

Pars Drilling Fluids

Products & Fluid Systems Portfolio



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Portfolio

pH and Alkalinity Control	CAUSTIC POTASH CAUSTIC SODA LIME	CITRIC ACID SODA ASH SODIUM BICARB	
Mineral Salts	CALCIUM CHLORIDE DH CALCIUM CHLORIDE MH/AH	KCL UPG KCL IG SODIUM CHLORIDE AC	
Weighting Agents	BARA-WATE API BARA-WATE I	CARBO-WATE F HEMA-WATE API HEMA-WATE I	
Viscosifiers	BENTO-GEL API BENTO-GEL BULK SALT CLAY	BIO-XCD BIO-XCD HT CMC HV-TG CMC HV-LP HEC P	
Fluid-Loss-Control Agents	AMYLOSE B AMYLOSE HV-100 AMYLOSE LV-150	CMC LV-LP CMC LV-TG	PAC LV-LP PAC LV-TG
Lost Circulation Materials	CARBO-CURE M/UM/C/UC CARBO-CURE CHIPS	OYSTER SHELL F/M/C CELLO-FLAKE WAL-NUT F/M/C MICA UF/F/M/C/UC	
Shale Inhibitors	ASPHA-SHALE NHP/KHP	PHPA	
Dispersants & Deflocculants	SPERSEEN CFL		
Others	GILSON		

1.1

Drilling Commodity Minerals & Chemicals

pH and Alkalinity Control

CAUSTIC POTASH

Potassium Hydroxide (KOH) - 90%

CAUSTIC SODA

Caustic Soda Flake - Purity Min. 96%

LIME

Hydrated Lime (Calcium Hydroxide) - Purity Min. 90%

CITRIC ACID

Citric Acid - Anhydrous - Purity Min. 97%

SODA ASH

Soda Ash Powder - Purity Min. 95%

SODIUM BICARB

Sodium bicarbonate - Purity Min. 98%

Mineral Salts

CALCIUM CHLORIDE DH

Calcium Chloride - Purity 78% -80%

CALCIUM CHLORIDE MH/AH

Calcium Chloride - Purity 90% -96%

KCL IG

Potassium Chloride - Purity 85 - 90%

KCL UPG

Potassium Chloride - Purity Min. 95%

SODIUM CHLORIDE AC

Sodium Chloride Salt- Anti Cake - Purity Min. 97%

Weighting Agents

BARA-WATE API

Barite Powder - Min. 4.1 S.G

BARA-WATE I

Barite Powder - Min. 4.2 S.G

CARBO-WATE F

Calcium Carbonate Powder - Purity Min. 98%

HEMA-WATE API

Hematite Powder - API Grade - Min. 5.0 S.G

HEMA-WATE I

Hematite Powder - Min. 4.7 S.G

Shale Inhibitors

ASPHA-SHALE NHP/KHP

Sulfonated Asphalt - Sodium/Potassium Based

PHPA

Partially Hydrolyzed Poly Acrylamide - Powder Grade

Dispersants & Deflocculants

SPERSEEN CFL

Lignosulfonate - Chrome Free Grade

Other

GILSON

Gilsonite Powder 200 - 325 Mesh

Viscosifiers

BENTO-GEL API

Bentonite Powder API Grade

BIO-XCD

Xanthan Gum Powder - API Grade

BIO-XCD HT

Xanthan Gum - High Temperature Stability

CMC HV-LP

Carboxyl Methyl Cellulose - High Viscosity - General Grade

CMC HV-TG

Carboxyl Methyl Cellulose - High Viscosity - General Grade

GUAR GUM MG

Guar Gum - Modified Grade (Viscosity > 3500 cp)

HEC P

HEC - Hydroxyl Ethyl Cellulose

NATURAL GUM

Natural Gum

PAC HV-LP

Poly Anionic Cellulose - High Viscosity - General Grade

PAC HV-TG

Poly Anionic Cellulose - High Viscosity - Technical/API Grade

SALT CLAY

Attapulgite Clay - API Grade

AMYLOSE B

Pregelatin Starch - API Grade - 200°F for mud weights up to 2.4 S.G

AMYLOSE HV - 100

Pregelatin Starch - High Viscosity - 200°F - Low Weight Mud (< 1.6 S.G)

