



# Edge Energy II, LLC

Deporter 28-27-2H

API # 05-123-47488

## Production

November 15, 2019

Quote #: QUO-38732-H2G4L9

Execution #: EXC-22525-Y2T4P402



## Edge Energy II, LLC

Attention: Trevor Smith | (720) 420-5749 | [trevor.smith@iptenergyservices.com](mailto:trevor.smith@iptenergyservices.com)

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Dear Mr. Trevor Smith,

Thank you for the opportunity to provide cementing services on this well. BJ Services strives to achieve complete customer satisfaction. If you have any questions regarding the services or data provided, please contact BJ Services at any time.

Sincerely,  
Jason Creel  
Field Engineer I | (307) 365-9038 | [jason.creel@bjsservices.com](mailto:jason.creel@bjsservices.com)

Field Office 1716 East Allison Rd., Cheyenne WY, 82007  
Phone: (307) 459-6487

Sales Office 999 18th St. Suite 1200 Denver, CO 80202  
Phone: (281) 408-2361

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# BJ Cementing Treatment Report

SERVICE SUPERVISOR	Zachary Hyde	FORMATION	NIOBRARA
CLIENT FIELD REPRESENTATIVE	Trevor Smith	RIG	Ensign 140
DISTRICT	Cheyenne, WY	COUNTY	WELD
SERVICE	Cementing	STATE / PROVINCE	CO

## WELL GEOMETRY

TYPE	ID (in)	OD (in)	WEIGHT (lb/ft)	MD (ft)	TVD (ft)	EXCESS (%)
Previous Casing	8.92	9.63	36.00	1,558.00	1,558.00	
Casing	4.78	5.50	20.00	18,399.00	8,485.00	
Open Hole	8.50	0.00	0.00	18,400.00	8,485.00	5.00

## HARDWARE

Bottom Plug Used?	No	Centralizers Type	Rigid
Top Plug Used?	Yes	Landing Collar Depth (ft)	18,392
Top Plug Provided By	Non BJ	Pipe Movement	None
Top Plug Size	5.500	Job Pumped Through	No Manifold
Centralizers Used	Yes	Top Connection Thread	BTC
Centralizers Quantity	230.00	Top Connection Size	5.5

## CIRCULATION PRIOR TO JOB

Well Circulated By	Rig	PV Mud Out	14
Circulation Prior to Job	Yes	YP Mud In	9
Circulation Time (min)	180.00	YP Mud Out	9
Circulation Rate (bpm)	10.00	Solids Present at End of Circulation	No
Circulation Volume (bbls)	1800.00	10 sec SGS	4
Lost Circulation Prior to Cement Job	No	10 min SGS	7
Mud Density In (ppg)	9.60	30 min SGS	14
Mud Density Out (ppg)	9.60	Flare Prior to / during the Cement Job	No
PV Mud In	14	Gas Present	No

## TEMPERATURE

Ambient Temperature (°F)	36.00	Slurry Cement Temperature (°F)	70.00
Mix Water Temperature (°F)	70.00	Flow Line Temperature (°F)	160.00

Client: Edge Energy II, LLC

Well: DEPORTER 28-27-2H

Well API: 05-123-47488

Start Date: 11/14/2019

End Date: 11/15/2019

Field Ticket #: FT-22525-Y2T4P40201-  
185484484



## FLUID DETAILS

FLUID TYPE	FLUID NAME	DENSITY (ppg)	YIELD (Cu Ft/sk)	H <sub>2</sub> O REQ (gals/sk)	PLN TOP FLD (ft)	LENGTH (ft)	VOL (sk)	VOL (Cu Ft)	VOL (bbls)
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	12.0000			926.00				28.0000
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	11.5000			686.00				26.0000
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	11.0000			686.00				26.0000
Lead Slurry	BJCem P100.3.01C	12.5000	2.2088	12.55	0.00	7,000.00	785	1734.0000	308.8000
Tail Slurry	BJCem P50.6.02C	13.5000	1.4774	7.45	7,000.00	11,215.00	1830	2703.0000	481.4000
Displacement 1	Retarded Water w/ Clay Protection & Biocide	8.3300			17,723.00			0.0000	10.0000
Displacement Final	Water w/ Clay Protection & Biocide	8.3308			0.00			0.0000	393.1000

