Pumping Service Report

9203749

Client Name	Well Name	Rig	Job Date	Call Sheet
Anadarko Petroleum Corporation	Rusch 34-15	Key 104	May 27,2015	1058007
Client Representative	**Surface Well Location**	**Down Hole Well Location**	**Job Type**	**Lead Supervisior**
Mr. Traux Deal	NW SE Sec 15:T3N:R67W		Cement Misc.	Ripka, Robert (23825)

Well Profile

Well Type: Oil

Maximum Treating Pressure (psi): ---

Predicted Bottom Hole Static Temperature (°F): --- @ --

Bottom Hole Circulating Temperature (°F): --- @ --

Bottom Hole Logged Temperature (°F): --- @ --

Open Hole

Size (in)	Excess (%)	TMD From (ft)	TMD To (ft)	TVD From (ft)	TVD To (ft)
26.000	--	22.000	90.000	--	--

Casing

Size (in)	Weight (lb/ft)	Grade	Collapse Pressure (psi)	Internal Yield Pressure (psi)	Capacity (bbl)	I.D. (in)	O.D. (in)	Depth From (ft)	Depth To (ft)
48.000	0.000		--	--	--	--	--	0.0	22.0
13.375	54.500		--	--	--	--	--	0.0	90.0

Products

Plug 1

From Depth (ft): 86

To Depth (ft): 4

Plug Type : Abandonment

Acids/Blends/Fluids :

Plug: 375 Sacks of 0:1:0 Type III, Density = 14.8 lb/gal, Volume Pumped = 89 (bbl)
Water Temperature(°F) = 55 , Bulk Temperature(°F) = 64 , Slurry Temperature(°F) = 68
+ 0.5 % of CaCl2 (Preblend),
+ 0.3 % of CFR-2 (Preblend),
+ 0.3 % of CFL-3 (Preblend),
+ 0.4 % of CDF-4P (Preblend),
+ 0.25 % of Polyflake (Preblend)

Fluid & Cement Data

Expected Cement Top: --

Wellbore Fluid

Fluid Type	Viscosity (cP)	Density (lbs/gal)	Yield Point (psi)	Temperature (°F)	Recorded@
Water	--	8.400	--	--	Aug 24, 2014 17:22

Attachment & Tools

Tubular Plugs

Tubular Plug Type	Size (in)	Supplier
Rubber Top	13.375	Sanjel

Sanjel

Pumping Service Report

9203749

Units & Personnel

Units

Truck Unit No.	Main Type	Sub Type	Tractor Unit No.	Main Type	Sub Type	Time On Location	Time Off Location
201017	PICKUP	1 Ton	449087	TRAILER	Utility Trailer	05/27/2015 10:00	05/27/2015 13:55
445070	TRAILER	SCM Twin	745070	TRACTOR	Tandem - Tractor	05/27/2015 10:00	05/27/2015 13:55
446145	TRAILER	Bulker	746145	TRACTOR	Tandem - Tractor	05/27/2015 10:00	05/27/2015 13:55
201274	PICKUP	3/4 Ton	379015	TRAILER	Utility Trailer	05/27/2015 10:00	05/27/2015 13:55

Crew and Bonuses

Employee	Start Shift	End Shift	Second Start Shift	Second End Shift
Ripka, Robert (23825)	05/27/2015 10:00	05/27/2015 13:55		
Joyner, Barlen (28603)	05/27/2015 10:00	05/27/2015 13:55		
Svoboda, Miloslav (28226)	05/27/2015 10:00	05/27/2015 13:55		
Melgarejo Herrera, Eduardo (26606)	05/27/2015 10:00	05/27/2015 13:55		
Martinez, Fernando (28421)	05/27/2015 10:00	05/27/2015 13:55		

Sanjel

Pumping Service Report

9203749

Treatment Reports & Remarks

Treatment Report

Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
1	May 27,2015 10:00	Arrive On Location		--	--	--	--	0.00
2	May 27,2015 10:10	Crew Briefing (Rig in)		--	--	--	--	0.00
3	May 27,2015 11:18	Rig in Complete		--	--	--	--	0.00
4	May 27,2015 11:22	Crew Briefing (Pre Job)		--	--	--	--	0.00
5	May 27,2015 11:54	Pressure Test Start		--	2,000.0	--	--	0.00
6	May 27,2015 11:56	Pressure Test Complete		--	--	--	--	0.00
7	May 27,2015 11:58	Establish Circulation	Water	2.00	0.0	--	6.00	6.00
8	May 27,2015 12:02	Mix Cement	0:1:0 Type III	2.00	0.0	--	89.00	95.00
	Remarks: 375 SKS Y-1.33 W-6.31							
9	May 27,2015 12:43	Drop Plug	Water	--	--	--	--	95.00
	Remarks: DISPLACE PLUG DOWN 60 FEET							
10	May 27,2015 12:45	Displace Fluid	Water	1.20	10.0	--	9.30	104.30
11	May 27,2015 12:55	Stop		--	--	--	--	104.30
12	May 27,2015 13:15	Rig Out		--	--	--	--	104.30
13	May 27,2015 13:45	Job Complete		--	--	--	--	104.30
14	May 27,2015 13:55	Leave Location		--	--	--	--	104.30

