	Northing: 623,311.40 usft
	+E/-W	0.00 ft	Easting: 557,622.00 usft
Position Uncertainty	5.00 ft	Wellhead Elevation:	0.00 ft
		Latitude:	32° 42' 48.384 N
		Longitude:	104° 8' 45.556 W
		Ground Level:	3,492.01 ft

Wellbore:	Wellbore #1		
Magnetics	Model Name	Sample Date	Declination
	IGRF2015	4/7/2016	(°)
			7.38
			(°)
			60.43
			(nT)
			48,289

Design:	Wellbore #1		
Audit Notes:			
Version:	1.0	Phase:	ACTUAL
		Tie On Depth:	0.00
Vertical Section:	Depth From (TVD)	+N/-S	+E/-W
	(ft)	(ft)	(ft)
	0.00	0.01	0.00
			89.21

Survey Program	Date 5/31/2016		
From	To	Survey (Wellbore)	Tool Name
(ft)	(ft)		
100.00	6,700.00	Gyros (Wellbore #1)	NS-GYRO-MS
6,860.00	14,669.00	MWD (Wellbore #1)	MWD
			Description
			North sensing gyrocompassing m/s
			MWD - Standard

Survey:									
Measured	Vertical	Map	Map	Latitude	Longitude				
Depth	Depth	Northing	Easting						
(ft)	(ft)	(usft)	(usft)						
0.00	0.00	623,311.40	557,622.00	32° 42' 48.384 N	104° 8' 45.556 W				
100.00	0.66	623,310.92	557,621.69	32° 42' 48.380 N	104° 8' 45.560 W				
200.00	0.62	623,310.00	557,621.69	32° 42' 48.370 N	104° 8' 45.560 W				
300.00	1.73	623,308.93	557,623.38	32° 42' 48.360 N	104° 8' 45.540 W				
400.00	2.20	623,307.16	557,626.29	32° 42' 48.342 N	104° 8' 45.506 W				
500.00	1.68	623,305.40	557,629.16	32° 42' 48.325 N	104° 8' 45.472 W				
600.00	1.96	623,303.85	557,631.92	32° 42' 48.309 N	104° 8' 45.440 W				
700.00	1.89	623,302.19	557,634.84	32° 42' 48.293 N	104° 8' 45.406 W				
800.00	1.52	623,301.15	557,637.61	32° 42' 48.283 N	104° 8' 45.374 W				
900.00	1.16	623,300.30	557,639.76	32° 42' 48.274 N	104° 8' 45.348 W				
1,000.00	0.45	623,299.49	557,640.89	32° 42' 48.266 N	104° 8' 45.335 W				

