Job Summary

Ticket Number	Ticket Date
TN# BCO-1902-0003	2/4/2019

COUNTY	COMPANY	API Number
Weld	NGL Water Solutions DJ, LLC	05-123-47682

WELL NAME	RIG	JOB TYPE
South Weld SWD #1		Intermediate Casing

SURFACE WELL LOCATION	CJES Field Supervisor	CUSTOMER REP
40.02506 -104.81654	Brian Douglass	Tom Thomas

EMPLOYEES		
James McFarland	*Cody Michel*	
Justin Collin		
Mike Arthur		

WELL PROFILE

Max Treating Pressure (psi):		Bottom Hole Static Temperature (°F):	
Bottom Hole Circulating Temperature (°F):		Well Type:	

Open Hole

	Size (in)	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
1	9.875	1211	9166		
2					

Casing/Tubing/Drill Pipe

Type	Size (in)	Weight (lb/ft)	Grade	TMD From (ft)	TMD to (ft)	TVD From (Ft)	TVD to (Ft)
Surface	10.75	40		0	1211		
Intermediate	7.625	29.7		0	9164	0	7867

CEMENT DATA

Stage 1: From Depth (ft): 7867 To Depth (ft): 9164
Type: **1st Stage**
Volume (sacks): 220 Volume (bbls): 70.5

Cement & Additives:	Density (ppg)	Yield (ft^3/sk)	Water Req.
65% CJ914+35%CJ010-74+.4%CJ704+.3%CJ415+25%CJ766+.6%CJ548+.2%CJ240+.25pps	13.5	1.80	8.73

Stage 2: From Depth (ft): 0 To Depth (ft): 6690
Type: **2nd stage Lead**
Volume (sacks): 890 Volume (bbls): 337.6

Cement & Additives:	Density (ppg)	Yield (ft^3/sk)	Water Req.
100% CJ922+.3%CJ704+.2%CJ240+2%CJ042+10pps CJ611C+.4%CJ511+.6%CJ210K+.25pps CJ600	12.5	2.13	11.04

Stage 3: From Depth (ft): 6690 To Depth (ft): 7867
Type: **2nd Stage Tail**
Volume (sacks): 140 Volume (bbls): 44.9

Cement & Additives:	Density (ppg)	Yield (ft^3/sk)	Water Req.
65%CJ914+35%CJ010-74+.4%CJ704+.3%CJ415+25%CJ766+.6%CJ548+.25PPSCJ600	13.5	1.80	8.73

Stage 4: From Depth (ft): To Depth (ft):
Type:
Volume (sacks): Volume (bbls):

Cement & Additives:	Density (ppg)	Yield (ft^3/sk)	Water Req.

SUMMARY

				Stage 1	Stage 2
Preflushes:	80	bbls of	Weighted Spacer	Calculated Displacement (bbl):	420	361
	20	bbls of	Fresh Water	Actual Displacement (bbl):	425	370
		bbls of				

TotalPreflush/Spacer Volume (bbl): 100
Total Slurry Volume (bbl):
Total Fluid Pumped
Returns to Surface: Spacer 40 bbls

Plug Bump (Y/N): n Bump Pressure (psi): n/a
Lost Returns (Y/N): n (if Y, when)

Job Notes (fluids pumped / procedures / tools / etc.): Job notes go here!

Customer Representative Signature:

Thank You For Using
CJES O-TEX Cementing

Cement Job Log

C&J ENERGY SERVICES

Customer: NGL Water Solutions DJ, LLC	**Date:** 2/5/2019	**Serv. Supervisor:** Brian Douglass	
Cust. Rep.: Tom Thomas	**Ticket #:** BCO-1902-0003	**Serv. Center** Brighton - 3021	
Lease: South Weld SWD #1	**API Well #:** 05-123-47682	**County:** Weld	**State:** CO
Well Type: Disposal	**Rig:** Patterson 346	**Type of Job:** Intermediate Casing	