Did Float Hold: Not Applicable

Fluid Returns : Yes

Type : Cement

Volume (bbl) : 5

Temperature (°F) : 67

FDAS Functioning Correctly : Yes

Was the Program Followed As Per Design? : Yes

Material Transfer Sheet Number

Material Transfer Sheet Number
57961

Schlumberger

Cementing Service Report

Customer	Job Number
Anadarko	CWJN-01139

Well	Location (legal)	Schlumberger Location	Job Start
Rusch 34-15			Jun/08/2015

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Wattenberge		deg	12.3 in	ft	ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Weld	Colorado	psi	84 degF	80 degF	lb/gal

Well Master	API/UWI
0631638721	05123212340000

Rig Name	Drilled For	Service Via
Ensign 145	Oil	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity
	9.00 lb/gal	cP

Service Line	Job Type
Cementing	9 5/8 Surface

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
psi	psi	Single Cement head

Service Instructions

10 bbl Water
18 bbl 15.8 Tail - 86 sks -1.16 yield
Displace 10 bbl Water

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
165.0	9.6	36.0	J55	8RD
0.0	0.0	0.0		

Tubing/Drill Pipe

T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread

Perforations/Open Hole

Top, ft	Bottom, ft	shot/ft	No. of Shots	Total Interval
ft	ft			ft
ft	ft			Diameter
ft	ft			in

Treat Down	Displacement	Packer Type	Packer Depth
Casing	10.0 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
bbl	13.0 bbl	10.0 bbl	37.0 bbl

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement	Casing Tools	Squeeze Job
x	x		

Lift Pressure	Pipe Rotated	Pipe Reciprocated	Shoe Type	Squeeze Type
82 psi	☐	☐	Guide	

No. Centralizers	Top Plugs	Bottom Plugs	Shoe Depth	Tool Type
	1		165.0 ft	

Cement Head Type	Stage Tool Type	Tool Depth
Single		ft

Job Scheduled For	Arrived on Location	Leave Location	Stage Tool Depth	Tail Pipe Size
Jun/08/2015	Jun/08/2015	Jun/08/2015	ft	in

Collar Type	Tail Pipe Depth
Float	ft

Collar Depth	Sqz. Total Vol.
125.0 ft	bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
06/08/2015	14:52:32	10	0.0	8.63	0.0	Started Acquisition
06/08/2015	14:52:33	11	0.0	8.63	0.0	10 bbl Water
06/08/2015	14:52:35	10	0.0	8.63	0.0	Start Job
06/08/2015	14:52:37	10	0.0	8.63	0.0	Pressure Test Lines
06/08/2015	14:52:39	10	0.0	8.63	0.0	Low Test 500 psi
06/08/2015	14:52:40	10	0.0	8.63	0.0	Test Good
06/08/2015	14:54:32	10	0.0	8.63	0.0	
06/08/2015	14:55:00	17	0.0	8.54	0.0	Start Pumping Spacer
06/08/2015	14:56:32	71	3.4	8.38	2.8	
06/08/2015	14:58:32	20	0.0	8.38	10.3	
06/08/2015	15:00:32	1110	0.0	8.38	10.3	
06/08/2015	15:02:32	1037	0.0	8.39	10.3	
06/08/2015	15:04:32	3305	0.0	8.39	10.3	
06/08/2015	15:06:32	3345	0.0	8.39	10.3	
06/08/2015	15:08:32	19	0.0	8.39	10.3	
06/08/2015	15:09:00	19	0.0	8.38	10.3	End Spacer
06/08/2015	15:10:00	92	2.3	16.01	11.9	Start Cement Slurry
06/08/2015	15:10:32	93	2.3	15.74	13.1	
06/08/2015	15:12:32	88	2.3	15.88	17.7	
06/08/2015	15:14:32	88	2.2	16.27	22.2	
06/08/2015	15:16:32	101	2.3	15.78	26.7	

Well	Field	Job Start	Customer	Job Number
Rusch 34-15	Wattenberge	Jun/08/2015	Anadarko	CWJN-01139

