



April 18, 2015

Fluid and Chemical Totals

Fluid

Treated Water	122,724 gal
Total	122,724 gal

Chemical

DB-20	20 gal
15% HCl Acid	5000 gal
S101	30 gal
HTAI-6	125 gal
HTAI-8	125 gal
ICA-8	75 gal
ICA-8C	40 lbs
AI-8	125 gal

TOTAL	128,264 gal
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Maximum Rate	40.2 bpm
Maximum Pressure	1418 psi



4/18/15

EXECUTIVE SUMMARY

On April 18, 2015 a stimulation treatment was performed on the Lyons through Atoka Formation in the NGL C5 well. The following information was gathered during the treatment:

Zone	1
Job Type:	Treated Water
Formation Name:	Lyons through Atoka
Max Slurry Rate	40.2 bpm
Avg. Slurry Rate:	16.2 bpm
Max Pressure:	1,418 psi
Avg. Pressure:	459 psi
Avg HHP:	452 HHP
ISIP (0 min.):	339 psi
ISIP (5 min.):	-53 psi
ISIP (10 min.):	-50 psi
ISIP (15 min.):	-48 psi
Fracture Gradient	0.47 psi/ft
Total Fluid in Formation:	2,922 bbls

JOB SUMMARY

If you have any questions or concerns please contact me using the information below.

Thank you,

Jake Miller
District Technical Engineer
jmiller@sanjel.com

SERVICE TICKET
9202051

9202051

Client Name	Well Name	Job Date
NGL Water Solutions DJ LLC	NGL C5	April 18, 2015
Client Representative	Location	Job Type
Tom Majors	Sec 29-T2N-R64W	Treated Water

450								
	O.D. (in)	Weight (lb/ft)	Depth (ft)	Volume (bbls)	Max. Pres. (psi)	Treatment Data		
Liner	7.0	29	8672	321.73	7240	Flush Fluid Density	8.34	lbs/gal
Casing	4.5	11.6	1881	29.16	7780	TVD	9668	ft
Perforations	From (ft)	To (ft)				Fracture Gradient	0.469	psi/ft
Intervals	10553	Lyons - Atoka Formations				Breakdown Pressure		Psi
						ISIP	339	Psi
						5 min. Shut-in Pres.		Psi
						Underflush	N/A	Gals
		Minimum			Maximum		Average	
Pressure	Psi	0.1			1418.0		458.5	
Rate	bbls/min				40.2		16.2	
Horsepower	HHP				1397		452	
Available HP	HHP	13200.0			13200.0		13200.0	

Fluid Volume (bbls)	Chemical		Concentration (per 1000gals)	Acid Spearhead (bbl)	
	Treating Materials Batch Mixed	Treating Materials Mixed On The Fly			
2921.6		DB-20	0.15		
		15%HCL			119

