

Results of Directional Survey

API number:	30-025-41384		
OGRID:		Operator:	COG OPERATING LLC
		Property:	DECKARD FEDERAL COM # 4H

surface	ULSTR:	A	13	T 24S	R 33E
				190 FNL	660 FEL

BH Loc	ULSTR:	P	13	T 24S	R 33E
15492	MD	11102.9	TVD	399 FSL	616 FEL
				4881 FNL	

Top Perf/OH	ULSTR:	A	13	T 24S	R 33E
11131	MD	10953.3	TVD	527 FNL	583 FEL

Bot Perf/OH	ULSTR:	P	13	T 24S	R 33E
15295	MD	11102.5	TVD	596 FSL	619 FEL
				4684 FNL	

	MD	N/S	E/W	VD
	11100	-307.30	76.42	10944.33
TOP PERFS/OH	11131	-336.95	76.61	10953.34
	11131	-336.95	76.61	10953.34
	15288	-4487.21	40.56	11102.52
BOT PERFS/OH	15295	-4494.21	40.64	11102.54
	15383	-4582.20	41.64	11102.85

NEXT TO LAST	15440	-4639.38	42.68	11102.90
LAST READING	15492	-4691.18	43.77	11102.90
TD	15492	-4691.18	43.77	11102.90

Surface Location	190	FN	660	FE
Projected BHL	4881	FN	616	FE
Location of				
Top Perfs/OH	527	FN	583	FE
Bottom Perfs/OH	4684	FN	619	FE

SUMMARY of Subsurface Locations

Surface Location	A-13-24S-33E	190	FN	660	FE	Vert. Depth
Top Perfs/OH	A-13-24S-33E	527	FN	583	FE	10953.34
Bottom Perfs/OH	P-13-24S-33E	4684	FN	619	FE	11102.54
Projected TD	P-13-24S-33E	4881	FN	616	FE	11102.90

SEP 16 2014

OPERATOR COG Operating
WELL/LEASE Deckard Federal Com #4-H
COUNTY Lea Co. NM

STATE OF NEW MEXICO
DEVIATION REPORT

286	0.35
867	0.78
562	0.38
1201	0.50
1450	0.50
1728	0.50
2295	0.40
2578	0.90
3145	1.90
3429	0.80
3712	1.30
3995	0.90
4279	0.60
4562	1.70
4845	2.00
5070	7.80
5443	1.10
5726	0.90
6041	0.50
6356	0.70
6920	0.30
7141	0.00
7426	0.60
7768	0.80
8051	1.00
8336	1.20
8622	0.10
8843	0.50
9090	1.20
9749	0.40
9974	1.20
10193	0.30
10627	16.70

HOBBS OCD

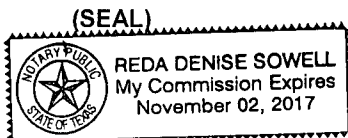
AUG 29 2014

RECEIVED

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

STATE OF TEXAS
COUNTY OF MIDLAND

ON THIS 8 DAY OF July, 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



June 30, 2014

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

HOBBS OCD

AUG 29 2014

RECEIVED

Attn: Kanicia Castillo

RE: Deckard Federal Com No. 004H

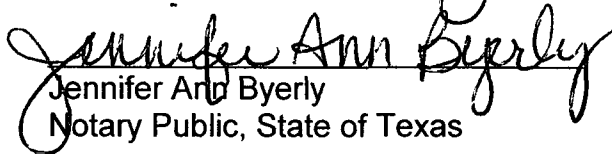
Please find enclosed a copy of the survey from 0.00' to 10,395.00' ran on the above referenced well.

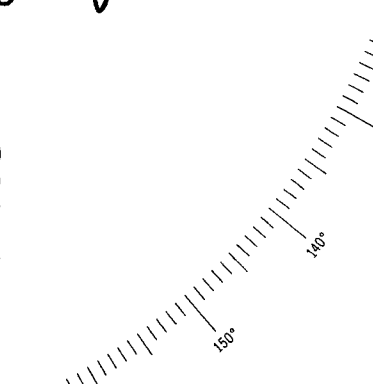
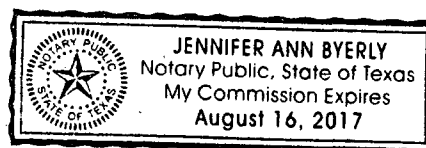
Sincerely,

Keith Havelka
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 30 day of June,
A.D., 2014, by Keith Havelka.


