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HTMWD Solutions

Company	Rosehill Operating Co	Job Name	H & P 388	Topographic	17163.71
Location	Tetanka Fed #1H	Direction	Dual	First NOB	12481.00
Location	Wolf Camp			Second NOB	4849.51

Survey Number	32.05103251	North Reference	GRID	Location	Michael Jones
Survey Contour	-103.3438298	Field Correction	6.21	Phone#	910)581-2336
Point mode		Point	NAD27	Email	
Point Longitude		Proposed Point	359.43		

Composite Survey Report

Minimum Curvature Method Calculation

ENTER MAGNETICS DATA ON JOB INFO PAGE. ENTER RUN# TO TIMESTAMP SURVEY. RECORD ALL QUALIFIERS DATA FOR EVERY SURVEY

mb v2.0

DATE	TIME	RUN#	SIDE	INC	AZM	CL	TVD	VS	ON/CS	OS/AV	DLS	B/D/D	WALK	DIPA	Mag	Grav	Baro	AVPA	Bat	Temp	SOURCE
	Tie In	Tie In	0.00	0.00	0.00		0.00	0.00	0.00 N	0.00 E	0.00			59.93	0.4777	1.000	23.0	PSI			0
05/28/18	7:33	1	175	0.90	25.40	175.00	174.99	1.24	1.24 N	0.59 E	0.51	0.51	14.51	59.9	0.477	1	28.66	40.00	OFF	80.0	HT MWD SOLUTIONS
05/28/18	9:36	1	329	1.00	44.40	154.00	328.97	3.27	3.29 N	2.05 E	0.21	0.06	12.34	60	0.477	1	28.66	65.00	OFF	82.4	HT MWD SOLUTIONS
05/28/18	10:55	1	519	1.00	51.70	190.00	518.94	5.46	5.51 N	4.51 E	0.07	0.00	3.84	60.01	0.477	1	28.66	76.00	OFF	84.0	HT MWD SOLUTIONS
05/28/18	12:30	1	704	1.20	63.90	185.00	703.91	7.28	7.36 N	7.52 E	0.17	0.11	6.59	60.02	0.477	1	28.66	99.00	OFF	89.0	HT MWD SOLUTIONS
05/28/18	16:12	1	904	1.70	63.70	200.00	903.84	9.47	9.59 N	12.06 E	0.25	0.25	-0.10	60.01	0.477	1	28.66	119.00	OFF	88.0	HT MWD SOLUTIONS
05/30/18	9:05	2	993	1.40	57.30	89.00	992.81	10.63	10.77 N	14.15 E	0.39	-0.34	-7.19	60.5	0.48	1	28.46	90.00	OFF	89.0	HT MWD SOLUTIONS
05/30/18	10:00	2	1182	1.90	52.70	189.00	1181.73	13.73	13.91 N	16.59 E	0.27	0.26	-2.43	60.68	0.485	1	28.46	100.00	OFF	95.0	HT MWD SOLUTIONS
05/30/18	10:55	2	1372	2.00	57.50	190.00	1371.82	17.36	17.80 N	23.89 E	0.10	0.05	2.53	60.86	0.485	0.999	28.66	93.00	OFF	100.0	HT MWD SOLUTIONS
05/30/18	12:10	2	1561	0.50	134.40	189.00	1560.58	18.53	18.80 N	27.26 E	1.03	-0.79	40.69	60.86	0.485	0.999	28.66	94.00	OFF	109.0	HT MWD SOLUTIONS
05/30/18	13:17	2	1750	1.00	200.40	189.00	1749.57	16.40	16.68 N	27.28 E	0.49	0.26	34.92	60.89	0.485	0.999	28.66	86.00	OFF	111.0	HT MWD SOLUTIONS
05/30/18	14:20	2	1939	0.80	192.50	189.00	1938.54	13.58	13.84 N	26.42 E	0.12	-0.11	-4.18	60.9	0.486	0.999	28.66	80.00	OFF	116.0	HT MWD SOLUTIONS