AMYLOSE LV - 150

Pregelatin Starch - Low Viscosity - 200°F - High Weight Mud (1.6 - 2.4 S.G)

Fluid Loss Control Agents

CMC LV-LP

Carboxyl Methyl Cellulose - Low Viscosity - General Grade

CMC LV-TG

Carboxyl Methyl Cellulose - Low Viscosity - API/Technical Grade

PAC LV-LP

Poly Anionic Cellulose - Low Viscosity - General Grade

PAC LV-TG

Poly Anionic Cellulose - Low Viscosity - API/Technical Grade

Loss Circulation Materials

CARBO-CURE M

Calcium Carbonate - Medium Size (100 - 400 mic)

CARBO-CURE UM

Calcium Carbonate - Ultra Medium (400 - 800 mic)

CARBO-CURE C

Calcium Carbonate - Coarse (800 – 1200 mic)

CARBO-CURE UC

Calcium Carbonate - Ultra Coarse (1200 – 2000 mic)

CARBO-CURE CHIPS

Calcium Carbonate - Chips Grade (20-50 mm)

CELLO-FLAKE

Cellophane Flake

MICA UF

Mica- Ultra Fine Grade

MICA F

Mica- Fine Grade

MICA M

Mica- Medium Grade

MICA C

Mica- Coarse Grade

MICA UC

Mica- Ultra Coarse Grade

OYSTER SHELL F

Oyster Shell- Fine Grade

OYSTER SHELL M

Oyster Shell- Medium Grade

OYSTER SHELL C

Oyster Shell- Coarse Grade

WAL-NUT F

Walnut- Fine Grade

WAL-NUT M

Walnut- Medium Grade

WAL-NUT C

Walnut- Coarse Grade

1.2

Drilling Specialty Chemicals

Shale Inhibitors	GLYCO-DRILL MC	GLYCO-DRILL HC	
Corrosion Inhibitors/ Scavengers/ Preservatives	BIOCIDES MP BRINE-COR ANTI-CRYSTALLINE	H ₂ S SCAV P H ₂ S -SCAV L	OX- SCAV P OX-SCAV L
Liquid & Solid Lubricants	ECO-LUB MP	TORQUE-FREE GB M100 TORQUE GB M600 TORQUE-FREE GB M1000	TORQUE-LOW GR
Cleaning, Foaming, Defoaming & Emulsifier Agents	FOAMER MP/HP CLEAN SURF	DEFOAM ALC DEFOAM SLC	WBM-EMULSIFIER
Pipe-Free Agent		PIPE-FREE	
OBM Specialty Chemicals	OBM-EMUL P OBM-EMUL S	OBM-FLC OBM-VIS	OBM-RM OBM-WET OBM-THIN
High-Density Weighting Agents & Brines	CALCIUM BROMIDE L CALCIUM BROMIDE P SODIUM BROMIDE L SODIUM BROMIDE P	MICRO-DENSE MICRO-MAX	FORMA-DRILL I-P FORMA-DRILL II-P FORMA-DRILL II-L FORMA-DRILL III-L
HPHT Specialty Chemicals		AMYLOSE HT	

Shale Inhibitors

GLYCO-DRILL MC

Drilling Glycol - Medium Temperature Cloud
Point (70 - 90°C)

GLYCO-DRILL HC

Drilling Glycol - High Temperature Cloud
Point (> 90°C)

