

STATE OF NEW MEXICO
ENERGY, MINERALS AND NATURAL RESOURCES DEPARTMENT
OIL CONSERVATION DIVISION

APPLICATION OF MEWBOURNE OIL COMPANY
FOR A NON-STANDARD OIL SPACING AND
PRORATION UNIT AND COMPULSORY POOLING,
LEA COUNTY, NEW MEXICO.

Case No. 20252

VERIFIED STATEMENT OF JORDAN CARRELL

COUNTY OF MIDLAND)
) ss.
STATE OF TEXAS)

Jordan Carrell, being duly sworn upon his oath, deposes and states:

1. I am over the age of 18, and have personal knowledge of the matters stated herein.
2. I am a geologist for Mewbourne Oil Company ("Mewbourne"), and I am familiar with the geological matters involved in this case. I have been qualified by the Division as an expert petroleum geologist.
3. The following geological plats are attached hereto:
 - (a) Attachment A is a structure map of the Bone Spring formation, on the top of the Second Bone Spring Sand. It shows that structure dips to the southwest, and that the planned wellbore would drill from north to south. It also shows a line of cross-section, A-A'.
 - (b) Attachment B is a gross sand isopach of the Lower Second Bone Spring Sand, the test zone for the proposed Steelhead 17/20 B2JO State Com. Well No. 1H. It shows that the target sand across the well unit has a uniform thickness of approximately 95 feet.
 - (c) Attachment C is a north-south cross section. The well logs on the cross-section give a representative sample of the Bone Spring formation in this area. The target zone for the well is the Lower Second Bone Spring Sand, and that zone is continuous across the well unit.
4. I conclude from the maps that:
 - (a) The horizontal spacing unit is justified from a geologic standpoint.

EXHIBIT

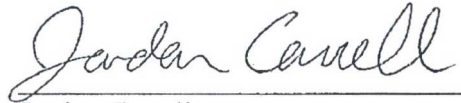
D

(b) Each quarter-quarter section in the unit will contribute more or less equally to production.

(c) There is no faulting or other geologic impediment on the area which will affect the drilling of the subject well.

5. Attachment D contains information from other wells drilled in this area. There are very few Bone Spring wells in this area. However, the preference is for standup units, and the few completed wells in the area (recent completions) are apparently commercial.

6. Attachment E is the Survey Calculation Report. The producing interval of the proposed well will be orthodox.


Jordan Carrell

VERIFICATION

STATE OF TEXAS)
) ss.
COUNTY OF MIDLAND)

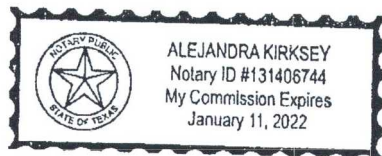
Jordan Carrell, being duly sworn upon his oath, deposes and states that: He is a geologist for Mewbourne Oil Company; he is authorized to make this verification on its behalf; he has read the foregoing statement, and knows the contents thereof; and the same is true and correct to the best of his knowledge, information, and belief.

