

How switching from OBM to Nviros™ HPWBM makes your drilling greener, cleaner, leaner, and faster.

Nviros High-Performance Water-Based Mud is field-proven to be a more sustainable and efficient alternative to oil-based muds. Discover the significant drilling performance, operational, cost and sustainability advantages an Operator in New Mexico achieved across their recent 12-well field trial.

TRIAL: 6 x Wolfcamp wells drilled with OBM / 6 x Wolfcamp wells drilled with Nviros HPWBM

LOCATION: Bell Lake, Lea County, New Mexico



9.64 tons reduced
trash haul off



\$82,626 saved
per well in diesel,
barite and trucking.



37,773 lbs saved
of CO₂ per well.
(226,643.33 lbs total)



57.8% reduction
in energy and emissions
consumption



\$1.26 reduction
(average) in lateral cost/ft



Engineered for sustainable high-performance in unconventional wells

Nviros™ High-Performance Water-Based Mud (HPWBM) is an enhanced formulation built upon our industry-leading Evolution® water-based drilling fluid system incorporating Ntegral™ polymers together with Evolube® G lubricant at 1-2% concentration designed for extended reach drilling applications.

As a water-based mud, Nviros HPWBM enables operators to save on the disposal costs, logistics, base-fluid costs, motor realign fees, and pit cleaning expenses associated with oil-based mud (OBM). Allowing you to run a far greener, cleaner and leaner operation that gets you to total depth faster.

Greener

Nviros HPWBM features sustainable cellulosic polymers and sends less trash to landfill

Nviros HPWBM is formulated by mixing non-hazardous materials supplied in sacks at the wellsite. Dramatically reducing the amount drum or tote cleaning as well as the quantity of trash destined for landfill – a method of disposal with a very poor sustainability profile.

Reduction in waste to landfill

In the Landfill	Nviros HPWBM	OBM	Difference
Hazmat Drums	0	222	222
Hazmat Totes	0	2	2
NonHazmat Totes	31	0	-31
100# Sacks	0	228	228
50# Sacks	1,090	3,684	2,594
25# Sacks	1,462	9	-1,453
Hazmat 5 Gal Pails	0	39	39
NonHazmat 5 Gals Pails	704	0	-704
Pallets	84	257	173
ShrinkWrap	86	239	153
Total Weight of Trash (lbs)	2,157	21,450	19,293





5 days drilling

time saved per well

Cleaner

Nviros HPWBM uses fewer products, less Barite and almost no diesel

Fewer products, less barite and an absence of diesel from Nviros HPWBM doesn't just create a cleaner and safer working environment for your team. Reduced requirement for trucking cuts costs and lowers the chances of road incidents, spills, diesel fumes and noise pollution.

Fewer miles on the road

Truckloads	Nviros HPWBM	OBM	Difference
Material Truck Loads	28.90	62.67	33.76
Hazmat Liquid OBM Loads	0	45.41	45.41
Hazmat Diesel Loads	0	14.58	14.58
Trash Haul Off	1	4.00	3.00
Total	29.90	126.66	96.75

Less diesel exposure for your team

	Nviros HPWBM	OBM	Difference	Cost
Barite (\$200/Ton)	508.38	1,106.19	597.81	\$119,562.00
Diesel (\$2.80/Gal)	0	104,983	104,983	\$293,952.40
Trucking (\$850/Load)	29.90	126.66	96.76	\$82,242.68
			Total savings	\$495,757.08
			Savings per well	\$82,626.18

75% less
truckloads

Leaner

Nviros HPWBM reduces energy consumption and carbon emissions on average by 57.86% during drilling operations from KOP and TD

Sustainability and superior drilling performance no longer have to be mutually exclusive. Nviros HPWBM significantly cuts the number of drilling days reducing the energy consumption and CO₂ emissions from operations. The excellent economical and sustainability profile of excellent Nviros HPWBM is simply not achievable when drilling with OBM.