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
06/08/2015	15:18:32	23	0.0	12.81	27.2	
06/08/2015	15:19:00	22	0.0	11.64	27.2	Drop Top Plug
06/08/2015	15:20:32	25	0.7	8.40	27.9	
06/08/2015	15:22:32	96	3.4	8.41	31.9	
06/08/2015	15:24:00	89	2.0	8.40	36.1	Bump Top Plug
06/08/2015	15:24:32	98	2.0	8.40	37.1	
06/08/2015	15:26:32	1559	0.0	8.40	37.4	
06/08/2015	15:28:00	1564	0.0	8.41	37.4	Bleed Off Floats Held
06/08/2015	15:28:32	1336	0.0	8.41	37.4	
06/08/2015	15:30:32	13	0.0	8.41	37.4	
06/08/2015	15:32:32	11	0.0	8.41	37.4	

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
2.3			4.6	39.3	0.0	38.8	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
3587	11	606	1500			bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp		
%	0.0 bbl	0.1 bbl	65 degF	Cement Circulated to Surface? [x]	Volume bbl
				Washed Thru Perfs [ ]	To ft

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
	Jordan Moreland / Stacy Terry	- [ ]	[x]
		-	-

Schlumberger Cementing Service Report

Customer	Job Number
APC	2150903

Well	Location (legal)	Schlumberger Location	Job Start
Rusch 34-15 34-15	CWY	CWY	Jun/14/2015

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Wattenberg		deg	in	420.0 ft	420.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Weld	Colorado	psi	80 degF	80 degF	lb/gal

Well Master	API/UWI
0631638721	05123212340000

Rig Name	Drilled For	Service Via
Ensign 145	Oil	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity
	lb/gal	cP

Service Line	Job Type
Cementing	Plug

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
psi	psi	

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
420.0	2.9	6.5	N80	8RD
0.0	0.0	0.0		

Tubing/Drill Pipe

T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread

Perforations/Open Hole

Top, ft	Bottom, ft	shot/ft	No. of Shots	Total Interval
ft	ft			ft
ft	ft			Diameter
ft	ft			in

Service Instructions

Rig Up Hold Safety Meeting
Flush Lines Pressure Test Lines 500/2000 PSI
Pump 10 BBLS H2O
Pump 23.2 BBLS 15.8 PPG Slurry - 113 sks - 1.16 yield
Pump .6 BBLS H2O

Treat Down	Displacement	Packer Type	Packer Depth
Drill Pipe	0.6 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
bbl	bbl	bbl	bbl

Casing/Tubing Secured ☐	1 Hole Vol. Circulated prior to Cement ☐	Casing Tools	Squeeze Job
Lift Pressure psi		Shoe Type	Squeeze Type
Pipe Rotated ☐	Pipe Reciprocated ☐	Shoe Depth ft	Tool Type
No. Centralizers	Top Plugs / Bottom Plugs	Stage Tool Type	Tool Depth ft
Cement Head Type		Stage Tool Depth ft	Tail Pipe Size in
Job Scheduled For: Jun/14/2015 18:30	Arrived on Location: Jun/14/2015 18:30	Collar Type	Tail Pipe Depth ft
Leave Location: Jun/14/2015 23:00		Collar Depth ft	Sqz. Total Vol. bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
06/14/2015	20:31:59	-2	0.0	8.32	0.0	Started Acquisition
06/14/2015	20:32:01	-1	0.0	8.32	0.0	Rig UP
06/14/2015	20:33:29	-6	0.0	8.32	0.0	
06/14/2015	20:34:00	-6	0.0	8.32	0.0	Flush Iines
06/14/2015	20:34:59	15	1.4	8.32	0.0	
06/14/2015	20:36:00	15	1.6	8.32	2.0	Pressure Test Lines
06/14/2015	20:36:29	24	0.0	8.32	2.0	
06/14/2015	20:37:00	23	0.0	8.32	2.0	Low 740 PSI = Good
06/14/2015	20:37:59	692	0.0	8.32	2.0	
06/14/2015	20:39:00	783	0.0	8.32	2.0	High 2000 PSI = Good
06/14/2015	20:39:29	1751	0.0	8.32	2.1	
06/14/2015	20:40:59	1904	0.0	8.32	2.1	
06/14/2015	20:42:29	-5	0.0	8.32	2.1	
06/14/2015	20:43:00	27	0.0	8.32	2.1	Pump 10 BBLS H2O
06/14/2015	20:43:59	78	2.4	8.32	3.5	
06/14/2015	20:45:29	69	2.4	8.32	7.0	
06/14/2015	20:46:59	25	0.0	8.33	0.0	
06/14/2015	20:48:29	38	0.0	8.32	0.0	
06/14/2015	20:49:59	37	0.0	8.33	0.0	
06/14/2015	20:51:29	43	0.0	8.33	0.0	
06/14/2015	20:52:59	42	0.0	8.32	0.0	

