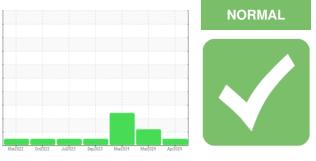


OIL ANALYSIS REPORT

Sample Rating Trend





324M Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

Recommendation

DIAGNOSIS

The oil change at the time of sampling has been noted. Resample at the next service interval to monitor. No other corrective action is recommended at this time.

Machine Id

Wear

All component wear rates are normal.

Contamination

Light fuel dilution occurring. No other contaminants were detected in the oil.

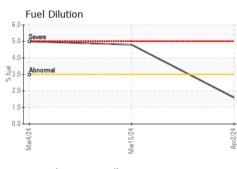
Fluid Condition

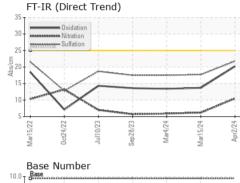
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

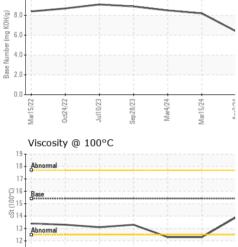
Sample Number Client Info GFL0104491 GFL010420 GFL010420 GFL010420 Sample Date Client Info 02 Apr 2024 15 Mar 2024 04 Mar 2024 Machine Age hrs Client Info 300 600 Oil Age hrs Client Info 300 600 Oil Age hrs Client Info Changed Changed Changed Sample Status Image Nethod Sol2 NEG NEG NEG CONTAMINATION method Imil/base current Nistory NEG Vater WC Method >0.2 NEG NEG NEG Nickel ppm ASTM051555 >2 0 1 0 Nickel ppm ASTM051555 >2 0 0 0 Auminum ppm ASTM051555 >2 0 0 0 Auminum ppm ASTM051555 >2 0 0 0 Auminum ppm	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Date Client Info 02 Apr 2024 15 Mar 2024 04 Mar 2024 Machine Age hrs Client Info 494322 172744 0 Oil Age hrs Client Info 500 0 600 Oil Age Nrs Client Info Changed Changed Changed Sample Status Imathibas current Nistory1 Nistory1 Nistory1 Water WC Method >0.2 NEG NEG NEG Werent WC Method Imit/base current Nistory1 Nistory1 Iron ppm ASTM 05185m >120 19 7 5 Chromium ppm ASTM 05185m >20 <1 0 0 Nickel ppm ASTM 05185m >20 0 0 0 Silver ppm ASTM 05185m >20 1 2 <1 Land ppm ASTM 05185m >20 1 2 <1 Cop	Sample Number		Client Info		GFL0104491	GFL0104420	GFL0104263
Oil Age hrs Client Info 300 0 600 Oil Changed Client Info Changed Changed Changed Changed SevERE CONTAMINATION method imit/base current history1 history2 Water WC Method >0 NEG NEG NEG Glycol WC Method >0 NEG NEG NEG VEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >120 19 7 5 Chromium ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >20 0 <1 0 Silver ppm ASTM D5185m >20 0 0 0 Qapper ppm ASTM D5185m >20 0 0 0 Glopper ppm ASTM D5185m >300 1 2 <1			Client Info		02 Apr 2024	15 Mar 2024	04 Mar 2024
Oil Changed Sample Status Client Info Changed NORMAL Changed ABNORMAL Changed ABNORMAL Changed SEVERE CONTAMINATION method imit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Water WC Method >0.2 NEG NEG NEG Chromium ppm ASTM D5185m >20 -1 -1 0 Nickel ppm ASTM D5185m >20 0 0 0 Nickel ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 1 2 -1 Lead ppm ASTM D5185m >20 0 0 0 Capper ppm ASTM D5185m >20 -1 -1 -1 Vanadium ppm ASTM D5185m 0 0 0	Machine Age	hrs	Client Info		494322	172744	0
Sample Status NORMAL ABNORMAL SEVERE CONTAMINATION method imit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG WEAR METALS method imit/base current history1 history2 Iron ppm ASIM D5185 >120 19 7 5 Chromium ppm ASIM D5185 >5 0 <1 0 Nickel ppm ASIM D5185 >2 0 <1 0 Silver ppm ASIM D5185 >2 0 0 0 Cadmium ppm ASIM D5185 >40 0 0 0 Cadmium ppm ASIM D5185 >15 0 <1 <1 Cadmium ppm ASIM D5185 0 3 3 2 Cadmium ppm	Oil Age	hrs	Client Info		300	0	600
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >20 <1 0 0 Silver ppm ASTM D5185m >20 0 0 0 Aluminum ppm ASTM D5185m >20 1 2 <1 Lead ppm ASTM D5185m >20 1 <1 <1 Vanadium ppm ASTM D5185m >30 <1 2 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 3 3 2	Oil Changed		Client Info		Changed	Changed	Changed
Water WC Method >0.2 NEG NEG NEG Glycol WC Method Imit/base current Inistory1 Inistory2 Iron ppm ASTM D5185m >120 19 7 5 Chromium ppm ASTM D5185m >5 0 <10	Sample Status				NORMAL	ABNORMAL	SEVERE
