

HALLIBURTON

iCem[®] Service

EXTRACTION OIL & GAS

Date: Friday, August 05, 2016

Varra #11

Surface

Job Date: Thursday, August 04, 2016

Sincerely,
Lauren Roberts

Legal Notice

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1.0 Cementing Job Summary

1.1 Executive Summary

Halliburton appreciates the opportunity to perform the cementing services on the **Varra #11** cement **Surface** casing job. A pre-job safety meeting was held before the job where details of the job were discussed, potential safety hazards were reviewed, and environmental compliance procedures were outlined.

38 bbl. of cement returned to surface.

Halliburton maintains a continuous quality improvement process and appreciates any comments or suggestions that you may have. Halliburton again thanks you for the opportunity to perform service work on this well. We hope to be your solutions provider for future projects.

Respectfully,

Halliburton [Ft. Lupton]

HALLIBURTON

Cementing Job Summary

The Road to Excellence Starts with Safety

| | | | | | | | | | | |
|--|-------------|---------------------|---------|---------------------------------|------------------------|-----------------------------|---------------|--------------|---------------------|---------------|
| Sold To #: 369404 | | Ship To #: 3563376 | | Quote #: | | Sales Order #: 0903450801 | | | | |
| Customer: EXTRACTION OIL & GAS - | | | | Customer Rep: Todd Stevens | | | | | | |
| Well Name: VARRA | | Well #: 11 | | API/UWI #: 05-123-39991-00 | | | | | | |
| Field: WATTENBERG | | City (SAP): WINDSOR | | County/Parish: WELD | | State: COLORADO | | | | |
| Legal Description: NW SW-5-6N-67W-1485FSL-785FWL | | | | | | | | | | |
| Contractor: | | | | Rig/Platform Name/Num: Spud Rig | | | | | | |
| Job BOM: 7521 | | | | | | | | | | |
| Well Type: HORIZONTAL OIL | | | | | | | | | | |
| Sales Person: HALAMERICA\HB71271 | | | | Srvc Supervisor: Brandon Parker | | | | | | |
| Job | | | | | | | | | | |
| Formation Name | | | | | | | | | | |
| Formation Depth (MD) | | Top | | Bottom | | | | | | |
| Form Type | | | | BHST | | | | | | |
| Job depth MD | | 1576ft | | Job Depth TVD | | | | | | |
| Water Depth | | | | Wk Ht Above Floor | | 3 | | | | |
| Perforation Depth (MD) | | From | | To | | | | | | |
| Well Data | | | | | | | | | | |
| Description | New / Used | Size in | ID in | Weight lbm/ft | Thread | Grade | Top MD ft | Bottom MD ft | Top TVD ft | Bottom TVD ft |
| Casing | | 9.625 | 8.921 | 36 | | | 0 | 1576 | 0 | 1576 |
| Open Hole Section | | | 13.5 | | | | 0 | 1576 | 0 | 1576 |
| Tools and Accessories | | | | | | | | | | |
| Type | Size in | Qty | Make | Depth ft | | Type | Size in | Qty | Make | |
| Guide Shoe | 9.625 | 1 | weather | 1553 | | Top Plug | 9.625 | 1 | weatherford | |
| Float Shoe | 9.625 | | | | | Bottom Plug | 9.625 | | HES | |
| Float Collar | 9.625 | 1 | weather | 1530 | | SSR plug set | 9.625 | | HES | |
| Insert Float | 9.625 | | | | | Plug Container | 9.625 | | HES | |
| Stage Tool | 9.625 | | | | | Centralizers | 9.625 | | HES | |
| Fluid Data | | | | | | | | | | |
| Stage/Plug #: 1 | | | | | | | | | | |
| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft ³ /sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal | |
| 1 | Fresh Water | Fresh Water | 15 | bbl | 8.33 | | | 2 | | |
| | | | | | | | | | | |
| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft ³ /sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal | |
| 2 | SwiftCem | SWIFTCM (TM) SYSTEM | 175 | sack | 13.5 | 1.74 | | 6 | 9.2 | |
| 9.20 Gal | | FRESH WATER | | | | | | | | |

last updated on 8/4/2016 3:14:29 PM

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iCem® Service

(v. 4.2.393)

