

Customer	AEP		Date:	11/24/2014	Invoice #:	MV-01932	Serv. Supervisor:	Wayne Wilcox			
Lease:	Red Hill Farms MDS GR 3H		Permit #	34-059-2-4370		County and State:	Guernsey, OH				
District:	FENELTON, PA.		Rig:	Nomac 80		Type of Job:	9 5/8 2 Stage Intermediate				
Employees & Units on Job Site:			Wayne Wilcox (Supe) PT98414			Michael Fessler (Pump) T42625 P45414					
Ryan Foringer (Bato) BM23779			Joe Pukal (Bulk) BL23261			Jared Guirdy (Bulk) T49561 B57458					
Bobby Hubery (Extr)			Jason Cribbs (Fiel) PT07218			Adam Saenz (Extr)					
Plugs			Casing Hardware			Physical Slurry Properties					
						Sacks of Cement	Slurry Wt. PPG	Slurry Yield Cuft.	Water GPS	Slurry Bbls..	Mix Water Bbls..
Materials Furnished by OTEX Pumping											
Spacer 1:	11.5 PPG Weighted Spacer									50 bbls	
Spacer 2:	0									0	
Scavenger:	Low Dense 1% C-15, 5% Gypsum, 0.6% C-20, 0.4% C-41P, 0.1% C-51, 0.1% X-Static					600	12.5	1.88	10.41	200.90	148.71
Lead:	Premium H 5% KCL (BWOW), 0.6% C-12, 0.4% C-41P, 0.1% C-51, 0.1% C-35					180	15.3	1.27	5.69	40.71	24.39
Tail:	Low Dense 1% C-15, 5% Gypsum, 0.15% C-20, 0.4% C-41P, 0.1% C-51, 0.1% X-Static					780	12.5	1.88	10.41	261.17	193.33
EXPECTED RETURNS:											
HOLE			TUBING - CASING - DRILL PIPE					COLLAR DEPTHS			
SIZE	% EXCESS	DEPTH	SIZE	WGT	TYPE	DEPTH	GRADE	ID	SHOE	FLOAT	STAGE
12 1/4 in.	20 %	6507 ft.	9 5/8	40 #/ft.		6507 ft.	HCP-110	8.835	86.97	6420.03	3480
LAST CASING			PKR / CMT RET / LINER PKR			PERF DEPTH		TOP CONN		WELL FLUID	
SIZE	ID	DEPTH	BRAND / TYPE		DEPTH	TOP	BTM	SIZE	THREAD	TYPE	WGT
13 3/8	12.615	979						9 5/8	8rd	obm	10.5 ppg
DISPL VOLUME		DISPL FLUID		CAL PSI	PUMP OUT		MAX TUBING PRES		MAX CSG PRESSURE		
VOLUME	UOM	TYPE	WGT	BMP PLUG	PSI		RATED	WORKING	RATED	WORKING	MIX WATER
486.6	BBL	OBM	10.5	530							403
Time Hrs.	Rate	Pressure	Bbls.. Pumped	Fluid Type	Time Left Yard		Time Left Loc.				
					Time on Loc.						
12:15 AM					CALLED OUT FOR JOB						
2:35 AM					PRE-CONVOY MEETING						
2:50 AM					LEAVE YARD						
4:45 AM					ARRIVED ON LOCATION						
5:00 AM					WAITING ON RIG TO BE READY						
6:45 AM					PRE-RIG UP MEETING						
7:00 AM					SPOT UNITS AND SET UP						
9:35 AM					PRIME PUMP TRUCK						
9:50 AM					WAITING ON RIG TO BE READY						
6:00 PM					SAFETY MEETING						
6:20 PM	4	200	5	H2O	LOAD LINES						
6:23 PM		5600			PRESSURE TEST PUMPS AND LINES						
6:30 PM	4	300	50	SPACER	PUMP 50 BBLs BARITE SPACER AT 11.5#S						
6:38 PM					BATCH AND WEIGH CEMENT TO 12.5						
6:43 PM	4	250	200.9	LEAD CEMENT	PUMP 200.9 BBLs LEAD LOW DENSE CEMENT						
7:28 PM	4	225	40.7	TAIL CEMENT	PUMP 40.7 BBLs TAIL CEMENT						
7:53 PM					DROP TOP PLUG						
7:55 PM	8	660	486.6	OBM	DISPLACE						
9:00 PM		520-1000			BUMP PLUG						
9:05 PM					BLEED OFF PRESSURE, 2 BBLs BACK						
9:15 PM					DROP TOOL						
9:40 PM		1074			PRESSURE ON TOOL TOOL TO OPEN						
9:45 PM	3.5	200	10	OBM	PUMP 10 BBLs						
9:55 PM					WAITING ON RIG TO BE READY						
12:45 AM					SAFETY MEETING FOR STAGE 2						
1:30 AM	4	190	5	H2O	LOAD LINES						
1:32 AM		4000			PRESSURE TEST PUMPS AND LINES						
1:35 AM	4	250	50	SPACER	PUMP 50 BBLs BARITE SPACER AT 11.5#S						
1:38 AM					BATCH AND WEIGH CEMENT TO 12.5						
1:50 AM	4	220	261.1	CEMENT	PUMP 261.1 BBLs CEMENT AT 12.5						
2:55 AM					DROP PLUG						
2:57 AM	8	800	263.7	OBM	DISPLACE						
3:15 AM					SPACER TO SURFACE AT 160 BBLs INTO DISPLACEMENT						
3:35 AM					CEMENT SAMPLE WEIGHED 12.4						
Bumped Plug	Final Lift Pressure	Floats Held	PSI Left On Casing	Cement To Surface		Total Circulation	WAYNE WILCOX				
Y	460	Y	0	58	Bbls..	1373	Service Supervisor				