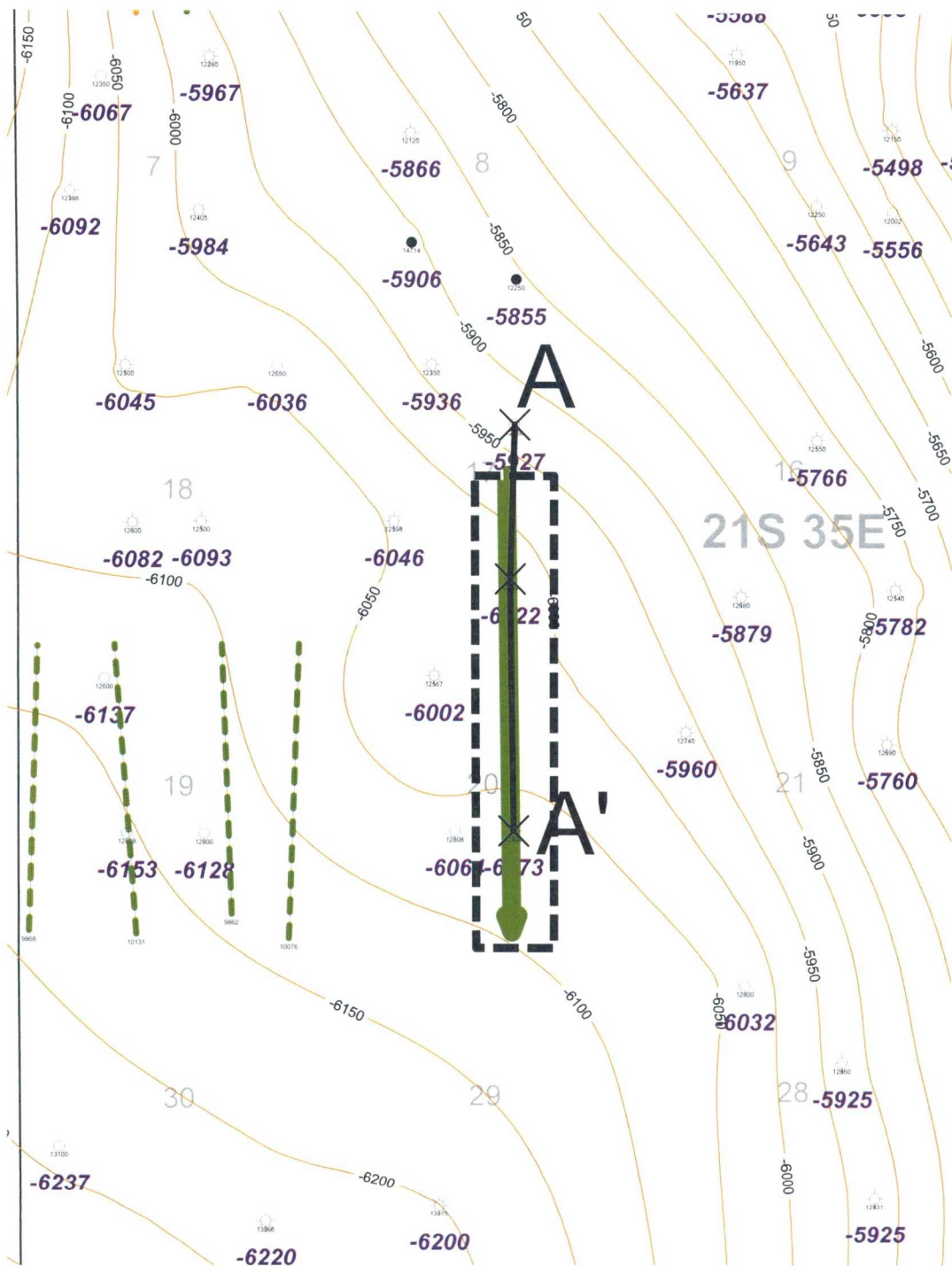
Jordan Carrell
Jordan Carrell

SUBSCRIBED AND SWORN TO before me this 31 day of January, 2019 by Jordan Carrell.

My Commission Expires: January 11, 2022

Alejandra Kirksey
Notary Public





ATTACHMENT A

Wells deeper than 7000'



2nd BSPG Sand
top (subsea)