05/30/18	16:44	2	2129	1.00	176.50	190.00	2128.52	10.63	10.89 N	26.23 E	0.17	0.11	-8.42	60.9	0.486	0.999	28.66	78.00	OFF	122.0	HT MWD SOLUTIONS
05/30/18	17:28	2	2318	1.10	161.90	189.00	2317.49	7.25	7.62 N	26.90 E	0.15	0.05	-7.72	60.9	0.487	0.999	28.66	75.00	OFF	122.0	HT MWD SOLUTIONS
05/30/18	19:24	2	2507	1.40	151.10	189.00	2506.44	3.49	3.78 N	28.57 E	0.20	0.16	-5.71	60.9	0.487	0.999	28.66	75.00	OFF	122.0	HT MWD SOLUTIONS
05/30/18	21:01	2	2696	1.70	134.80	189.00	2695.37	-0.54	0.22 S	31.68 E	0.28	0.18	-8.62	60.9	0.487	0.999	28.66	83.00	OFF	125.6	HT MWD SOLUTIONS
05/30/18	22:30	2	2885	2.10	120.60	189.00	2884.27	-4.32	3.96 S	36.65 E	0.33	0.21	-7.51	60.9	0.487	0.999	28.66	78.00	OFF	129.2	HT MWD SOLUTIONS
05/31/18	0:19	2	3075	1.40	136.30	190.00	3074.18	-7.82	7.41 S	41.25 E	0.44	-0.37	8.26	60.9	0.487	0.999	28.66	81.00	OFF	131.0	HT MWD SOLUTIONS
05/31/18	1:15	2	3169	0.90	160.50	94.00	3168.16	-9.36	8.94 S	42.29 E	0.73	-0.53	25.74	60.9	0.487	0.999	28.66	81.00	OFF	131.0	HT MWD SOLUTIONS
05/31/18	3:13	2	3358	1.10	140.10	189.00	3357.14	-12.16	11.73 S	43.95 E	0.21	0.11	-10.79	60.9	0.487	0.999	28.66	79.00	OFF	134.6	HT MWD SOLUTIONS

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05/31/18	8:29	2	3547	1.40	260.00	189.00	3546.11	-13.94	13.52 S	42.84 E	1.15	0.16	63.44	60.9	0.487	0.999	28.96	77.00	OFF	138.2	HT MWD SOLUTIONS
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05/31/18	7:43	2	3736	1.50	272.80	189.00	3735.05	-14.18	13.80 S	38.09 E	0.18	0.05	6.77	60.9	0.487	0.999	28.86	72.00	OFF	138.0	HT MWD SOLUTIONS
05/31/18	10:32	2	3925	1.50	267.50	189.00	3923.99	-14.12	13.79 S	33.16 E	0.07	0.00	-2.80	60.9	0.487	0.999	28.86	74.00	OFF	141.0	HT MWD SOLUTIONS
05/31/18	13:00	2	4114	0.60	220.10	189.00	4112.96	-14.95	14.65 S	30.04 E	0.62	-0.48	-25.08	60.9	0.487	0.999	28.86	72.00	OFF	140.0	HT MWD SOLUTIONS
05/31/18	14:56	2	4303	1.30	125.00	189.00	4301.94	-16.95	16.64 S	31.16 E	0.78	0.37	-50.32	60.9	0.487	0.999	28.86	72.00	OFF	143.0	HT MWD SOLUTIONS
05/31/18	16:57	2	4492	1.90	110.20	189.00	4490.86	-19.31	18.95 S	35.86 E	0.38	0.32	-7.83	60.9	0.487	0.999	28.86	72.00	OFF	143.0	HT MWD SOLUTIONS
05/31/18	18:27	2	4682	1.10	7.70	190.00	4680.82	-18.62	18.23 S	39.06 E	1.26	-0.42	-53.95	60.9	0.487	0.999	28.86	72.00	OFF	143.0	HT MWD SOLUTIONS