Customer:	AEP	Date:	11/24/2014	Invoice #:	MV-01932	Serv. Supervisor:	Wayne Wilcox
Lease:	Red Hill Farms MDS GR 3H	Well Name:	Red Hill Farms MDS GR 3H		County, State:	Guernsey , OH	
API:	34-059-2-4370	Rig:	Nomac 80		Type of Job:	9 5/8 2 Stage Intermediate	

[illegible]

Specific job request from customer:

Customer
Signature

O-Tex

Pumping, LLC

LOCATION WATER TEST

General Information

Customer: AEP Date: 11/24/2014
Sales Order #: MV-01932 Time: 5:10 AM
Lease Name & #: d Hill Farms MDS GR Water Source: frac tank
SL Name & Employee #: Wayne Wilcox

Test Results Sample #1

	Field	Lab	Standards
Temp	<u>76 ° F</u>	<u>° F</u>	Max Temp 120° F
pH	<u>7.0</u>	<u></u>	6.0 - 8.0
Sulfates	<u><1800 mg/L</u>	<u>mg/L</u>	Less Than 1800 mg/L
Chlorides	<u><3000 mg/L</u>	<u>mg/L</u>	Less Than 3000 mg/L
Tannin & Lignin	<u>Y/N</u>	<u>Y/N</u>	No Trace
Bicarbonates	<u></u>	<u>mg/L</u>	Less Than 500 mg/L

Test Results Sample #2

	Field	Lab	Standards
Temp	<u>° F</u>	<u>° F</u>	Max Temp 120° F
pH	<u></u>	<u></u>	6.0 - 8.0
Sulfates	<u>mg/L</u>	<u>mg/L</u>	Less Than 1800 mg/L
Chlorides	<u>mg/L</u>	<u>mg/L</u>	Less Than 3000 mg/L
Tannin & Lignin	<u>Y/N</u>	<u>Y/N</u>	No Trace
Bicarbonates	<u></u>	<u>mg/L</u>	Less Than 500 mg/L

