



## Pumping Service Report

9203774

Client Name NGL Water Solutions DJ, LLC	Well Name NGL C12	Rig Ensign Drilling Inc. 138	Job Date April 11,2015	Call Sheet 1057169
Client Representative Mr. Chris	Surface Well Location NE SE Sec 27:T5N:R63W	Down Hole Well Location	Job Type 2-Stage Intermediate	Lead Supervisor Schneider, Patrick (24093)

### 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

<u>Size (in)</u>	<u>Excess (%)</u>	<u>TMD From (ft)</u>	<u>TMD To (ft)</u>	<u>TVD From (ft)</u>	<u>TVD To (ft)</u>
8.750	20.000	850.000	8,300.000	--	--

### Casing

<u>Size</u> <u>(in)</u>	<u>Weight</u> <u>(lb/ft)</u>	<u>Grade</u>	<u>Collapse Pressure</u> <u>(psi)</u>	<u>Internal Yield Pressure</u> <u>(psi)</u>	<u>Capacity</u> <u>(bbl)</u>	<u>I.D.</u> <u>(in)</u>	<u>O.D.</u> <u>(in)</u>	<u>Depth From</u> <u>(ft)</u>	<u>Depth To</u> <u>(ft)</u>
9.625	36.000	J-55	2,020.0	3,520.0	65.71	8.921	10.625	0.0	850.0
7.000	26.000	L-80	5,410.0	7,240.0	317.27	6.276	7.656	0.0	8,292.0

### Products

#### Stage 1

From Depth (ft): 6811

To Depth (ft): 8292

##### Acids/Blends/Fluids :

Tail: 160 Sacks of 50% Class G / 50% Poz (1-1-0 G), Density = 13.5 lb/gal, Volume Pumped = 50 (bbl)

Water Temperature(°F) = 53 , Bulk Temperature(°F) = 35 , Slurry Temperature(°F) = 69

- + 20 % of Silica Flour (Preblend),
- + 8 % of SilFume (Preblend),
- + 0.3 % of CFR (Preblend),
- + 0.8 % of CFL-4 (Preblend),
- + 1.5 % of Gel (Preblend),
- + 0.25 lb/sack of Polyflake (Preblend),
- + 0.1 % of LTR (Preblend)

#### Stage 2

From Depth (ft): 0

To Depth (ft): 5580

##### Acids/Blends/Fluids :

Lead 1: 550 Sacks of 1:1:0 Poz:Type III, Density = 12 lb/gal, Volume Pumped = 191 (bbl)

Water Temperature(°F) = 53 , Bulk Temperature(°F) = 50 , Slurry Temperature(°F) = 62

- + 0.5 % of CFL-4 (Preblend),
- + 0.2 % of ASM-3 (Preblend),
- + 2 % of FWC-2 (Preblend)

#### Stage 3

From Depth (ft): 5580

To Depth (ft): 6811

##### Acids/Blends/Fluids :

Tail: 105 Sacks of 50% Class G / 50% Poz (1-1-0 G), Density = 13.5 lb/gal, Volume Pumped = 33 (bbl)

Water Temperature(°F) = 53 , Bulk Temperature(°F) = 50 , Slurry Temperature(°F) = 63

- + 20 % of Silica Flour (Preblend),
- + 8 % of SilFume (Preblend),
- + 0.3 % of CFR (Preblend),
- + 0.8 % of CFL-4 (Preblend),
- + 1.5 % of Gel (Preblend),
- + 0.25 lb/sack of Polyflake (Preblend),
- + 0.1 % of LTR (Preblend)

### Fluid & Cement Data

Expected Cement Top: Surface

#### Wellbore Fluid

Fluid Type	Viscosity (cP)	Density (lbs/gal)	Yield Point (psi)	Temperature (°F)	Recorded@
Water	--	--	--	--	Apr 10, 2015 16:54
Water Based Mud	--	--	--	--	Apr 10, 2015 16:54



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### Attachment & Tools

#### Down Hole Tools

<u>Tool Type</u>	<u>Depth (ft)</u>	<u>Supplier</u>
Guide/Float Shoe	8,292.000	Third Party
Float Collar	8,248.000	Third Party
Stage Tool Mechanical (MSCC)	6,811.000	Third Party