Well	Field	Job Start	Customer	Job Number
Rusch 34-15 34-15	Wattenberg	Jun/14/2015	APC	2150903

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
06/14/2015	20:55:59	41	0.0	8.32	0.0	
06/14/2015	20:57:29	94	2.8	15.37	2.9	
06/14/2015	20:58:59	95	2.8	15.63	7.1	
06/14/2015	20:59:00	94	2.8	15.64	7.1	Start Cement Slurry
06/14/2015	20:59:02	95	2.8	15.64	7.2	Start Mixing Lead Slurry
06/14/2015	20:59:05	94	2.8	15.65	7.4	Pump 23.2 BBLS 15.8 PPG Slurry
06/14/2015	21:00:00	96	2.8	15.79	9.9	Take Dry Sample = 008716
06/14/2015	21:00:29	95	2.8	15.80	11.2	
06/14/2015	21:01:59	102	3.2	15.79	15.9	
06/14/2015	21:03:29	102	3.1	15.98	20.7	
06/14/2015	21:04:00	100	3.2	15.83	22.3	End Lead Slurry
06/14/2015	21:04:01	102	3.2	15.83	22.4	Pump . 6 BBLS H2O
06/14/2015	21:04:59	-11	0.0	15.36	24.0	
06/14/2015	21:05:00	-10	0.0	15.36	24.0	Open Bleeds Suction
06/14/2015	21:06:29	-5	0.0	15.70	24.0	
06/14/2015	21:07:59	-3	0.0	16.02	24.0	
06/14/2015	21:09:29	-3	0.0	16.13	24.0	
06/14/2015	21:10:59	-6	0.0	16.19	24.0	
06/14/2015	21:12:29	-7	0.0	16.25	24.0	
06/14/2015	21:13:59	-7	0.0	16.31	24.0	
06/14/2015	21:15:29	-7	0.0	16.35	24.0	
06/14/2015	21:16:59	-8	0.0	15.68	0.0	
06/14/2015	21:18:29	44	2.7	14.53	2.7	
06/14/2015	21:19:59	18	0.0	15.19	3.0	
06/14/2015	21:21:29	17	0.0	14.86	3.0	
06/14/2015	21:22:59	17	0.0	12.85	3.0	
06/14/2015	21:24:29	16	0.0	9.64	3.0	
06/14/2015	21:25:59	86	3.3	9.85	6.2	
06/14/2015	21:27:29	44	2.5	9.60	10.1	
06/14/2015	21:28:59	55	2.9	8.76	13.9	
06/14/2015	21:30:29	4	2.7	12.70	18.0	
06/14/2015	21:31:59	23	2.5	9.00	21.8	
06/14/2015	21:33:29	89	4.1	8.68	24.1	
06/14/2015	21:34:59	-6	0.0	8.35	26.8	
06/14/2015	21:36:29	16	0.0	0.39	27.6	
06/14/2015	21:37:59	-5	0.0	-0.01	27.6	
06/14/2015	21:39:29	188	1.8	8.33	28.3	
06/14/2015	21:40:59	16	0.0	8.33	30.2	
06/14/2015	21:42:29	32	9.6	10.13	30.5	
06/14/2015	21:43:59	-5	0.0	8.51	32.9	
06/14/2015	21:45:29	-5	0.1	8.36	33.0	
06/14/2015	21:46:59	-4	0.1	8.36	33.1	
06/14/2015	21:48:29	-4	0.1	8.34	33.2	
06/14/2015	21:49:59	-4	0.1	8.34	33.3	
06/14/2015	21:51:29	-4	0.1	8.34	33.4	

Well	Field	Job Start	Customer	Job Number
Rusch 34-15 34-15	Wattenberg	Jun/14/2015	APC	2150903

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
1.8			11.7	23.2	0.0	10.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
1957	-4	183				bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
%	23.2 bbl	0.6 bbl	65 degF	☐	bbl
				Washed Thru Perfs ☐	To ft

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Dalton King	Conley Jensen	-	- ☒

Schlumberger Service Quality Evaluation

Client:	APC
Field:	Wattenberg
Rig:	Ensign 145
Well:	Rusch 34-15
Service Line:	Cementing
Job Type:	Plug

Service Order #:	
Date:	Jun/14/2015
Operating Time (hh:mm):	00:00
Client Rep:	Dalton King
Schlumberger Engineer:	Conley Jensen
Schlumberger FSM:	

Main Objective:

To be completed by Company Rep. Please answer Y (Yes) or N (No) and add any comments below.