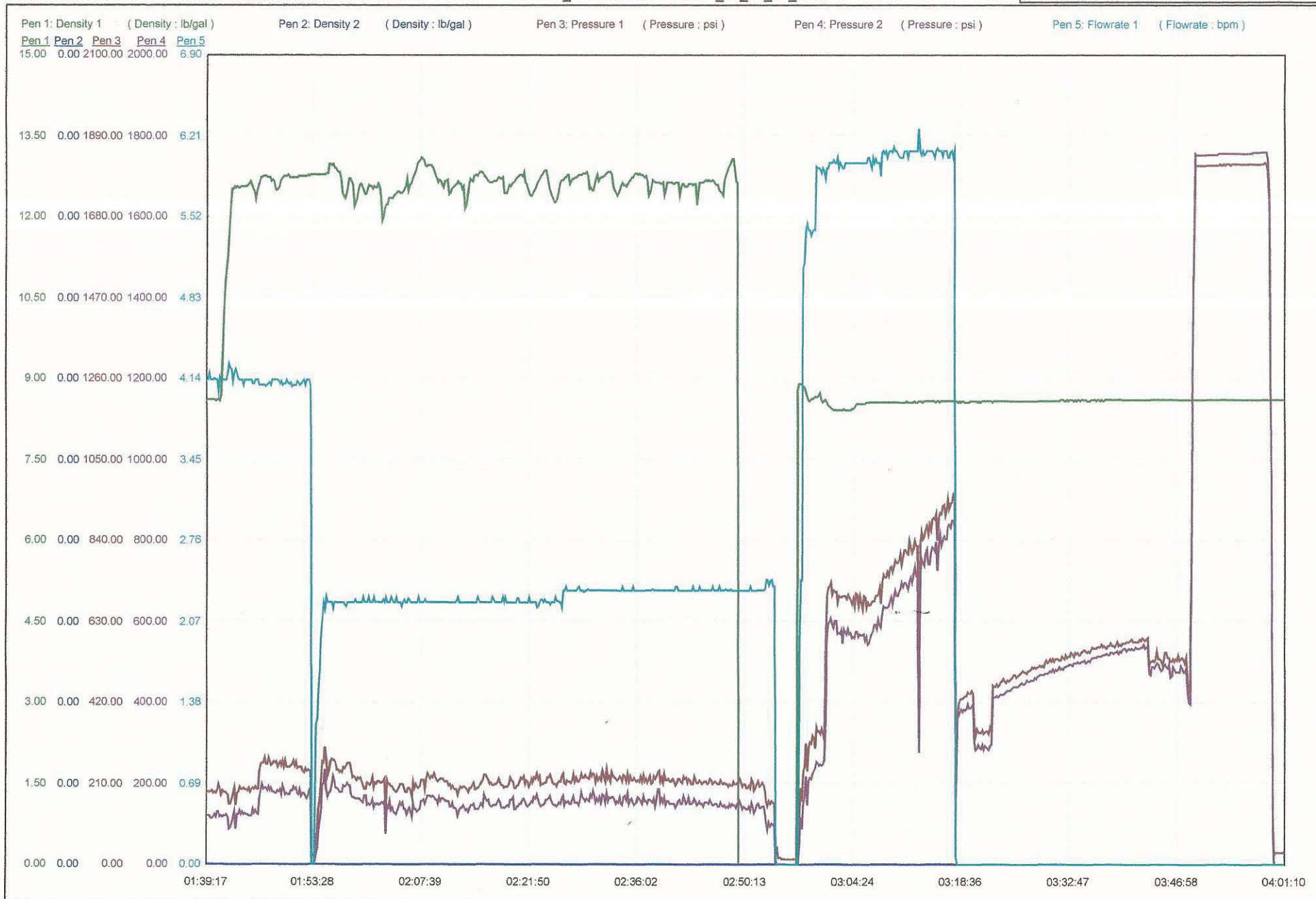
Cement Slurry Temperature

LEAD ° F

TAIL ° F

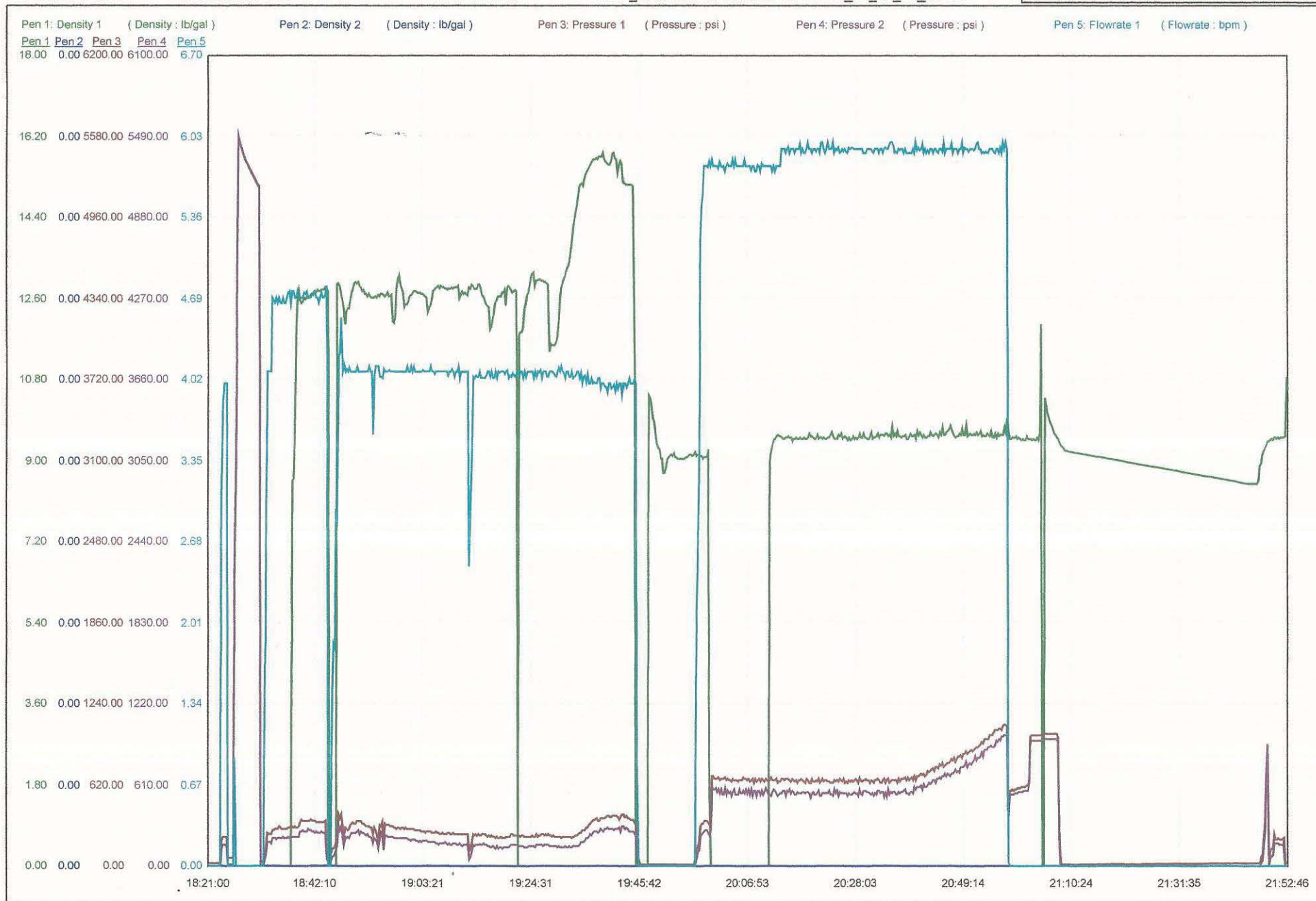
Remarks:

SERVICE COMPANY: O-TEX PUMPING
TICKET NO: MV01932
CUSTOMER NAME: AEP
WELL NAME: RED HILL FARMS 3H
WELL LOCATION: GUERNSEY CTY
DATE RECORDED: 11/25/2014
JOB NO: JobNumber
UNIT DESCRIPTION: 9 5/8 INTERMEDIATE 2 STAGE
UNIT NOTES: STAGE 2
FILE NAME: AEP_RED HILL FARMS 3H_14_11_25_#1.csv



