



Bison Oil Well Cementing Single Cement Surface Pipe

26
Date: 8/30/2017
Invoice # 900162
API# 05-123-43474
Foreman: Corey B.

Customer: Anadarko Petroleum Corporation
Well Name: Wagner 27C-10HZ

| | |
|------------------------|--|
| County: <u>Weld</u> | Consultant: <u>Matt</u> |
| State: <u>Colorado</u> | Rig Name & Number: <u>Cartel 88</u> |
| Sec: <u>22</u> | Distance To Location: <u>44</u> |
| Twp: <u>1N</u> | Units On Location: <u>1027/3103-4033/3212-4020/321</u> |
| Range: <u>67W</u> | Time Requested: <u>200</u> |
| | Time Arrived On Location: <u>1245</u> |
| | Time Left Location: <u>530</u> |

| WELL DATA | Cement Data |
|---|---------------------------------------|
| Casing Size OD (in) : <u>9.625</u> | Cement Name: <u>BFN III</u> |
| Casing Weight (lb) : <u>36.00</u> | Cement Density (lb/gal) : <u>14.2</u> |
| Casing Depth (ft.) : <u>1,890</u> | Cement Yield (cuft) : <u>1.48</u> |
| Total Depth (ft) : <u>1880</u> | Gallons Per Sack: <u>7.40</u> |
| Open Hole Diameter (in.) : <u>13.50</u> | % Excess: <u>5%</u> |
| Conductor Length (ft) : <u>80</u> | Displacement Fluid lb/gal: <u>8.3</u> |
| Conductor ID : <u>15.25</u> | BBL to Pit: <u>13.0</u> |
| Shoe Joint Length (ft) : <u>44</u> | Fluid Ahead (bbls): <u>30.0</u> |
| Landing Joint (ft) : <u>15</u> | H2O Wash Up (bbls): <u>20.0</u> |
| Max Rate: <u>8</u> | Spacer Ahead Makeup |
| Max Pressure: <u>2000</u> | <u>30 bbl with Die in @nd 10</u> |

| Casing ID | 8.921 | Casing Grade | J-55 only used |
|---|--|--------------|----------------|
| Calculated Results | Displacement: 143.87 bbls | | |
| cuft of Shoe <u>19.10</u> cuft (Casing ID Squared) X (.005454) X (Shoe Joint ft) | (Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint) | | |
| cuft of Conductor <u>61.05</u> cuft (Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft) | Pressure of cement in annulus | | |
| cuft of Casing <u>928.83</u> cuft (Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length) | Hydrostatic Pressure: 1394.25 PSI | | |
| Total Slurry Volume <u>1008.98</u> cuft (cuft of Shoe) + (cuft of Conductor) + (cuft of Casing) | Pressure of the fluids inside casing | | |
| bbls of Slurry <u>179.70</u> bbls (Total Slurry Volume) X (.1781) | Displacement: 795.96 psi | | |
| Sacks Needed <u>682</u> sk (Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement) | Shoe Joint: 32.46 psi | | |
| Mix Water <u>120.12</u> bbls (Sacks Needed) X (Gallons Per Sack) ÷ 42 | Total 828.42 psi | | |
| | Differential Pressure: 565.83 psi | | |
| | Collapse PSI: 2020.00 psi | | |
| | Burst PSI: 3520.00 psi | | |
| | Total Water Needed: 313.99 bbls | | |

X _____
Authorization To Proceed

Customers hereby acknowledges and specifically agrees to the terms and condition on this work order, including, without limitation, the provisions on this work order.



**Bison Oil Well Cementing
Single Cement Surface Pipe**

Customer
Well Name

Anadarko Petroleum Corporation
Wagner 27C-10HZ

INVOICE #
LOCATION
FOREMAN
Date

900162
Weld
Corey B.
8/30/2017
He

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

| Amount Pumped | Time | Event | Description | Rate | BBLs | Pressure |
|-------------------|------|--------------------------------------|----------------------------------|------|------|----------|
| % Excess 5% | 1245 | What rig is doing upon Bison Arrival | Running casing | | | |
| Mixed bbls 120.12 | 1250 | JSA | Bison Crew | | | |
| Total Sacks 682 | 100 | Rig up | | | | |
| bbl Returns 13 | 300 | Safety Meeting | Bison and Rig crew | | | |
| Water Temp 64 | 348 | Start Job | | | | |
| | 350 | Pressure Test | | | | |
| Notes: | | | | | | |
| | 355 | Spacer Ahead | 2nd 10 with die | 5 | 30 | 60 |
| | 401 | Lead Cement | 14.2 ppg | 6 | 179 | 70 |
| | 430 | Shutdown | | | | |
| | 432 | Drop Plug | Preloaded in plug container | | | |
| | 435 | Start Displacement | | 7 | 90 | 340 |
| | 500 | Bump Plug | 500 over final lift 1080 psi | 2 | 143 | 510 |
| | 502 | Floats Held | Held for 2 MIN with 1/2 bll back | | | |
| | 505 | End Job | | | | |
| | 510 | Rig Down | | | | |
| | 530 | Leave Location | | | | |

X *JBL*
Work Performed

X Co. Man
Title

X 8-30-17
Date

Wagner 27C-10HZ