05/31/18	20:45	2	4871	1.00	58.00	189.00	4869.79	-15.96	15.56 S	40.70 E	0.47	-0.05	28.61	60.9	0.487	0.999	28.86	72.00	OFF	143.0	HT MWD SOLUTIONS
06/01/18	23:00	2	5025	1.00	55.90	154.00	5023.77	-14.52	14.09 S	42.95 E	0.02	0.00	-1.36	60.9	0.487	0.999	28.86	72.00	OFF	143.0	HT MWD SOLUTIONS
06/02/18	8:26	3	5145	1.20	56.00	120.00	5143.75	-13.25	12.80 S	44.86 E	0.17	0.17	0.08	60.07	0.482	0.999	28.86	50.00	OFF	105.0	HT MWD SOLUTIONS
06/02/18	9:10	3	5334	0.80	58.20	189.00	5332.72	-11.47	11.00 S	47.62 E	0.21	-0.21	1.16	59.93	0.482	0.999	28.86	55.00	OFF	109.0	HT MWD SOLUTIONS
06/02/18	10:02	3	5523	0.90	48.70	189.00	5521.70	-9.82	9.33 S	49.86 E	0.09	0.05	-5.03	59.98	0.482	0.999	28.86	52.00	OFF	114.0	HT MWD SOLUTIONS
06/02/18	11:06	3	5712	1.20	222.20	189.00	5710.69	-10.31	9.81 S	49.65 E	1.11	0.16	91.80	60.29	0.482	0.999	28.86	54.00	OFF	116.0	HT MWD SOLUTIONS
06/02/18	12:01	3	5902	1.20	214.00	190.00	5900.65	-13.40	12.94 S	47.20 E	0.09	0.00	-4.32	60.29	0.482	0.999	28.86	52.00	OFF	120.0	HT MWD SOLUTIONS
06/02/18	12:56	3	6091	0.90	211.80	189.00	6089.61	-16.29	16.84 S	45.31 E	0.16	-0.16	-1.16	60.29	0.482	0.999	28.86	50.00	OFF	123.0	HT MWD SOLUTIONS
06/02/18	13:50	3	6280	1.00	220.00	189.00	6278.59	-18.79	18.36 S	43.47 E	0.09	0.05	4.34	60.29	0.482	0.999	28.86	50.00	OFF	123.0	HT MWD SOLUTIONS
06/02/18	14:36	3	6375	1.30	296.10	95.00	6373.57	-18.94	18.52 S	41.97 E	1.51	0.32	80.11	60.2	0.482	0.999	28.86	50.00	OFF	125.0	HT MWD SOLUTIONS
06/02/18	15:02	3	6469	1.70	303.70	94.00	6467.54	-17.68	17.28 S	39.85 E	0.47	0.43	8.09	60.33	0.486	0.999	28.86	48.00	OFF	127.0	HT MWD SOLUTIONS
06/02/18	15:51	3	6658	1.50	300.00	189.00	6656.47	-14.84	14.49 S	35.37 E	0.12	-0.11	-1.96	60.29	0.486	0.999	28.86	50.00	OFF	129.0	HT MWD SOLUTIONS
06/02/18	16:40	3	6847	1.40	301.00	189.00	6845.41	-12.37	12.06 S	31.25 E	0.05	-0.05	0.53	60.29	0.486	0.999	28.86	48.00	OFF	129.0	HT MWD SOLUTIONS
06/02/18	17:32	3	7036	1.20	302.50	189.00	7034.36	-10.08	9.81 S	27.60 E	0.11	-0.11	0.79	60.3	0.486	0.999	28.86	47.00	OFF	129.0	HT MWD SOLUTIONS
06/02/18	18:41	3	7225	1.10	306.80	189.00	7223.32	-7.90	7.66 S	24.48 E	0.07	-0.05	2.28	60.3	0.486	0.999	28.86	44.00	OFF	131.0	HT MWD SOLUTIONS
06/02/18	19:56	3	7414	1.20	305.40	189.00	7412.28	-5.64	5.43 S	21.42 E	0.05	0.05	-0.74	60.3	0.487	0.999	28.86	49.00	OFF	132.8	HT MWD SOLUTIONS
