



Well History

Well Name: Schmerge #43-4

API/UWI 05123231440000	Surface Legal Location NESE 4-5N-67W	Field Name Wattenberg	State/Prov CO	Well Configuration Type
Ground Elevation (ft) 4,890.00	Original KB Elevation (ft) 4,900.00	KB-Ground Distance (ft) 10.00	Spud Date 8/20/2005 00:00	Rig Release Date On Production Date 11/18/2005 00:00

Daily Operations

Start Date	Summary	End Date
8/20/2005	Ensign Rig #31: MIRU. Drill rat and mouse holes and spud 12 1/4" surface hole at 12:15 PM.	
8/21/2005	Ensign Rig #31: TD 12 1/4" surface hole at 1306' at 2:45 AM. Cond & circ 1/2 hour and make a wiper trip. Back on bottom at 5:45 AM and cond & circ until 6:45 AM. Survey (0.79 deg at 1306') and TOOH. Ran 29 joints of new, 24#, J-55, 8 5/8" casing to 1290'. Set at 1300'. Rig up Cementer's Well Service and pump 910 sacks of Class G cement + 3% CaCl2 + 1/4# flake per sack. Plug down at 12:15 PM with 9 bbls cement circulated to surface. Wait on cement, nipple up BOP, trip in hole with 7 7/8" bit, and test BOP at 8:15 PM. Began drilling cement and plug with 7 7/8" bit.	
8/22/2005	Ensign Rig #31: At 2461' and drilling ahead at 6 AM. Last survey: 0.45 deg at 2016'.	
8/23/2005	Ensign Rig #31: At 5476' and drilling ahead at 6 AM. Last survey: 0.50 deg at 5063'.	
8/24/2005	Ensign Rig #31: TD 7 7/8" hole at 7410' at 3:45 AM. Survey (2.5 deg at 7410') and make a wiper trip. Back on bottom at 5 AM and cond & circ at 6 AM.	
8/24/2005	Ensign Rig #31: Cond & circ until 6:45 AM then began LDDS. OOH at 11:45 AM and MIRU PSI. Ran Comp Density/Comp Neutron/Dual Induction log finding a LTD of 7410' KB. RU casing crew and ran Weatherford Auto Fill Guide Shoe, 14.4 shoe joint, 172 joints of 10.5 #/ft, 8RD, M-65, 4 1/2" casing plus 1 joint of 11.6 #/ft, M-80 on top of casing string. Casing set @ 7385.22' KB. PBTD @ 7370.82' KB. RU HES and pumped 20 bbl Clayfix, 24 bbl mud flush, 20 bbl Clayfix, 54 bbl (185 sx) 50/50 poz, 35% SSA-1, 5#/sk Silicalite, .5% Halad-23, .3% Halad-322, .2%HR-5, 2% gel. 14.6#/gallon. 1.64 yield. Released wiper plug and displaced with 117 bbls treated water. Plug down OK @ 7:56 pm. ECT @ 6350' KB. Released rig @ 9:00 pm.	
9/15/2005	MIRU BJ Services to frac the Codell with Vistar 20# gel loading. The Codell broke down 2698psi @ 4.7bpm. We pumped 217,580# of 20/40 white sand and 8000# resin coated sand. Fluid to recover is 2678 barrels. The max. treating pressure was 3901psi, average was 3333psi @ 16.3bpm. We flushed with 115.2 barrels. ISDP was 3527psi.	
1/18/2006	L & L Oil Well Service, Rig # 5 - MIRU. Late in day. SDFN.	
1/19/2006	L & L Oil Well Service, Rig # 5: W/H - 250 #. Hooked up hard line, blew well down to flow back tank. Killed well - 50 bbls. Stripped off frac valve. Flanged up well head. NUBOP. TIH, tallied, drifted with mini "L", 219 jts 2 3/8" J - 55 tbg. Tagged with 219 jts @ 7099'KB. Fill is 95' above top Codell perf. Laid down 8 jts. S/I well. SDFN. 211 jts + SN + NC in hole.	
