

NMOCD

MAY 22 2013

DISTRICT III

## 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                               | SAN JUAN 32-7 UNIT #211 |
| Well Location                           | T32N, R7W, SEC. 35      |
| Field and Pool                          | FRUITLAND COAL          |
| Status (Oil, Gas, Water, Injection)     | OBSERVATION             |
| Perforated Intervals                    | 3213-3336               |
| Mid-point of Perforated Intervals (MPP) |                         |
| Drilling Rig Number                     |                         |
| Elevations                              |                         |
| Kelly Bushing (KB)                      | 11                      |
| Casing Flange (CF)                      |                         |
| KB-CF                                   |                         |
| Ground Level                            | 6547                    |
| Plug Back Total Depth                   | 3330                    |
| Total Depth                             | 3331                    |
| Production Casing                       | 7 TO 3185               |
| Production Tubing                       | 2 3/8 TO 3075           |

### TEST INFORMATION

|                                      |                      |
|--------------------------------------|----------------------|
| Type of Test                         | POOH STATIC GRADIENT |
| Date(s) of Test                      | 5/15/19              |
| Dead-weight Gauge Tubing Pressure    | 0                    |
| Dead-weight Gauge Casing Pressure    |                      |
| Shut-in Date (Duration)              |                      |
| Date / Time on Bottom                | 05/15/19 @0900       |
| Date / Time off Bottom               | 05/15/19 @1000       |
| Probe Serial Number                  | W1168                |
| Probe Offset from End of Tool String | 0-6000               |
| Run Depth at Probe Pressure Port     | 3100                 |

### PRESSURE TEST RESULTS

|                                    |             |
|------------------------------------|-------------|
| Maximum Recorded Probe Pressure    | 335.3 psig  |
| Maximum Recorded Probe Temperature | 109.3 deg F |
| Final Buildup Pressure             |             |
| Gradient Survey Information        |             |
| Extrapolated Pressure to MPP       |             |
| Final Gradient at Depth            |             |
| Job Number                         |             |

Company Name HILCORP  
Well Name SAN JUAN 32-7 UNIT #211  
Type of Test POOH STATIC GRADIENT  
Date(s) of Test 5/15/19



## **PROBE INFORMATION**

Probe Serial Number W1168  
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> |
|-------------|--------------------|---------------|-----------------|----------------|
|-------------|--------------------|---------------|-----------------|----------------|

Program Start Time  
Program End Time  
Total Samples Taken  
Usage for this Test  
Generic Data File Name

|                 |                         |
|-----------------|-------------------------|
| Company Name    | HILCORP                 |
| Well Name       | SAN JUAN 32-7 UNIT #211 |
| Type of Test    | POOH STATIC GRADIENT    |
| Date(s) of Test | 5/15/19                 |



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## **COMMENTS**

Reported By

EXPERT DOWNHOLE SERVICES, INC

RIH WITH 1.50 IB AND TAGGED FILL @3145 WLM. RIH WITH BHP GAUGE TO 3100 FOR 1 HOUR, THEN POOH MAKING 5 MINUTE STOPS PER REQUEST.

**Company Name** HILCORP  
**Well Name** SAN JUAN 32-7 UNIT #211  
**Type of Test** POOH STATIC GRADIENT  
**Date(s) of Test** 5/15/19



