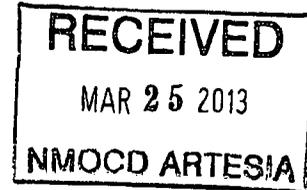




**PHOENIX
TECHNOLOGY SERVICES**

March 20, 2013



Oil Conservation Division
State of New Mexico
811 S. First St.
Artesia, New Mexico 88210

Dear District 2 - Artesia

Re: Concho Resources Inc.
Clydesdale 1 Fee #1H
Eddy County, NM
API #30-015-10214 ✓
Job No. 1310195

40214

Enclosed please find the Survey Data Certification, and the original Plat and one copy of the Survey Report performed on the above referenced Well by Phoenix Technology Services, Inc. (P-5 No. 664171). Other information required by your office is as follows:

Name & Title of Surveyor	Drainhole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Robert Dillon	1H	2,241	7,363	03/03/13	03/09/13	MWD

A certified plat on which the bottom hole location is oriented both to the surface location and to the lease lines (or unit lines in case of pooling) is attached to the survey report. If any other information is required, please contact the undersigned at the letterhead address and phone number.

Best Regards,

Kelly Jo Walter

Kelly Jo Walter
Operations Administrator

Certified mail receipt number: 7011 1570 0001 4364 9483

**PHOENIX TECHNOLOGY SERVICES
SURVEY DATA CERTIFICATION**



PHOENIX
TECHNOLOGY SERVICES

RECEIVED
MAR 25 2013
NMOC D ARTESIA

PHOENIX JOB NUMBER 1310195

OPERATOR COG Operating

WELL NAME Clydesdale 1 Fee # 1H

COUNTY & STATE

Eddy, NM

API WELL NUMBER 30-015-40214

PROPOSED DIRECTION 271-25

TIE-IN DATA				N-S	E-W	DATA
MEASURED	VERTICAL			COORD	COORD	SOURCE
DEPTH	DEPTH	INCLIN	AZIMUTH			
2,149 ft	2,148.62 ft	1.86	278.09	11.41	-31.88	Gyro

FIRST SURVEY DATE	FIRST SURVEY DEPTH	INCLIN	AZIMUTH
3-Mar-13	2,241 ft	1.9	278.4

SURVEY INSTRUMENT
TYPE
PHOENIX MWD

LAST SURVEY DATE	LAST SURVEY DEPTH	INCLIN	AZIMUTH
9-Mar-13	7,363 ft	92.7	271

TO THE BEST OF MY KNOWLEDGE I
CERTIFY THIS SURVEY DATA TO BE
TRUE AND CORRECT.

PROJECTED TD SURVEY DATE	PROJECTED TD SURVEY DEPTH	INCLIN	AZIMUTH
9-Mar-13	7,424 ft	92.7	271

Robert D. Dillon

PRINT YOUR NAME ABOVE

Robert D. Dillon

SIGN YOUR NAME ABOVE

MAGNETIC DECLINATION OR TOTAL GRID

TOTAL CORRECTION USED	7.86
DECLINATION OR GRID	GRID

3-9-2013

TODAY'S DATE

MWD SUPERVISOR 1

Bob Dillon

DIRECTIONAL DRILLER 1

Andrew Hodgkins

MWD SUPERVISOR 2

Eric Burchinal

DIRECTIONAL DRILLER 2

Nathan Hodgkins

1805 Brittmore Road

Houston, Texas 77043

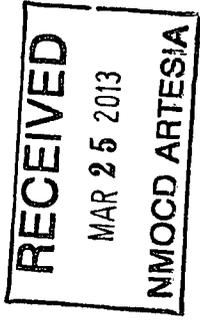
(713)3370609 (Voice), (713)337-0599 (Fax)

COG Operating LLC
Eddy County, New Mexico (NAD 27 NME)
Clydesdale 1 Fee
#1H
Wellbore #1 / Job #1310195