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Start Date: 11/14/2019

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FLUID TYPE	FLUID NAME	COMPONENT	CONCENTRATION	UOM
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-7C	2.0000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	SPACER SURFACTANT, SS-267	1.0000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-31	0.5000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	IntegraGuard GW-86	1.2000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	WEIGHTING ADDITIVE, W-11	243.3100	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	WEIGHTING ADDITIVE, W-11	243.3100	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	SPACER SURFACTANT, SS-267	1.0000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-31	0.5000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-7C	2.0000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	IntegraGuard GW-86	1.2000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	SPACER SURFACTANT, SS-267	1.0000	GPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	IntegraGuard GW-86	1.2000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	WEIGHTING ADDITIVE, W-11	243.3100	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-7C	2.0000	PPB
Spacer / Pre Flush / Flush	IntegraGuard EZ Spacer II	RETARDER, R-31	0.5000	PPB
Lead Slurry	BJCem P100.3.01C	FLUID LOSS, FL-24	0.3000	BWOB
Lead Slurry	BJCem P100.3.01C	IntegraGuard GW-86	0.2000	BWOB
Lead Slurry	BJCem P100.3.01C	CEMENT, ASTM TYPE III	100.0000	PCT
Lead Slurry	BJCem P100.3.01C	EXTENDER, BENTONITE	4.0000	BWOB
Lead Slurry	BJCem P100.3.01C	RETARDER, SR-20	0.4000	BWOB
Lead Slurry	BJCem P100.3.01C	FOAM PREVENTER, FP-25	0.3000	BWOB
Lead Slurry	BJCem P100.3.01C	IntegraCare EC-2	3.0000	BWOB
Lead Slurry	BJCem P100.3.01C	IntegraSeal POLI	0.1300	LBS/SK
Tail Slurry	BJCem P50.6.02C	EXTENDER, BENTONITE	2.0000	BWOB
Tail Slurry	BJCem P50.6.02C	RETARDER, SR-20	0.1000	BWOB
Tail Slurry	BJCem P50.6.02C	FOAM PREVENTER, FP-25	0.3000	BWOB
Tail Slurry	BJCem P50.6.02C	Flyash (Rockies)	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	FLUID LOSS, FL-66	0.2000	BWOB
Tail Slurry	BJCem P50.6.02C	CEMENT, CLASS G	50.0000	PCT
Tail Slurry	BJCem P50.6.02C	IntegraGuard GW-86	0.1000	BWOB
Displacement Final	Water w/ Clay Protection & Biocide	ResCare CS-2	0.0800	GPB
Displacement Final	Water w/ Clay Protection & Biocide	BIOCIDE, BIOC11139W	0.0100	GPB

## DISPLACEMENT AND END OF JOB SUMMARY

Displaced By	Rig	Amt of Cement Returned / Reversed	8.00
Calculated Displacement Vol (bbls)	408.00	Method Used to Verify Returns	Visual
Actual Displacement Vol (bbls)	408.00	Amt of Spacer to Surface	80.00
Did Float Hold?	Yes	Pressure Left on Casing (psi)	0.00
Bump Plug	Yes	Amt Bled Back After Job	4.50
Bump Plug Pressure (psi)	2600.00	Total Volume Pumped (bbls)	1254.00
Were Returns Planned at Surface	Yes	Top Out Cement Spotted	No
Cement Returns During Job	Full	Lost Circulation During Cement Job	No

# BJ Cementing Event Log

Long String - Cheyenne, WY

SEQ	START DATE / TIME	EVENT	DENSITY (ppg)	PUMP RATE (bpm)	PUMP VOL (bbls)	PIPE PRESSURE (psi)	COMMENTS
1	11/14/2019 20:34	Callout					Crew gets called out requested time 0000 11/15/19
2	11/14/2019 22:30	Depart for Location					Crew departs for location
3	11/14/2019 22:30	Arrive on Location					Crew arrives on location
4	11/14/2019 23:30	Spot Units					Spot units
5	11/15/2019 00:00	Rig Up					Crew rigs up iron and hoses needed for job
6	11/15/2019 01:00	Rig					Crew waits for rig to finish circulating
7	11/15/2019 03:30	STEACS Briefing					Crew has a briefing with company man and rig crew discussing the job
8	11/15/2019 04:00	Prime Up	8.3300	3.00	3.00	300.00	Filled lines
9	11/15/2019 04:02	Pressure Test					Pressure tested lines to 5500 psi
10	11/15/2019 04:09	Pump Spacer	12.0000	6.00	28.00	600.00	Pumped 28 bbls of Spacer at 12ppg with surfactant
11	11/15/2019 04:15	Pump Spacer	11.5000	6.00	26.00	600.00	Pumped 26 bbls of Spacer at 11.5ppg with surfactant
12	11/15/2019 04:19	Pump Spacer	11.0000	3.00	26.00	300.00	Pumped 26 bbls of Spacer at 11ppg with surfactant
13	11/15/2019 04:33	Pump Lead Cement	12.5000	8.00	308.00	400.00	Pumped 308 bbls of lead at 12.5ppg(785sk,2.2yld,12.55gal/sk)
14	11/15/2019 05:21	Pump Tail Cement	13.5000	8.00	485.00	300.00	Pumped 485 bbls of Tail at 13.5ppg(1855sk,1.47yld,7.45gal/sk)
15	11/15/2019 06:42	End Pumping					Shutdown
16	11/15/2019 06:42	Wash Pumps and Lines					Washed pump and lines
17	11/15/2019 06:52	Drop Top Plug					Dropped top plug
18	11/15/2019 06:52	Pump Displacement	8.3300	8.00	10.00	300.00	Pumped the first 10 bbls of displacement with retarder
19	11/15/2019 06:53	Pump Displacement	8.3300	8.00	378.00	3400.00	Pumped 378bbls of displacement with rescare and biocide
20	11/15/2019 07:38	Spacer Back-to-Surface					At 320 away got spacer to surface
21	11/15/2019 07:38	Cement Back-to-Surface					At 400 away got cement to surface. Had a total of 8 bbls of cement to surface
22	11/15/2019 07:38	Pump Displacement	8.3300	3.00	20.00	2600.00	Slowed rate last 20 bbls to 3 bpm
23	11/15/2019 07:42	Land Plug					Landed plug went 500psi over FCP. FCP was 2600psi brought it up to 3200psi for 3 minutes
24	11/15/2019 07:45	Check Floats					Checked floats got 4.5bbls back
25	11/15/2019 07:47	Rig Down					Crew rigs down iron and hoses

