

MLC

Pressure Test Report

COMPANY INFORMATION

Company Name	Hilcorp
Representative	Priscilla Shorty
Phone	
Fax	
Address	

E-Mail Address	
Service Company	Expert Downhole Services, Inc.

WELL INFORMATION

Well Name	Johnston Federal #22 POW
Well Location	T31N, R9W, Sec 33
Field and Pool	Basin Fruitland Coal
Status (Oil, Gas, Water, Injection)	Observation
Perforated Intervals	2547-2980
Mid-point of Perforated Intervals (MPP)	
Drilling Rig Number	
Elevations	
Kelly Bushing (KB)	11.5
Casing Flange (CF)	
KB-CF	
Ground Level	6313
Plug Back Total Depth	3448
Total Depth	3450
Production Casing	4 1/2 to 2294
Production Tubing	2 3/8 to 2999

NRMOCD

MAY 30 2018

DISTRICT III

TEST INFORMATION

Type of Test	POOH Static Gradient
Date(s) of Test	5/21/18
Dead-weight Gauge Tubing Pressure	40
Dead-weight Gauge Casing Pressure	
Shut-in Date (Duration)	
Date / Time on Bottom	5/21/18 @1122
Date / Time off Bottom	5/21/18 @1222
Probe Serial Number	W10136
Probe Offset from End of Tool String	0-6000
Run Depth at Probe Pressure Port	3000

PRESSURE TEST RESULTS

Maximum Recorded Probe Pressure	53.4 psig
Maximum Recorded Probe Temperature	111.2 deg F
Final Buildup Pressure	
Gradient Survey Information	
Extrapolated Pressure to MPP	
Final Gradient at Depth	
Job Number	

Company Name Hilcorp
Well Name Johnston Federal #22 POW
Type of Test POOH Static Gradient
Date(s) of Test 5/21/18



PROBE INFORMATION

Probe Serial Number W10136
Model
Pressure
 Calibrated Pressure Range
 Accuracy
 Resolution
Temperature
 Calibrated Temperature Range
 Accuracy
 Resolution
Calibration File Used for Reports

PROGRAMMING DETAILS

<u>Step</u>	<u>Sample Mode</u>	<u>Period</u>	<u>Duration</u>	<u>Comment</u>
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Program Start Time
Program End Time
Total Samples Taken
Usage for this Test
Generic Data File Name

Company Name	Hilcorp
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COMMENTS

Reported By

Expert Downhole Services, Inc.

RIH with 1.50 IB and tagged fill @3058 WLM. RIH with BHP gauge to 3000 for 1 hour, then POOH making 5 minute stops per request.

