

## **OIL ANALYSIS REPORT**

Sample Rating Trend

# NORMAL

#### Machine Id

## 420026-402479

### Diesel Engine

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

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

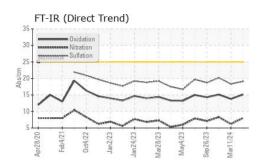
#### Fluid Condition

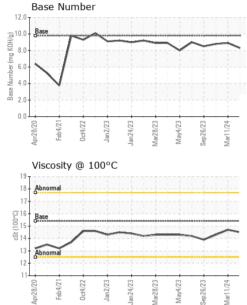
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Number     Client Info     GFL0125195     GFL0114429     GFL0100543       Sample Date     Client Info     0     11 Mar 2024     29 Dec 2023       Machine Age     mis     Client Info     0     0     0       Oil Age     mis     Client Info     Not Changed     Changed     Changed       Sample Status     Imit     Not Changed     NorMAL     NorMAL     ABNORMAL       CONTAMINATION     method     Imit/base     current     history1     history2       Fuel     WC Method     >0     <1.0     <1.0     <1.0       Water     WC Method     >0     NEG     NEG     NEG       Glycol     WC Method     >0     14     15     47       Chromium     ppm     ASTM05185     >20     1     0     0       Nickel     ppm     ASTM05185     >20     2     2     6       Auminum     ppm     ASTM05185     >40     0     0     0       Silver     ppm     ASTM05185 <th>SAMPLE INFORI</th> <th>MATION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age     mis     Client Info     0     199138     10948       Oil Age     mis     Client Info     0     0     0       Oil Changed     Client Info     Not Changed     Changed     Changed       Sample Status     Client Info     Not Changed     Changed     Changed       Sample Status     WC Method     S     <1.0	Sample Number		Client Info		GFL0125195	GFL0114429	GFL0100546
Oil Age     mis     Client Info     0     0     0       Oil Changed     Client Info     Not Changed     Changed </th <th>Sample Date</th> <th></th> <th>Client Info</th> <th></th> <th>28 Jun 2024</th> <th>11 Mar 2024</th> <th>29 Dec 2023</th>	Sample Date		Client Info		28 Jun 2024	11 Mar 2024	29 Dec 2023
Oil Changed Sample Status     Client Info     Not Changed NORMAL     Changed ABNORMAL     Changed ABNORMAL     Changed ABNORMAL       CONTAMINATION     method     limit/base     current     history1     history2       Fuel     WC Method     >5     <1.0     <1.0     <1.0       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     >100     14     15     47       Chromium     ppm     ASTM D5185m     >20     1     2     6       Biver     ppm     ASTM D5185m     >3     0     0     0       Auminum     ppm     ASTM D5185m     >30     0     -1     -1       Tranium     ppm     ASTM D5185m     >30     0     -1     -1       Copper     ppm     ASTM D5185m     >30     0     <	Machine Age	mls	Client Info		0	199138	10948
Sample Status     NORMAL     NORMAL     ABNORMAL       CONTAMINATION     method     imit/base     current     history1     history2       Fuel     WC Method     >5     <1.0     <1.0     <1.0       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     >100     14     15     47       Chromium     ppm     ASTM D5185m     >20     1     2     17       Nickel     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >30     0     0     0       Aduminum     ppm     ASTM D5185m     >30     0     -11     -1       Nandum     ppm     ASTM D5185m     0     -11     0     0       Vanadium     ppm	Oil Age	mls	Client Info		0	0	0
CONTAMINATION     method     limit/base     current     history1     history2       Fuel     WC Method     >5.     <1.0     <1.0     <1.0     <1.0       Water     WC Method     >0.2     NEG     NEG     NEG       Glycol     WC Method     Imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >20     1     2     Å       Chromium     ppm     ASTM D5185m     >20     1     2     Å       Nickel     ppm     ASTM D5185m     >20     1     0     0       Silver     ppm     ASTM D5185m     >20     2     2     6       Lead     ppm     ASTM D5185m     >20     2     2     6       Cadmium     ppm     ASTM D5185m     >30     0     0     0       Cadmium     ppm     ASTM D5185m     >30     0     <1     <1       Cadmium     ppm     ASTM D5185m     0     0     0     0	Oil Changed		Client Info		Not Changd	Changed	Changed
Fuel     WC Method     >5     <1.0	Sample Status				NORMAL	NORMAL	ABNORMAL
Water     WC Method     >0.2     NEG     NEG     NEG     NEG       Glycol     WC Method     NEG     NEG     NEG     NEG       WEAR METALS     method     imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >100     14     15     47       Chromium     ppm     ASTM D5185m     >20     1     2     17       Nickel     ppm     ASTM D5185m     >20     1     2     417       Nickel     ppm     ASTM D5185m     >20     2     6     6       Lead     ppm     ASTM D5185m     >20     2     6     1     1       Copper     ppm     ASTM D5185m     >20     0     1     1     1       Iminum     ppm     ASTM D5185m     >20     2     6     1     1       Copper     ppm     ASTM D5185m     0     0     0     0     0       Cadmium     ppm     ASTM D5185m	CONTAMINAT	ION	method	limit/base	current	history1	history2