Glycol WC Method NEG NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >22 0 <1 0 Silver ppm ASTM D5185m >22 0 <1 0 Aluminum pm ASTM D5185m >20 1 2 <1 Lead ppm ASTM D5185m >15 0 <1 <1 Cadmium pm ASTM D5185m >15 0 <1 <1 Cadmium pm ASTM D5185m >15 0 <0 <0 Cadmium pm ASTM D5185m 0 0 0 <0 <0 Cadmium pm ASTM D5185m 0 2 55	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05185m >120 19 7 5 Chromium ppm ASTM 05185m >20 <1 <1 0 Nickel ppm ASTM 05185m >20 <1 <1 0 Silver ppm ASTM 05185m >20 0 <1 0 Aluminum ppm ASTM 05185m >20 1 2 <1 Lead ppm ASTM 05185m >20 1 2 <1 Lead ppm ASTM 05185m >40 0 0 0 Cadmium ppm ASTM 05185m 0 <1 <1 <1 Vanadium ppm ASTM 05185m 0 0 0 0 0 Cadmium ppm ASTM 05185m 0 3 3 2 3 Barium ppm ASTM 05185m 0	Water		WC Method	>0.2	NEG	NEG	NEG
Iron ppm ASTM D5185m >120 19 7 5 Chromium ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >5 0 <1 0 Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >2 0 0 0 Copper ppm ASTM D5185m >20 1 2 <1 Lead ppm ASTM D5185m >330 <1 2 <1 Cadmium ppm ASTM D5185m >15 0 <11 <1 Vanadium ppm ASTM D5185m 0 3 3 2 Boron ppm ASTM D5185m 0 3 3 2 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 1010 966 850	Glycol		WC Method		NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >5 0 <1	Iron	ppm	ASTM D5185m	>120	19	7	5
Titanium ppm ASTM D5185m >2 0 <1	Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Silver ppm ASTM D5185m >2 0 0 0 Aluminum ppm ASTM D5185m >20 1 2 <1	Nickel	ppm	ASTM D5185m	>5	0	<1	0
Aluminum ppm ASTM D5185m >20 1 2 <1	Titanium	ppm		>2	0	<1	0
Lead ppm ASTM D5185m >40 0 0 0 Copper ppm ASTM D5185m >330 <1 2 <1 Tin ppm ASTM D5185m >15 0 <1 <1 Vanadium ppm ASTM D5185m >15 0 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 3 3 2 Boron ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 0 Maganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 1010 966 850 938 Calcium ppm ASTM D5185m 1070 1070 1023 1047 Phosphorus ppm ASTM D5185m 1270 1275	Silver	ppm	ASTM D5185m	>2	0		0
Copper ppm ASTM D5185m >330 <1	Aluminum	ppm	ASTM D5185m	>20	1	2	<1
Tin ppm ASTM D5185m >15 0 <1	Lead	ppm			0		0
Vanadium ppm ASTM D5185m 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 3 3 2 Barium ppm ASTM D5185m 0 0 0 0 0 Manganese ppm ASTM D5185m 0 <11	Copper	ppm	ASTM D5185m	>330	<1	2	<1
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 3 3 2 Barium ppm ASTM D5185m 0 0 0 0 0 Malybdenum ppm ASTM D5185m 0 55 54 Manganese ppm ASTM D5185m 0 <1	Tin	ppm	ASTM D5185m	>15	0	<1	<1
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0332BariumppmASTM D5185m0000MolybdenumppmASTM D5185m60595554ManganeseppmASTM D5185m0<1<10MagnesiumppmASTM D5185m1010966850938CalciumppmASTM D5185m1070107010231047PhosphorusppmASTM D5185m115010589461040ZincppmASTM D5185m1270127511551183SulfurppmASTM D5185m2060325130243045CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25453SodiumppmASTM D5185m>20020Fuel%ASTM D5185m>20020Fuel%ASTM D584>3.01.64.85.0Soot %%'ASTM D7844>40.40.20.1NitrationAbs/Im'ASTM D745>3021.817.717.5FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/Im'ASTM D7414>2520.213.713.4	Vanadium	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 0 3 3 2 Barium ppm ASTM D5185m 0 0 0 0 0 Molybdenum ppm ASTM D5185m 60 59 55 54 Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 1010 966 850 938 Calcium ppm ASTM D5185m 1010 966 850 938 Calcium ppm ASTM D5185m 1070 1023 1047 Phosphorus ppm ASTM D5185m 1270 1275 1155 1183 Sulfur ppm ASTM D5185m 2060 3251 3024 3045 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 0 2 2 Potassium ppm ASTM D5185m	Cadmium	ppm	ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 60 59 55 54 Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 1010 966 850 938 Calcium ppm ASTM D5185m 1070 1023 1047 Phosphorus ppm ASTM D5185m 1150 1058 946 1040 Zinc ppm ASTM D5185m 1270 1275 1155 1183 Sulfur ppm ASTM D5185m 2060 3251 3024 3045 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 0 2 0 Fuel ppm ASTM D5185m >20 0 2 0 Fuel ppm ASTM D5185m >20 0.4 </th <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th></th> <th>history1</th> <th>history2</th>	ADDITIVES		method	limit/base		history1	history2
Molybdenum ppm ASTM D5185m 60 59 55 54 Manganese ppm ASTM D5185m 0 <1 <1 0 Magnesium ppm ASTM D5185m 1010 966 850 938 Calcium ppm ASTM D5185m 1010 966 850 938 Calcium ppm ASTM D5185m 1070 1070 1023 1047 Phosphorus ppm ASTM D5185m 1150 1058 946 1040 Zinc ppm ASTM D5185m 1270 1275 1155 1183 Sulfur ppm ASTM D5185m 2060 3251 3024 3045 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 0 2 0 Fuel % ASTM D5185m >20 0 2 0 Fuel % ASTM D5185m <t< th=""><th></th><th></th><th></th><th>in the baco</th><th>ounonit</th><th>motory</th><th>ineter j =</th></t<>				in the baco	ounonit	motory	ineter j =