Survey: Phoenix MWD Surveys

Survey Report

10 March, 2013





Survey Report

Company: COC Operating LLC
 Project: Eddy, County: New Mexico (NAD:27:NME)
 Site: Clydesdale #1 Fee
 Well: #1H
 Wellbore: Wellbore #1 / Job #1310195
 Design: Wellbore #1 / Job #1310195

Local/Coordinate Reference: Well #1H
 TVD Reference: RF @ 3447.00usft (JW 4)
 MD Reference: RF @ 3447.00usft (JW 4)
 North Reference: Grid
 Survey Calculation Method: Minimum Curvature
 Database: GCR DB v5000

Project: Eddy, County: New Mexico (NAD:27:NME)
 Map System: US State Plane 1927 (Exact solution)
 Geo Datum: NAD 1927 (NADCON CONUS)
 Map Zone: New Mexico East 3001

System Datum: Mean Sea Level
 Site: Clydesdale #1 Fee
 Site Position: 616,840.10 usft
 From: 470,401.70 usft
 Position Uncertainty: 0.00 usft
 Slot Radius: 13-3/16"

Well: #1H
 Well Position: +N-S 0.00 usft
 +E-W 0.00 usft
 Position Uncertainty: 0.00 usft
 Wellhead Elevation: usft
 Wellbore: Wellbore #1 / Job #1310195

Northing: 616,840.10 usft
 Easting: 470,401.70 usft
 Slot Radius: 13-3/16"
 Latitude: 32° 41' 44.717849 N
 Longitude: 104° 25' 46.368925 W
 Grid Convergence: -0.05°
 Well Position: +N-S 0.00 usft
 +E-W 0.00 usft
 Position Uncertainty: 0.00 usft
 Wellhead Elevation: usft
 Wellbore: Wellbore #1 / Job #1310195

Magnetics: Model Name Sample Date Declination Dip Angle Field Strength
 IGRF2010_14 02/14/13 7.81 60.43 48.637

Design: Wellbore #1 / Job #1310195
 Audit Notes:

Version: 1.0 Phase: ACTUAL Tie On Depth: 0.00
 Vertical Section: Depth From (TVD) +N/S +E/W Direction
 (usft) (usft) (usft) (ft)

0.00 0.00 0.00 271.25



Survey Report

Company: COG Operating, LLC
Project: Eddy County, New Mexico (NAD 27 MME)
Site: Chydesdale #1 Fee
Well: #1H
Wellbore: Wellbore #1 / Job # 1310195
Design: Wellbore #1 / Job #1310195

Local Co-ordinate Reference: Well #1H
TVD Reference: RE @ 3447.00usft (JW 4)
MD Reference: RF @ 3447.00usft (JW 4)
North Reference: Grid
Survey Calculation Method: Minimum Curvature Database
Database: GCR DB v5000

Survey Program	Date	From (usft)	To (usft)	Survey (Wellbore)	Tool Name	Description
100.00	03/10/13	2,149.00	7,424.00	VES Gyro Surveys (Wellbore #1 / Job #13 MWD)	MWD - Standard	
2,241.00		7,424.00		Phoenix MWD Surveys (Wellbore #1 / Job MWD)	MWD - Standard	

Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	EW (usft)	V-Sac (usft)	D/leg (°/100usft)	Northing (usft)	Easting (usft)
Tie On Survey	2,149.00	1.86	278.09	-1,298.38	2,148.62	11.41	-31.88	32.12	0.00	616,851.51	470,369.82
First Phoenix MWD Survey	2,241.00	1.90	278.40	-1,206.43	2,240.57	11.84	-34.86	35.11	0.04	616,851.94	470,366.84
	2,272.00	2.50	275.30	-1,175.45	2,271.55	11.98	-36.04	36.30	1.97	616,852.08	470,365.66
	2,303.00	4.30	272.10	-1,144.51	2,302.49	12.08	-37.88	38.13	5.84	616,852.18	470,363.82
	2,334.00	6.50	271.60	-1,113.65	2,333.35	12.17	-40.79	41.05	7.10	616,852.27	470,360.91
	2,366.00	8.90	273.50	-1,081.94	2,365.06	12.37	-45.08	45.34	7.54	616,852.47	470,356.62
	2,397.00	11.30	274.80	-1,051.42	2,395.58	12.78	-50.50	50.76	7.78	616,852.88	470,351.20
	2,428.00	13.60	274.50	-1,021.15	2,425.85	13.32	-57.16	57.44	7.42	616,853.42	470,344.54
	2,459.00	16.10	273.30	-991.19	2,455.81	13.85	-65.08	65.37	8.12	616,853.95	470,336.62
	2,491.00	18.80	272.10	-960.66	2,486.34	14.29	-74.67	74.96	8.51	616,854.39	470,327.03
	2,522.00	22.00	270.60	-931.61	2,515.39	14.54	-85.47	85.77	10.46	616,854.64	470,316.23
	2,554.00	27.50	267.00	-902.56	2,544.44	14.21	-98.85	99.14	17.81	616,854.31	470,302.85
	2,585.00	33.80	266.50	-875.90	2,571.10	13.31	-114.62	114.88	20.34	616,853.41	470,287.08
	2,617.00	40.00	265.80	-850.33	2,596.67	12.01	-133.78	134.01	19.42	616,852.11	470,267.92
	2,648.00	44.30	266.60	-827.35	2,619.65	10.64	-154.53	154.73	13.98	616,850.74	470,247.17
	2,679.00	47.00	267.40	-805.68	2,641.32	9.48	-176.67	176.83	8.90	616,849.58	470,225.03
	2,710.00	50.10	268.00	-785.16	2,661.84	8.55	-199.88	200.02	10.10	616,848.65	470,201.82
	2,741.00	53.60	268.50	-766.02	2,680.98	7.81	-224.25	224.36	11.36	616,847.91	470,177.45
	2,772.00	56.60	269.60	-748.28	2,698.72	7.40	-249.66	249.77	10.11	616,847.50	470,152.04
	2,804.00	59.40	270.60	-731.32	2,715.68	7.45	-276.80	276.89	9.14	616,847.55	470,124.90