		Score	Yes / No	Result
1	**HSE**			
1a	Free of lost time injury and compliance with SLB and loc. spec. HSE practice	5	yes ☐ no ☒	0
1b	Free of environmental spill or non-compliant discharge	5	yes ☐ no ☒	0
1c	Wellsite left clean	4	yes ☐ no ☒	0
			Sub-total	0%
2	**Design / Preparation**			
2a	Program incl. job simulation (CemCADE) & pump schedule / tool hydraulic calcs	3	yes ☐ no ☒	0
2b	Equipment maintenance schedule completed / Green tagged	2	yes ☐ no ☒	0
2c	All materials and equipment required for job/contingency checked & on location	2	yes ☐ no ☒	0
2d	Safety / pre-job meeting conducted with all involved present	2	yes ☐ no ☒	0
			Sub-total	0%
3	**Execution**			
3a	Lost time < 30 mins	3	yes ☐ no ☒	0
3b	Equipment pressure tested succesfully	3	yes ☐ no ☒	0
3c	All key parameters monitored and recorded accurately (Pressure, Rate, Density)	2	yes ☐ no ☒	0
3d	Plugs / darts released and tested succesfully	2	yes ☐ no ☒	0
3e	Density variation met expectations	2	yes ☐ no ☒	0
3f	Personnel performed as per expectations	2	yes ☐ no ☒	0
3g	Equipment performed as per expectations	2	yes ☐ no ☒	0
3h	Job pumped as per design	3	yes ☐ no ☒	0
3i	Did job start on time	2	yes ☐ no ☒	0
3j	Free of Operational failures (screen out, Cementing Example, etc.)	3	yes ☐ no ☒	0
			Sub-total	0%
4	**Evaluation**			
4a	Main job objective achieved with no consequential non-productive time	10	yes ☐ no ☒	0
			Sub-total	0%

Total 0%

Comments: (Please include a brief explanation for a "NO" response and summarize any innovations attempted on this well.)

Client:	**Schlumberger:**
Client Signature:	**Schlumberger Signature:**

Schlumberger Cementing Service Report

Customer	Job Number
Anadarko	D2IK-01079

Well	Location (legal)	Schlumberger Location	Job Start
Rusch 34-15			Jun/23/2015

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Wattenberg	Shale	deg	9.0 in	7006.0 ft	7006.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Weld	Colorado	psi	225 degF	182 degF	lb/gal

Well Master	API/UWI
0631638721	05123212340000

Rig Name	Drilled For	Service Via
Ensign #145	Gas	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity
Other	10.40 lb/gal	cP

Service Line	Job Type
Cementing	P&A

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
500 psi	psi	Rig drill pin

Service Instructions

1st Plug
5bbl Mud
25bbl Mud push @ 12#
73bbl 350sks CMT @ 15.8# 1.17 Yield
5bbl Mud push @ 12#
2nd Plug
establish circulation with mud
25bbl Mud push @ 12#
128bbl 620sks CMT @ 15.8# 1.16 Yield
1.2bbl mud push @ 12#

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
165.0	9.6	36.0	J55	8RD
0.0	0.0	0.0		

Tubing/Drill Pipe

T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
D	6072.0	4.0	14.0		
T	7006.0	2.9	6.5		

Perforations/Open Hole

Top, ft	Bottom, ft	shot/ft	No. of Shots	Total Interval
ft	ft			ft
ft	ft			Diameter
ft	ft			in

Treat Down	Displacement	Packer Type	Packer Depth
Drill Pipe	56.0 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
66.0 bbl	bbl	bbl	bbl

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement
X	X

Lift Pressure	psi

Pipe Rotated	Pipe Reciprocated
☐	☐

No. Centralizers	Top Plugs	Bottom Plugs

Cement Head Type

Job Scheduled For	Arrived on Location	Leave Location
Jun/23/2015 05:30	Jun/23/2015 05:30	Jun/23/2015 18:30

Casing Tools	Squeeze Job
Shoe Type	Squeeze Type
Shoe Depth ft	Tool Type
Stage Tool Type	Tool Depth ft
Stage Tool Depth ft	Tail Pipe Size in
Collar Type	Tail Pipe Depth ft
Collar Depth ft	Sqz. Total Vol. bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
06/23/2015	10:51:14	-1	0.0	8.36	0.0	Started Acquisition
06/23/2015	10:51:16	-1	0.0	8.36	0.0	Start Job
06/23/2015	10:56:14	-0	0.0	8.36	0.0	
06/23/2015	10:57:59	2	0.0	8.29	0.4	Pump 5bbl mud
06/23/2015	11:01:14	277	1.5	10.45	2.9	
06/23/2015	11:03:52	1014	0.0	10.10	5.1	Pressure Test Lines 1000psi
06/23/2015	11:06:14	763	0.0	9.04	5.1	
06/23/2015	11:11:01	363	2.3	10.48	5.8	Pumping Mud push
06/23/2015	11:11:14	219	2.3	11.57	6.3	
06/23/2015	11:16:14	353	3.3	12.04	21.7	
06/23/2015	11:19:46	159	2.6	11.84	33.0	End 25bbl mud push
06/23/2015	11:19:50	9	1.6	11.82	33.2	Reset Total, Vol = 33.26 bbl
06/23/2015	11:20:02	-3	0.0	11.81	33.3	Drop wiper ball
06/23/2015	11:21:14	-7	0.0	11.80	33.3	
06/23/2015	11:25:45	137	1.6	14.86	33.9	Start Mixing 1st plug Slurry
06/23/2015	11:26:14	213	2.3	15.84	34.9	
06/23/2015	11:31:14	232	4.1	15.82	51.1	
06/23/2015	11:36:14	240	4.5	15.84	73.7	
06/23/2015	11:41:14	138	3.4	15.82	91.4	
06/23/2015	11:45:12	4	0.0	15.87	104.5	End 1st plug Slurry
06/23/2015	11:45:21	5	0.0	15.87	104.5	Reset Total, Vol = 71.26 bbl

