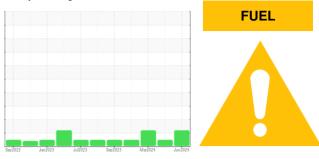


## **OIL ANALYSIS REPORT**

Sample Rating Trend



**Diesel Engine** PETRO CANADA DURON SHP 15W40 (--- GAL)

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### Recommendation

We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Area

(GBX608) 423070

## Wear

All component wear rates are normal.

### Contamination

There is a moderate amount of fuel present in the oil. Tests confirm the presence of fuel in the oil.

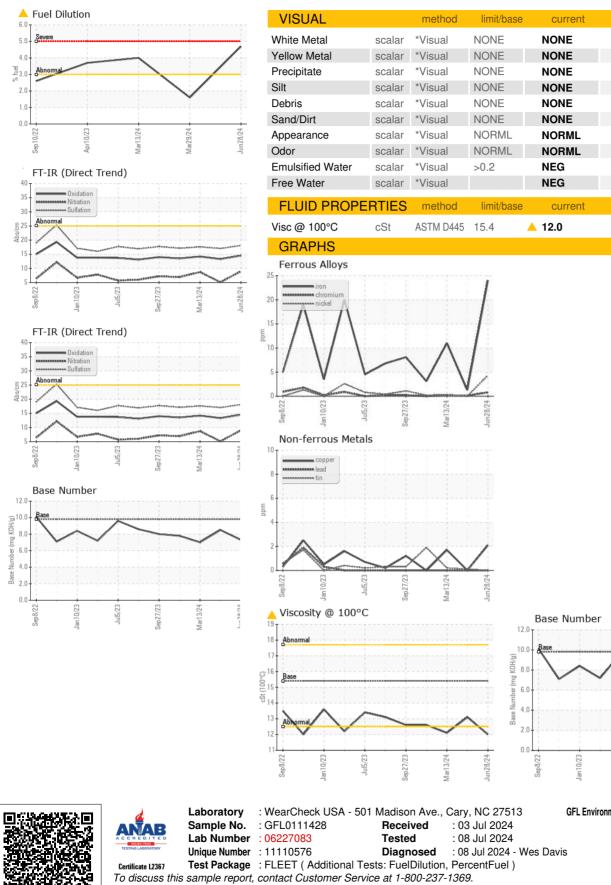
#### Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The oil is no longer serviceable due to the presence of contaminants.

