



March 17, 2015

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

HOBBS OCD

JUN 02 2015

RECEIVED

Attn: Kanicia Castillo

30-025-42062

RE: **Pygmy 27 State 2H**

Please find enclosed a copy of the survey from 0.00' to 9649.00' ran on the above referenced well.

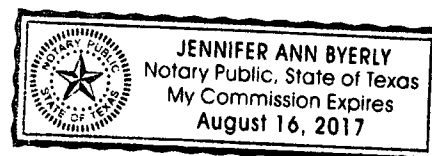
If I can be of any further service, please do not hesitate to call me at 800-606-4976.

Sincerely,

Kimberly D Moller
Operations

STATE OF TEXAS §
 §
COUNTY OF NUECES §

This instrument was acknowledged before me on the 17 day of March, A.D., 2015, by Kimberly D Moller.

Jennifer Ann Byerly
Notary Public, State of Texas

JUN 08 2015



Company: COG OPERATING
Lease/Well: PYGMY 27 STATE/2H

Rig Name: PRECISION #105
State/County: NEW MEXICO /LEA
Latitude: 32.46, Longitude: -103.56
GRID North is 0.41 Degrees East of True North
VS-Azi: 0.00 Degrees



Depth Reference : RKB: 26.2 FEET

DRILLOG HA GYRO SURVEY CALCULATIONS

Filename: gyro survey.ut
Minimum Curvature Method
Report Date/Time: 3/17/2015 / 13:55

VES Survey International
West Texas
(432) 563-5444
Surveyor: Jordan Shelleby
Pygmy 27 State 2H / API 30-025-42062

HOBBS OCD

JUN 02 2015

RECEIVED

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	0.57	10.73	100.00	0.49	0.09	0.49	0.49	10.73	0.57
200.00	0.77	38.36	199.99	1.50	0.60	1.50	1.61	21.86	0.38
300.00	0.35	101.28	299.99	1.96	1.32	1.96	2.36	33.83	0.69
400.00	0.18	164.51	399.99	1.75	1.66	1.75	2.41	43.41	0.31
500.00	0.09	185.69	499.99	1.52	1.69	1.52	2.27	48.13	0.10
600.00	0.64	236.99	599.98	1.13	1.21	1.13	1.66	47.06	0.59
700.00	1.01	299.56	699.98	1.25	-0.02	1.25	1.25	358.97	0.91
800.00	0.80	258.25	799.96	1.54	-1.47	1.54	2.13	316.34	0.67
900.00	0.73	253.53	899.95	1.22	-2.77	1.22	3.03	293.80	0.10
1000.00	0.75	285.86	999.95	1.22	-4.00	1.22	4.19	286.94	0.41
1100.00	0.24	309.57	1099.94	1.53	-4.79	1.53	5.03	287.73	0.53
1200.00	0.71	299.14	1199.94	1.97	-5.50	1.97	5.84	289.70	0.47
1300.00	0.66	222.36	1299.93	1.84	-6.43	1.84	6.69	286.01	0.85
1400.00	0.65	23.39	1399.93	1.94	-6.59	1.94	6.87	286.42	1.30
1500.00	0.53	19.18	1499.93	2.91	-6.21	2.91	6.86	295.08	0.13
1600.00	0.22	46.70	1599.92	3.48	-5.91	3.48	6.86	300.47	0.35
1700.00	0.50	358.80	1699.92	4.05	-5.78	4.05	7.06	305.04	0.39
1800.00	0.92	78.44	1799.92	4.65	-5.01	4.65	6.84	312.92	0.96