1 inch = 2200 feet

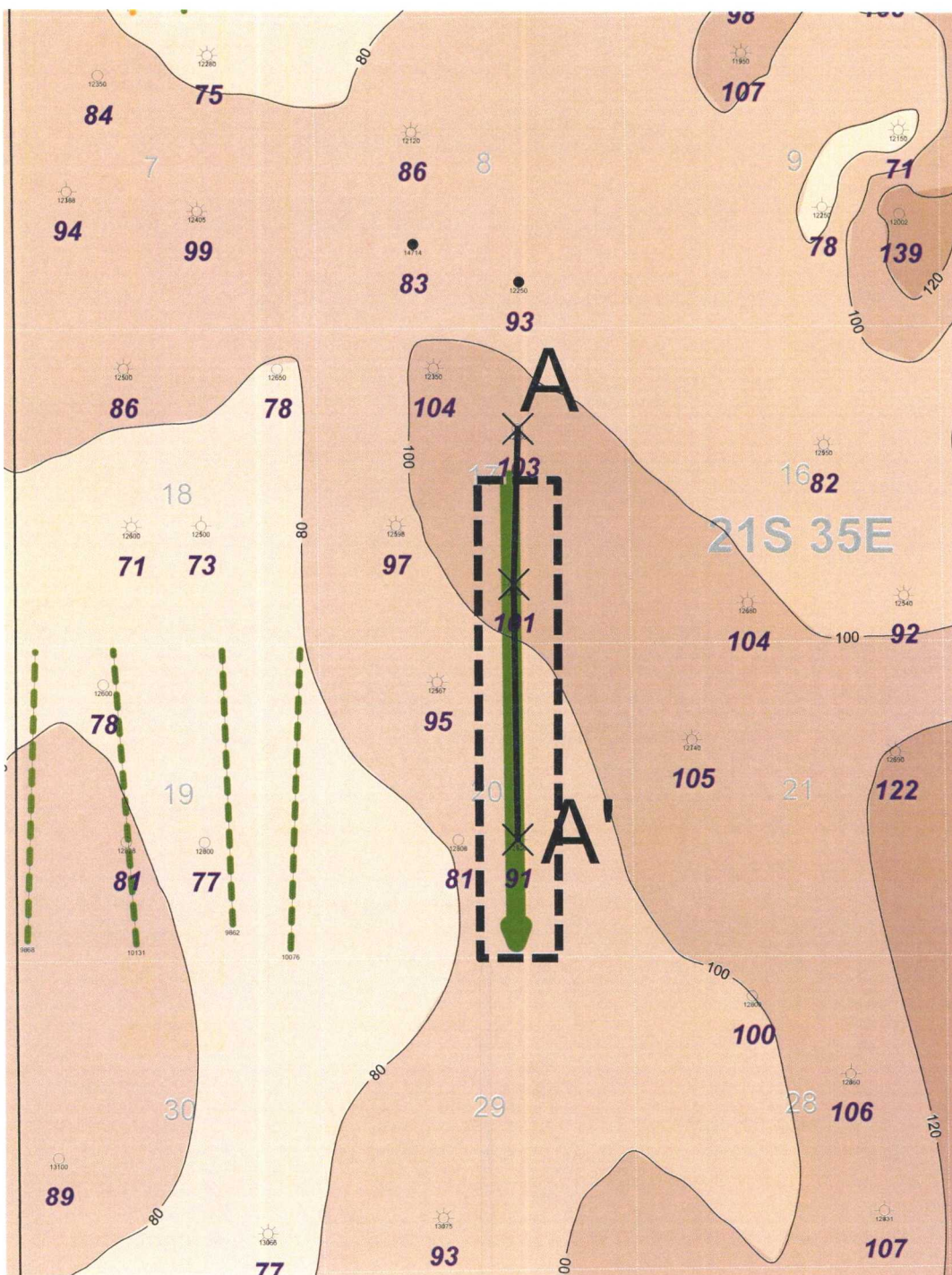


BSPG Horizontal Color Code

2nd BSPG Sand Permit

Proposed 2nd BSPG
Sand Steelhead 17/20
B2JO State Com #1H

MOC Mewbourne Oil Company		
Steelhead 17/20 B2JO State Com #1H 2nd BSPG Sand Top Structure Contour Map C.I. = 50'		
1/31/19	Lea County	New Mexico
Scale: 1" = 2200'		



ATTACHMENT

Wells deeper than 7000'



