

## **OIL ANALYSIS REPORT**

Sample Rating Trend

GLYCOL

944027 Component Natural Gas Engine

Fluid PETRO CANADA DURON GEO LD 15W40 (--- LTR)

### DIAGNOSIS

Machine Id

#### Recommendation

Check for low coolant level. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

Sodium and/or potassium levels are high.

#### Fluid Condition

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

Sample NumberClient InfoGFL0119136GFL0119136GFL0119496GFL010590Sample DateClient Info12 Jul 202422 Mar 202316 Dec 2023Machine AgehrsClient Info25610350372Oll AgeKClient Info25310350672Oll AngedKClient InfoChangedNAChangedSample StatusKClient InfoKKNGMALNORMALCONTAMINAT/VmethodJnittowNCNeGNEGNEGWarWC MethoS.1ScarentAlsonNCNCContraminopmASM 05156S-5152120ChromiumpmASM 05156S-6152120ChromiumpmASM 05156S-2414141NickelpmASM 05156S-2416111SilverpmASM 05156S-2416111CopperpmASM 05156S-2416111CopperpmASM 05156S-2416111SilverpmASM 05156S-2416111CopperpmASM 05156S-2416111CopperpmASM 05156S-2416111ASM 05156S-2S-3S-3111011ASM 05156S-2S-3S-3S-31515Co	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Machine AgehrsClient Info256602357723227Oil AgehrsClient Info25310350372Oil ChangedClient InfoChangedN/AChangedSample StatusaaABNORMALNORMALNORMALCONTAMINATIONmethodlimit/basecurrenthistory1history2WaterWC Method>0.1NEGNEGNEGWEAR METALSmethodlimit/basecurrenthistory1history2IronppmASTM D5185m>41<1<1NickelppmASTM D5185m>2<10<1NickelppmASTM D5185m>3000AluminumppmASTM D5185m>303<1<1LeadppmASTM D5185m>303<1<1CopperppmASTM D5185m>4<100ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m50721BariumppmASTM D5185m50721MagnesiumppmASTM D5185m50721BariumppmASTM D5185m50585656MagnesiumppmASTM D5185m50608901809ASTM D5185m505060890180922727Contracting	Sample Number		Client Info		GFL0119136	GFL0115498	GFL0106969
Machine AgehrsClient Info256602357723227Oil AgehrsClient Info25310350372Oil ChangedClient InfoChangedN/AChangedSample StatusaaABNORMALNORMALNORMALCONTAMINATIONmethodlimil/basecurrenthistory1history2WaterWC Method>0.1NEGNEGNEGWEAR METALSmethodlimil/basecurrenthistory1history2IronppmASTM DS185n>50152120ChromiumppmASTM DS185n>41<1<1NickelppmASTM DS185n>3000SilverppmASTM DS185n>3000AuminumppmASTM DS185n>3000AuminumppmASTM DS185n>32<1<1LeadppmASTM DS185n>4<100CopperppmASTM DS185n>4<100ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM DS185n50721BariumppmASTM DS185n505856MagnesiumppmASTM DS185n5050608901ASTM DS185n50505310.41111MagnesiumppmASTM DS1	•		Client Info		12 Jul 2024	22 Mar 2024	16 Dec 2023
Oil AgehrsClient Into25310350372Oil ChangedClient IntoChangedN/AChangedSample StatusIIIABNORMALNORMALCONTAMINATIONmethodlimit/basecurrenthistory1history2WaterWC Method>0.1NEGNEGNEGWEAR METALSmethodlimit/basecurrenthistory1history2IronppmASTM D5185m>50152.12.0ChromiumppmASTM D5185m>2.2<100TaniumppmASTM D5185m>3000NickelppmASTM D5185m>3000AuminumppmASTM D5185m>303<11CopperppmASTM D5185m>303<11CopperppmASTM D5185m>352<100AdminumppmASTM D5185m>352<1<1<1CadmiumppmASTM D5185m>507211RandomppmASTM D5185m505858565856MaganeseppmASTM D5185m505858565856ManguneseppmASTM D5185m505858565856ManganeseppmASTM D5185m505858565856Manganes	Machine Age	hrs	Client Info		25660	23577	23227
Oil Changed Sample StatusClient InfoChanged ABNORMALN/AChanged NORMALCONTAMINATIONmethodlimit/basecurrenthistory1history2WaterWC Method>0.1NEGNEGNEGWEAR METALSmethodlimit/basecurrenthistory1history2IronppmASTM D5185m>50152120ChromiumppmASTM D5185m>41<1<1NickelppmASTM D5185m>2<100TitaniumppmASTM D5185m>3000AluminumppmASTM D5185m>3000CopperppmASTM D5185m>303<1<1CopperppmASTM D5185m>4<100VanadiumppmASTM D5185m>4<100AdminumppmASTM D5185m>4<100AdminumppmASTM D5185m>4<100AdminumppmASTM D5185m>52<1<1CadnumppmASTM D5185m>52<1<1ResonppmASTM D5185m>6<721BarinumppmASTM D5185m50585856MagneseppmASTM D5185m505085856MagnesiumppmASTM D5185m70423 <th>0</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>25310</th> <th>350</th> <th>372</th>	0	hrs	Client Info		25310	350	372