BIOCIDE MP

Biocide / Bacterial Control for Drilling
Fluids

BRINE-COR

Corrosion Inhibitor for Completion
Fluids/Brine

H2S SCAV L

H2S Scavenger for Completion Fluids/Brine
- Liquid Grade

H2S SCAV P

H2S Scavenger Zinc Based for Drilling
Mud - Powder Grade

OX-SCAV L

Oxygen Scavenger for Drilling & Completion
Fluids/Brine - Liquid Grade

OX-SCAV P

Oxygen Scavenger for Drilling Fluids -
Powder Grade

ANTI-CRYSTALINE

Crystallization Inhibitor/Prevention for
Brine

Corrosion Inhibitors, Scavengers, Preservatives

Liquid & Solid Lubricants

TORQUE-FREE GB M100

Glass Bead Microsphere 1 - 125 mic

TORQUE-FREE GB M600

Glass Bead Microsphere 125 - 600 mic

TORQUE-LOW GR M600

Graphite Powder Blend

TORQUE-FREE GB M1000

Glass Bead Microsphere 600 - 1000 mic

Cleaning, Foaming, Defoaming & Emulsifier Agents

CLEAN SURF

Drilling Detergent

DEFOAM ALC

Defoamer - Alcohol Base

DEFOAM SLC

Defoamer - Silicon Base

FOAMER HP

Foamer - High Performance
for Saturated Salt Water

FOAMER MP

Foamer in Salt Water

WBM-EMULSIFIER

DME - Drilling Mud Emulsifier

Pipe Free Agents

PIPE-FREE

Pipe-Free Agent / Pipe Lax

OBM Specialty Chemicals

OBM-EMUL P

Oil Based Mud - Primary Emulsifier

OBM-EMUL S

Oil Based Mud - Secondary Emulsifier

OBM-FLC

Oil Based Mud - Fluid Loss Control Agent

OBM-VIS

Oil Based Mud - Viscosifier / Organophilic
Clay

OBM-THIN

Oil Based Mud - Mud Conditioner / Thinner
& Rheology Reducer

OBM-RM

Oil Based Mud - Rheological Modifier

OBM-WET

Oil Based Mud - Wetting Agent

High-Density Weighting Agents & Brines

CALCIUM BROMIDE L

Calcium Bromide- Liquid Grade 1.76 S.G

CALCIUM BROMIDE P

Calcium Bromide- Powder 98%

SODIUM BROMIDE L

Sodium Bromide - Liquid Grade- 1.3 S.G

SODIUM BROMIDE P

Sodium Bromide - Powder Grade

FORMA-DRILL I-P

Formate Salt - Sodium Base- Powder Grade

FORMA-DRILL II-L

Formate Brine- Potassium Base Liquid -
1.57 S.G

FORMA-DRILL II-P

Formate Salt Potassium Base - Powder
Grade

FORMA-DRILL III-L

Formate Brine - Cesium Base Liquid -2.3
SG

MICRO-DENSE

Micromax – Density 4.6 S.G - Acid Soluble
Weighting Agent

MICRO-MAX

Micromax – Density 4.7-4.9 S.G - Acid
Soluble Weighting Agent

HPHT Specialty Chemicals

AMYLOSE HT

Modified Pregelatin Starch –
for High Temperature Condition
(300 °F) – Up to 2.4 S.G

Shale Stability & Wellbore Strengthening Materials	CLAY BOND L /N ASPHA-SHALE MP	BORE-STAB L	EMO-BLOCK
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Rheology Control/ Hole Cleaning/ Thixotropic Additives	THIXO-VIS WELL-SWEEP	SPERSEEN L	FIBER-SWEEP
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Corrosion Inhibitors/ Scavengers/ Preservative	BIO-SAFE		
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ROP Enhancers / Torque & Drag Reducer/ Differential Stuck Reducer	ROP ENHANCER ECO-LUB HP/EP	STUCK-LESS	
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Bit & Downhole Cleaning Agents	CLEAN SURF HP	BIT-WASH	
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HPHT Specialty Chemicals	HT FLC	TEMP-STAB L RHEO-STAB L	
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1.3

Drilling Performance & Hi-Tech Chemicals

Shale Stability & Wellbore Strengthening Materials

ASPHA-SHALE MP

High Performance Wellbore Stabilizer & Strengthening

BORE-STAB L

High Performance Shale Stabilizer & Shale Plastering

CLAY BOND L/N

A Nano-based clay/shale inhibitor to provide shale stabilization and cutting encapsulation through coating and plastering mechanism

