

[PMOAS3340285] Machine Id NL56FG04 148905-0707 - FIRE STATION 3 Component Diesel Engine Fluid DIESEL ENGINE OIL SAE 5W30 (--- QTS)

RECOMMENDATION

No corrective action is recommended at this time. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

W	ΙE	Δ	R

All component wear rates are normal.

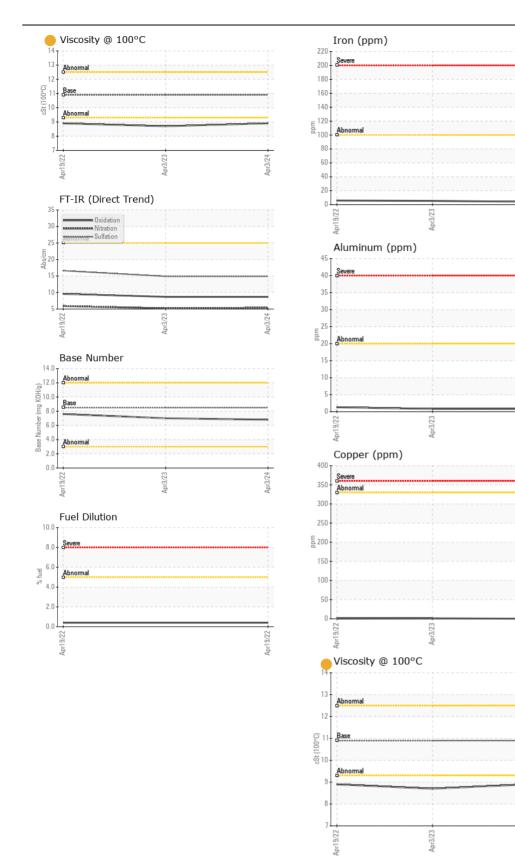
CONTAMINATION

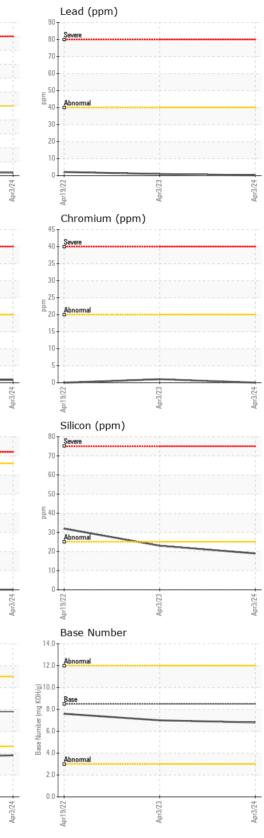
There is no indication of any contamination in the oil.