Glycol     WC Method     NEG     NEG     NEG       WEAR METALS     method     imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >20     1     2     ▲     17       Nickel     ppm     ASTM D5185m     >20     1     2     ▲     17       Nickel     ppm     ASTM D5185m     >4     0     0     0       Itanium     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >20     2     2     6       Lead     ppm     ASTM D5185m     >330     0     <1     0       Vanadium     ppm     ASTM D5185m     15     0     0     0       Vanadium     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     5     5     5 </th <th>Fuel</th> <th></th> <th>WC Method</th> <th>&gt;5</th> <th>&lt;1.0</th> <th>&lt;1.0</th> <th>&lt;1.0</th>	Fuel		WC Method	>5	<1.0	<1.0	<1.0
WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >100     14     15     47       Chromium     ppm     ASTM D5185m     >20     1     2     ▲ 17       Nickel     ppm     ASTM D5185m     >20     1     2     ▲ 17       Nickel     ppm     ASTM D5185m     >3     0     0     0       Silver     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >20     2     2     6       Lead     ppm     ASTM D5185m     >20     0     0     0       Copper     ppm     ASTM D5185m     0     0     1     15       Cadmium     ppm     ASTM D5185m     0     1     15     2       Boron     ppm     ASTM D5185m     0     1     15     2       Maganese     ppm     ASTM D5185m     0     -1     -1	Water		WC Method	>0.2	NEG	NEG	NEG
Iron     ppm     ASTM D5185m     >100     14     15     47       Chromium     ppm     ASTM D5185m     >20     1     2     ▲ 17       Nickel     ppm     ASTM D5185m     >4     0     0     0       Silver     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >3     0     0     0       Copper     ppm     ASTM D5185m     >40     0     0     0       Copper     ppm     ASTM D5185m     >330     0     <11     <1     <1       Tin     ppm     ASTM D5185m     >15     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     1     15     2     59       Boron     ppm     ASTM D5185m     0     1     15     2     59       Maganese     ppm     ASTM D5185m     0     <1     <1     1     15     13     13     102	Glycol		WC Method		NEG	NEG	NEG
Chromium     ppm     ASTM D5185m     >20     1     2     ▲ 17       Nickel     ppm     ASTM D5185m     >4     0     0     0       Titanium     ppm     ASTM D5185m     >3     0     0     0       Silver     ppm     ASTM D5185m     >3     0     0     0       Lead     ppm     ASTM D5185m     >20     2     2     6       Copper     ppm     ASTM D5185m     >20     0     0     0       Copper     ppm     ASTM D5185m     >330     0     <11     <1     1       Tin     ppm     ASTM D5185m     >15     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     1     15     2     5       Barium     ppm     ASTM D5185m     0     1     15     2     5       Magnesium     ppm     ASTM D5185m     0     <1     1     1     1     1     1     1     1 <th>WEAR METAL</th> <th>S</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	WEAR METAL	S	method	limit/base	current	history1	history2
Chromium     ppm     ASTM D5185m     >20     1     2     ▲ 17       Nickel     ppm     ASTM D5185m     >4     0     0     0       Silver     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >3     0     0     0       Lead     ppm     ASTM D5185m     >40     0     0     0       Copper     ppm     ASTM D5185m     >330     0     <11     <1       Tin     ppm     ASTM D5185m     >15     0     0     0       Cadmium     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     1     1     15	Iron	ppm	ASTM D5185m	>100	14	15	47
Nickel     ppm     ASTM D5185m     >4     0     0     0       Titanium     ppm     ASTM D5185m     >3     0     0     0       Silver     ppm     ASTM D5185m     >20     2     2     6       Lead     ppm     ASTM D5185m     >40     0     0     0       Copper     ppm     ASTM D5185m     >40     0     0     0       Copper     ppm     ASTM D5185m     >40     0     0     0       Vanadium     ppm     ASTM D5185m     >15     0     0     0       Cadmium     ppm     ASTM D5185m     0     1     15     2       Boron     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     <1     <1     1       Cocon     ppm     ASTM D5185m     0     <1     <1     1 <	Chromium	ppm	ASTM D5185m	>20	1	2	<b>1</b> 7
Titanium     ppm     ASTM D5185m     >3     0     <1	Nickel		ASTM D5185m	>4	0		0