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Pressure vs. Depth

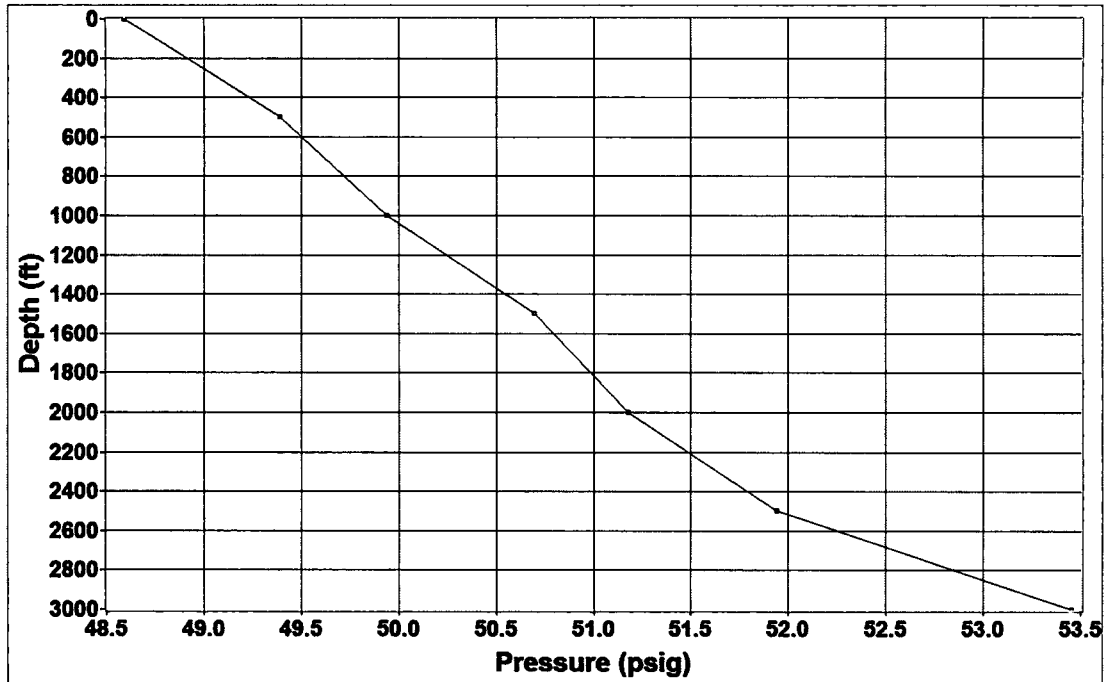
Probe Serial Number W10136

		(ft)	(psig)	(psi/ft)	(deg F)	(deg F/ft)
1122	1222	3000.000	53.450	-	82.018	-
1224	1229	2500.000	51.940	0.0030	109.526	-0.0550
1230	1235	2000.000	51.176	0.0015	102.796	0.0135
1236	1241	1500.000	50.695	0.0010	96.838	0.0119
1242	1247	1000.000	49.937	0.0015	88.927	0.0158
1249	1254	500.000	49.387	0.0011	82.441	0.0130
1255	1300	0.000	48.592	0.0016	74.289	0.0163

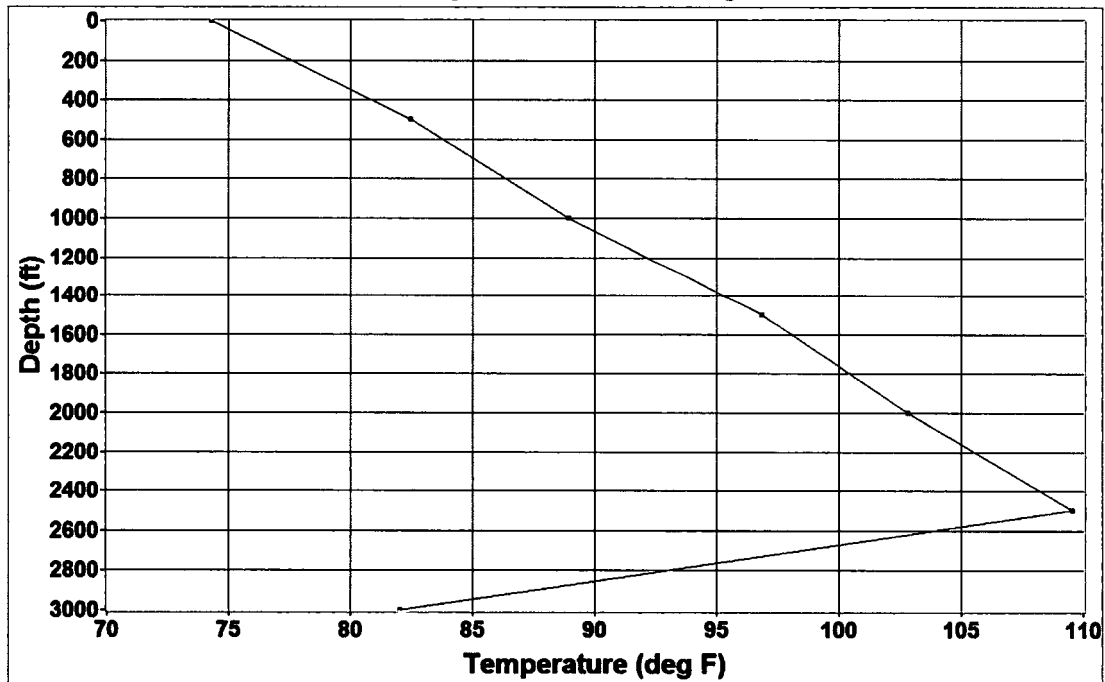
Extrapolated to MPP:

(ft)	(psig)	(deg F)
0.000		

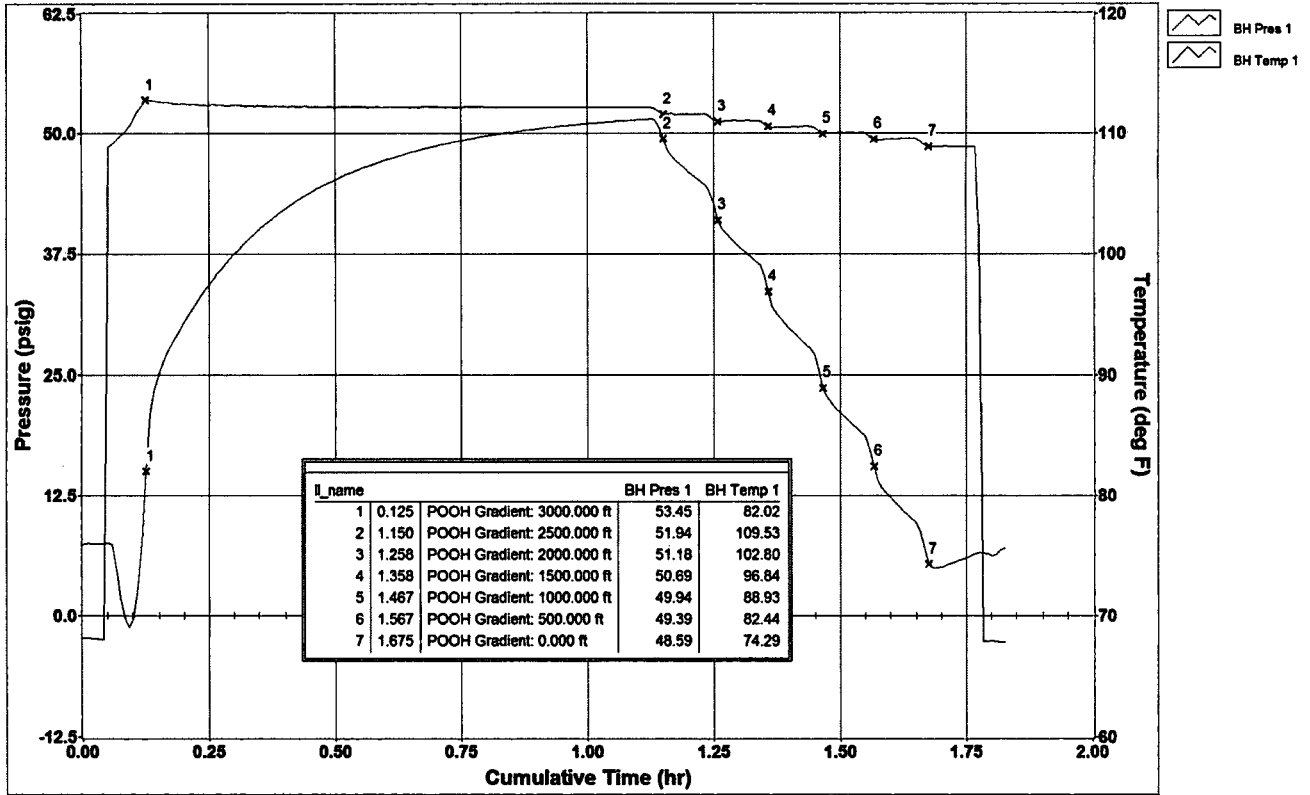
W10136 Depth vs. Pressure



W10136 Depth vs. Temperature



Johnston Federal #22 POW



Company Name Hilcorp
Well Name Johnston Federal #22 POW
Type of Test POOH Static Gradient
Date(s) of Test 5/21/18



Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
2018/05/18	11:15:01	0.0000	-2.297	75.907
2018/05/18	11:15:31	0.0083	-2.322	76.006
2018/05/18	11:16:01	0.0167	-2.332	75.994
2018/05/18	11:16:31	0.0250	-2.372	75.969
2018/05/18	11:17:01	0.0333	-2.413	75.994
2018/05/18	11:17:31	0.0417	-2.411	75.972
2018/05/18	11:18:01	0.0500	48.618	76.055
2018/05/18	11:18:31	0.0583	48.847	75.870
2018/05/18	11:19:01	0.0667	49.287	73.951
2018/05/18	11:19:31	0.0750	49.699	71.505
2018/05/18	11:20:01	0.0833	50.154	69.728
2018/05/18	11:20:31	0.0917	50.710	69.006
2018/05/18	11:21:01	0.1000	51.340	69.670
2018/05/18	11:21:31	0.1083	52.149	71.935
2018/05/18	11:22:01	0.1167	52.811	76.078
POOH Gradient: 3000.000 ft				
2018/05/18	11:22:31	0.1250	53.450	82.018
2018/05/18	11:23:01	0.1333	53.429	86.833
2018/05/18	11:23:31	0.1417	53.340	88.812
2018/05/18	11:24:01	0.1500	53.255	90.045
2018/05/18	11:24:31	0.1583	53.235	90.972
2018/05/18	11:25:01	0.1667	53.172	91.765
2018/05/18	11:25:31	0.1750	53.120	92.449
2018/05/18	11:26:01	0.1833	53.068	93.092
2018/05/18	11:26:31	0.1917	53.029	93.690
2018/05/18	11:27:01	0.2000	53.065	94.282
2018/05/18	11:27:31	0.2083	52.991	94.860
2018/05/18	11:28:01	0.2167	53.017	95.409
2018/05/18	11:28:31	0.2250	53.001	95.931
2018/05/18	11:29:01	0.2333	52.955	96.453
2018/05/18	11:29:31	0.2417	52.940	96.949
2018/05/18	11:30:01	0.2500	52.878	97.428
2018/05/18	11:30:31	0.2583	52.963	97.884
2018/05/18	11:31:01	0.2667	52.936	98.341
2018/05/18	11:31:31	0.2750	52.902	98.764
2018/05/18	11:32:01	0.2833	52.872	99.174
2018/05/18	11:32:31	0.2917	52.861	99.572
2018/05/18	11:33:01	0.3000	52.905	99.972
2018/05/18	11:33:31	0.3083	52.890	100.337
2018/05/18	11:34:01	0.3167	52.848	100.686
2018/05/18	11:34:31	0.3250	52.805	101.037
2018/05/18	11:35:01	0.3333	52.838	101.377
2018/05/18	11:35:31	0.3417	52.812	101.712
2018/05/18	11:36:01	0.3500	52.824	102.024
2018/05/18	11:36:31	0.3583	52.792	102.319
2018/05/18	11:37:01	0.3667	52.785	102.612
2018/05/18	11:37:31	0.3750	52.808	102.884
2018/05/18	11:38:01	0.3833	52.795	103.161
2018/05/18	11:38:31	0.3917	52.784	103.426
2018/05/18	11:39:01	0.4000	52.760	103.680
2018/05/18	11:39:31	0.4083	52.732	103.926
2018/05/18	11:40:01	0.4167	52.766	104.160
2018/05/18	11:40:31	0.4250	52.739	104.394
2018/05/18	11:41:01	0.4333	52.745	104.614

Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
2018/05/18	11:41:31	0.4417	52.755	104.826
2018/05/18	11:42:01	0.4500	52.731	105.037
2018/05/18	11:42:31	0.4583	52.712	105.237
2018/05/18	11:43:01	0.4667	52.746	105.435
2018/05/18	11:43:31	0.4750	52.725	105.624
2018/05/18	11:44:01	0.4833	52.705	105.807
2018/05/18	11:44:31	0.4917	52.687	105.978
2018/05/18	11:45:01	0.5000	52.674	106.144
2018/05/18	11:45:31	0.5083	52.749	106.309
2018/05/18	11:46:01	0.5167	52.733	106.464
2018/05/18	11:46:31	0.5250	52.717	106.615
2018/05/18	11:47:01	0.5333	52.701	106.768
2018/05/18	11:47:31	0.5417	52.686	106.911
2018/05/18	11:48:01	0.5500	52.695	107.046
2018/05/18	11:48:31	0.5583	52.682	107.175
2018/05/18	11:49:01	0.5667	52.668	107.307
2018/05/18	11:49:31	0.5750	52.662	107.429
2018/05/18	11:50:01	0.5833	52.686	107.548
2018/05/18	11:50:31	0.5917	52.675	107.668
2018/05/18	11:51:01	0.6000	52.663	107.784
2018/05/18	11:51:31	0.6083	52.684	107.893
2018/05/18	11:52:01	0.6167	52.673	108.003
2018/05/18	11:52:31	0.6250	52.663	108.113
2018/05/18	11:53:01	0.6333	52.653	108.212
2018/05/18	11:53:31	0.6417	52.644	108.311
2018/05/18	11:54:01	0.6500	52.635	108.410
2018/05/18	11:54:31	0.6583	52.655	108.504
2018/05/18	11:55:01	0.6667	52.664	108.590
2018/05/18	11:55:31	0.6750	52.684	108.678
2018/05/18	11:56:01	0.6833	52.699	108.763
2018/05/18	11:56:31	0.6917	52.688	108.851
2018/05/18	11:57:01	0.7000	52.681	108.936
2018/05/18	11:57:31	0.7083	52.674	109.015
2018/05/18	11:58:01	0.7167	52.668	109.087
2018/05/18	11:58:31	0.7250	52.662	109.166
2018/05/18	11:59:01	0.7333	52.656	109.238
2018/05/18	11:59:31	0.7417	52.651	109.303
2018/05/18	12:00:01	0.7500	52.645	109.378
2018/05/18	12:00:31	0.7583	52.710	109.441
2018/05/18	12:01:01	0.7667	52.703	109.503
2018/05/18	12:01:31	0.7750	52.696	109.564
2018/05/18	12:02:01	0.7833	52.690	109.630
2018/05/18	12:02:31	0.7917	52.683	109.692
2018/05/18	12:03:01	0.8000	52.676	109.749
2018/05/18	12:03:31	0.8083	52.671	109.814
2018/05/18	12:04:01	0.8167	52.667	109.875
2018/05/18	12:04:31	0.8250	52.661	109.922
2018/05/18	12:05:01	0.8333	52.658	109.976
2018/05/18	12:05:31	0.8417	52.655	110.026
2018/05/18	12:06:01	0.8500	52.652	110.071
2018/05/18	12:06:31	0.8583	52.646	110.120
2018/05/18	12:07:01	0.8667	52.641	110.165
2018/05/18	12:07:31	0.8750	52.638	110.212
2018/05/18	12:08:01	0.8833	52.636	110.255

Company Name Hilcorp
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Type of Test POOH Static Gradient
Date(s) of Test 5/21/18



Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
2018/05/18	12:08:31	0.8917	52.642	110.296
2018/05/18	12:09:01	0.9000	52.639	110.347
2018/05/18	12:09:31	0.9083	52.638	110.383
2018/05/18	12:10:01	0.9167	52.635	110.426
2018/05/18	12:10:31	0.9250	52.633	110.469
2018/05/18	12:11:01	0.9333	52.632	110.502
2018/05/18	12:11:31	0.9417	52.630	110.543
2018/05/18	12:12:01	0.9500	52.628	110.584
2018/05/18	12:12:31	0.9583	52.627	110.613
2018/05/18	12:13:01	0.9667	52.626	110.651
2018/05/18	12:13:31	0.9750	52.625	110.683
2018/05/18	12:14:01	0.9833	52.623	110.718
2018/05/18	12:14:31	0.9917	52.622	110.754
2018/05/18	12:15:01	1.0000	52.624	110.782
2018/05/18	12:15:31	1.0083	52.634	110.818
2018/05/18	12:16:01	1.0167	52.634	110.845
2018/05/18	12:16:31	1.0250	52.634	110.865
2018/05/18	12:17:01	1.0333	52.633	110.898
2018/05/18	12:17:31	1.0417	52.633	110.921
2018/05/18	12:18:01	1.0500	52.630	110.944
2018/05/18	12:18:31	1.0583	52.629	110.977
2018/05/18	12:19:01	1.0667	52.630	110.997
2018/05/18	12:19:31	1.0750	52.630	111.020
2018/05/18	12:20:01	1.0833	52.630	111.045
2018/05/18	12:20:31	1.0917	52.630	111.067
2018/05/18	12:21:01	1.1000	52.630	111.090
2018/05/18	12:21:31	1.1083	52.628	111.106
2018/05/18	12:22:01	1.1167	52.625	111.130
2018/05/18	12:22:31	1.1250	52.626	111.151
2018/05/18	12:23:01	1.1333	52.527	111.108
2018/05/18	12:23:31	1.1417	52.245	110.545
POOH Gradient: 2500.000 ft				
2018/05/18	12:24:01	1.1500	51.940	109.526
2018/05/18	12:24:31	1.1583	51.963	108.617
2018/05/18	12:25:01	1.1667	51.986	108.153
2018/05/18	12:25:31	1.1750	51.900	107.782
2018/05/18	12:26:01	1.1833	51.940	107.436
2018/05/18	12:26:31	1.1917	51.920	107.119
2018/05/18	12:27:01	1.2000	51.943	106.819
2018/05/18	12:27:31	1.2083	51.967	106.531
2018/05/18	12:28:01	1.2167	51.950	106.245
2018/05/18	12:28:31	1.2250	51.949	105.985
2018/05/18	12:29:01	1.2333	51.915	105.719
2018/05/18	12:29:31	1.2417	51.739	105.208
2018/05/18	12:30:01	1.2500	51.401	104.121
POOH Gradient: 2000.000 ft				
2018/05/18	12:30:31	1.2583	51.176	102.796
2018/05/18	12:31:01	1.2667	51.211	102.065
2018/05/18	12:31:31	1.2750	51.222	101.642
2018/05/18	12:32:01	1.2833	51.247	101.280
2018/05/18	12:32:31	1.2917	51.289	100.938
2018/05/18	12:33:01	1.3000	51.264	100.603
2018/05/18	12:33:31	1.3083	51.281	100.288
2018/05/18	12:34:01	1.3167	51.314	99.977

Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
2018/05/18	12:34:31	1.3250	51.238	99.678
2018/05/18	12:35:01	1.3333	51.276	99.374
2018/05/18	12:35:31	1.3417	51.232	99.082
2018/05/18	12:36:01	1.3500	50.934	98.175
POOH Gradient: 1500.000 ft				
2018/05/18	12:36:31	1.3583	50.695	96.838
2018/05/18	12:37:01	1.3667	50.524	95.565
2018/05/18	12:37:31	1.3750	50.594	95.009
2018/05/18	12:38:01	1.3833	50.647	94.590
2018/05/18	12:38:31	1.3917	50.647	94.204
2018/05/18	12:39:01	1.4000	50.643	93.844
2018/05/18	12:39:31	1.4083	50.660	93.488
2018/05/18	12:40:01	1.4167	50.635	93.142
2018/05/18	12:40:31	1.4250	50.680	92.811
2018/05/18	12:41:01	1.4333	50.725	92.480
2018/05/18	12:41:31	1.4417	50.664	92.158
2018/05/18	12:42:01	1.4500	50.522	91.659
2018/05/18	12:42:31	1.4583	50.174	90.415
POOH Gradient: 1000.000 ft				
2018/05/18	12:43:01	1.4667	49.937	88.927
2018/05/18	12:43:31	1.4750	49.958	88.111
2018/05/18	12:44:01	1.4833	49.985	87.658
2018/05/18	12:44:31	1.4917	50.012	87.260
2018/05/18	12:45:01	1.5000	50.025	86.900
2018/05/18	12:45:31	1.5083	50.019	86.544
2018/05/18	12:46:01	1.5167	50.032	86.207
2018/05/18	12:46:31	1.5250	50.049	85.876
2018/05/18	12:47:01	1.5333	50.020	85.552
2018/05/18	12:47:31	1.5417	50.050	85.230
2018/05/18	12:48:01	1.5500	50.018	84.920
2018/05/18	12:48:31	1.5583	49.660	83.932
POOH Gradient: 500.000 ft				
2018/05/18	12:49:01	1.5667	49.387	82.441
2018/05/18	12:49:31	1.5750	49.277	81.196
2018/05/18	12:50:01	1.5833	49.293	80.656
2018/05/18	12:50:31	1.5917	49.349	80.233
2018/05/18	12:51:01	1.6000	49.353	79.837
2018/05/18	12:51:31	1.6083	49.341	79.470
2018/05/18	12:52:01	1.6167	49.390	79.115
2018/05/18	12:52:31	1.6250	49.415	78.759
2018/05/18	12:53:01	1.6333	49.414	78.413
2018/05/18	12:53:31	1.6417	49.416	78.080
2018/05/18	12:54:01	1.6500	49.428	77.754
2018/05/18	12:54:31	1.6583	49.174	77.099
2018/05/18	12:55:01	1.6667	48.822	75.664
POOH Gradient: 0.000 ft				
2018/05/18	12:55:31	1.6750	48.592	74.289
2018/05/18	12:56:01	1.6833	48.610	73.956
2018/05/18	12:56:31	1.6917	48.612	73.958
2018/05/18	12:57:01	1.7000	48.602	74.039
2018/05/18	12:57:31	1.7083	48.628	74.156
2018/05/18	12:58:01	1.7167	48.608	74.289
2018/05/18	12:58:31	1.7250	48.621	74.424
2018/05/18	12:59:01	1.7333	48.599	74.570

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Type of Test POOH Static Gradient
Date(s) of Test 5/21/18



Date	Time	Cum.Time BH1	BH Pres 1	BH Temp 1
		hr	psig	deg F
2018/05/18	12:59:31	1.7417	48.593	74.709
2018/05/18	13:00:01	1.7500	48.616	74.842
2018/05/18	13:00:31	1.7583	48.597	74.989
2018/05/18	13:01:01	1.7667	48.579	75.130
2018/05/18	13:01:31	1.7750	39.760	75.265
2018/05/18	13:02:01	1.7833	-2.626	75.191
2018/05/18	13:02:31	1.7917	-2.627	75.160
2018/05/18	13:03:01	1.8000	-2.597	75.007
2018/05/18	13:03:31	1.8083	-2.626	75.112
2018/05/18	13:04:01	1.8167	-2.692	75.407