



November 18, 2014

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

NM OIL CONSERVATION
ARTESIA DISTRICT

JAN 20 2015

RECEIVED

30-015-40355

Attn: Kanicia Castillo

RE: Dodd Federal Unit 573

Please find enclosed a copy of the survey from 0.00' to 800.00' ran on the above referenced well.

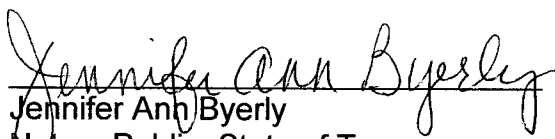
If I can be of any further service, please do not hesitate to call me at 800-606-4976.

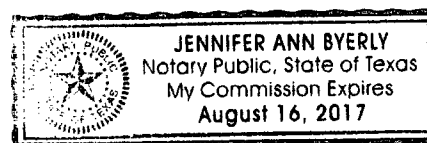
Sincerely,


Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 18 day of November A.D., 2014, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: COG Operating
Lease/Well: Dodd Federal Unit /#573
Location: Sec 10 T17S R29E
Rig Name: Basic 38
State/County: New Mexico/Eddy
Latitude: 32.84, Longitude: -104.07
GRID North is 0.15 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB = 13 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: dodd federal unit #573-de_01.ut

Minimum Curvature Method

Report Date/Time: 11/18/2014 / 13:54

VES Survey International

West Texas

(432) 563-5444

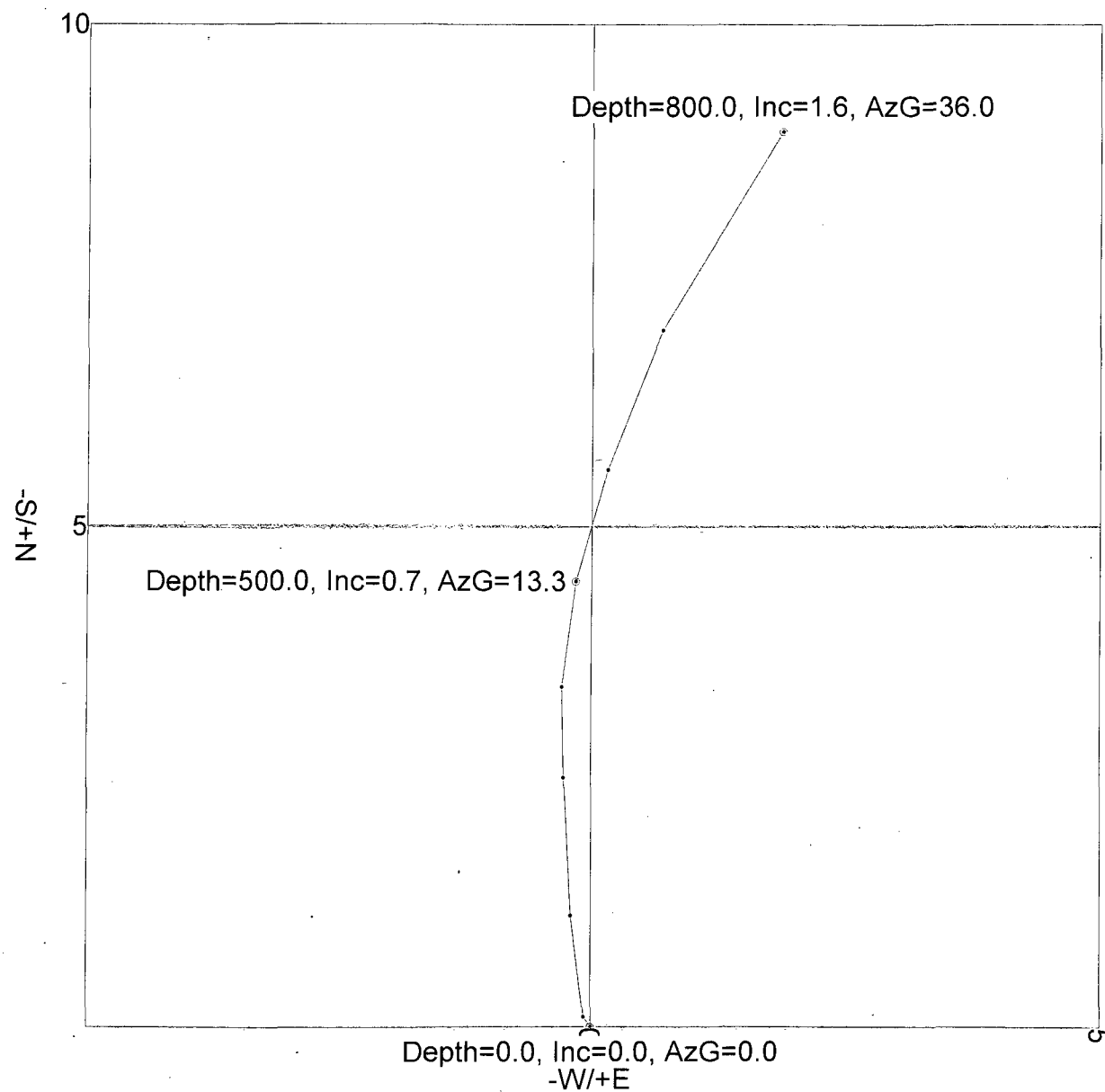
Surveyor: Chris Bankson

Dodd Federal Unit #573 / API 30-015-40355

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	0.14	324.98	100.00	0.10	-0.07	0.10	0.12	324.98	0.14
200.00	1.05	356.35	199.99	1.11	-0.20	1.11	1.13	350.05	0.94
