



PROCOR
CHEMICALS, INC.

BAKKEN CASE HISTORIES

Revision Date: 4/26/26





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**BAKKEN SHALE
CUSTOMER LIST**

COMPANY NAME

Conocophillips
Empire North Dakota
Devon Energy/Grayson Mill Energy
Hess Corp
Oasis / Chord Energy
Ovintiv
Slawson Expl

Bakken Shale Case Histories:

Williams County, ND - PRO V+, PRO X, PRO Sweep Aid, SB SuperCeal

Date: 4/28/26
Operator/Partner: Devon Energy Williston, LLC
Well: Finn 13-25F XE1H
Rig: Nabors B13
County: Williams County, ND
Field: Unknown

Challenges

Drilling Concerns: • Lost circulation • Formation Integrity in Greenhorn @ 4,677' TVD • Shale Stabilization • Filtration control • Good cement job - PRO V+ Pre-Cement Spacer if cement losses or achieving a good shoe test is a concern. Operator drilling 12.25" hole: 2,300'MD to 6,220'MD, Mud Type: OBM, Weight: 12.2 to 12.5ppg

Solutions/ Product Recommendations

Being there is concern of having losses while drilling the "Greenhorn" we recommended having a sweep batch made up of 20ppb PRO Sweep Aid and 5ppb SB SuperCeal, sweeps should be pumped each time the prior sweep is exiting the bit while drilling the "Greenhorn" formation. Once the entire "Greenhorn formation" was exposed, we have 2 squeeze options mixtures, squeeze the formation to improve its integrity as per the squeeze recommendations listed below. Depending on if losses have occurred or not, volume of losses and OH FIT will determine the need to adjust the squeeze formulation for best results.

Product Recommendation for OH Formation Integrity squeeze if a half (.5) pound or less is needed, Recommendation 1: PRO V+ - 80bbls @ 85ppb, Recommendation 2: PRO X/PRO V+ - 80bbls @ 85ppb

Results

Well drilled, casing run and cemented successfully.

Mountrail County, ND - PRO V+, PRO X, SB SuperCeal

Date: 2/11/26
Operator/Partner: Slawson Exploration
Well: Cannonball Federal 6-27-34H
Rig: Nabors X25
County: Mountrail County, ND
Field: Big Bend

Challenges

Well drilled, casing run and cemented successfully.

Solutions / Product Recommendations

PROCOR recommended 20ppb SB SuperCeal, 20 ppb PRO V+, 20ppb PRO X , 150 bbls at 60ppb and following up with 20bbl maintenance sweeps /preventive sweeps.

Results

Well was drilled to TD and successfully ran casing.

McKenzie County, ND - PRO V+, PRO X, SB SuperCeal

Date: 12/1/25
Operator/Partner: Devon Energy Williston
Well: Barbara 31-30F 9H
Rig: Nabors B13
County: McKenzie County, ND
Field: Big Bend

Challenges

Well drilled, casing run and cemented successfully.

Solutions / Product Recommendations

PROCOR recommended 20ppb SB SuperCeal, 20 ppb PRO V+, 20ppb PRO X , 150 bbls at 60ppb and following up with 20bbl maintenance sweeps /preventive sweeps.

Results

Well was drilled to TD and successfully ran casing.

Mountrail County, ND - PRO V+, PRO X, SB SuperCeal

Date: 9/29/25
Operator/Partner: Slawson Exploration
Well: Rebel Federal 3 32-17H
Rig: Nabors X25
County: Mountrail County, ND
Field: Big Bend

Challenges

Wellbore stability, preventing fluid losses, ensuring good cement job.

Solutions / Product Recommendations

PROCOR recommended 20 bbls at 30 ppb as preventive sweeps.

Results

Drilled to TD, minimizing fluid losses and casing run and cemented successfully.

