

Machine Id HC-2205 Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 5W40 (--- GAL)

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

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All component wear rates are normal.

RECOMMENDATION

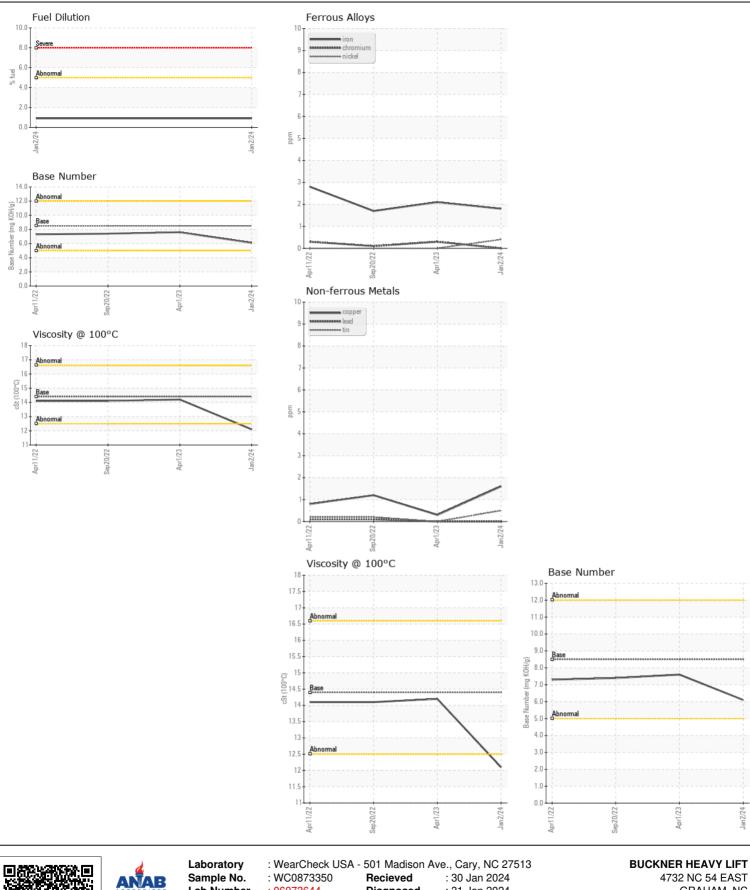
CONTAMINATION

Fuel content negligible. There is no indication of any contamination in the oil.

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Test UOM Method LimitAbn Current History1 History2 Sample Number Client Info WC0873350 WC074024 VX07474 Sample Date Client Info 0 7825 7349 6950 Oil Age hrs Client Info 0 729 0 Oil Changed Client Info Changed Changed N/A Sample Status Client Info Changed Changed N/A Sample Status VX NORMAL NORMAL NORMAL Iron ppm ASTM D5185m >100 2 2 2 Chromium ppm ASTM D5185m >4 <1 0 0 Nickel ppm ASTM D5185m >3 <1 0 0 <1 Silver ppm ASTM D5185m >30 2 <1 2 2 Vanadium ppm ASTM D5185m >30 2 <1 2 2 Silv							
Sample Date Client Info 722 machine Age Nrs Client Info 7729 0 Machine Age hrs Client Info 0 729 0 Gil Age hrs Client Info 0 729 0 Gil Changed Client Info Changed Changed N/A Filter Changed Client Info Changed N/A Sample Status STM D5185m >100 2 2 2 Chromium ppm ASTM D5185m >20 0 <1 <1 Nickel ppm ASTM D5185m >20 0 0 <1 Titanium ppm ASTM D5185m >20 2 <1 0 Aluminum ppm ASTM D5185m >20 2 <1 1 Tin ppm ASTM D5185m >20 2 <1 1 Tin ppm ASTM D5185m >25 10 8 7 Vanadium ppm A	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age hrs Client Info 7825 7349 6950 Oil Age hrs Client Info 0 729 0 Filter Age hrs Client Info Changed Changed N/A Sample Status Client Info Changed Changed N/A Sample Status Dom ASTM D5185m >200 C 1 <1 Iron ppm ASTM D5185m >20 0 <1 <1 0 0 Titanium ppm ASTM D5185m >20 2 <1 0 0 Aluminum ppm ASTM D5185m >30 <1 0 0 <1 Copper ppm ASTM D5185m >20 2 <1 1 1 Tin ppm ASTM D5185m >30 2 <1 0 <1 Vanadium ppm ASTM D5185m >25 10 8 7 Veloadium ppm ASTM D5185	Sample Number		Client Info		WC0873350	WC0746602	WC0720474
Oil Age hrs Client Info 0 729 0 Filter Age hrs Client Info 0 729 0 Oil Changed Client Info Changed Changed N/A Sample Status Client Info Changed NORMAL NORMAL Iron ppm ASTM D5185m >100 2 2 2 Chromium ppm ASTM D5185m >4 <1 0 0 Nickel ppm ASTM D5185m >4 <1 0 0 Aluminum ppm ASTM D5185m >20 2 <1 1 Copper ppm ASTM D5185m >30 2 <1 1 Vanadium ppm ASTM D5185m >15 <1 0 <1 Vanadium ppm ASTM D5185m >25 10 8 7 Vanadium ppm ASTM D5185m >25 10 8 7 Vanadium ppm </th <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>02 Jan 2024</th> <th>01 Apr 2023</th> <th>20 Sep 2022</th>	Sample Date		Client Info		02 Jan 2024	01 Apr 2023	20 Sep 2022