Materials Furnished by C&J ENERGY SERVICES

Plugs	Casing Hardware	Sacks of Cement	Fluid Dens (lb/gal)	Excess	Yield (cuft/sk)	Mix Water (gal/sk)	Fluid Volume (bbls)	Mix Water (bbls)
11 ppg Water Based Spacer - Spacer Recipe: V	+138.72 PPB CJ300+1.0 PPB CJ209+12.92 PPB CJ801+0.5 PPB CJX157011		11				40.00	
First Stage Cement	65 % CJ914+35 % CJ010-74 +0.4 % CJ704+0.3 % CJ415+25.0 % CJ766+0.6 % CJ548+0.2 % CJ240+0.25 PPS CJ600	220	13.5		1.80	8.73	70.50	46
Displacement - Slow down 10 bbls before stage							425.00	
11 ppg Water Based Spacer - Spacer Recipe: V	+138.72 PPB CJ300+1.0 PPB CJ209+12.92 PPB CJ801+0.5 PPB CJX157011		11				40.00	
2nd Stage Lead	+100 % CJ922 +0.3 % CJ704+0.2 % CJ240+2.0 % CJ042+10.0 PPS CJ611C+0.4 % CJ511+0.6 % CJ210K+0.25 PPS CJ600	890	12.5		2.13	11.04	337.00	234
2nd Stage Tail	65 % CJ914+35 % CJ010-74 +0.4 % CJ704+0.3 % CJ415+25.0 % CJ766+0.6 % CJ548+0.25 PPS CJ600	140	13.5		1.80	8.73	45.00	29
Displacement	Mud						370.00	
+100 % CJ922+0.3 % CJ704+0.2 % CJ240+2.0								
Displacement Chemicals:								

OPEN HOLE DATA	TUBULAR DATA	SIZE WEIGHT	THREAD	DEPTH (ft)	GRADE	ID (in)	BURST (psi)	COLLAPSE (psi)
9.75" OH (1211-9158')	7.625 29.7# (0-9158')							

PREVIOUS CASING DATA	PERFORATED INTERVAL DATA				CASING EQUIPMENT DEPTHS			
	TOP	BTM	SPF	SIZE	SHOE	FLOAT	STAGE	ACP
10.75" 40.5# (0-1211')					9158			

WELL FLUID		DISPLACEMENT FLUID			DIFF PRESS	CSG LIFT	MAX PRESS		WATER ON LOC (bbl)
TYPE	DENSITY	VOLUME	TYPE	DENSITY	(psi)	(psi)	(psi)		
			mud	9.8 ppg	250		1000		800

Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details
7:00 PM						0	arrive on location
7:05 PM						0	tailgate meeting
7:10 PM						0	spot trucks/ containment
7:30 PM						0	rig in
1:00 AM						0	safety meeting
1:23 AM	3	350			3	3	fill lines
1:25 AM						3	pressure test lines to 5000 psi
1:30 AM	5.5	250			40	43	weighted spacer @ 11.0ppg
1:39 AM	5	200			10	53	fresh h20
1:43 AM	6	300			70.5	123.5	mix and pump cement @ 13.5ppg (220sx)
2:03 AM						123.5	shutdown/ wash lines and pump
2:15 AM						123.5	drop dart
2:16 AM	6	600			425	548.5	displace fluid(40bbls mud) (40bbls h20)(345 bbls mud)
3:16 AM						548.5	slow down to 3bpm to pass through DV tool
3:35 AM		500				548.5	last 20bbls slow to 5 bpm
3:41 AM						548.5	shutdown/ did not bump plug
3:43 AM						548.5	hold for 2 mins
3:44 AM						548.5	Check Float
3:47 AM						548.5	drop contigentcy bomb
4:35 AM	2.5	816			2	550.5	open tool(opened at 816psi)
4:36 AM	3.5	230			13	563.5	displace fluid
4:39 AM						563.5	shutdown and turn over to rig to circulate hole
10:15 AM						563.5	safety meeting
10:26 AM	3	100			3	566.5	fill lines