Survey Report

Company	Project	Site	Well:	Wellbore:	Design:	Survey	MD (usft)	Inc (°)	Az (azimuth) (°)	IVDSS (usft)	IVD (usft)	N/S (usft)	E/W (usft)	V: Sec (usft)	DLeg (°/100usft)	Northing (usft)	Eastng (usft)
GOG Operating LLC	Eddy County, New Mexico (NAD 27, NME)	Wellbore #1 / Job #1310195	2,835.00	61.80	271.00	-716.11	2,730.89	7.83	-303.80	303.90	7.82	616,847.93	470,097.90				
2,866.00	64.40	271.30	-702.08	2,744.92	8.38	-331.44	331.54	8.43	616,848.48	470,070.26							
2,897.00	67.40	271.80	-689.43	2,757.57	9.15	-359.72	359.84	9.79	616,849.25	470,041.98							
2,928.00	70.90	272.00	-678.39	2,768.61	10.11	-388.67	388.80	11.31	616,850.21	470,013.03							
2,960.00	74.40	272.10	-668.85	2,778.15	11.20	-419.19	419.34	10.94	616,851.30	469,982.51							
2,991.00	77.60	272.00	-661.35	2,785.65	12.28	-449.25	449.41	10.33	616,852.38	469,952.45							
3,022.00	80.00	272.20	-655.33	2,791.67	13.39	-479.63	479.81	7.77	616,853.49	469,922.07							
3,053.00	81.70	272.50	-650.40	2,796.60	14.65	-510.21	510.41	5.57	616,854.75	469,891.49							
3,085.00	83.20	272.80	-646.20	2,800.80	16.11	-541.90	542.12	4.78	616,856.21	469,859.80							
3,116.00	84.80	272.80	-642.96	2,804.04	17.62	-572.69	572.94	5.16	616,857.72	469,829.01							
3,147.00	86.80	272.70	-640.69	2,806.31	19.10	-603.57	603.85	6.46	616,859.20	469,798.13							
3,241.00	90.70	272.20	-638.64	2,808.36	23.12	-697.45	697.78	4.18	616,863.22	469,704.25							
3,334.00	92.80	271.90	-641.48	2,805.52	26.44	-790.34	790.73	2.28	616,866.54	469,611.36							
3,428.00	93.40	271.00	-646.56	2,800.44	28.82	-884.17	884.59	1.15	616,868.92	469,517.53							
3,521.00	93.00	272.30	-651.75	2,795.25	31.49	-976.98	977.44	1.46	616,871.59	469,424.72							
3,615.00	91.50	272.30	-655.44	2,791.56	35.26	-1,070.83	1,071.35	1.60	616,875.36	469,330.87							
3,708.00	92.00	272.00	-658.28	2,788.72	38.75	-1,163.72	1,164.29	0.63	616,878.85	469,237.98							
3,802.00	92.50	271.20	-661.98	2,785.02	41.37	-1,257.61	1,258.22	1.00	616,881.47	469,144.09							
3,895.00	93.10	271.10	-666.52	2,780.48	43.24	-1,350.48	1,351.11	0.65	616,883.34	469,051.22							
3,989.00	91.50	271.50	-670.29	2,776.71	45.37	-1,444.38	1,445.03	1.75	616,885.47	468,957.32							
4,082.00	91.70	271.00	-672.89	2,774.11	47.40	-1,537.32	1,537.99	0.58	616,887.50	468,864.38							
4,176.00	92.30	270.80	-676.17	2,770.83	48.87	-1,631.25	1,631.93	0.67	616,888.97	468,770.45							
4,270.00	92.80	270.50	-680.35	2,766.65	49.94	-1,725.15	1,725.83	0.62	616,890.04	468,676.55							
4,364.00	93.00	270.20	-685.11	2,761.89	50.51	-1,819.03	1,819.70	0.38	616,890.61	468,582.67							
4,457.00	91.60	270.60	-688.84	2,758.16	51.16	-1,911.95	1,912.61	1.57	616,891.26	468,489.75							
4,550.00	91.80	270.60	-691.60	2,755.40	52.13	-2,004.90	2,005.56	0.22	616,892.23	468,396.80							
4,644.00	93.00	270.40	-695.53	2,751.47	52.95	-2,098.82	2,099.47	1.29	616,893.05	468,302.88							



