



PROCOR CHEMICALS, INC.

MARCELLUS / UTICA SHALE PACKAGE

As of: January 6, 2025



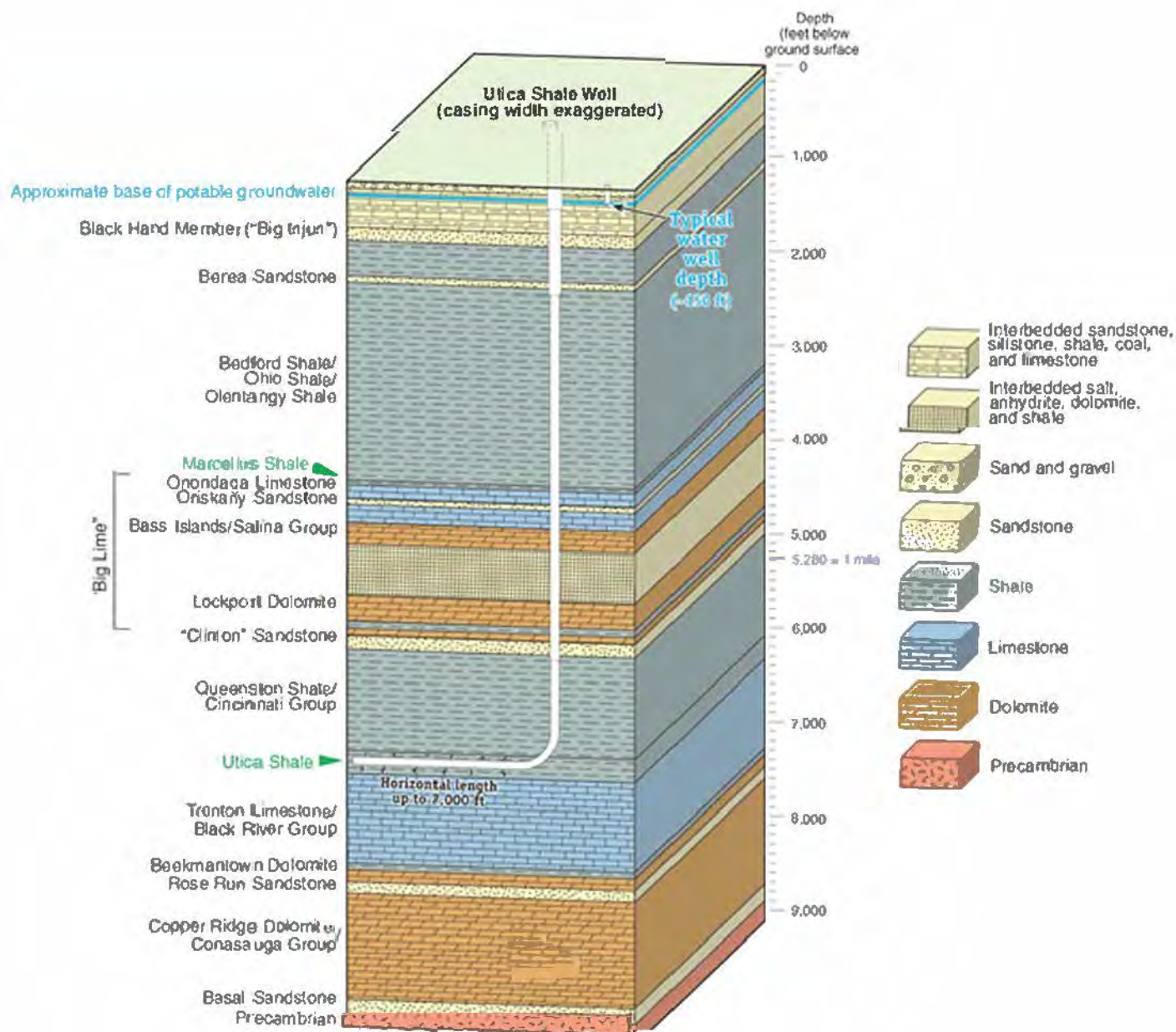
PROCOR CHEMICALS, INC.

DATE: **01/06/25**

PROCOR CUSTOMER LIST
MARCELLUS/UTICA SHALE OPERATORS

MARCELLUS/UTICA CUSTOMER LIST

Encino Energy
Gulfport Energy
HG Energy





Marcellus/Utica Case History

- Harrison County, OH

Date: 1/6/25
Operator: Encino Energy
Well / Area: Stitt 1H
Field: Utica Shale
Parish/County: Harrison County, OH
Rig: Patterson 571

Challenges:

Expecting Coal section @ 381' and water flow @ 750', ensuring a good cement job.