SERVICE COMPANY: O-TEX PUMPING LLC
TICKET NO: MV01932
CUSTOMER NAME: AEP
WELL NAME: RED HILL FARMS MDS GR 3H
WELL LOCATION: GUERNSEY CTY

DATE RECORDED: 11/24/2014
JOB NO: JobNumber
UNIT DESCRIPTION: 9 5/8 2 STAGE INTERMEDIATE
UNIT NOTES: STAGE 1 CHART
FILE NAME: AEP_RED HILL FARMS MDS GR 3H_14_11_24_#1.csv





Job Data Sheet

COMPANY				INVOICE #		AFE/WORK ORDER		DATE		
AEP				MV-01943		1340025		12/2/2014		
CONTRACTOR			RIG #			TOWNSHIP		FIELD		
Nomac			80			0		0		
LEASE NAME		NUMBER	PIN #	COUNTY		STATE	MILEAGE	API #		
Red Hill Farms MDS GR		3H	1340052	Guernsey		OH	60 (Bid)	0		
DIRECTIONS				LATITUDE	0	LONGITUDE	0	SHOW MAP		
See dispatch for directions.										
Pumping Services	Job Procedures:							Job Type	Production	
	Casing Size	Casing Weight	Thread	Tbng/DP Size	Weight	Plug. Cont.	Swage	Top Plug	Bottom Plug	
	5 1/2 in.	20 #/ft.	DQX	0	0			HALLIBURTON	N/A	
	Number and Type Units							Casing Depth	Hole Depth	
								16027 ft.	16027 ft.	
	Remarks							Tubing Depth	Depth-TVD	
								0	6651 ft.	
Materials	# of Sacks	Type	Additives							
	Lead	260	50/50 POZ w Clas	5% KCL (BWOW), 4% Gel, 0.5% FL-17, 0.4% C-41P, 0.15% C-20						
	Weight PPG	Yield Ft3/Sk	Water Gal/Sk							
	13.5	1.51	7.35							
	# of Sacks	Type	Additives							
	Tail	2110	Premium H	5% KCL (BWOW), 0.6% C-12, 0.4% C-41P, 0.15% C-51, 0.15% C-45, .015% C-20						
	Weight PPG	Yield Ft3/Sk	Water Gal/Sk							
	15.3	1.27	5.69							
	# of Sacks	Type	Additives							
	Stage 1 Le									
	Weight PPG	Yield Ft3/Sk	Water Gal/Sk							
	ACID	Type	Additives							
	Inhibitor	Surfactant	clay cont.							
Spacer	Quantity	Type	Additives							
	50 bbls	11.5 ppg Barite	0							
Other	Quantity	Type	Additives							
	560 sacks	11.99 ppg OBM	0							
Sugar	Quantity	Type	Additives							
	200 lb	0	0							
Safety and Info										
	Take the dqx exchange. Take 200 lb of sugar. Top and bottom plug. Check BM for all chems. Drive carefully and have a safe job.									

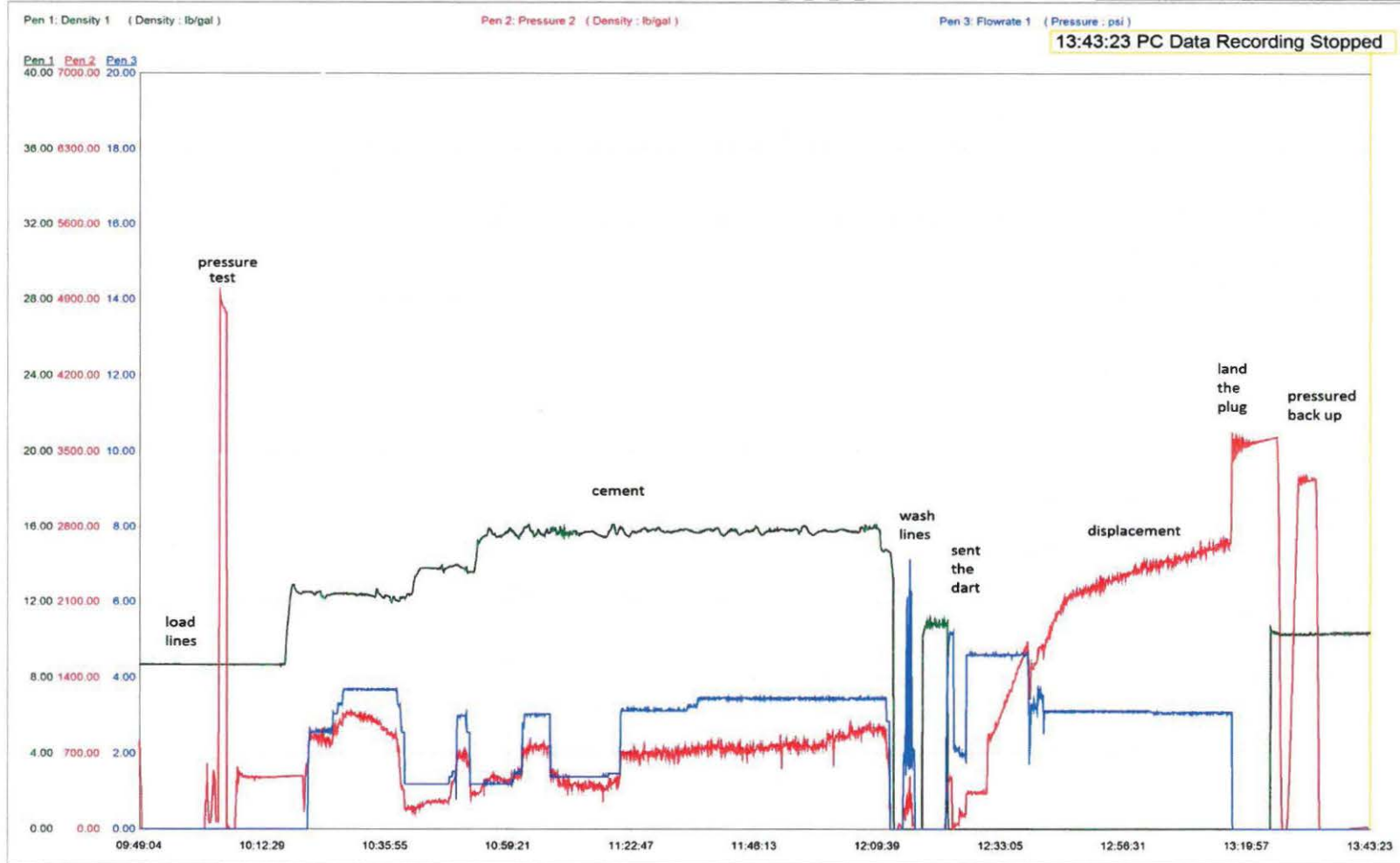
SUPERVISOR / OPERA	TRUCK #	TRAILER #	JOB ROLE	SUPERVISOR / OPERA	TRUCK #	TRAILER #	JOB ROLE
Dan Higley	04223	0.00	Supervisor				
Jeremy Patterson	43979		Pump Opera				
Mark Moranda	42625	45414	Pump Opera				
Scott Gustic	15731	57451	Bulk Operat				
Ryan Foringer	87772		Batch Mixer				
Adam Collins	60469		Field Super				
Matt Harstine	39735	74190	Bulk Operat				
Wayne Williams	B959		Bulk Operat				
JASON JEFFRIES			Supervisor				
DAVE MALINSKI			Bulk Operat				
Customer Rep.	Cell Phone	Office Phone	Fax	Time of Call			
0				7:35 PM			
Call Taken By	Notes:					Date Ready	Time Ready
Steve Pavelchick						12/2/14	4:00 AM
Dispatched by						Time Crew Was Called	
Corinne Anderson						11:00 PM	