## Pressure vs. Depth

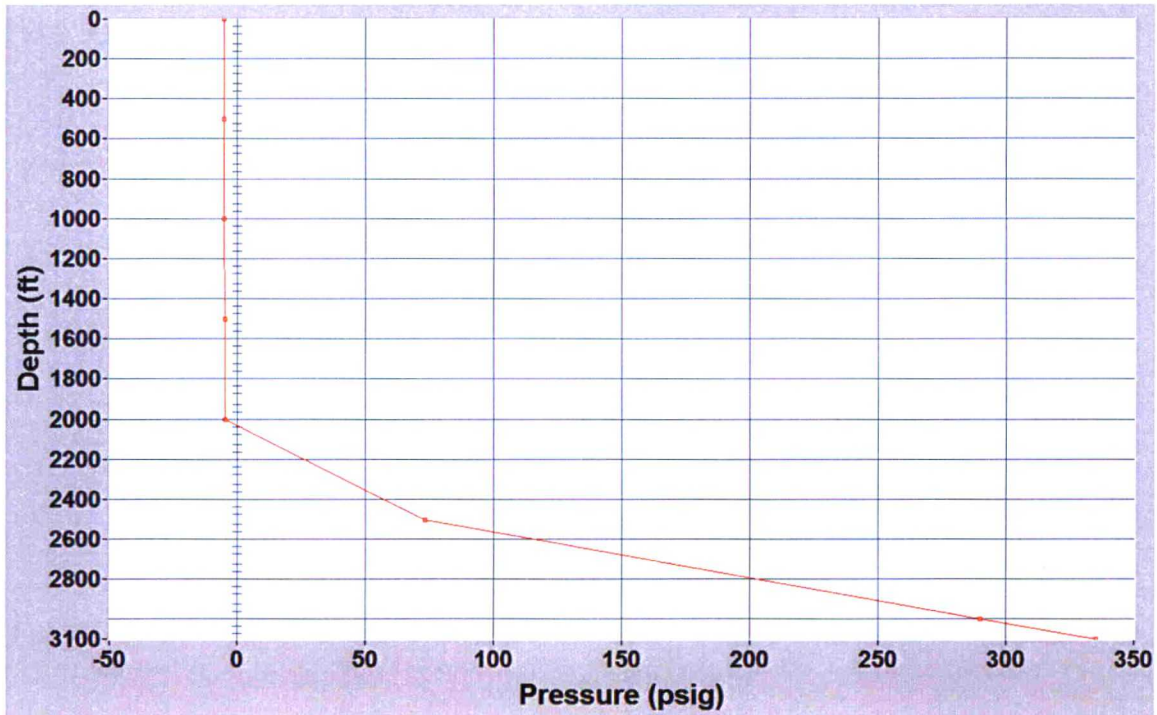
Probe Serial Number W1168

|      |      | (ft)     | (psig)  | (psi/ft) | (deg F) | (deg F/ft) |
|------|------|----------|---------|----------|---------|------------|
| 0900 | 1000 | 3100.000 | 335.343 | -        | 105.926 | -          |
| 1000 | 1005 | 3000.000 | 289.822 | 0.4552   | 108.320 | -0.0239    |
| 1006 | 1011 | 2500.000 | 73.259  | 0.4331   | 100.418 | 0.0158     |
| 1013 | 1018 | 2000.000 | -4.598  | 0.1557   | 94.406  | 0.0120     |
| 1019 | 1024 | 1500.000 | -4.718  | 0.0002   | 91.400  | 0.0060     |
| 1025 | 1030 | 1000.000 | -4.870  | 0.0003   | 87.854  | 0.0071     |
| 1031 | 1036 | 500.000  | -4.976  | 0.0002   | 83.876  | 0.0080     |
| 1037 | 1042 | 0.000    | -5.124  | 0.0003   | 79.448  | 0.0089     |