FLUI		TIC	
FLUI	שאכ		NN

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

Sample Date Client Info 03 Apr 2024 03 Apr 2023 19 Apr 2023 Machine Age hrs Client Info 216 0 176 Oil Age hrs Client Info 0 0 0 Filter Age hrs Client Info 0 0 0 Oil Changed Client Info Changed N/A Changed Filter Changed Client Info Changed N/A N/A Sample Status - Changed N/A N/A Iron ppm ASTM D5185m<>100 4 5 6 Chromium ppm ASTM D5185m<>20 0 1 0 Nickel ppm ASTM D5185m<>3 0 0 0 0 Aluminum ppm ASTM D5185m<>3 0 1 1 1 Lead ppm ASTM D5185m<>33 0 1 1 1 Vanadium ppm ASTM D5185m<>30 0 1 1 0							
Sample Number Client Info DC0035249 DC0027720 DC0020391 Machine Age hrs Client Info 03 Apr 2023 19 Apr 2023 10 Apr 2023 10 Apr 2023 19 Apr 2023 10 Apr 2023 11 Apr 2023 12 Apr 2023 12 Apr 2023 12 Apr 2023 <th>Test</th> <th>UOM</th> <th>Method</th> <th>Limit/Abn</th> <th>Current</th> <th>History1</th> <th>History2</th>	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age hrs Client Info 0 0 0 Filter Age hrs Client Info 0 0 0 Oil Changed Client Info Changed N/A Changed Filter Changed Client Info Changed N/A N/A Sample Status ATTENTION ATTENTION ATTENTION ATTENTION Iron ppm ASTM D5185m >100 4 5 6 Chromium ppm ASTM D5185m >20 0 1 0 Nickel ppm ASTM D5185m >20 <1 <1 1 Lead ppm ASTM D5185m >30 0 0 1 <1 Lead ppm ASTM D5185m >15 0 1 1 1 Vanadium ppm ASTM D5185m >20 <1 1 0 White Metal scalar "Visual NONE NONE NONE NONE NONE	Sample Number		Client Info		DC0035249	DC0027720	DC0020398
Machine Age hrs Client Info 0 0 0 Filter Age hrs Client Info 0 0 0 Oil Changed Client Info Changed N/A Changed Filter Changed Client Info Changed N/A N/A Sample Status ATTENTION ATTENTION ATTENTION ATTENTION Iron ppm ASTM D5185m >100 4 5 6 Chromium ppm ASTM D5185m >20 0 1 0 Nickel ppm ASTM D5185m >20 <1 <1 1 Lead ppm ASTM D5185m >30 0 0 1 <1 Lead ppm ASTM D5185m >15 0 1 1 1 Vanadium ppm ASTM D5185m >20 <1 1 0 White Metal scalar "Visual NONE NONE NONE NONE NONE			Client Info		03 Apr 2024	03 Apr 2023	19 Apr 2022
Fitter Age Ins Client Info 0 0 0 0 Oil Changed Client Info Changed N/A N/A N/A Sample Status Client Info Changed N/A N/A N/A Iron ppm ASTM D5185m >20 0 1 0 Nickel ppm ASTM D5185m >20 0 <1 <1 Titanium ppm ASTM D5185m >20 0 <1 <1 <1 Silver ppm ASTM D5185m >20 <1 <1 1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <0 <1 <1 <1 <0 <1 <1 <1 <0 <1 <1 0 <1<		hrs	Client Info		216	0	176
Filter Age hrs Client Info O O O Cil Changed Client Info Changed N/A N/A Changed Sample Status Client Info Changed N/A N/A N/A Iron ppm ASTM D5185m >100 4 5 6 Chromium ppm ASTM D5185m >20 0 1 0 Nickel ppm ASTM D5185m >20 0 <1 <1 1 Silver ppm ASTM D5185m >20 <1 <1 1 1 2 Copper ppm ASTM D5185m >30 0 1 <1 1 1 1 2 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	•	hrs	Client Info		0	0	0
Oil ChangedClient InfoChangedN/AChangedFilter ChangedClient InfoChangedN/AN/AN/ASample StatusClient InfoATTENTIONATTENTIONATTENTIONIronppmASTM D5185m>100456ChromiumppmASTM D5185m>20010NickelppmASTM D5185m>400<1<1TitaniumppmASTM D5185m>20<1<11LeadppmASTM D5185m>20<1<11LeadppmASTM D5185m>40<1<11LeadppmASTM D5185m>40<1<11VanadiumppmASTM D5185m>40<110White Metalscalar'VisualNONENONENONENONENONEVellow Metalscalar'VisualNONENONENONENONENONESiliconppmASTM D5185m>20<1200Fuel%ASTM D5185m>20<1200SulfationAbs/rmASTM D5185m>20<120Fuel%ASTM D5185m>20<1200SulfationAbs/rmASTM D5185m>20<120SulfationAbs/rmASTM D7145>30000NitrationAbs/rmASTM D7145 <t< th=""><th></th><th>hrs</th><th>Client Info</th><th></th><th>0</th><th>0</th><th>0</th></t<>		hrs	Client Info		0	0	0