300.00	0.53	358.42	299.98	2.49	-0.27	2.49	2.51	353.89	0.53
400.00	0.51	359.04	399.98	3.40	-0.29	3.40	3.41	355.18	0.02
500.00	0.71	13.26	499.97	4.45	-0.15	4.45	4.45	358.04	0.25
600.00	0.62	17.79	599.97	5.57	0.15	5.57	5.57	1.59	0.10
700.00	1.09	23.15	699.96	6.96	0.69	6.96	6.99	5.69	0.48
800.00	1.56	36.04	799.93	8.93	1.87	8.93	9.12	11.81	0.56



VES Survey International
West Texas
(432) 563-5444
Surveyor: Chris Bankson
Dodd Federal Unit #573 / API 30-015-40355



VES Survey Date: 11/7/2014

JAN 20 2015

OPERATOR COG Operating
WELL/LEASE Dodd Federal #573
COUNTY Eddy Co., NM

RECEIVED

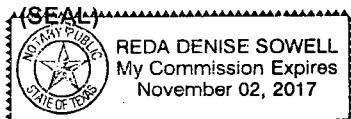
STATE OF NEW MEXICO
DEVIATION REPORT

417	1.00
683	1.00
956	1.40
1018	2.20
1082	3.40
1145	3.40
1208	2.80
1271	2.30
1461	3.20
1524	3.70
1597	3.30
1650	3.20
1714	3.10
1777	2.30
2220	2.30
2283	3.00
2346	3.30
2410	3.10
2473	2.90
2536	3.10
2789	3.30
2853	2.90
2916	2.80
2979	2.60
3042	2.80
3106	2.50
3422	2.90
3549	2.80
3675	2.50
3802	2.60
3928	2.70
4055	2.50
4181	2.40
4340	2.50

SIGNED BY: *Ron Scandolari*
RON SCANDOLARI, VP-CONTRACT DRILLING

STATE OF TEXAS
COUNTY OF MIDLAND

ON THIS 11 DAY OF November, 2014, BEFORE ME, R SOWELL, A NOTARY
PUBLIC, PERSONALLY APPEARED RON SCANDOLARI, WHO ACKNOWLEDGED AND EXECUTED
THIS DOCUMENT. WITNESS MY HAND AND OFFICIAL SEAL.