Integrity Directional Services, LLC

Survey Report - Geographic

Company:	COG Production L.L.C.	Local Co-ordinate Reference:	Site Sec. 26, T.18S, R.28 E
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=20' @ 3512.01ft
Site:	Sec. 26, T.18S, R.28 E	MD Reference:	KB=20' @ 3512.01ft
Well:	Lajitas BWQ State C #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM:5000.1 Multi-User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
1,100.00	0.36	128.91	1,099.67	-12.40	19.39	623,298.99	557,641.39	32° 42' 48.261 N	104° 8' 45.329 W
1,200.00	0.53	137.35	1,199.66	-12.94	19.94	623,298.45	557,641.95	32° 42' 48.256 N	104° 8' 45.323 W
1,300.00	0.48	153.72	1,299.66	-13.66	20.44	623,297.74	557,642.44	32° 42' 48.249 N	104° 8' 45.317 W
1,400.00	0.48	135.81	1,399.66	-14.33	20.92	623,297.06	557,642.92	32° 42' 48.242 N	104° 8' 45.311 W
1,500.00	0.33	134.88	1,499.65	-14.84	21.42	623,296.56	557,643.42	32° 42' 48.237 N	104° 8' 45.306 W
1,600.00	0.39	130.76	1,599.65	-15.26	21.88	623,296.13	557,643.88	32° 42' 48.233 N	104° 8' 45.300 W
1,700.00	0.46	110.92	1,699.65	-15.63	22.51	623,295.77	557,644.51	32° 42' 48.229 N	104° 8' 45.293 W
1,800.00	0.46	107.82	1,799.65	-15.89	23.27	623,295.50	557,645.27	32° 42' 48.227 N	104° 8' 45.284 W
1,900.00	0.59	128.51	1,899.64	-16.34	24.05	623,295.06	557,646.05	32° 42' 48.222 N	104° 8' 45.275 W
2,000.00	0.65	139.92	1,999.64	-17.09	24.82	623,294.30	557,646.82	32° 42' 48.215 N	104° 8' 45.266 W
2,100.00	0.77	115.36	2,099.63	-17.81	25.79	623,293.58	557,647.80	32° 42' 48.208 N	104° 8' 45.254 W
2,200.00	0.81	133.24	2,199.62	-18.59	26.92	623,292.81	557,648.92	32° 42' 48.200 N	104° 8' 45.241 W
2,300.00	0.50	95.75	2,299.62	-19.11	27.86	623,292.28	557,649.87	32° 42' 48.195 N	104° 8' 45.230 W
2,400.00	0.39	104.07	2,399.61	-19.24	28.63	623,292.16	557,650.63	32° 42' 48.193 N	104° 8' 45.221 W
2,500.00	1.05	103.42	2,499.60	-19.54	29.85	623,291.86	557,651.85	32° 42' 48.190 N	104° 8' 45.207 W
2,600.00	0.70	127.49	2,599.59	-20.12	31.23	623,291.28	557,653.23	32° 42' 48.185 N	104° 8' 45.191 W
2,700.00	0.89	90.41	2,699.58	-20.50	32.49	623,290.90	557,654.49	32° 42' 48.181 N	104° 8' 45.176 W
2,800.00	1.10	101.55	2,799.56	-20.70	34.20	623,290.70	557,656.21	32° 42' 48.179 N	104° 8' 45.156 W
2,900.00	1.17	112.96	2,899.54	-21.29	36.08	623,290.11	557,658.09	32° 42' 48.173 N	104° 8' 45.134 W
3,000.00	0.89	97.62	2,999.53	-21.79	37.79	623,289.61	557,659.80	32° 42' 48.168 N	104° 8' 45.114 W
3,100.00	0.86	100.86	3,099.52	-22.03	39.30	623,289.37	557,661.30	32° 42' 48.166 N	104° 8' 45.096 W
3,200.00	0.83	115.34	3,199.51	-22.48	40.69	623,288.91	557,662.70	32° 42' 48.161 N	104° 8' 45.080 W
3,300.00	0.71	142.18	3,299.50	-23.28	41.73	623,288.11	557,663.73	32° 42' 48.153 N	104° 8' 45.068 W
3,400.00	0.61	153.35	3,399.49	-24.25	42.35	623,287.15	557,664.35	32° 42' 48.144 N	104° 8' 45.061 W
3,500.00	0.42	168.67	3,499.49	-25.08	42.66	623,286.31	557,664.66	32° 42' 48.135 N	104° 8' 45.057 W