06/02/18	21:15	3	7603	1.10	305.70	189.00	7601.24	-3.40	3.22 S	18.33 E	0.05	-0.05	0.16	60.3	0.487	0.999	28.86	38.00	OFF	132.8	HT MWD SOLUTIONS
06/02/18	22:47	3	7792	0.90	281.50	189.00	7790.22	-2.02	1.87 S	15.40 E	0.24	-0.11	-12.80	60.2	0.487	0.999	28.86	46.00	OFF	131.0	HT MWD SOLUTIONS
06/03/18	0:57	3	7981	0.50	304.90	189.00	7979.20	-1.23	1.10 S	13.27 E	0.26	-0.21	12.38	60.2	0.487	0.999	28.86	41.00	OFF	129.2	HT MWD SOLUTIONS
06/03/18	3:28	3	8170	0.60	312.80	189.00	8168.19	-0.07	0.04 N	11.87 E	0.07	0.05	4.18	60.24	0.487	0.999	28.86	45.00	OFF	129.2	HT MWD SOLUTIONS
06/03/18	14:11	4	8360	0.40	19.00	190.00	8358.19	1.23	1.35 N	11.35 E	0.30	-0.11	34.84	60.3	0.487	0.999	28.86	41.00	OFF	120.0	HT MWD SOLUTIONS
06/03/18	16:08	4	8549	0.40	61.20	189.00	8547.18	2.17	2.29 N	12.15 E	0.15	0.00	22.33	60.29	0.487	0.999	28.86	40.00	OFF	125.0	HT MWD SOLUTIONS
06/03/18	17:52	4	8738	0.40	71.20	189.00	8736.18	2.69	2.82 N	13.35 E	0.04	0.00	5.29	60.3	0.487	0.999	28.86	42.00	OFF	131.0	HT MWD SOLUTIONS
06/03/18	20:59	4	8927	1.40	67.70	189.00	8925.15	3.75	3.91 N	16.11 E	0.53	0.53	-1.85	60.29	0.487	0.999	28.86	40.00	OFF	131.0	HT MWD SOLUTIONS
06/04/18	0:38	4	9115	1.40	83.90	188.00	9113.10	4.82	5.02 N	20.52 E	0.21	0.00	8.62	60.33	0.487	0.999	28.86	40.00	OFF	131.0	HT MWD SOLUTIONS
06/04/18	3:29	4	9305	1.40	108.40	190.00	9303.04	4.29	4.54 N	25.03 E	0.31	0.00	12.89	60.29	0.487	0.999	28.86	39.00	OFF	131.0	HT MWD SOLUTIONS
06/04/18	17:30	5	9494	1.40	82.70	189.00	9491.99	3.81	4.10 N	29.51 E	0.33	0.00	-13.60	60.33	0.487	0.999	27.85	56.00	OFF	127.0	HT MWD SOLUTIONS

06/04/18	23:18	5	9683	0.60	202.60	189.00	9680.97	3.17	3.48 N	31.42 E	0.94	-0.42	63.44	60.29	0.487	0.999	27.95	53.00	OFF	132.8	HT MWD SOLUTIONS
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06/05/18	18:41	6	9872	0.70	177.40	189.00	9869.96	1.11	1.42 N	31.09 E	0.16	0.05	-13.33	60.37	0.487	0.999	28.05	51.00	OFF	132.8	HT MWD SOLUTIONS
06/05/18	23:29	6	10061	1.60	165.10	189.00	10058.92	-2.60	2.29 S	31.82 E	0.49	0.48	-6.51	60.42	0.487	0.999	28.05	48.00	OFF	132.8	HT MWD SOLUTIONS
06/06/18	4:39	6	10251	1.50	159.10	190.00	10248.85	-7.51	7.17 S	33.39 E	0.10	-0.05	-3.16	60.37	0.487	0.999	28.05	50.00	OFF	132.8	HT MWD SOLUTIONS
06/06/18	8:37	6	10440	1.30	147.10	189.00	10437.79	-11.64	11.29 S	35.44 E	0.19	-0.11	-6.35	60.33	0.487	0.999	28.05	48.00	OFF	136.0	HT MWD SOLUTIONS
