PHOENIX
TECHNOLOGY SERVICES

April 24, 2018

Oil Conservation Division
State of New Mexico
1625 N. French Drive
Hobbs, New Mexico 88240

HOBBS OCD
MAY 14 2018
RECEIVED

Dear District 1 - Hobbs

Re: EOG Resources
Nautilus 16 State Com 713H
Lea County, NM
API #30-025-44367
Job No. 62714

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. Other information required by your office is as follows:

Name & Title of Surveyor	Drain Hole Number	Surveyed Depths		Dates Performed		Type of Survey
		From	To	Start	End	
Andy Askew	713H	0	5,190	4/23/18	4/23/18	Gyro

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,

Brittany Carley

Brittany Carley
Operations Administrator

12329 Cutten Rd. Houston, TX 77066 • Phone (713) 337-0600 • Fax (713) 337-0599
www.phxtech.com

SURVEY CERTIFICATION FORM

3610 Elkins Road Midland, TX 79705 t:432-684-0057 f: 432-686-7964

PHOENIX TECHNOLOGY SERVICES

Company: EOG

Job #: 62714

Well Name: Nautilus 16 State Com 713H

County/State: Lea/ NM

Survey Instrument Type: North Seek Rate Gyro

API # 30-025-44367

TIE-IN DATA

Measure Depth (ft)	Vertical Depth (ft)	Inclination (°)	Azimuth (°)	N-S Coordinates	E-W Coordinates	Data Source
0	0	0	0	0	0	Surface

First Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2018-04-23	0	0	0

Last Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
2018-04-23	5190	0.45	121.62

Projected TD Survey

Date	Depth (ft)	Inclination (°)	Azimuth (°)
0	0	0	0

Grid Correction
-0.46

Gyro Operator: Phoenix Technology Services USA Ltd.

Gyro Supervisor: Angel Guebara

To the best of my knowledge I certify this survey data to be correct and true

Date: 4/23/18

Print Name: Andy Askew

Signature:

PHOENIX TECHNOLOGY SERVICES

Company:	EOG	Job Number:	62714	Date:	04-23-18
Well:	Nautilus 16 State Com 713H	Grid Corr.:	-0.46	Calculation Method:	Minimum Curvature
Location:	Lea Co., NM	Lat:	32.05	Proposed Azimuth:	
Rig:	HP 473	Long:	-103.47	RKB - MSL in feet:	25.5
				Tie Into:	Surface

Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Angle (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
Enter Tie-In Survey on Line 10						**FIELD COPY, NON-DEFINITIVE**							
TIE IN	0			0	0	0	0	0					
Gyro	100.00	0.57	199.85	100	100.00	-0.47	0.47 S	0.17 W	0.50	199.85	0.57	0.57	199.85
	200.00	0.85	188.30	100	199.99	-1.67	1.67 S	0.44 W	1.73	194.92	0.31	0.28	-11.55
	300.00	0.87	196.92	100	299.98	-3.13	3.13 S	0.77 W	3.22	193.87	0.13	0.02	8.62
	400.00	0.94	213.84	100	399.97	-4.54	4.54 S	1.45 W	4.76	197.73	0.28	0.07	16.92
	500.00	0.96	214.28	100	499.95	-5.91	5.91 S	2.38 W	6.37	201.93	0.02	0.02	0.44
	600.00	0.84	212.19	100	599.94	-7.22	7.22 S	3.24 W	7.92	204.17	0.12	-0.12	-2.09
	700.00	0.84	213.40	100	699.93	-8.46	8.46 S	4.04 W	9.37	205.51	0.02	0.00	1.21
	800.00	0.91	202.07	100	799.92	-9.80	9.80 S	4.74 W	10.89	205.79	0.19	0.07	-11.33
	900.00	0.98	194.47	100	899.90	-11.37	11.37 S	5.25 W	12.52	204.79	0.14	0.07	-7.60
	1000.00	0.99	177.26	100	999.89	-13.06	13.06 S	5.42 W	14.14	202.55	0.29	0.01	-17.21
	1100.00	2.27	67.41	100	1099.86	-13.16	13.16 S	3.55 W	13.63	195.10	2.77	1.28	-109.85
	1200.00	2.32	6.61	100	1199.80	-10.39	10.39 S	1.49 W	10.50	188.16	2.32	0.05	-60.80
	1300.00	1.31	346.71	100	1299.75	-7.27	7.27 S	1.52 W	7.42	191.81	1.18	-1.01	340.10
	1400.00	0.14	100.55	100	1399.74	-6.18	6.18 S	1.66 W	6.40	195.07	1.37	-1.17	-246.16
	1500.00	0.19	307.44	100	1499.74	-6.10	6.10 S	1.67 W	6.32	195.35	0.32	0.05	206.89
	1600.00	0.15	306.01	100	1599.74	-5.92	5.92 S	1.91 W	6.22	197.90	0.04	-0.04	-1.43
	1700.00	0.55	266.43	100	1699.73	-5.87	5.87 S	2.50 W	6.38	203.03	0.44	0.40	-39.58
	1800.00	0.82	251.89	100	1799.73	-6.12	6.12 S	3.66 W	7.13	210.83	0.32	0.27	-14.54
	1900.00	0.89	233.95	100	1899.72	-6.80	6.80 S	4.96 W	8.42	216.11	0.28	0.07	-17.94
	2000.00	0.65	223.98	100	1999.71	-7.67	7.67 S	5.99 W	9.73	217.97	0.27	-0.24	-9.97
	2100.00	0.90	227.07	100	2099.70	-8.61	8.61 S	6.95 W	11.07	218.92	0.25	0.25	3.09
	2200.00	1.22	215.24	100	2199.68	-10.02	10.02 S	8.14 W	12.91	219.11	0.39	0.32	-11.83
	2300.00	1.52	210.07	100	2299.65	-12.03	12.03 S	9.42 W	15.28	218.06	0.32	0.30	-5.17
	2400.00	1.26	161.38	100	2399.63	-14.22	14.22 S	9.74 W	17.24	214.39	1.17	-0.26	-48.69
	2500.00	1.53	149.91	100	2499.60	-16.42	16.42 S	8.72 W	18.59	207.96	0.39	0.27	-11.47
	2600.00	1.83	140.68	100	2599.55	-18.81	18.81 S	7.03 W	20.08	200.50	0.40	0.30	-9.23
	2700.00	2.21	135.20	100	2699.49	-21.41	21.41 S	4.66 W	21.92	192.29	0.43	0.38	-5.48