Left Yard	2/5/19 6:30 PM	Left Loc.	2/6/2019 14:45PM	Start Pump	2/6/19 1:23 AM
Arrived Loc.	2/5/19 7:00 PM	Returned Yd.	2/6/19 3:00 PM	End Pump	2/6/19 1:55 PM

Bumped Plug (psi)	Final Differential (psi)	Floats Held (Y/N)	PSI Left on Casing	Cement to Surface (bbl)	Top of Cement (ft)	Full Circ. During Job (Y/N)	Max Pump Pressure (psi)	Casing Rotation	Standby Charged(hrs)	Casing Reciprocation		
No	1000	yes	527	0	0	yes	2000	n/a		n/a		

Brian Douglass — Service Supervisor

2/4/2019 — Date

Cement Job Log

C&J ENERGY SERVICES

Customer:	NGL Water Solutions DJ, LLC	**Date:**	5-Feb-19	**Serv. Supervisor:**	Brian Douglass
Cust. Rep.:	Tom Thomas	**Ticket #:**	BCO-1902-0003	**Serv. Center**	Brighton
Lease:	**South Weld SWD #1**	**API Well #:**	**05-123-47682**	**County:** **Weld**	**State:** CO
Well Type:	**Disposal**	**Rig:**		**Type of Job:**	**Intermediate Casing**

