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MS Directional Survey Data Certification

MS Directional Job Number: MSMO-67728
Survey Type: MWD
Operating Company: Matador Production Company
Well Name & Number: Grevey COM #211H
Location: Lea County, NM
API Number: 30-025-46155
Tie In Depth: Surface
Surveyed Depths: 171' – 20,304' MD
Projected TD Survey: 20,369' MD
Dates Performed: 07/11/2019 – 08/05/2019

HOBBS CCD
SEP 24 2019
RECEIVED

I certify that the data is true, correct and complete and within the limitations of the tool set forth by MS Directional; that I am authorized and qualified to make this report and that I have reviewed this report and find it conforms to the principles and procedures as set forth by MS Directional.

Digitally signed by:

MWD Surveyor Name:

Marcus Lewis

Date:

08-27-2019

Email:

Marcus.Lewis@msdir.com

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Company:		Matador Production Company												
Well Name:		Grevey COM #211H												
Location:		Lea County, NM												
Rig:		Patterson #282					Magnetic Declination:		6.07		REFERENCED TO GRID NORTH ▼			
Job Number:		MSMO-67728												
API #:		30-025-46155												
Vertical Section Azimuth:					179.43			Proposed Direction:		179.43				
Survey Calculation Method:					Minimum Curvature									
PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	20,369		91.1		181.2		12734.41		-7547.31		-615.84		7540.81	
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance Azm		DLS/ 100	BUR/ 100'			
TIE IN	0	0.00	0.00	0.00	0.00	0.00		0.00						
1	171	0.40	244.60	171.00	-0.26	-0.54	0.25	0.60	244.60	0.23	0.23			
2	324	0.60	230.50	323.99	-0.99	-1.64	0.98	1.92	238.76	0.15	0.13			
3	507	1.10	204.50	506.97	-3.20	-3.11	3.17	4.46	224.14	0.34	0.27			
4	694	1.10	208.20	693.94	-6.42	-4.70	6.37	7.95	216.22	0.04	0.00			
5	883	1.00	218.50	882.91	-9.31	-6.58	9.24	11.40	215.28	0.11	-0.05			
6	1,017	0.80	228.70	1016.89	-10.84	-8.01	10.76	13.48	216.48	0.19	-0.15			
7	1,151	1.00	205.00	1150.87	-12.52	-9.21	12.42	15.54	216.35	0.31	0.15			