3,600.00	0.33	190.52	3,599.48	-25.73	42.68	623,285.67	557,664.68	32° 42' 48.129 N	104° 8' 45.057 W
3,700.00	0.27	157.43	3,699.48	-26.23	42.71	623,285.17	557,664.72	32° 42' 48.124 N	104° 8' 45.057 W
3,800.00	0.26	171.52	3,799.48	-26.67	42.84	623,284.73	557,664.84	32° 42' 48.120 N	104° 8' 45.055 W
3,900.00	0.48	182.73	3,899.48	-27.31	42.85	623,284.09	557,664.85	32° 42' 48.113 N	104° 8' 45.055 W
4,000.00	0.59	190.43	3,999.48	-28.24	42.74	623,283.16	557,664.74	32° 42' 48.104 N	104° 8' 45.056 W
4,100.00	0.69	207.47	4,099.47	-29.28	42.37	623,282.12	557,664.37	32° 42' 48.094 N	104° 8' 45.061 W
4,200.00	0.77	256.50	4,199.46	-29.97	41.44	623,281.43	557,663.44	32° 42' 48.087 N	104° 8' 45.072 W
4,300.00	0.66	265.72	4,299.45	-30.17	40.21	623,281.23	557,662.21	32° 42' 48.085 N	104° 8' 45.086 W
4,400.00	0.89	238.33	4,399.45	-30.62	38.97	623,280.78	557,660.98	32° 42' 48.081 N	104° 8' 45.100 W
4,500.00	0.59	213.07	4,499.44	-31.46	38.03	623,279.94	557,660.03	32° 42' 48.072 N	104° 8' 45.111 W
4,600.00	0.61	228.74	4,599.43	-32.24	37.35	623,279.16	557,659.35	32° 42' 48.065 N	104° 8' 45.119 W
4,700.00	0.48	231.47	4,699.43	-32.85	36.62	623,278.55	557,658.62	32° 42' 48.059 N	104° 8' 45.128 W
4,800.00	0.61	267.97	4,799.42	-33.13	35.76	623,278.27	557,657.77	32° 42' 48.056 N	104° 8' 45.138 W
4,900.00	0.90	248.44	4,899.41	-33.44	34.50	623,277.96	557,656.50	32° 42' 48.053 N	104° 8' 45.153 W
5,000.00	0.54	268.24	4,999.41	-33.74	33.30	623,277.66	557,655.30	32° 42' 48.050 N	104° 8' 45.167 W
5,100.00	0.35	219.36	5,099.40	-33.99	32.63	623,277.40	557,654.64	32° 42' 48.047 N	104° 8' 45.175 W
5,200.00	0.19	252.43	5,199.40	-34.28	32.28	623,277.12	557,654.28	32° 42' 48.045 N	104° 8' 45.179 W
5,300.00	0.25	335.38	5,299.40	-34.13	32.03	623,277.27	557,654.04	32° 42' 48.046 N	104° 8' 45.182 W
5,400.00	0.63	332.84	5,399.40	-33.44	31.69	623,277.95	557,653.69	32° 42' 48.053 N	104° 8' 45.186 W
5,500.00	0.54	3.37	5,499.39	-32.48	31.47	623,278.91	557,653.47	32° 42' 48.062 N	104° 8' 45.188 W
5,600.00	0.12	316.33	5,599.39	-31.94	31.42	623,279.46	557,653.43	32° 42' 48.068 N	104° 8' 45.189 W
5,700.00	0.13	230.56	5,699.39	-31.93	31.26	623,279.46	557,653.27	32° 42' 48.068 N	104° 8' 45.191 W
5,800.00	0.44	224.11	5,799.39	-32.28	30.91	623,279.12	557,652.91	32° 42' 48.064 N	104° 8' 45.195 W
5,900.00	0.79	207.77	5,899.38	-33.17	30.32	623,278.23	557,652.32	32° 42' 48.056 N	104° 8' 45.202 W
6,000.00	2.07	202.36	5,999.35	-35.45	29.31	623,275.95	557,651.31	32° 42' 48.033 N	104° 8' 45.214 W
6,100.00	2.96	192.97	6,099.25	-39.63	28.05	623,271.76	557,650.05	32° 42' 47.992 N	104° 8' 45.229 W
6,200.00	3.09	187.70	6,199.12	-44.82	27.10	623,266.58	557,649.11	32° 42' 47.940 N	104° 8' 45.240 W
6,300.00	2.09	209.39	6,299.01	-49.08	25.85	623,262.32	557,647.85	32° 42' 47.898 N	104° 8' 45.254 W
6,400.00	1.02	185.48	6,398.98	-51.56	24.87	623,259.84	557,646.87	32° 42' 47.874 N	104° 8' 45.266 W
6,500.00	0.58	165.69	6,498.97	-52.93	24.91	623,258.47	557,646.91	32° 42' 47.860 N	104° 8' 45.266 W