TD
Lower 2nd
BSPG Sd gross
thickness (ft)



1 inch = 2200 feet

N



BSPG Horizontal Color Code

2nd BSPG Sand Permit

Proposed 2nd BSPG
Sand Steelhead 17/20
B2JO State Com #1H

MOC Mewbourne Oil Company		
Steelhead 17/20 B2JO State Com #1H Lower 2nd BSPG Sand Gross Thickness Isopach Map C.I. = 20'		
1/31/19	Lea County	New Mexico
Scale: 1" = 2200'		

A

300253801500
MARATHON OIL PERMIAN LLC
TEMPLEAR STATE 1
SW NE
TWP 21 S - Range 35 E - Sec 17
Reference=KB
Datum=3653.00

17G

2614 ft

300253095600
COG OPERATING LIMITED LIABILITY CORP
PHILLIPS STATE 1
SW SE
TWP 21 S - Range 35 E - Sec 17
Reference=KB
Datum=3634.00

17O

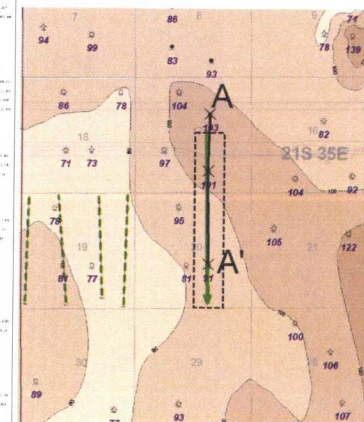
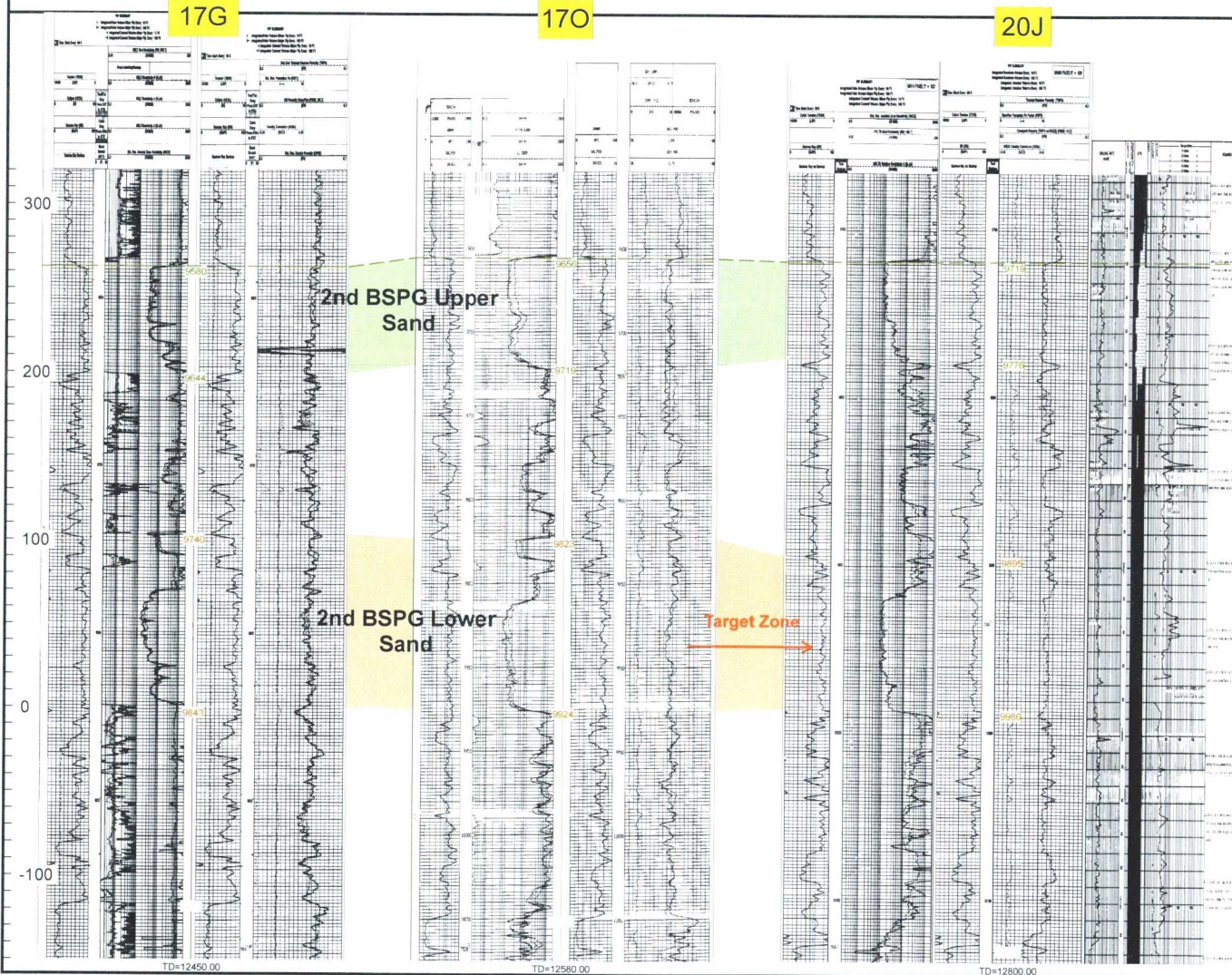
4275 ft