8	1,339	0.90	208.00	1338.85	-15.31	-10.60	15.20	18.62	214.70	0.06	-0.05			
9	1,527	0.60	220.00	1526.83	-17.37	-11.92	17.25	21.07	214.48	0.18	-0.16			
10	1,714	1.70	271.60	1713.80	-18.04	-15.33	17.88	23.67	220.35	0.75	0.59			
11	1,903	3.90	303.80	1902.57	-14.38	-23.47	14.15	27.53	238.50	1.39	1.16			
12	2,091	5.90	302.00	2089.87	-5.71	-36.98	5.34	37.42	261.23	1.07	1.06			
13	2,280	5.20	305.90	2277.98	4.46	-52.16	-4.98	52.35	274.89	0.42	-0.37			
14	2,468	4.60	302.90	2465.30	13.55	-65.39	-14.20	66.78	281.71	0.35	-0.32			
15	2,657	3.90	309.20	2653.78	21.73	-76.73	-22.50	79.75	285.81	0.44	-0.37			
16	2,845	4.40	297.10	2841.29	29.06	-88.11	-29.94	92.77	288.25	0.53	0.27			
17	3,034	4.70	292.70	3029.69	35.35	-101.70	-36.36	107.67	289.17	0.24	0.16			
18	3,222	5.70	289.10	3216.92	41.38	-117.63	-42.55	124.70	289.38	0.56	0.53			
19	3,412	6.80	288.40	3405.78	48.02	-137.22	-49.38	145.38	289.29	0.58	0.58			
20	3,601	6.00	289.40	3593.60	54.83	-157.16	-56.39	166.45	289.23	0.43	-0.42			
21	3,790	5.50	295.10	3781.65	61.95	-174.68	-63.69	185.34	289.53	0.40	-0.26			
22	3,979	5.90	288.90	3969.72	68.94	-192.07	-70.85	204.07	289.75	0.39	0.21			
23	4,167	6.10	288.40	4156.69	75.22	-210.69	-77.32	223.71	289.65	0.11	0.11			
24	4,355	5.40	290.10	4343.74	81.42	-228.47	-83.69	242.55	289.61	0.38	-0.37			
25	4,543	5.90	285.50	4530.83	87.04	-246.09	-89.48	261.03	289.48	0.36	0.27			
26	4,730	4.50	284.60	4717.06	91.46	-262.45	-94.06	277.93	289.21	0.75	-0.75			
27	4,916	5.20	287.50	4902.39	95.83	-277.55	-98.59	293.63	289.05	0.40	0.38			
28	5,103	5.00	289.80	5088.65	101.14	-293.30	-104.05	310.25	289.03	0.15	-0.11			
29	5,197	5.60	296.10	5182.25	104.55	-301.28	-107.54	318.90	289.14	0.89	0.64			
30	5,333	5.20	295.20	5317.65	110.09	-312.81	-113.20	331.62	289.39	0.30	-0.29			
31	5,482	3.90	286.20	5466.17	114.38	-323.79	-117.59	343.40	289.46	0.99	-0.87			
32	5,668	7.10	290.10	5651.29	120.09	-340.66	-123.48	361.21	289.42	1.73	1.72			
33	5,855	7.40	288.40	5836.80	127.87	-362.94	-131.47	384.81	289.41	0.20	0.16			