Integrity Directional Services, LLC

Survey Report - Geographic

Company:	COG Production L.L.C.	Local Co-ordinate Reference:	Site Sec. 26, T.18S., R.28.E
Project:	Eddy County NM (NAD 27 NME)	TVD Reference:	KB=20' @ 3512.01ft
Site:	Sec. 26, T.18S., R.28.E	MD Reference:	KB=20' @ 3512.01ft
Well:	Lajitas BWQ State C #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N-S (ft)	+E-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
6,600.00	0.59	145.33	6,598.96	-53.85	25.33	623,257.55	557,647.33	32° 42' 47.851 N	104° 8' 45.261 W	
6,700.00	0.73	152.45	6,698.96	-54.83	25.91	623,256.56	557,647.92	32° 42' 47.841 N	104° 8' 45.254 W	
6,860.00	1.00	95.50	6,858.94	-55.87	27.78	623,255.53	557,649.78	32° 42' 47.831 N	104° 8' 45.232 W	
6,860.01	1.00	95.50	6,858.95	-55.87	27.78	623,255.53	557,649.78	32° 42' 47.831 N	104° 8' 45.232 W	
First MWD Survey										
6,891.00	1.10	88.70	6,889.93	-55.89	28.34	623,255.51	557,650.35	32° 42' 47.831 N	104° 8' 45.225 W	
6,923.00	3.20	91.70	6,921.91	-55.91	29.54	623,255.49	557,651.54	32° 42' 47.831 N	104° 8' 45.211 W	
6,955.00	7.60	95.10	6,953.76	-56.13	32.54	623,255.27	557,654.55	32° 42' 47.828 N	104° 8' 45.176 W	
6,986.00	11.70	94.30	6,984.32	-56.54	37.72	623,254.85	557,659.73	32° 42' 47.824 N	104° 8' 45.116 W	
7,017.00	14.70	93.80	7,014.49	-57.04	44.78	623,254.36	557,666.79	32° 42' 47.819 N	104° 8' 45.033 W	
7,049.00	17.80	90.20	7,045.21	-57.33	53.73	623,254.07	557,675.73	32° 42' 47.816 N	104° 8' 44.928 W	
7,081.00	21.40	89.60	7,075.35	-57.30	64.46	623,254.09	557,686.46	32° 42' 47.816 N	104° 8' 44.803 W	
7,112.00	25.70	91.00	7,103.76	-57.38	76.84	623,254.02	557,698.85	32° 42' 47.815 N	104° 8' 44.658 W	
7,143.00	30.00	91.90	7,131.17	-57.75	91.32	623,253.64	557,713.32	32° 42' 47.811 N	104° 8' 44.488 W	
7,175.00	33.70	92.50	7,158.34	-58.41	108.19	623,252.99	557,730.19	32° 42' 47.804 N	104° 8' 44.291 W	
7,207.00	36.10	93.10	7,184.59	-59.30	126.47	623,252.09	557,748.47	32° 42' 47.795 N	104° 8' 44.077 W	
7,239.00	38.60	93.50	7,210.02	-60.42	145.85	623,250.97	557,767.85	32° 42' 47.784 N	104° 8' 43.850 W	
7,270.00	41.80	93.80	7,233.70	-61.70	165.82	623,249.70	557,787.82	32° 42' 47.771 N	104° 8' 43.616 W	
7,302.00	45.30	93.10	7,256.89	-63.02	187.82	623,248.38	557,809.82	32° 42' 47.757 N	104° 8' 43.359 W	
7,333.00	48.70	92.60	7,278.03	-64.15	210.46	623,247.25	557,832.46	32° 42' 47.746 N	104° 8' 43.094 W	
7,364.00	51.90	92.60	7,297.83	-65.23	234.29	623,246.17	557,856.29	32° 42' 47.735 N	104° 8' 42.815 W	
7,395.00	56.00	92.50	7,316.06	-66.34	259.32	623,245.06	557,881.32	32° 42' 47.723 N	104° 8' 42.522 W	
7,427.00	59.80	91.70	7,333.07	-67.33	286.40	623,244.07	557,908.41	32° 42' 47.713 N	104° 8' 42.205 W	
7,458.00	64.00	91.00	7,347.67	-67.97	313.74	623,243.43	557,935.74	32° 42' 47.706 N	104° 8' 41.885 W	
7,489.00	68.30	89.90	7,360.20	-68.19	342.08	623,243.21	557,964.08	32° 42' 47.704 N	104° 8' 41.554 W	
7,521.00	72.30	89.50	7,370.98	-68.03	372.20	623,243.37	557,994.20	32° 42' 47.705 N	104° 8' 41.201 W	