Fluid Type:	Water	Fluid Temperature:	70 °F	On Stg#:	8:35 AM	Off Stg#:	3:45 PM
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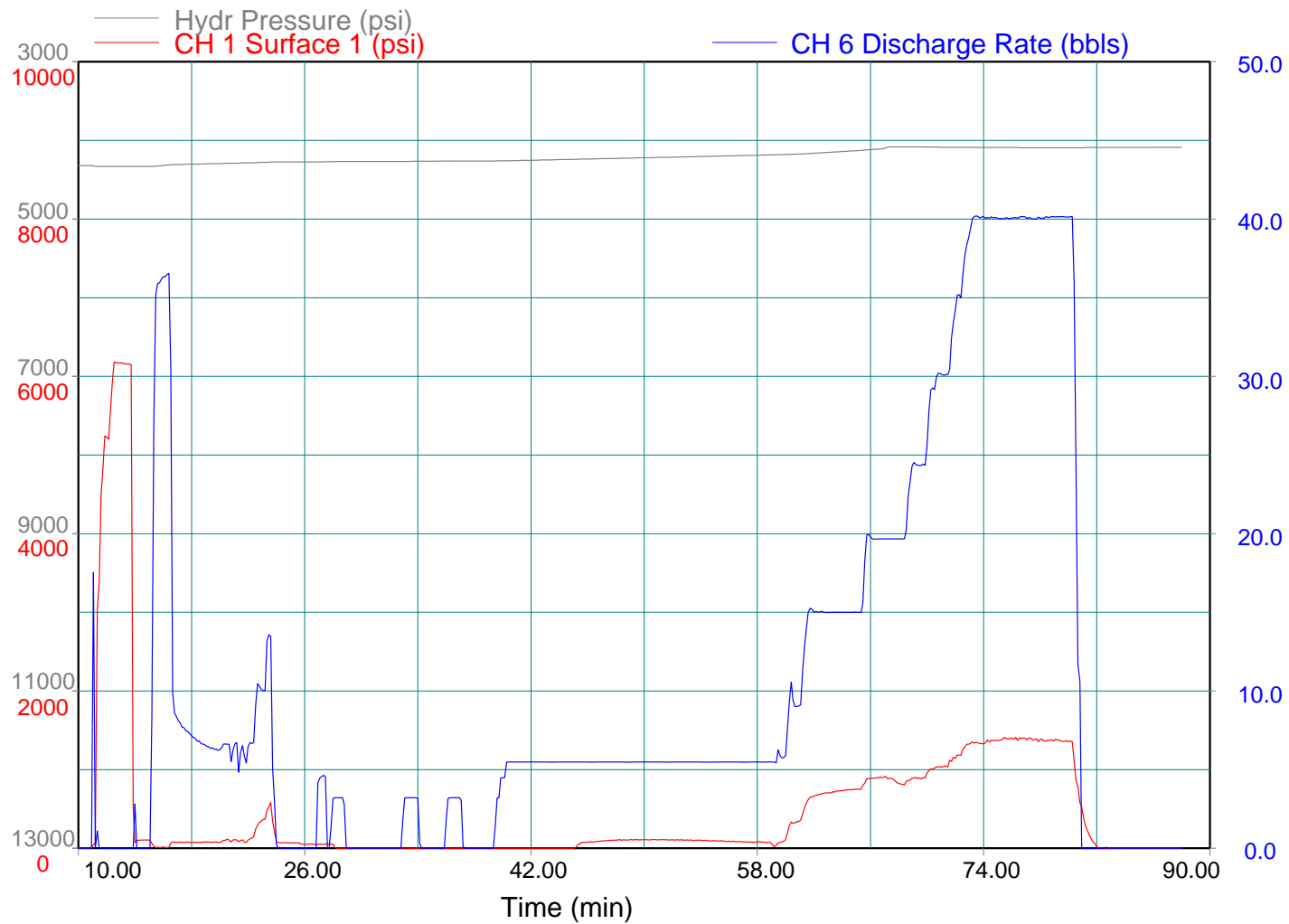
Proppant Data:						
Type	Mesh	S.G.	Pumped (lbs)	Concentration (PPa)		In Formation (lbs)
				Start	End	

Maximum Concentration at Formation:	lbs/gal	Total Proppant in Formation:	lb
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Treatment Events:															
Time (hh:mm:ss)	STAGE	PRESSURE	FLUIDS				PROPPANT								Remarks
	Stage #	Casing (Psi)	Clean Fluid per Stage bbls	Slurry per Stage (bbbls)	Slurry Cum. (bbbls)	Slurry Rate (bbl/min)	Blender Conc. (lbs/gal)	Total Mass (lbs)							
8:35:44		0													Open Wellhead
8:35:52	1	581	130.0	130.0	130.0	36.5									Load Well Treated Water
8:42:17	2	113	119.0	119.0	119.0	5.5									15% HCL
9:17:46	3	1386	335.0	335.0	454.0	40.2									Treated Water Flush
9:32:51	4	1418	240.0	240.0	694.0	15.0									Treated Water Overflush
9:39:12	5	456													ISIP
12:56:40	6	0	60.2	60.2	754.2	2.5									Load Well Treated Water
13:15:34	7	0	38.0	38.0	792.2	2.5									SRT 1 Treated Water
13:30:08	8	0	75.0	75.0	867.2	5.0									SRT 2 Treated Water
13:44:46	9	0	113.2	113.2	980.4	7.5									SRT 3 Treated Water
14:00:01	10	0	149.9	149.9	1130.3	10.0									SRT 4 Treated Water
14:14:56	11	0	188.2	188.2	1318.5	12.5									SRT 5 Treated Water
14:29:54	12	232	225.4	225.4	1543.9	15.0									SRT 6 Treated Water
14:44:55	13	548	299.9	299.9	1843.8	19.9									SRT 7 Treated Water
14:59:49	14	883	450.0	450.0	1993.9	30.1									SRT 8 Treated Water
15:14:47	15	1260	616.8	616.8	2460.6	40.1									SRT 9Treated Water
15:30:15	16	339													ISIP
15:35:33	17	-53													5Min
15:40:27	18	-50													10Min
15:45:08	19	-48													15Min