Created: Friday, August 05, 2016

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Cementing Job Summary

| Fluid # | Stage Type | Fluid Name | Qty | Qty UoM | Mixing Density lbm/gal | Yield ft ³ /sack | Mix Fluid Gal | Rate bbl/min | Total Mix Fluid Gal | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
|--|--|--------------------------------|--------|------------|---------------------------|--------------------------------|------------------|-----------------|---------------------------|---------------------|--------|-------|--------|------------|-----------------|---------------------------|--------------------------------|--|--|-----------------------------|--|----------------------------|--|--|--------------------|----------------------------|--------------------|--|--|--------------------------|---------------------------------|------------------------------|--|--|---------|--|--|--|--|
| 3 | Oil Based Mud Displacement | FW Displacement | 118 | bbl | 8.3 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| <table border="1"> <tr> <td>Cement Left In Pipe</td> <td>Amount</td> <td>45 ft</td> <td>Reason</td> <td>Shoe Joint</td> </tr> <tr> <td>Mix Water:pH ##</td> <td>Mix Water Chloride:## ppm</td> <td>Mix Water Temperature:## °F °C</td> <td colspan="2"></td> </tr> <tr> <td>Cement Temperature:## °F °C</td> <td>Plug Displaced by:## lb/gal kg/m3 XXXX</td> <td>Disp. Temperature:## °F °C</td> <td colspan="2"></td> </tr> <tr> <td>Plug Bumped?Yes/No</td> <td>Bump Pressure:#### psi MPa</td> <td>Floats Held?Yes/No</td> <td colspan="2"></td> </tr> <tr> <td>Cement Returns:## bbl m3</td> <td>Returns Density:## lb/gal kg/m3</td> <td>Returns Temperature:## °F °C</td> <td colspan="2"></td> </tr> <tr> <td colspan="5">Comment</td> </tr> </table> | | | | | | | | | | Cement Left In Pipe | Amount | 45 ft | Reason | Shoe Joint | Mix Water:pH ## | Mix Water Chloride:## ppm | Mix Water Temperature:## °F °C | | | Cement Temperature:## °F °C | Plug Displaced by:## lb/gal kg/m3 XXXX | Disp. Temperature:## °F °C | | | Plug Bumped?Yes/No | Bump Pressure:#### psi MPa | Floats Held?Yes/No | | | Cement Returns:## bbl m3 | Returns Density:## lb/gal kg/m3 | Returns Temperature:## °F °C | | | Comment | | | | |
| Cement Left In Pipe | Amount | 45 ft | Reason | Shoe Joint | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Mix Water:pH ## | Mix Water Chloride:## ppm | Mix Water Temperature:## °F °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cement Temperature:## °F °C | Plug Displaced by:## lb/gal kg/m3 XXXX | Disp. Temperature:## °F °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Plug Bumped?Yes/No | Bump Pressure:#### psi MPa | Floats Held?Yes/No | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Cement Returns:## bbl m3 | Returns Density:## lb/gal kg/m3 | Returns Temperature:## °F °C | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| Comment | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |

2.0 Real-Time Job Summary

2.1 Job Event Log

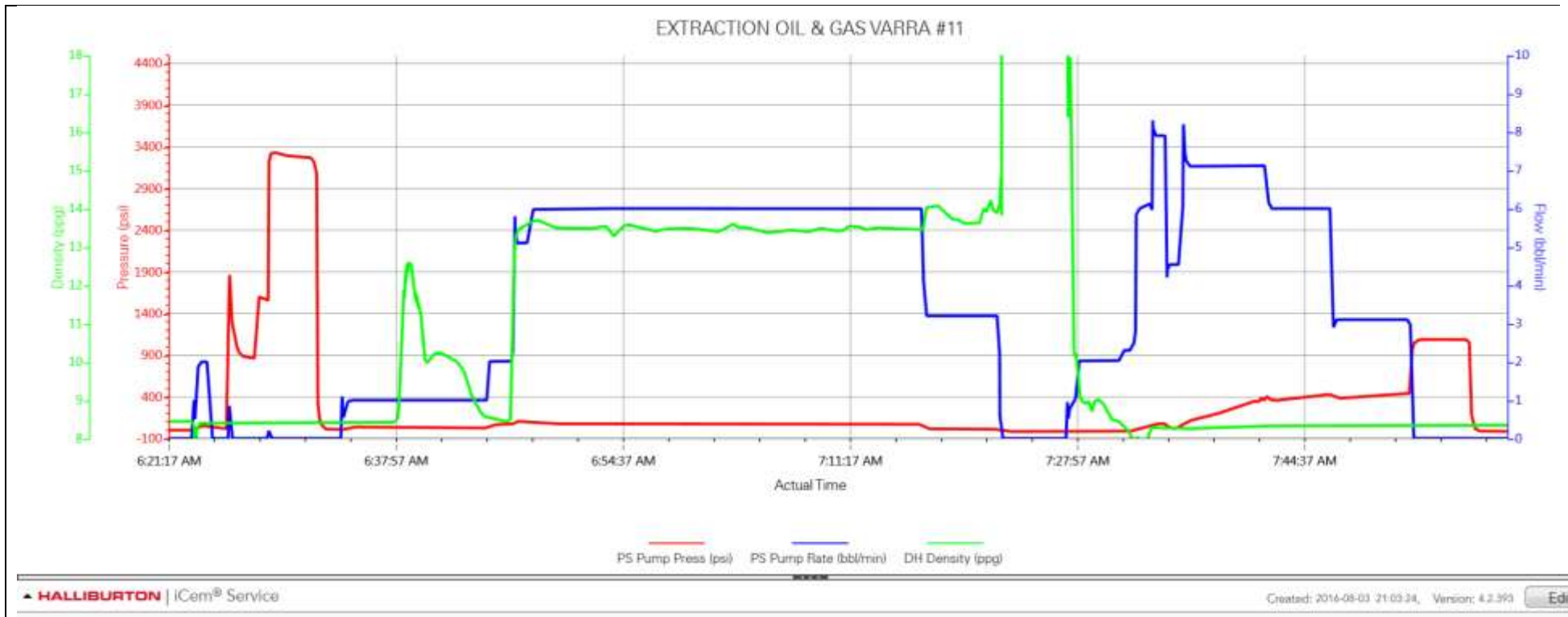
| Type | Seq. No. | Activity | Graph Label | Date | Time | Source | Pass-Side Pump Pressure (psi) | Pass-Side Pump Rate (bbl/min) | Downhole Density (ppg) | Comments |
|-------|----------|--|--|----------|----------|--------|----------------------------------|----------------------------------|---------------------------|--|
| Event | 1 | Call Out | Call Out | 8/3/2016 | 19:30:00 | USER | | | | crew called out to 9.625 surface job, 1 red tiger pump trk, 2 660 loaded with 565 sks of SwiftCem cmt. top plug was issued but top plug was not used it will be returned. |
| Event | 2 | Pre-Convoy Safety Meeting | Pre-Convoy Safety Meeting | 8/3/2016 | 21:45:00 | USER | | | | meeting with all HES personnel to discuss safety issues and hazards associated with traveling to location. also covered route of travel. |
| Event | 3 | Depart from Service Center or Other Site | Depart from Service Center or Other Site | 8/3/2016 | 22:00:00 | USER | | | | |
| Event | 4 | Arrive at Location from Service Center | Arrive at Location from Service Center | 8/4/2016 | 00:30:00 | USER | | | | crew arrived on location at assigned dispatch time of 00:30 |
| Event | 5 | Assessment Of Location Safety Meeting | Assessment Of Location Safety Meeting | 8/4/2016 | 00:32:00 | USER | | | | water temp 73.5, sul <200, ph 7, chlo 0. checked frac tanks for proper amount of water needed for job. Frac tank 2 was completely full at 500BBL's, checked over rig up area |
| Event | 6 | Pre-Rig Up Safety Meeting | Pre-Rig Up Safety Meeting | 8/4/2016 | 00:45:00 | USER | | | | meeting with all HES personnel to discuss safety/hazards issues associated with rigging up equipment. All personnel signed JSA |
| Event | 7 | Rig-Up Equipment | Rig-Up Equipment | 8/4/2016 | 01:00:00 | USER | | | | tp1576, sj45.25, fc1530.75, 13.5"oh, 9.625 casing j55 36#, weatherford float equipment, 15 cnt, 8.5ppg wf, weatherford top plug only. |
| Event | 8 | Standby - Other - see comments | Standby - Other - see comments | 8/4/2016 | 02:00:00 | USER | | | | HES went into wait mode waiting on rig to land casing |
| Event | 9 | Rig-Up Equipment | Rig-Up Equipment | 8/4/2016 | 05:30:00 | USER | | | | HES finished rigging up iron to floor |
| Event | 10 | Pre-Job Safety Meeting | Pre-Job Safety Meeting | 8/4/2016 | 05:45:00 | USER | | | | meeting with all personnel on location to discuss safety/hazards and job procedures associated with job in hand. all personnel signed a jsa |
| Event | 11 | Start Job | Start Job | 8/4/2016 | 06:22:00 | USER | 1.00 | 0.00 | 8.45 | |