Time	Rate (bbl/min)	Csg. Press. (psi)	Tbg. Press (psi)	Ann. Press. (psi)	Stg. Vol. (bbl)	Cum. Vol. (bbl)	Stage Details	Mark X for last fluid pumped
10:29 AM						566.5	pressure test lines to 4000 psi	
10:35 AM	6	200			40	606.5	mix and pummp weighted spacer @ 11.0ppg	
10:43 AM	5	200			10	616.5	fresh h20	
10:48 AM	6	230			337	953.5	mix and pump lead cement @ 12.5ppg (890sx)	
11:39 AM	5.5	250			45	998.5	mix and pump tail cement @ 13.5ppg (140sx)	
11:52 AM						998.5	shutdown/ waash lines and pump	
11:57 AM						998.5	drop plug	
11:59 AM	7	1100			361	1359.5	displace fluid with mud	
12:50 PM						1359.5	slow down to 3bpm	
12:55 PM						1359.5	shutdown	
12:57 PM	3	890			9	1368.5	pump mud	
1:01 PM						1368.5	shutdown(did not bump plug)	
1:20 PM						1368.5	rig out	
2:45 PM						1368.5	leave location	
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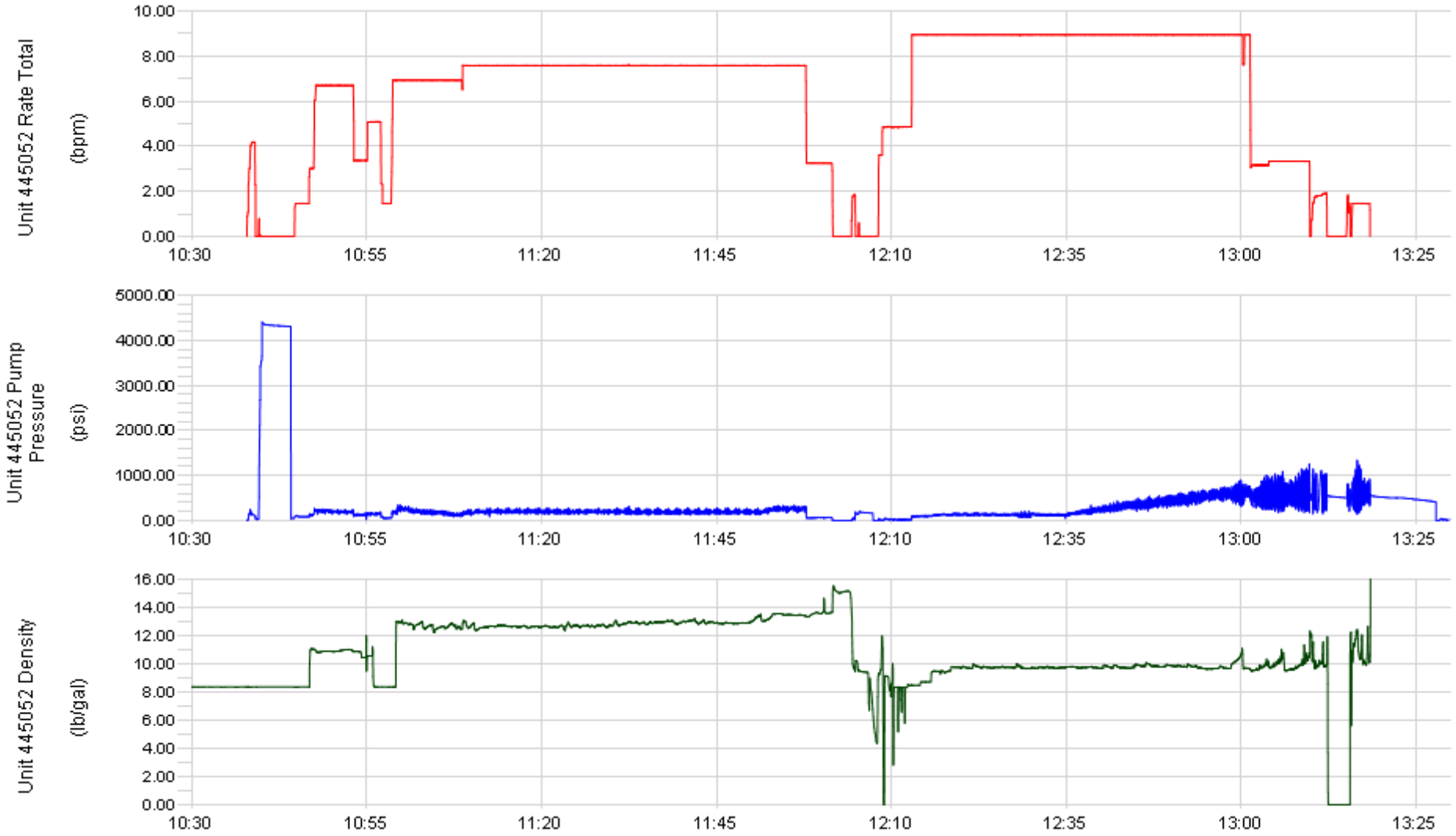
Comments/Special Customer Instructions

C&J ENERGY SERVICES
O-TEX CEMENTING

Client	NGL	Client Rep	MR. TOM THOMAS	Supervisor	BRIAN DOUGLASS
Ticket No.	BCO-1902-0003	Well Name	SOUTH WELD SWD #1	Unit No.	445052
Location	SWNE SEC.30-T1N-R66W	Job Type	2-Stage Intermediate	Service District	BRIGHTON,CO
Comments	1ST STAGE			Job Date	02/05/2019