06/06/18	13:08	6	10629	2.20	102.20	189.00	10626.71	-14.25	13.85 S	40.15 E	0.83	0.48	-23.76	60.29	0.487	0.999	28.05	46.00	OFF	136.0	HT MWD SOLUTIONS
06/07/18	0:22	7	10819	1.80	93.00	190.00	10816.69	-15.24	14.78 S	46.70 E	0.27	-0.21	-4.84	60.3	0.487	0.999	28.05	48.00	OFF	138.2	HT MWD SOLUTIONS
06/07/18	2:55	7	11008	1.40	102.50	189.00	11005.52	-15.95	15.43 S	51.91 E	0.26	-0.21	5.03	60.42	0.487	0.999	28.05	46.00	OFF	138.2	HT MWD SOLUTIONS
06/07/18	5:32	7	11197	1.80	118.40	189.00	11194.45	-17.91	17.35 S	56.78 E	0.31	0.21	8.41	60.42	0.487	0.999	28.05	46.00	OFF	141.8	HT MWD SOLUTIONS
06/07/18	7:53	7	11386	2.20	143.80	189.00	11383.34	-22.30	21.69 S	61.53 E	0.51	0.21	13.44	60.42	0.487	0.999	28.05	45.00	OFF	145.0	HT MWD SOLUTIONS
06/07/18	11:00	7	11553	3.20	163.80	167.00	11550.15	-29.39	28.75 S	64.73 E	0.81	0.60	11.98	60.42	0.487	0.999	28.05	45.00	OFF	145.0	HT MWD SOLUTIONS
06/09/18	9:20	8	11685	0.80	169.40	132.00	11682.06	-33.85	33.19 S	65.92 E	1.82	-1.82	4.24	60.02	0.481	0.999	28.05	46.00	OFF	152.0	HT MWD SOLUTIONS
06/09/18	12:20	8	11780	1.10	338.30	95.00	11777.06	-33.65	33.00 S	65.71 E	1.99	0.32	177.79	60.02	0.48	0.999	28.05	45.00	OFF	154.0	HT MWD SOLUTIONS
06/09/18	18:41	8	11969	0.40	12.20	189.00	11968.04	-31.31	30.67 S	65.18 E	0.42	-0.37	17.94	59.98	0.48	0.999	28.05	50.00	OFF	150.0	HT MWD SOLUTIONS
06/10/18	22:48	8	12063	2.20	330.40	94.00	12060.01	-29.42	28.78 S	64.36 E	2.04	1.91	-44.47	60.11	0.48	0.999	28.26	50.00	OFF	156.0	HT MWD SOLUTIONS
06/10/18	1:10	8	12158	19.30	335.00	95.00	12153.00	-13.41	12.84 S	56.76 E	18.01	18.00	4.84	59.89	0.48	1.002	28.26	45.00	OFF	159.8	HT MWD SOLUTIONS
06/10/18	3:20	8	12252	32.20	344.90	94.00	12237.53	25.16	25.59 N	43.61 E	14.42	13.72	10.63	59.89	0.483	1.002	28.26	40.00	OFF	159.8	HT MWD SOLUTIONS
06/10/18	4:11	8	12347	39.90	344.90	95.00	12314.28	79.24	79.53 N	29.06 E	8.11	8.11	0.00	59.89	0.4833	1.002	28.26	40.00	OFF	159.8	HT MWD SOLUTIONS
06/10/18	5:39	8	12441	54.40	345.90	94.00	12378.03	145.93	146.06 N	11.80 E	15.44	15.43	1.06	59.89	0.482	1.001	28.26	47.00	OFF	159.0	HT MWD SOLUTIONS
06/10/18	7:48	8	12536	65.00	350.70	95.00	12425.92	226.30	226.26 N	4.62 W	11.98	11.16	5.05	59.76	0.482	1	28.26	51.00	OFF	163.0	HT MWD SOLUTIONS
06/10/18	9:38	8	12631	73.30	355.70	95.00	12459.72	314.45	314.32 N	15.01 W	10.02	8.74	5.26	59.54	0.482	1	28.26	48.00	OFF	163.0	HT MWD SOLUTIONS