7,553.00	75.80	89.50	7,379.77	-67.76	402.96	623,243.63	558,024.97	32° 42' 47.707 N	104° 8' 40.841 W	
7,584.00	79.30	89.20	7,386.46	-67.42	433.23	623,243.98	558,055.23	32° 42' 47.710 N	104° 8' 40.487 W	
7,612.00	83.20	89.30	7,390.72	-67.06	460.89	623,244.34	558,082.90	32° 42' 47.713 N	104° 8' 40.163 W	
7,644.00	85.60	89.70	7,393.84	-66.78	492.74	623,244.62	558,114.74	32° 42' 47.715 N	104° 8' 39.790 W	
7,706.00	86.20	90.00	7,398.27	-66.62	554.58	623,244.78	558,176.58	32° 42' 47.715 N	104° 8' 39.066 W	
7,800.00	87.20	90.30	7,403.68	-66.86	648.42	623,244.53	558,270.42	32° 42' 47.711 N	104° 8' 37.968 W	
7,894.00	88.00	90.50	7,407.62	-67.52	742.34	623,243.88	558,364.34	32° 42' 47.703 N	104° 8' 36.869 W	
7,989.00	87.30	89.70	7,411.51	-67.68	837.25	623,243.71	558,459.25	32° 42' 47.700 N	104° 8' 35.758 W	
8,084.00	86.50	88.80	7,416.65	-66.44	932.11	623,244.95	558,554.11	32° 42' 47.710 N	104° 8' 34.648 W	
8,179.00	85.80	87.50	7,423.03	-63.38	1,026.84	623,248.01	558,648.84	32° 42' 47.739 N	104° 8' 33.539 W	
8,274.00	86.60	88.00	7,429.33	-59.66	1,121.56	623,251.73	558,743.56	32° 42' 47.774 N	104° 8' 32.430 W	
8,369.00	87.70	87.80	7,434.05	-56.19	1,216.37	623,255.21	558,838.37	32° 42' 47.807 N	104° 8' 31.320 W	
8,464.00	86.80	86.50	7,438.61	-51.47	1,311.14	623,259.93	558,933.14	32° 42' 47.852 N	104° 8' 30.211 W	
8,559.00	87.70	86.00	7,443.16	-45.26	1,405.83	623,266.14	559,027.83	32° 42' 47.912 N	104° 8' 29.102 W	
8,653.00	87.00	86.20	7,447.51	-38.88	1,499.51	623,272.52	559,121.51	32° 42' 47.973 N	104° 8' 28.006 W	
8,748.00	86.00	87.00	7,453.31	-33.25	1,594.16	623,278.15	559,216.16	32° 42' 48.027 N	104° 8' 26.898 W	
8,842.00	84.70	88.50	7,460.93	-29.57	1,687.78	623,281.83	559,309.78	32° 42' 48.062 N	104° 8' 25.802 W	
8,937.00	85.50	88.80	7,469.05	-27.34	1,782.40	623,284.05	559,404.40	32° 42' 48.082 N	104° 8' 24.694 W	
9,031.00	86.40	89.00	7,475.68	-25.54	1,876.15	623,285.85	559,498.15	32° 42' 48.098 N	104° 8' 23.597 W	
9,126.00	87.40	89.00	7,480.82	-23.89	1,971.00	623,287.51	559,592.99	32° 42' 48.113 N	104° 8' 22.487 W	
9,220.00	88.10	88.60	7,484.51	-21.92	2,064.90	623,289.48	559,686.90	32° 42' 48.131 N	104° 8' 21.388 W	
9,314.00	89.00	88.30	7,486.89	-19.38	2,158.84	623,292.02	559,780.84	32° 42' 48.154 N	104° 8' 20.288 W	
9,408.00	90.20	88.20	7,487.55	-16.51	2,252.79	623,294.89	559,874.79	32° 42' 48.181 N	104° 8' 19.188 W	
9,502.00	89.10	88.80	7,488.12	-14.05	2,346.75	623,297.35	559,968.75	32° 42' 48.203 N	104° 8' 18.089 W	
9,595.50	88.51	89.49	7,490.07	-12.65	2,440.22	623,298.75	560,062.22	32° 42' 48.216 N	104° 8' 16.995 W	
9595.5 MD / 7490.07 TVD Sec Line Crossing										
9,597.00	88.50	89.50	7,490.11	-12.64	2,441.72	623,298.76	560,063.72	32° 42' 48.216 N	104° 8' 16.977 W	
9,691.00	89.60	89.40	7,491.67	-11.74	2,535.70	623,299.66	560,157.70	32° 42' 48.223 N	104° 8' 15.877 W	
9,785.00	88.00	88.50	7,493.64	-10.01	2,629.66	623,301.38	560,251.66	32° 42' 48.238 N	104° 8' 14.777 W	