EMO-BLOCK

High Performance Shale Stabilizer with Pore Blocking Technology

ROP Enhancers, Torque & Drag Reducer, Differential Stuck Reducer

ECO-LUB HP/EP

High Performance lubricants for Extreme Pressure

ROP ENHANCER

High Performance ROP Enhancement Agent

STUCK-LESS

High Performance Differential Stuck Pipe Preventive Agent

Rheology Control Agents, Hole Cleaning & Thixotropic Additives

FIBER-SWEEP

High Performance Hole Cleaning Fiber for Deviated & Horizontal Wells

SPERSEEN L

High Performance Rheology Control and Reducer

THIXO-VS

High Performance Thixotropic / Viscosifier Agent for Bentonite & Polymer Mud

WELL-SWEEP

High Performance Polymeric Agent for High-LSRV Hole Cleaning Pills

Corrosion Inhibitors, Scavengers, Preservative

BIO-SAFE

High Performance- Mud Preservative Agent

HT FLC

HPHT Fluid Loss Control Agent

RHEO-STAB L

Rheology Stabilizer for High Temperature

TEMP-STAB L

High performance Temperature Stabilizer for Starch and Polymers

CLEAN-SURF HP

High Performance Cleaning Agent for Downhole Tools

HPHT Specialty Chemicals

Bit & Downhole Cleaning Agents

BIT-WASH

High Performance Bit Balling Removal

	Reservoir	Non-Reservoir
Wellbore Strengthening		WELL-STRENGTH F/M/C
Bridging Agents for Reservoir	CARBO-BRIDGE UF /SF	
LPM & Seepage Loss Controller (Less than 25 bbl/hr)	LPM-BRIDGE	LPM-BRIDGE F KWICK SEAL F/M
Moderate Losses (25-100 bbl/hr)	FRAC-BRIDGE	KWICK SEAL C
Severe Losses (100-200 bbl/hr)	WELL-PLUG	LCM-FIBER C
Complete Losses (More than 200 bbl/hr)	WELL-PLUG	BCD-SEAL

1.4

Lost Preventive, Circulation Materials & Technology (LPM / LCM)

Wellbore Strengthening Materials

WELL-STRENGTH F

Wellbore Strengthening Material
(Stress Cage Forming Material) -
Fine grade

WELL-STRENGTH M

Wellbore Strengthening Material
(Stress Cage Forming Material) -
Medium grade

WELL-STRENGTH C

Wellbore Strengthening Material
(Stress Cage Forming Material) -
Coarse grade

Bridging Agents for Reservoirs

CARBO-BRIDGE UF

Calcium Carbonate Bridging agent
(1 - 20 mic)

CARBO-BRIDGE SF

Calcium Carbonate Bridging agent
(20 - 40 mic)

LPM & Seepage Loss Controller (Less than 25 bbl/hr)

LPM-BRIDGE

Lost Circulation Technology Highly Effective
cellulosic Loss Circulation Preventer

KWICK SEAL F

Highly Effective LCM Blend- Fine
Grade

KWICK SEAL M

Highly Effective LCM Blend-
Medium Grade

Moderate Losses (25-100 bbl/hr)

KWICK SEAL C

Highly Effective LCM Blend- Coarse Grade

FRAC-BRIDGE

Lost Circulation Technology for Fracture
Reservoir

Severe Losses (100-200 bbl/hr)

LCM-FIBER C

Lost Circulation Technology for Fractured
Formations

Lost Circulation Technology - Complete Losses (More than 200 bbl/hr)

BCD-SEAL

Powdered plug-forming product for curing
severe/complete loss circulation problems