Silver     ppm     ASTM D5185m     >3     0     0     0       Aluminum     ppm     ASTM D5185m     >20     2     2     6       Lead     ppm     ASTM D5185m     >330     0     <1	Titanium		ASTM D5185m		0	<1	0
Aluminum     ppm     ASTM D5185m     >20     2     2     6       Lead     ppm     ASTM D5185m     >40     0     0     0       Copper     ppm     ASTM D5185m     >330     0     <1     <1       Tin     ppm     ASTM D5185m     >15     0     0     0       Cadmium     ppm     ASTM D5185m     0     <1     0     0       Cadmium     ppm     ASTM D5185m     0     1     15     2       Boron     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     1100     0     0     0       Magnesium     ppm     ASTM D5185m     1010     1009     852     1000       Calcium     ppm     ASTM D5185m     1270     1335	Silver			>3			0
Lead     ppm     ASTM D5185m     >40     0     0     0       Copper     ppm     ASTM D5185m     >330     0     <1     <1       Tin     ppm     ASTM D5185m     >15     0     0     0       Vanadium     ppm     ASTM D5185m     Imit/base     0     <1     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     Imit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     -1     15     2       Barium     ppm     ASTM D5185m     0     -1     15     2       Barium     ppm     ASTM D5185m     1010     1009     852     1000       Calcium     ppm     ASTM D5185m     1010     1083     1034 <th>Aluminum</th> <th></th> <th>ASTM D5185m</th> <th>&gt;20</th> <th></th> <th>2</th> <th>6</th>	Aluminum		ASTM D5185m	>20		2	6
Copper     ppm     ASTM D5185m     >330     0     <1	Lead		ASTM D5185m	>40	0	0	0
Tin     ppm     ASTM D5185m<>15     0     0     0       Vanadium     ppm     ASTM D5185m     0     <1     0       Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     0     60     59     52     59       Magnese     ppm     ASTM D5185m     010     1009     852     1000       Calcium     ppm     ASTM D5185m     1010     1009     852     1000       Calcium     ppm     ASTM D5185m     1010     1033     1034     1023       Zinc     ppm     ASTM D5185m     1270     1335     1191     1289       Sulfur     ppm     ASTM D5185m     25     5     6     3 <th>Copper</th> <th></th> <th>ASTM D5185m</th> <th>&gt;330</th> <th>0</th> <th>&lt;1</th> <th>&lt;1</th>	Copper		ASTM D5185m	>330	0	<1	<1
Vanadium     ppm     ASTM D5185m     0     <1			ASTM D5185m	>15	0	0	0
ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     60     59     52     59       Manganese     ppm     ASTM D5185m     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     1010     1009     852     1000       Calcium     ppm     ASTM D5185m     1010     1009     852     1000       Calcium     ppm     ASTM D5185m     1070     1147     1154     1113       Phosphorus     ppm     ASTM D5185m     1270     1335     1191     1289       Sulfur     ppm     ASTM D5185m     2060     3674     3697     3121       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m	Vanadium		ASTM D5185m		0	<1	0
Boron     ppm     ASTM D5185m     0     1     15     2       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     60     59     52     59       Manganese     ppm     ASTM D5185m     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     1010     1009     852     1000       Calcium     ppm     ASTM D5185m     1010     1009     852     1000       Calcium     ppm     ASTM D5185m     1070     1147     1154     1113       Phosphorus     ppm     ASTM D5185m     1270     1335     1191     1289       Sulfur     ppm     ASTM D5185m     2060     3674     3697     3121       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     4     3     7       INFRA-RED     method     limit/base	Cadmium		ASTM D5185m		0	0	0
Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     60 <b>59</b> 52     59       Manganese     ppm     ASTM D5185m     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     1010     1009     852     1000       Calcium     ppm     ASTM D5185m     1070     1147     1154     1113       Phosphorus     ppm     ASTM D5185m     1070     1147     1154     1023       Zinc     ppm     ASTM D5185m     1270     1335     1191     1289       Sulfur     ppm     ASTM D5185m     2060 <b>3674</b> 3697     3121       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20 <b>4</b> 3     7       INFRA-RED     ppm     ASTM D5185m     >20 <b>4</b> 3     0.9       Nitration     Abs/cm     'ASTM D							