300253824700
MEWBOURNE OIL COMPANY
QUAIL HOLLOW 20 STATE 1
C NW SE
TWP 21 S - Range 35 E - Sec 20
Reference=KB
Datum=3646.00

20J

A'

Steelhead 17/20 B2JO State
Com #1H
Cross-Section Exhibit
1-30-19 JRC



ATTACHMENT



Steelhead 2nd Bone Spring Sand Horizontal Production Data Table

Well Name	Operator	API	Location	Distance from Steelhead 17/20 B2JO	2nd BSPG Comp Date	Cum Oil (MBO)	Cum Gas (BCF)	Cum Water (MBW)	NS/EW	HZ Target
STEELHEAD 17/20 B2JO STATE COM UNIT #1H	MEWBOURNE OIL CO	Permit pending	17J20O/21S/35E	0					NS	Lower 2nd BSPG Sd
<u>Closest 2nd Sd Permits</u>										
DEE OSBORNE 19 STATE #121H	MATADOR PRODUCTION	300254524900	19MD/21S/35E	1 mile west					NS	2nd BSPG Sd
DEE OSBORNE 19 STATE #122H	MATADOR PRODUCTION	300254525000	19NC/21S/35E	1 mile west					NS	2nd BSPG Sd
DEE OSBORNE 19 STATE #123H	MATADOR PRODUCTION	300254525100	19OB/21S/35E	1 mile west					NS	2nd BSPG Sd
DEE OSBORNE 19 STATE #124H	MATADOR PRODUCTION	300254525200	19PA/21S/35E	1 mile west					NS	2nd BSPG Sd
<u>Closest 2nd Sd Production</u>										
OUTLAND 14-23 STATE COM 2BS #2H	CHISHOLM ENERGY	300254415700	14D23E/21S/34E	3 miles west	11/14/2018	7	0.00	47	NS	Lower 2nd BSPG Sd
OUTLAND 14-23 STATE COM 2BS #3H	CHISHOLM ENERGY	300254415800	14C23F/21S/34E	3 miles west	11/14/2018	7	0.00	48	NS	Lower 2nd BSPG Sd
LYCHEE BWS STATE COM #1H	COG OPERATING	300254244500	22O15J/21S/34E	4 miles west	7/12/2016	482	1.02	494	NS	Lower 2nd BSPG Sd
GRAMMA 27 STATE #2H	CAZA OPERATING	300254188800	27AP/21S/34E	4 miles west	8/24/2014	128	0.26	90	NS	Mid 2nd BSPG Sd
GRAMA RIDGE EAST 34 STATE COM #8H	CHISHOLM ENERGY	300254382300	34OB/21S/34E	4 miles southwest	8/10/2018	72	0.08	83	NS	Lower 2nd BSPG Sd
SOURSOP 5 STATE COM #2H	CENTENNIAL RESOURCES	300254258300	5NC/22S/35E	3 miles south	11/1/2015	146	0.21	158	NS	Lower 2nd BSPG Sd