[illegible]

					16 BBLS OF OBM BACK 50 BBLS OF BAYRITE BACK SURFACE	
					CMT TEMP 70 H2O TEMP 56 50 BBLS OF BAYRITE BACK	
Bumped Plug	Final Lift Pressure	Floats Held	PSI Left On Casing	Cement To Surface		Total Circulation
Y	2600	Y	0	66	Bbls..	Service Supervisor

SERVICE COMPANY: O-TEX PUMPING
TICKET NO: MV01943
CUSTOMER NAME: AEP
WELL NAME: RED HILL FARM MDS GR
WELL LOCATION: GUERNSEY

DATE RECORDED: 12/02/2014
JOB NO: 3-H
UNIT DESCRIPTION: 45414
UNIT NOTES: MARK
FILE NAME: AEP_RED HILL FARM MDS GR_14_12_02_#1.csv



[illegible]

O-Tex

Pumping, LLC

LOCATION WATER TEST

General Information

Customer: AEP Date: 11/18/2014

Sales Order #: MV01929 Time: 12:10AM

Lease Name & #: 1 Hill Farms MDS GR Water Source: FAK

SL Name & Employee #: Glenn H.

Test Results Sample #1

Temp	Field <u>55 ° F</u>	Lab <u> </u> ° F	Standards
pH	<u>7.0</u>	<u> </u>	Max Temp 120° F
Sulfates	<u><1800</u> mg/L	<u> </u> mg/L	6.0 - 8.0
Chlorides	<u><3000</u> mg/L	<u> </u> mg/L	Less Than 1800 mg/L
Tannin & Lignin	<u>N</u> Y/N	<u> </u> Y/N	Less Than 3000 mg/L
Bicarbonates	<u> </u>	<u> </u> mg/L	No Trace
			Less Than 500 mg/L

Test Results Sample #2

Temp	Field <u> </u> ° F	Lab <u> </u> ° F	Standards
pH	<u> </u>	<u> </u>	Max Temp 120° F
Sulfates	<u> </u> mg/L	<u> </u> mg/L	6.0 - 8.0
Chlorides	<u> </u> mg/L	<u> </u> mg/L	Less Than 1800 mg/L
Tannin & Lignin	<u> </u> Y/N	<u> </u> Y/N	Less Than 3000 mg/L
Bicarbonates	<u> </u>	<u> </u> mg/L	No Trace
			Less Than 500 mg/L