Molybdenum     ppm     ASTM D5185m     60     59     52     59       Manganese     ppm     ASTM D5185m     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     1010     1009     852     1000       Calcium     ppm     ASTM D5185m     1070     1147     1154     1113       Phosphorus     ppm     ASTM D5185m     1070     1083     1034     1023       Zinc     ppm     ASTM D5185m     1270     1335     1191     1289       Sulfur     ppm     ASTM D5185m     2060     3674     3697     3121       CONTAMINANTS     method     imit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     4     3     7       Sodium     ppm     ASTM D5185m     >20     4     3     7       INFRA-RED     method     imit/base     current     history1     history2       Soot %     %     'ASTM D7624	ADDITIVES		method	limit/base	current	history1	history2
Manganese     ppm     ASTM D5185m     0     <1		ppm					
Manganese     ppm     ASTM D5185m     0     <1	Boron		ASTM D5185m	0	1	15	2
Calcium     ppm     ASTM D5185m     1070     1147     1154     1113       Phosphorus     ppm     ASTM D5185m     1150     1083     1034     1023       Zinc     ppm     ASTM D5185m     1270     1335     1191     1289       Sulfur     ppm     ASTM D5185m     2060     3674     3697     3121       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     5     6     ▲ 35       Sodium     ppm     ASTM D5185m     >20     4     3     7       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.4     0.3     0.9       Nitration     Abs/cm     *ASTM D7624     >20     8.0     6.2     8.3       Sulfation     Abs/1mm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method	Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	1 0	15 0	2 0
Phosphorus     ppm     ASTM D5185m     1150     1083     1034     1023       Zinc     ppm     ASTM D5185m     1270     1335     1191     1289       Sulfur     ppm     ASTM D5185m     2060     3674     3697     3121       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     5     6     ▲ 35       Sodium     ppm     ASTM D5185m     >25     5     6     ▲ 35       Sodium     ppm     ASTM D5185m     >20     4     3     7       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.4     0.3     0.9       Nitration     Abs/cm     *ASTM D7624     >20     8.0     6.2     8.3       Sulfation     Abs/1mm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     l	Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	1 0 59	15 0 52	2 0 59
Zinc     ppm     ASTM D5185m     1270     1335     1191     1289       Sulfur     ppm     ASTM D5185m     2060     3674     3697     3121       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     5     6     35       Sodium     ppm     ASTM D5185m     >20     4     3     7       Potassium     ppm     ASTM D5185m     >20     4     3     7       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7624     >3     0.4     0.3     0.9       Nitration     Abs/cm     *ASTM D7624     >20     8.0     6.2     8.3       Sulfation     Abs/.tm     *ASTM D7155     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.tm     *ASTM D7414 </th <th>Boron Barium Molybdenum Manganese</th> <th>ppm ppm ppm</th> <th>ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m</th> <th>0 0 60 0</th> <th>1 0 59 &lt;1</th> <th>15 0 52 &lt;1</th> <th>2 0 59 &lt;1</th>	Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	1 0 59 <1	15 0 52 <1	2 0 59 <1
Sulfur     ppm     ASTM D5185m     2060     3674     3697     3121       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     5     6     35       Sodium     ppm     ASTM D5185m     >20     4     3     7       Potassium     ppm     ASTM D5185m     >20     4     3     7       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.4     0.3     0.9       Nitration     Abs/cm     *ASTM D7624     >20     8.0     6.2     8.3       Sulfation     Abs/.tmm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.tmm     *ASTM D7414     >25     15.1     13.8     15.1	Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	1 0 59 <1 1009	15 0 52 <1 852	2 0 59 <1 1000
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>2556▲ 35SodiumppmASTM D5185m>20324PotassiumppmASTM D5185m>20437INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.40.30.9NitrationAbs/cm*ASTM D7624>208.06.28.3SulfationAbs/.imm*ASTM D7415>3019.118.320.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.imm*ASTM D7414>2515.113.815.1	Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	1 0 59 <1 1009 1147	15 0 52 <1 852 1154	2 0 59 <1 1000 1113
Silicon     ppm     ASTM D5185m     >25     5     6     A 35       Sodium     ppm     ASTM D5185m     2     4       Potassium     ppm     ASTM D5185m     >20     4     3     7       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.4     0.3     0.9       Nitration     Abs/cm     *ASTM D7624     >20     8.0     6.2     8.3       Sulfation     Abs/.imm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.imm     *ASTM D7414     >25     15.1     13.8     15.1	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	1 0 59 <1 1009 1147 1083	15 0 52 <1 852 1154 1034	2 0 59 <1 1000 1113 1023