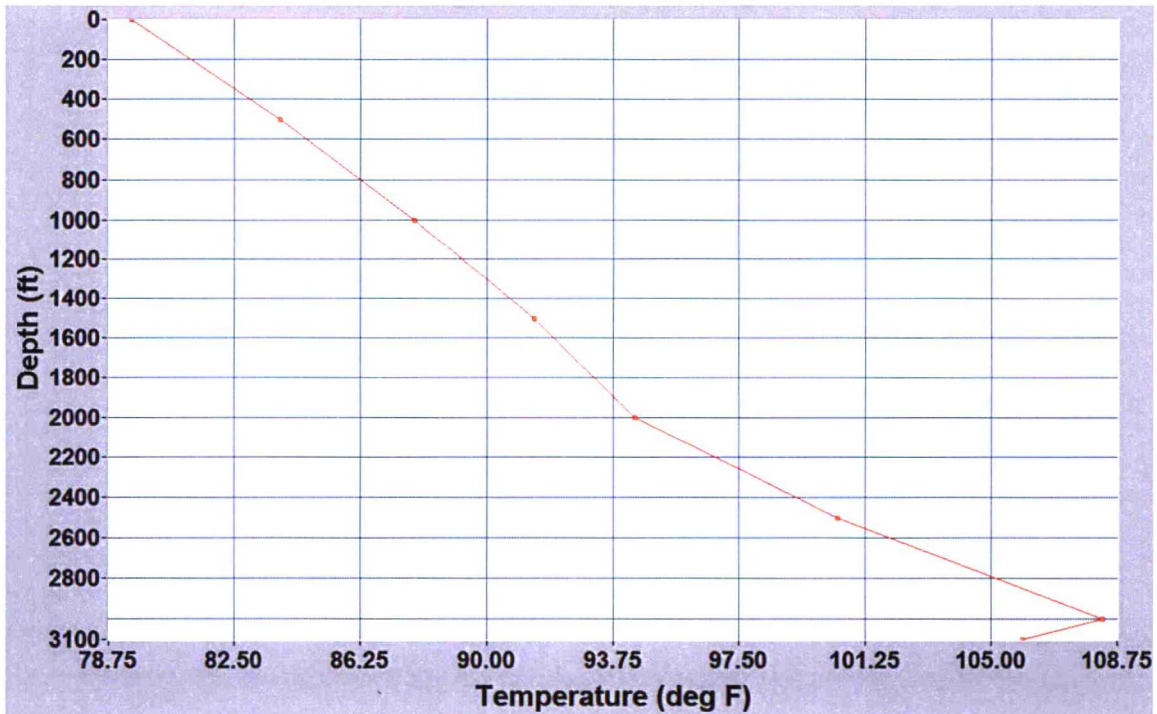
Extrapolated to MPP:

| (ft)  | (psig) | (deg F) |
|-------|--------|---------|
| 0.000 |        |         |