Cement Slurry Temperature

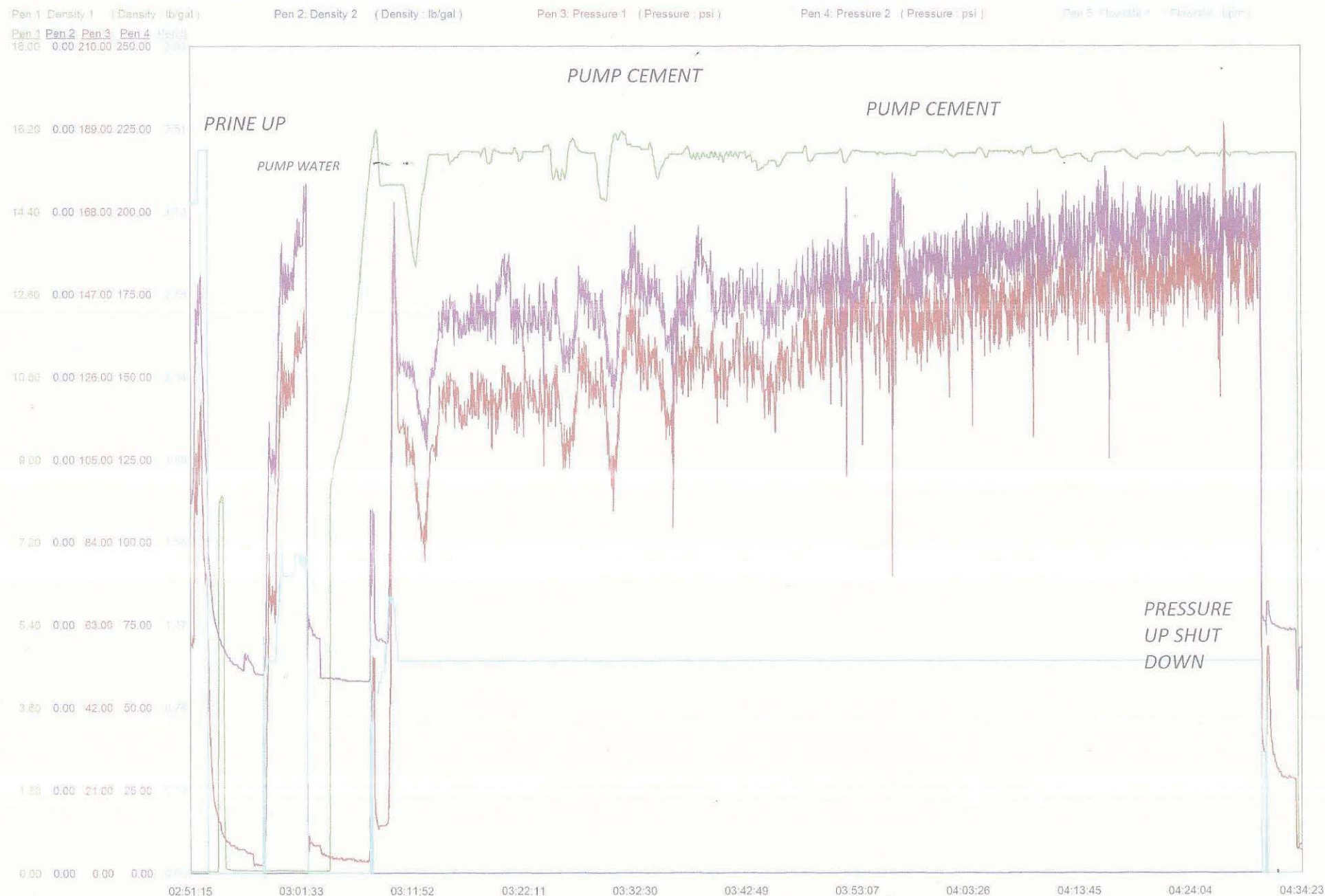
LEAD ° F

TAIL ° F

Remarks:

SERVICE COMPANY: ServiceCompany O-TEXPUMPING
TICKET NO: TicketNumber MV01929
CUSTOMER NAME: CustomerNameAEP
WELL NAME: WellName REDHILLFARMSMDSGR3H
WELL LOCATION: WellLocation OHIO

DATE RECORDED: 11/18/2014
JOB NO: JobNumber
UNIT DESCRIPTION: UnitDescription
UNIT NOTES: TreatmentNotes
FILE NAME: CustomerNameAEP_WellName REDHILLFARMSMDSGR3H_14



[illegible]



LOCATION WATER TEST

General Information

Customer: AEP Date: 11/16/2014
Sales Order #: MV01919 Time: 11:00AM
Lease Name & #: 1 Hill Farms MDS GR Water Source: FRAK
SL Name & Employee #: Glenn Higley

Test Results Sample #1

	Field	Lab	Standards
Temp	<u>46 ° F</u>	<u>° F</u>	Max Temp 120° F
pH	<u>7.0</u>	<u></u>	6.0 - 8.0
Sulfates	<u><1800 mg/L</u>	<u>mg/L</u>	Less Than 1800 mg/L
Chlorides	<u><3000 mg/L</u>	<u>mg/L</u>	Less Than 3000 mg/L
Tannin & Lignin	<u>N Y/N</u>	<u>Y/N</u>	No Trace
Bicarbonates	<u></u>	<u>mg/L</u>	Less Than 500 mg/L

Test Results Sample #2

	Field	Lab	Standards
Temp	<u>° F</u>	<u>° F</u>	Max Temp 120° F
pH	<u></u>	<u></u>	6.0 - 8.0
Sulfates	<u>mg/L</u>	<u>mg/L</u>	Less Than 1800 mg/L
Chlorides	<u>mg/L</u>	<u>mg/L</u>	Less Than 3000 mg/L
Tannin & Lignin	<u>Y/N</u>	<u>Y/N</u>	No Trace
Bicarbonates	<u></u>	<u>mg/L</u>	Less Than 500 mg/L