Reda Denise Sowell
NOTARY PUBLIC

JAN 20 2015

RECEIVED



COG Operating LLC

Eddy County, NM (NAD27 NME)

Dodd Federal Unit

#573

WB#1 Job #1412156

Design: Surveys (Basic 38)

Standard Survey Report

11 November, 2014





Survey Report



Company:	COG Operating, LLC	Local Co-ordinate Reference:	Well #573
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3591.00usft (Basic 38)
Site:	Dodd Federal Unit	MD Reference:	KB @ 3591.00usft (Basic 38)
Well:	#573	North Reference:	Grid
Wellbore:	WB#1 Job #1412156	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Basic 38)	Database:	Compass 5000 GCR

Project: Eddy County, NM (NAD27: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		Dodd Federal Unit			
Site Position:		Northing:	669,009.70 usft	Latitude:	32° 50' 19.97600 N
From:	Map	Easting:	585,704.90 usft	Longitude:	104° 3' 15.44871 W
Position Uncertainty:	0.00 usft	Slot Radius:	13-3/16 "	Grid Convergence:	0.15 °

Well:	#573					
Well Position	+N-S	0.00 usft	Northing:	671,095.60 usft	Latitude:	32° 50' 40.70699 N
	+E-W	0.00 usft	Easting:	582,172.90 usft	Longitude:	104° 3' 56.78514 W
Position Uncertainty		0.00 usft	Wellhead Elevation:	usft	Ground Level:	3,579.00 usft

Wellbore	WB#1 Job #1412156				
Magnetics	Model Name	Sample Date	Declination (°)	Dip Angle (°)	Field Strength (nT)
	IGRF2010_14	10/29/2014	7.45	60.59	48,597

Design:		Surveys (Basic 38)						
Audit Notes:								
Version:		1.0	Phase:		ACTUAL	Tie On Depth:		0.00
Vertical Section:		Depth From (TVD) (usft)		+N/-S (usft)		+E/-W (usft)		Direction (°)
		0.00		0.00		0.00		119.42

Survey Program		Date 11/11/2014		
From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	800.00	VES Gyro Surveys (WB#1 Job #1412156	NS-GYRO-MS	North sensing gyrocompassing m/s
924.00	4,421.00	Phoenix MWD Survey (WB#1 Job #14121	PHX+MWD+IGRF	PHX+MWD+IGRF v3:standard declination

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)
	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00
	100.00	0.14	324.98	100.00	0.10	-0.07	-0.11	0.14	0.14	0.00
	200.00	1.05	356.35	199.99	1.11	-0.20	-0.72	0.93	0.91	31.37
	300.00	0.53	358.42	299.98	2.49	-0.27	-1.46	0.52	-0.52	2.07
	400.00	0.51	359.04	399.98	3.40	-0.29	-1.92	0.02	-0.02	0.62
	500.00	0.71	13.26	499.97	4.45	-0.16	-2.32	0.25	0.20	14.22
	600.00	0.62	17.79	599.97	5.56	0.15	-2.60	0.10	-0.09	4.53
	700.00	1.09	23.15	699.96	6.95	0.69	-2.81	0.48	0.47	5.36
	800.00	1.56	36.04	799.93	8.93	1.87	-2.76	0.55	0.47	12.89
	Tie-on to VES Gyro									



Survey Report



Company:	COG Operating, LLC	Local Co-ordinate Reference:	Well #573
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3591.00usft (Basic 38)
Site:	Dodd Federal Unit	MD Reference:	KB @ 3591.00usft (Basic 38)
Well:	#573	North Reference:	Grid
Wellbore:	WB#1 Job #1412156	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Basic 38)	Database:	Compass 5000 GCR