Solutions/ Product Recommendation:

After running 8.75" csg, operator runs 80 bbls @ 100 ppb of PROCOR WBSM/ LCM across and through top of Clinton formation, then perform squeeze to 12.3 EMW once back to shoe. Also pumping 65ppb sweeps in lateral section. Mixed sweeps at 65 ppb consisting of 25ppb PRO V+ 25 ppb PRO X, 5 ppb SB SuperCeal and 5ppb Sweep Aid. Currently pumping 20 bbl sweeps every 200-300' or as needed to control fluid loss and help with cleaning wellbore.

Results:

Successfully drilled well to TD.

- Carroll County, OH

Date: 12/16/24
Operator: Encino Energy
Well / Area: Snyder 5H
Field: Utica Shale
Parish/County: Carroll County, OH
Rig: Patterson 571

Challenges:

Expecting Coal section @ 381' and water flow @ 750', ensuring a good cement job.

Solutions/ Product Recommendation:

After running 8.75" csg, operator runs 100 ppb of PROCOR WBSM/ LCM across and through top of Clinton formation, then perform squeeze to 12.3 EMW once back to shoe. Also pumping 65ppb sweeps in lateral section.

Mixed sweeps at 65 ppb consisting of 25ppb PRO V+ 25ppb PRO X, 5 ppb SB SuperCeal and 5ppb PRO Sweep Aid. Currently pumping 20 -30 bbl sweeps every 200-300' or as needed to control fluid loss and help with cleaning wellbore.

Results:

Drilled to TD with no problems and no fluid losses.

- Guernsey County, OH

Date: 10/29/24
Operator: Encino Energy
Well / Area: Blue Butterfly 10H
Field: Utica Shale
Parish/County: Guernsey County, OH
Rig: H&P 608

Challenges:

Arrived on location 10/27/24, Check in with Co Man. Currently drilling ahead with occasional losses of 10-40 bbls/hr.

Solutions/ Product Recommendation:

Cut back pre-mixed pill from 100 ppb to 50 ppb of PROCOR LCM, pumped in 30 bbl sweeps. Losses reduced, mixed sweeps at 40 ppb consisting of 15 ppb PRO V+ 15 ppb PRO Sweep Aid and 10 ppb SB SuperCeal. Currently pumping 20 bbl sweeps every 200-300' or as needed to control fluid loss and help with cleaning wellbore.

Results:

Drilling ahead at report time at 250-300 ft/hr with little to no fluid loss.

- Lewis County, WV

Date: 8/12/24
Operator: HG Energy
Well / Area: Winans 1216 N-5H
Field: Unknown
Parish/County: Lewis County, WV
Rig: Patterson 611

Challenges:

Operator drilling the curve , starting losing fluid @ 100 bbls per hr.

Solutions/ Product Recommendation:

PROCOR recommended 50bbls (20ppb SB SuperCeal / 25ppb PRO V+). Products used - PRO V+, PRO X, SB SuperCeal

Results:

Pumped pill and achieved full returns, drilled the 24,000' lateral with no more losses.

- Harrison County, OH

Date: 6/11/24
Operator: Encino Energy
Well / Area: David Weaver HN STO 6H
Field: Utica
Parish/County: Harrison County, OH
Rig: Patterson 579

Challenges:

Operator experiencing fluid losses.

Solutions/ Product Recommendation:

PROCOR recommended pumping a squeeze pill of 80bbls at 80ppb using 50% PRO V+ and 50% PRO X and PRO V+ @ 40ppb and PRO X @ 40ppb.

Results:

Minor fluid seepage continued same as last well we had just squeezed off so we spotted another 80bbls @ 80ppb. We just achieved 13ppg EMW with about 30bbls in formation. Plan is to bump up a couple more times to get our back-end bleed down a little higher. Top end holds 690-700psi perfect, bleeds down to about 560 after 1hr, so now we were trying to get the back end to settle a little higher. Mud weight to drill to TD is 10.8 - 11.2ppg which would stay below squeeze EMW and was another successful application.

- Belmont County, OH

Date: 12/1/23
Operator: Gulfport
Well / Area: Clark 1B
Field: Clark Pad
Parish/County: Belmont County, OH
Rig: Patterson 873

Challenges:

Fluid losses observed while drilling lateral section of well. Goal is to control and stop any and all fluid loss.

Solutions/ Product Recommendation:

Mud company LCM consisting of cedar fiber and CACO3. Broad range of recommendations given depending on losses. Recommendation followed was our 25 ppb sweep mix. PRO V + at 15 ppb, SBSC at 5 ppb, PSA at 5 ppb totaling 25 ppb for all sweeps. Products mixed into slugging pit through hopper, then pumped using rig pumps. No problems encountered during this mixing procedure and no issues pumping products through tools or bit.