Well	Field	Job Start	Customer	Job Number
Rusch 34-15	Wattenberg	Jun/23/2015	Anadarko	D2IK-01079

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
06/23/2015	11:45:40	6	0.0	15.89	104.5	Start Displacement
06/23/2015	11:46:14	2	0.0	15.91	104.5	
06/23/2015	11:50:03	45	1.3	13.58	104.8	Pumping 5bbl mud push
06/23/2015	11:51:14	50	3.2	11.87	108.2	
06/23/2015	11:52:07	74	3.8	10.61	111.1	Pumping mud
06/23/2015	11:56:14	78	4.2	10.46	128.6	
06/23/2015	12:01:14	53	4.2	10.43	149.7	
06/23/2015	12:04:16	-4	0.0	10.52	159.3	End Displacement
06/23/2015	12:06:14	-3	0.0	10.48	159.4	
06/23/2015	12:08:03	45	2.4	10.44	160.2	Caught pressure cut displacemnt about 10bbl short
06/23/2015	12:08:12	45	2.4	10.44	160.6	Reset Total, Vol = 56.16 bbl
06/23/2015	12:08:37	77	2.8	10.44	161.6	Clean up pump
06/23/2015	12:11:14	41	2.5	8.32	167.3	
06/23/2015	12:13:00	-2	0.0	8.49	171.4	End Clean up
06/23/2015	12:14:07	1	0.0	8.49	171.4	Mix D500 into water truck
06/23/2015	12:16:14	2	0.0	8.39	171.5	
06/23/2015	14:11:14	-4	0.2	8.38	185.6	
06/23/2015	15:56:14	-2	0.2	8.38	209.7	
06/23/2015	16:00:04	-2	0.2	8.38	210.6	Start 2nd plug
06/23/2015	16:01:14	-3	0.2	8.38	210.9	
06/23/2015	16:06:14	8	0.1	8.35	212.9	
06/23/2015	16:11:14	522	4.6	10.38	217.5	
06/23/2015	16:11:40	452	4.6	10.38	219.5	Establish circulation
06/23/2015	16:13:26	81	0.0	10.28	221.5	Got circulation at about 3bbl away
06/23/2015	16:13:36	87	0.0	10.25	221.5	Reset Total, Vol = 14.42 bbl
06/23/2015	16:16:14	94	0.0	9.56	221.6	
06/23/2015	16:21:14	95	0.0	9.32	221.6	
06/23/2015	16:25:48	184	2.1	10.39	221.7	Pumping Mud push
06/23/2015	16:26:14	255	2.3	12.03	222.7	
06/23/2015	16:31:14	143	2.3	12.04	234.3	
06/23/2015	16:36:14	78	2.5	11.93	246.1	
06/23/2015	16:38:01	-6	0.0	12.47	249.5	End Mud push
06/23/2015	16:40:08	-9	0.0	12.40	249.5	Drop wiper balll
06/23/2015	16:41:14	-5	0.0	12.39	249.5	
06/23/2015	16:44:23	131	2.3	15.47	251.3	Start Mixing 2nd plug Slurry
06/23/2015	16:44:29	219	3.2	15.51	251.6	Reset Total, Vol = 30.08 bbl
06/23/2015	16:46:14	133	3.2	16.04	257.0	
06/23/2015	16:51:14	217	4.5	15.87	278.7	
06/23/2015	16:56:14	232	4.5	15.92	301.4	
06/23/2015	17:01:14	223	4.5	15.79	324.0	
06/23/2015	17:06:14	161	4.5	15.83	346.8	
06/23/2015	17:11:14	228	4.6	15.45	369.7	
06/23/2015	17:14:37	-6	0.0	15.67	382.7	End Lead Slurry
06/23/2015	17:14:43	-6	0.0	15.67	382.7	Reset Total, Vol = 131.04 bbl
06/23/2015	17:14:56	-5	0.0	15.66	382.7	Drop wiper ball
06/23/2015	17:16:14	-5	0.0	15.66	382.7	
06/23/2015	17:19:41	-7	1.5	9.34	385.6	Reset Total, Vol = 3.00 bbl
06/23/2015	17:19:48	-4	1.5	9.11	385.8	Start Displacement
06/23/2015	17:21:04	39	1.7	11.06	387.7	Pumping mud
06/23/2015	17:21:14	58	3.6	10.31	388.3	
06/23/2015	17:26:14	387	4.6	10.43	410.8	
06/23/2015	17:26:48	-7	0.5	10.49	412.5	End Displacement
06/23/2015	17:31:14	-5	0.2	10.51	413.3	