## W1168 Depth vs. Pressure



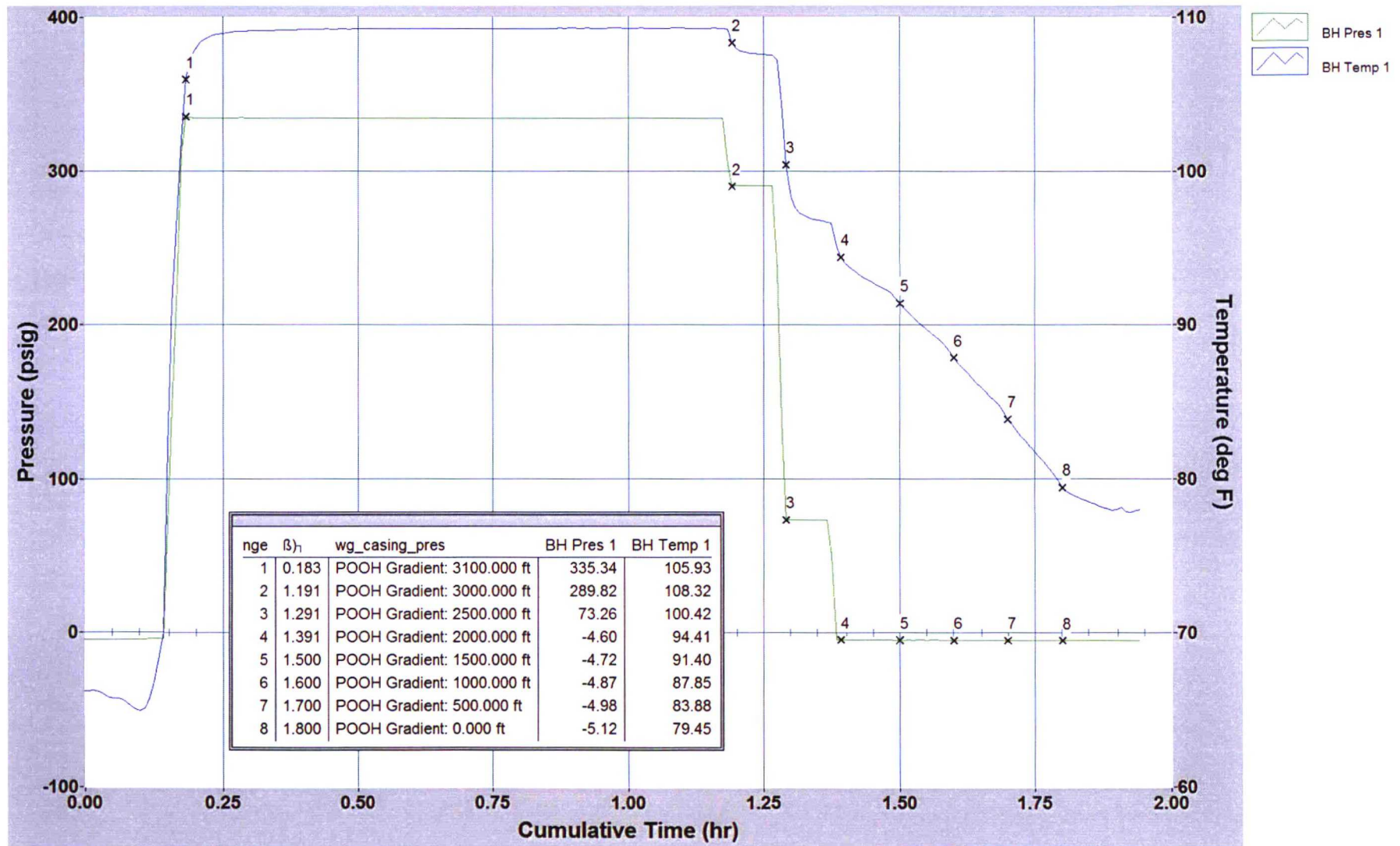
## W1168 Depth vs. Temperature



Company Name HILCORP  
 Well Name SAN JUAN 32-7 UNIT #211  
 Type of Test POOH STATIC GRADIENT  
 Date(s) of Test 5/15/19