CONTAMINATION     method     limit/base     current     history1     history2       Water     WC Method     >0.1     NEG     NEG     NEG       Water     ppm     ASTM D5185m     >50     15     21     20       Iron     ppm     ASTM D5185m     >50     15     21     20       Chromium     ppm     ASTM D5185m     >2     <1     0     0       Nickel     ppm     ASTM D5185m     >2     <1     0     0       Silver     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >3     2     <1     1       Copper     ppm     ASTM D5185m     >3     2     <1     1       Cadmium     ppm     ASTM D5185m     >3     2     <1     1       Cadmium     ppm     ASTM D5185m     5     <1     0     0       Vaadium     ppm     ASTM D5185m     5     <1     0     0	-		Client Info		Changed	N/A	Changed
Water     WC Method     >0.1     NEG     NEG     NEG       WEAR METALS     ppm     ASTM D5185m     >50     15     21     20       Iron     ppm     ASTM D5185m     >50     15     21     20       Chromium     ppm     ASTM D5185m     >2     <1     0     0       Nickel     ppm     ASTM D5185m     >2     <1     0     <1       Silver     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >3     2     <1     1       Copper     ppm     ASTM D5185m     >4     <1     0     0       Vanadium     ppm     ASTM D5185m     <4     <1     0     0       Vanadium     ppm     ASTM D5185m     50     7     2     1       Baron     ppm     ASTM D5185m     50     58     58     56	•				ABNORMAL	NORMAL	NORMAL
WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5165m     >50     15     21     20       Chromium     ppm     ASTM D5165m     >4     1     <1     <1     0     0       Nickel     ppm     ASTM D5165m     >2     <1     0     0     <1       Silver     ppm     ASTM D5165m     >3     0     0     0     <1       Lead     ppm     ASTM D5165m     >3     0     0     0     <1       Copper     ppm     ASTM D5165m     >3     2     <1     <1     <1       Copper     ppm     ASTM D5165m     >4     <1     0     0     <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<	CONTAMINAT	ION	method	limit/base	current	history1	history2
Iron     ppm     ASTM D5185m     >50     15     21     20       Chromium     ppm     ASTM D5185m     >4     1     <1     <1       Nickel     ppm     ASTM D5185m     >2     <1     0     0       Titanium     ppm     ASTM D5185m     >3     0     0     0       Silver     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >30     3     <1     1       Copper     ppm     ASTM D5185m     >30     3     <1     <1     <1       Cadmium     ppm     ASTM D5185m     >30     3     <1     <1     <1       Cadmium     ppm     ASTM D5185m     >30     7     2     1     <1       Cadmium     ppm     ASTM D5185m     50     7     2     1     <1       Boron     ppm     ASTM D5185m     50     58     58     56     56       Maganesium <td< th=""><th>Water</th><th></th><th>WC Method</th><th>&gt;0.1</th><th>NEG</th><th>NEG</th><th>NEG</th></td<>	Water		WC Method	>0.1	NEG	NEG	NEG
Chromium     ppm     ASTM D5185m     >4     1     <1	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel     ppm     ASTM D5185m     >2     <1	Iron	ppm	ASTM D5185m	>50	15	21	20
Titanium     ppm     ASTM D5185m     <1	Chromium	ppm	ASTM D5185m	>4	1	<1	<1
Silver     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >9     5     <1	Nickel	ppm	ASTM D5185m	>2	<1	0	0
Aluminum     ppm     ASTM D5185m     >9     5     <1	Titanium	ppm	ASTM D5185m		<1	0	<1
LeadppmASTM D5185m>303<1	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper     ppm     ASTM D5185m     >35     2     <1	Aluminum	ppm	ASTM D5185m	>9	5	<1	<1
Tin     ppm     ASTM D5185m     >4     <1	Lead	ppm	ASTM D5185m	>30	3	<1	1
Vanadium     ppm     ASTM D5185m     <1	Copper	ppm	ASTM D5185m	>35	2	<1	<1
Cadmium     ppm     ASTM D5185m     <1	Tin	ppm	ASTM D5185m	>4	<1	0	0
ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     50     7     2     1       Barium     ppm     ASTM D5185m     50     7     2     1       Barium     ppm     ASTM D5185m     50     58     58     56       Magnesium     ppm     ASTM D5185m     560     608     901     809       Calcium     ppm     ASTM D5185m     560     608     901     809       Calcium     ppm     ASTM D5185m     780     828     1004     898       Zinc     ppm     ASTM D5185m     780     828     1004     898       Zinc     ppm     ASTM D5185m     70     1034     1170     1104       Sulfur     ppm     ASTM D5185m     2040     2646     3429     2727       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20	Vanadium	ppm	ASTM D5185m		<1	<1	<1
Boron     ppm     ASTM D5185m     50     7     2     1       Barium     ppm     ASTM D5185m     5     <1     0     0       Molybdenum     ppm     ASTM D5185m     50     58     58     56       Manganese     ppm     ASTM D5185m     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     560     608     901     809       Calcium     ppm     ASTM D5185m     150     1473     1098     996       Phosphorus     ppm     ASTM D5185m     780     828     1004     898       Zinc     ppm     ASTM D5185m     780     828     1004     898       Zinc     ppm     ASTM D5185m     2040     2646     3429     2727       CONTAMINANTS     method     Imit/base     current     history1     history2       Sodium     ppm     ASTM D5185m     >+100     4     2     3       Sodium     ppm     ASTM D5185m     >20	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium     pm     ASTM D5185m     5     <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum     ppm     ASTM D5185m     50     58     58     56       Manganese     ppm     ASTM D5185m     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     560     608     901     809       Calcium     ppm     ASTM D5185m     1510     1473     1098     996       Phosphorus     ppm     ASTM D5185m     780     828     1004     898       Zinc     ppm     ASTM D5185m     870     1034     1170     1104       Sulfur     ppm     ASTM D5185m     2040     2646     3429     2727       CONTAMINANT     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >+100     4     2     3       Sodium     ppm     ASTM D5185m     >20     53     17     17       Potassium     ppm     ASTM D5185m     >20     ▲ 50     6     6       INFRA-RED     method     limit/base	ABBIIII EO		mothod	in the babe	ourront	Thotory	
Manganese     ppm     ASTM D5185m     0     <1		ppm					
Magnesium     ppm     ASTM D5185m     560     608     901     809       Calcium     ppm     ASTM D5185m     1510     1473     1098     996       Phosphorus     ppm     ASTM D5185m     780     828     1004     898       Zinc     ppm     ASTM D5185m     870     1034     1170     1104       Sulfur     ppm     ASTM D5185m     870     1034     1473     1098     2727       CONTAMINANT     ppm     ASTM D5185m     2040     2646     3429     2727       Solicon     ppm     ASTM D5185m     >+100     4     2     3       Sodium     ppm     ASTM D5185m     >+100     4     2     3       Sodium     ppm     ASTM D5185m     >20     53     17     17       Potassium     ppm     ASTM D5185m     >20     ▲ 50     6     6       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     <	Boron		ASTM D5185m	50	7	2	1
Calcium     ppm     ASTM D5185m     1510     1473     1098     996       Phosphorus     ppm     ASTM D5185m     780     828     1004     898       Zinc     ppm     ASTM D5185m     870     1034     1170     1104       Sulfur     ppm     ASTM D5185m     2040     2646     3429     2727       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >+100     4     2     3       Sodium     ppm     ASTM D5185m     >+100     4     2     3       Sodium     ppm     ASTM D5185m     >20     53     17     17       Potassium     ppm     ASTM D5185m     >20     50     6     6       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7624     >20     11.7     10.3     10.0       Sulfation     Abs/.mm     *ASTM D741	Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5	7 <1	2	1 0