Survey Report

Company	COG Operating LLC	Local Co-ordinate Reference	Well #1)	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V Sec (usft)	Dleg (°/100usft)	Northing (usft)	Easting (usft)
Project	Eddy County New Mexico (NAD 27(NME))	TVD Reference	RF @ 3447 00usft (JW.4)	4,738.00	91.90	270.40	-699.55	2,747.45	53.61	-2,192.73	2,193.37	1.17	616,893.71	468,208.97
Site	Clydesdale 1 Fee	MD Reference	RF @ 3447 00usft (JW.4)	4,831.00	92.20	270.60	-702.88	2,744.12	54.42	-2,285.66	2,286.31	0.39	616,894.52	468,116.04
Well	#1H	North Reference	Grd	4,925.00	91.40	270.60	-705.83	2,741.17	55.40	-2,379.61	2,380.25	0.85	616,895.50	468,022.09
Wellbore	#1 / Job #1310195	Survey Calculation Method	Minimum Curvature	5,019.00	91.60	270.50	-708.29	2,738.71	56.30	-2,473.57	2,474.21	0.24	616,896.40	467,928.13
Design	#1 / Job #1310195	Database	GCR DB v5000	5,113.00	91.80	270.00	-711.08	2,735.92	56.71	-2,567.53	2,568.16	0.57	616,896.81	467,834.17
				5,206.00	92.00	270.60	-714.16	2,732.84	57.20	-2,660.48	2,661.09	0.68	616,897.30	467,741.22
				5,300.00	92.60	272.00	-717.94	2,729.06	59.33	-2,754.38	2,755.02	1.62	616,899.43	467,647.32
				5,393.00	93.20	271.20	-722.64	2,724.36	61.93	-2,847.22	2,847.89	1.07	616,902.03	467,554.48
				5,487.00	93.10	272.10	-727.81	2,719.19	64.63	-2,941.04	2,941.75	0.96	616,904.73	467,460.66
				5,581.00	93.60	272.00	-733.30	2,713.70	67.98	-3,034.82	3,035.58	0.54	616,908.08	467,366.88
				5,674.00	92.60	272.10	-738.33	2,708.67	71.31	-3,127.62	3,128.43	1.08	616,911.41	467,274.08
				5,767.00	92.90	271.70	-742.79	2,704.21	74.39	-3,220.46	3,221.32	0.54	616,914.49	467,181.24
				5,861.00	93.70	271.40	-748.20	2,698.80	76.92	-3,314.27	3,315.16	0.91	616,917.02	467,087.43
				5,955.00	92.10	271.60	-752.96	2,694.04	79.38	-3,408.12	3,409.04	1.72	616,919.48	466,993.58
				6,048.00	92.00	271.10	-756.28	2,690.72	81.57	-3,501.03	3,501.98	0.55	616,921.67	466,900.67
				6,142.00	92.20	271.10	-759.73	2,687.27	83.38	-3,594.95	3,595.91	0.21	616,923.48	466,806.75
				6,236.00	92.40	270.60	-763.50	2,683.50	84.77	-3,688.86	3,689.83	0.57	616,924.87	466,712.84
				6,329.00	92.50	270.80	-767.48	2,679.52	85.90	-3,781.77	3,782.74	0.24	616,926.00	466,619.93
				6,423.00	92.70	270.60	-771.74	2,675.26	87.05	-3,875.67	3,876.64	0.30	616,927.15	466,526.03
				6,516.00	93.00	269.60	-776.36	2,670.64	87.21	-3,968.55	3,969.51	1.12	616,927.31	466,433.15
				6,610.00	92.00	270.70	-780.47	2,666.53	87.46	-4,062.46	4,063.40	1.58	616,927.56	466,339.24
				6,703.00	92.20	270.40	-783.87	2,663.13	88.35	-4,155.39	4,156.33	0.39	616,928.45	466,246.31
				6,796.00	92.50	269.80	-787.69	2,659.31	88.51	-4,248.31	4,249.23	0.72	616,928.61	466,153.39
				6,890.00	92.90	270.60	-792.11	2,654.89	88.84	-4,342.21	4,343.11	0.95	616,928.94	466,059.49
				6,984.00	91.90	272.10	-796.05	2,650.95	91.05	-4,436.09	4,437.02	1.92	616,931.15	465,965.61
				7,077.00	92.10	271.70	-799.30	2,647.70	94.14	-4,528.99	4,529.96	0.48	616,934.24	465,872.71
				7,171.00	92.30	271.50	-802.91	2,644.09	96.76	-4,622.88	4,623.89	0.30	616,936.86	465,778.82



Survey Report

Company	COG Operating LLC	Local Co-ordinate Reference	Well #1H								
Project:	Eddy County New Mexico (NAD 27(NME))	TVD Reference	RF @ 3447.00usft (JW 4)								
Site:	Clydesdale 1 Fee	MD Reference	RF @ 3447.00usft (JW 4)								
Well:	#1H	North Reference	Grid								
Wellbore:	Wellbore #1/Job #1310195	Survey Calculation Method:	Minimum Curvature								
Design:	Wellbore #1/Job #1310195	Database:	GCR DB v5000								
Survey	MD (usft)	Inc (°)	Azi (azimuth) (°)	TVDSS (usft)	TVD (usft)	N/S (usft)	E/W (usft)	V Sec (usft)	D Leg (°/100usft)	Northing (usft)	Easting (usft)
	7,264.00	92.60	271.50	-806.88	2,640.12	99.19	-4,715.76	4,716.80	0.32	616,939.29	465,685.94
	7,363.00	92.70	271.00	-811.46	2,635.54	101.35	-4,814.63	4,815.70	0.51	616,941.45	465,587.07
Final MWD Survey	7,424.00	92.70	271.00	-814.33	2,632.67	102.41	-4,875.56	4,876.63	0.00	616,942.51	465,526.14
Projection to TD											