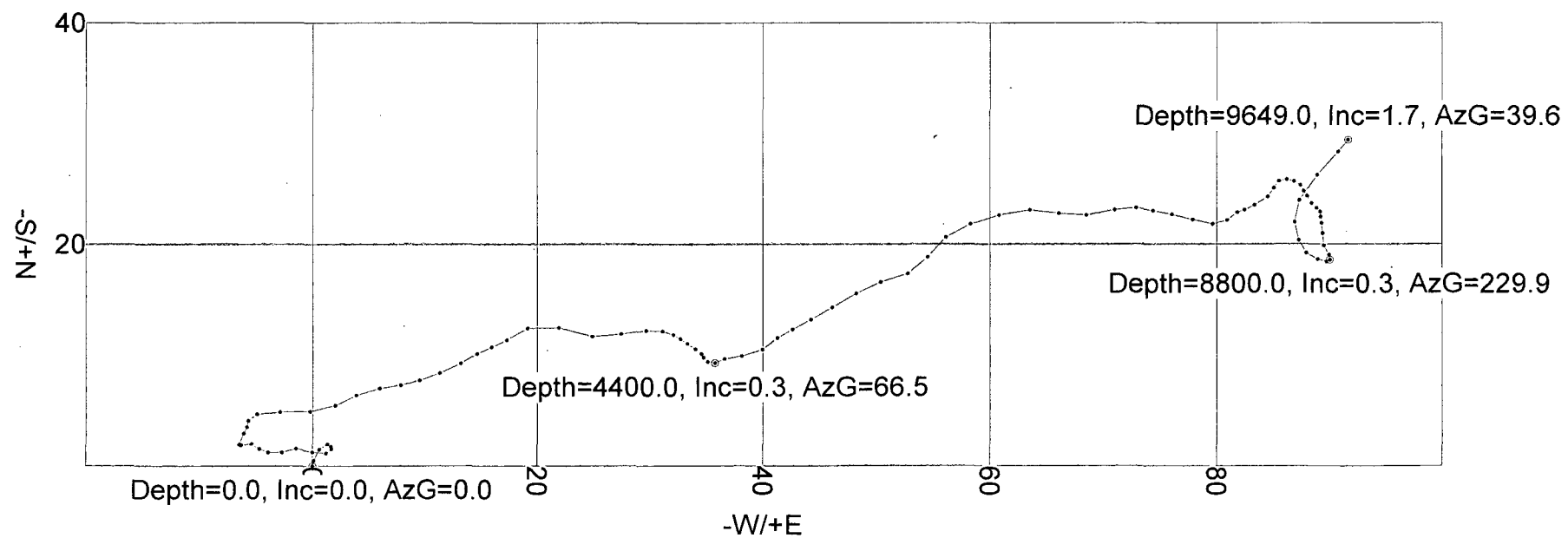
Measured Depth FT	Incl Angle Deg	Drift Direction Deg	TVD FT	+N/-S FT	+E/-W FT	Vertical Section FT	Closure Distance FT	Closure Direction Deg	Dogleg Severity Deg/100
1900.00	1.45	89.38	1899.89	4.83	-2.95	4.83	5.66	328.55	0.58
2000.00	1.64	87.15	1999.86	4.91	-0.25	4.91	4.92	357.06	0.20
2100.00	1.10	62.04	2099.83	5.44	2.03	5.44	5.80	20.47	0.80
2200.00	1.29	66.12	2199.81	6.34	3.91	6.34	7.45	31.64	0.21
2300.00	1.22	80.85	2299.78	6.97	5.99	6.97	9.19	40.69	0.33
2400.00	0.97	81.03	2399.77	7.27	7.88	7.27	10.72	47.31	0.25
2500.00	1.04	69.83	2499.75	7.71	9.57	7.71	12.29	51.12	0.21
2600.00	1.26	73.03	2599.73	8.35	11.46	8.35	14.18	53.95	0.23
2700.00	1.09	52.26	2699.71	9.25	13.27	9.25	16.17	55.12	0.45
2800.00	0.87	68.42	2799.70	10.11	14.73	10.11	17.86	55.52	0.35
2900.00	0.76	62.13	2899.69	10.70	16.02	10.70	19.26	56.26	0.14
3000.00	0.92	65.03	2999.67	11.35	17.33	11.35	20.72	56.78	0.16
3100.00	1.52	56.67	3099.65	12.42	19.16	12.42	22.83	57.06	0.62
3200.00	2.04	113.08	3199.61	12.45	21.91	12.45	25.20	60.40	1.74
3300.00	1.52	93.50	3299.56	11.67	24.87	11.67	27.47	64.86	0.80
3400.00	1.46	76.94	3399.53	11.87	27.43	11.87	29.89	66.59	0.43
3500.00	1.10	87.92	3499.50	12.20	29.63	12.20	32.04	67.62	0.43
3600.00	0.58	101.74	3599.49	12.13	31.08	12.13	33.36	68.68	0.56
3700.00	0.56	114.17	3699.49	11.83	32.01	11.83	34.13	69.73	0.12
3800.00	0.32	133.47	3799.49	11.44	32.66	11.44	34.61	70.70	0.28
3900.00	0.52	117.60	3899.48	11.04	33.26	11.04	35.05	71.64	0.23
4000.00	0.49	131.57	3999.48	10.54	33.99	10.54	35.58	72.77	0.13
4100.00	0.30	127.79	4099.48	10.10	34.51	10.10	35.96	73.69	0.20
4200.00	0.20	188.30	4199.48	9.76	34.69	9.76	36.04	74.28	0.27
4300.00	0.52	117.52	4299.47	9.38	35.07	9.38	36.30	75.02	0.49
4400.00	0.32	66.54	4399.47	9.29	35.73	9.29	36.91	75.43	0.40
4500.00	0.73	66.64	4499.47	9.65	36.57	9.65	37.82	75.22	0.41
4600.00	1.10	89.07	4599.45	9.92	38.11	9.92	39.38	75.41	0.51
4700.00	1.19	57.96	4699.44	10.48	39.95	10.48	41.30	75.30	0.62
4800.00	0.75	42.38	4799.42	11.52	41.27	11.52	42.84	74.41	0.50
4900.00	1.07	72.66	4899.41	12.28	42.60	12.28	44.34	73.92	0.57
5000.00	1.08	49.61	4999.39	13.17	44.21	13.17	46.13	73.41	0.43
5100.00	1.46	67.14	5099.37	14.27	46.10	14.27	48.26	72.80	0.54
5200.00	1.38	50.05	5199.34	15.54	48.20	15.54	50.64	72.13	0.43
5300.00	1.45	79.30	5299.31	16.55	50.37	16.55	53.02	71.81	0.72
5400.00	1.44	65.00	5399.28	17.32	52.75	17.32	55.52	71.83	0.36
5500.00	1.32	31.87	5499.25	18.83	54.50	18.83	57.66	70.94	0.79
5600.00	1.47	50.45	5599.22	20.63	56.10	20.63	59.77	69.81	0.47
5700.00	1.40	73.09	5699.19	21.80	58.26	21.80	62.21	69.48	0.57