Filter Age hrs Client Info 0 729 0 Oil Changed Client Info Changed Changed N/A Sample Status Client Info Changed Changed N/A Iron ppm ASTM D5185m >100 2 2 2 Chromium ppm ASTM D5185m >20 0 <1 <1 Nickel ppm ASTM D5185m >20 0 <1 <1 Nickel ppm ASTM D5185m >33 <1 0 0 Silver ppm ASTM D5185m >30 2 <1 1 Copper ppm ASTM D5185m >40 0 <1 0 <1 Vanadium ppm ASTM D5185m >40 0 <1 0 <1 Vanadium ppm ASTM D5185m >25 10 8 7 Potassium ppm ASTM D5185m >25 0.9 <1.0 <1.0 </th <th>Machine Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>7825</th> <th>7349</th> <th>6950</th>	Machine Age	hrs	Client Info		7825	7349	6950
Oil Changed Client Info Changed Changed N/A Filter Changed Client Info NORMAL NORMAL NORMAL NORMAL Iron ppm ASTM D5185m >100 2 2 2 Chromium ppm ASTM D5185m >20 0 <1 <1 Nickel ppm ASTM D5185m >20 2 2 2 Chromium ppm ASTM D5185m >3 <1 0 0 Silver ppm ASTM D5185m >30 2 <1 1 1 Agminum ppm ASTM D5185m >20 2 <1 1 1 Copper ppm ASTM D5185m >330 2 <1 0 <1 Vanadium ppm ASTM D5185m >15 <1 0 <1 Vanadium ppm ASTM D5185m >20 5 5 2 Velow Metal scalar *Visual NONE <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>0</th> <th>729</th> <th>0</th>	Oil Age	hrs	Client Info		0	729	0
Filter Changed Sample Status Client Info Changed NORMAL N/A Iron ppm ASTM D5185m >100 2 2 2 Chromium ppm ASTM D5185m >20 0 <1 <1 Nickel ppm ASTM D5185m >20 0 <1 <1 0 Nickel ppm ASTM D5185m >20 2 <1 0 0 Silver ppm ASTM D5185m >20 2 <1 2 2 Lead ppm ASTM D5185m >20 2 <1 1 1 Tin ppm ASTM D5185m >40 0 <1 0 <1 Vanadium ppm ASTM D5185m >15 <1 0 <1 0 <1 Vanadium ppm ASTM D5185m >20 5 5 2 2 <10 8 7 Valeu NOR NONE NONE NONE NONE	Filter Age	hrs	Client Info		0	729	0
Sample Status NORMAL NORMAL NORMAL NORMAL Iron ppm ASTM D5185m >100 2 2 2 Chromium ppm ASTM D5185m >20 0 -1 -1 Nickel ppm ASTM D5185m >4 -1 0 0 Titanium ppm ASTM D5185m >33 -1 0 0 Aluminum ppm ASTM D5185m >20 2 <1 1 Copper ppm ASTM D5185m >30 2 <1 1 Tin ppm ASTM D5185m >15 <1 0 <1 Vanadium ppm ASTM D5185m >20 5 5 2 Velow Metal scalar *Visual NONE NONE NONE NONE Velow Metal scalar *Visual NONE NONE NONE NONE Silicon ppr ASTM D7844 >3 0.1 0.1	Oil Changed		Client Info		Changed	Changed	N/A
Iron ppm ASTM D5185m >100 2 2 2 Chromium ppm ASTM D5185m >20 0 <1 <1 Nickel ppm ASTM D5185m >4 <1 0 0 Titanium ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >3 <1 0 0 Aluminum ppm ASTM D5185m >30 2 <1 1 Copper ppm ASTM D5185m >40 0 0 <1 Vanadium ppm ASTM D5185m >15 <1 0 <1 Vanadium ppm ASTM D5185m >25 10 8 7 Vanadium ppm ASTM D5185m >20 5 5 2 Vellow Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NORE </th <th>Filter Changed</th> <th></th> <th>Client Info</th> <th></th> <th>Changed</th> <th>Changed</th> <th>N/A</th>	Filter Changed		Client Info		Changed	Changed	N/A
Chromium ppm ASTM D5185m >20 0 <1	Sample Status				NORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185m >20 0 <1							
Nickel ppm ASTM D5185m >-4 <1	Iron	ppm	ASTM D5185m	>100	2	2	2
Titanium ppm ASTM D5185m <1	Chromium	ppm	ASTM D5185m	>20	0	<1	<1