Jennifer Ann Byerly
Notary Public, State of Texas





Company: COG Operating, LLC (Concho)
Lease/Well: Deckard Federal Com/No. 004H
Location: S13 T24S R33E
Rig Name: Basic 46
State/County: New Mexico/Lea
Latitude: 32.22, Longitude: -103.52
GRID North is 0.43 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : R.K.B. = 22 Feet

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut

Minimum Curvature Method

Report Date/Time: 6/30/2014 / 14:35

VES Survey International

Midland, TX

432-563-5444

Surveyor: Andrew Askew

Deckard Federal Com No. 004H / API 30-025-41384

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	50.03	100.00	0.26	0.31	0.26	0.41	50.03	0.47
200.00	0.37	93.27	200.00	0.50	0.95	0.50	1.07	61.95	0.32
300.00	0.55	89.31	299.99	0.49	1.75	0.49	1.82	74.32	0.18
400.00	0.39	47.74	399.99	0.73	2.48	0.73	2.59	73.69	0.37
500.00	0.23	93.75	499.99	0.94	2.93	0.94	3.08	72.19	0.28
600.00	0.37	87.17	599.99	0.95	3.46	0.95	3.59	74.71	0.15
700.00	0.19	6.38	699.99	1.13	3.80	1.13	3.97	73.46	0.39
800.00	0.17	234.55	799.99	1.21	3.70	1.21	3.90	71.86	0.33
900.00	0.26	21.52	899.99	1.34	3.67	1.34	3.91	69.97	0.40
1000.00	0.22	345.32	999.99	1.73	3.70	1.73	4.09	64.96	0.15
1100.00	0.37	356.20	1099.98	2.24	3.63	2.24	4.27	58.34	0.16
1200.00	0.18	326.68	1199.98	2.70	3.53	2.70	4.44	52.61	0.24
1300.00	0.15	16.35	1299.98	2.95	3.48	2.95	4.56	49.67	0.14
1400.00	0.38	7.68	1399.98	3.40	3.56	3.40	4.92	46.27	0.23
1500.00	0.66	358.85	1499.98	4.31	3.59	4.31	5.61	39.81	0.30
1600.00	0.62	354.43	1599.97	5.43	3.53	5.43	6.47	33.02	0.06
1700.00	0.54	10.04	1699.97	6.43	3.56	6.43	7.35	28.94	0.18
1800.00	0.19	356.59	1799.96	7.06	3.63	7.06	7.94	27.19	0.36