C&J ENERGY SERVICES
O-TEX CEMENTING

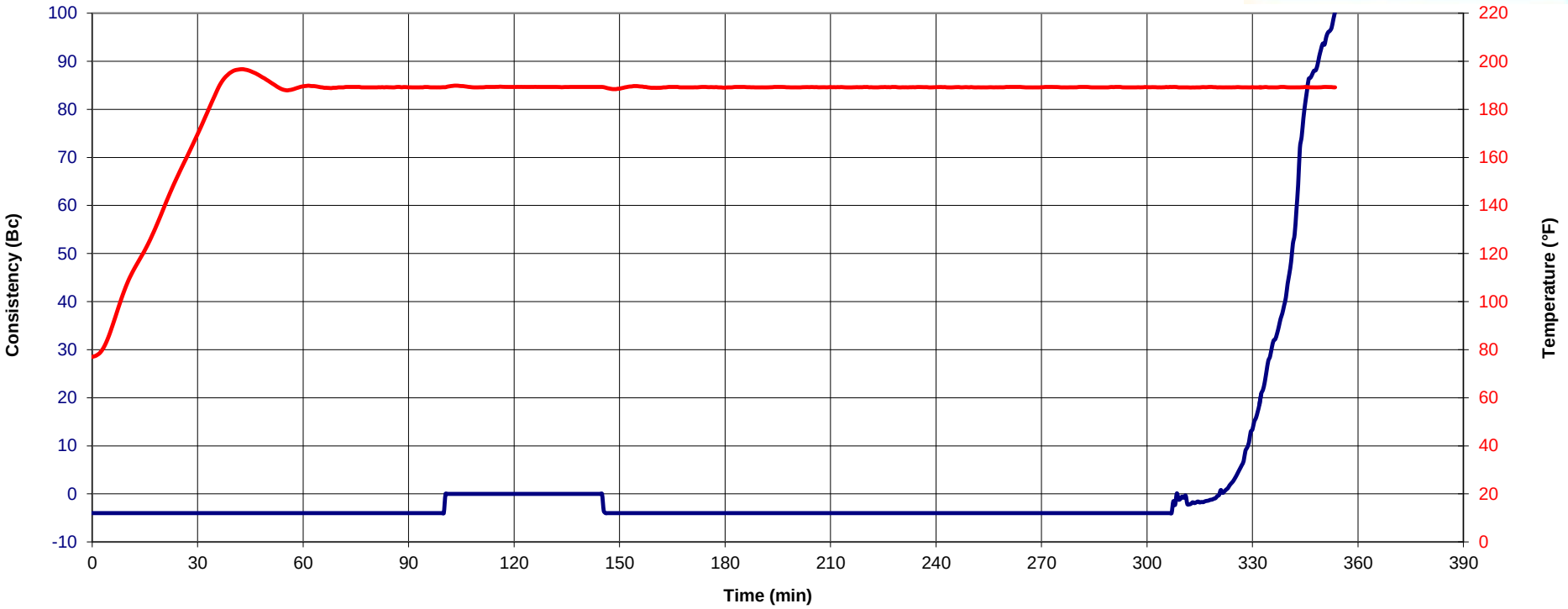
Client	NGL	Client Rep	MR. TOM THOMAS	Supervisor	BRIAN DOUGLASS
Ticket No.	BCO-1902-0003	Well Name	SOUTH WELD SWD #1	Unit No.	445052
Location	SWNE SEC.30-T1N-R66W	Job Type	2-Stage Intermediate	Service District	BRIGHTON,CO
Comments	2N STAGE			Job Date	02/06/2019