Company:	Matador Production Company		
Well Name:	Grevey COM #211H		
Location:	Lea County, NM		
Rig:	Patterson #282	Magnetic Declination:	6.07
Job Number:	MSMO-67728		
API #:	30-025-46155		

REFERENCED TO GRID NORTH

Vertical Section Azimuth:	179.43	Proposed Direction:	179.43
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Survey Calculation Method:	Minimum Curvature
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PTB:	MD	INC	AZM	TVD	N/S	E/W	VS
	20,369	91.1	181.2	12734.41	-7547.31	-615.84	7540.81

#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance	Azm	DLS/ 100	BUR/ 100'
34	6,040	7.20	287.40	6020.30	135.09	-385.31	-138.92	408.30	289.32	0.13	-0.11
35	6,226	7.30	287.00	6204.81	142.04	-407.73	-146.08	431.76	289.21	0.06	0.05
36	6,413	6.90	287.20	6390.38	148.83	-429.82	-153.10	454.86	289.10	0.21	-0.21
37	6,602	6.90	287.10	6578.01	155.53	-451.52	-160.01	477.55	289.01	0.01	0.00
38	6,790	6.60	286.50	6764.71	161.92	-472.67	-166.61	499.64	288.91	0.16	-0.16
39	6,977	5.90	290.00	6950.59	168.25	-492.01	-173.14	519.98	288.88	0.43	-0.37
40	7,165	6.50	304.20	7137.51	177.54	-509.89	-182.60	539.92	289.20	0.87	0.32
41	7,354	6.00	303.10	7325.38	188.95	-527.01	-194.18	559.86	289.72	0.27	-0.26
42	7,542	5.50	301.90	7512.43	199.08	-542.89	-204.47	578.24	290.14	0.27	-0.27
43	7,731	6.00	304.10	7700.48	209.40	-558.76	-214.95	596.71	290.54	0.29	0.26
44	7,919	5.80	302.90	7887.49	220.07	-574.87	-225.78	615.56	290.95	0.12	-0.11
45	8,108	4.90	298.60	8075.66	229.12	-589.98	-234.98	632.91	291.22	0.52	-0.48
46	8,296	4.90	285.00	8262.98	235.04	-604.79	-241.05	648.85	291.24	0.62	0.00
47	8,485	5.20	297.10	8451.25	241.03	-620.21	-247.19	665.40	291.24	0.58	0.16
48	8,673	5.50	292.50	8638.44	248.36	-636.12	-254.68	682.88	291.33	0.28	0.16
49	8,862	5.00	290.40	8826.64	254.70	-652.20	-261.17	700.17	291.33	0.28	-0.26
50	9,050	3.90	305.00	9014.08	261.22	-665.12	-267.83	714.58	291.44	0.84	-0.59
51	9,239	2.20	303.20	9202.80	266.89	-673.42	-273.58	724.38	291.62	0.90	-0.90
52	9,427	1.50	317.90	9390.71	270.70	-678.09	-277.43	730.13	291.76	0.45	-0.37
53	9,614	1.20	329.00	9577.65	274.19	-680.74	-280.95	733.88	291.94	0.21	-0.16
54	9,803	1.60	322.40	9766.60	277.98	-683.37	-284.76	737.74	292.14	0.23	0.21
55	9,992	1.60	331.90	9955.52	282.40	-686.22	-289.21	742.06	292.37	0.14	0.00
56	10,181	1.90	2.30	10144.44	287.85	-687.34	-294.68	745.18	292.72	0.51	0.16
57	10,369	1.80	4.70	10332.34	293.91	-686.97	-300.73	747.20	293.16	0.07	-0.05
58	10,558	0.70	359.70	10521.29	298.02	-686.73	-304.84	748.61	293.46	0.58	-0.58
59	10,747	0.60	118.00	10710.29	298.71	-685.87	-305.52	748.09	293.53	0.59	-0.05
60	10,936	1.40	3.80	10899.27	300.55	-684.84	-307.35	747.89	293.70	0.92	0.42
61	11,124	0.70	216.50	11087.25	301.92	-685.37	-308.73	748.93	293.77	1.08	-0.37
62	11,314	1.80	172.30	11277.21	298.03	-685.66	-304.84	747.63	293.49	0.73	0.58
63	11,407	2.90	173.10	11370.13	294.25	-685.18	-301.05	745.69	293.24	1.18	1.18
64	11,502	1.30	128.90	11465.07	291.19	-684.06	-297.98	743.45	293.06	2.28	-1.68
65	11,597	2.00	153.20	11560.03	289.03	-682.47	-295.80	741.15	292.95	1.03	0.74
66	11,692	2.70	178.20	11654.95	285.31	-681.65	-292.08	738.95	292.71	1.29	0.74
67	11,787	2.40	179.50	11749.86	281.09	-681.56	-287.85	737.25	292.41	0.32	-0.32

Company:	Matador Production Company		
Well Name:	Grevey COM #211H		
Location:	Lea County, NM		
Rig:	Patterson #282	Magnetic Declination:	6.07
Job Number:	MSMO-67728		
API #:	30-025-46155		
Vertical Section Azimuth:	179.43	Proposed Direction:	179.43
Survey Calculation Method:	Minimum Curvature		

PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	20,369		91.1		181.2		12734.41		-7547.31		-615.84		7540.81	
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure		DLS/ 100	BUR/ 100'			
								Distance	Azm					
68	11,881	1.20	101.00	11843.82	278.93	-680.58	-285.69	735.52	292.29	2.62	-1.28			
69	11,975	1.40	113.60	11937.79	278.28	-678.56	-285.02	733.41	292.30	0.37	0.21			
70	12,069	1.50	112.90	12031.76	277.35	-676.38	-284.06	731.03	292.30	0.11	0.11			
71	12,164	1.50	116.50	12126.73	276.31	-674.12	-283.00	728.55	292.29	0.10	0.00			
72	12,263	3.90	139.70	12225.62	273.16	-670.78	-279.82	724.27	292.16	2.62	2.42			
73	12,310	10.90	160.80	12272.20	267.74	-668.28	-274.37	719.92	291.83	15.73	14.89			
74	12,357	15.70	161.50	12317.93	257.50	-664.80	-264.11	712.93	291.17	10.22	10.21			
75	12,451	24.20	178.60	12406.28	226.10	-660.28	-232.66	697.92	288.90	10.88	9.04			
76	12,546	32.00	177.60	12490.02	181.42	-658.75	-187.96	683.27	285.40	8.23	8.21			
77	12,640	42.00	185.90	12565.04	125.07	-660.95	-131.64	672.68	280.72	11.87	10.64			
78	12,735	55.50	187.70	12627.54	54.33	-669.50	-60.99	671.70	274.64	14.28	14.21			
79	12,829	62.00	182.30	12676.30	-25.65	-676.37	18.92	676.85	267.83	8.48	6.91			
80	12,923	72.00	177.20	12713.01	-112.03	-675.85	105.30	685.07	260.59	11.75	10.64			
81	12,971	80.00	174.90	12724.61	-158.45	-672.62	151.75	691.03	256.74	17.30	16.67			
82	12,992	80.60	176.80	12728.15	-179.09	-671.13	172.41	694.61	255.06	9.36	2.86			
83	13,086	86.80	174.90	12738.46	-272.23	-664.36	265.61	717.97	247.72	6.89	6.60			
84	13,180	89.80	176.50	12741.25	-365.91	-657.32	359.35	752.30	240.90	3.62	3.19			
85	13,274	92.60	177.50	12739.28	-459.75	-652.40	453.24	798.12	234.83	3.16	2.98			
86	13,369	95.30	178.20	12732.74	-554.45	-648.84	547.97	853.47	229.49	2.94	2.84			
87	13,463	95.50	180.20	12723.89	-648.02	-647.53	641.54	916.09	224.98	2.13	0.21			
88	13,557	95.00	181.10	12715.29	-741.62	-648.60	735.13	985.23	221.17	1.09	-0.53			
89	13,651	93.70	180.70	12708.16	-835.33	-650.07	828.82	1058.47	217.89	1.45	-1.38			
90	13,745	89.00	179.60	12705.94	-929.28	-650.31	922.76	1134.22	214.98	5.13	-5.00			
91	13,840	89.10	181.90	12707.52	-1024.25	-651.56	1017.72	1213.92	212.46	2.42	0.11			
92	13,934	86.40	180.70	12711.21	-1118.14	-653.69	1111.58	1295.20	210.31	3.14	-2.87			
93	14,028	89.40	181.70	12714.65	-1212.05	-655.66	1205.46	1378.02	208.41	3.36	3.19			
94	14,122	91.30	181.40	12714.08	-1306.01	-658.20	1299.39	1462.49	206.75	2.05	2.02			
95	14,216	86.10	179.70	12716.21	-1399.94	-659.10	1393.32	1547.34	205.21	5.82	-5.53			
96	14,311	87.20	180.90	12721.76	-1494.77	-659.60	1488.14	1633.84	203.81	1.71	1.16			
97	14,405	89.00	178.20	12724.88	-1588.71	-658.86	1582.07	1719.91	202.52	3.45	1.91			
98	14,499	88.50	175.60	12726.93	-1682.54	-653.78	1675.95	1805.09	201.23	2.82	-0.53			
99	14,593	89.70	177.20	12728.41	-1776.34	-647.88	1769.80	1890.80	200.04	2.13	1.28			
100	14,687	90.40	179.80	12728.32	-1870.30	-645.42	1863.78	1978.53	199.04	2.86	0.74			
101	14,782	88.40	178.30	12729.32	-1965.27	-643.84	1958.77	2068.05	198.14	2.63	-2.11			



SURVEY CALCULATION PROGRAM

8/23/19 14:52

Company:	Matador Production Company
Well Name:	Grevey COM #211H
Location:	Lea County, NM
Rig:	Patterson #282
Job Number:	MSMO-67728
API #:	30-025-46155