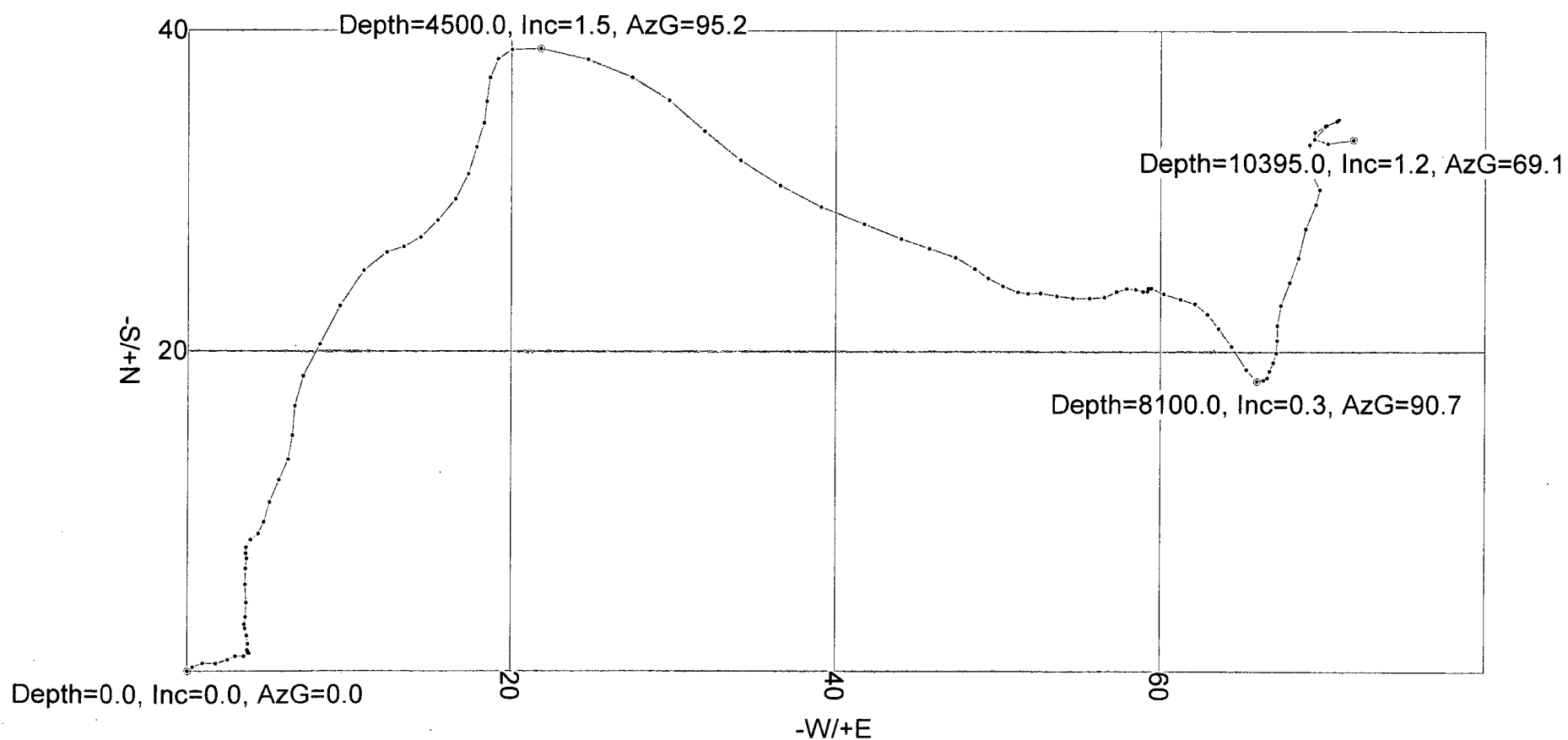
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	0.17	339.64	1899.96	7.37	3.57	7.37	8.19	25.81	0.06
2000.00	0.28	16.20	1999.96	7.75	3.58	7.75	8.54	24.81	0.18
2100.00	0.36	41.61	2099.96	8.23	3.86	8.23	9.09	25.15	0.16
2200.00	0.32	58.48	2199.96	8.61	4.31	8.61	9.63	26.61	0.11
2300.00	0.66	8.79	2299.96	9.33	4.64	9.33	10.42	26.45	0.52
2400.00	0.83	21.26	2399.95	10.58	4.99	10.58	11.70	25.26	0.23
2500.00	0.88	24.09	2499.94	11.96	5.57	11.96	13.19	24.98	0.06
2600.00	0.73	23.10	2599.93	13.24	6.13	13.24	14.59	24.85	0.15
2700.00	1.04	359.62	2699.91	14.74	6.38	14.74	16.06	23.39	0.47
2800.00	1.07	10.20	2799.90	16.57	6.54	16.57	17.81	21.53	0.20
2900.00	1.15	20.44	2899.88	18.43	7.05	18.43	19.73	20.94	0.21
3000.00	1.45	31.76	2999.85	20.45	8.07	20.45	21.98	21.53	0.39
3100.00	1.65	24.15	3099.82	22.83	9.32	22.83	24.66	22.21	0.29
3200.00	1.43	44.78	3199.78	25.03	10.79	25.03	27.26	23.31	0.59
3300.00	0.69	64.39	3299.76	26.18	12.21	26.18	28.89	25.01	0.81
3400.00	0.57	80.55	3399.76	26.52	13.25	26.52	29.65	26.54	0.21
3500.00	0.88	48.27	3499.75	27.12	14.32	27.12	30.66	27.83	0.50
3600.00	0.85	42.34	3599.74	28.18	15.39	28.18	32.11	28.64	0.09
3700.00	1.13	38.70	3699.72	29.50	16.51	29.50	33.80	29.23	0.29
3800.00	0.93	12.15	3799.71	31.06	17.29	31.06	35.54	29.11	0.51
3900.00	1.10	21.93	3899.69	32.74	17.82	32.74	37.28	28.56	0.25
4000.00	0.69	10.40	3999.68	34.23	18.29	34.23	38.81	28.12	0.45
4100.00	0.87	4.90	4099.67	35.58	18.46	35.58	40.08	27.43	0.19
4200.00	0.86	10.75	4199.66	37.07	18.67	37.07	41.51	26.73	0.09
4300.00	0.64	40.74	4299.65	38.23	19.17	38.23	42.77	26.63	0.44
4400.00	0.61	71.50	4399.64	38.82	20.04	38.82	43.69	27.30	0.33
4500.00	1.50	95.17	4499.63	38.87	21.85	38.87	44.59	29.34	0.98
4600.00	1.94	109.02	4599.58	38.20	24.76	38.20	45.52	32.95	0.60
4700.00	1.42	116.81	4699.54	37.09	27.47	37.09	46.15	36.53	0.57
4800.00	1.65	126.75	4799.50	35.67	29.73	35.67	46.43	39.81	0.35
4900.00	1.68	136.76	4899.46	33.74	31.88	33.74	46.42	43.38	0.29
5000.00	1.66	121.53	4999.42	31.91	34.12	31.91	46.72	46.92	0.44
5100.00	1.67	123.55	5099.38	30.35	36.57	30.35	47.52	50.30	0.06
5200.00	1.62	112.53	5199.34	29.01	39.08	29.01	48.67	53.42	0.32
5300.00	1.70	110.38	5299.29	27.95	41.78	27.95	50.27	56.22	0.10
5400.00	1.10	114.66	5399.26	27.03	44.05	27.03	51.68	58.46	0.62
5500.00	1.01	103.25	5499.25	26.43	45.77	26.43	52.86	60.00	0.23
5600.00	0.93	115.43	5599.23	25.88	47.36	25.88	53.97	61.35	0.22
5700.00	0.66	129.89	5699.22	25.16	48.54	25.16	54.67	62.60	0.34