WELL PLUG

High Performance Cross Link Polymeric LCM

1.5

**Waste Water
Treatment Chemicals**

FLOC MP
FLOC HP
POLY ALUM

BIOCIDE HP
OX-INHIBIT
COR-INHIBIT WB

ANTI-SEPT
ALKAN-CONTROL
HARDNESS-CONTROL

**Drilling Cutting
Treatment Chemicals**

CEMENT CLASS A

QLIME

SILICA MR

**Drilling Waste
Management Additives**

Drilling Waste Water Treatment Additives

ALKAN-CONTROL

pH Control Agent

ANTI-SEPT

Anti Septic Agent

BIOCIDE HP

High Performance Bacteria Controlling Agent

FLOC HP

Flocculent Powder - Anionic High MCW

FLOC MP

Flocculent Powder - Anionic Medium MCW

HARDNESS-CONTROL

Hardness Control Agent

POLY ALUM

Poly Aluminum Chloride for Coagulation
Process

OX-INHIBIT

Liquid for removing oxygen from waste
water fluids

COR-INHIBIT WB

Corrosion inhibitor for water treatment industry

Drilling Cutting Treatment Specialty Chemicals

CEMENT CLASS A

Cement Powder - Anti Sulfate for Fixation

QLIME

Quick/Active Lime for Fixation/Stabilization

SILICA MR

Sodium Silicate - Medium Ratio

**Biocides, Corrosion
Inhibitors and Scavengers**

BIOCIDE HP
SULPH-SCAV L
OX-INHIBIT

COR-INHIBIT OB
COR-INHIBIT WB

**Wax and Asphaltene
Inhibitors**

ASPHA-SPERS
WAX-INHIBIT

**Emulsion Breakers
(Demulsifiers)**

DEMUL-2007

DEMUL-2017

Scale Inhibitors

SCALE INHIBIT CM SCALE INHIBIT BS

Hydrate Inhibitor

HYDRATE-INHIBIT

**Biocides, Corrosion
Inhibitors and Scavengers**

BIOCIDE HP
OX-INHIBIT
COR-INHIBIT WB

Scale Inhibitors

SCALE INHIBIT CM
SCALE INHIBIT BS

1.6

Production Specialty Chemicals

1.7

Processing & Water Treatment Chemicals

Biocides, Corrosion Inhibitors H₂S Scavengers

BIOCIDE HP

Liquid concentrate broad spectrum biocide to control anaerobic bacteria in oil and gas production

COR-INHIBIT OB

Oil soluble corrosion inhibitor for production and processing

COR-INHIBIT WB

Water soluble corrosion inhibitor for production and processing

SULPH-SCAV L

Organic based scavenger efficiently removes H₂S from wet gas streams and oil

OX-INHIBIT

Water miscible liquid oxygen scavenger for production and processing

Wax, Asphaltene Inhibitors

ASPHA-SPERS

An oil soluble compound to disperse asphaltene into the oil phase to prevent accumulation

WAX-INHIBIT

A blend of organic inhibitors designed for prevention of paraffin/wax depositions

Demulsifiers

DEMUL-2007

Demulsifiers for breaking water in high gravity crude oil emulsions

DEMUL-2017

Demulsifier for breaking water in medium gravity crude oil emulsions

Scale Inhibitors

SCALE-INHIBIT BS

A modified synthetic polymer in order to inhibit formation magnesium and calcium scales

SCALE-INHIBIT BS

A modified synthetic polymer in order to inhibit formation of strontium and barium scales

Hydrate Inhibitors

HYDRATE-INHIBIT

Water soluble kinetic hydrate inhibitor designed to inhibit the formation of gas clathrate molecules

Master list

Conventional Drilling Fluid Systems

High-Performance WBM

High-Tech WBM

Reservoir Compatible / Drill-In Fluids

Completion Fluid Systems

Well Clean Up / Breaker Fluid Systems

Workover Fluid Systems

2

Drilling Fluids Systems

2.1 Drilling Fluids System

(Master List)