Survey Annotations	Measured Depth (usft)	Vertical Depth (usft)	Local Coordinates	E-W (usft)	Comment
	2,149.00	2,148.62	N/S 11.41	-31.88	Tie On Survey
	2,241.00	2,240.57	N/S 11.84	-34.86	First Phoenix MWD Survey
	7,363.00	2,635.54	N/S 101.35	-4,814.63	Final MWD Survey
	7,424.00	2,632.67	N/S 102.41	-4,875.56	Projection to TD



Clydesdale 1 Fee#1H
 Eddy County, NM (NAN27 NME)
 Northing: (M) 616840.10
 Easting: (X) 470401.70
 Plan #1 8.5/4" Hole

RECEIVED
 MAR 25 2013
 NMOCD ARTESIA



To convert a Magnetic Declination to a Grid Direction, Add 7.9°
 To convert a True Direction to a Grid Direction, Add 0.05°

Magnetic Decl: 7.9°
 Date: 12/6/2012
 Magnetic Field
 By: 10/10/12
 Model: 100000012

WELL DETAILS:

WELL	NAME	GROUND LEVEL	354.00
WELL	DEPTH	NORTHING	616840.10
WELL	DEPTH	EASTING	470401.70
WELL	DEPTH	LENGTH	35.4238 W

SECTION DETAILS

MD	ht	AI	TVD	+NLS	+EAW	Dip	Trace	Vsrt	Target
0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	
2272.54	0.00	0.00	2272.54	0.00	0.00	0.00	0.00	0.00	
5022.54	90.00	271.25	2750.00	10.37	-477.35	12.20	271.25	477.48	
7432.86	90.00	271.25	2750.00	106.21	-488.74	0.00	0.00	488.78	P8H1