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	0.51	119.03	5799.22	24.58	49.37	24.58	55.15	63.53	0.18
5900.00	0.67	117.61	5899.21	24.09	50.27	24.09	55.75	64.39	0.16
6000.00	0.48	106.04	5999.21	23.70	51.19	23.70	56.42	65.15	0.22
6100.00	0.25	80.36	6099.21	23.63	51.81	23.63	56.95	65.49	0.28
6200.00	0.64	90.46	6199.20	23.66	52.59	23.66	57.67	65.78	0.40
6300.00	0.57	111.16	6299.20	23.47	53.62	23.47	58.53	66.36	0.23
6400.00	0.58	84.14	6399.19	23.34	54.59	23.34	59.37	66.85	0.27
6500.00	0.62	97.38	6499.19	23.32	55.62	23.32	60.32	67.25	0.14
6600.00	0.45	68.80	6599.18	23.40	56.53	23.40	61.18	67.51	0.31
6700.00	0.50	62.37	6699.18	23.74	57.28	23.74	62.01	67.49	0.07
6800.00	0.29	89.77	6799.18	23.95	57.92	23.95	62.67	67.54	0.28
6900.00	0.36	100.08	6899.17	23.89	58.48	23.89	63.17	67.78	0.10
7000.00	0.17	118.20	6999.17	23.77	58.92	23.77	63.53	68.03	0.20
7100.00	0.19	57.37	7099.17	23.78	59.19	23.78	63.79	68.11	0.18
7200.00	0.14	317.57	7199.17	23.96	59.24	23.96	63.90	67.98	0.25
7300.00	0.32	109.26	7299.17	23.96	59.42	23.96	64.07	68.04	0.45
7400.00	0.65	116.66	7399.17	23.61	60.20	23.61	64.66	68.58	0.33
7500.00	0.61	99.63	7499.16	23.27	61.22	23.27	65.50	69.19	0.19
7600.00	0.46	117.84	7599.16	22.99	62.10	22.99	66.22	69.68	0.22
7700.00	0.72	139.26	7699.15	22.33	62.87	22.33	66.71	70.45	0.33
7800.00	0.56	144.45	7799.15	21.46	63.56	21.46	67.08	71.35	0.17
7900.00	1.00	144.86	7899.14	20.34	64.35	20.34	67.49	72.46	0.44
8000.00	0.95	151.40	7999.12	18.90	65.25	18.90	67.93	73.85	0.12
8100.00	0.30	90.69	8099.12	18.17	65.91	18.17	68.36	74.59	0.85
8200.00	0.18	65.51	8199.12	18.23	66.31	18.23	68.77	74.63	0.16
8300.00	0.13	46.14	8299.12	18.38	66.54	18.38	69.03	74.56	0.07
8400.00	0.39	11.62	8399.12	18.79	66.69	18.79	69.29	74.26	0.29
8500.00	0.29	34.88	8499.11	19.33	66.90	19.33	69.64	73.89	0.17
8600.00	0.45	6.42	8599.11	19.92	67.09	19.92	69.98	73.46	0.24
8700.00	0.46	2.17	8699.11	20.71	67.15	20.71	70.27	72.86	0.03
8800.00	0.60	359.84	8799.10	21.63	67.16	21.63	70.56	72.15	0.15
8900.00	0.89	15.88	8899.10	22.90	67.37	22.90	71.16	71.22	0.35
9000.00	0.85	25.91	8999.08	24.32	67.91	24.32	72.13	70.30	0.16
9100.00	1.02	13.69	9099.07	25.85	68.44	25.85	73.16	69.31	0.26
9200.00	1.12	13.02	9199.05	27.67	68.87	27.67	74.23	68.11	0.11
9300.00	0.79	34.90	9299.04	29.19	69.49	29.19	75.37	67.21	0.49
9400.00	0.45	336.04	9399.03	30.11	69.72	30.11	75.95	66.64	0.68
9500.00	0.97	334.11	9499.03	31.23	69.20	31.23	75.92	65.71	0.53
9600.00	1.13	16.95	9599.01	32.93	69.11	32.93	76.56	64.52	0.78