9/26/2012	ITP-100, ICP-200, ISCP-0. MIRU Bayou rig 8. RU pump lines to WH. Blow well down to RT and control w/50 bbls of 2% claytreat/biocide water. RD prod. equipment and NU BOP. PU 6 tag jts. tagging fill @ 7,371.22' w/227 jts.. 167.22' of rat hole below Codell. LD tag jts. and POOH tallying 221 jts. of 2 3/8" 4.7# J55 EUE prod. tbg.. Tubing was landed @ 7,187.22' w/221 jts.-7,169.62', 1- 8' sub, NC/SN-1.6', and 8' adj. KB.. MIRU Pick Testers. PU 3 7/8" blade bit and casing scraper dressed for 4 1/2" 10.5# casing from RMOR. TIH testing to 6,000 psi. 221 jts. of prod. tbg. EOT @ 7,176' w/221 jts.. All jts. tested good. RD Pick Testers. LD 1 jt. and POOH to the derrick 220 jts.. LD tools. Shut in and secure the well for the night.	9/26/2012
9/27/2012	STP 50 psi, SCP 0 psi, SSCP 0 psi, blew well down to rig tank, control well w/10 bbls Claytreat/Biocide water, PU RMOR's 4 1/2" WLTC RBP, TIH w/production tbg, set RBP at 7,079.77' KB and tools w/218 jts, LD 1 jt, circulated oil and gas out, pressure tested csg/RBP to 2000 psi, test good, POOH w/20 jts to derrick, spotted 2 sks sand across RBP, finished TOOH w/ tubing, ND BOP, remove tbg head, install PDC's 4 1/2" 5K frac valve, pressured tested csg/RBP to 5000 psi using Pick Testers, held 20 minutes, test good, released tester, removed frac valve, un-pack csg head, un-land csg 95K), NU annular flanges, TIH picking up tallying WS #311 1.660" 3.02# N-80 CSHD workstring, broke circulations every 50 jts tripped in, rolling hole 45min. to 1 hour each circulation, tagged original cmt top at 6,252.28' KB all the way in on jt 200, RU circulation equipment on jt 200, break circulation and conditioned hole all night utilizing night crew, total circulation time of 12 hours @ 6,252.28' w/200 jts.	9/27/2012
9/28/2012	0 psi @ WH, Circulate and condition hole @1,500 psi @1 .25 BPM throughout the night. Shut rig pump down, MI&RU Halliburton Cement Services to 1 1/4" 3.02# CSHD, hold JSA and procedure meeting. Pressure test lines to 3,500 psi Preflush: Pumped 10 bbl clay treat, 12 bbl Mud flush III and 10 bbl clay treat spacer 1st stage:EOT set @ 6,252.28' w/200 jts,mix, batch, and pump 243 sks (reciprocate pipe) Philcem 11.5 ppg 2.29 yield (99 bbls) Displace 1.5 Bbls Est. TOC @ 4,574.72', lay down 51 jts. 2nd stage:EOT set @ 4,658.55' w/149 jts, mix,batch and pump 242 sks (reciprocate pipe) of Philcem 11.5 ppg 2.29 yield (99 bbls) displace 1.0 bbls, Est. TOC @ 2,980.99', lay down 51 jts. 3rd stage:EOT set @3,065.25' w/98 jts, mix,batch and pump 268 sks (reciprocate pipe) of Philcem 11.8 ppg 2.09 yield (100 bbls) displace 1.0 bbls, Est. TOC @ 1,370.74', lay down 51 jts. 4th stage:EOT set @ 1,470.56' w/47 jts,mix, batch, and pump 267 sks (reciprocate pipe) Philcem 11.8 ppg 2.09 yield (99 bbls) returned 10 bbls cement to tank, Displace 1.0 Bbls, RD and release Halliburton, TOOH laying down remaining 47 jts 1 1/4" work string. Change equipment over to 4 1/2", unland annular flanges and re-land casing in slips @ 85 K lbs, ND flanges and pack off casing head. NU tubing head and BOP, load casing with clay treat for logging, SI well and secure, SDFN.	9/28/2012