Challenges	Conventional Fluid Systems		High Performance & Hi-Tech Fluid Systems			
	Temperature $\leq 200^{\circ}\text{F}$		Temperature $200 - 300^{\circ}\text{F}$		Temperature $\geq 300 - 400^{\circ}\text{F}$ (HPHT)	
	Inclination $< 45^{\circ}$	Inclination $> 45^{\circ}$	Inclination $\leq 45^{\circ}$	Inclination $> 45-75^{\circ}$	Inclination $\leq 45^{\circ}$	Inclination $45^{\circ}-75^{\circ}$
Top Holes, Large Hole Sizes, Loss Zone & Fractured Zones, Loose Sands	SPUD-DRILL	PHG / GUAR GUM	CLAY-BOND L/N-INHIBIT (K-FREE)	SWEEP-DRILL		
Moderate-Active Shales / Clay	POLY-DRILL	K-POLLY DRILL PHPA-DRILL				
Sensitive & High Reactive Shale /Clays		GLYCO-DRILL SHALE-DRILL	OBM-DRILL	ULTRA-INHIBIT	HPHT-DRILL (350°F) /ALL-STAB SBM-DRILL (up to 400°F)	
High Pressure Zones	HMW-DRILL			HEAVY-DRILL		
HPHT ($>300^{\circ}\text{F}$)						
Deviated, Horizontal & Extended Reach Wells				LUB-DRILL		
Reservoir Compatible	SIZED-SALT		ULTRA-CARB (CARBO-BRIDGE) / MAX-DRILL			
Drill-In Fluids			FORMA-DRILL		CS-FORMA-DRILL	
Depleted & Low Pressure Formations & Reservoir	LOW-WEIGHT		MICRO-DRILL			
Sensitive Reservoir (Water Wells) with Low Pressure			SALT-FREE		GEO-DRILL	

2.2 Conventional Drilling Fluids System

(Selection Criteria)

Type	Description	Pressure	Interval Temperature	Well Inclination	Formation	Shale Inhibition %	Reservoir / Non Reservoir
Top Holes, Large Hole Sizes, Loss Zone & Fractured Zones, Loose Sands							
SPUD-DRILL	Sweeping Fluids with Per-gelatine Bentonite	65-70 PCF	≤ 200 °F	< 45°	Top Holes, Large Hole Sizes, Loss Zone & Fractured Zones	-	Non-reservoir
PHG / GUAR GUM PILL	Sweeping Fluids with Per-gelatine Bentonite Pill & Guar Gum Pill / Polymer Pill	65-70 PCF	≤ 200 °F	< 45°	Top Holes, Large Hole Sizes, Loss Zone & Fractured Zones		Non-reservoir
Moderate-Active Shales/Clay							
POLY-DRILL	Simple Polymer Mud	65-85 PCF	≤ 200 °F	< 45°	Moderate-active shales/Saturated Salt	70-80	Non-Reservoir
K-POLY DRILL	KCL Polymer Mud	65-70 PCF	≤ 200 °F	< 45°	Active Shale	75-80	Non-Reservoir
High-Pressure Zones							
HMW-DRILL	Heavy Weight Polymer Mud with Barite & Hematite	75-150 PCF	≤ 200 °F	< 45°	High Pressure Formation with Salt Water Flow	70-80	Non-Reservoir
Sensitive & High Reactive Shales/Clay							
PHPA-DRILL	KCL/PHPA Polymer Mud	70-85 PCF	≤ 200 °F	< 45°	High Reactive & Sticky Clays & Shales	85-90	Non-Reservoir
GLYCO-DRILL	NaCl/KCL/Glycol Polymer Mud	70-130 PCF	150 - 200 °F	< 45°	Reactive/Brittle Shales	85-90	Non-Reservoir
SHALE-DRILL	NaCl/KCL/Glycol/Asphalt Polymer Mud	70-130 PCF	≤ 200 °F	< 45°	Swelling and Sloughing Clays	85-90	Non-Reservoir
Sensitive & High Reactive Shale/Clays							
OBM-DRILL	Oil based Mud	55-135 PCF	≤ 200 °F	> 45°	Sensitive & High Reactive Shale/Clays	90-95	Reservoir/ Non-Reservoir
Depleted & Low Pressure Formations & Reservoir							
LOW-WEIGHT	Low density water based mud including HGS	< 55 PCF	≤ 200 °F	> 45°	Depleted & Low Pressure Formations & Reservoir	90-95	Reservoir