Silver ppm ASTM D5185m >3 <1	Nickel	ppm	ASTM D5185m	>4	<1	0	0
Aluminum ppm ASTM D5185m >20 2 <1	Titanium	ppm	ASTM D5185m		<1	<1	0
Lead ppm ASTM D5185m >40 0 0 <1	Silver	ppm	ASTM D5185m	>3	<1	0	0
Copper ppm ASTM D5185m >330 2 <1	Aluminum	ppm	ASTM D5185m	>20	2	<1	2
Tin ppm ASTM D5185m >15 <1	Lead	ppm	ASTM D5185m	>40	0	0	<1
Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>330	2	<1	1
White Metal Yellow Metalscalar*VisualNONENONENONENONESiliconppmASTM D5185m>251087PotassiumppmASTM D5185m>20552Fuel%ASTM D5185m>20552Fuel%ASTM D5185m>20NEGNEGNEGGlycolWC Method>0.2NEGNEGNEGGlycolWC Method>0.2NEGNEGNEGSoot %%*ASTM D7844>30.10.10.1NitrationAbs/cm*ASTM D7454>3021.819.720.6Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLMolybdenumppmASTM D5185m25016416747BariumppmASTM D5185m100000MolybdenumppmASTM D5185m4505126082CalciumppmASTM D5185m110011483ManganeseppmASTM D5185m3000205617862195PhosphorusppmASTM D5185m1350119012041251SulfurppmAST	Tin	ppm	ASTM D5185m	>15	<1	0	<1
Yellow Metal scalar *Visual NONE NONE NONE NONE Silicon ppm ASTM D5185m >20 5 5 2 Potassium ppm ASTM D5185m >20 5 5 2 Fuel % ASTM D5185m >20 S 5 5 2 Fuel % ASTM D5185m >20 NEG NEG NEG Water WC Method >0.2 NEG NEG NEG Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/.mm *ASTM D7624 >20 8.4 6.6 10.2 Sulfation Abs/.mm *ASTM D7415 >30 21.8 19.7 20.6 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NORM NORML NORML NORML Appearance scalar *Visual	Vanadium	ppm	ASTM D5185m		<1	0	<1
Silicon ppm ASTM D5185m >25 10 8 7 Potassium ppm ASTM D5185m >20 5 5 2 Fuel % ASTM D5185m >20 5 5 2 Fuel % ASTM D5185m >20 5 5 2 Glycol WC Method >0.2 NEG NEG NEG Soot % % "ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/.mm<"ASTM D715 >30 21.8 19.7 20.6 Sulfation Abs/.tmm<"ASTM D715 >30 21.8 19.7 20.6 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORM	White Metal		*Visual	NONE	NONE	NONE	NONE
Silicon ppm ASTM D5185m >25 10 8 7 Potassium ppm ASTM D5185m >20 5 5 2 Fuel % ASTM D5185m >20 5 5 2 Fuel % ASTM D5185m >20 5 5 2 Glycol WC Method >0.2 NEG NEG NEG Soot % % "ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/.mm "ASTM D7624 >20 8.4 6.6 10.2 Sulfation Abs/.tmm "ASTM D7155 >30 21.8 19.7 20.6 Silt scalar "Visual NONE NONE NONE NONE NONE Debris scalar "Visual NONE NORM NORML NORM NORM Appearance scalar "Visual NORML NORML NORML NORML NORML Dron ppm<	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Potassium ppm ASTM D5185m >20 5 5 2 Fuel % ASTM D3524 >5 0.9 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG NEG Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.4 6.6 10.2 Sulfation Abs/cm *ASTM D7155 >30 21.8 19.7 20.6 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML Boron ppm ASTM D5185m 250 16							
Fuel % ASTM D3524 >5 0.9 <1.0	Silicon	ppm	ASTM D5185m	>25	10	8	7