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
9700.00	0.87	70.33	9699.00	34.13	70.12	34.13	77.98	64.05	0.93
9800.00	0.15	30.72	9798.99	34.50	70.90	34.50	78.85	64.05	0.76
9900.00	0.32	223.34	9898.99	34.41	70.77	34.41	78.69	64.07	0.47
10000.00	0.60	259.14	9998.99	34.10	70.07	34.10	77.93	64.05	0.38
10100.00	0.37	205.69	10098.99	33.72	69.42	33.72	77.18	64.09	0.48
10200.00	0.21	138.22	10198.99	33.29	69.41	33.29	76.98	64.38	0.35
10300.00	0.81	101.82	10298.98	33.01	70.22	33.01	77.59	64.83	0.65
10395.00	1.19	69.08	10393.97	33.22	71.80	33.22	79.11	65.17	0.71



VES Survey International
Midland, TX
432-563-5444
Surveyor: Andrew Askew
Deckard Federal Com No. 004H / API 30-025-41384





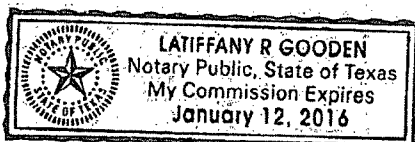
State of New Mexico
County of Lea

I, Michael K. Baber, certify that: I am employed by Terra Directional Services LLC; that I did on the day(s) of 06/02/2014 through 06/23/2014 conduct or supervise the taking of a MWD survey from a depth of 11100 feet to a depth 15492 feet; that the data is true, correct, complete and within the limitations of the tool as set forth by Terra Directional Services LLC; that I am authorized and qualified to make this report; that this survey was conducted at the request of Concho Oil & Gas for the Deckard Federal Com #4H Well API 30-025-41384 in Lea County, New Mexico; and that I have reviewed this report and find that it conforms to the principles and procedures as set forth by Terra Directional Services LLC.