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	1.64	70.67	5799.15	22.63	60.78	22.63	64.86	69.58	0.25
5900.00	1.62	90.48	5899.11	23.09	63.55	23.09	67.61	70.03	0.56
6000.00	1.37	104.53	5999.08	22.78	66.12	22.78	69.93	70.99	0.45
6100.00	1.46	84.13	6099.05	22.61	68.54	22.61	72.17	71.74	0.51
6200.00	1.46	73.05	6199.02	23.11	71.02	23.11	74.69	71.97	0.28
6300.00	0.81	106.58	6299.00	23.28	72.91	23.28	76.54	72.29	0.90
6400.00	0.92	95.06	6398.99	23.01	74.39	23.01	77.87	72.81	0.20
6500.00	1.06	106.52	6498.97	22.67	76.08	22.67	79.39	73.40	0.24
6600.00	1.10	102.63	6598.96	22.20	77.90	22.20	81.00	74.09	0.08
6700.00	0.93	102.76	6698.94	21.81	79.63	21.81	82.57	74.68	0.16
6800.00	0.83	43.46	6798.93	22.16	80.92	22.16	83.90	74.69	0.88
6900.00	0.51	65.84	6898.92	22.86	81.83	22.86	84.96	74.39	0.40
7000.00	0.22	76.31	6998.92	23.09	82.42	23.09	85.60	74.35	0.30
7100.00	0.92	61.80	7098.91	23.51	83.32	23.51	86.57	74.24	0.70
7200.00	0.71	49.58	7198.90	24.29	84.49	24.29	87.91	73.96	0.27
7300.00	0.42	10.00	7298.90	25.05	85.02	25.05	88.63	73.58	0.47
7400.00	0.57	53.69	7398.90	25.70	85.48	25.70	89.27	73.27	0.39
7500.00	0.36	117.04	7498.89	25.85	86.17	25.85	89.96	73.30	0.52
7600.00	0.43	95.73	7598.89	25.67	86.82	25.67	90.54	73.53	0.16
7700.00	0.42	150.14	7698.89	25.31	87.38	25.31	90.98	73.85	0.39
7800.00	0.26	148.68	7798.89	24.79	87.69	24.79	91.13	74.21	0.16
7900.00	0.34	144.52	7898.89	24.36	87.98	24.36	91.29	74.53	0.08
8000.00	0.53	152.51	7998.88	23.71	88.36	23.71	91.49	74.98	0.20
8100.00	0.26	100.52	8098.88	23.26	88.80	23.26	91.79	75.32	0.42
8200.00	0.36	156.83	8198.88	22.93	89.14	22.93	92.04	75.58	0.31
8300.00	0.21	205.85	8298.88	22.47	89.19	22.47	91.97	75.86	0.28
8400.00	0.48	157.79	8398.88	21.92	89.27	21.92	91.92	76.20	0.38
8500.00	0.62	188.42	8498.87	20.99	89.35	20.99	91.78	76.78	0.32
8600.00	0.71	161.83	8598.87	19.87	89.46	19.87	91.64	77.47	0.32
8700.00	0.43	135.04	8698.86	19.02	89.92	19.02	91.91	78.06	0.38
8800.00	0.28	229.90	8798.86	18.59	90.00	18.59	91.90	78.33	0.54
8900.00	0.15	260.43	8898.86	18.41	89.69	18.41	91.56	78.40	0.17
9000.00	0.77	291.96	8998.86	18.65	88.93	18.65	90.86	78.16	0.65
9100.00	0.58	306.11	9098.85	19.20	87.90	19.20	89.97	77.68	0.26
9200.00	1.02	343.37	9198.84	20.35	87.23	20.35	89.57	76.87	0.66
9300.00	0.91	350.83	9298.82	21.99	86.85	21.99	89.59	75.79	0.17
9400.00	1.49	25.58	9398.80	23.95	87.29	23.95	90.51	74.66	0.91
9500.00	1.75	42.30	9498.76	26.26	88.88	26.26	92.68	73.54	0.54
9600.00	1.48	40.90	9598.72	28.37	90.76	28.37	95.09	72.64	0.27