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Ground Elevation (ft) 4,890.00	Original KB Elevation (ft) 4,900.00	KB-Ground Distance (ft) 10.00	Spud Date 8/20/2005 00:00	Rig Release Date On Production Date 11/18/2005 00:00

Daily Operations

Start Date	Summary	End Date
10/1/2012	0 psi at WH, open well, RU Superior Wireline, ran GR/CCL/CBL/VDL log from 6300' to surface, had acceptable bonding on 11.5 ppg Varicem cmt from original cmt top to 3000' and acceptable bonding on 11.8 ppg Varicem cmt from 3000' into surface casing, RD e-line, PU RMOR's retrieving head, TIH w/production tbg, tagged sand across RBP at 7,070.77' KB and tools w/218 jts, RU to circulate sand off RBP, broke circulation, circulated down latching onto RBP at 7,079.77' KB and tools w/same jt, rolled hole clean, released RBP, POOH laying down production tbg on seals and tools, RU e-line, RIH w/3 1/8" slickgun, correlated cased/open logs getting on correct depth, re-perforated Codell 7194'-7204', 3 spf (24 new holes), 120 degree phasing, 19 gram charges, .41" entry holes w/21.28" penetration, all shots fired, RD e-line, SI and isolate well, drained lines, RDMOL	10/1/2012
10/8/2012	Codell ReFrac: MIRU BHI. Well took 65 bbls to load. (Break 2944 psi @ 4.5 BPM) Pumped 145 bbls of Active Pad pad, 587 bbls of 20# Lightning 26 pad, 185 bbls of 1.0 ppg 20/40 slurry with 20# Lightning 26, 503 bbls of 2.0 ppg 20/40 slurry with 20# Lightning 26, 935 bbls of 3.0 ppg 20/40 slurry with 20# Lightning 26, 230 bbls of 4.0 ppg 20/40 slurry with 20# Lightning 26, 108 bbls of 4.0 ppg 20/40 Super LC slurry with 20# Lightning 26, Flush to top Codell perf (114.7) bbl. Shutdown (ISIP 3555 psi) (FG .927) Fluid contained the following chemicals: GW-3LDF @ 6.5 GPT, XLW-30AG @ .8 GPT, XLW-32 @ .2 GPT, GASFLO/NE @ 1 GPT, CLAY CARE @ .9 GPT, FRW-20 @ 1 GPT, BF-7L @ 1.5 GPT, CRB @ 1-3 PPT, GBW-5 @ 5 PPT, GBW-21 @ 2 PPT, EnZyme G @ 1.0 PPT. (217260 lbs Ottawa) (8920 lbs Super LC 20/40). RD BHI. MTP = 4054 psi, ATP = 3663 psi, AIR = 25 bpm. Pressure response was slightly positive for entire treatment.	10/8/2012
10/8/2012	Niobrara Hybrid: RIH with PSI wireline using High pressure control unit and grease head. Set RMOR Cast Iron Flowthrou 10k frac plug @ 7130' with a Baker #10. Dual fire 3 1/8" slick gun and EXT charges (22.7 gram, .42 entry hole, 35.1" penetration, 120 degree phasing). Niobrara "B" Bench @ 7018'-7026' (3 SPF) Niobrara "A" Bench @ 6902' - 6904' (2 SPF) (28 New holes). POOH and