| | | | | | | | | | | |
|-------|----|-----------------------------|-----------------------------|----------|----------|------|---------|------|-------|---|
| Event | 12 | Pump Water | Fill Lines FW | 8/4/2016 | 06:23:36 | USER | 52.00 | 2.00 | 8.42 | fill lines with 2BBL's of FW at 2BPM top pressure was 51 Red dye applied |
| Event | 13 | Test Lines | Test Lines | 8/4/2016 | 06:25:36 | USER | 19.00 | 0.00 | 8.41 | test kick outs, low pressure and high pressure test at 3338psi. pressure held great |
| Event | 14 | Pump Spacer | Pump FW Spacer | 8/4/2016 | 06:34:13 | USER | 17.00 | 0.80 | 8.37 | pumped a total of 15BBL's of FW spacer, pumped at 1BPM to bring cmt up to weight, then went to 2BPM. 2lbs of red dye used in fw spacer. average psi 50psi |
| Event | 15 | Pump Tail Cement | Pump Tail Cement | 8/4/2016 | 06:46:26 | USER | 68.00 | 2.00 | 10.48 | pumped 175BBL's of tail cmt, 565sks, 13.5lbs, 1.74 yield, 9.2 gal/sk, pumped at 6BPM and average pressure was 75psi. weight of cmt was verified using high pressure mud scales, weight was confirmed by HES supervisor and Todd Stevens |
| Event | 16 | Shutdown | Shutdown | 8/4/2016 | 07:22:24 | USER | -8.00 | 0.00 | 32.38 | done pumping cmt |
| Event | 17 | Drop Top Plug | Drop Top Plug | 8/4/2016 | 07:26:12 | USER | -15.00 | 0.00 | 26.13 | dropped 9.625 weatherford top plug, witnessed by HES supervisor and company rep.(Todd Stevens) pumped down using positive displacement |
| Event | 18 | Pump Displacement | Pump FW Displacement | 8/4/2016 | 07:27:03 | USER | -15.00 | 0.00 | 26.37 | pumped a total of 118BBL's of FW displacement. |
| Event | 19 | Other | Caught Cement | 8/4/2016 | 07:36:47 | USER | 135.00 | 7.10 | 8.27 | caught cmt at 14BBL's into displacement pressure to from 60 to 170psi |
| Event | 20 | Cement Returns to Surface | Cement Returns to Surface | 8/4/2016 | 07:44:44 | USER | 388.00 | 6.00 | 8.33 | spacer back at 76BBL's away with red dye, and good cmt back at 88BBL's away. total of 388BBL's to surface |
| Event | 21 | Slow Rate | Slow Rate | 8/4/2016 | 07:47:07 | USER | 381.00 | 3.10 | 8.33 | slow rate to 3BPM to land plug |
| Event | 22 | Bump Plug | Bump Plug | 8/4/2016 | 07:52:43 | USER | 1063.00 | 0.00 | 8.36 | HES bumped plug at calculated displacement of 118 at 450 psi and kicked pumps out at 900 and pressure rose to 1089 and held like a rock |
| Event | 23 | Check Floats | Check Floats | 8/4/2016 | 07:57:20 | USER | -7.00 | 0.00 | 8.35 | weatherford floats held .5BBL back to the trk |
| Event | 24 | End Job | End Job | 8/4/2016 | 07:58:58 | COM5 | -15.00 | 0.00 | 8.34 | |
| Event | 25 | Pre-Rig Down Safety Meeting | Pre-Rig Down Safety Meeting | 8/4/2016 | 08:00:00 | USER | -15.00 | 0.00 | 8.35 | meeting with all HES personnel to discuss safety/hazards associated with rigging down equipment. all personnel signed a jsa |
| Event | 26 | Rig-Down Equipment | Rig-Down Equipment | 8/4/2016 | 08:15:00 | USER | 7.00 | 2.70 | 8.38 | |
| Event | 27 | Pre-Convoy Safety | Pre-Convoy Safety | 8/4/2016 | 09:30:00 | USER | | | | meeting with all HES personnel to discuss safety/hazards |

| | | | | | | | | |
|-------|----|--|--|----------|----------|------|--|--|
| | | Meeting | Meeting | | | | | associated with driving back to service center. all personnel signed jsa |
| Event | 28 | Depart Location for Service Center or Other Site | Depart Location for Service Center or Other Site | 8/4/2016 | 09:45:00 | USER | | |
| Event | 29 | Other | Other | 8/4/2016 | 09:46:00 | USER | | Thank You for Choosing Halliburton Cement. Parker and crew (713)703-3283 |

3.0 Attachments

3.1 Case 1-no eventsCustom Results.png



3.2 Case 1-events Custom Results.png