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
9649.00	1.73	39.58	9647.70	29.42	91.64	29.42	96.25	72.20	0.51



VES Survey International
West Texas
(432) 563-5444
Surveyor: Jordan Shelleby
Pygmy 27 State 2H / API 30-025-42062





HOBBS OCD

JUN 02 2015

RECEIVED

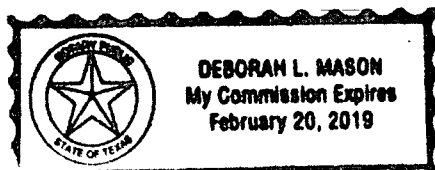
State of New Mexico
County of Lea

I, Donald D. Mason, certify that: I am employed by Terra Directional Services LLC; that I did on the day(s) of 02/16/2015 through 03/19/2015 conduct or supervise the taking of a MWD survey from a depth of 9680 feet to a depth 14835 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 Pygmy 27 State #2H Well API 30-025-42062 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.

Donald D. Mason
President

State of Texas
County of Burnet

Before me, a notary public, on this day personally appeared Donald D. Mason, 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: Pygmy 27 State 2H
 API Number: 30-025-42062
 County / Parish: Lea County

M.W.D. Operator: Rusty Whitfield
 Directional Driller: Corey Owens
 Total Magnetic Correction: 6.74
 Job #: NM-513

Vertical Section: 179.46

Tie In Survey(s) Provided By:

VES - GYRO

	Meas. Depth	Inc.	Azm.	T.V.D.	Ver. Sect.	+N / -S	+E / -W	Dist.	Angle	DLS
Tie - In										
0	9649.00	1.73	39.58	9647.70	-28.50	29.40	91.60	0.00	0.00	0.00
1	9680.00	1.60	48.00	9678.69	-29.18	30.05	92.22	96.99	71.95	0.89
2	9743.00	1.50	52.60	9741.66	-30.26	31.14	93.53	98.58	71.59	0.25
3	9775.00	1.70	96.60	9773.65	-30.45	31.34	94.33	99.40	71.62	3.79
4	9806.00	5.20	147.70	9804.60	-29.20	30.10	95.54	100.17	72.51	14.00
5	9837.00	9.80	155.80	9835.32	-25.58	26.50	97.37	100.92	74.77	15.19
6	9869.00	14.20	163.20	9866.62	-19.32	20.26	99.63	101.66	78.51	14.54
7	9901.00	18.20	169.50	9897.34	-10.62	11.58	101.67	102.33	83.50	13.64
8	9933.00	22.00	174.10	9927.39	0.27	0.70	103.20	103.20	89.61	12.85
9	9964.00	25.00	176.70	9955.82	12.60	-11.62	104.17	104.82	96.36	10.24
10	9996.00	28.80	176.50	9984.35	27.05	-26.07	105.03	108.22	103.94	11.88
11	10027.00	32.80	176.20	10010.97	42.90	-41.90	106.05	114.03	111.56	12.91
12	10059.00	36.50	176.00	10037.29	61.06	-60.05	107.29	122.95	119.24	11.57
13	10091.00	39.60	176.00	10062.49	80.75	-79.72	108.66	134.77	126.27	9.69
14	10122.00	43.00	176.50	10085.77	101.17	-100.14	110.00	148.75	132.31	11.02
15	10154.00	46.20	176.90	10108.56	123.61	-122.57	111.29	165.55	137.76	10.04
16	10185.00	49.10	177.10	10129.44	146.50	-145.44	112.48	183.87	142.28	9.37
17	10217.00	52.20	178.00	10149.73	171.23	-170.16	113.54	204.56	146.29	9.93
18	10248.00	56.10	179.40	10167.88	196.34	-195.28	114.10	226.17	149.70	13.10
19	10279.00	59.40	180.10	10184.42	222.56	-221.49	114.21	249.20	152.72	10.81
20	10311.00	62.60	181.10	10199.93	250.54	-249.47	113.92	274.25	155.46	10.37
21	10343.00	65.70	181.80	10213.88	279.31	-278.26	113.18	300.40	157.87	9.89
22	10374.00	68.80	182.30	10225.87	307.87	-306.82	112.16	326.68	159.92	10.11
23	10406.00	71.20	182.90	10236.81	337.89	-336.86	110.80	354.61	161.79	7.70
24	10437.00	73.50	182.90	10246.21	367.38	-366.36	109.30	382.32	163.39	7.42
25	10469.00	76.80	182.30	10254.41	398.26	-397.26	107.90	411.65	164.80	10.47
26	10501.00	80.20	181.50	10260.79	429.58	-428.59	106.86	441.71	166.00	10.90
27	10532.00	83.00	180.90	10265.32	460.23	-459.25	106.22	471.37	166.98	9.23
28	10562.00	85.80	180.80	10268.24	490.08	-489.10	105.78	500.41	167.80	9.34
29	10594.00	87.70	180.40	10270.06	522.02	-521.05	105.44	531.61	168.56	6.07
30	10656.00	88.50	180.40	10272.11	583.97	-583.01	105.01	592.39	169.79	1.29
31	10750.00	89.30	180.10	10273.92	677.95	-676.99	104.60	685.02	171.22	0.91
32	10845.00	90.00	179.90	10274.50	772.94	-771.99	104.60	779.04	172.28	0.77
33	10939.00	90.40	179.70	10274.17	866.94	-865.99	104.93	872.32	173.09	0.48
34	11034.00	88.90	180.60	10274.75	961.93	-960.98	104.68	966.67	173.78	1.84
35	11129.00	90.70	181.10	10275.08	1056.89	-1055.97	103.27	1061.00	174.41	1.97
36	11224.00	91.30	180.80	10273.43	1151.85	-1150.94	101.69	1155.42	174.95	0.71
37	11319.00	91.50	180.10	10271.10	1246.80	-1245.91	100.95	1249.99	175.37	0.77
38	11414.00	92.00	179.50	10268.20	1341.76	-1340.86	101.28	1344.68	175.68	0.82
39	11509.00	91.50	181.10	10265.30	1436.70	-1435.81	100.78	1439.34	175.98	1.76
40	11603.00	92.00	180.80	10262.43	1530.62	-1529.75	99.23	1532.97	176.29	0.62