06/10/18	11:30	8	12725	77.80	359.80	94.00	12483.18	405.40	405.23 N	18.55 W	6.38	4.79	4.36	59.54	0.482	1	28.26	50.00	OFF	165.0	HT MWD SOLUTIONS
06/10/18	13:22	8	12819	80.80	359.40	94.00	12500.63	497.75	497.58 N	19.19 W	3.22	3.19	-0.43	59.54	0.481	1	28.26	49.00	OFF	165.0	HT MWD SOLUTIONS
06/10/18	15:14	8	12914	84.50	358.10	95.00	12512.78	591.94	591.76 N	21.25 W	4.12	3.89	-1.37	59.54	0.481	1	28.26	48.00	OFF	167.0	HT MWD SOLUTIONS
06/10/18	17:18	8	13009	86.60	357.20	95.00	12520.15	686.61	686.39 N	25.14 W	2.40	2.21	-0.95	59.54	0.481	1	28.26	41.00	OFF	168.0	HT MWD SOLUTIONS
06/10/18	18:26	8	13103	88.80	1.10	94.00	12523.92	780.51	780.28 N	26.53 W	4.76	2.34	4.15	59.58	0.481	0.999	28.26	50.00	OFF	170.5	HT MWD SOLUTIONS
06/10/18	22:14	8	13198	89.70	4.80	95.00	12525.17	875.30	875.13 N	21.64 W	4.01	0.95	3.89	59.36	0.481	0.999	28.26	41.00	OFF	167.0	HT MWD SOLUTIONS
06/10/18	23:53	8	13292	84.90	5.50	94.00	12529.60	968.70	968.62 N	13.22 W	5.16	-5.11	0.74	59.41	0.4813	0.999	28.26	41.00	OFF	170.0	HT MWD SOLUTIONS
06/11/18	2:31	8	13387	86.20	358.20	95.00	12536.98	1063.26	1063.21 N	10.17 W	7.78	1.37	-7.68	59.49	0.4813	0.999	28.26	50.00	OFF	170.0	HT MWD SOLUTIONS
06/11/18	4:09	8	13482	88.80	356.80	95.00	12541.12	1158.11	1158.02 N	14.31 W	3.11	2.74	-1.47	59.49	0.4813	1.002	28.26	50.00	OFF	174.2	HT MWD SOLUTIONS
06/11/18	5:36	8	13577	90.10	0.60	95.00	12542.03	1253.08	1252.98 N	16.46 W	4.23	1.37	4.00	59.49	0.4813	0.999	28.26	48.00	OFF	172.0	HT MWD SOLUTIONS
06/11/18	6:34	8	13671	92.80	3.80	94.00	12539.65	1346.92	1346.85 N	12.88 W	4.45	2.87	3.40	59.36	0.481	0.999	28.26	44.00	OFF	176.0	HT MWD SOLUTIONS
06/11/18	8:36	8	13766	89.50	357.20	95.00	12537.74	1441.81	1441.77 N	12.03 W	7.77	-3.47	-6.95	59.49	0.481	0.999	28.26	46.00	OFF	174.0	HT MWD SOLUTIONS
06/11/18	12:57	8	13955	88.60	1.10	189.00	12540.88	1630.75	1630.68 N	14.83 W	2.12	-0.48	2.06	59.45	0.481	0.999	28.26	49.00	OFF	176.0	HT MWD SOLUTIONS

06/12/18	8:20	9	14074	91.20	1.60	119.00	12541.09	1749.67	1749.64 N	12.03 W	2.22	2.18	0.42	59.89	0.48	1	28.06	34.00	OFF	172.0	HT MWD SOLUTIONS
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06/12/18	9:34	9	14169	90.00	0.80	95.00	12540.09	1844.82	1844.61 N	10.04 W	1.52	-1.26	-0.84	59.93	0.48	0.999	28.05	28.00	OFF	174.0	HT MWD SOLUTIONS
06/12/18	10:37	9	14263	90.30	0.50	94.00	12539.85	1938.60	1938.60 N	8.97 W	0.45	0.32	-0.32	59.89	0.48	0.999	28.05	30.00	OFF	177.0	HT MWD SOLUTIONS