Wolfcamp Data Set – Nviros HPWBM

Well	Days	Cost	MD	TVD	Ft/Day	\$/Ft	Lateral days	Lateral length	Feet/day lateral	Lateral cost	Lateral cost/Ft
Bell Lake Unit South #403H - NT	11.21	\$101,102.62	18,720	11,861	1,669.88	\$5.40	5.12	8,780.00	1,714.80	\$64,690.91	\$7.37
Bell Lake Unit South #402H - NT	10.18	\$170,434.72	18,640	12,049	1,831.57	\$9.14	4.83	8,982.00	1,858.88	\$87,434.48	\$9.73
Bell Lake Unit South #418H - NT	17.32	\$153,645.21	18,940	12,086	1,093.52	\$8.11	5.86	8,683.00	1,481.81	\$84,914.84	\$9.78
Bell Lake Unit South #423H - NT	14.53	\$107,739.94	17,570	11,988	1,208.94	\$6.13	6.83	9,094.00	1,331.51	\$79,371.29	\$8.73
Bell Lake Unit South #424H - NT	13.42	\$144,753.62	18,610	11,821	1,387.01	\$7.78	5.85	8,659.00	1,481.40	\$89,259.98	\$10.31
Bell Lake Unit South #425H - NT	11.07	\$95,823.54	19,038	11,734	1,719.65	\$5.03	4.54	9,110.00	2,005.26	\$62,188.39	\$6.83
Bell Lake Unit South #426H - NT	13.76	\$150,156.37	19,540	11,726	1,420.09	\$7.68	5.50	8,754.00	1,591.44	\$89,115.33	\$10.18
Bell Lake Unit North #416H - NT	14.42	\$145,100.60	19,786	11,411	1,372.17	\$7.33	7.82	9,231.00	1,180.41	\$98,987.89	\$10.72
Average	12.85	\$133,594.58	18,856		1,462.85	\$7.08	5.79	8,911.63	1,580.69	\$81,995.39	\$9.21

Wolfcamp Data Set – Historical

Well	Days	Cost	MD	TVD	Ft/Day	\$/Ft	Lateral days	Lateral length	Feet/Day lateral	Lateral cost	Lateral cost/Ft
Bell Lake Unit North #426H OBM	14.17	\$183,493.23	19,553	11,567	1,379.47	\$9.38	7.09	8,693.00	1,226.17	\$70,008.05	\$8.05
Bell Lake Unit South #404H OBM	14.66	\$129,452.43	20,086	12,118	1,369.95	\$6.44	7.63	8,642.00	1,132.35	\$57,451.55	\$6.65
Bell Lake Unit North #422H OBM	15.69	\$117,442.60	20,175	11,974	1,285.60	\$5.82	10.12	9,126.00	901.77	\$74,556.08	\$8.17
Bell Lake Unit North #428H OBM	23.15	\$198,861.64	19,616	11,545	847.37	\$10.14	16.89	8,884.00	525.98	\$82,598.60	\$9.30
Bell Lake Unit South #401H OBM	27.57	\$143,843.62	19,870	12,683	720.73	\$7.24	19.47	9,215.00	473.29	\$159,354.20	\$17.29
Bell Lake Unit North #401H OBM	46.22	\$266,749.37	20,113	12,172	435.16	\$13.26	19.12	8,854.00	463.07	\$156,123.59	\$17.63
Average	23.58	\$173,307.15	19,902		1,006.38	\$8.72	13.39	8,902.33	787.10	\$100,015.35	\$9.89

Faster

Nviros HPWBM more than doubles ROP in the lateral section resulting on average 5 days less drilling time

The superior drilling performance due to the lubricant and ROP enhancer that are key components in Nviros HPWBM deliver higher penetration rates and reduces the time to total depth by 58% - lowering lateral cost per foot from \$9.89 to \$8.63%.

Calculation methods and assumptions: Burning gallon of diesel produces 5.77lbs of CO₂. Semitruck average 5.9mpg. Assume 200 mile round trip between warehouse and rig site. Saving 195.59lbs of CO₂ per trip.

Average daily diesel usage at rig site 1,200gal. Burning gallon of diesel produces 5.77lbs of CO₂. Typical rig site produces 6,924lbs CO₂ per day. Nivros HPWBM saves on average 5 days' time saving per rig/well. 34,620lbs carbon saved per well.



Contact Newpark fluids specialists for more information
nfs@newpark.com or visit newpark.com/fluids

Newpark Fluids Systems, 21920 Merchants Way, Katy, TX 77449, © 2022 Newpark Resources Inc., All Rights Reserved.