Filter Changed Sample Status Client Info ATTENTION Changed ATTENTION N/A N/A Iron ppm ASTM D5185m >100 4 5 6 Chromium ppm ASTM D5185m >20 0 1 0 Nickel ppm ASTM D5185m >4 0 <1 <1 Titanium ppm ASTM D5185m >30 0 0 0 Silver ppm ASTM D5185m >40 <1 <1 1 Lead ppm ASTM D5185m >40 <1 <1 1 2 Copper ppm ASTM D5185m >40 <1 1 1 0 White Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE Silicon ppm <	-		Client Info		Changed	N/A	Changed
Sample Status ATTENTION ATTENTION ATTENTION ATTENTION Iron ppm ASTM D5185m >100 4 55 6 Chromium ppm ASTM D5185m >20 0 1 0 Nickel ppm ASTM D5185m >20 0 <1 <1 Titanium ppm ASTM D5185m >30 0 <1 <1 Silver ppm ASTM D5185m >30 0 1 <1 1 Lead ppm ASTM D5185m >330 0 1 <1 0 0 Vanadium ppm ASTM D5185m >15 0 1 1 0 White Metal scalar *Visual NONE NONE NONE NONE Silicon ppm ASTM D5185m >20 <1 2 0 Fuel % ASTM D5185m >20 <1.0 <1.0 0.4 Water WC Method <t< th=""><th>-</th><th></th><th>Client Info</th><th></th><th>•</th><th>N/A</th><th>0</th></t<>	-		Client Info		•	N/A	0
Iron ppm ASTM D5185m >100 4 5 6 Chromium ppm ASTM D5185m >20 0 1 0 Nickel ppm ASTM D5185m >20 0 <1	-				_		
Chromium ppm ASTM D5185m >20 0 1 0 Nickel ppm ASTM D5185m >4 0 <1 <1 Titanium ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 <1 <1 21 Lead ppm ASTM D5185m >30 0 1 <1 21 Copper ppm ASTM D5185m >330 0 1 <1 1 Vanadium ppm ASTM D5185m >15 0 1 1 0 White Metal scalar *Visual NONE NONE NONE NONE NONE Silicon ppm ASTM D5185m >20 <1 2 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0							
Nickel ppm ASTM D5185m >4 0 <1	Iron	ppm	ASTM D5185m	>100	4	5	6
Titanium ppm ASTM D5185m 0 <1 <1 Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 <1	Chromium	ppm	ASTM D5185m	>20	0	1	0
Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >20 <1	Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Aluminum ppm ASTM D5185m >20 <1	Titanium	ppm	ASTM D5185m		0	<1	<1
Lead ppm ASTM D5185m >40 <1	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >330 0 1 <1	Aluminum	ppm	ASTM D5185m	>20	<1	<1	1
Copper ppm ASTM D5185m >330 0 1 <1	Lead	ppm	ASTM D5185m	>40	<1	<1	2
Tin ppm ASTM D5185m >15 0 1 1 Vanadium ppm ASTM D5185m <1 1 0 White Metal scalar *Visual NONE NONE NONE LIGHT NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Silicon ppm ASTM D5185m >25 19 23 32 Potassium ppm ASTM D5185m >20 <1 2 0 Fuel % ASTM D5185m >20 <1.0 <1.0 0.4 Water WC Method >0.2 NEG NEG NEG S Soot % % *ASTM D7624 >20 5.4 5.2 5.9 Sulfation Abs/.mm *ASTM D715 >30 14.9 14.9 16.6 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *	Copper		ASTM D5185m	>330	0	1	<1
Vanadium ppm ASTM D5185m <1	Tin		ASTM D5185m	>15	0	1	1
Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Silicon ppm ASTM D5185m >25 19 23 32 Potassium ppm ASTM D5185m >20 <1 2 0 Fuel % ASTM D3524 >5 <1.0 <1.0 0.4 Water WC Method >0.2 NEG NEG NEG Second Soot % % *ASTM D7844 >3 0 0 0 Nitration Abs/.mm *ASTM D7624 >20 5.4 5.2 5.9 Sulfation Abs/.fmm *ASTM D715 >30 14.9 14.9 16.6 Sitt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NORE NONE NONE NORE Appearance scalar *Visual NORL NORML NORML NORML Odo scalar <th>Vanadium</th> <th></th> <th>ASTM D5185m</th> <th></th> <th><1</th> <th>1</th> <th>0</th>	Vanadium		ASTM D5185m		<1	1	0