RDMO PSI Wireline. MIRU BHI. Well was loaded @ open. (Break 4249 psi @ 5.8 BPM) Pumped 1367 bbls of Slickwater pad, 142 bbls of 20# Lightning 18 pad, 168 bbls of 1.0 ppg 20/40 slurry with 20# Lightning 18, 715 bbls of 2.0 ppg 20/40 slurry with 20# Lightning 18, 823 bbls of 3.0 ppg 20/40 slurry with 20# Lightning 18, 321 bbls of 4.0 ppg 20/40 slurry with 20# Lightning 18, 96 bbls of 4.0 ppg Super LC 20/40 slurry with 20# Lightning 18. Flushed well to top of "B" bench (111.9 bbls) Shutdown (ISIP - 3807 psi) (FG .984). Fluid contained the following chemicals: GW-3LDF @ 6.5 GPT, XLW-30AG @ .8 GPT, XLW-32 @ .2 GPT, GASFLO/NE @ 1 GPT, CLAY CARE @ .9 GPT, FRW-20 @ 1 GPT, BF-7L @ 1.5 GPT, CRB @ 1-3 PPT, GBW-5 @ 5 PPT, GBW-21 @ 2 PPT. (238740 lbs Ottawa 20/40) (12760 20/40 Super LC). RD HES. MTP = 4998 psi, ATP = 4743 psi, AIR = 47.5 bpm. Pressure response was slightly positive for entire treatment.	10/8/2012
10/10/2012	> Move in and rig in Bayou Well Service rig # 4. Check wellhead pressures. Production casing - 0 psig. Surface casing - 0 psig. Secure well, shut down for the evening.	10/10/2012
10/11/2012	> Check well head pressures. Production casing - 0 psig. Surface casing - 0 psig. Pump 15 bbl of treated water { bio-cide, claytreat } via the casing. Make up 3.875" burn shoe. Tally and trip tubing in the well. Tag fill at 7,046'. Rig in the power swival. Rotate and circulate to the frac plug. 7,130'. Drill out the frac plug in 30 minutes. Circulate wellbore clean. Continue to trip tubing in the well to 7,194'. Circulate sand to a depth of 7,288. Power swival torqing up. circulate for an hour. Lay down four joints and trip five stands out of the well standing back. Secure well, shut down for the evening.	10/11/2012
10/12/2012	> Check wellhead pressures. Production casing - 0 psig. Production tubing - 0 psig. Surface casing - 0 psig. Trip burn shoe out of the well. Note the frac plug was in the shoe. Make up bottom hole assembly { notched collar, seat nipple }. Trip in the well with 221 joints of 2 3/8" { 4.7 #/ft, j-55 } tubing. 1 ea - 10' sub and 1 ea - 8' sub. Land tubing. Broach tubing. Rig out the bope and rig in the wellhead. Swab well in with 3 runs returning 30 bbls to the work tank. Rig out Bayou Service rig. kb adjusted - 7' notched collar - .4" 1.775 profile seating nipple - 1.2' 221 joints of 2 3/8" { 4.7 #/ft, j-55 } - 7,163.09' 1 ea sub - 10' 1 ea sub - 8' codell perms 7,194' - 7,204' tubing landed - 7,189.69'	10/12/2012