Thickening Time

NGL Water Solutions **South Weld SWD #1**

C&J ENERGY SERVICES
D-TEX CEMENTING



BASE BLEND: 1-2-0 'G'
0.2% CJ 240
0.3% CJ 415
0.6% CJ 548
0.4% CJ 704
25% CJ 766

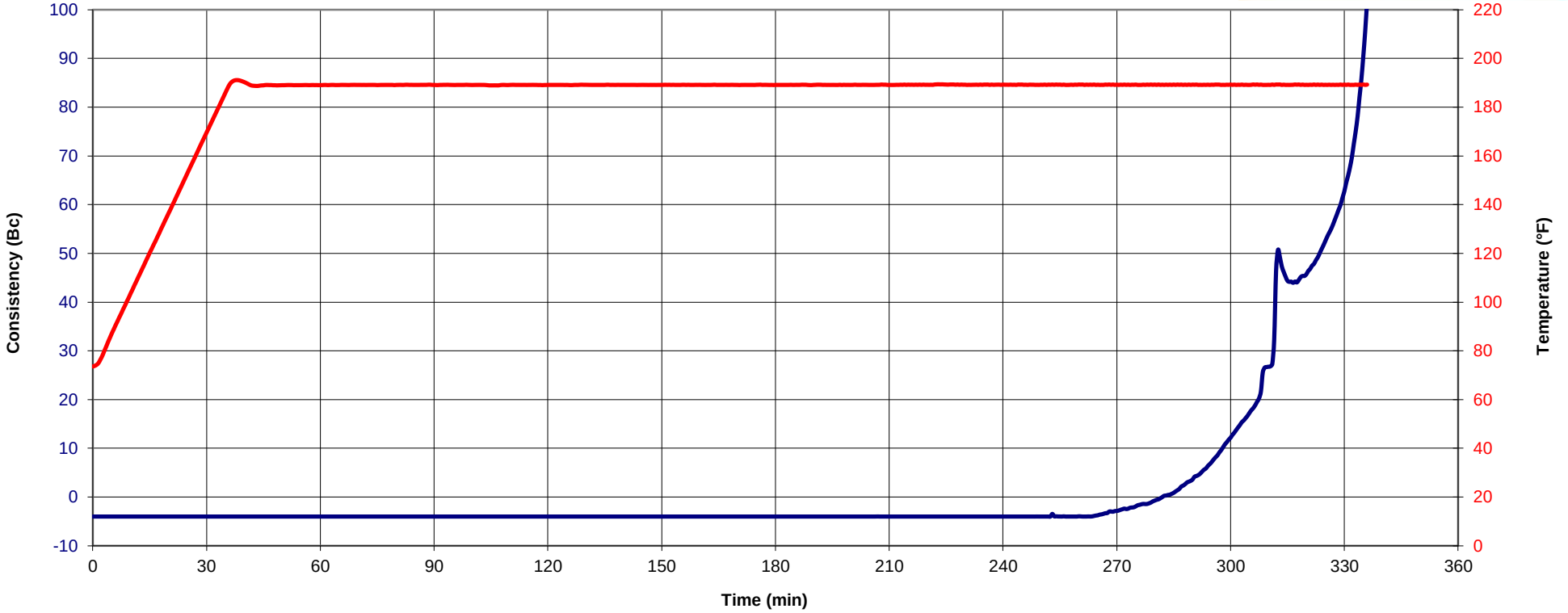
BHCT: 215 °F
SCHEDULE: Intermediate Casing Tail 1s
INSTRUMENT #: 183
TEST DATE: 2/2/2019
WATER SOURCE: Field Water
CEMENT SOURCE: Field Blend

Cement: ***Dacotah GK6***
Fly Ash: ***Boral***

Working Time $_{40Bc}$:	5:39	Hr:Min.
Thickening Time $_{70Bc}$:	5:43	Hr:Min.
Thickening Time$_{100\ Bc}$:	5:53	Hr:Min.
Density:	13.50	lbs/gal
Yield:	1.81	ft^3/sack
Water Requirement:	8.84	gal/sack

Thickening Time

NGL Water Solutions **South Weld SWD #1**



BASE BLEND: 0-1-0 'III'
2% CJ 042
0.6% CJ 210K
0.2% CJ 240
0.4% CJ 511
0.3% CJ 704
10 lb/sk CJ 611C

BHCT: 190 °F
SCHEDULE: Intermediate Casing Lead 2
INSTRUMENT #: 189
TEST DATE: 2/2/2019
WATER SOURCE: Field Water
CEMENT SOURCE: Field Blend