NGL Water Solutions

NGL C5

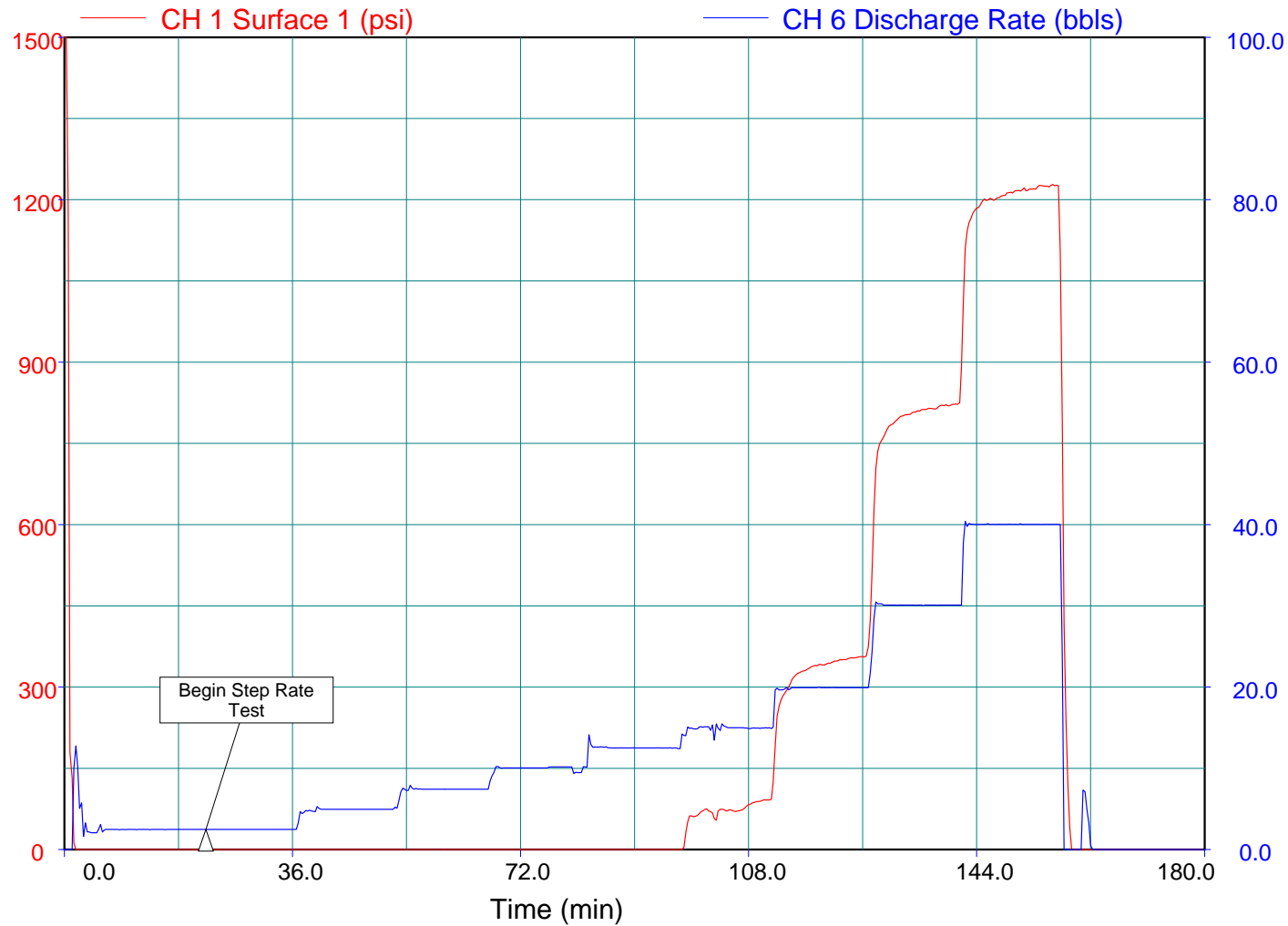


Acid Job Main

4-18-15

NGL Water Solutions

