Bison Oil Well Cementing
Single Cement Surface Pipe

Date:	4/29/2018
Invoice #	666302
API#	05-123-46335
Foreman:	Nick Vigil

Customer: Anadarko Petroleum Corporation

Well Name: George 25-4HZ

County:	Weld	Consultant:	Brian/Levi
State:	Colorado	Rig Name & Number:	Cartel 88
		Distance To Location:	34 Miles
Sec:	24	Units On Location:	4023/4032/4024
Twp:	1N	Time Requested:	7:00
Range:	67W	Time Arrived On Location:	6:20
		Time Left Location:	

WELL DATA

Casing Size OD (in) :	_9.625
Casing Weight (lb) :	36.00
Casing Depth (ft.) :	1,834
Total Depth (ft) :	1844
Open Hole Diameter (in.) :	13.50
Conductor Length (ft) :	80
Conductor ID :	15.25
Shoe Joint Length (ft) :	43
Landing Joint (ft) :	10
Max Rate:	8
Max Pressure:	2000

Cement Data

Cement Name:	BFN III
Cement Density (lb/gal) :	14.2
Cement Yield (cuft) :	1.49
Gallons Per Sack:	7.48
% Excess:	10%
Displacement Fluid lb/gal:	8.3
BBL to Pit:	
Fluid Ahead (bbls):	30.0
H20 Wash Up (bbls):	20.0

Spacer Ahead Makeup

Dye in second 10 bbl

Casing ID 8.921 Casing Grade J-55 only used

Calculated Results

cuft of Shoe 18.66 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 942.95 cuft

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

Total Slurry Volume 1022.67 cuft

(cuft of Shoe) + (cuft of Conductor) + (cuft of Casing)

bbls of Slurry 182.14 bbls

(Total Slurry Volume) X (.1781)

Sacks Needed 686 sk

(Total Slurry Volume) ÷ (Cement Yield) X (% Excess Cement)

Mix Water 122.24 bbls

(Sacks Needed) X (Gallons Per Sack) ÷ 42

Displacement: 139.23 bbls

(Casing ID Squared) X (.0009714) X (Casing Depth + Landing Joint - Shoe Joint)

Pressure of cement in annulus

Hydrostatic Pressure: 1352.94 PSI

Pressure of the fluids inside casing

Displacement:	772.25 psi
Shoe Joint:	31.72 psi
Total	803.97 psi
Differential Pressure:	548.98 psi
Collapse PSI:	2020.00 psi
Burst PSI:	3520.00 psi
Total Water Needed:	311.47 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.

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LOCATION	Weld
FOREMAN	Nick Vigil
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DESCRIPTION OF JOB EVENTS

Amount Pumped		Time/Date	Event	Description	Rate	BBLs	Pressure
% Excess	10%	6:20	Arrive On Location	Rig was running casing.			
Mixed bbls	182.1	6:25	Well Site Assesment	Hazard hunt, Rig up safety meeting			
Total Sacks	686	6:45	Rig Up Equipment				
bbl Returned	10	7:40	JSA	Held Safety meeting with all personel involved in job.			
Water Temp	55	8:05	Pressure Test Lines	Pressure tested lines to 1500 psi.			
		8:07	Spacer Ahead	Fresh water with dye in second 10 bbl.	8	30	180
Notes:		8:11	Pump Cement	14.2 ppg Cement	7	182.1	130
		8:46	Shut Down				
		8:47	Drop Plug	Plug was pre loaded.			
		8:48	Pump Displacement	Fresh water	8	70	400
		9:09	Bump Plug	Bumped plug 500 psi over final lift (1020 psi)	2.4	139.2	520
		9:10	Check Floats	Floats held, Flowed back .5 bbl.			
		9:11	End Job	Rig down safety meeting.			
		9:15	Rig Down Equipment				
		9:30	Leave Location				

X _____ Work Preformed

X Co. Man Title

X 4-29-18 Date

George 25-4HZ