



PROCOR
CHEMICALS, INC.

**DEEPWATER
CASE HISTORIES**

Revised: 9/23/25





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ISSUE DATE:---9/23/25	PROCOR CUSTOMER LIST - DEEPWATER	REVISED DATE:9/23/25
Page 1 of 1		

Company

Anadarko

Beacon Offshore Energy

Freeport McMoran

Ophir Energy (Offshore Tanzania)

Stone Energy

Shell

Talos Energy/EnVen Energy

Vanco Exploration (Offshore Brazil)

Deepwater Case History:

Gulf of America - Offshore LA - PRO FLP, SB SuperCeal, PRO V+, PRO X

Date: 9/23/25
Operator/Partners: Shell
Well: OCS-G 35153 WS 304 ST00BP00
Rig: Deepwater Thalassa
Block: AC 772
Field: Whale

Challenges

Drilling ahead with background LCM (10ppb SLB Optiseal) at 10.0 ppg, started seeing losses at ~40 bbl/hr. Losses slowed to <20bph and drilled to TD under seepage losses. Took FPWDs. Still at seepage loss rates.

Losses picked back up to ~40 bph and decision was made to forgo remaining FPWDs and strengthen wellbore.

Solutions/ Product Recommendations

Spotted 200 bbls @ 86.5ppb of PROCOR recommended blend for 25-50bph losses, products included 1.5ppb PRO FLP (Fluid Loss Product) , 5ppb SB Superceal, 40ppb PRO V+, 40ppb PRO X

Results

Spotted 200bbls as recommended.

Proceeded to squeeze: pressured wellbore up to 10.6 ppg and stopped pumping. BHP settled at 10.55 ppg.

Bled off and performed squeeze again on the same pill. Pressured to 10.6 ppg and stabilized at 10.5 ppg.

Displaced out pill and flow checked. Well Static. Pulled out BHA and ran casing – No losses, Performed cement job (modeled cementing ECDs up to 10.45 ppg). No losses during cement job

Note

This sweep/pill will cover 1-4000 microns with an average of 3200 microns by percentage. Top off to full 200bbls and agitate till ready to pump. Pump sweeps as needed or spot across loss zone. ALSO RECOMMENDED TO SPOT ACROSS ANY LOSS ZONE PRIOR TO POOH TO RUN CASING/LINER

Gulf of America - Offshore, LA – PRO V+, SB SuperCeal

Date: 8/8/25
Operator/Partner: Shell
Well: OCS-G 07963 A22 ST01BP00
Rig: Mars A TLP H&P 201
Block: MC 807
Field: Deep W Offshore, LA

Challenges

Drilling depleted formations , maintaining wellbore stability, ensuring successful cement job.

Solutions / Product Recommendations

The plan was to treat the F1 and G4 sands. At least 50' MD above and below while drilling and same 50' MD above and below while backreaming. Assuming 80'/hr Begin treatment 100' above the F1 @ 14,116' MD, 12,834' TVD, and G4 Sand @ 16,662 MD, 14,788'TVD , discontinue treatment through sands. Products used in system treatment @ 5ppb SB SuperCeal, 2ppb PRO V+

Assuming 80'/hr backreaming, begin treatment 50' below the G4 and F1 sands and discontinued treatment once through the sands. Products used in system treatment @ 5ppb SB SuperCeal, 2ppb PRO V+

This application gave us full treatment at 3 hrs backreaming into each formation. Backreaming an average of 600'/hr so we recommended beginning treatment once we had the system fully treated prior to backreaming through the "F1" and "G4".

Also included another option of treating 500–1000bbls of spike @ 10:1 ratio and bleed in 250bbls of spike topping the "F1" and "G4" and the same for backreaming out across the "G4" and "F1". Also included 300bbls PRO V+ contingency pills and pre-cement spacer.

Results

TD'd and backreamed out of the hole with full returns, minor seepage in between treatments which was expected. Assumed differential pressure / depletion @ 4-6ppg. Operator successfully backbreaking out doing same treatments, everyone was very happy with results.

Note

We could not maintain full treatment due to no LCM recovery, the screen set up and no super sack system so we started and stopped treatments in between the 2 depleted sand sections.

Gulf of America – Offshore, LA – SB SuperCeal, PRO V+, SteelSeal, PRO FLP, PRO V+, Cement Space

Date: 3/25/25
Operator: Shell
Well Name: MB-019 DRO Drilling
Block: MC 807
Rig: Olympus

Challenges:

- 30 yr old field highly depleted Intermediate and production zones
- Achieving Top of Cement
- Landing Casing and Liner

Solutions/Production Recommendations:

- Background Treatment for WBS with additional sweeps to maintain Dilution as well as Spike treatment incorporated into DF Spike.
- PROV+ Spacer Ahead of Cement.
- Additional Loss Event Products available for major loss Event scenario.