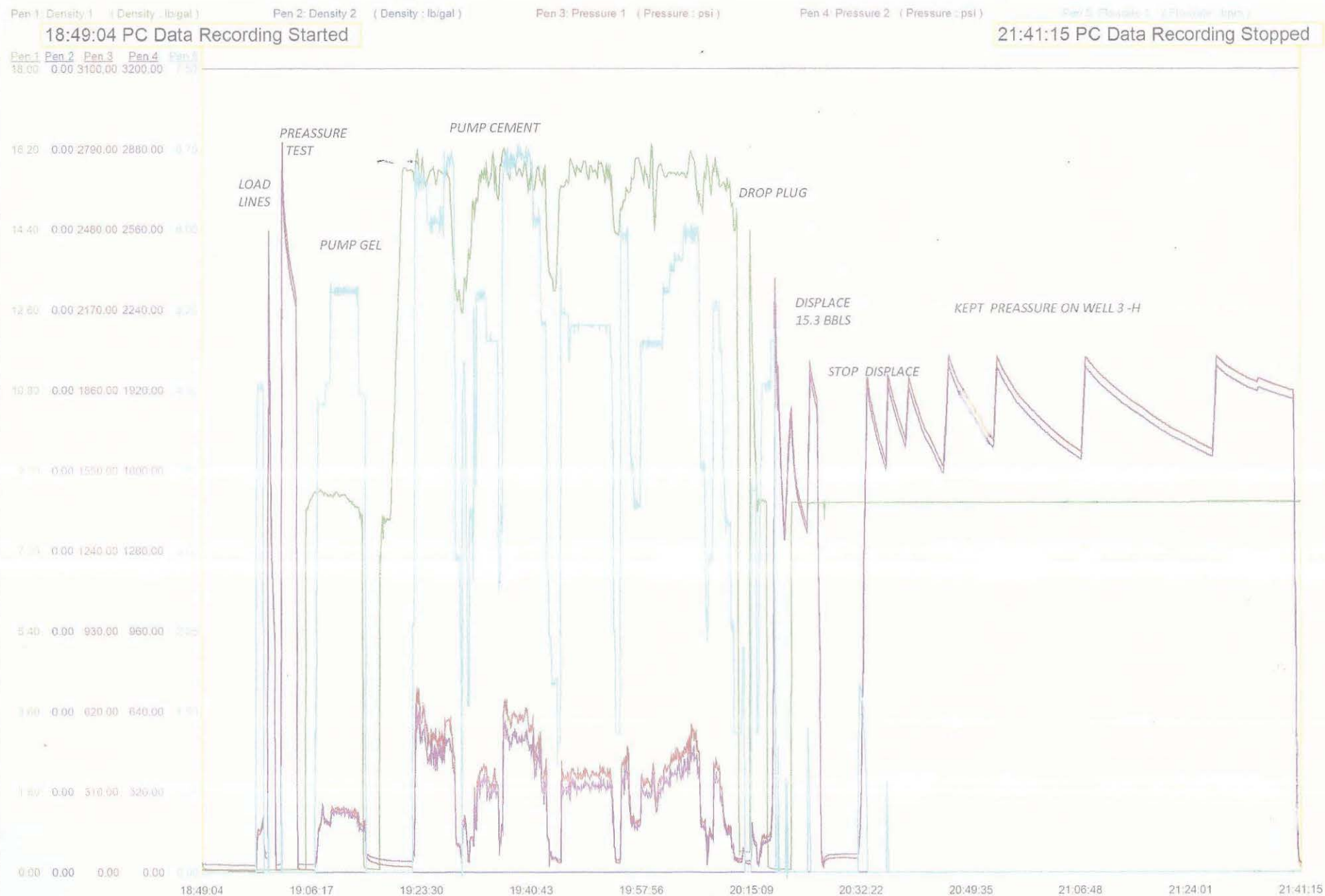
Cement Slurry Temperature

LEAD ° F
TAIL ° F

Remarks:

SERVICE COMPANY: ServiceCompanyO-TEXPUMPING
TICKET NO: TicketNumber MV01919
CUSTOMER NAME: CustomerName AEP
WELL NAME: WellName RED HILL FARM MDS GR 3 H SURFACE
WELL LOCATION: WellLocationOHIO

DATE RECORDED: 11/16/2014
JOB NO: JobNumber
UNIT DESCRIPTION: UnitDescription
UNIT NOTES: TreatmentNotes
FILE NAME: CustomerName AEP_WellName RED HILL FARM



(2378)

Road



170'

191'

219'

1H 20' 3H 20' 5H

143'

Rig Skid

Well Order

Pad Site/Well Numbers: Red Hill Farms 1H, 3H, 5H
Rig Name and Number: _____
Date of Plat used: _____
Rathole Company Initials/Date: PERCISION RATHOLE
Drilling Superintendent/Date: Thompson 6-24-14
Drilling Engineer/Date: _____