Michael K. Baber
MWD Operations Manager

State of Texas
County of Montgomery

Before me, a notary public, on this day personally appeared Michael K. Baber, known to me to be the person whose name is subscribed to the foregoing document and, being by me first duly sworn, declared that the statements therein contained are true and correct.

Notary Public's Signature



Customer Name: COG Operating, LLC.
Well Name: Deckard Federal Com
API Number: 30-025-41384
County / Parish: Hwy 128 & Delaware t

M.W.D. Operator: Stacy Ogle
Directional Driller: Armond McKey
Total Magnetic Correction: 6.77
Job #: NM-443

Vertical Section: 179.56

Tie In Survey(s) Provided By:

	Meas. Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	Dist.	Angle	DLS
Tie - In										
0	11068.00	67.90	180.50	10933.20	277.90	-277.30	76.50	207.66	164.58	0.00
1	11100.00	71.40	179.80	10944.33	307.88	-307.30	76.42	316.66	166.03	11.13
2	11131.00	74.80	179.50	10953.34	337.53	-336.95	76.61	345.55	167.19	11.01
3	11162.00	77.50	179.20	10960.76	367.63	-367.05	76.95	375.03	168.16	8.76
4	11193.00	79.40	179.30	10966.96	398.00	-397.42	77.34	404.87	168.99	6.14
5	11224.00	81.10	179.30	10972.21	428.55	-427.97	77.72	434.96	169.71	5.48
6	11260.00	82.20	179.10	10977.44	464.17	-463.58	78.22	470.13	170.42	3.10
7	11291.00	83.30	180.00	10981.35	494.92	-494.33	78.46	500.52	170.98	4.57
8	11323.00	84.90	180.00	10984.64	526.75	-526.16	78.46	531.98	171.52	5.00
9	11354.00	87.10	180.20	10986.80	557.67	-557.08	78.40	562.57	171.99	7.13
10	11385.00	86.40	180.10	10988.56	588.62	-588.03	78.32	593.22	172.41	2.28
11	11417.00	88.30	180.30	10990.04	620.58	-620.00	78.21	624.91	172.81	5.97
12	11511.00	88.50	180.30	10992.67	714.53	-713.96	77.72	718.18	173.79	0.21
13	11605.00	86.00	179.00	10997.18	808.42	-807.84	78.29	811.62	174.46	3.00
14	11700.00	84.80	178.80	11004.80	903.10	-902.51	80.11	906.06	174.93	1.28
15	11794.00	84.40	179.70	11013.64	996.68	-996.09	81.33	999.40	175.33	1.04
16	11889.00	83.80	181.00	11023.41	1091.17	-1090.58	80.76	1093.57	175.77	1.50
17	11983.00	86.60	183.10	11031.27	1184.73	-1184.17	77.40	1186.70	176.26	3.72
18	12078.00	88.50	181.10	11035.33	1279.55	-1279.02	73.93	1281.15	176.69	2.90
19	12172.00	85.90	180.40	11039.93	1373.40	-1372.89	72.70	1374.81	176.97	2.86
20	12266.00	89.90	182.40	11043.37	1467.27	-1466.77	70.40	1468.46	177.25	4.76
21	12361.00	91.40	181.10	11042.29	1562.19	-1561.72	67.50	1563.17	177.53	2.09
22	12455.00	91.00	180.20	11040.32	1656.15	-1655.69	66.43	1657.02	177.70	1.05
23	12550.00	90.70	181.00	11038.91	1751.12	-1750.67	65.44	1751.89	177.86	0.90
24	12644.00	89.20	180.80	11039.00	1845.09	-1844.66	63.96	1845.77	178.01	1.61
25	12739.00	88.70	180.30	11040.74	1940.06	-1939.64	63.05	1940.66	178.14	0.74
26	12833.00	89.20	180.40	11042.46	2034.04	-2033.62	62.48	2034.58	178.24	0.54
27	12927.00	89.50	180.00	11043.53	2128.03	-2127.61	62.15	2128.52	178.33	0.53
28	13021.00	87.60	180.10	11045.90	2221.99	-2221.58	62.07	2222.44	178.40	2.02
29	13116.00	86.90	180.40	11050.46	2316.87	-2316.47	61.65	2317.29	178.48	0.80
30	13210.00	88.10	180.10	11054.56	2410.77	-2410.37	61.24	2411.15	178.54	1.32
31	13305.00	87.20	181.30	11058.46	2505.67	-2505.28	60.08	2506.00	178.63	1.58
32	13399.00	88.70	182.10	11061.82	2599.54	-2599.18	57.30	2599.81	178.74	1.81
33	13494.00	89.50	182.00	11063.31	2694.44	-2694.11	53.90	2694.65	178.85	0.85
34	13588.00	89.90	181.20	11063.80	2788.38	-2788.07	51.27	2788.54	178.95	0.95
35	13682.00	89.50	181.00	11064.30	2882.34	-2882.05	49.47	2882.47	179.02	0.48
36	13777.00	89.10	180.60	11065.46	2977.31	-2977.03	48.14	2977.42	179.07	0.60
37	13871.00	87.70	180.20	11068.08	3071.26	-3070.99	47.49	3071.36	179.11	1.55
38	13966.00	86.60	179.80	11072.81	3166.14	-3165.87	47.49	3166.23	179.14	1.23
39	14060.00	86.90	179.70	11078.13	3259.99	-3259.72	47.90	3260.07	179.16	0.34
40	14155.00	88.40	180.10	11082.03	3354.91	-3354.64	48.06	3354.98	179.18	1.63
41	14249.00	87.20	178.90	11085.64	3448.83	-3448.56	48.88	3448.91	179.19	1.80
42	14343.00	88.60	180.30	11089.08	3542.77	-3542.49	49.54	3542.84	179.20	2.11
43	14438.00	87.60	181.40	11092.23	3637.69	-3637.42	48.13	3637.74	179.24	1.56
44	14532.00	89.50	181.10	11094.61	3731.61	-3731.37	46.08	3731.65	179.29	2.05