Sample Date     Client Info     28 Jun 2024     29 Mar 2024     13 Mar 2024       Machine Age     hrs     Client Info     24927     24896     24885       Oil Age     hrs     Client Info     42     11     109       Oil Changed     Client Info     Not Changd     Not Changd     ABNORMAL     ABNORMAL       CONTAMINATION     method     Imit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       Water     WC Method     >0.2     NEG     NEG     NEG       Iron     ppm     ASTM 05185m     >120     <1     1     11       Chromium     ppm     ASTM 05185m     >20     <1     1     1       Nickel     ppm     ASTM 05185m     >20     <1     1     1     1       Nickel     ppm     ASTM 05185m     >20     <1     1     1     1       Norse     >20     0     0     0     0     0 <t< th=""><th>SAMPLE INFORM</th><th><b>MATION</b></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	SAMPLE INFORM	<b>MATION</b>	method	limit/base	current	history1	history2
Machine Age     hrs     Client Info     24927     24896     24885       Oil Age     hrs     Client Info     42     11     109       Oil Changed     Scilent Info     A2     11     109       Sample Status     Client Info     ABNORMAL     Not Changed     Changed       Sample Status     method     limit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM 05185m     >120     24     1     11       Chromium     ppm     ASTM 05185m     >120     <1	Sample Number		Client Info		GFL0111428	GFL0068837	GFL0068821
Oil Age     Inrs     Client Info     42     11     109       Oil Changed     Client Info     Not Changd     Not Changd     Changed     Changed       Sample Status     Image     Imaged     ABNORMAL     Not Changd     ABNORMAL     ABNORMAL       CONTAMINATION     method     Imit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185     >120     24     1     11       Chromium     ppm     ASTM D5185     >2     0     0     0       Silver     ppm     ASTM D5185     >2     0     0     0     0       Silver     ppm     ASTM D5185     >2     0     0     0     0       Copper     ppm     ASTM D5185     >300     2     0     1     <1	Sample Date		Client Info		28 Jun 2024	29 Mar 2024	13 Mar 2024
Oli Changed Sample Status Client Info Not Changd ABNORMAL Not Changd NORMAL Changed ABNORMAL   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 ASTMD5185m >12.0 24 1 11   Chromium ppm ASTMD5185m >2.0 <1	Machine Age	hrs	Client Info		24927	24896	24885
Sample Status     Image of the status     ABNORMAL     NORMAL     ABNORMAL       CONTAMINATION     method     imit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       Glycol     WC Method     NEG     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185     >120     24     1     11       Chromium     ppm     ASTM D5185     >5     4     0     -1       Nickel     ppm     ASTM D5185     >2     0     0     0       Silver     ppm     ASTM D5185     >40     0     0     0       Cadmium     ppm     ASTM D5185     >40     0     0     0       Cadmium     ppm     ASTM D5185     >40     0     0     0       Cadmium     ppm     ASTM D5185     >40     0     0     0       C	Oil Age	hrs	Client Info		42	11	109
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     >120     24     1     11       Chromium     ppm     ASTM D5185m     >20     <1	Oil Changed		Client Info		Not Changd	Not Changd	Changed
Water     WC Method     >0.2     NEG     NEG     NEG     NEG       Glycol     WC Method     Imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >120     24     1     11       Chromium     ppm     ASTM D5185m     >20     <1	Sample Status				ABNORMAL	NORMAL	ABNORMAL
Glycol     WC Method     NEG     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >120     24     1     11       Chromium     ppm     ASTM D5185m     >20     <1	CONTAMINATI	ON	method	limit/base	current	history1	history2
WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >120     24     1     11       Chromium     ppm     ASTM D5185m     >20     <1	Water		WC Method	>0.2	NEG	NEG	NEG
Iron     ppm     ASTM D5185m     >120     24     1     11       Chromium     ppm     ASTM D5185m     >20     <1	Glycol		WC Method		NEG	NEG	NEG
Chromium     ppm     ASTM D5185m     >20     <1	WEAR METALS	S	method	limit/base	current	history1	history2
Chromium     ppm     ASTM D5185m     >20     <1     <1     <1       Nickel     ppm     ASTM D5185m     >5     4     0     <1	Iron	mag	ASTM D5185m	>120	24	1	11
Nickel     ppm     ASTM D5185m     >5     4     0     <1       Titanium     ppm     ASTM D5185m     >2     0     0     0       Silver     ppm     ASTM D5185m     >2     0     0     0       Aluminum     ppm     ASTM D5185m     >20     7     1     4       Lead     ppm     ASTM D5185m     >20     7     1     4       Copper     ppm     ASTM D5185m     >40     0     0     2       Tin     ppm     ASTM D5185m     >15     0     <1	-						