06/12/18	11:23	9	14358	89.30	0.50	95.00	12540.18	2033.58	2033.60 N	8.15 W	1.05	-1.05	0.00	59.89	0.479	0.999	28.05	31.00	OFF	181.0	HT MWD SOLUTIONS
06/12/18	12:12	9	14453	89.70	2.30	95.00	12541.01	2128.51	2128.56 N	5.82 W	1.94	0.42	1.89	59.98	0.48	0.999	28.05	49.00	OFF	181.0	HT MWD SOLUTIONS
06/12/18	13:14	9	14547	92.40	4.00	94.00	12539.28	2222.29	2222.39 N	0.66 W	3.39	2.87	1.81	60.02	0.48	1	28.05	32.00	OFF	181.0	HT MWD SOLUTIONS
06/12/18	14:24	9	14642	90.70	2.40	95.00	12536.71	2317.04	2317.20 N	4.84 E	2.46	-1.79	-1.68	59.85	0.479	0.999	28.26	30.00	OFF	181.0	HT MWD SOLUTIONS
06/12/18	16:00	9	14736	88.60	1.60	94.00	12537.29	2410.94	2411.14 N	7.92 E	2.39	-2.23	-0.85	59.98	0.48	1	28.26	25.00	OFF	183.0	HT MWD SOLUTIONS
06/12/18	17:07	9	14831	89.50	357.20	95.00	12538.86	2505.90	2506.09 N	6.92 E	4.73	0.95	-4.63	59.98	0.48	1	28.26	40.00	OFF	183.0	HT MWD SOLUTIONS
06/12/18	18:16	9	14925	87.40	356.50	94.00	12541.41	2599.77	2599.91 N	1.76 E	2.35	-2.23	-0.74	59.98	0.48	0.999	28.26	28.00	OFF	186.0	HT MWD SOLUTIONS
06/12/18	21:51	9	15020	87.60	357.90	95.00	12545.55	2694.60	2694.71 N	2.88 W	1.49	0.21	1.47	59.98	0.48	0.999	28.26	68.00	OFF	186.0	HT MWD SOLUTIONS
06/13/18	14:33	10	15114	88.90	358.30	94.00	12548.42	2788.53	2788.61 N	5.99 W	1.45	1.38	0.43	59.01	0.484	0.999	29.02	34.00	OFF	177.0	HT MWD SOLUTIONS
06/13/18	16:29	10	15209	89.40	357.90	95.00	12549.83	2883.49	2883.54 N	9.14 W	0.67	0.53	-0.42	59.01	0.484	0.999	29.06	54.00	OFF	177.0	HT MWD SOLUTIONS
06/13/18	18:31	10	15303	88.80	357.50	94.00	12551.31	2977.44	2977.46 N	12.91 W	0.77	-0.64	-0.43	59.01	0.484	0.999	29.06	54.00	OFF	183.0	HT MWD SOLUTIONS
06/13/18	20:39	10	15398	93.70	358.80	95.00	12549.24	3072.36	3072.36 N	16.98 W	5.34	5.16	1.37	59.01	0.484	0.999	29.06	110.00	OFF	183.0	HT MWD SOLUTIONS
06/13/18	22:18	10	15493	89.70	358.80	95.00	12546.42	3167.29	3167.27 N	17.97 W	4.21	-4.21	0.00	59.01	0.484	0.999	29.06	35.00	OFF	185.0	HT MWD SOLUTIONS
06/13/18	23:40	10	15587	93.80	359.90	94.00	12543.55	3261.23	3261.20 N	19.03 W	4.52	4.36	1.17	59.01	0.484	0.999	29.06	19.00	OFF	187.0	HT MWD SOLUTIONS
06/14/18	2:09	10	15682	88.30	353.40	95.00	12541.81	3356.01	3356.93 N	24.58 W	8.96	-5.79	-6.84	59.01	0.484	0.999	29.06	30.00	OFF	188.0	HT MWD SOLUTIONS