[Handwritten Signature]

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45	14627.00	88.20	180.80	11096.52	3826.56	-3826.33	44.50	3826.59	179.33	1.40
46	14721.00	89.60	181.20	11098.32	3920.51	-3920.30	42.86	3920.53	179.37	1.55
47	14815.00	89.60	181.00	11098.98	4014.48	-4014.28	41.06	4014.49	179.41	0.21
48	14910.00	88.20	181.00	11100.80	4109.43	-4109.24	39.40	4109.43	179.45	1.47
49	15004.00	89.50	179.20	11102.69	4203.40	-4203.22	39.24	4203.40	179.47	2.36
50	15099.00	90.50	179.60	11102.69	4298.40	-4298.21	40.23	4298.40	179.46	1.13
51	15194.00	90.00	180.20	11102.27	4393.39	-4393.21	40.40	4393.40	179.47	0.82
52	15288.00	89.70	179.60	11102.52	4487.39	-4487.21	40.56	4487.39	179.48	0.71
53	15383.00	89.90	179.10	11102.85	4582.39	-4582.20	41.64	4582.39	179.48	0.57
TD	15440.00	90.00	178.80	11102.90	4639.38	-4639.19	42.68	4639.39	179.47	0.55
PTB	15492.00	90.00	178.80	11102.90	4691.38	-4691.18	43.77	4691.39	179.47	0.00



A large, stylized handwritten signature in black ink, likely belonging to the notary public, Latiffany R Gooden.