Manganese ppm ASTM D5185m 0 <1		ppm					
Magnesium ppm ASTM D5185m 1010 966 850 938 Calcium ppm ASTM D5185m 1070 1070 1023 1047 Phosphorus ppm ASTM D5185m 1150 1058 946 1040 Zinc ppm ASTM D5185m 1270 1275 1155 1183 Sulfur ppm ASTM D5185m 2060 3251 3024 3045 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 5 3 Sodium ppm ASTM D5185m >25 4 5 3 Sodium ppm ASTM D5185m >20 0 2 0 Fuel % ASTM D5185m >20 0 2 0 Fuel % ASTM D5185m >20 0 2 0 Soot % % *ASTM D7844 >4 <	Boron		ASTM D5185m	0	3	3	2
Calcium ppm ASTM D5185m 1070 1070 1023 1047 Phosphorus ppm ASTM D5185m 1150 1058 946 1040 Zinc ppm ASTM D5185m 1270 1275 1155 1183 Sulfur ppm ASTM D5185m 2060 3251 3024 3045 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 5 3 Sodium ppm ASTM D5185m >20 0 2 0 Fuel % ASTM D5185m >20 0 2 0 Fuel % ASTM D5185m >20 0 2 0 Fuel % ASTM D324 >3.0 1.6 4.8 5.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 1	Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	3 0	3	2 0
Phosphorus ppm ASTM D5185m 1150 1058 946 1040 Zinc ppm ASTM D5185m 1270 1275 1155 1183 Sulfur ppm ASTM D5185m 2060 3251 3024 3045 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 5 3 Sodium ppm ASTM D5185m >25 4 5 3 Sodium ppm ASTM D5185m >20 0 2 0 Fuel % ASTM D5185m >20 0 2 0 Fuel % ASTM D5185m >20 0 2 0 Fuel % ASTM D5185m >20 0 4.88 5.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 10.5	Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	3 0 59	3 0 55	2 0 54 0
Zinc ppm ASTM D5185m 1270 1275 1155 1183 Sulfur ppm ASTM D5185m 2060 3251 3024 3045 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 5 3 Sodium ppm ASTM D5185m >25 4 5 3 Sodium ppm ASTM D5185m >20 0 2 0 Potassium ppm ASTM D5185m >20 0 2 0 Fuel % ASTM D5185m >20 0 2 0 Soot % ppm ASTM D5185m >20 0 2 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7624 >20 10.5 6.2 5.9 Sulfation Abs/.mm *ASTM D7415 >30 21.8<	Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	3 0 59 <1	3 0 55 <1 850	2 0 54 0 938
SulfurppmASTM D5185m2060325130243045CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25453SodiumppmASTM D5185m>20622PotassiumppmASTM D5185m>20020Fuel%ASTM D5185m>20020Fuel%ASTM D5185m>20020NFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>40.40.20.1NitrationAbs/cm*ASTM D7624>2010.56.25.9SulfationAbs/lmm*ASTM D7415>3021.817.717.5FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs./1mm*ASTM D7414>2520.213.713.4	Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	3 0 59 <1 966 1070	3 0 55 <1 850	2 0 54 0 938
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >25 4 5 3 Sodium ppm ASTM D5185m >25 4 5 3 Sodium ppm ASTM D5185m >20 0 2 2 Potassium ppm ASTM D5185m >20 0 2 0 Fuel % ASTM D3524 >3.0 1.6 4.8 5.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.4 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.5 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 17.7 17.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 <	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	3 0 59 <1 966 1070 1058	3 0 55 <1 850 1023 946	2 0 54 0 938 1047 1040
Silicon ppm ASTM D5185m >25 4 5 3 Sodium ppm ASTM D5185m <20	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	3 0 59 <1 966 1070 1058 1275	3 0 55 <1 850 1023 946	2 0 54 0 938 1047 1040
Sodium ppm ASTM D5185m 6 2 2 Potassium ppm ASTM D5185m<>20 0 2 0 Fuel % ASTM D5185m<>20 0 2 0 Fuel % ASTM D5185m<>20 0 2 0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844<>4 0.4 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.5 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 17.7 17.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.2 13.7 13.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	3 0 59 <1 966 1070 1058 1275	3 0 55 <1 850 1023 946 1155	2 0 54 0 938 1047 1040 1183 3045