The Road to Excellence Starts with Safety

Sold To #: 304535	Ship To #: 2445151	Quote #:	Sales Order #: 9851584
Customer: PDC ENERGY EBUS		Customer Rep: Sailors, Chad	
Well Name: Schmerge		Well #: 43-4	
Field: Wattenberg	City (SAP): GREELEY	County/Parish: Weld	API/UWI #: 05-123-23144
Contractor: Basic	Rig/Platform Name/Num: 1548 #		State: Colorado
Job Purpose: Recement Service			
Well Type: Development Well		Job Type: Recement Service	
Sales Person: AARON, WESLEY		Srv Supervisor: LAVALLEY, LARRY	
		MBU ID Emp #: 419296	

Job Personnel

HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #	HES Emp Name	Exp Hrs	Emp #
HALE, ROBERT E	7	470588	LANGE, TIMOTHY Paul	4.5	520811	LAVALLEY, LARRY P	7	419296
MEADOWS, DANIEL Graham	7	500668	RICHEY, JESSICA L	7	525703			

Equipment

HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way	HES Unit #	Distance-1 way
10822531C	34 mile	10866493C	34 mile	11488570C	34 mile	11518549	34 mile
11532305	34 mile	11633846C	34 mile	11633848	34 mile	11645065	34 mile

Job Hours

Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours	Date	On Location Hours	Operating Hours
9/28/12	7	5						
TOTAL			Total is the sum of each column separately					

Job

Formation Name	Formation Depth (MD) Top	Bottom	Form Type	Job depth MD	Job Depth TVD	Water Depth	Perforation Depth (MD) From	To	Job Times	Date	Time	Time Zone
			BHST	6350. ft	6350. ft			6. ft	Called Out	28 - Sep - 2012	03:00	MST
									On Location	28 - Sep - 2012	06:00	MST
									Job Started	28 - Sep - 2012	07:18	MST
									Job Completed	28 - Sep - 2012	12:00	MST
									Departed Loc	28 - Sep - 2012	13:00	MST

Well Data

Description	New / Used	Max pressure psig	Size in	ID in	Weight lbm/ft	Thread	Grade	Top MD ft	Bottom MD ft	Top TVD ft	Bottom TVD ft
Production Casing	Unknown		4.5	4.	11.6			.	6900.	.	6900.
Tubing	Unknown		1.25	.824	2.4			.	3100.	.	3100.

Tools and Accessories

Type	Size	Qty	Make	Depth	Type	Size	Qty	Make	Depth	Type	Size	Qty	Make
Guide Shoe					Packer					Top Plug			
Float Shoe					Bridge Plug					Bottom Plug			
Float Collar					Retainer					SSR plug set			
Insert Float										Plug Container			
Stage Tool										Centralizers			

Miscellaneous Materials

Gelling Agt		Conc		Surfactant		Conc		Acid Type		Qty		Conc	%
Treatment Fld		Conc		Inhibitor		Conc		Sand Type		Size		Qty	

Fluid Data

Stage/Plug #: 1	Fluid #	Stage Type	Fluid Name	Qty	Qty uom	Mixing Density lbm/gal	Yield ft ³ /sk	Mix Fluid Gal/sk	Rate bbl/min	Total Mix Fluid Gal/sk
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HALLIBURTON**Cementing Job Summary**

1	ClayWeb Water Spacer		10.00	bbl	8.33	.0	42.0	2.0	
2	MUD FLUSH III	MUD FLUSH III - SBM (528788)	12.00	bbl	8.4	.0	42.0	2.0	
3	ClayWeb Water Spacer		10.00	bbl	8.33	.0	42.0	2.0	
	59.525 gal/Mgal	CLA-WEB - TOTE (101985045)							
4	ExtendaCem 11.3#	EXTENDACEM (TM) SYSTEM (452981)	485.0	sacks	11.5	2.24	12.65	2.0	12.65
	12.65 Gal	FRESH WATER							
5	ExtendaCem 11.8#	EXTENDACEM (TM) SYSTEM (452981)	267.0	sacks	11.8	2.05	11.24	2.0	11.24
	11.24 Gal	FRESH WATER							
Calculated Values		Pressures		Volumes					
Displacement	3.5	Shut In: Instant		Lost Returns	0	Cement Slurry	291	Pad	
Top Of Cement		5 Min		Cement Returns	10	Actual Displacement	3.5	Treatment	
Frac Gradient		15 Min		Spacers	32	Load and Breakdown		Total Job	327.5
Rates									
Circulating		Mixing	2	Displacement	2	Avg. Job			2
Cement Left In Pipe	Amount	0 ft	Reason	Shoe Joint					
Frac Ring # 1 @	ID	Frac ring # 2 @	ID	Frac Ring # 3 @	ID	Frac Ring # 4 @	ID		
The Information Stated Herein Is Correct				Customer Representative Signature					