Phosphorus     ppm     ASTM D5185m     780     828     1004     898       Zinc     ppm     ASTM D5185m     870     1034     1170     1104       Sulfur     ppm     ASTM D5185m     2040     2646     3429     2727       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >+100     4     2     3       Sodium     ppm     ASTM D5185m     >+100     4     2     3       Sodium     ppm     ASTM D5185m     >20     53     17     17       Potassium     ppm     ASTM D5185m     >20     50     6     6       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7624     >20     11.7     10.3     10.0       Sulfation     Abs/.1m     *ASTM D7624     >20     11.7     10.3     20.9       FLUID DEGRADATION     method     limit/ba	Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	7 <1 58	2 0 58	1 0 56
Zinc     ppm     ASTM D5185m     870     1034     1170     1104       Sulfur     ppm     ASTM D5185m     2040     2646     3429     2727       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >+100     4     2     3       Sodium     ppm     ASTM D5185m     >+100     4     2     3       Sodium     ppm     ASTM D5185m     >20     53     17     17       Potassium     ppm     ASTM D5185m     >20     50     6     6       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7624     >20     11.7     10.3     10.0       Sulfation     Abs/cm     *ASTM D7624     >20     11.7     10.3     20.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414 <th>Boron Barium Molybdenum Manganese</th> <th>ppm ppm ppm</th> <th>ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m</th> <th>50 5 50 0</th> <th>7 &lt;1 58 &lt;1</th> <th>2 0 58 &lt;1</th> <th>1 0 56 &lt;1</th>	Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	7 <1 58 <1	2 0 58 <1	1 0 56 <1
SulfurppmASTM D5185m2040264634292727CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>+100423SodiumppmASTM D5185m>+100423PotassiumppmASTM D5185m>20531717PotassiumppmASTM D5185m>205066INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.31.51.5NitrationAbs/cm*ASTM D7624>2011.710.310.0SulfationAbs/lim*ASTM D7145>3022.921.020.9FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/lim*ASTM D7414>2518.316.416.6	Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	7 <1 58 <1 608	2 0 58 <1 901	1 0 56 <1 809
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>+100423SodiumppmASTM D5185m● 531717PotassiumppmASTM D5185m>20<5066INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.31.51.5NitrationAbs/cm*ASTM D7624>2011.710.310.0SulfationAbs/lmm*ASTM D7415>3022.921.020.9FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/lmm*ASTM D7414>2518.316.416.6	Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	7 <1 58 <1 608 1473	2 0 58 <1 901 1098	1 0 56 <1 809 996
Silicon   ppm   ASTM D5185m   >+100   4   2   3     Sodium   ppm   ASTM D5185m   53   17   17     Potassium   ppm   ASTM D5185m   >20   50   6   6     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   0.3   1.5   1.5     Nitration   Abs/cm   *ASTM D7624   >20   11.7   10.3   10.0     Sulfation   Abs/.Imm   *ASTM D7624   >20   21.9   21.0   20.9     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/.Imm   *ASTM D7414   >25   18.3   16.4   16.6	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	50 5 50 0 560 1510 780	7 <1 58 <1 608 1473 828	2 0 58 <1 901 1098 1004	1 0 56 <1 809 996 898
Sodium     ppm     ASTM D5185m     53     17     17       Potassium     ppm     ASTM D5185m     >20     50     6     6       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     0.3     1.5     1.5       Nitration     Abs/cm     *ASTM D7624     >20     11.7     10.3     10.0       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.9     21.0     20.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     18.3     16.4     16.6	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870	7 <1 58 <1 608 1473 828 1034	2 0 58 <1 901 1098 1004 1170	1 0 56 <1 809 996 898 1104