Sodium     ppm     ASTM D5185m     3     2     4       Potassium     ppm     ASTM D5185m     >20     4     3     7       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.4     0.3     0.9       Nitration     Abs/cm     *ASTM D7624     >20     8.0     6.2     8.3       Sulfation     Abs/.1mm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     15.1     13.8     15.1	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	1 0 59 <1 1009 1147 1083 1335	15 0 52 <1 852 1154 1034 1191	2 0 59 <1 1000 1113 1023 1289
Sodium     ppm     ASTM D5185m     3     2     4       Potassium     ppm     ASTM D5185m     >20     4     3     7       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.4     0.3     0.9       Nitration     Abs/cm     *ASTM D7624     >20     8.0     6.2     8.3       Sulfation     Abs/.1mm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     15.1     13.8     15.1	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 1010 1070 1150 1270 2060	1 0 59 <1 1009 1147 1083 1335 3674	15 0 52 <1 852 1154 1034 1191 3697	2 0 59 <1 1000 1113 1023 1289 3121
INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.4     0.3     0.9       Nitration     Abs/cm     *ASTM D7624     >20     8.0     6.2     8.3       Sulfation     Abs/.1mm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     15.1     13.8     15.1	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	0 0 60 1010 1070 1150 1270 2060	1 0 59 <1 1009 1147 1083 1335 3674 current	15 0 52 <1 852 1154 1034 1191 3697 history1	2 0 59 <1 1000 1113 1023 1289 3121 history2
Soot %     %     *ASTM D7844     >3     0.4     0.3     0.9       Nitration     Abs/cm     *ASTM D7624     >20     8.0     6.2     8.3       Sulfation     Abs/.1mm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     15.1     13.8     15.1	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 ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	1 0 59 <1 1009 1147 1083 1335 3674 <i>current</i> 5	15 0 52 <1 852 1154 1034 1191 3697 history1 6	2 0 59 <1 1000 1113 1023 1289 3121 history2 ▲ 35
Nitration     Abs/cm     *ASTM D7624     >20     8.0     6.2     8.3       Sulfation     Abs/.tmm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.tmm     *ASTM D7414     >25     15.1     13.8     15.1	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	0 0 60 1010 1070 1150 1270 2060 limit/base >25	1 0 59 <1 1009 1147 1083 1335 3674 current 5 3	15 0 52 <1 852 1154 1034 1191 3697 history1 6 2	2 0 59 <1 1000 1113 1023 1289 3121 history2 ▲ 35 4
Sulfation     Abs/.1mm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     15.1     13.8     15.1	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	1 0 59 <1 1009 1147 1083 1335 3674 <i>current</i> 5 3 3 4	15 0 52 <1 852 1154 1034 1191 3697 history1 6 2 3	2 0 59 <1 1000 1113 1023 1289 3121 history2 ▲ 35 4 7
Sulfation     Abs/.1mm     *ASTM D7415     >30     19.1     18.3     20.2       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     15.1     13.8     15.1	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	1 0 59 <1 1009 1147 1083 1335 3674 <i>current</i> 5 3 4 <i>current</i>	15 0 52 <1 852 1154 1034 1191 3697 history1 6 2 3 3 history1	2 0 59 <1 1000 1113 1023 1289 3121 history2 35 4 7 7
Oxidation Abs/.1mm *ASTM D7414 >25 15.1 13.8 15.1	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	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	1 0 59 <1 1009 1147 1083 1335 3674 <i>current</i> 5 3 4 <i>current</i> 0.4	15 0 52 <1 852 1154 1034 1191 3697 history1 6 2 3 3 history1 0.3	2 0 59 <1 1000 1113 1023 1289 3121 history2 35 4 7 7 history2 0.9
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >20 imit/base	1 0 59 <1 1009 1147 1083 1335 3674 <i>current</i> 5 3 674 <i>current</i> 0.4 8.0	15 0 52 <1 852 1154 1034 1191 3697 history1 6 2 3 history1 0.3 6.2	2 0 59 <1 1000 1113 1023 1289 3121 history2 ▲ 35 4 7 history2 0.9 8.3
	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	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >25 <b>imit/base</b> >20 <b>imit/base</b> >3 >20	1 0 59 <1 1009 1147 1083 1335 3674 <i>current</i> 5 3 4 <i>current</i> 0.4 8.0 19.1	15 0 52 <1 852 1154 1034 1191 3697 history1 6 2 3 3 history1 0.3 6.2 18.3	2 0 59 <1 1000 1113 1023 1289 3121 history2 35 4 7 7 history2 0.9 8.3 20.2
	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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >20 imit/base >3 >20	1 0 59 <1 1009 1147 1083 1335 3674 <i>current</i> 5 3 674 <i>current</i> 0.4 8.0 19.1 <i>current</i>	15 0 52 <1 852 1154 1034 1191 3697 history1 6 2 3 history1 0.3 6.2 18.3 history1	2 0 59 <1 1000 1113 1023 1289 3121 ▲ 35 4 7 ► history2 0.9 8.3 20.2 ► history2