DESIGN TARGET DETAILS

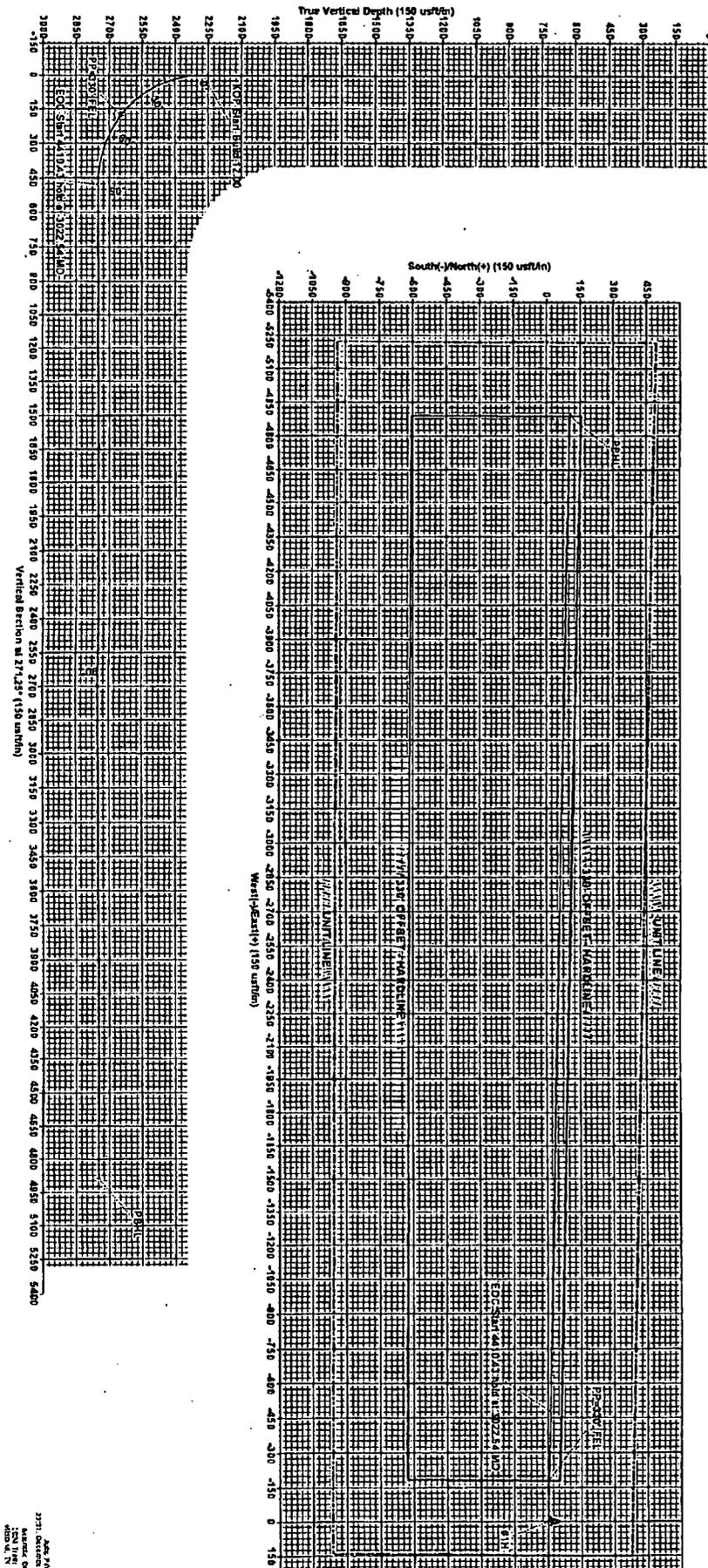
Name	P8H1	TVD	2846.05	+NLS	1.91	+EAW	-180.00	Northing	616844.01	Easting	470231.72
P8H1		2750.00		106.21		-488.74		616845.30		465315.40	

SITE DETAILS: Clydesdale 1 Fee
 Site Code: NME01
 Easting: 470380.00
 Position Uncertainty: 0.05
 Convergence: -0.05
 Local Merid: GAD

PROJECT DETAILS: Eddy County, NM (NAN27 NME)
 Orebody System: US State Plans 1927 (East 1 addition)
 Datum: NAD 1927 (NADCON CONUS)
 Ellipsoid: Clark 1866
 Zone: New Mexico East 3001
 System Datum: Mean Sea Level