## SAN JUAN 32-7 #211



| Date                       | Time     | Cum.Time<br>BH1 | BH Pres 1 | BH Temp<br>1 |
|----------------------------|----------|-----------------|-----------|--------------|
|                            |          | hr              | psig      | deg F        |
| 2019/05/15                 | 08:49:28 | 0.0000          | -4.522    | 66.254       |
| 2019/05/15                 | 08:49:57 | 0.0081          | -4.315    | 66.254       |
| 2019/05/15                 | 08:50:57 | 0.0247          | -4.534    | 66.200       |
| 2019/05/15                 | 08:51:57 | 0.0414          | -4.588    | 65.858       |
| 2019/05/15                 | 08:52:57 | 0.0581          | -4.599    | 65.768       |
| 2019/05/15                 | 08:53:27 | 0.0664          | -4.596    | 65.732       |
| 2019/05/15                 | 08:54:27 | 0.0831          | -4.572    | 65.282       |
| 2019/05/15                 | 08:55:27 | 0.0997          | -4.364    | 64.976       |
| 2019/05/15                 | 08:56:27 | 0.1164          | -4.129    | 65.786       |
| 2019/05/15                 | 08:56:57 | 0.1247          | -4.061    | 66.812       |
| 2019/05/15                 | 08:57:57 | 0.1414          | -3.823    | 70.034       |
| 2019/05/15                 | 08:58:57 | 0.1581          | 146.110   | 91.346       |
| 2019/05/15                 | 08:59:57 | 0.1747          | 310.594   | 102.020      |
| POOH Gradient: 3100.000 ft |          |                 |           |              |
| 2019/05/15                 | 09:00:27 | 0.1831          | 335.343   | 105.926      |
| 2019/05/15                 | 09:00:57 | 0.1914          | 334.592   | 107.294      |
| 2019/05/15                 | 09:01:57 | 0.2081          | 334.419   | 108.302      |
| 2019/05/15                 | 09:02:57 | 0.2247          | 334.482   | 108.716      |
| 2019/05/15                 | 09:03:57 | 0.2414          | 334.506   | 108.896      |
| 2019/05/15                 | 09:04:27 | 0.2497          | 334.486   | 108.950      |
| 2019/05/15                 | 09:05:27 | 0.2664          | 334.479   | 109.022      |
| 2019/05/15                 | 09:06:27 | 0.2831          | 334.531   | 109.076      |
| 2019/05/15                 | 09:07:27 | 0.2997          | 334.515   | 109.094      |
| 2019/05/15                 | 09:07:57 | 0.3081          | 334.514   | 109.112      |
| 2019/05/15                 | 09:08:57 | 0.3247          | 334.501   | 109.130      |
| 2019/05/15                 | 09:09:57 | 0.3414          | 334.514   | 109.130      |
| 2019/05/15                 | 09:10:57 | 0.3581          | 334.516   | 109.148      |
| 2019/05/15                 | 09:11:27 | 0.3664          | 334.527   | 109.166      |
| 2019/05/15                 | 09:12:27 | 0.3831          | 334.505   | 109.184      |
| 2019/05/15                 | 09:13:27 | 0.3997          | 334.487   | 109.202      |
| 2019/05/15                 | 09:14:27 | 0.4164          | 334.509   | 109.202      |
| 2019/05/15                 | 09:15:27 | 0.4331          | 334.496   | 109.220      |
| 2019/05/15                 | 09:16:27 | 0.4497          | 334.519   | 109.220      |
| 2019/05/15                 | 09:17:27 | 0.4664          | 334.490   | 109.238      |
| 2019/05/15                 | 09:18:27 | 0.4831          | 334.485   | 109.220      |
| 2019/05/15                 | 09:18:57 | 0.4914          | 334.505   | 109.238      |
| 2019/05/15                 | 09:19:57 | 0.5081          | 334.496   | 109.238      |
| 2019/05/15                 | 09:20:57 | 0.5247          | 334.489   | 109.256      |
| 2019/05/15                 | 09:21:57 | 0.5414          | 334.485   | 109.256      |
| 2019/05/15                 | 09:22:27 | 0.5497          | 334.476   | 109.256      |
| 2019/05/15                 | 09:23:27 | 0.5664          | 334.487   | 109.256      |
| 2019/05/15                 | 09:24:27 | 0.5831          | 334.518   | 109.256      |
| 2019/05/15                 | 09:25:27 | 0.5997          | 334.483   | 109.256      |
| 2019/05/15                 | 09:25:57 | 0.6081          | 334.486   | 109.274      |
| 2019/05/15                 | 09:26:57 | 0.6247          | 334.495   | 109.256      |
| 2019/05/15                 | 09:27:57 | 0.6414          | 334.466   | 109.274      |
| 2019/05/15                 | 09:28:57 | 0.6581          | 334.487   | 109.256      |
| 2019/05/15                 | 09:29:57 | 0.6747          | 334.466   | 109.274      |
| 2019/05/15                 | 09:30:57 | 0.6914          | 334.479   | 109.274      |
| 2019/05/15                 | 09:31:57 | 0.7081          | 334.441   | 109.274      |
| 2019/05/15                 | 09:32:57 | 0.7247          | 334.492   | 109.274      |
| 2019/05/15                 | 09:33:27 | 0.7331          | 334.474   | 109.274      |
| 2019/05/15                 | 09:34:27 | 0.7497          | 334.480   | 109.274      |
| 2019/05/15                 | 09:35:27 | 0.7664          | 334.457   | 109.274      |