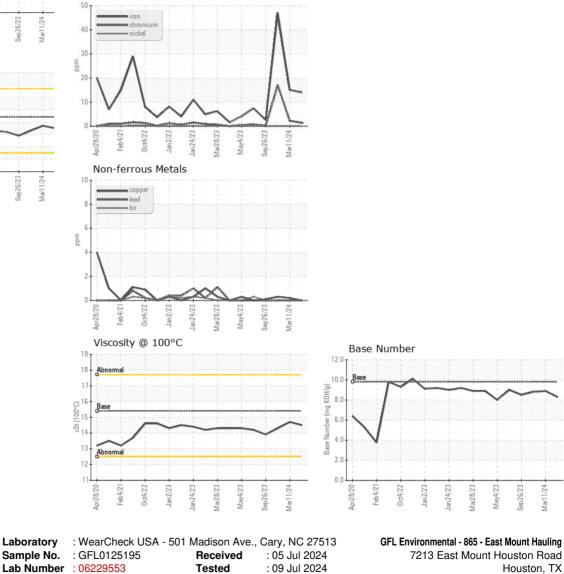
# **OIL ANALYSIS REPORT**





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	14.5	14.7	14.3
GRAPHS						

Ferrous Alloys





Unique Number : 11113046 Diagnosed : 09 Jul 2024 - Wes Davis Test Package : FLEET Contact: Saul Castillo Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. saul.castillo@gflenv.com \* - 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)

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Submitted By: TECHNICIAN ACCOUNT

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