Silicon ppm ASTM D5185m >25 19 23 32 Potassium ppm ASTM D5185m >20 <1 2 0 Fuel % ASTM D5185m >20 <1 2 0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Soot % % 'ASTM D7844 >3 0 0 0 Nitration Abs/cm<''ASTM D7824 >20 5.4 5.2 5.9 Sulfation Abs/Imm<''ASTM D7151 >30 14.9 14.9 16.6 Silt scalar 'Visual NONE NONE NONE NONE Debris scalar 'Visual NORM NORM NORM NORM NORM Appearance scalar 'Visual NORM NORML NORML NORM NORM Odor scalar 'Visual NORM NORM	White Metal	scalar	*Visual	NONE	NONE	LIGHT	NONE
Silicon ppm ASTM D5185m >25 19 23 32 Potassium ppm ASTM D5185m >20 <1 2 0 Fuel % ASTM D5185m >20 <1 2 0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Soot % % 'ASTM D7844 >3 0 0 0 Nitration Abs/cm<''ASTM D7824 >20 5.4 5.2 5.9 Sulfation Abs/Imm<''ASTM D7151 >30 14.9 14.9 16.6 Silt scalar 'Visual NONE NONE NONE NONE Debris scalar 'Visual NORM NORM NORM NORM NORM Appearance scalar 'Visual NORM NORML NORML NORM NORM Odor scalar 'Visual NORM NORM	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Potassium ppm ASTM D5185m >20 <1							
Fuel % ASTM D3524 >5 <1.0	Silicon	ppm	ASTM D5185m	>25	19	23	32
Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method NEG NEG NEG NEG NEG Soot % % *ASTM D7844 >3 0 0 0 Nitration Abs/cm *ASTM D7624 >20 5.4 5.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 14.9 14.9 16.6 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE Sand/Dirt scalar *Visual NOR NORE NORM NORM Appearance scalar *Visual NORM NORM NORM NORM NORM Odor scalar *Visual NOR NORM NORM NORM Odor scalar *Visual NOR NORM NORM NORM Odo 0	Potassium	ppm	ASTM D5185m	>20	<1	2	0
GlycolWC MethodNEGNEGNEGSoot %%*ASTM D7844>3000NitrationAbs/cm*ASTM D7624>205.45.25.9SulfationAbs/tmm*ASTM D7115>3014.914.916.6Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLDebrisscalar*VisualNORMNORMLNORMLNORMLAppearancescalar*VisualNORNORMLNORMLNORMLOdorscalar*VisualNORNORMLNORMLNORMLBariumppmASTM D5185m10000MagnesiumppmASTM D5185m10045537736MagnesiumppmASTM D5185m1150662597641ZincppmASTM D5185m1350764710721SulfurppmASTM D5185m1350292626562186OxidationA	Fuel	%	ASTM D3524	>5	<1.0	<1.0	0.4
Soot % % *ASTM D7844 >3 0 0 0 Nitration Abs/cm *ASTM D7624 >20 5.4 5.2 5.9 Sulfation Abs/cm *ASTM D7624 >20 5.4 5.2 5.9 Sulfation Abs/cm *ASTM D7615 >30 14.9 14.9 16.6 Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NORM NORML NORM NORML NORMD Stalas Stalas <	Water		WC Method	>0.2	NEG	NEG	NEG
NitrationAbs/cm*ASTM D7624>205.45.25.9SulfationAbs/.1mm*ASTM D7415>3014.914.916.6Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m250126123112BariumppmASTM D5185m100000MolybdenumppmASTM D5185m022<1MagnesiumppmASTM D5185m3000837822892PhosphorusppmASTM D5185m1150652597641ZincppmASTM D5185m1350764710721SulfurppmASTM D5185m4250292626562186OxidationAbs/.1mm*ASTM D5185m42508.78.79.6Base Number (BN)mg KOH/gASTM D28968.56.87.07.6	Glycol		WC Method		NEG	NEG	NEG
SulfationAbs/.1mm*ASTM D7415>3014.914.916.6Siltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGNEGSodiumppmASTM D5185m250126123112BariumppmASTM D5185m100000MolybdenumppmASTM D5185m100453736MagnesiumppmASTM D5185m3000837822892PhosphorusppmASTM D5185m1150652597641ZincppmASTM D5185m1350764710721SulfurppmASTM D5185m4250292626562186OxidationAbs/.1mm*ASTM D5185m42508.78.79.6Base Number (BN)mg KOH/gASTM D28968.56.87.07.6	Soot %	%	*ASTM D7844	>3	0	0	0
Siltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m250126123112BariumppmASTM D5185m10000MolybdenumppmASTM D5185m100453736ManganeseppmASTM D5185m100689689699CalciumppmASTM D5185m1150652597641ZincppmASTM D5185m1350764710721SulfurppmASTM D5185m4250292626562186OxidationAbs/1mm*ASTM D5185m42508.78.79.6Base Number (BN)mg KOHlyASTM D28968.56.87.07.6	Nitration	Abs/cm	*ASTM D7624	>20	5.4	5.2	5.9
Debrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m250126123112BariumppmASTM D5185m10000MolybdenumppmASTM D5185m100453736MagnesiumppmASTM D5185m100453736MagnesiumppmASTM D5185m100689689699CalciumppmASTM D5185m1150652597641ZincppmASTM D5185m1350764710721SulfurppmASTM D5185m4250292626562186OxidationAbs/1mm*ASTM D5185m42508.78.79.6Base Number (BN)mg KOH/gASTM D28968.56.87.07.6	Sulfation	Abs/.1mm	*ASTM D7415	>30	14.9	14.9	16.6
Sand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m250126123112BariumppmASTM D5185m10000MolybdenumppmASTM D5185m1004553736ManganeseppmASTM D5185m1004553736MagnesiumppmASTM D5185m30008378222892PhosphorusppmASTM D5185m1150652597641ZincppmASTM D5185m1350764710721SulfurppmASTM D5185m4250292626562186OxidationAbs/1mm*ASTM D7141>258.78.79.6Base Number (BN)mg KOHgASTM D28868.56.87.07.6	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGNEGSodiumppmASTM D5185m250126123112BariumppmASTM D5185m10000MolybdenumppmASTM D5185m100453736ManganeseppmASTM D5185m100453736MagnesiumppmASTM D5185m3000837822892PhosphorusppmASTM D5185m1150652597641ZincppmASTM D5185m1350764710721SulfurppmASTM D5185m4250292626562186OxidationAbs/.1mm*ASTM D5185m425058.78.79.6Base Number (BN)mg KOHgASTM D28968.56.87.07.6	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m250126123112BoronppmASTM D5185m250126123112BariumppmASTM D5185m10000MolybdenumppmASTM D5185m100453736ManganeseppmASTM D5185m100453736MagnesiumppmASTM D5185m3000837822892PhosphorusppmASTM D5185m1350652597641ZincppmASTM D5185m1350764710721SulfurppmASTM D5185m4250292626562186OxidationAbs/.1mm*ASTM D5185m42508.78.79.6Base Number (BN)mg KOH/gASTM D28968.56.87.07.6	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >0.2 NEG NEG NEG Sodium ppm ASTM D5185m <1 2 2 Boron ppm ASTM D5185m 250 126 123 112 Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 45 37 36 Manganese ppm ASTM D5185m 0 2 <1 Magnesium ppm ASTM D5185m 0 889 699 Calcium ppm ASTM D5185m 3000 837 822 892 Phosphorus ppm ASTM D5185m 1150 652 597 641 Zinc ppm ASTM D5185m 1350 764 710 721 Sulfur ppm ASTM D5185m 4250 2926 2656 2186 Oxidation Abs/.1mm<*ASTM D7414 >25 8.7 8.7 9.6<	Appearance	scalar	*Visual	NORML	NORML	NORML	NORM
Sodium ppm ASTM D5185m <1	Odor	scalar	*Visual	NORML	NORML	NORML	NORM
Boron ppm ASTM D5185m 250 126 123 112 Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 45 37 36 Manganese ppm ASTM D5185m 100 45 37 36 Magnesium ppm ASTM D5185m 100 45 37 36 Calcium ppm ASTM D5185m 450 689 689 699 Calcium ppm ASTM D5185m 3000 837 822 892 Phosphorus ppm ASTM D5185m 1150 652 597 641 Zinc ppm ASTM D5185m 1350 764 710 721 Sulfur ppm ASTM D5185m 4250 2926 26566 2186 Oxidation Abs/.1mm<*ASTM D7414 >25 8.7 8.7 9.6 Base Number (BN) mg KOH/g ASTM D2896	Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Boron ppm ASTM D5185m 250 126 123 112 Barium ppm ASTM D5185m 10 0 0 0 Molybdenum ppm ASTM D5185m 100 45 37 36 Manganese ppm ASTM D5185m 100 45 37 36 Magnesium ppm ASTM D5185m 100 45 37 36 Calcium ppm ASTM D5185m 450 689 689 699 Calcium ppm ASTM D5185m 3000 837 822 892 Phosphorus ppm ASTM D5185m 1150 652 597 641 Zinc ppm ASTM D5185m 1350 764 710 721 Sulfur ppm ASTM D5185m 4250 2926 26566 2186 Oxidation Abs/.1mm<*ASTM D7414 >25 8.7 8.7 9.6 Base Number (BN) mg KOH/g ASTM D2896	Codium				.4	0	0