Results:

Drilled 2 sands with 13.6ppg mud 14ppg ECD. 3,462psi differential pressure with wellbore strengthening. Full cement returns across 4 depleted production sands. Pumped double volume did not expect any returns only enough left pressure to cover hydrocarbon bearing sands. Drilled interval and ran liner w system treatment(5ppb SB Superceal, 2ppb PRO V+ and 5ppb Steelseal 1000). Spotted OH pill 51.5ppb(45ppb PRO V+, 5ppb SB Superceal and 1.5ppb FLP) prior to Pooh to run liner across sands. Used 40ppb PRO V+ in cement spacer.

Gulf of America - Offshore, LA – PRO V+

Date: 2/2/25
Operator: Shell
Well Name: OCSG 07975 WB004 ST01BP00
Block: MC 812
Rig: West Boreas

Challenges:

Operator had to hold a high EMW in the salt than we anticipated so they proactively setting the 7-5/8" early to give the Operator a better shot on the production cement job.

Solutions/Recommendations:

PROCOR recommended its Wellbore Strengthening background formula for WBSM wellbore stability application based on previous success drilling subsalt sands.

Results:

Operator was able to successfully drill well without losses using higher than anticipated mud weight.

Gulf of America - Offshore LA - PRO V+, PRO X, PRO HG

Date: 12/24/24
Operator: Shell
Well Name: MBI-04 Decomplete 2024
Block: MC 807
Rig: Olympus TLP N88

Challenges:

Operator had flow coming from up above, and fluid losses below, shut in casing pressure @ 3512 psi through Perfs or damaged casing, drill pipe pressure @ 400 psi. Could not get the well to hold a column of fluid heavy enough to stabilize well to finish P&A Operations.

Solutions/Recommendations:

PROCOR recommended building a 300bbbls OH Squeeze / Kill Pill @ 13.5ppg using 40ppb PRO V+, 40ppb PRO X, 40ppb PRO HG High Fluid Loss Squeeze Products.

Results:

Took on 2411 bbls of 15.7ppg SBM KWM from boat while continuing to monitor well casing pressure and drill pipe pressure. Closed TIW and bled off stand Began Well Kill utilizing pressure schedule. Pumped 300 bb Well Kill/ fluid displacement with 15.55 ppg SBM while monitoring pits. At 13,100 stks/1419 bbls pumps, 50 bbls loss with 14 ppg mud weight at surface. Continued circulating through fully open choke at 10 stks/min at 1130 psi, loss rate at 10 bph. Increased rate to 20 stks/min at 1400 psi, loss rate at 65 bbl/hr. Reduced rate to 10 stks/min at 1101 psi, loss rate at 25 bph. Increased rate back up to 20 stks/min, psi at 1450 and observed 80 bbl/hr loss. Continuing Well Kill/displacement at time of report. Operator questioned if products could be pumped through 1.25" / 2.454" sq in TFA ports, we explained this would be no problem and suggested just to be safe, make sure the entire slurry clears out of the PBL tool.

Finally stabilized well when pill hit the loss zone but took a lot of mud so we ran short on pill volume with losses to finish squeeze but able to get the well killed and 1000psi on squeeze. Proceeded to wash out with partial return but well is dead so we were all good.

Planned to pumped another pill or two. First time they had well dead and good pressure in over a week.

We were able to stop the losses down low so as they were coming out, the thought was to go in and spot a heavier, HG pill across the flow area to allow them to come out of the hole and pick up the cement retainer. Successfully came out of the hole with no flow going back in with the cement retainer. Huge success, fixed massive losses and gas flow which would have prevented them from coming out of hole to pump cement. Final pill will be pumped down annulus followed by 15.7ppg KWM to have a well full of same mud

Notes

Shell morning call reported MMS had to approve the heavy pill for flow across the zone. 300bbbls at 120ppb (60ppb PRO HG, 30ppb PRO V+, 30ppb PRO X). Engineer also mentioned PROCOR products tested by Baroid have given us the "best-shot recipe" based on previous Olympus wells' experience

Gulf of America – Offshore LA, - PRO V, PRO X, PRO HG

Date: 10/02/24
Operator: Shell
Well Name: OCSG 07963 004 MARS SS4
Block: MC 807
Rig: Globetrotter I

Challenges:

Ensuring a good cement job, drilling several depleted sands, managing rheology, mitigate risk of increasing ECD's, and preventing fluid losses.

Solutions/Recommendations:

PROCOR recommended using background WBSM with SB SuperCeal and PRO V+ in the LCM plan. Also included a Contingency Product / Pre-Cement Spacer application with PRO V, PRO X and PRO HG.

Product treatments used and tested in-house by Shell; Halliburton Mud, the testing champion was 5ppb SB SuperCeal, 2ppb PRO V+, 5ppb SteelSeal 100.

Results:

Drilled through 8 depleted sands and held 6000psi differential across the highest depleted sand. Successfully drilled and cemented without fluid losses.

Gulf of America - Offshore LA - SB SuperCeal, PRO V+

Date: 5/7/24
Operator: Shell
Well Name: OCSG 07963 MB -023 J/K Drill
Block: MC 807A
Rig: Olympus TLP N88

Challenges:

Operator drilling @ 24,535' MD, running Halliburton BaraECD 4.2 SBM @ 12.35ppg, Wellbore Stability, Fluid Losses Drilling depleted sands, Ensuring a good cement job.