ATTACHMENT

2



Mewbourne Oil Company

SURVEY CALCULATION REPORT Minimum Curvature Calculations

Operator: Mewbourne Oil Company
Lease Name: Steelhead 17/20 B2JO State Com #1H
KOP 9410.54

Target KBTVD: 9,888 Feet 9888.00
Target Angle: 88.99 Degrees 88.99
Section Plane: 179.68 Degrees
Declination Corrected to True North: 6.63 Degrees
Bit to Survey Offset: 44 Feet

Survey No.	Measured Depth-ft	Drift (Deg.)	Azimuth (Deg.)	Course Length	TVD (Feet)	Vertical Section	+N/-S (Feet)	+E/-W (Feet)	Closure Distance	Closure Direction	BUR	DLS	KBTVD	+Above -Below Target	DRIFT RADIANS	AZIMUTH (RADIAN)
T/I	9410.54	0.00	179.68	N/A	9410.5	0.0	0.0	0.0	0.0	0.0	N/A	N/A	9410.5	477.5	1E-12	3.14 #VALUE!
1	9484.69	8.60	179.68	74.158	9484.4	5.7	-5.7	0.0	5.7	179.7	12.0	12.0	9484.3	403.7	0.15532	3.14 0.155316
2	9558.85	17.80	179.68	74.158	9556.5	22.9	-22.9	0.1	22.9	179.7	12.0	12.0	9556.1	331.9	0.31063	3.14 0.155316
3	9633.01	28.70	179.68	74.158	9625.0	50.9	-50.9	0.3	50.9	179.7	12.0	12.0	9624.1	263.9	0.46595	3.14 0.155316
4	9707.17	35.60	179.68	74.158	9688.4	89.2	-89.2	0.5	89.2	179.7	12.0	12.0	9686.9	201.1	0.62126	3.14 0.155316
5	9781.32	44.49	179.68	74.158	9745.2	136.9	-136.9	0.8	136.9	179.7	12.0	12.0	9742.7	145.3	0.77658	3.14 0.155316
6	9855.48	53.39	179.68	74.158	9793.8	192.7	-192.7	1.1	192.7	179.7	12.0	12.0	9790.4	97.6	0.93189	3.14 0.155316
7	9929.64	62.29	179.68	74.158	9833.3	255.5	-255.5	1.4	255.5	179.7	12.0	12.0	9828.7	59.3	1.08721	3.14 0.155316
8	10003.80	71.19	179.68	74.158	9862.5	323.5	-323.5	1.8	323.5	179.7	12.0	12.0	9856.8	31.2	1.24252	3.14 0.155316
9	10077.95	80.09	179.68	74.158	9880.9	395.3	-395.3	2.2	395.3	179.7	12.0	12.0	9873.9	14.1	1.39784	3.14 0.155316
10	10152.11	88.99	179.68	74.158	9887.9	469.0	-469.0	2.6	469.0	179.7	12.0	12.0	9879.7	8.3	1.55316	3.14 0.155316
11	10200.00	88.99	179.68	47.888	9888.8	516.9	-516.9	2.9	516.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
12	10300.00	88.99	179.68	100	9890.5	616.9	-616.9	3.5	616.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
13	10400.00	88.99	179.68	100	9892.3	716.9	-716.9	4.0	716.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
14	10500.00	88.99	179.68	100	9894.1	816.9	-816.9	4.6	816.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
15	10600.00	88.99	179.68	100	9895.8	916.9	-916.8	5.2	916.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
16	10700.00	88.99	179.68	100	9897.6	1016.8	-1016.8	5.7	1016.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
17	10800.00	88.99	179.68	100	9899.4	1116.8	-1116.8	6.3	1116.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
18	10900.00	88.99	179.68	100	9901.1	1216.8	-1216.8	6.8	1216.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
19	11000.00	88.99	179.68	100	9902.9	1316.8	-1316.8	7.4	1316.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
20	11100.00	88.99	179.68	100	9904.6	1416.8	-1416.8	8.0	1416.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
21	11200.00	88.99	179.68	100	9906.4	1516.8	-1516.7	8.5	1516.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
22	11300.00	88.99	179.68	100	9908.2	1616.8	-1616.7	9.1	1616.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
23	11400.00	88.99	179.68	100	9909.9	1716.7	-1716.7	9.7	1716.7	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
24	11500.00	88.99	179.68	100	9911.7	1816.7	-1816.7	10.2	1816.7	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
25	11600.00	88.99	179.68	100	9913.5	1916.7	-1916.7	10.8	1916.7	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
26	11700.00	88.99	179.68	100	9915.2	2016.7	-2016.7	11.3	2016.7	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