Cementing Job Log

The Road to Excellence Starts with Safety

Sold To #: 304535	Ship To #: 2445151	Quote #:	Sales Order #: 9851584
Customer: PDC ENERGY EBUS		Customer Rep: Sailors, Chad	
Well Name: Schmerge	Well #: 43-4	API/UWI #: 05-123-23144	
Field: Wattenberg	City (SAP): GREELEY	County/Parish: Weld	State: Colorado
Legal Description:			
Lat: N 0 deg. OR N 0 deg. 0 min. 0 secs.		Long: E 0 deg. OR E 0 deg. 0 min. 0 secs.	
Contractor: Basic	Rig/Platform Name/Num: 1548 #		
Job Purpose: Recement Service		Ticket Amount:	
Well Type: Development Well	Job Type: Recement Service		
Sales Person: AARON, WESLEY	Srvc Supervisor: LAVALLEY, LARRY	MBU ID Emp #: 419296	

Activity Description	Date/Time	Cht #	Rate bbl/min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Start Job	09/28/2012 07:18							
Test Lines	09/28/2012 07:20						3287.0	RIG WATER WITH NO ADDITIVES
Pump Spacer 1	09/28/2012 07:21		1.5	10	10		1846.0	RIG WATER WITH CLAYWEBB III ADDED
Pump Spacer 2	09/28/2012 07:29		1.5	12	22		1867.0	RIG WATER WITH MUDFLUSH III ADDED
Pump Spacer 1	09/28/2012 07:38		1.5	10	32		1828.0	RIG WATER WITH CLAYWEBB III ADDED
Pump Lead Cement	09/28/2012 07:45		1.5	97	129		1841.0	243 SKS EXTENDACEM MIXED @ 11.5 PPG YIELD 2.24 ft3/sk and 12.65 gal/sk
Pump Displacement	09/28/2012 08:52		1.5	1.5	130.5		1973.0	RIG WATER WITH CLAY WEBB III ADDED
Shutdown	09/28/2012 08:53							SHUTDOWN WHILE RIG PULLED 51 JOINTS
Pump Lead Cement	09/28/2012 09:26		1.5	97	227.5		1862.0	242 SKS EXTENDACEM MIXED @ 11.5PPG YIELD 2.24 ft3/sk and 12.65 gal/sk
Pump Displacement	09/28/2012 10:28		1.5	1	228.5		1988.0	RIG WATER WITH CLAYWEBB III ADDED
Shutdown	09/28/2012 10:29							SHUTDOWN WHILE RIG PULLED 51 JOINTS
Pump Tail Cement	09/28/2012 10:58		1.5	98	326.5		2075.0	267 SKS EXTENDACEM MIXED @ 11.8 PPG YIELD 2.05 ft3/sk and 11.24 gal/sk

Sold To #: 304535

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Quote #:

Sales Order #: 9851584

HALLIBURTON

Cementing Job Log

Activity Description	Date/Time	Cht #	Rate bbl/ min	Volume bbl		Pressure psig		Comments
				Stage	Total	Tubing	Casing	
Pump Displacement	09/28/2012 11:53		1.5	1	327.5		2046. 0	RIG WATER WITH CLAYWEBB III ADDED
Shutdown	09/28/2012 11:54							
End Job	09/28/2012 11:59							