2.3 Drilling Fluids System (High-Performance WBM)

Type	Description	Pressure	Interval Temperature	Well Inclination	Formation	Shale Inhibition %	Reservoir / Non Reservoir
Top Holes, Large Hole Sizes, Loss Zone & Fractured Zones, Loose Sands							
THIXO-DRILL	Simple polymer mud with sweeping and thixotropic agents	65-90 PCF	200-250 °F	45 - 75 °	Top holes / large hole sizes/Loss Zone & Fractured Zones / Loose Sands	80-85	Reservoir/ Non-Reservoir
Moderate-Active Shales/Clay							
K-FREE (CLAY-BOND)/ N-INHIBIT	Nano Based Water Based KCL Free Drilling Fluids	65-85 PCF	200-250 °F	≤ 45°	Moderate to High Reactive Clays & Shales	90-95	Reservoir/ Non-Reservoir
Sensitive & High Reactive Shale/Clays							
ULTRA-INHIBIT	High Performance WBM with ultra clay & shale inhibitions	70-135 PCF	200-300 °F	45 - 75 °	Interbedded Layers with reactive clays & Micro Fractured shales with Limestone	90-95	Reservoir (65-90 PCF) Non-Reservoir (90-135 PCF)
High Pressure Zones							
HEAVY-DRILL	High Temperature Heavy Weight Polymer Mud with Barite & Hematite	75-165 PCF	200-300 °F	≤ 45°	High Pressure Formation with Salt Water Flow & Interbedded with clays	85-90	Non-Reservoir
Deviated, Horizontal & Extended Reach Wells							
LUB-DRILL	High Lubricity Polymer Mud with Special Lubricants	65-90 PCF	200-300 °F	45-75 °	Deviated & Horizontal Wells	85-90	Reservoir
Sensitive Reservoir (Water Wells) with Low Pressure							
SALT-FREE	Nano Based Water Based Salt Free Drilling Fluids	65-85 PCF	200-250 °F	45-75°	Sensitive Reservoirs with Interbedded Clay & Shales	80-85	Water Producer Wells or Sensitive Reservoir
Depleted & Low Pressure Formations & Reservoir							
MICRO-DRILL	Low density water based mud including foamers and foam boosters (organic)	< 55-65 PCF	200-250 °F	45-75°	Depleted reservoirs in carbonate and sandstone formation/fractured reservoirs	85-90	Reservoir

2.4 Drilling Fluids System (High-Tech WBM)

Type	Description	Pressure	Interval Temperature	Well Inclination	Formation	Shale Inhibition %	Reservoir / Non Reservoir
HPHT (300 - 350 ° F)							
SBM-DRILL	Synthetic based mud	55-135 PCF	300-400 ° F	45 - 75°	Reactive shale/clays/HPHT	90-95	Reservoir
HPHT-DRILL/ ALL-STAB	HI-TECH WBM for HPHT wells with stable rheological profile up to 300° F	65-150 PCF	300-350 ° F	45 - 75°	HPHT & reactive shale/clays	85-90	Reservoir (65-90 PCF) Non-Reservoir (90-150 PCF)
GEO-DRILL	Geo-Thermal Drilling	55-135 PCF	300-400 ° F	45 - 75°	Geo-Thermal Drilling	-	Reservoir