Integrity Directional Services, LLC

Survey Report - Geographic

Company:	COG Production L.L.C.	Local Co-ordinate Reference:	Site Sec: 26: T. 18S., R. 28 E
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=20' @ 3512.01ft
Site:	Sec. 26: T. 18S., R. 28 E	MD Reference:	KB=20' @ 3512.01ft
Well:	Lajitas BWQ State C. #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000.1 Multi User Db

Survey										
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude	
9,879.00	87.60	87.30	7,497.25	-6.57	2,723.53	623,304.83	560,345.52	32° 42' 48.271 N	104° 8' 13.678 W	
9,974.00	88.50	87.40	7,500.48	-2.18	2,818.37	623,309.21	560,440.37	32° 42' 48.312 N	104° 8' 12.568 W	
10,068.00	89.70	87.30	7,501.96	2.16	2,912.26	623,313.56	560,534.25	32° 42' 48.354 N	104° 8' 11.469 W	
10,163.00	88.80	88.40	7,503.20	5.73	3,007.18	623,317.12	560,629.18	32° 42' 48.387 N	104° 8' 10.358 W	
10,258.00	87.60	89.30	7,506.18	7.63	3,102.11	623,319.03	560,724.11	32° 42' 48.404 N	104° 8' 9.247 W	
10,353.00	88.30	89.50	7,509.58	8.63	3,197.04	623,320.02	560,819.04	32° 42' 48.412 N	104° 8' 8.136 W	
10,448.00	90.20	90.00	7,510.83	9.04	3,292.03	623,320.44	560,914.03	32° 42' 48.415 N	104° 8' 7.024 W	
10,542.00	90.40	90.20	7,510.33	8.88	3,386.03	623,320.27	561,008.02	32° 42' 48.411 N	104° 8' 5.924 W	
10,636.00	89.20	90.20	7,510.66	8.55	3,480.03	623,319.95	561,102.02	32° 42' 48.406 N	104° 8' 4.824 W	
10,729.00	87.60	90.50	7,513.26	7.98	3,572.98	623,319.38	561,194.98	32° 42' 48.399 N	104° 8' 3.736 W	
10,824.00	88.50	90.60	7,516.49	7.07	3,667.92	623,318.47	561,289.92	32° 42' 48.388 N	104° 8' 2.624 W	
10,919.00	87.00	89.80	7,520.22	6.74	3,762.85	623,318.14	561,384.84	32° 42' 48.383 N	104° 8' 1.513 W	
11,014.00	88.50	90.00	7,523.95	6.90	3,857.77	623,318.30	561,479.77	32° 42' 48.383 N	104° 8' 0.402 W	
11,108.00	88.00	89.60	7,526.82	7.23	3,951.73	623,318.63	561,573.72	32° 42' 48.384 N	104° 7' 59.303 W	
11,202.00	88.90	89.70	7,529.36	7.81	4,045.69	623,319.20	561,667.68	32° 42' 48.388 N	104° 7' 58.203 W	
11,297.00	88.20	89.00	7,531.77	8.88	4,140.65	623,320.28	561,762.64	32° 42' 48.397 N	104° 7' 57.091 W	
11,420.00	89.60	89.10	7,534.13	10.92	4,263.61	623,322.32	561,885.60	32° 42' 48.415 N	104° 7' 55.652 W	
11,514.00	88.50	88.70	7,535.69	12.73	4,357.58	623,324.12	561,979.57	32° 42' 48.431 N	104° 7' 54.552 W	
11,609.00	87.20	87.30	7,539.25	16.04	4,452.45	623,327.44	562,074.44	32° 42' 48.462 N	104° 7' 53.442 W	
11,704.00	87.80	87.20	7,543.39	20.59	4,547.25	623,331.99	562,169.24	32° 42' 48.505 N	104° 7' 52.332 W	
11,799.00	88.50	87.40	7,546.46	25.06	4,642.09	623,336.46	562,264.08	32° 42' 48.548 N	104° 7' 51.222 W	
11,893.00	89.20	87.50	7,548.35	29.25	4,735.98	623,340.64	562,357.97	32° 42' 48.588 N	104° 7' 50.123 W	
11,988.00	88.60	87.50	7,550.17	33.39	4,830.87	623,344.79	562,452.86	32° 42' 48.627 N	104° 7' 49.012 W	
12,083.00	89.20	87.40	7,552.00	37.62	4,925.76	623,349.01	562,547.75	32° 42' 48.667 N	104° 7' 47.901 W	
12,177.00	89.90	87.40	7,552.73	41.88	5,019.66	623,353.28	562,641.65	32° 42' 48.707 N	104° 7' 46.802 W	