Client: Edge Energy II, LLC

Well Name / API: DEPORTER 28-27-2H / 05-123-47488

Well MD: 18215



Quote #: QUO-38732-H2G4L9

Plan #: ORD-22525-Y2T4P4

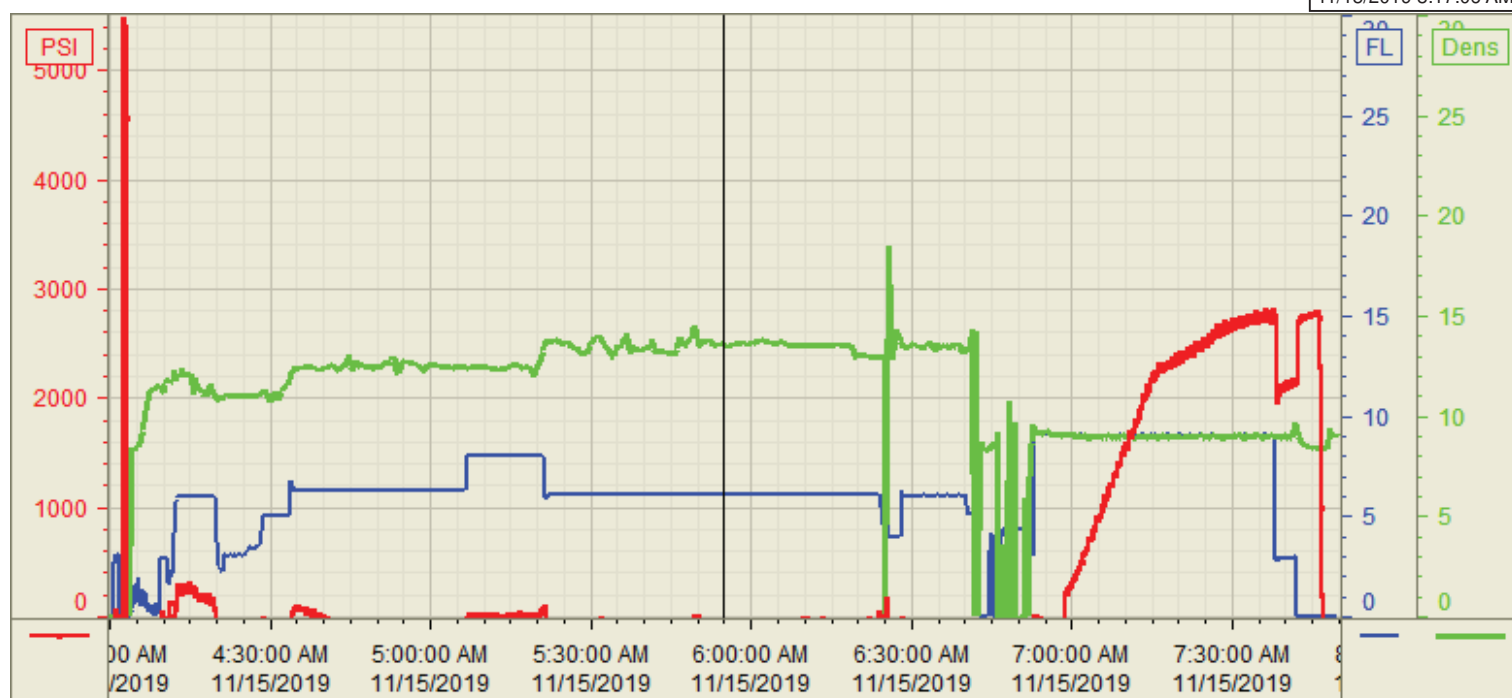
Execution #: EXC-22525-Y2T4P402

Customer: Edge Energy  
Well Number: 28-27-2H  
Lease Info: Deporter



Print Date/Time

11/15/2019 8:17:06 AM



	Name	Y value	X value/time stamp	Tag name Y
1	DS - Press (PSI)	-86.9 i.	11/15/2019 5:55:00 AM i.	Cementer\DS_DISCHARGE_PRESS_DIAL
2	Den - Density (PPG)	13.56	11/15/2019 5:54:56 AM	Cementer\DENSITY_ACTUAL_RATE
3	Pump Rate	6.07	11/15/2019 5:54:56 AM	Cementer\Flow_Combined
4				
5				