06/14/18	2:26	10	15777	92.30	355.90	95.00	12541.31	3450.85	3450.49 N	33.44 W	4.96	4.21	2.63	59.01	0.484	0.999	29.06	34.00	OFF	188.0	HT MWD SOLUTIONS
06/14/18	5:14	10	15871	90.50	356.50	94.00	12539.01	3544.47	3544.25 N	39.67 W	2.02	-1.91	0.64	59.01	0.484	0.999	29.06	39.00	OFF	188.0	HT MWD SOLUTIONS
06/14/18	6:51	10	15966	91.10	358.10	95.00	12537.69	3639.39	3639.14 N	44.14 W	1.80	0.63	1.88	59.01	0.484	0.999	29.06	27.00	OFF	189.0	HT MWD SOLUTIONS
06/14/18	8:12	10	16060	90.00	0.20	94.00	12536.78	3733.38	3733.11 N	45.53 W	2.52	-1.17	2.23	58.97	0.484	0.999	29.50	35.00	OFF	189.0	HT MWD SOLUTIONS
06/14/18	9:35	10	16155	88.50	0.50	95.00	12538.03	3828.36	3828.10 N	44.95 W	1.61	-1.58	0.32	58.97	0.4845	0.9993	29.06	38.00	OFF	187.3	HT MWD SOLUTIONS
06/14/18	11:34	10	16250	89.20	0.10	95.00	12539.93	3923.33	3923.08 N	44.46 W	0.85	0.74	-0.42	58.88	0.484	0.9998	29.06	30.00	OFF	187.3	HT MWD SOLUTIONS
06/14/18	13:19	10	16344	90.60	359.60	94.00	12540.10	4017.32	4017.08 N	44.70 W	1.58	1.49	-0.53	58.97	0.484	0.9998	29.06	29.00	OFF	187.3	HT MWD SOLUTIONS
06/14/18	15:00	10	16439	90.50	0.30	95.00	12539.19	4112.31	4112.07 N	44.79 W	0.74	-0.11	0.74	59.01	0.484	0.9993	29.06	31.00	OFF	187.3	HT MWD SOLUTIONS
06/14/18	16:57	10	16534	91.30	5.80	95.00	12537.69	4207.08	4206.89 N	39.73 W	5.85	0.84	5.79	59.01	0.484	0.9998	29.06	42.00	OFF	187.3	HT MWD SOLUTIONS
06/14/18	21:20	10	16628	92.10	5.60	94.00	12534.90	4300.47	4300.38 N	30.40 W	0.88	0.85	-0.21	59.01	0.484	0.999	29.06	33.00	OFF	192.0	HT MWD SOLUTIONS
06/15/18	0:14	10	16723	90.60	5.40	95.00	12532.67	4394.91	4394.92 N	21.30 W	1.59	-1.58	-0.21	59.01	0.484	0.999	29.06	30.00	OFF	194.0	HT MWD SOLUTIONS
06/15/18	2:48	10	16818	92.40	9.64	95.00	12530.18	4488.91	4489.04 N	8.88 W	4.85	1.89	4.46	59.01	0.484	0.999	29.06	30.00	OFF	194.0	HT MWD SOLUTIONS
06/15/18	6:41	10	16912	88.60	8.80	94.00	12529.36	4581.52	4581.81 N	6.18 E	4.14	-4.04	-0.89	58.84	0.484	0.9998	29.06	25.00	OFF	194.0	HT MWD SOLUTIONS
06/15/18	9:13	10	17007	88.90	8.00	95.00	12531.43	4675.33	4675.76 N	20.06 E	0.90	0.32	-0.84	59.05	0.484	0.9998	29.06	29.00	OFF	194.0	HT MWD SOLUTIONS
06/15/18	11:15	10	17102	90.20	7.70	95.00	12532.18	4769.30	4769.87 N	33.03 E	1.40	1.37	-0.32	58.84	0.484	0.9993	29.06	26.00	OFF	194.0	HT MWD SOLUTIONS
		PTB	17163	90.20	7.70	61.00	12531.96	4829.67	4830.32 N	41.20 E	0.00	0.00	0.00								HT MWD SOLUTIONS