27	11800.00	88.99	179.68	100	9917.0	2116.7	-2116.6	11.9	2116.7	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
28	11900.00	88.99	179.68	100	9918.8	2216.7	-2216.6	12.5	2216.7	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
29	12000.00	88.99	179.68	100	9920.5	2316.6	-2316.6	13.0	2316.6	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
30	12100.00	88.99	179.68	100	9922.3	2416.6	-2416.6	13.6	2416.6	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
31	12200.00	88.99	179.68	100	9924.1	2516.6	-2516.6	14.2	2516.6	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
32	12300.00	88.99	179.68	100	9925.8	2616.6	-2616.6	14.7	2616.6	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
33	12400.00	88.99	179.68	100	9927.6	2716.6	-2716.5	15.3	2716.6	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
34	12500.00	88.99	179.68	100	9929.3	2816.6	-2816.5	15.8	2816.6	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
35	12600.00	88.99	179.68	100	9931.1	2916.5	-2916.5	16.4	2916.5	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
36	12700.00	88.99	179.68	100	9932.9	3016.5	-3016.5	17.0	3016.5	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
37	12800.00	88.99	179.68	100	9934.6	3116.5	-3116.5	17.5	3116.5	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
38	12900.00	88.99	179.68	100	9936.4	3216.5	-3216.5	18.1	3216.5	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
39	13000.00	88.99	179.68	100	9938.2	3316.5	-3316.4	18.6	3316.5	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
40	13100.00	88.99	179.68	100	9939.9	3416.5	-3416.4	19.2	3416.5	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
41	13200.00	88.99	179.68	100	9941.7	3516.5	-3516.4	19.8	3516.5	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
42	13300.00	88.99	179.68	100	9943.5	3616.4	-3616.4	20.3	3616.4	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
43	13400.00	88.99	179.68	100	9945.2	3716.4	-3716.4	20.9	3716.4	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
44	13500.00	88.99	179.68	100	9947.0	3816.4	-3816.3	21.5	3816.4	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
45	13600.00	88.99	179.68	100	9948.7	3916.4	-3916.3	22.0	3916.4	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
46	13700.00	88.99	179.68	100	9950.5	4016.4	-4016.3	22.6	4016.4	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
47	13800.00	88.99	179.68	100	9952.3	4116.4	-4116.3	23.1	4116.4	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
48	13900.00	88.99	179.68	100	9954.0	4216.3	-4216.3	23.7	4216.3	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
49	14000.00	88.99	179.68	100	9955.8	4316.3	-4316.3	24.3	4316.3	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
50	14100.00	88.99	179.68	100	9957.6	4416.3	-4416.2	24.8	4416.3	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
51	14200.00	88.99	179.68	100	9959.3	4516.3	-4516.2	25.4	4516.3	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
52	14300.00	88.99	179.68	100	9961.1	4616.3	-4616.2	26.0	4616.3	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
53	14400.00	88.99	179.68	100	9962.9	4716.3	-4716.2	26.5	4716.3	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
54	14500.00	88.99	179.68	100	9964.6	4816.3	-4816.2	27.1	4816.3	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
55	14600.00	88.99	179.68	100	9966.4	4916.2	-4916.2	27.6	4916.2	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10
56	14700.00	88.99	179.68	100	9968.2	5016.2	-5016.1	28.2	5016.2	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14 1E-10