BariumppmASTM D5185m10000MolybdenumppmASTM D5185m100453736ManganeseppmASTM D5185m100450689689699CalciumppmASTM D5185m3000837822892PhosphorusppmASTM D5185m1150652597641ZincppmASTM D5185m1350764710721SulfurppmASTM D5185m4250292626562186OxidationAbs.1mm*ASTM D714>258.78.79.6Base Number (BN)mg KOH/gASTM D28968.56.87.07.6				250			
Molybdenum ppm ASTM D5185m 100 45 37 36 Manganese ppm ASTM D5185m 0 2 <1 Magnesium ppm ASTM D5185m 450 689 689 699 Calcium ppm ASTM D5185m 3000 837 822 892 Phosphorus ppm ASTM D5185m 1150 652 597 641 Zinc ppm ASTM D5185m 1350 764 710 721 Sulfur ppm ASTM D5185m 4250 2926 2656 2186 Oxidation Abs/.1mm *ASTM D7414 >25 8.7 8.7 9.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.8 7.0 7.6							
Manganese ppm ASTM D5185m 0 2 <1							
Magnesium ppm ASTM D5185m 450 689 689 699 Calcium ppm ASTM D5185m 3000 837 822 892 Phosphorus ppm ASTM D5185m 1150 652 597 641 Zinc ppm ASTM D5185m 1350 764 710 721 Sulfur ppm ASTM D5185m 4250 2926 2656 2186 Oxidation Abs/.1mm *ASTM D7414 >25 8.7 8.7 9.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.8 7.0 7.6	-			100			
Calcium ppm ASTM D5185m 3000 837 822 892 Phosphorus ppm ASTM D5185m 1150 652 597 641 Zinc ppm ASTM D5185m 1350 764 710 721 Sulfur ppm ASTM D5185m 4250 2926 2656 2186 Oxidation Abs/.1mm *ASTM D7414 >25 8.7 8.7 9.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.8 7.0 7.6	•			150			
Phosphorus ppm ASTM D5185m 1150 652 597 641 Zinc ppm ASTM D5185m 1350 764 710 721 Sulfur ppm ASTM D5185m 4250 2926 2656 2186 Oxidation Abs/.1mm *ASTM D7414 >25 8.7 8.7 9.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.8 7.0 7.6	•						
Zinc ppm ASTM D5185m 1350 764 710 721 Sulfur ppm ASTM D5185m 4250 2926 2656 2186 Oxidation Abs/.1mm *ASTM D7414 >25 8.7 8.7 9.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.8 7.0 7.6							
Sulfur ppm ASTM D5185m 4250 2926 2656 2186 Oxidation Abs/.1mm *ASTM D7414 >25 8.7 8.7 9.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.8 7.0 7.6							
Oxidation Abs/.1mm *ASTM D7414 >25 8.7 8.7 9.6 Base Number (BN) mg KOH/g ASTM D2896 8.5 6.8 7.0 7.6							
Base Number (BN) mg KOH/g ASTM D2896 8.5 6.8 7.0 7.6							
visc @ 100°C cst ASTM D445 10.9 🧶 8.9 🖉 8.7 🛑 8.9	()						
	Visc @ 100°C	cSt	ASTM D445	10.9	8.9	8.7	8.9





KELLY GENERATOR & EQUIPMENT INC Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 口音 Sample No. Received 1955 DALE LN : DC0035249 : 23 Apr 2024 Lab Number : 06157478 Tested : 24 Apr 2024 OWINGS, MD : 25 Apr 2024 - Jonathan Hester US 20736 Unique Number : 10992901 Diagnosed Test Package : MOB 1 (Additional Tests: FuelDilution, TBN) Contact: LESLIE SNURR Certificate L2367 LSNURR@KGE.COM To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (410)257-5225 F: (410)257-5227 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: LESLIE SNURR - KELOWI Page 2 of 2