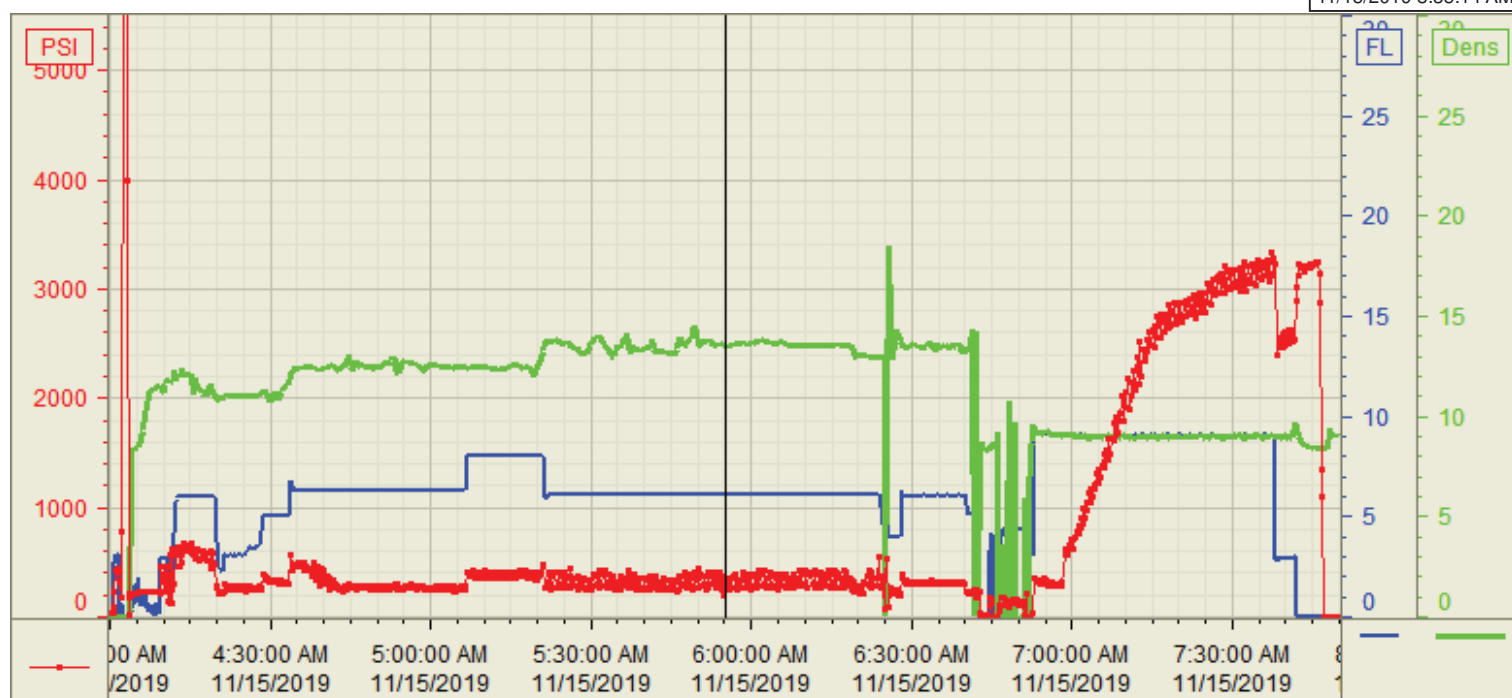
Source: Control1 8:17:06 AM

Customer: Edge Energy  
Well Number: 28-27-2H  
Lease Info: Deporter



Print Date/Time

11/15/2019 8:35:14 AM



	Name	Y value	X value/time stamp	Tag name Y
1	PS - Press (PSI)	256.1	11/15/2019 5:55:48 AM	Cementer\PS_DISCHARGE_PRESS_DIAL
2	Den - Density (PPG)	13.52 i.	11/15/2019 5:55:48 AM i.	Cementer\DENSITY_ACTUAL_RATE
3	Pump Rate	6.07	11/15/2019 5:55:44 AM	Cementer\Flow_Combined
4				
5				

Source: Control1 8:35:14 AM