WaterWC Method>0.2NEGNEGNEGGlycolWC MethodNEGNEGNEGNEGSoot %%*ASTM D7844>30.10.10.1NitrationAbs/cm*ASTM D7624>208.46.610.2SulfationAbs/lmm*ASTM D7614>3021.819.720.6Siltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNORMNORMLNONENONENOREAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLBoronppmASTM D5185m>4413<1BoronppmASTM D5185m10011483ManganeseppmASTM D5185m1001<1<1MagnesiumppmASTM D5185m3000205617862195PhosphorusppmASTM D5185m11509949881068ZincppmASTM D5185m4250341041264597OxidationAbs/Imm*ASTM D5185m4250341041264597OxidationAbs/Imm*ASTM D5185m4250341041264597SulfurppmASTM D5185m4250	Potassium	ppm	ASTM D5185m	>20	5	5	2
Glycol WC Method NEG NEG NEG Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.4 6.6 10.2 Sulfation Abs/.1mm *ASTM D7614 >30 21.8 19.7 20.6 Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML	Fuel	%	ASTM D3524	>5	0.9	<1.0	<1.0
Soot % % *ASTM D7844 >3 0.1 0.1 0.1 Nitration Abs/cm *ASTM D7624 >20 8.4 6.6 10.2 Sulfation Abs/.imm *ASTM D7624 >20 8.4 6.6 10.2 Sulfation Abs/.imm *ASTM D7415 >30 21.8 19.7 20.6 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Sand/Dirt scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML Odor scalar *Visual >0.2 NEG NEG NEG Sodium ppm ASTM D5185m 250 164 167 47 Barium ppm <th>Water</th> <th></th> <th>WC Method</th> <th>>0.2</th> <th>NEG</th> <th>NEG</th> <th>NEG</th>	Water		WC Method	>0.2	NEG	NEG	NEG
Nitration Abs/cm *ASTM D7624 >20 8.4 6.6 10.2 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 19.7 20.6 Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML NORML Odor scalar *Visual NORML NOR	Glycol		WC Method		NEG	NEG	NEG
SulfationAbs/.1mm*ASTM D7415>3021.819.720.6Siltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m25016416747BariumppmASTM D5185m10000MolybdenumppmASTM D5185m10011483ManganeseppmASTM D5185m4505126082CalciumppmASTM D5185m3000205617862195PhosphorusppmASTM D5185m11509949881068ZincppmASTM D5185m1350119012041251SulfurppmASTM D5185m4250341041264597OxidationAbs/.1mm*ASTM D7414>2517.815.515.5Base Number (BN)mg KOHgASTM D28968.56.17.67.4	Soot %	%	*ASTM D7844	>3	0.1	0.1	0.1
Siltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m25016416747BariumppmASTM D5185m10000MolybdenumppmASTM D5185m10011483ManganeseppmASTM D5185m4505126082CalciumppmASTM D5185m11509949881068ZincppmASTM D5185m1350119012041251SulfurppmASTM D5185m4250341041264597OxidationAbs/.tmm*ASTM D7414>2517.815.515.5Base Number (BN)mg KOHgASTM D28968.56.17.67.4	Nitration	Abs/cm	*ASTM D7624	>20	8.4	6.6	10.2
Debrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m>4413<1BoronppmASTM D5185m25016416747BariumppmASTM D5185m10000MolybdenumppmASTM D5185m10011483ManganeseppmASTM D5185m4505126082CalciumppmASTM D5185m11509949881068ZincppmASTM D5185m1350119012041251SulfurppmASTM D5185m4250341041264597OxidationAbs/.tmm*ASTM D7414>2517.815.515.5Base Number (BN)mg KOHgASTM D28968.56.17.67.4	Sulfation	Abs/.1mm	*ASTM D7415	>30	21.8	19.7	20.6
