Bison Oil Well Cementing
Single Cement Surface Pipe

Date: 1/9/2018
Invoice # 900232
API# 05-123-45863
Foreman: Corey Barras

Customer: Anadarko Petroleum Corporation
Well Name: Hergenreder 6N-4HZ

County: Weld
State: Colorado
Sec: 33
Twp: 3N
Range: 68W

Consultant: Matt
Rig Name & Number: Cartel 88
Distance To Location: 30
Units On Location: 1027-3103/4020-3214/4024-320
Time Requested: 800
Time Arrived On Location: 715
Time Left Location:

WELL DATA

Casing Size OD (in) :	_9.625
Casing Weight (lb) :	36.00
Casing Depth (ft.) :	2,267
Total Depth (ft) :	2277
Open Hole Diameter (in.) :	13.50
Conductor Length (ft) :	80
Conductor ID :	15.25
Shoe Joint Length (ft) :	44
Landing Joint (ft) :	15
Max Rate:	8
Max Pressure:	2000

Cement Data

Cement Name:	BFN III
Cement Density (lb/gal) :	14.2
Cement Yield (cuft) :	1.48
Gallons Per Sack:	7.40
% Excess:	5%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	
Fluid Ahead (bbls):	30.0
H20 Wash Up (bbls):	20.0

Spacer Ahead Makeup
30 bbl with Die in 2nd 10

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results

cuft of Shoe 19.10 cuft
(Casing ID Squared) X (.005454) X (Shoe Joint ft)

cuft of Conductor 61.05 cuft
(Conductor Width Squared) -(Casing Size OD Squared) X (.005454) X (Conductor Length ft)

cuft of Casing 1122.29 cuft
(Open Hole Squared)-(Casing Size Squared) X (.005454) X (Casing Depth - Conductor Length)

Total Slurry Volume 1202.44 cuft
(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 214.16 bbls
(Total Slurry Volume) X (.1781)

Sacks Needed 812 sk
(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 143.15 bbls
(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 173.02 bbls
(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1672.37 PSI

Pressure of the fluids inside casing

Displacement: 958.52 psi
Shoe Joint: 32.46 psi
Total 990.97 psi

Differential Pressure: 681.39 psi

Collapse PSI: 2020.00 psi
Burst PSI: 3520.00 psi

Total Water Needed: 366.16 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

INVOICE #	900232
LOCATION	Weld
FOREMAN	Corey Barras
Date	1/9/2018

Customer	Anadarko Petroleum Corporation
Well Name	Hergenreder 6N-4HZ

Treatment Report Page 2

DESCRIPTION OF JOB EVENTS

Amount Pumped			Event	Description	Rate	BBLs	Pressure
% Excess	5%	715	What rig is doing upon Bison Arrival	Running Casing			
Mixed bbls	143.15	720	JSA	Bison Crew			
Total Sacks	812						
bbl Returns	16	1130	Safety Meeting	Bison and Rig crew			
Water Temp	58	1155	Start Job				
		1157	Pressure Test				
Notes:							
		1159	Spacer Ahead	2nd 10 with die	5	30	60
		1205	Lead Cement	14.2 ppg	7	214	60
		1252	Shutdown				
		1255	Drop Plug	Preloaded in plug container			
		1257	Start Displacement		7	90	350
		1340	Bump Plug	500 over final lift (1190 PSI)	2	173	630
		1342	Floats Held	Held for 2 MIN with .5 bll back			
		1345	End Job				
		1355	Rig Down				
		1430	Leave Location				

x Kullongh
Work Preformed

x APC
Title

x 1/9/18
Date

Hergenreder 6N-4HZ