NGL C5

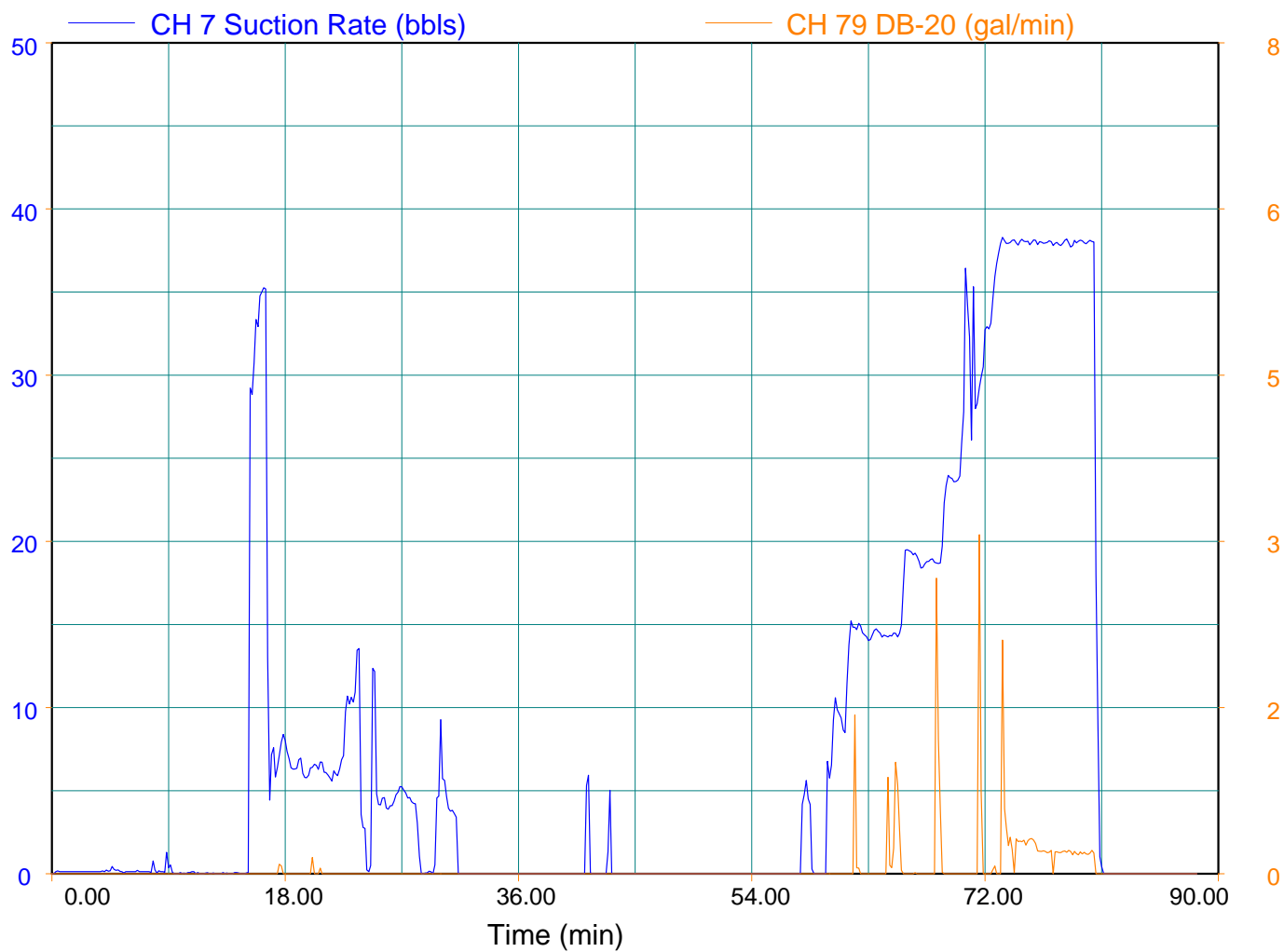


Step Rate Test Main

4-18-15

NGL Water Solutions

NGL C5