12,272.00	88.90	86.60	7,553.73	46.85	5,114.52	623,358.25	562,736.51	32° 42' 48.755 N	104° 7' 45.692 W	
12,366.00	89.60	86.20	7,554.96	52.75	5,208.33	623,364.15	562,830.32	32° 42' 48.811 N	104° 7' 44.594 W	
12,461.00	91.20	86.10	7,554.30	59.13	5,303.11	623,370.53	562,925.10	32° 42' 48.872 N	104° 7' 43.484 W	
12,555.00	90.20	86.80	7,553.15	64.95	5,396.92	623,376.35	563,018.91	32° 42' 48.928 N	104° 7' 42.386 W	
12,650.00	89.30	87.20	7,553.56	69.92	5,491.79	623,381.32	563,113.78	32° 42' 48.976 N	104° 7' 41.276 W	
12,744.00	89.00	87.80	7,554.96	74.02	5,585.68	623,385.42	563,207.68	32° 42' 49.014 N	104° 7' 40.176 W	
12,839.00	88.30	89.00	7,557.19	76.67	5,680.62	623,388.07	563,302.61	32° 42' 49.039 N	104° 7' 39.065 W	
12,934.00	89.70	89.00	7,558.85	78.33	5,775.59	623,389.73	563,397.58	32° 42' 49.053 N	104° 7' 37.954 W	
13,028.00	88.90	88.60	7,560.00	80.30	5,869.56	623,391.70	563,491.55	32° 42' 49.071 N	104° 7' 36.854 W	
13,122.00	89.30	90.40	7,561.48	81.12	5,963.54	623,392.52	563,585.53	32° 42' 49.077 N	104° 7' 35.754 W	
13,217.00	89.80	90.50	7,562.22	80.37	6,058.53	623,391.77	563,680.52	32° 42' 49.068 N	104° 7' 34.642 W	
13,311.00	88.70	89.30	7,563.45	80.54	6,152.52	623,391.93	563,774.51	32° 42' 49.068 N	104° 7' 33.542 W	
13,405.00	88.40	88.90	7,565.83	82.01	6,246.48	623,393.41	563,868.47	32° 42' 49.081 N	104° 7' 32.442 W	
13,499.00	89.00	88.10	7,567.97	84.47	6,340.42	623,395.87	563,962.41	32° 42' 49.103 N	104° 7' 31.342 W	
13,595.00	88.30	87.20	7,570.23	88.41	6,436.31	623,399.81	564,058.30	32° 42' 49.140 N	104° 7' 30.220 W	
13,689.00	88.90	86.60	7,572.52	93.49	6,530.15	623,404.89	564,152.14	32° 42' 49.189 N	104° 7' 29.121 W	
13,784.00	88.90	85.90	7,574.35	99.70	6,624.93	623,411.10	564,246.92	32° 42' 49.248 N	104° 7' 28.012 W	
13,879.00	88.40	85.90	7,576.59	106.49	6,719.66	623,417.89	564,341.65	32° 42' 49.314 N	104° 7' 26.903 W	
13,974.00	87.80	86.20	7,579.74	113.03	6,814.38	623,424.43	564,436.37	32° 42' 49.377 N	104° 7' 25.794 W	
14,067.00	88.80	86.40	7,582.49	119.03	6,907.14	623,430.43	564,529.13	32° 42' 49.434 N	104° 7' 24.708 W	
14,160.00	89.10	86.60	7,584.20	124.71	6,999.95	623,436.11	564,621.94	32° 42' 49.489 N	104° 7' 23.622 W	
14,255.00	88.50	87.10	7,586.19	129.93	7,094.79	623,441.33	564,716.78	32° 42' 49.538 N	104° 7' 22.512 W	
14,350.00	88.30	87.50	7,588.84	134.40	7,189.65	623,445.80	564,811.63	32° 42' 49.581 N	104° 7' 21.401 W	
14,414.88	88.85	87.36	7,590.46	137.31	7,254.44	623,448.71	564,876.43	32° 42' 49.608 N	104° 7' 20.643 W	
14414' MD / 7590.46' TVD Hardline Crossing										
14,445.00	89.10	87.30	7,591.00	138.71	7,284.52	623,450.11	564,906.51	32° 42' 49.621 N	104° 7' 20.291 W	
14,507.00	89.70	87.30	7,591.65	141.63	7,346.45	623,453.03	564,968.44	32° 42' 49.649 N	104° 7' 19.566 W	
14,598.00	91.30	87.20	7,590.85	146.00	7,437.34	623,457.39	565,059.33	32° 42' 49.691 N	104° 7' 18.502 W	
14,598.03	91.30	87.20	7,590.85	146.00	7,437.37	623,457.39	565,059.36	32° 42' 49.691 N	104° 7' 18.502 W	
Final MWD Survey										