| Date                       | Time     | Cum.Time<br>BH1 | BH Pres 1 | BH Temp<br>1 |
|----------------------------|----------|-----------------|-----------|--------------|
|                            |          | hr              | psig      | deg F        |
| 2019/05/15                 | 09:36:27 | 0.7831          | 334.458   | 109.274      |
| 2019/05/15                 | 09:37:27 | 0.7997          | 334.443   | 109.256      |
| 2019/05/15                 | 09:38:27 | 0.8164          | 334.476   | 109.274      |
| 2019/05/15                 | 09:39:27 | 0.8331          | 334.458   | 109.274      |
| 2019/05/15                 | 09:40:27 | 0.8497          | 334.460   | 109.274      |
| 2019/05/15                 | 09:40:57 | 0.8581          | 334.466   | 109.274      |
| 2019/05/15                 | 09:41:57 | 0.8747          | 334.458   | 109.292      |
| 2019/05/15                 | 09:42:57 | 0.8914          | 334.456   | 109.292      |
| 2019/05/15                 | 09:43:57 | 0.9081          | 334.463   | 109.274      |
| 2019/05/15                 | 09:44:57 | 0.9247          | 334.438   | 109.292      |
| 2019/05/15                 | 09:45:57 | 0.9414          | 334.451   | 109.274      |
| 2019/05/15                 | 09:46:57 | 0.9581          | 334.443   | 109.274      |
| 2019/05/15                 | 09:47:57 | 0.9747          | 334.469   | 109.292      |
| 2019/05/15                 | 09:48:27 | 0.9831          | 334.456   | 109.292      |
| 2019/05/15                 | 09:49:27 | 0.9997          | 334.450   | 109.274      |
| 2019/05/15                 | 09:50:27 | 1.0164          | 334.425   | 109.274      |
| 2019/05/15                 | 09:51:27 | 1.0331          | 334.456   | 109.274      |
| 2019/05/15                 | 09:51:57 | 1.0414          | 334.431   | 109.274      |
| 2019/05/15                 | 09:52:57 | 1.0581          | 334.456   | 109.274      |
| 2019/05/15                 | 09:53:57 | 1.0747          | 334.427   | 109.274      |
| 2019/05/15                 | 09:54:57 | 1.0914          | 334.457   | 109.292      |
| 2019/05/15                 | 09:55:27 | 1.0997          | 334.432   | 109.292      |
| 2019/05/15                 | 09:56:27 | 1.1164          | 334.444   | 109.274      |
| 2019/05/15                 | 09:57:27 | 1.1331          | 334.434   | 109.274      |
| 2019/05/15                 | 09:58:27 | 1.1497          | 334.431   | 109.274      |
| 2019/05/15                 | 09:59:27 | 1.1664          | 334.444   | 109.274      |
| 2019/05/15                 | 10:00:27 | 1.1831          | 304.563   | 109.202      |
| POOH Gradient: 3000.000 ft |          |                 |           |              |
| 2019/05/15                 | 10:00:57 | 1.1914          | 289.822   | 108.320      |
| 2019/05/15                 | 10:01:27 | 1.1997          | 290.431   | 107.942      |
| 2019/05/15                 | 10:02:27 | 1.2164          | 290.696   | 107.708      |
| 2019/05/15                 | 10:02:57 | 1.2247          | 290.685   | 107.636      |
| 2019/05/15                 | 10:03:57 | 1.2414          | 290.699   | 107.582      |
| 2019/05/15                 | 10:04:57 | 1.2581          | 290.699   | 107.528      |
| 2019/05/15                 | 10:05:57 | 1.2747          | 235.331   | 107.204      |
| POOH Gradient: 2500.000 ft |          |                 |           |              |
| 2019/05/15                 | 10:06:57 | 1.2914          | 73.259    | 100.418      |
| 2019/05/15                 | 10:07:57 | 1.3081          | 73.511    | 97.610       |
| 2019/05/15                 | 10:08:57 | 1.3247          | 73.507    | 97.088       |
| 2019/05/15                 | 10:09:57 | 1.3414          | 73.475    | 96.872       |
| 2019/05/15                 | 10:10:27 | 1.3497          | 73.479    | 96.800       |
| 2019/05/15                 | 10:11:27 | 1.3664          | 73.496    | 96.674       |
| 2019/05/15                 | 10:12:27 | 1.3831          | -4.524    | 95.162       |
| POOH Gradient: 2000.000 ft |          |                 |           |              |
| 2019/05/15                 | 10:12:57 | 1.3914          | -4.598    | 94.406       |
| 2019/05/15                 | 10:13:27 | 1.3997          | -4.609    | 94.010       |
| 2019/05/15                 | 10:14:27 | 1.4164          | -4.545    | 93.488       |
| 2019/05/15                 | 10:15:27 | 1.4331          | -4.537    | 93.092       |
| 2019/05/15                 | 10:16:27 | 1.4497          | -4.527    | 92.750       |
| 2019/05/15                 | 10:17:27 | 1.4664          | -4.528    | 92.444       |
| 2019/05/15                 | 10:17:57 | 1.4747          | -4.547    | 92.300       |
| 2019/05/15                 | 10:18:57 | 1.4914          | -4.747    | 91.778       |
| POOH Gradient: 1500.000 ft |          |                 |           |              |
| 2019/05/15                 | 10:19:27 | 1.4997          | -4.718    | 91.400       |