Solutions/Recommendations:

PROCOR recommended Pre-Treating the fluid with 5ppb SB SuperCeal, 2ppb PRO V+ using Super Sacks as a preventative WBSM (Wellbore Stability Material), Continuing hourly additions of SBSC / PV+ as needed..

Results:

- 12.25 X 14" Section drilled through 7 depleted sands some drawn down to 8ppg with 12-12.9ppg mud, 4ppg differential, did not lose a drop of mud, ran casing and cemented with full returns utilizing 40ppb PRO V+ in the tuned spacer. The cement job success prevented having to do a top job.
- 10 5/8" section we drilled through all J Sands except 1 with no losses with pretty significant differential pressures. We hit the J2 sand and lost returns, it was very surprising to all as the J1 was supposed to be the issue. Dynamic Losses started out @ 1000bph, shut down and losing 235bph static, we spotted our normal pills written into the program and our last Aggressive LCM pill (101.5ppb – 50ppb PRO V+/50ppb PRO X/1.5ppg PRO FLP) slowed losses to 10bph static.
- The initial pill didn't seem effective because we were still losing static. The losses really slowed because we were adding base oil to the top. At this point we began mixing up 120ppg PRO HG pill (40ppb PRO V+/40ppb PRO X/40ppb PRO HG), spotted this pill, well went to zero losses static while displacing the pill. We were able to establish 575psi which was the needed pressure to allow the ECD with MPD to displace from 12.8 ppg mud to 11.7 ppg mud and continued drilling. We were able to prevent running a contingency string and drilled to planned TD with retreating the system (5ppb SB SuperCeal, 2ppb PRO V+ and 5ppb Steel seal 1000).

Additional Notes:

Lab testing done at MetaRock, for Olympus using Halliburton mud, The champion of the testing was (5ppb SB Superceal, 2ppb Pro V+ and 5ppb Steelseal 1000).

SB SuperCeal and PRO V+ additions were key in the performance, allowed the best results at lower concentrations than normal which was also a plus to keep LGS down. 2,500lb Super Sacks were utilized to increase product addition efficiency.

Gulf of America - Offshore LA – SB SuperCeal, PRO V+

Date: 2/9/24
Operator: Talos Energy
Well Name: OCS-G 12136-A-14-ST2
Block: Ewing Bank 873
Rig: Nabors MODS 200
Parish: Deepwater Gulf, LA

Challenges:

Operator continue drilling ahead. Pumping sweeps and taking surveys as needed. TD section @ 13,050 TVD. Back reamed stand and continued POOH pumping with 900gpm. Drilling ahead next hole section and hit a tight spot @ 14,589'/MD 13,050'/TVD and lost returns, regained returns circulate and clean well.

Solutions/Recommendations:

Continue to back ream out of hole. Pumping "Gorilla Pill Sweep" as directed. Baker Hughes mixture, Bridgeform, Nanoshield, and LC Lube to maintain active concentrations. Continue pumping LCM sweeps as directed with, 5ppb Chek Loss, 10ppb WO 30 Fine, 10ppb WO 30 Med, PROCOR CHEMICALS Products included - 5ppb SuperCeal, 5ppb PRO V +

Results:

Minimal fluid losses using a combination of Baker Hughes and PROCOR products. Well TD'd with no further fluid losses.

Gulf of America - Offshore LA - SB SuperCeal, PRO V+, PRO X, PRO TightCeal, PRO FLP

Date: 12/02/23
Operator: Shell
Well Name: OCSB 07962 MB 002
Block: Mississippi Canyon Blk 806
Rig: Olympus TLP N88
Parish: Deepwater Gulf, LA

Challenges:

Operators plan was to slow drill the J and O Sand packages following PROCOR recommendation was to treat the system fluid with 5ppb SB Superceal and 2ppb PRO V+ in conjunction with Baroids treatment of 15ppb mixed Carbonate. Geology assumed they would lose complete returns. Once the J&O Sand packages were drilled successfully with no losses, the integrity of the J&O Sands needed to be tested to 14.4ppg in order to drill the additional 1450' to be able to pressure test and log lower confidential formations.

Solutions/Recommendations:

Through multiple lab test it was found the using SB Superceal and Pro V+ in conjunction with 15ppb mixed carbonate gave the best PSD to seal the J&O Sands. Once the J&O Sand were drilled and OH Contingency squeeze plan was in place using the PROCOR Products – 250bbls @ 81.5ppb(35ppb PRO V+/35ppb PRO X, 5ppb SB Superceal, 5ppb PRO Tightceal Medium and 1.5ppb PRO FLP) to build integrity of these sand packages to 14.4ppg EMW to continue drilling.

Results:

Drilled J-O Sand packages with no fluid losses. Operator also achieved full desired pressure of 14.4ppg with no bleed off and continued drilling with system treatment using MPD and sweeps. Once hole was TD'd multiple successful log runs were made.