Magnetic Declination: 6.07 REFERENCED TO GRID NORTH

Vertical Section Azimuth: 179.43 Proposed Direction: 179.43

Survey Calculation Method: Minimum Curvature

PTB:	MD	INC	AZM	TVD	N/S	E/W	VS
	20,369	91.1	181.2	12734.41	-7547.31	-615.84	7540.81

#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure Distance	Azm	DLS/ 100	BUR/ 100'
102	14,876	88.50	181.60	12731.86	-2059.22	-643.76	2052.72	2157.51	197.36	3.51	0.11
103	14,970	89.00	179.70	12733.91	-2153.19	-644.83	2146.67	2247.67	196.67	2.09	0.53
104	15,064	88.50	177.60	12735.96	-2247.14	-642.61	2240.63	2337.21	195.96	2.30	-0.53
105	15,159	91.00	179.00	12736.38	-2342.08	-639.80	2335.60	2427.90	195.28	3.02	2.63
106	15,253	89.70	181.50	12735.80	-2436.07	-640.21	2429.58	2518.79	194.72	3.00	-1.38
107	15,347	89.80	180.00	12736.22	-2530.06	-641.44	2523.55	2610.10	194.23	1.60	0.11
108	15,441	87.60	179.30	12738.35	-2624.03	-640.86	2617.52	2701.15	193.72	2.46	-2.34
109	15,535	87.00	178.80	12742.78	-2717.91	-639.31	2711.42	2792.09	193.24	0.83	-0.64
110	15,630	86.50	178.20	12748.16	-2812.72	-636.82	2806.25	2883.91	192.76	0.82	-0.53
111	15,724	89.90	179.50	12751.11	-2906.64	-634.94	2900.18	2975.18	192.32	3.87	3.62
112	15,818	92.70	180.40	12748.98	-3000.61	-634.86	2994.14	3067.03	191.95	3.13	2.98
113	15,913	89.10	181.00	12747.49	-3095.57	-636.02	3089.09	3160.24	191.61	3.84	-3.79
114	16,007	89.10	180.50	12748.97	-3189.55	-637.25	3183.06	3252.59	191.30	0.53	0.00
115	16,101	89.90	176.90	12749.79	-3283.51	-635.11	3277.03	3344.37	190.95	3.92	0.85
116	16,196	92.00	179.40	12748.21	-3378.43	-632.05	3371.98	3437.05	190.60	3.44	2.21
117	16,290	87.10	177.80	12748.95	-3472.37	-629.75	3465.93	3529.02	190.28	5.48	-5.21
118	16,384	92.30	180.30	12749.44	-3566.32	-628.20	3559.89	3621.22	189.99	6.14	5.53
119	16,478	87.50	179.00	12749.61	-3660.29	-627.62	3653.86	3713.70	189.73	5.29	-5.11
120	16,573	87.30	179.60	12753.91	-3755.18	-626.46	3748.76	3807.08	189.47	0.67	-0.21
121	16,667	89.20	180.40	12756.79	-3849.13	-626.46	3842.71	3899.78	189.24	2.19	2.02
122	16,761	89.60	181.20	12757.77	-3943.12	-627.77	3936.68	3992.78	189.05	0.95	0.43
123	16,855	87.60	180.90	12760.07	-4037.07	-629.50	4030.61	4085.85	188.86	2.15	-2.13
124	16,950	88.20	180.50	12763.55	-4132.00	-630.66	4125.52	4179.85	188.68	0.76	0.63
125	17,044	88.80	181.20	12766.01	-4225.95	-632.05	4219.46	4272.96	188.51	0.98	0.64
126	17,138	92.00	182.60	12765.35	-4319.88	-635.17	4313.35	4366.33	188.36	3.72	3.40
127	17,232	88.30	185.50	12765.11	-4413.62	-641.80	4407.02	4460.04	188.27	5.00	-3.94
128	17,326	87.00	184.60	12768.96	-4507.18	-650.07	4500.49	4553.81	188.21	1.68	-1.38
129	17,421	85.90	181.40	12774.84	-4601.85	-655.03	4595.11	4648.24	188.10	3.56	-1.16
130	17,515	88.50	180.20	12779.44	-4695.72	-656.34	4688.96	4741.37	187.96	3.05	2.77
131	17,609	89.90	178.70	12780.75	-4789.70	-655.44	4782.94	4834.34	187.79	2.18	1.49
132	17,703	92.30	180.00	12778.94	-4883.67	-654.37	4876.92	4927.31	187.63	2.90	2.55
133	17,797	91.80	179.40	12775.58	-4977.61	-653.88	4970.85	5020.37	187.48	0.83	-0.53
134	17,892	90.00	177.80	12774.09	-5072.56	-651.56	5065.83	5114.23	187.32	2.53	-1.89
135	17,986	91.10	178.10	12773.19	-5166.49	-648.20	5159.79	5207.00	187.15	1.21	1.17