**Company Name** HILCORP  
**Well Name** SAN JUAN 32-7 UNIT #211  
**Type of Test** POOH STATIC GRADIENT  
**Date(s) of Test** 5/15/19



| Date                       | Time     | Cum.Time<br>BH1 | BH Pres 1 | BH Temp<br>1 |
|----------------------------|----------|-----------------|-----------|--------------|
|                            |          | hr              | psig      | deg F        |
| 2019/05/15                 | 10:19:57 | 1.5081          | -4.714    | 91.076       |
| 2019/05/15                 | 10:20:57 | 1.5247          | -4.718    | 90.500       |
| 2019/05/15                 | 10:21:27 | 1.5331          | -4.693    | 90.212       |
| 2019/05/15                 | 10:22:27 | 1.5497          | -4.706    | 89.708       |
| 2019/05/15                 | 10:23:27 | 1.5664          | -4.702    | 89.204       |
| 2019/05/15                 | 10:24:27 | 1.5831          | -4.776    | 88.700       |
| 2019/05/15                 | 10:24:57 | 1.5914          | -4.869    | 88.286       |
| POOH Gradient: 1000.000 ft |          |                 |           |              |
| 2019/05/15                 | 10:25:27 | 1.5997          | -4.870    | 87.854       |
| 2019/05/15                 | 10:25:57 | 1.6081          | -4.875    | 87.512       |
| 2019/05/15                 | 10:26:57 | 1.6247          | -4.837    | 86.864       |
| 2019/05/15                 | 10:27:57 | 1.6414          | -4.824    | 86.252       |
| 2019/05/15                 | 10:28:57 | 1.6581          | -4.807    | 85.658       |
| 2019/05/15                 | 10:29:57 | 1.6747          | -4.799    | 85.082       |
| 2019/05/15                 | 10:30:57 | 1.6914          | -4.969    | 84.362       |
| POOH Gradient: 500.000 ft  |          |                 |           |              |
| 2019/05/15                 | 10:31:27 | 1.6997          | -4.976    | 83.876       |
| 2019/05/15                 | 10:31:57 | 1.7081          | -4.975    | 83.498       |
| 2019/05/15                 | 10:32:27 | 1.7164          | -4.902    | 83.102       |
| 2019/05/15                 | 10:33:27 | 1.7331          | -4.892    | 82.400       |
| 2019/05/15                 | 10:34:27 | 1.7497          | -4.941    | 81.716       |
| 2019/05/15                 | 10:35:27 | 1.7664          | -4.949    | 81.050       |
| 2019/05/15                 | 10:36:27 | 1.7831          | -4.998    | 80.366       |
| POOH Gradient: 0.000 ft    |          |                 |           |              |
| 2019/05/15                 | 10:37:27 | 1.7997          | -5.124    | 79.448       |
| 2019/05/15                 | 10:38:27 | 1.8164          | -5.130    | 79.016       |
| 2019/05/15                 | 10:39:27 | 1.8331          | -5.115    | 78.746       |
| 2019/05/15                 | 10:39:57 | 1.8414          | -5.121    | 78.638       |
| 2019/05/15                 | 10:40:57 | 1.8581          | -5.129    | 78.386       |
| 2019/05/15                 | 10:41:57 | 1.8747          | -5.107    | 78.170       |
| 2019/05/15                 | 10:42:57 | 1.8914          | -5.121    | 77.990       |
| 2019/05/15                 | 10:43:57 | 1.9081          | -5.091    | 78.152       |
| 2019/05/15                 | 10:44:57 | 1.9247          | -5.073    | 77.864       |