57	14800.00	88.99	178.68	100	9969.9	5116.2	-5116.1	28.8	5116.2	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
58	14800.00	88.99	178.68	100	9971.7	5216.2	-5216.1	29.3	5216.2	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
59	15000.00	88.99	178.68	100	9973.4	5316.2	-5316.1	29.9	5316.2	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
60	15100.00	88.99	178.68	100	9975.2	5416.2	-5416.1	30.5	5416.2	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
61	15200.00	88.99	178.68	100	9977.0	5516.1	-5516.1	31.0	5516.1	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
62	15300.00	88.99	178.68	100	9978.7	5616.1	-5616.0	31.6	5616.1	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
63	15400.00	88.99	178.68	100	9980.5	5716.1	-5716.0	32.1	5716.1	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
64	15500.00	88.99	178.68	100	9982.3	5816.1	-5816.0	32.7	5816.1	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
65	15600.00	88.99	178.68	100	9984.0	5916.1	-5916.0	33.3	5916.1	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
66	15700.00	88.99	178.68	100	9985.8	6016.1	-6016.0	33.8	6016.1	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
67	15800.00	88.99	178.68	100	9987.6	6116.1	-6116.0	34.4	6116.1	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
68	15900.00	88.99	178.68	100	9989.3	6216.0	-6215.9	35.0	6216.0	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
69	16000.00	88.99	178.68	100	9991.1	6316.0	-6315.9	35.5	6316.0	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
70	16100.00	88.99	178.68	100	9992.8	6416.0	-6415.9	36.1	6416.0	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
71	16200.00	88.99	178.68	100	9994.6	6516.0	-6515.9	36.6	6516.0	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
72	16300.00	88.99	178.68	100	9996.4	6616.0	-6615.9	37.2	6616.0	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
73	16400.00	88.99	178.68	100	9998.1	6716.0	-6715.9	37.8	6716.0	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
74	16500.00	88.99	178.68	100	9999.9	6815.9	-6815.8	38.3	6815.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
75	16600.00	88.99	178.68	100	10001.7	6915.9	-6915.8	38.9	6915.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
76	16700.00	88.99	178.68	100	10003.4	7015.9	-7015.8	39.5	7015.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
77	16800.00	88.99	178.68	100	10005.2	7115.9	-7115.8	40.0	7115.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
78	16900.00	88.99	178.68	100	10007.0	7215.9	-7215.8	40.6	7215.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
79	17000.00	88.99	178.68	100	10008.7	7315.9	-7315.7	41.1	7315.9	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
80	17100.00	88.99	178.68	100	10010.5	7415.8	-7415.7	41.7	7415.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
81	17200.00	88.99	178.68	100	10012.3	7515.8	-7515.7	42.3	7515.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
82	17300.00	88.99	178.68	100	10014.0	7615.8	-7615.7	42.8	7615.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
83	17400.00	88.99	178.68	100	10015.8	7715.8	-7715.7	43.4	7715.8	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10
84	17472.16	88.99	178.68	72.163	10017.1	7788.0	-7787.8	43.8	7788.0	179.7	0.0	0.0	9879.7	8.3	1.55316	3.14	1E-10