PotassiumppmASTM D5185m>20▲ 5066INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D78440.31.51.5NitrationAbs/cm*ASTM D7624>2011.710.310.0SulfationAbs/1mm*ASTM D7415>3022.921.020.9FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2518.316.416.6	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	50 5 50 0 560 1510 780 870 2040	7 <1 58 <1 608 1473 828 1034 2646	2 0 58 <1 901 1098 1004 1170 3429	1 0 56 <1 809 996 898 1104 2727
INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     0.3     1.5     1.5       Nitration     Abs/cm     *ASTM D7624     >20     11.7     10.3     10.0       Sulfation     Abs/.1mm     *ASTM D7615     >30     22.9     21.0     20.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     18.3     16.4     16.6	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	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b>	7 <1 58 <1 608 1473 828 1034 2646 current	2 0 58 <1 901 1098 1004 1170 3429 history1	1 0 56 <1 809 996 898 1104 2727 history2
Soot %     %     *ASTM D7844     0.3     1.5     1.5       Nitration     Abs/cm     *ASTM D7624     >20     11.7     10.3     10.0       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.9     21.0     20.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     18.3     16.4     16.6	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b>	7 <1 58 <1 608 1473 828 1034 2646 current 4	2 0 58 <1 901 1098 1004 1170 3429 history1 2	1 0 56 <1 809 996 898 1104 2727 history2 3
Nitration     Abs/cm     *ASTM D7624     >20     11.7     10.3     10.0       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.9     21.0     20.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     18.3     16.4     16.6	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 ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 <b>limit/base</b> >+100	7 <1 58 <1 608 1473 828 1034 2646 <u>current</u> 4 53	2 0 58 <1 901 1098 1004 1170 3429 history1 2 17	1 0 56 <1 809 996 898 1104 2727 history2 3 17
Sulfation     Abs/.1mm     *ASTM D7415     >30     22.9     21.0     20.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     18.3     16.4     16.6	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	50 5 50 0 560 1510 780 870 2040 2040 >+100 >+100	7 <1 58 <1 608 1473 828 1034 2646 <u>current</u> 4 ● 53 ▲ 50	2 0 58 <1 901 1098 1004 1170 3429 history1 2 17 6	1 0 56 <1 809 996 898 1104 2727 history2 3 17 6
FLUID DEGRADATION method limit/base current history1 history2   Oxidation Abs/.1mm *ASTM D7414 >25 18.3 16.4 16.6	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 2040 >+100 >+100	7 <1 58 <1 608 1473 828 1034 2646 current 4 ● 53 ● 53 ● 50 current	2 0 58 <1 901 1098 1004 1170 3429 history1 2 17 6 history1	1 0 56 <1 809 996 898 1104 2727 history2 3 17 6 history2
Oxidation Abs/.1mm *ASTM D7414 >25 18.3 16.4 16.6	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >20 limit/base	7 <1 58 <1 608 1473 828 1034 2646 current 4 53 50 current 0.3	2 0 58 <1 901 1098 1004 1170 3429 history1 2 17 6 history1 1.5	1 0 56 <1 809 996 898 1104 2727 history2 3 17 6 history2 1.5
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100 limit/base >20	7 <1 58 <1 608 1473 828 1034 2646 current 4 ● 53 50 current 0.3 11.7	2 0 58 <1 901 1098 1004 1170 3429 history1 2 17 6 history1 1.5 10.3	1 0 56 <1 809 996 898 1104 2727 history2 3 17 6 history2 1.5 1.5 10.0
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 Iimit/base >20 Iimit/base >20 S20 S20 S20 S20 S20 S20 S20 S	7 <1 58 <1 608 1473 828 1034 2646 current 4 53 50 current 0.3 11.7 22.9	2 0 58 <1 901 1098 1004 1170 3429 history1 2 17 6 history1 1.5 10.3 21.0	1 0 56 <1 809 996 898 1104 2727 history2 3 17 6 history2 1.5 1.5 10.0 20.9
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	50 5 50 0 560 1510 780 870 2040 limit/base >+100 limit/base >20 >20 >30 limit/base	7 <1 58 <1 608 1473 828 1034 2646 current 4 ● 53 50 current 0.3 11.7 22.9 current	2 0 58 <1 901 1098 1004 1170 3429 history1 2 17 6 history1 1.5 10.3 21.0 history1	1 0 56 <1 809 996 898 1104 2727 history2 3 17 6 history2 1.5 10.0 20.9 history2