Results:

After pills were spotted, well went static and returns were achieved at the shoe with no losses. Procedure went as planned and returns were regained; however, decision was made to cement and P&A by management.

- Tuscarawas County, OH

Date: 11/20/23
Operator: Encino Energy/EAP Operating
Well / Area: Sproul 205h 6078
Field: Utica
Parish/County: Tuscarawas County, OH
Rig: Patterson 580

Challenges:

Prevent / Stop fluid losses in the Clinton formation during intermediate well section.

Solutions/ Product Recommendation:

PROCOR recommended spotting 80 bbls @ 80 ppb and squeezing formation to desired MWE.

Operator followed recommendation using PRO V+ and PRO X both @ 40 ppb.

All products were mixed through the mixing hopper into the slugging pit and pumped using rig pumps downhole. No problems encountered during this mixing procedure and no issues pumping products through tools or bit.

Results:

After spotting and squeezing pill, an acceptable MWE (mud weight equivalent) was achieved, and drilling resumed with no losses. Procedure went as planned and rig was able to drill ahead with no losses while PC Engineer was on location. Superintendent reported after the PROCOR Engineer was released, began weighting up at bottom of curve to drill lateral. This is usually when losses occur back up in the "Clinton" due to ECD's. Started w 15bbl sweeps every connection at 45ppb, once 500' was drilled w no losses, sweeps were reduced to 10bbls every 200' at 30ppb. Drilled to TD w no further losses or hole issues. Casing was run to bottom slick and cemented with no issues.

- *Columbiana County, OH*

Date: 9/19/2022
Operator: Encino Energy
Well / Area: Patterson 580
Field: Dutch Valley 6H and 10H
Parish/County: Sanor Farms
Rig: Columbiana County, OH

Challenges

Operator experiencing 30bph fluid losses.

Solutions / Products Recommended

Recommended running 50bbl Squeeze Pill of our High Solids/High Fluid Loss Squeeze Products which included PRO V+ @ 35ppb and PRO X, 5ppb PRO Sweep Aid and 5ppb SBSC. After successfully squeezing the formation recommended following up with sweeps as needed. We also included our PRO V+ Pre-Cement application, 50bbls @ 50ppb, Products Used : PV+, PX

Results

Text book squeeze , achieved desired pressure, circulating at full drill rate, no fluid losses.

- *Carroll County, OH*

Date: 9/11/22
Operator: Encino Energy
Well / Area: Krantz CR Mon 5H
Field: Utica 3978
Parish/County: Carroll County, OH
Rig: Patterson 471

Challenges

Operator is concerned about encountering losses during, or after, filling well with OBM once air drilling is complete.

Solutions / Products Recommended

Recommended 80bbl Pill of our High Solids/High Fluid Loss Squeeze Products which included PRO V+ @ 40ppb and PRO X @ 40ppb. After successfully squeezing the formation recommended following up with sweeps as needed to keep the "Clinton" coated and sealed. We also included our PRO V+ Pre-Cement application, 50bbls @ 50ppb, Products Used : PV+, PX

Results

No losses were encountered while filling well with OBM. However, we still spotted 85bbl pill of 80ppb (40ppb PV, 40ppbPX) at the bottom of the Clinton formation. We were able to squeeze +/- 7.5bbls into the formation, achieving a EMW of 13.36ppg. Rig is now drilling ahead with no fluid loss issues.

Carroll County, OH

Date: 8/30/22
Operator: Encino Energy
Well / Area: Krantz CR Mon 3H
Field: Patt 571
Parish/County: Unassigned
Rig: Carroll County, OH

Challenges

Operator needed to improve the well integrity of the "Clinton formation" and prevent fluid losses.

Solutions / Products Recommended

Recommended 80bbl Pill of our High Solids/High Fluid Loss Squeeze Products which included PRO V+ @ 40ppb and PRO X @ 40ppb. After successfully squeezing the formation recommended following up with sweeps as needed to keep the "Clinton" coated and sealed. We also included our PRO V+ Pre-Cement application, 50bbbls @ 50ppb, which is something that has been successful when getting cement returns might be a concern due to drilling weaker formations. We pumped an aggressive LCM pill ahead of cement as if it is not there with the design that it will seal any weak formation prior to the heavier cement getting to these formations allowing the cement to lift pass these weaker areas. Products Used : SBSC, PSA, PV+, PX

Results

Operator never lost a drop of mud the entire well. At TD they decided to test the well at full drill rate and weighting up to 11.5ppg. When 11.5ppg got all the way around it started seeping on them. Pumped a sweep, lowers gpm and losses stopped. They are pooh to run pipe and cement. Plan to pump the 50bbl @ 50ppb ahead of cement. If they have losses running casing, we will probably increase to 65ppb

Note

With this exact application Operator estimated it will save them \$300,000 - 500,000 per well.