Titanium     ppm     ASTM D5185m     >2     0     0     0       Silver     ppm     ASTM D5185m     >2     0     0     0       Aluminum     ppm     ASTM D5185m     >20     7     1     4       Lead     ppm     ASTM D5185m     >40     0     0     0       Copper     ppm     ASTM D5185m     >330     2     0     0     2       Tin     ppm     ASTM D5185m     >15     0     <1	Nickel						
Silver     ppm     ASTM D5185m     >2     0     0     0       Aluminum     ppm     ASTM D5185m     >20     7     1     4       Lead     ppm     ASTM D5185m     >330     2     0     0       Copper     ppm     ASTM D5185m     >330     2     0     2       Tin     ppm     ASTM D5185m     >15     0     <1     <1       Vanadium     ppm     ASTM D5185m     0     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     3     7     3       Boron     ppm     ASTM D5185m     0     3     7     3       Barium     ppm     ASTM D5185m     0     0     1     <1       Magnese     ppm     ASTM D5185m     0     0     <1     <1<       Magnesium     ppm     ASTM D5185m     0     0     <11     <11<     <103       Sulfur     ppm     ASTM D5185m     1070     9							
Aluminum     ppm     ASTM D5185m     >20     7     1     4       Lead     ppm     ASTM D5185m     >40     0     0     0       Copper     ppm     ASTM D5185m     >330     2     0     2       Tin     ppm     ASTM D5185m     >15     0     <1					-		
Lead     ppm     ASTM D5185m     >40     0     0     0       Copper     ppm     ASTM D5185m     >330     2     0     2       Tin     ppm     ASTM D5185m     >15     0     <1					-		
Copper     ppm     ASTM D5185m     >330     2     0     2       Tin     ppm     ASTM D5185m     >15     0     <1							
Tin     ppm     ASTM D5185m     >15     0     <1     <1       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     7     3       Barium     ppm     ASTM D5185m     0     0     0     0       Malganese     ppm     ASTM D5185m     0     0     <11					-		
Vanadium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     3     7     3       Boron     ppm     ASTM D5185m     0     3     7     3       Barium     ppm     ASTM D5185m     0     0     0     0     0       Maganese     ppm     ASTM D5185m     0     0     0     0     0     0     0       Magnesium     ppm     ASTM D5185m     0     0     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     0     0     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     1010     863     879     823       Calcium     ppm     ASTM D5185m     1070     959     960     902       Phosphorus     ppm     ASTM D5185m     1270     1127     1150     1093       Sulfur     ppm     ASTM D5185m     225     5     2					_		_
Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     3     7     3       Barium     ppm     ASTM D5185m     0     0     0     0     0       Molybdenum     ppm     ASTM D5185m     0     0     0     <1     <1       Maganese     ppm     ASTM D5185m     0     0     0     <1     <1       Magnesium     ppm     ASTM D5185m     0     0     0     <1     <1       Magnesium     ppm     ASTM D5185m     1010     863     879     823       Calcium     ppm     ASTM D5185m     1070     959     960     902       Phosphorus     ppm     ASTM D5185m     1070     955     5     2     4       CONTAMINANT     ppm     ASTM D5185m     1270     1127     1150     1093       Silicon				>15	-		
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0373BariumppmASTM D5185m0000MolybdenumppmASTM D5185m60555450ManganeseppmASTM D5185m000<1					-		
Boron     ppm     ASTM D5185m     0     3     7     3       Barium     ppm     ASTM D5185m     0     0     0     0     0       Molybdenum     ppm     ASTM D5185m     60     55     54     50       Magnesiem     ppm     ASTM D5185m     0     0     <1     <1       Magnesium     ppm     ASTM D5185m     1010     863     879     823       Calcium     ppm     ASTM D5185m     1010     863     879     823       Calcium     ppm     ASTM D5185m     1070     959     960     902       Phosphorus     ppm     ASTM D5185m     1270     1127     1150     1093       Sulfur     ppm     ASTM D5185m     2060     26622     3344     2825       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     3     <1     0       Fuel     %     ASTM D5185m		ppin		limit/base	-	-	-
Barium     ppm     ASTM D5185m     0     0     0     0     0       Molybdenum     ppm     ASTM D5185m     60     55     54     50       Manganese     ppm     ASTM D5185m     0     0     <1     <1       Magnesium     ppm     ASTM D5185m     1010     863     879     823       Calcium     ppm     ASTM D5185m     1070     959     960     902       Phosphorus     ppm     ASTM D5185m     1070     959     960     902       Zinc     ppm     ASTM D5185m     1270     1127     1150     1093       Sulfur     ppm     ASTM D5185m     1270     1127     1150     1093       Sulfur     ppm     ASTM D5185m     2660     2662     3344     2825       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >20     3     <1     0       Fuel     %     ASTM D51	ADDITIVES						