#### Tubular Plugs

<u>Tubular Plug Type</u>	<u>Size (in)</u>	<u>Supplier</u>
Stage Tool first Plug	7.000	Third Party
Stage Tool Opening Bomb	7.000	Third Party
Stage Tool Closing Plug	7.000	Third Party

### Units & Personnel

#### Units

<u>Truck Unit No.</u>	<u>Main Type</u>	<u>Sub Type</u>	<u>Tractor Unit No.</u>	<u>Main Type</u>	<u>Sub Type</u>	<u>Time On Location</u>	<u>Time Off Location</u>
201191	PICKUP	1 Ton	449087	TRAILER	Utility Trailer	04/11/2015 05:30	04/11/2015 20:00
445052	TRAILER	SCM Twin	745052	TRACTOR	Tandem - Tractor	04/11/2015 05:30	04/11/2015 20:00
749100	TRACTOR	Tandem - Tractor				04/11/2015 05:30	04/11/2015 20:00
746502	BODY JOB	Baby Bulker				04/11/2015 05:30	04/11/2015 20:00

#### Crew and Bonuses

<u>Employee</u>	<u>Start Shift</u>	<u>End Shift</u>	<u>Second Start Shift</u>	<u>Second End Shift</u>
Schneider, Patrick (24093)	04/11/2015 05:30	04/11/2015 20:00		
Leue, David (28684)	04/11/2015 05:30	04/11/2015 20:00		
Dunsbergen, Scott (29737)	04/11/2015 05:30	04/11/2015 20:00		
Phillips, James (23627)	04/11/2015 05:30	04/11/2015 20:00		
Vasquez, Brandon (29989)	04/11/2015 05:30	04/11/2015 20:00		

### Treatment Reports & Remarks

#### Treatment Report

<u>Event #</u>	<u>Event Time</u>	<u>Event Description</u>	<u>Fluid Type</u>	<u>Rate</u> (bbl/min)	<u>Tubular Pressure</u> (psi)	<u>Annular Pressure</u> (psi)	<u>Stage Volume</u> (bbl)	<u>Total Volume</u> (bbl)
1	Apr 11, 2015 05:30	Arrive On Location		--	--	--	--	0.00
2	Apr 11, 2015 05:35	Crew Briefing (Rig in)		--	--	--	--	0.00
		Remarks: discussed lease hazards and rig in procedures						
3	Apr 11, 2015 06:30	Rig In		--	--	--	--	0.00
4	Apr 11, 2015 07:00	Rig in Complete		--	--	--	--	0.00
5	Apr 11, 2015 07:00	Wait On Instructions		--	--	--	--	0.00
		Remarks: waited for rig to condition hole						
6	Apr 11, 2015 09:30	Crew Briefing (Pre Job)		--	--	--	--	0.00
		Remarks: discussed job scope and everyones dutys						
7	Apr 11, 2015 10:04	Start - Fluid	Water	2.00	--	--	1.00	1.00
		Remarks: filled lines						

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Print Date:

April 24, 2015

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## Treatment Report

Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
8	Apr 11,2015 10:06	Pressure Test Start	Water	--	5,000.0	--	--	1.00
9	Apr 11,2015 10:08	Pressure Test Complete	Water	--	0.0	--	--	1.00
		Remarks: good pressure test						
10	Apr 11,2015 10:08	Pump Preflush	Water	5.00	700.0	--	20.00	21.00
		Remarks: mud flush						
11	Apr 11,2015 10:12	Pump Spacer	Water	2.00	450.0	--	20.00	41.00
		Remarks: fresh water spacer						
12	Apr 11,2015 10:22	Mix Cement	50% Class G / 50% Poz (1-1-0 G)	5.00	950.0	--	50.00	91.00
		Remarks: 160 sks tail cement @ 13.5 ppg yield = 1.76 h2o req = 8.19						
13	Apr 11,2015 10:35	Drop Plug	Water Based Mud	--	0.0	--	--	91.00
		Remarks: dropped plug						
14	Apr 11,2015 10:41	Displace Plug	Water Based Mud	5.00	800.0	--	316.00	407.00
		Remarks: slowed to 2 bbl per min when plug went through tool and for last 20 bbl						
15	Apr 11,2015 12:03	Pumping Pressure Before Bump	Water Based Mud	2.00	800.0	--	--	407.00
16	Apr 11,2015 12:04	Bump Plug	Water Based Mud	2.00	1,200.0	--	--	407.00
		Remarks: bumped plug 300 psi over						
17	Apr 11,2015 12:07	Check Float		--	0.0	--	--	407.00
		Remarks: floats held						
18	Apr 11,2015 12:11	N/A		--	0.0	--	--	407.00
		Remarks: dropped stage tool opening bomb						
19	Apr 11,2015 12:12	Wait On Instructions		--	--	--	--	407.00
		Remarks: waited for bomb to fall						
20	Apr 11,2015 12:53	Open Stage Tool - Mechanical	Water Based Mud	1.00	1,200.0	--	2.00	409.00
		Remarks: opened stage tool						
21	Apr 11,2015 12:55	Establish Circulation		5.00	600.0	--	15.00	424.00
22	Apr 11,2015 13:05	N/A		--	--	--	--	424.00
		Remarks: turned well over to rig						
23	Apr 11,2015 13:05	Wait on Cement		--	--	--	--	424.00
		Remarks: waited for 1st stage to set up						
24	Apr 11,2015 16:30	Safety Meeting		--	--	--	--	0.00
		Remarks: discussed job scope and everyones dutys						
25	Apr 11,2015 16:54	Start - Fluid	Water	2.00	--	--	1.00	1.00
		Remarks: filled lines						
26	Apr 11,2015 16:55	Pressure Test Lines	Water	--	4,500.0	--	--	1.00
27	Apr 11,2015 16:57	Pump Preflush	Water	6.00	500.0	--	20.00	21.00
		Remarks: mudflush						
28	Apr 11,2015 17:01	Pump Spacer	Water	6.00	500.0	--	20.00	41.00
		Remarks: visweep						



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Treatment Report								
Event #	Event Time	Event Description	Fluid Type	Rate (bbl/min)	Tubular Pressure (psi)	Annular Pressure (psi)	Stage Volume (bbl)	Total Volume (bbl)
29	Apr 11,2015 17:04	Mix Cement	1:1:0 Poz:Type III	6.00	600.0	--	191.00	232.00
		Remarks: 550 sks lead cement @ 12.0 ppg yield = 1.95 h2o req = 10.88						
30	Apr 11,2015 17:36	Mix Cement	50% Class G / 50% Poz (1-1-0 G)	6.00	300.0	--	33.00	265.00
		Remarks: 105 sks tail cement @ 13.5 ppg yield = 1.76 h2o req = 8.19						
31	Apr 11,2015 17:45	Drop Plug	Water Based Mud	--	0.0	--	--	265.00
		Remarks: dropped stage tool closing plug						
32	Apr 11,2015 17:50	Displace Plug	Water Based Mud	6.00	1,100.0	--	261.00	526.00
		Remarks: slowed last 20 bbl to 2 bbl per min						
33	Apr 11,2015 18:51	Pumping Pressure Before Bump	Water Based Mud	2.00	1,300.0	--	--	526.00
34	Apr 11,2015 18:52	Bump Plug	Water Based Mud	2.00	3,000.0	--	--	526.00
		Remarks: bumped plug to 3,000 psi						
35	Apr 11,2015 18:52	Close Stage Tool	Water Based Mud	--	--	--	--	526.00
36	Apr 11,2015 18:52	Hold Pressure	Water Based Mud	--	3,000.0	--	--	526.00
		Remarks: 15 min casing integrity test						
37	Apr 11,2015 19:07	N/A	Water Based Mud	--	0.0	--	--	526.00
		Remarks: bled off pressure and got 3 bbl back						
38	Apr 11,2015 19:10	Tailgate Meeting		--	--	--	--	526.00
		Remarks: revisited JSA						
39	Apr 11,2015 19:20	Rig Out		--	--	--	--	526.00
40	Apr 11,2015 19:30	Wash	Water	--	--	--	--	526.00
		Remarks: washed pumps and lines						
41	Apr 11,2015 19:45	Job Complete		--	--	--	--	424.00
42	Apr 11,2015 19:50	Pre-Departure Meeting		--	--	--	--	424.00
43	Apr 11,2015 20:00	Leave Location		--	--	--	--	424.00
Did Float Hold:		Yes						
Fluid Returns :		Yes						
Type :		Cement						
Volume (bbl) :		46						
Temperature (°F) :		90						
FDAS Functioning Correctly :		Yes						
Was the Program Followed As Per Design? :		Yes						



**Treatment Reports & Remarks**

**Material Transfer Sheet Number**

Material Transfer Sheet Number

57270

57262

57263

57264