Potassium ppm ASTM D5185m >20 0 2 0 Fuel % ASTM D3524 >3.0 1.6 ▲ 4.8 ▲ 5.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.4 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.5 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 17.7 17.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.2 13.7 13.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	3 0 59 <1 966 1070 1058 1275 3251	3 0 55 <1 850 1023 946 1155 3024	2 0 54 0 938 1047 1040 1183 3045 history2
Fuel % ASTM D3524 >3.0 1.6 ▲ 4.8 ▲ 5.0 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.4 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.5 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 17.7 17.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.2 13.7 13.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	3 0 59 <1 966 1070 1058 1275 3251 current	3 0 55 <1 850 1023 946 1155 3024 history1	2 0 54 0 938 1047 1040 1183 3045 history2 3
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >4 0.4 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.5 6.2 5.9 Sulfation Abs/.mm *ASTM D7415 >30 21.8 17.7 17.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.2 13.7 13.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	3 0 59 <1 966 1070 1058 1275 3251 current 4	3 0 55 <1 850 1023 946 1155 3024 history1 5	2 0 54 0 938 1047 1040 1183 3045 history2 3
Soot % % *ASTM D7844 >4 0.4 0.2 0.1 Nitration Abs/cm *ASTM D7624 >20 10.5 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 17.7 17.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.2 13.7 13.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	3 0 59 <1 966 1070 1058 1275 3251 current 4 6 0	3 0 55 <1 850 1023 946 1155 3024 history1 5 2 2 2	2 0 54 0 938 1047 1040 1183 3045 history2 3 2 0
Nitration Abs/cm *ASTM D7624 >20 10.5 6.2 5.9 Sulfation Abs/.1mm *ASTM D7415 >30 21.8 17.7 17.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.2 13.7 13.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	3 0 59 <1 966 1070 1058 1275 3251 current 4 6 0	3 0 55 <1 850 1023 946 1155 3024 history1 5 2 2 2	2 0 54 0 938 1047 1040 1183 3045 history2 3 2 0
Sulfation Abs/.1mm *ASTM D7415 >30 21.8 17.7 17.5 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.2 13.7 13.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 limit/base >25 >20 >20	3 0 59 <1 966 1070 1058 1275 3251 current 4 6 0 1.6	3 0 55 <1 850 1023 946 1155 3024 history1 5 2 2 2 2 4.8	2 0 54 0 938 1047 1040 1183 3045 history2 3 2 0 0 ▲ 5.0
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 20.2 13.7 13.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 >20 >3.0	3 0 59 <1 966 1070 1058 1275 3251 <i>current</i> 4 6 0 1.6 <i>current</i>	3 0 55 <1 850 1023 946 1155 3024 history1 5 2 2 2 2 2 4.8	2 0 54 0 938 1047 1040 1183 3045 history2 3 2 0 0 ▲ 5.0 history2
Oxidation Abs/.1mm *ASTM D7414 >25 20.2 13.7 13.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 >20 >3.0	3 0 59 <1 966 1070 1058 1275 3251 <i>current</i> 4 6 0 1.6 <i>current</i> 0.4	3 0 55 <1 850 1023 946 1155 3024 history1 5 2 2 2 2 ▲ 4.8 history1 0.2	2 0 54 0 938 1047 1040 1183 3045 history2 3 2 0 5.0 history2 0.1
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >20 >3.0 imit/base >20 >3.0	3 0 59 <1 966 1070 1058 1275 3251 <i>current</i> 4 6 0 1.6 <i>current</i> 0.4 10.5	3 0 55 <1 850 1023 946 1155 3024 history1 5 2 2 2 2 ↓ 4.8 history1 0.2 6.2	2 0 54 0 938 1047 1040 1183 3045 history2 3 2 0 5.0 history2 0.1 5.9
Base Number (BN) mg KOH/g ASTM D2896 9.8 6.4 8.2 8.5	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 >3.0 imit/base >4 >20 >3.0	3 0 59 <1 966 1070 1058 1275 3251 <i>current</i> 4 6 0 1.6 <i>current</i> 0.4 10.5 21.8	3 0 55 <1 850 1023 946 1155 3024 history1 5 2 2 2 2 2 ▲ 4.8 history1 0.2 6.2 17.7	2 0 54 0 938 1047 1040 1183 3045 history2 3 2 0 0 ▲ 5.0 history2 0.1 5.9 17.5
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 /////////////////////////////////	3 0 59 <1 966 1070 1058 1275 3251 <i>current</i> 4 6 0 1.6 <i>current</i> 0.4 10.5 21.8	3 0 55 <1 850 1023 946 1155 3024 history1 5 2 2 2 4.8 history1 0.2 6.2 17.7 history1	2 0 54 0 938 1047 1040 1183 3045 history2 3 2 0 0 \$.0 history2 0 0 0.1 5.9 17.5