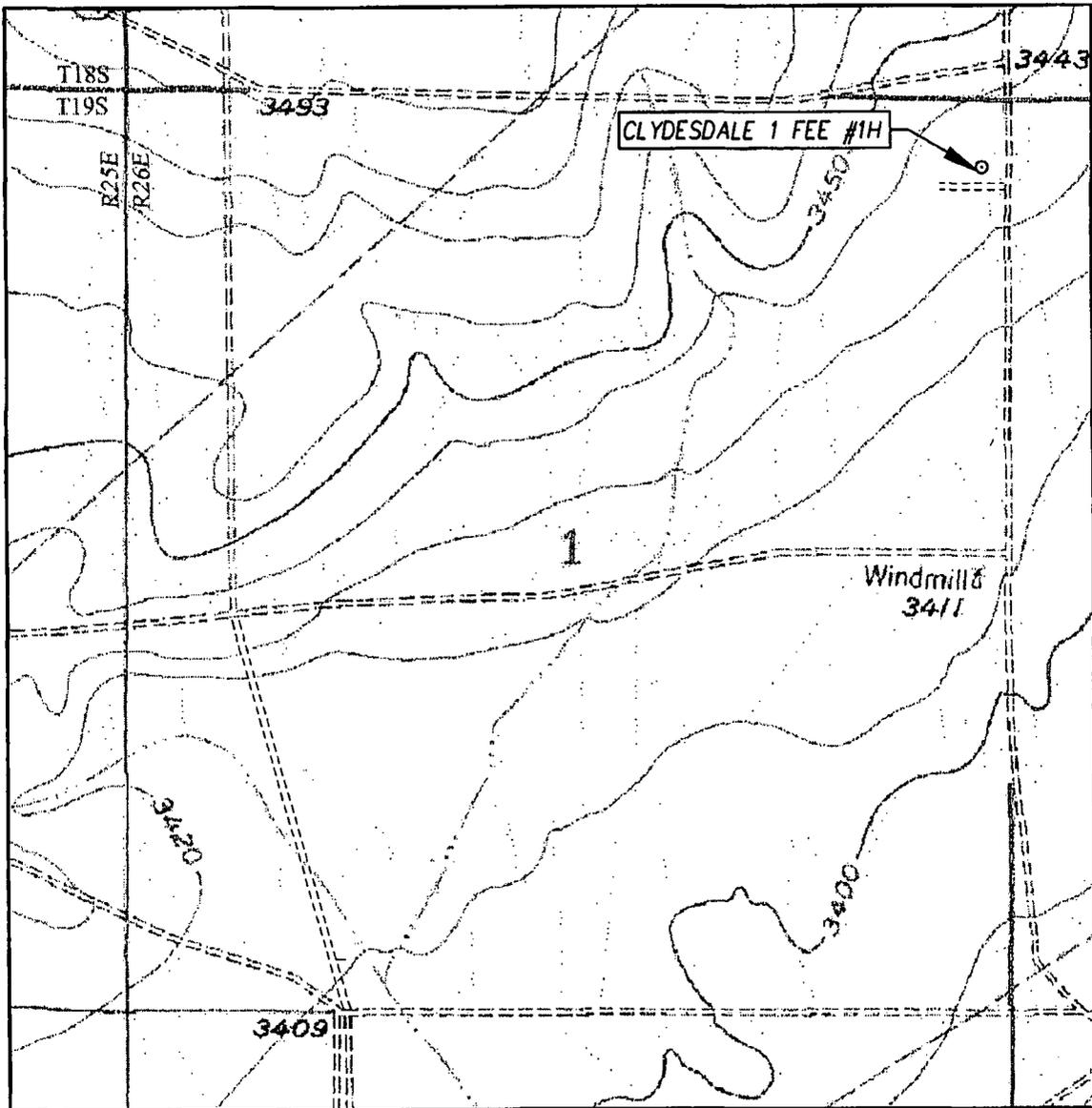
Map System: US State Plans 1927 East 1 addition
 Ellipsoid: Clark 1866
 Zone Name: New Mexico East 3001
 Local Origin: West end, Grid Merid
 Latitude: 32° 47' 44.718 N
 Longitude: 106° 12' 46.389 W
 Grid East: 470401.70
 Grid North: 616840.10
 Grid False: 1000
 Oasymetric Block: BDCD2012
 Magnetic North: 7.9°
 Dip Angle: 10.37°
 Magnetic Field Strength: 48154

To convert a Magnetic Declination to a Grid Direction, Add 7.9°
 To convert a True Direction to a Grid Direction, Add 0.05°



Scale: 1/4" = 100'
 Date: 12/6/2012
 By: 10/10/12
 Model: 100000012

LOCATION VERIFICATION MAP



SCALE: 1" = 1000'

CONTOUR INTERVAL:
DAYTON, N.M. - 10'

SEC. 1 TWP. 19-S RGE. 25-E
SURVEY N.M.P.M.
COUNTY EDDY STATE NEW MEXICO
DESCRIPTION 380' FNL & 150' FEL
ELEVATION 3434'
OPERATOR COG OPERATING, LLC
LEASE CLYDESDALE 1 FEE
U.S.G.S. TOPOGRAPHIC MAP
DAYTON, N.M.