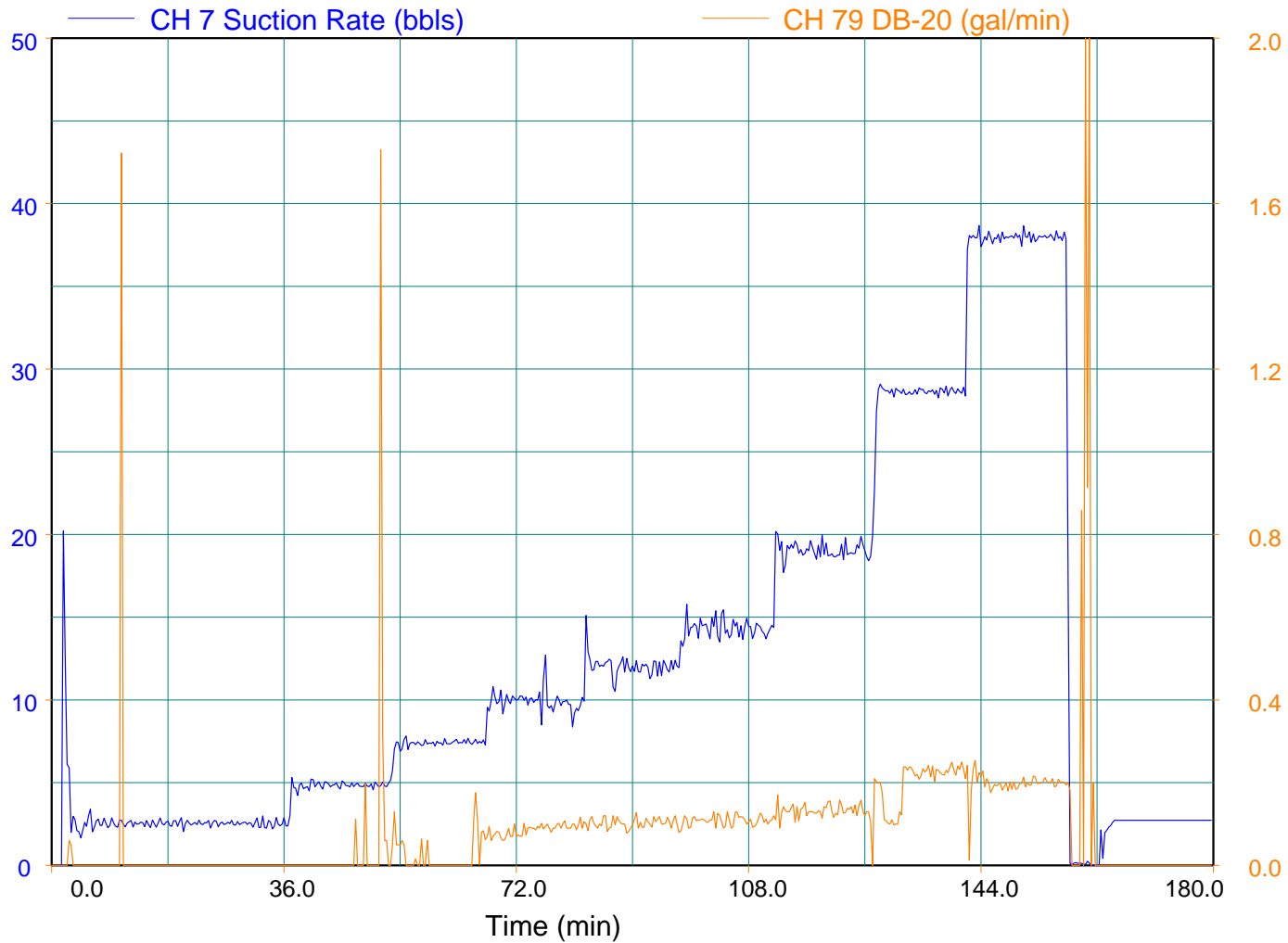


Acid Job Chem

4-18-15

NGL Water Solutions

NGL C5



Step Rate Test Chem

4-18-15