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Location:	Lea Co., NM	Lat:	32.05	RKB - MSL in feet:	25.5
Rig:	HP 473	Long:	-103.47	Tie Into:	Surface

Survey Tool Type	Survey Depth (ft)	Inclination (deg)	Azimuth (deg)	Course Length (ft)	True Vertical Depth (ft)	Vertical Section (ft)	Coordinates N/S (ft)	Coordinates E/W (ft)	Closure Distance (ft)	Closure Angle (deg)	Dogleg Severity (d/100')	Build Rate (d/100')	Walk Rate (d/100')
	2800.00	2.48	129.29	100	2799.41	-24.15	24.15 S	1.63 W	24.21	183.86	0.36	0.27	-5.91
	2900.00	0.90	104.23	100	2899.36	-25.72	25.72 S	0.80 E	25.73	178.21	1.71	-1.58	-25.06
	3000.00	0.84	87.38	100	2999.35	-25.88	25.88 S	2.30 E	25.98	174.92	0.26	-0.06	-16.85
	3100.00	1.03	80.95	100	3099.34	-25.70	25.70 S	3.92 E	26.00	171.33	0.22	0.19	-6.43
	3200.00	1.63	70.00	100	3199.31	-25.07	25.07 S	6.14 E	25.81	166.23	0.65	0.60	-10.95
	3300.00	0.34	116.49	100	3299.29	-24.72	24.72 S	7.74 E	25.90	162.60	1.42	-1.29	46.49
	3400.00	0.15	153.62	100	3399.29	-24.97	24.97 S	8.07 E	26.24	162.09	0.24	-0.19	37.13
	3500.00	0.16	38.72	100	3499.29	-24.98	24.98 S	8.21 E	26.29	161.80	0.26	0.01	-114.90
	3600.00	0.25	23.69	100	3599.29	-24.67	24.67 S	8.39 E	26.06	161.22	0.10	0.09	-15.03
	3700.00	0.61	8.51	100	3699.29	-23.94	23.94 S	8.56 E	25.42	160.34	0.37	0.36	-15.18
	3800.00	0.93	23.02	100	3799.28	-22.67	22.67 S	8.95 E	24.37	158.45	0.37	0.32	14.51
	3900.00	1.21	23.12	100	3899.26	-20.95	20.95 S	9.68 E	23.08	155.19	0.28	0.28	0.10
	4000.00	1.45	22.57	100	3999.24	-18.81	18.81 S	10.58 E	21.58	150.64	0.24	0.24	-0.55
	4100.00	0.95	23.09	100	4099.21	-16.88	16.88 S	11.39 E	20.37	145.98	0.50	-0.50	0.52
	4200.00	0.51	266.70	100	4199.21	-16.14	16.14 S	11.27 E	19.69	145.07	1.26	-0.44	243.61
	4300.00	0.63	280.47	100	4299.20	-16.07	16.07 S	10.29 E	19.08	147.37	0.18	0.12	13.77
	4400.00	0.77	287.15	100	4399.20	-15.77	15.77 S	9.11 E	18.21	150.00	0.16	0.14	6.68
	4500.00	0.92	300.62	100	4499.19	-15.16	15.16 S	7.77 E	17.04	152.86	0.25	0.15	13.47
	4600.00	1.16	347.92	100	4599.17	-13.77	13.77 S	6.87 E	15.39	153.47	0.86	0.24	47.30
	4700.00	0.96	8.78	100	4699.15	-11.95	11.95 S	6.79 E	13.74	150.40	0.43	-0.20	-339.14
	4800.00	0.31	310.29	100	4799.15	-10.94	10.94 S	6.71 E	12.84	148.49	0.84	-0.65	301.51
	4900.00	0.08	95.46	100	4899.15	-10.78	10.78 S	6.57 E	12.62	148.62	0.38	-0.23	-214.83
	5000.00	0.88	109.39	100	4999.14	-11.04	11.04 S	7.37 E	13.27	146.28	0.80	0.80	13.93
	5100.00	1.71	123.46	100	5099.12	-12.12	12.12 S	9.34 E	15.30	142.39	0.88	0.83	14.07
	5190.00	0.45	121.62	90	5189.10	-13.04	13.04 S	10.76 E	16.91	140.48	1.40	-1.40	-2.04