McKenzie County, ND - PRO V+, PRO X, SB SuperCeal

Date: 8/24/25
Operator/Partner: Devon Energy – Williston
Well: Scott 13-24 XE 1H
Rig: Nabors B17
County: McKenzie County, ND
Field: Grinnell

Challenges

Well drilled, casing run and cemented successfully.

Solutions / Product Recommendations

PROCOR recommended 20ppb SB SuperCeal, 20 ppb PRO V+, 20ppb PRO X , 150 bbls at 60ppb and following up with 20bbl maintenance sweeps /preventive sweeps.

Results

Well was drilled to TD and successfully ran casing.

McKenzie County, ND - PRO V+, PRO X, SB SuperCeal

Date: 6/17/25
Operator/Partner: Devon Energy – Williston
Well: Johnson 8H
Rig: Patterson 811
County: McKenzie County, ND
Field: South Tobacco Garden

Challenges

Operator previously experienced fluid losses drilling in this area.

Solutions / Product Recommendations

SB SuperCeal, PRO V+, and PRO X carried on location as needed for preventives sweeps and controlling fluid losses.

Results

Minimized fluid losses and successfully drilled well.

McKenzie County, ND - PRO V+, PRO X

Date: 1/8/25
Operator/Partner: Devon Energy – Williston
Well: L and E 9-4 2H
Rig: Nabors B17
County: McKenzie County, ND
Field: Ragged Butte

Challenges

Operator experiencing 100+ bph fluid losses

Solutions/ Product Recommendations

Spotted 70bbls @ 60ppb with a little more PRO V+ than PRO X. Losses slowed to 40bph. We changed 60ppb mix to use more PRO X on 2nd pill thinking may have a bigger fracture system.

Results

Well static after 2nd pill and tripped for new BHA , hole taking proper fill. Plan forward was to be back on bottom in morning, back on bottom and no losses till started drilling. Losses are stable bouncing from 0-10bbls per hour. Pumping sweeps, and everyone happy. Drilling ahead.

Bouttineau County, ND – Gumbo Gone

Date: 9/5/24
Operator/Partner: Empire North
Well: Dakota Magpie 25
Rig:
County: Bouttineau County, ND
Field: 1H Starbuck

Challenges

Operator expected experiencing gumbo issues and needed fluid solutions. Drilling Concerns: Severely fractured / permeable formation, shale stabilization.

Solutions / Product Recommendations

PROCOR recommended 20ppb SB SuperCeal, 20 ppb PRO V+, 20ppb PRO X , 150 bbls at 60ppb and following up with 20bbl maintenance sweeps /preventive sweeps.

Results

Well was drilled to TD and successfully ran casing.

McKenzie County, ND PRO X, PRO HG

Date: 6/27/23
Operator/Partner: ConocoPhillips
Well: George 1B MBH
Rig: Nabors 820
County: McKenzie County,
Field: Pershing

Challenges

Operator fighting fluid losses, well bore instability and gas influx. Have not seen drill pipe pressure in three days, pumping conventional LCM products everything would go straight south and shut in casing pressure would not move..

Solutions/Recommendations:

PROCOR recommended mixing up PROV+, PRO X and PRO HG. Started mixing with 186bbls Brine water, Viscosity 30-32@ 10.2ppg, ended up with 245bbls using several pits and transferred/ reduced volume by 45bbls. Added 100sxs of PRO X to compensate for reduced volume. Added PRO HG last before weighting up to 10.9ppg, Operator decided to cut weight back to 10.5ppg by adding 20bbls of fresh water.

Results:

As of report time the SICP and SIDPP are almost the same, we did a few more pump ins until entire pill volume was used. Waited 1 hour, leaving 6 bbls of slurry above the "mission canyon" to try and circulate. Finally able to circulate at full drill rate with full returns and PROCOR Engineer released

Notes:

Plan was to try and circulate on the choke and weight up a little at a time, to kill well and circulate gas out. Once the gas was killed, they went ahead and began cement plugging/ST operations.