2.5 Reservoir Compatible/Drill-In Fluids

Type	Description	Pressure	Interval Temperature	Well Inclination	Formation	Shale Inhibition %	Reservoir / Non Reservoir
Top Holes, Large Hole Sizes, Loss Zone & Fractured Zones, Loose Sands							
ULTRA-CARB (CARBO-BRIDGE)	High performance salt saturated polymer mud weighted with sized calcium carbonates	70-105 PCF	200-250 °F	≤ 45-75°	High pressure reservoirs	85-95	Reservoir
MAX-DRILL	High Performance WBM for HPHT reservoirs	70-170 PCF	300-400 °F	45-75°	HT/HP reservoir Drilling	90-95	Reservoir
Drill-In Fluids							
SIZED-SALT	Water Removable, Non-Damaging, Well Killing and	75-90 PCF	≤ 200 °F	≤ 45°	Sandstone, sands and fractured limestone reservoirs.	85-90	Reservoir
FORMA-DRILL	Formate-based WBM for high temperature reservoirs with high reactive shale/clays	75-100 PCF	200-300 °F	45-75°	High Temperature Reservoir Drill-in	90-95	Reservoir
CS-FORMA DRILL	Formate-based WBM for high temperature reservoirs with highly reactive shale/clays	75-170 PCF	300-400 °F	45-75°	High Temperature Reservoir Drill-in	90-95	Reservoir

2.6 Completion Fluids System

Trade Name	Description
COMP-FLUID-NaCl	COMP-FLUID-NaCl is used as a completion fluid by mixing sodium chloride powder and special inhibitive additives up to 1.2 S.G
COMP-FLUID-KCl	COMP-FLUID-KCl is used as a completion fluid by mixing potassium chloride powder and special inhibitive additives up to 1.175 S.G
COMP-FLUID-CaCl₂	COMP-FLUID-CaCl ₂ is used as a completion fluid by mixing calcium chloride powder and special inhibitive additives up to 1.35 S.G
COMP-FLUID-NaF	COMP-FLUID-NaF is used as a completion fluid by mixing sodium formate and special inhibitive additives up to 1.32 S.G
COMP-FLUID-PF	COMP-FLUID-PF is used as a completion fluid by mixing potassium formate and special inhibitive additives up to 1.57 S.G
COMP-FLUID-CS	COMP-FLUID-CS is used as a completion fluid by mixing Cesium formate and special inhibitive additives up to 2.38 S.G
COMP-FLUID-NaBr	COMP-FLUID-NaBr is used as a completion fluid by mixing sodium bromide powder/liquid and special inhibitive additives up to 1.52 S.G.
COMP-FLUID-CaBr₂	COMP-FLUID-CaBr ₂ is used as a completion fluid by mixing calcium bromide powder/liquid and special inhibitive additives up to 1.83 S.G
COMP-FLUID-ZnBr₂	COMP-FLUID-ZnBr ₂ is used as a completion fluid by mixing zinc bromide powder/liquid and special inhibitive additives up to 2.52 S.G

2.7 Well Clean Up / Breaker Fluid Systems

Trade Name	Description
WELL-CLEAN WBM	WELL-CLEAN WBM SYSTEM is used to treat filter cakes arising from drilling with water based mud. It is a single stage treatment with a dual attack on filter cakes, comprises an in-situ organic acid generating package to greatly improve acid placement and uniformly dissolve carbonate in mud cake across the wellbore face.
WELL-CLEAN OBM	WELL-CLEAN OBM SYSTEM is used to treat filter cakes arising from drilling with OBM. It is a single stage treatment with a dual attack on filter cakes, comprises an in-situ organic acid generating package to greatly improve acid placement and uniformly dissolve carbonate in mud cake across the wellbore face.

2.8 Workover Fluid Systems

Trade Name	Description
CRYSTAL-SEAL	CRYSTAL-SEAL is high technology water based mud which is formulated by using special crystallization process In order to prevent mud loss into the reservoir, setting a removable plug without damaging the reservoir. The return permeability test has proven more than 90% recovery.
WATER SHUT OFF	WATER SHUT OFF system is designed to reduce the produced water percent during the production based on chemical plugging in downhole condition.
MILL-DRILL	MILL-DRILL system is used during work over operation to minimize torque and drag and friction between work over tools and down hole equipment, opening window for re-entry and sidetrack with minimizing metal to metal friction. This is formulated based on brine types and concentration.



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