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m>4413<1BoronppmASTM D5185m25016416747BariumppmASTM D5185m10000MolybdenumppmASTM D5185m10011483ManganeseppmASTM D5185m4505126082CalciumppmASTM D5185m3000205617862195PhosphorusppmASTM D5185m11509949881068ZincppmASTM D5185m1350119012041251SulfurppmASTM D5185m4250341041264597OxidationAbs/.tmm*ASTM D7414>2517.815.515.5Base Number (BN)mg KOHgASTM D28968.56.17.67.4	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGNEGSodiumppmASTM D5185m>4413<1BoronppmASTM D5185m25016416747BariumppmASTM D5185m10000MolybdenumppmASTM D5185m10011483ManganeseppmASTM D5185m4505126082CalciumppmASTM D5185m3000205617862195PhosphorusppmASTM D5185m11509949881068ZincppmASTM D5185m1350119012041251SulfurppmASTM D5185m4250341041264597OxidationAbs/.tmm*ASTM D2868.56.17.67.4	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m>4413<1BoronppmASTM D5185m25016416747BariumppmASTM D5185m10000MolybdenumppmASTM D5185m10011483ManganeseppmASTM D5185m4505126082CalciumppmASTM D5185m3000205617862195PhosphorusppmASTM D5185m11509949881068ZincppmASTM D5185m1350119012041251SulfurppmASTM D5185m4250341041264597OxidationAbs/.tmm*ASTM D2868.56.17.67.4	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >0.2 NEG NEG NEG Sodium ppm ASTM D5185m >44 1 3 <1 Boron ppm ASTM D5185m 250 164 167 47 Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 1 14 83 Manganese ppm ASTM D5185m 100 1 <1 <1 Magnesium ppm ASTM D5185m 450 51 260 82 Calcium ppm ASTM D5185m 3000 2056 1786 2195 Phosphorus ppm ASTM D5185m 1350 1190 1204 1251 Sulfur ppm ASTM D5185m 4250 3410 4126 4597 Oxidation Abs/.tmm *ASTM D7414 >25 17.8 15.5 15.5 Base Number (BN) mg KOHg	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Sodium ppm ASTM D5185m >44 1 3 <1	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Boron ppm ASTM D5185m 250 164 167 47 Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 1 14 83 Manganese ppm ASTM D5185m 100 1 14 83 Magnesium ppm ASTM D5185m 450 51 260 82 Calcium ppm ASTM D5185m 3000 2056 1786 2195 Phosphorus ppm ASTM D5185m 1150 994 988 1068 Zinc ppm ASTM D5185m 1350 1190 1204 1251 Sulfur ppm ASTM D5185m 4250 3410 4126 4597 Oxidation Abs/.tmm<*ASTM D7414 >25 17.8 15.5 15.5 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.1 7.6 7.4	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Boron ppm ASTM D5185m 250 164 167 47 Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 1 14 83 Manganese ppm ASTM D5185m 100 1 14 83 Magnesium ppm ASTM D5185m 450 51 260 82 Calcium ppm ASTM D5185m 3000 2056 1786 2195 Phosphorus ppm ASTM D5185m 1150 994 988 1068 Zinc ppm ASTM D5185m 1350 1190 1204 1251 Sulfur ppm ASTM D5185m 4250 3410 4126 4597 Oxidation Abs/.tmm<*ASTM D7414 >25 17.8 15.5 15.5 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.1 7.6 7.4							
Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 1 14 83 Manganese ppm ASTM D5185m 100 1 14 83 Magnesium ppm ASTM D5185m 450 51 260 82 Calcium ppm ASTM D5185m 3000 2056 1786 2195 Phosphorus ppm ASTM D5185m 1150 994 988 1068 Zinc ppm ASTM D5185m 1350 1190 1204 1251 Sulfur ppm ASTM D5185m 4250 3410 4126 4597 Oxidation Abs/.tmm *ASTM D7414 >25 17.8 15.5 15.5 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.1 7.6 7.4		ppm			1		
Molybdenum ppm ASTM D5185m 100 1 14 83 Manganese ppm ASTM D5185m 100 1 14 83 Magnesium ppm ASTM D5185m 450 51 <1		ppm					
Manganese ppm ASTM D5185m <1							
Magnesium ppm ASTM D5185m 450 51 260 82 Calcium ppm ASTM D5185m 3000 2056 1786 2195 Phosphorus ppm ASTM D5185m 1150 994 988 1068 Zinc ppm ASTM D5185m 1350 1190 1204 1251 Sulfur ppm ASTM D5185m 4250 3410 4126 4597 Oxidation Abs/.tmm *ASTM D7414 >25 17.8 15.5 15.5 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.1 7.6 7.4	•			100			
Calcium ppm ASTM D5185m 3000 2056 1786 2195 Phosphorus ppm ASTM D5185m 1150 994 988 1068 Zinc ppm ASTM D5185m 1350 1190 1204 1251 Sulfur ppm ASTM D5185m 4250 3410 4126 4597 Oxidation Abs/.tmm *ASTM D7414 >25 17.8 15.5 15.5 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.1 7.6 7.4	-						
Phosphorus ppm ASTM D5185m 1150 994 988 1068 Zinc ppm ASTM D5185m 1350 1190 1204 1251 Sulfur ppm ASTM D5185m 4250 3410 4126 4597 Oxidation Abs/.tmm *ASTM D7414 >25 17.8 15.5 15.5 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.1 7.6 7.4	Ū	ppm					
Zinc ppm ASTM D5185m 1350 1190 1204 1251 Sulfur ppm ASTM D5185m 4250 3410 4126 4597 Oxidation Abs/.tmm *ASTM D7414 >25 17.8 15.5 15.5 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.1 7.6 7.4							
Sulfur ppm ASTM D5185m 4250 3410 4126 4597 Oxidation Abs/.tmm *ASTM D7414 >25 17.8 15.5 15.5 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.1 7.6 7.4	-	ppm					
Oxidation Abs/.1mm *ASTM D7414 >25 17.8 15.5 15.5 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.1 7.6 7.4		ppm			1190	1204	1251
Base Number (BN) mg KOH/g ASTM D2896 8.5 6.1 7.6 7.4		ppm	ASTM D5185m	4250	3410	4126	
		Abs/.1mm	*ASTM D7414	>25	17.8		15.5
Visc @ 100°C cSt ASTM D445 14.4 (12.1) 14.2 14.1	Base Number (BN)	mg KOH/g	ASTM D2896	8.5	6.1		7.4
	Visc @ 100°C	cSt	ASTM D445	14.4	12.1	14.2	14.1



Lab Number Diagnosed : 31 Jan 2024 GRAHAM, NC : 06073644 : 10850321 Diagnostician : Wes Davis US 27253-9215 Unique Number Test Package : CONST (Additional Tests: FuelDilution, PercentFuel, TBN) Contact: MICHAEL LAWSON Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. michaell@bucknercompanies.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (336)376-8888 F: (336)376-4090 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)