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)
924.00	1.10	42.30	923.90	11.18	3.66	-2.30	0.39	-0.37	5.05
First Phoenix MWD Survey									
956.00	1.40	88.40	955.89	11.41	4.26	-1.90	3.18	0.94	144.06
987.00	2.00	105.20	986.87	11.28	5.16	-1.05	2.50	1.94	54.19
1,018.00	2.70	111.10	1,017.85	10.88	6.36	0.20	2.39	2.26	19.03
1,082.00	3.40	114.60	1,081.76	9.54	9.49	3.58	1.13	1.09	5.47
1,145.00	3.40	119.90	1,144.65	7.84	12.81	7.31	0.50	0.00	8.41
1,208.00	2.80	121.60	1,207.55	6.10	15.74	10.72	0.96	-0.95	2.70
1,272.00	2.30	119.00	1,271.49	4.66	18.20	13.56	0.80	-0.78	-4.06
1,335.00	2.60	124.40	1,334.43	3.24	20.48	16.25	0.60	0.48	8.57
1,398.00	3.00	131.10	1,397.36	1.35	22.90	19.29	0.82	0.63	10.63
1,461.00	3.20	117.90	1,460.27	-0.56	25.70	22.66	1.17	0.32	-20.95
1,524.00	3.70	116.40	1,523.15	-2.29	29.07	26.45	0.81	0.79	-2.38
1,588.00	3.30	124.60	1,587.03	-4.25	32.44	30.35	1.00	-0.63	12.81
1,651.00	3.20	126.20	1,649.93	-6.32	35.35	33.90	0.21	-0.16	2.54
1,714.00	3.10	127.10	1,712.84	-8.39	38.13	37.33	0.18	-0.16	1.43
1,778.00	2.30	127.70	1,776.77	-10.22	40.53	40.32	1.25	-1.25	0.94
1,841.00	2.20	123.90	1,839.72	-11.66	42.53	42.77	0.28	-0.16	-6.03
1,904.00	1.80	121.10	1,902.68	-12.85	44.38	44.97	0.65	-0.63	-4.44
1,967.00	2.00	123.70	1,965.64	-13.97	46.14	47.05	0.35	0.32	4.13
2,031.00	2.00	124.90	2,029.60	-15.23	47.99	49.28	0.07	0.00	1.88
2,094.00	1.70	124.60	2,092.57	-16.39	49.66	51.30	0.48	-0.48	-0.48
2,157.00	2.30	129.10	2,155.53	-17.72	51.41	53.48	0.98	0.95	7.14
2,220.00	2.30	131.60	2,218.48	-19.35	53.33	55.96	0.16	0.00	3.97
2,283.00	3.00	130.70	2,281.41	-21.27	55.53	58.82	1.11	1.11	-1.43
2,346.00	3.30	124.20	2,344.32	-23.36	58.28	62.24	0.74	0.48	-10.32
2,410.00	3.10	128.70	2,408.22	-25.48	61.15	65.78	0.50	-0.31	7.03
2,473.00	2.90	126.60	2,471.13	-27.49	63.76	69.04	0.36	-0.32	-3.33
2,536.00	3.10	130.10	2,534.05	-29.54	66.34	72.30	0.43	0.32	5.56
2,599.00	3.00	125.30	2,596.96	-31.59	68.99	75.61	0.44	-0.16	-7.62
2,663.00	3.00	117.70	2,660.87	-33.34	71.84	78.95	0.62	0.00	-11.88
2,726.00	2.80	118.30	2,723.79	-34.83	74.66	82.14	0.32	-0.32	0.95
2,789.00	3.30	128.80	2,786.70	-36.70	77.43	85.47	1.19	0.79	16.67
2,850.00	2.90	125.90	2,847.61	-38.70	80.04	88.73	0.70	-0.66	-4.75
2,916.00	2.80	129.40	2,913.53	-40.71	82.64	91.98	0.30	-0.15	5.30
2,979.00	2.60	130.40	2,976.46	-42.61	84.92	94.90	0.33	-0.32	1.59
3,042.00	2.80	129.60	3,039.39	-44.52	87.19	97.82	0.32	0.32	-1.27
3,106.00	2.50	122.50	3,103.32	-46.26	89.57	100.75	0.69	-0.47	-11.09
3,169.00	2.60	119.40	3,166.26	-47.70	91.98	103.55	0.27	0.16	-4.92
3,232.00	2.70	115.30	3,229.19	-49.04	94.56	106.46	0.34	0.16	-6.51
3,295.00	2.90	121.70	3,292.12	-50.51	97.26	109.53	0.59	0.32	10.16
3,359.00	2.70	125.30	3,356.04	-52.23	99.87	112.65	0.42	-0.31	5.63
3,422.00	2.90	126.00	3,418.97	-54.03	102.37	115.71	0.32	0.32	1.11