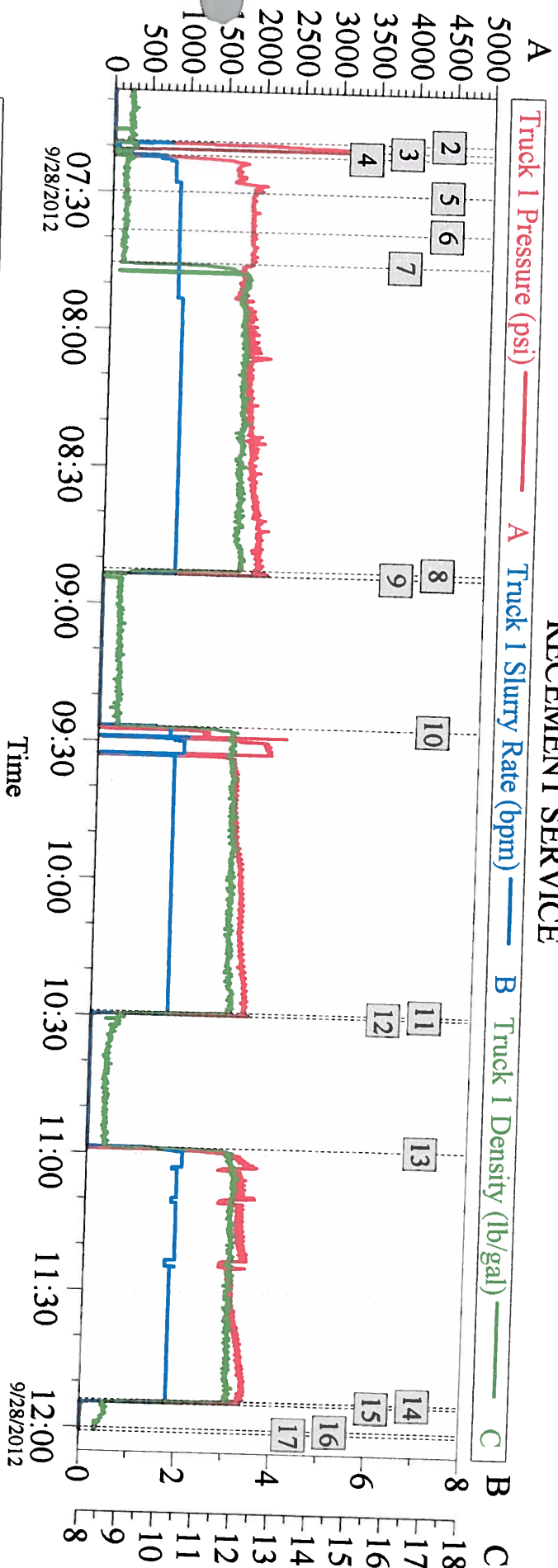
Sold To # : 304535

Ship To # : 2445151

Quote # :

Sales Order # : 9851584

PDC ENERGY SCHMERGE 43-4 RECEMENT SERVICE



Global Event Log

Intersection				Intersection			
	TIP	TISR	TID		TIP	TISR	TID
1 Starting Job	06:46:19	6.000	0.000	2 Start Job	07:18:42	8.000	0.000
3 Test Lines	07:20:32	3287	0.000	4 Pump Spacer 1	07:21:52	11.00	0.000
5 Pump Spacer 2	07:29:53	1867	1.400	6 Pump Spacer 1	07:38:20	1828	1.400
7 Pump Lead Cement	07:45:24	1841	1.400	8 Pump Displacement	08:52:20	1973	1.500
9 Shutdown	08:53:31	109.8	0.000	10 Pump Lead Cement	09:26:35	-3.000	0.000
11 Pump Displacement	10:28:54	1988	1.600	12 Shutdown	10:29:38	133.5	0.000
13 Pump Tail Cement	10:58:36	-1.000	0.000	14 Pump Displacement	11:53:46	2046	1.800
15 Shutdown	11:54:31	63.97	0.000	16 End Job	11:59:50	-11.00	0.000
17 Ending Job	12:00:43	-11.00	0.000				

Customer: PDC ENERGY
Well Description: RECEMENT SERVICES

Job Date: 28-Sep-2012
THANKS LARRY LAVALLEY AND CREW

Sales Order #: 9851584