Integrity Directional Services, LLC

Survey Report - Geographic

Company:	COG Production L.L.C.	Local Co-ordinate Reference:	Site Sec. 26, T.18S, R.28 E
Project:	Eddy County, NM (NAD 27 NME)	TVD Reference:	KB=20' @ 3512.01ft
Site:	Sec. 26, T.18S, R.28 E	MD Reference:	KB=20' @ 3512.01ft
Well:	Lajitas BWQ State C #1H	North Reference:	Grid
Wellbore:	Wellbore #1	Survey Calculation Method:	Minimum Curvature
Design:	Wellbore #1	Database:	EDM 5000:1 Multi User Db

Survey									
Measured Depth (ft)	Inclination (°)	Azimuth (°)	Vertical Depth (ft)	+N/-S (ft)	+E/-W (ft)	Map Northing (usft)	Map Easting (usft)	Latitude	Longitude
14,669.00	91.30	87.20	7,589.24	149.46	7,508.24	623,460.86	565,130.22	32° 42' 49.723 N	104° 7' 17.672 W
Projection to TD									

Design/Annotations				
Measured Depth (ft)	Vertical Depth (ft)	Local Coordinates		Comment
		+N/-S (ft)	+E/-W (ft)	
6,860.01	6,858.95	-55.87	27.78	First MWD Survey
9,595.50	7,490.07	-12.65	2,440.22	9595.5'MD / 7490.07'TVD Sec Line Crossing
14,414.88	7,590.46	137.31	7,254.44	14414'MD / 7590.46'TVD Hardline Crossing
14,598.03	7,590.85	146.00	7,437.37	Final MWD Survey
14,669.00	7,589.24	149.46	7,508.24	Projection to TD

Checked By: _____	Approved By: _____	Date: _____
-------------------	--------------------	-------------