Company:	Matador Production Company		
Well Name:	Grevey COM #211H		
Location:	Lea County, NM		
Rig:	Patterson #282	Magnetic Declination:	6.07
Job Number:	MSMO-67728	REFERENCED TO GRID NORTH	
API #:	30-025-46155		

Vertical Section Azimuth:	179.43	Proposed Direction:	179.43
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Survey Calculation Method:	Minimum Curvature
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PTB:	MD		INC		AZM		TVD		N/S		E/W		VS	
	20,369		91.1		181.2		12734.41		-7547.31		-615.84		7540.81	
#	Depth Feet	Inc Degrees	Azm Degrees	TVD Feet	N/S Feet	E/W Feet	Surface Vert Sec	Closure		DLS/ 100	BUR/ 100'			
								Distance	Azm					
136	18,080	91.50	178.50	12771.05	-5260.43	-645.41	5253.75	5299.87	186.99	0.60	0.43			
137	18,174	90.10	177.20	12769.74	-5354.35	-641.89	5347.70	5392.68	186.84	2.03	-1.49			
138	18,269	91.30	177.80	12768.58	-5449.25	-637.74	5442.63	5486.44	186.68	1.41	1.26			
139	18,363	91.80	177.40	12766.04	-5543.13	-633.81	5536.55	5579.25	186.52	0.68	0.53			
140	18,458	92.00	176.40	12762.89	-5637.94	-628.67	5631.40	5672.88	186.36	1.07	0.21			
141	18,553	92.40	176.70	12759.24	-5732.69	-622.96	5726.21	5766.44	186.20	0.53	0.42			
142	18,648	90.90	175.30	12756.51	-5827.42	-616.34	5821.00	5859.92	186.04	2.16	-1.58			
143	18,742	90.30	178.80	12755.52	-5921.27	-611.50	5914.90	5952.77	185.90	3.78	-0.64			
144	18,837	91.60	181.80	12753.95	-6016.25	-612.00	6009.86	6047.29	185.81	3.44	1.37			
145	18,931	91.10	181.10	12751.73	-6110.19	-614.37	6103.78	6141.00	185.74	0.91	-0.53			
146	19,026	91.50	184.10	12749.58	-6205.06	-618.68	6198.60	6235.82	185.69	3.19	0.42			
147	19,120	89.70	181.50	12748.59	-6298.93	-623.27	6292.42	6329.69	185.65	3.36	-1.91			
148	19,214	93.30	184.40	12746.13	-6392.75	-628.11	6386.18	6423.53	185.61	4.92	3.83			
149	19,309	89.60	178.30	12743.72	-6487.63	-630.34	6481.04	6518.18	185.55	7.51	-3.89			
150	19,403	91.10	180.80	12743.15	-6581.61	-629.60	6575.02	6611.66	185.46	3.10	1.60			
151	19,498	91.60	180.40	12740.91	-6676.58	-630.59	6669.98	6706.29	185.40	0.67	0.53			
152	19,593	89.90	178.80	12739.67	-6771.56	-629.93	6764.96	6800.80	185.31	2.46	-1.79			
153	19,687	90.10	178.80	12739.67	-6865.54	-627.96	6858.96	6894.20	185.23	0.21	0.21			
154	19,782	90.20	178.60	12739.42	-6960.52	-625.81	6953.95	6988.59	185.14	0.24	0.11			
155	19,876	90.80	179.50	12738.60	-7054.50	-624.25	7047.94	7082.07	185.06	1.15	0.64			
156	19,971	90.10	177.30	12737.85	-7149.45	-621.60	7142.92	7176.42	184.97	2.43	-0.74			
157	20,066	91.00	179.00	12736.94	-7244.40	-618.53	7237.88	7270.75	184.88	2.02	0.95			
158	20,160	90.60	179.40	12735.63	-7338.38	-617.22	7331.87	7364.29	184.81	0.60	-0.43			
159	20,254	89.20	177.80	12735.79	-7432.34	-614.92	7425.86	7457.74	184.73	2.26	-1.49			
160	20,304	91.10	181.20	12735.66	-7482.33	-614.48	7475.85	7507.52	184.69	7.79	3.80			
PTB:	20,369	91.10	181.20	12734.41	-7547.31	-615.84	7540.81	7572.39	184.66	0.00	0.00			