OIL ANALYSIS REPORT



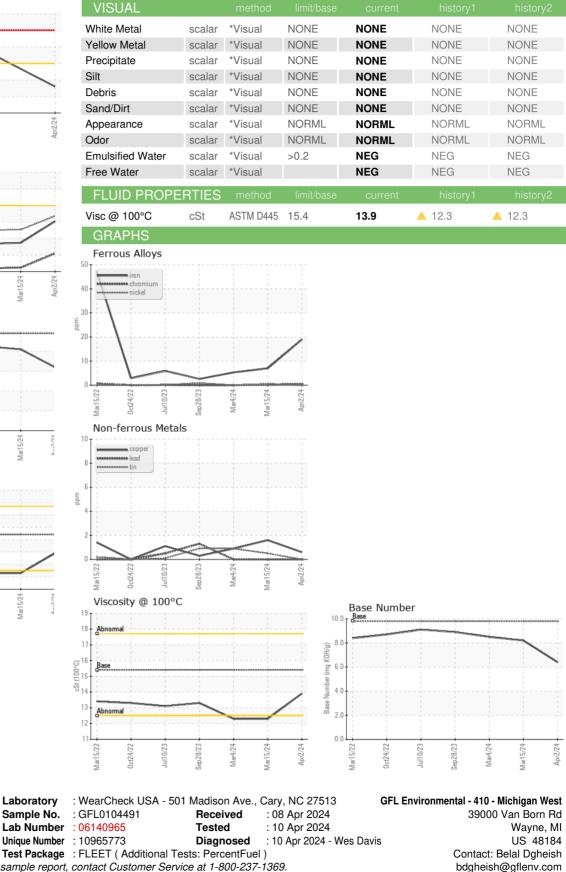




11

Mar15/22

Oct24/22



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.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Report Id: GFL410 [WUSCAR] 06140965 (Generated: 04/10/2024 16:54:11) Rev: 1

Certificate 12367

Mar4/24

en28/23

Mar15/24

Submitted By: "Billy" see also GFL468 - Belal Dgheish

E:

T: (734)714-2340