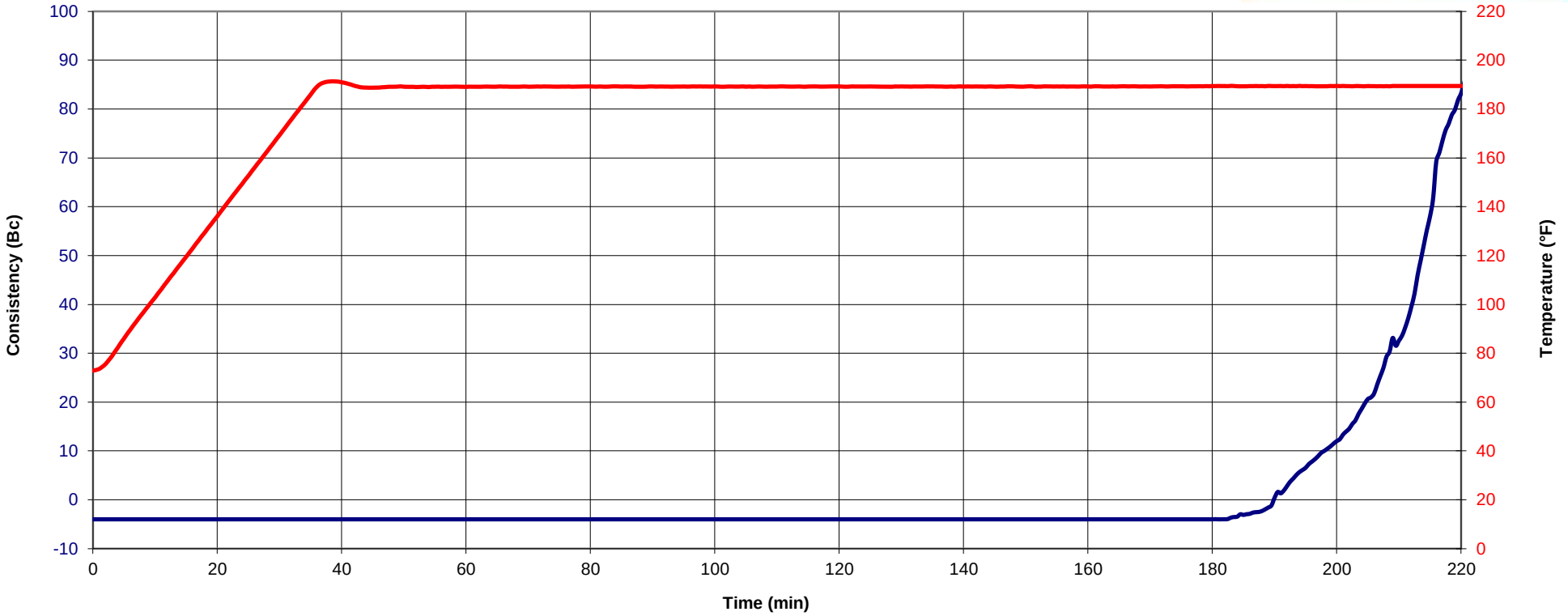
Cement: ***Dacotah III***

Working Time $_{40Bc}$:	5:13	Hr:Min.
Thickening Time $_{70Bc}$:	5:32	Hr:Min.
Thickening Time$_{100\ Bc}$:	5:36	Hr:Min.
Density:	12.50	lbs/gal
Yield:	2.13	ft^3/sack
Water Requirement:	11.04	gal/sack

Thickening Time

NGL Water Solutions **South Weld SWD #1**

C&J ENERGY SERVICES
O-TEX CEMENTING



BASE BLEND: 1-2-0 'G'
0.3% CJ 415
0.6% CJ 548
0.4% CJ 704
25% CJ 766

BHCT: 190 °F
SCHEDULE: Intermediate Casing Tail 2n
INSTRUMENT #: 184
TEST DATE: 2/2/2019
WATER SOURCE: Field Water
CEMENT SOURCE: Field Blend

Cement: ***Dacotah GK6***
Fly Ash: ***Boral***

Working Time $_{40Bc}$:	3:32	Hr:Min.
Thickening Time $_{70Bc}$:	3:36	Hr:Min.
Thickening Time$_{100\ Bc}$:	3:43	Hr:Min.
Density:	13.50	lbs/gal
Yield:	1.81	ft^3/sack
Water Requirement:	8.84	gal/sack