Well	Field	Job Start	Customer	Job Number
Rusch 34-15	Wattenberg	Jun/23/2015	Anadarko	D2IK-01079

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
1.1			8.9	201.0	0.0	58.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
1048	66	153				bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
%	201.0 bbl	56.0 bbl	84 degF	☐	bbl
				Washed Thru Perfs ☐	To ft

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Tim Joubert	Chris Valerio	-	-

Schlumberger

Cementing Service Report

Customer	Job Number
Andarko	D2IK-01079

Well	Location (legal)	Schlumberger Location	Job Start
Rusch 34-15			Jun/24/2015

Field	Formation Name/Type	Deviation	Bit Size	Well MD	Well TVD
Wattenberg	Shale	deg	12.0 in	1000.0 ft	1000.0 ft

County	State/Province	BHP	BHST	BHCT	Pore Press. Gradient
Weld	Colorado	psi	83 degF	80 degF	lb/gal

Well Master	API/UWI
0631638721	05123212340000

Rig Name	Drilled For	Service Via
Ensign #145	Oil	Land

Offshore Zone	Well Class	Well Type
	New	Development

Drilling Fluid Type	Max. Density	Plastic Viscosity
Other	10.40 lb/gal	cP

Service Line	Job Type
Cementing	P&A

Max. Allowed Tub. Press	Max. Allowed Ann. Press	WH Connection
1000 psi	psi	Rig drill pin

Service Instructions

3rd Plug
20bbl water
84bbl 410sks CMT @ 15.8# 1.16 Yield 5.13 gal/sk water
4th plug
10bbl water
50bbl 270sks CMT @ 15.8# 1.16 Yield 5.13 gal/sk water

Casing/Liner

Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
165.0	9.6	36.0	J55	8RD
0.0	0.0	0.0		

Tubing/Drill Pipe

T/D	Depth, ft	Size, in	Weight, lb/ft	Grade	Thread
D	66.0	4.0	14.0		
T	1000.0	2.9	6.5		

Perforations/Open Hole

Top, ft	Bottom, ft	shot/ft	No. of Shots	Total Interval
ft	ft			ft
ft	ft			Diameter
ft	ft			in

Treat Down	Displacement	Packer Type	Packer Depth
Drill Pipe	2.2 bbl		ft

Tubing Vol.	Casing Vol.	Annular Vol.	Openhole Vol.
5.4 bbl	bbl	bbl	bbl

Casing/Tubing Secured	1 Hole Vol. Circulated prior to Cement
X	X

Lift Pressure	
	psi

Pipe Rotated	Pipe Reciprocated
☐	☐

No. Centralizers	Top Plugs	Bottom Plugs

Cement Head Type

Job Scheduled For	Arrived on Location	Leave Location
Jun/23/2015 05:30	Jun/23/2015 05:30	Jun/24/2015 18:00

Casing Tools		Squeeze Job	
Shoe Type		Squeeze Type	
Shoe Depth	ft	Tool Type	
Stage Tool Type		Tool Depth	ft
Stage Tool Depth	ft	Tail Pipe Size	in
Collar Type		Tail Pipe Depth	ft
Collar Depth	ft	Sqz. Total Vol.	bbl