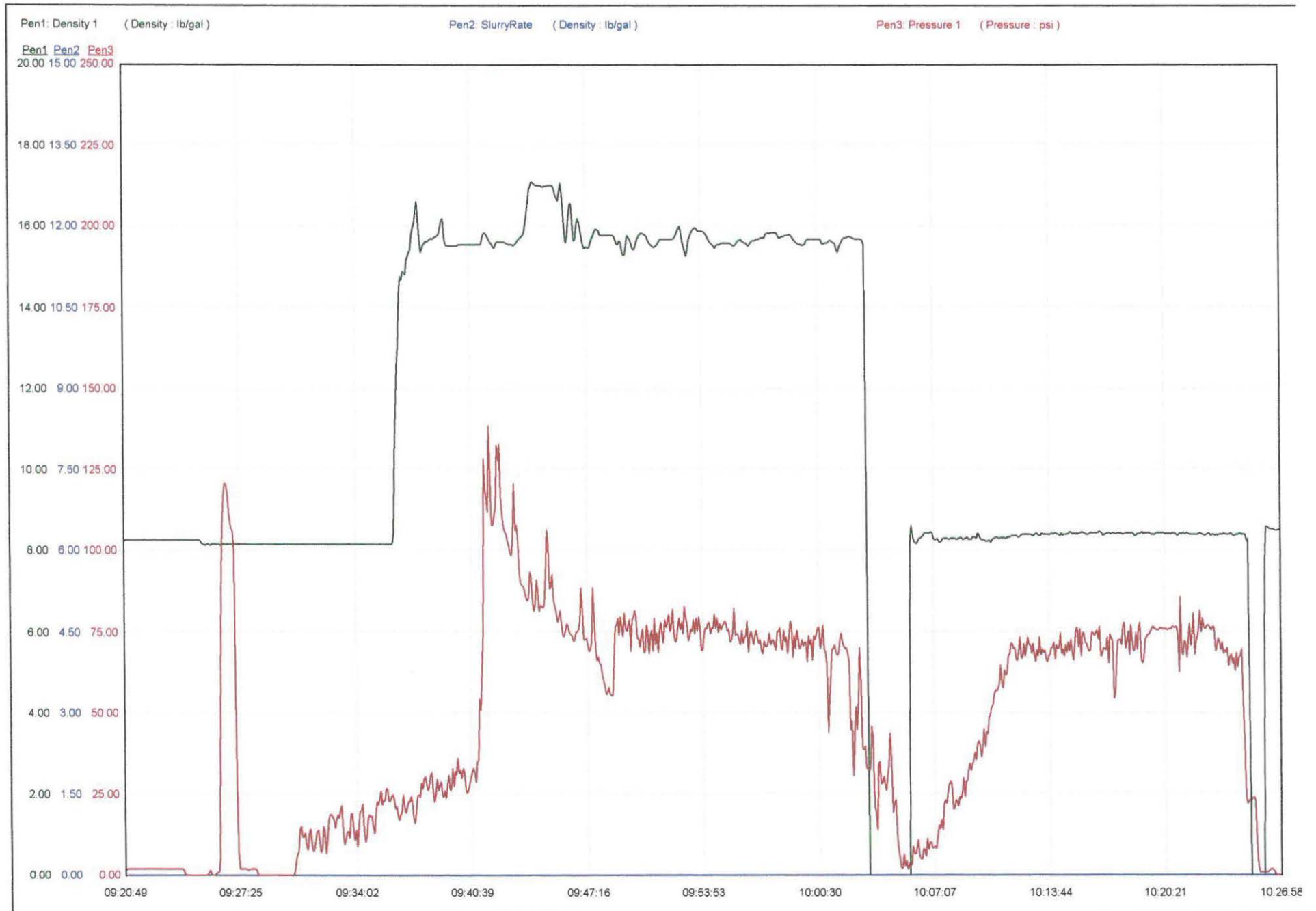
CEMENT JOB LOG

(OWNER COPY)
DOUG BARNETT

[illegible]

SERVICE COMPANY: O TEX PUMPING
TICKET NO: MO-000234
CUSTOMER NAME: A E P
WELL NAME: RED HILL FARMS 3H
WELL LOCATION: QUAKER CITY

DATE RECORDED: 06/28/2014
JOB NO: JobNumber
UNIT DESCRIPTION: 922 PUMP
UNIT NOTES: STEVE ANDREWS
FILE NAME: A E P_RED HILL FARMS 3H_14_06_28_#1.csv





LOCATION WATER TEST

General Information

Customer: AEP

Date: 6/29/2014

Sales Order #: MO-000234

Time: 9:00 AM

Lease Name & #: Red Hill Farms 3H

Water Source: FRAC

SL Name & Employee #: Ed Hill

Test Results Sample #1

	Field	Lab	Standards
Temp	<u>78 ° F</u>	<u>° F</u>	Max Temp 120° F
pH	<u>7.0</u>	<u></u>	6.0 - 8.0
Sulfates	<u>79 mg/L</u>	<u>mg/L</u>	Less Than 1800 mg/L
Chlorides	<u><25 mg/L</u>	<u>mg/L</u>	Less Than 3000 mg/L
Tannin & Lignin	<u>N Y/N</u>	<u>Y/N</u>	No Trace
Bicarbonates	<u>N</u>	<u>mg/L</u>	Less Than 500 mg/L

Test Results Sample #2

	Field	Lab	Standards
Temp	<u>° F</u>	<u>° F</u>	Max Temp 120° F
pH	<u></u>	<u></u>	6.0 - 8.0
Sulfates	<u>mg/L</u>	<u>mg/L</u>	Less Than 1800 mg/L
Chlorides	<u>mg/L</u>	<u>mg/L</u>	Less Than 3000 mg/L
Tannin & Lignin	<u>Y/N</u>	<u>Y/N</u>	No Trace
Bicarbonates	<u></u>	<u>mg/L</u>	Less Than 500 mg/L

Cement Slurry Temperature

LEAD 98 ° F

TAIL ° F

Remarks:

RESEARCH DESIGN

[illegible]