Molybdenum     ppm     ASTM D5185m     60     55     54     50       Manganese     ppm     ASTM D5185m     0     0     <1	Doron	2222					
Manganese     ppm     ASTM D5185m     0     0     <1     <1       Magnesium     ppm     ASTM D5185m     1010     863     879     823       Calcium     ppm     ASTM D5185m     1070     959     960     902       Phosphorus     ppm     ASTM D5185m     1150     940     991     930       Zinc     ppm     ASTM D5185m     1270     1127     1150     1093       Sulfur     ppm     ASTM D5185m     2060     2662     3344     2825       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     5     2     4       Sodium     ppm     ASTM D5185m     >20     3     <1	Boron		ASTM D5185m	0	3	7	3
Magnesium     ppm     ASTM D5185m     1010     863     879     823       Calcium     ppm     ASTM D5185m     1070     959     960     902       Phosphorus     ppm     ASTM D5185m     1150     940     991     930       Zinc     ppm     ASTM D5185m     1150     940     991     930       Sulfur     ppm     ASTM D5185m     1270     1127     1150     1093       Sulfur     ppm     ASTM D5185m     2060     2662     3344     2825       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     5     2     4       Sodium     ppm     ASTM D5185m     >20     3     <1	Barium	ppm	ASTM D5185m ASTM D5185m	0	3 0	7 0	3
Calcium     ppm     ASTM D5185m     1070     959     960     902       Phosphorus     ppm     ASTM D5185m     1150     940     991     930       Zinc     ppm     ASTM D5185m     1270     1127     1150     1093       Sulfur     ppm     ASTM D5185m     2060     2662     3344     2825       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     22     1     3       Sodium     ppm     ASTM D5185m     20     3     <1	Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	3 0 55	7 0 54	3 0 50
Phosphorus     ppm     ASTM D5185m     1150     940     991     930       Zinc     ppm     ASTM D5185m     1270     1127     1150     1093       Sulfur     ppm     ASTM D5185m     2060     2662     3344     2825       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     5     2     4       Sodium     ppm     ASTM D5185m     >20     3     <1	Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	3 0 55 0	7 0 54 <1	3 0 50 <1
Zinc     ppm     ASTM D5185m     1270     1127     1150     1093       Sulfur     ppm     ASTM D5185m     2060     2662     3344     2825       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >25     5     2     4       Sodium     ppm     ASTM D5185m     >20     3     <1	Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	3 0 55 0 863	7 0 54 <1 879	3 0 50 <1 823
SulfurppmASTM D5185m2060266233442825CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25524SodiumppmASTM D5185m>203<1	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	3 0 55 0 863 959	7 0 54 <1 879 960	3 0 50 <1 823 902
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m<>25524SodiumppmASTM D5185m213PotassiumppmASTM D5185m>203<1	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 55 0 863 959 940	7 0 54 <1 879 960 991	3 0 50 <1 823 902 930
Silicon     ppm     ASTM D5185m     >25     5     2     4       Sodium     ppm     ASTM D5185m     2     1     3       Potassium     ppm     ASTM D5185m     >20     3     <1	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	3 0 55 0 863 959 940 1127	7 0 54 <1 879 960 991 1150	3 0 50 <1 823 902 930 1093
Sodium     ppm     ASTM D5185m     2     1     3       Potassium     ppm     ASTM D5185m     >20     3     <1	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 0 1010 1070 1150 1270 2060	3 0 55 0 863 959 940 1127 2662	7 0 54 <1 879 960 991 1150 3344	3 0 50 <1 823 902 930 1093 2825
Potassium     ppm     ASTM D5185m     >20     3     <1     0       Fuel     %     ASTM D3524     >3.0     4.7     1.6     4.0       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >4     0.4     0.1     0.3       Nitration     Abs/cm     *ASTM D7624     >20     9.0     5.1     8.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     18.1     17.0     17.6       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     14.5     13.3     14.2	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	3 0 55 0 863 959 940 1127 2662 current	7 0 54 <1 879 960 991 1150 3344 history1	3 0 50 <1 823 902 930 1093 2825 history2
Fuel     %     ASTM D3524     >3.0     4.7     1.6     4.0       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >4     0.4     0.1     0.3       Nitration     Abs/cm     *ASTM D7624     >20     9.0     5.1     8.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     18.1     17.0     17.6       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     14.5     13.3     14.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	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	3 0 55 0 863 959 940 1127 2662 current 5	7 0 54 <1 879 960 991 1150 3344 history1 2	3 0 50 <1 823 902 930 1093 2825 history2 4
INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >4     0.4     0.1     0.3       Nitration     Abs/cm     *ASTM D7624     >20     9.0     5.1     8.7       Sulfation     Abs/.tmm     *ASTM D7624     >30     18.1     17.0     17.6       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.tmm     *ASTM D7414     >25     14.5     13.3     14.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm	ASTM D5185m 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 Iimit/base >25	3 0 55 0 863 959 940 1127 2662 <u>current</u> 5 2	7 0 54 <1 879 960 991 1150 3344 history1 2 1	3 0 50 <1 823 902 930 1093 2825 history2 4 3
Soot %     %     *ASTM D7844     >4     0.4     0.1     0.3       Nitration     Abs/cm     *ASTM D7624     >20     9.0     5.1     8.7       Sulfation     Abs/.1mm     *ASTM D7615     >30     18.1     17.0     17.6       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     14.5     13.3     14.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Iimit/base</b> >25	3 0 55 0 863 959 940 1127 2662 <u>current</u> 5 2 2 3	7 0 54 <1 879 960 991 1150 3344 history1 2 1 <1	3 0 50 <1 823 902 930 1093 2825 history2 4 3 0
Nitration     Abs/cm     *ASTM D7624     >20     9.0     5.1     8.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     18.1     17.0     17.6       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     14.5     13.3     14.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm	ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 Imit/base >25 >20 >20	3 0 55 0 863 959 940 1127 2662 <u>current</u> 5 2 2 3	7 0 54 <1 879 960 991 1150 3344 history1 2 1 <1	3 0 50 <1 823 902 930 1093 2825 history2 4 3 0
Sulfation     Abs/.1mm     *ASTM D7415     >30     18.1     17.0     17.6       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     14.5     13.3     14.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 Imit/base >25 >20 >20	3 0 55 0 863 959 940 1127 2662 current 5 2 3 3 ▲ 4.7 current	7 0 54 <1 879 960 991 1150 3344 <u>history1</u> 2 1 <1 <1	3 0 50 <1 823 902 930 1093 2825 history2 4 3 0 0 ▲ 4.0
FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     14.5     13.3     14.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>I</b> imit/base >25 >20 >20 >3.0	3 0 55 0 863 959 940 1127 2662 current 5 2 3 3 ▲ 4.7 current	7 0 54 <1 879 960 991 1150 3344 history1 2 1 2 1 1.6 history1 0.1	3 0 50 <1 823 902 930 1093 2825 history2 4 3 0 ▲ 4.0 history2 0.3
Oxidation     Abs/.1mm     *ASTM D7414     >25     14.5     13.3     14.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>*</sup> Silicon Sodium Potassium Fuel INFRA-RED	ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 <b>Imit/base</b> >25 >20 >3.0 <b>Imit/base</b> >4	3 0 55 0 863 959 940 1127 2662 current 5 2 3 4.7 current 0.4	7 0 54 <1 879 960 991 1150 3344 history1 2 1 2 1 1.6 history1 0.1	3 0 50 <1 823 902 930 1093 2825 history2 4 3 0 ▲ 4.0 history2 0.3
	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 <b>Imit/base</b> >25 >20 >3.0 <b>Imit/base</b> >4 >20	3 0 55 0 863 959 940 1127 2662 current 5 2 3 4.7 4.7 current 0.4 9.0	7 0 54 <1 879 960 991 1150 3344 history1 2 1 2 1 <1 1.6 history1 0.1 5.1	3 0 50 <1 823 902 930 1093 2825 history2 4 3 0 4 3 0 4 3 0 0 4 3 0 0 4 3 0 0 4 3 0 0 4 3 0 0 4 3 3 0 0 4 3 3 0 0 4 3 3 0 0 4 3 3 0 1 1 9 3 1 1 1 9 3 1 1 1 9 3 1 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 1 9 3 1 3 1
Base Number (BN) mg KOH/g ASTM D2896 9.8 7.3 8.5 7.0	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 <b>i</b> mit/base >25 >20 >3.0 <b>i</b> mit/base >4 >20 >30	3 0 55 0 863 959 940 1127 2662 current 5 2 3 4.7 current 0.4 9.0 18.1	7 0 54 <1 879 960 991 1150 3344 history1 2 1 <1 2 1 <1 1.6 history1 0.1 5.1 17.0	3 0 50 <1 823 902 930 1093 2825 history2 4 3 0 ▲ 4.0 • history2 0.3 8.7 17.6
	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 D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 <b>imit/base</b> >25 >20 >3.0 <b>imit/base</b> >4 >20 >30 <b>imit/base</b>	3 0 55 0 863 959 940 1127 2662 current 5 2 3 4.7 current 0.4 9.0 18.1 current	7 0 54 <1 879 960 991 1150 3344 history1 2 1 <1 2 1 <1 1.6 history1 0.1 5.1 17.0 history1	3 0 50 <1 823 902 930 1093 2825 history2 4 3 0 ↓ 4.0 ↓ 4.0 ↓ 4.0 ↓ 6.3 ↓ 6.3 ↓ 6.3 ↓ 7.6 ↓ 7.6 ↓ 7.6



# **OIL ANALYSIS REPORT**



\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

GFL Environmental - 073 - Warner Robins - Transwaste 155 Story Road Warner Robins, GA US 31093 Contact: JOSH MALONEY jmaloney@gflenv.com T: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012) F:

Sep27/23

Mar13/24

un28/24

lul5/23

history1

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

history

NEG

NEG

13.1

history2

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

history2

NEG

NEG

**12.1** 

Report Id: GFL073 [WUSCAR] 06227083 (Generated: 07/09/2024 14:19:31) Rev: 1

Submitted By: JOSH MALONEY Page 2 of 2