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
06/24/2015	13:38:12	-22	0.0	8.31	0.0	Started Acquisition
06/24/2015	13:39:49	-23	0.0	8.31	0.0	Start 3rd plug
06/24/2015	13:42:29	-5	0.3	8.33	0.0	Start pumping 20bbl water
06/24/2015	13:43:12	-3	0.0	8.33	0.2	
06/24/2015	13:48:09	1058	0.0	8.32	5.1	Pressure Test Lines 1000psi
06/24/2015	13:48:12	1055	0.0	8.32	5.1	
06/24/2015	13:50:09	84	0.0	8.31	5.2	Finish 20bbl water
06/24/2015	13:53:12	172	3.3	8.30	13.6	
06/24/2015	13:55:23	105	0.0	8.30	20.2	Reset Total, Vol = 20.65 bbl
06/24/2015	13:58:12	96	0.0	8.30	20.3	
06/24/2015	13:59:01	182	2.3	15.61	21.6	Pumping 3rd plug Slurry
06/24/2015	14:03:12	115	4.0	15.82	37.6	
06/24/2015	14:08:12	115	4.1	15.84	57.9	
06/24/2015	14:13:12	116	4.1	15.81	78.4	
06/24/2015	14:18:12	119	3.9	15.78	98.5	
06/24/2015	14:19:49	5	0.2	15.69	104.6	End 3rd plug Slurry
06/24/2015	14:19:56	5	0.1	15.70	104.6	Start Displacement
06/24/2015	14:20:00	8	0.2	15.70	104.6	Reset Total, Vol = 84.40 bbl
06/24/2015	14:21:01	-5	0.8	8.69	106.5	End Displacement
06/24/2015	14:23:12	-5	0.6	10.33	107.8	
06/24/2015	14:24:09	-7	1.9	12.90	108.7	Claen up pump

Well	Field	Job Start	Customer	Job Number
Rusch 34-15	Wattenberg	Jun/24/2015	Andarko	D2IK-01079

Date	Time 24-hr clock	Treating Pressure PSI	Flow Rate B/M	Density LB/G	Volume BBL	Message
06/24/2015	14:31:44	-1	0.3	8.37	129.3	End clean up
06/24/2015	14:31:49	-2	0.3	8.37	129.3	Reset Total, Vol = 24.65 bbl
06/24/2015	15:37:51	57	1.5	8.30	136.2	Start 4th plug
06/24/2015	15:38:07	57	1.2	8.30	136.6	Pumping 10bbl water
06/24/2015	15:38:12	18	1.0	8.30	136.7	
06/24/2015	15:41:44	45	0.0	8.31	145.1	End 10bbl water
06/24/2015	15:41:49	44	0.0	8.31	145.1	Reset Total, Vol = 10.69 bbl
06/24/2015	15:43:12	38	0.0	8.31	145.1	
06/24/2015	15:47:51	114	2.9	15.60	145.9	Pumping 4th plug Slurry
06/24/2015	15:48:12	116	3.6	15.86	147.0	
06/24/2015	15:53:12	110	4.1	15.91	167.1	
06/24/2015	15:58:12	110	4.1	15.80	187.5	
06/24/2015	16:00:26	12	0.4	15.93	195.5	Start Displacement
06/24/2015	16:00:30	20	1.2	15.88	195.5	Reset Total, Vol = 50.43 bbl
06/24/2015	16:01:25	-7	0.8	8.51	197.0	End Displacement
06/24/2015	16:03:12	-1	0.5	8.32	198.1	
06/24/2015	16:04:17	-6	0.5	8.33	198.7	Reset Total, Vol = 3.13 bbl
06/24/2015	16:04:29	-10	0.3	8.33	198.7	Clean up pump
06/24/2015	16:08:12	65	3.4	9.18	209.7	
06/24/2015	16:10:54	-1	0.5	8.36	214.4	End Clean up
06/24/2015	16:11:39	-1	0.5	8.34	214.8	Wait to roll hole
06/24/2015	16:11:47	-1	0.5	8.33	214.9	Reset Total, Vol = 16.19 bbl
06/24/2015	16:13:12	-0	0.3	8.33	216.4	
06/24/2015	16:18:12	-1	0.0	8.33	216.5	
06/24/2015	16:23:12	-0	0.0	8.33	216.7	
06/24/2015	16:41:10	1	0.0	8.33	217.5	Reset Total, Vol = 2.05 bbl
06/24/2015	16:42:30	7	0.1	8.34	217.6	Rolling hole
06/24/2015	16:43:12	63	3.4	8.32	218.8	
06/24/2015	16:48:08	1	0.0	8.31	237.8	End Job

Post Job Summary

Average Pump Rates, bbl/min				Volume of Fluid Injected, bbl			
Slurry	N2	Mud	Maximum Rate	Total Slurry	Mud	Spacer	N2
1.3			6.3	134.0	0.0	0.0	

Treating Pressure Summary, psi					Breakdown Fluid		
Maximum	Final	Average	Bump Plug to	Breakdown	Type	Volume	Density
1058	1	99				bbl	lb/gal

Avg. N2 Percent	Designed Slurry Volume	Displacement	Mix Water Temp	Cement Circulated to Surface?	Volume
%	134.0 bbl	1.9 bbl	84 degF	☐	bbl
				Washed Thru Perfs ☐	To ft

Customer or Authorized Representative	Schlumberger Supervisor	Circulation Lost	Job Completed
Dylan King	Chris Valerio	- ☐	- ☒