41	11698.00	91.20	181.60	10259.78	1625.54	-1624.69	97.24	1627.60	176.57	1.19
42	11793.00	91.70	181.10	10257.37	1720.46	-1719.64	95.00	1722.26	176.84	0.74
43	11888.00	90.50	182.00	10255.55	1815.37	-1814.58	92.43	1816.94	177.08	1.58
44	11984.00	91.50	181.80	10253.88	1911.27	-1910.51	89.25	1912.60	177.33	1.06
45	12078.00	89.80	180.90	10252.81	2005.21	-2004.48	87.03	2006.37	177.51	2.05
46	12174.00	90.70	180.20	10252.39	2101.19	-2100.47	86.11	2102.23	177.65	1.19
47	12269.00	89.70	180.40	10252.06	2196.18	-2195.47	85.61	2197.14	177.77	1.07
48	12364.00	90.00	180.10	10252.31	2291.17	-2290.47	85.20	2292.05	177.87	0.45
49	12459.00	90.90	179.70	10251.56	2386.16	-2385.46	85.37	2386.99	177.95	1.04
50	12554.00	89.80	180.40	10250.98	2481.15	-2480.46	85.28	2481.92	178.03	1.37
51	12648.00	89.20	181.50	10251.80	2575.11	-2574.44	83.72	2575.80	178.14	1.33
52	12743.00	90.20	181.10	10252.30	2670.06	-2669.41	81.57	2670.66	178.25	1.13
53	12837.00	89.30	181.30	10252.71	2764.02	-2763.39	79.60	2764.54	178.35	0.98
54	12932.00	89.10	180.20	10254.04	2858.98	-2858.37	78.36	2859.44	178.43	1.18
55	13027.00	90.90	182.00	10254.04	2953.94	-2953.35	76.53	2954.34	178.52	2.68
56	13112.00	89.50	181.30	10253.74	3038.87	-3038.31	74.09	3039.21	178.60	1.84
57	13207.00	90.80	180.90	10253.49	3133.83	-3133.29	72.26	3134.12	178.68	1.43
58	13302.00	90.10	180.40	10252.74	3228.80	-3228.28	71.18	3229.06	178.74	0.91
59	13397.00	89.30	179.90	10253.24	3323.80	-3323.27	70.94	3324.03	178.78	0.99
60	13492.00	91.00	179.70	10252.99	3418.79	-3418.27	71.27	3419.01	178.81	1.80
61	13588.00	91.50	181.80	10250.90	3514.74	-3514.23	70.01	3514.93	178.86	2.25
62	13683.00	89.90	183.20	10249.74	3609.59	-3609.13	65.87	3609.73	178.95	2.24
63	13778.00	88.40	183.40	10251.15	3704.36	-3703.96	60.40	3704.45	179.07	1.59
64	13872.00	89.60	183.20	10252.79	3798.14	-3797.79	54.99	3798.19	179.17	1.29
65	13967.00	89.60	183.20	10253.45	3892.93	-3892.64	49.69	3892.95	179.27	0.00
66	14060.00	87.90	182.00	10255.48	3985.77	-3985.51	45.47	3985.77	179.35	2.24
67	14154.00	88.10	180.80	10258.76	4079.65	-4079.43	43.17	4079.66	179.39	1.29
68	14249.00	89.70	180.60	10260.58	4174.61	-4174.40	42.01	4174.61	179.42	1.70
69	14344.00	90.00	181.80	10260.83	4269.56	-4269.38	40.02	4269.56	179.46	1.30
70	14439.00	88.30	181.10	10262.24	4364.49	-4364.33	37.62	4364.49	179.51	1.94
71	14534.00	88.80	181.10	10264.65	4459.42	-4459.28	35.80	4459.43	179.54	0.53
72	14629.00	90.60	181.10	10265.14	4554.38	-4554.26	33.97	4554.39	179.57	1.89
73	14722.00	91.80	180.40	10263.20	4647.33	-4647.23	32.76	4647.35	179.60	1.49
74	14767.00	92.20	180.10	10261.62	4692.30	-4692.20	32.56	4692.31	179.60	1.11
PTB	14835.00	92.20	180.10	10259.01	4760.25	-4760.15	32.44	4760.26	179.61	0.00