Survey Report



Company:	COG Operating LLC	Local Co-ordinate Reference:	Well #573
Project:	Eddy County, NM (NAD27 NME)	TVD Reference:	KB @ 3591.00usft (Basic 38)
Site:	Dodd Federal Unit	MD Reference:	KB @ 3591.00usft (Basic 38)
Well:	#573	North Reference:	Grid
Wellbore:	WB#1 Job #1412156	Survey Calculation Method:	Minimum Curvature
Design:	Surveys (Basic 38)	Database:	Compass 5000 GCR

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)
3,485.00	2.50	124.40	3,481.90	-55.74	104.79	118.66	0.65	-0.63	-2.54
3,548.00	2.80	123.80	3,544.83	-57.37	107.21	121.56	0.48	0.48	-0.95
3,612.00	2.70	119.30	3,608.75	-58.98	109.82	124.63	0.37	-0.16	-7.03
3,675.00	2.50	121.50	3,671.69	-60.42	112.28	127.48	0.35	-0.32	3.49
3,738.00	2.60	120.20	3,734.63	-61.86	114.69	130.29	0.18	0.16	-2.06
3,802.00	2.60	121.60	3,798.56	-63.35	117.18	133.19	0.10	0.00	2.19
3,865.00	2.80	126.20	3,861.49	-65.01	119.64	136.14	0.47	0.32	7.30
3,928.00	2.70	126.50	3,924.42	-66.80	122.08	139.14	0.16	-0.16	0.48
3,992.00	2.70	129.40	3,988.35	-68.65	124.45	142.13	0.21	0.00	4.53
4,055.00	2.50	121.40	4,051.28	-70.31	126.77	144.96	0.66	-0.32	-12.70
4,118.00	2.40	128.00	4,114.23	-71.84	128.98	147.64	0.47	-0.16	10.48
4,181.00	2.40	129.30	4,177.17	-73.49	131.04	150.24	0.09	0.00	2.06
4,245.00	2.50	129.10	4,241.11	-75.21	133.16	152.94	0.16	0.16	-0.31
4,308.00	2.50	128.80	4,304.05	-76.94	135.30	155.65	0.02	0.00	-0.48
4,371.00	2.50	122.30	4,366.99	-78.54	137.53	158.38	0.45	0.00	-10.32
Last Phoenix MWD Survey									
4,421.00	2.50	122.30	4,416.94	-79.70	139.38	160.55	0.00	0.00	0.00
Projection to TD									

Design Annotations				
Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates		Comment
		+N/-S (usft)	+E/-W (usft)	
800.00	799.93	8.93	1.87	Tie-on to VES Gyro
924.00	923.90	11.18	3.66	First Phoenix MWD Survey
4,371.00	4,366.99	-78.54	137.53	Last Phoenix MWD Survey
4,421.00	4,416.94	-79.70	139.38	Projection to TD

Checked By: _____ Approved By: _____ Date: _____