# **OIL ANALYSIS REPORT**

limit/base

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

limit/base

>0.1

15.1

Dec16/23 -

ec16/23

Dec16/23

Jul12/24

Jul12/24

current

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

curren

NEG

NEG

13.8

history1

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

history

NEG

NEG

12.7

history2

NONE

NONE

NONE

NONE

NONE

NONE

NORML

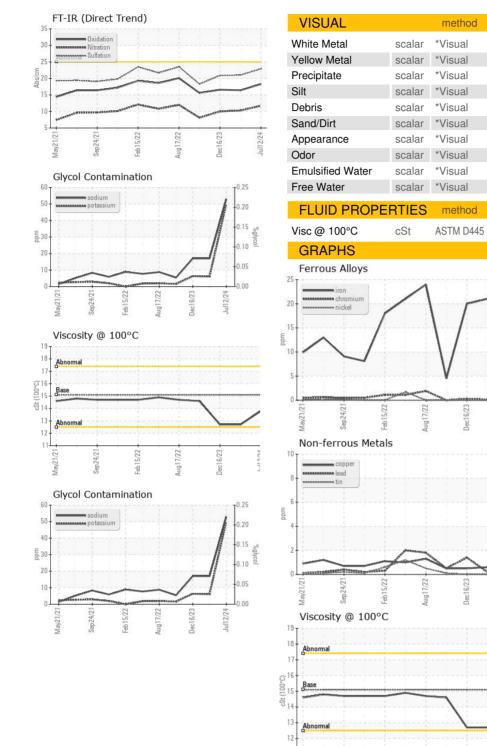
NORML

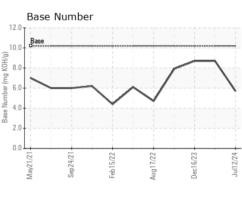
history2

NEG

NEG

12.7





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 882 - Gainesville Sample No. : GFL0119136 Received : 17 Jul 2024 5002 SW 41st Blvd Lab Number : 06238959 Tested : 19 Jul 2024 Gainesville, FL Diagnosed Unique Number : 11127793 : 19 Jul 2024 - Sean Felton US 32608 Test Package : FLEET ( Additional Tests: Glycol ) Contact: ROBERT CLARK Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. robert.clark@gflenv.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Т: F:

Feb15/22

Aug17/22

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

Sep24/21

11

Mav21/21

Report Id: GFL882 [WUSCAR] 06238959 (Generated: 07/19/2024 13:13:45) Rev: 1

Submitted By: CARL MIMS Page 2 of 2