

## **PROBLEM SUMMARY**

Sample Rating Trend



Machine Id 820052 PETERBILT 320

Diesel Engine Fluid TIER ONE 15W40 (--- GAL)

### COMPONENT CONDITION SUMMARY







### RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

PROBLEMATIC TEST RESULTS								
Sample Status				SEVERE	SEVERE	ABNORMAL		
Copper	ppm	ASTM D5185m	>85	<u> </u>	<u> </u>	4		
Sodium	ppm	ASTM D5185m		<b>6</b> 34	<b>2</b> 403	<b>A</b> 216		
Potassium	ppm	ASTM D5185m	>20	<u> </u>	<b>A</b> 2295	<u> </u>		
Fuel	%	ASTM D3524	>5	<b>A</b> 3.9	<1.0	0.5		
Glycol	%	*ASTM D2982		<b>0.10</b>	▲ 0.20	NEG		

Customer Id: GFL642 Sample No.: GFL0115240 Lab Number: 06196485 Test Package: FLEET



To manage this report scan the QR code

To discuss the diagnosis or test data: Don Baldridge +1 don.b505@comcast.net

*To change component or sample information:* Customer Service +1 1-800-237-1369 <u>customerservice@wearcheck.com</u>

RECOMMENDED ACTIONS					
Action Change Fluid	Status	Date	Done By ?	<b>Description</b> Oil and filter change at the time of sampling has been noted.	
Change Filter			?	Oil and filter change at the time of sampling has been noted.	
Resample			?	We recommend an early resample to monitor this condition.	
Check Glycol Access			?	We advise that you check for the source of the coolant leak.	

### HISTORICAL DIAGNOSIS

### 18 Mar 2024 Diag: Jonathan Hester

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition. The copper level is abnormal. All other component wear rates are normal. Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.





GLYCOL

#### 22 Jan 2024 Diag: Jonathan Hester

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. Sodium and/or potassium levels are high. 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.





### 14 Nov 2023 Diag: Wes Davis

We advise that you check the fuel injection system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition.All component wear rates are normal. There is a high amount of fuel present in the oil. Tests confirm the presence of fuel in the oil. 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.





## **OIL ANALYSIS REPORT**

Sample Rating Trend

GLYCOL

X

Machine Id

# 820052 PETERBILT 320

Diesel Engine Fluid TIER ONE 15W40 (--- GAL)

### DIAGNOSIS

### Recommendation

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

### A Wear

The copper level is abnormal. All other component wear rates are normal.

#### Contamination

Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Light fuel dilution occurring.

### Fluid Condition

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

SAMPLE INFORMATION     method     limit/base     current     history1     history2       Sample Number     Client Info     20 May 2024     18 Mar 2024     22 Jan 2024       Machine Age     hrs     Client Info     15422     15078     15059       Oil Age     hrs     Client Info     3     277     600       Oil Changed     Client Info     3     277     600     Changed     Status     Nattory2     Water     WCK     WCK     Nattory2     Na			Nov202	3 Jan2024	Marzuz4 Wi	ay2024	
Sample Number     Client Info     CPL0115240     GFL0102203     GFL0102203       Sample Date     Client Info     20 May 2024     18 Mar 2024     22 Jan 2024       Machine Age     hrs     Client Info     3     277     600       Oll Changed     Client Info     3     277     600       Oll Changed     Client Info     SEVERE     SEVERE     ABNORMAL       CONTAMINATION     method     imil/base     current     history     history       Water     WC Method     >0.2     NEG     NEG     NEG       Vickel     ppm     ASTM D5185m     >110     54     60     33       Chromium     ppm     ASTM D5185m     >2     0     1     2     2       Nickel     ppm     ASTM D5185m     >2     0     <1     2     2       Silver     ppm     ASTM D5185m     >2     7     10     7     2       Copper     ppm     ASTM D5185m     >4     137     8     3	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Date     Client Info     20 May 2024     18 Mar 2024     22 Jan 2024       Machine Age     hrs     Client Info     15422     15078     15079       Oil Age     hrs     Client Info     3     277     600       Oil Changed     Client Info     3     277     600       Control     Pmethod     Imit/base     current     Nistory1     Nistory2       Water     WC Method     >0.2     NEG     NEG     NEG       Wear     WC Method     >0.2     NEG     NEG     NEG       Chromium     ppm     ASTM 05185m     >10     54     60     33       Chromium     ppm     ASTM 05185m     >2     0     1     <1     1     2     2       Nickel     ppm     ASTM 05185m     >2     7     10     7     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1 <td< th=""><th>Sample Number</th><th></th><th>Client Info</th><th></th><th>GFL0115240</th><th>GFL0061427</th><th>GFL0102208</th></td<>	Sample Number		Client Info		GFL0115240	GFL0061427	GFL0102208
Machine Age     hrs     Client Info     15422     15078     15059       Oil Aga     hrs     Client Info     3     277     600       Oil Changed     Client Info     3     277     600       Sample Status     Client Info     SEVERE     SEVERE     ABNORMAL       CONTAMINATION     method     imit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     imit/base     current     history1     history2       Kromium     ppm     ASTM D5185m     >4     1     2     2       Itanium     ppm     ASTM D5185m     >2     0     1     2       Silver     ppm     ASTM D5185m     >2     7     10     7     Lead       Copper     ppm     ASTM D5185m     >4     137     866     4       Tianium     ppm     ASTM D5185m     >4     17     1     1     1       Co	Sample Date		Client Info		20 May 2024	18 Mar 2024	22 Jan 2024
Oil Age     hrs     Client Info     3     277     600       Oil Changed     Client Info     Changed     Changed     Changed     Changed     SEVERE     SEVERE     ABNORMAL       CONTAMINATION     method     limit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       Wether     WC Method     >0.2     NEG     Nicory1     history2       Water     WC Method     >0.2     NEG     Nicory1     history2       Vicon     ppm     ASTM D5185m     >4     1     2     2       Nickel     ppm     ASTM D5185m     >2     0     <1     0       Aluminum     ppm     ASTM D5185m     >4     4     3     1     2       Copper     ppm     ASTM D5185m     >4     <1     1     <1     1       Copper     ppm     ASTM D5185m     9     137     8     4       Tin     ppm     ASTM D5185m	Machine Age	hrs	Client Info		15422	15078	15059
Chi Changed     Client Info     Changed     Changed     Changed     Changed     Changed     Changed     Changed     Changed     SEVERE     SEVERE     SEVERE     ABNORMAL       CONTAMINATION     method     imit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >4     1     2     2       Nickel     ppm     ASTM D5185m     >2     0     -<1     0       Nickel     ppm     ASTM D5185m     >4     3     1     -<1       Aduminum     ppm     ASTM D5185m     >4     3     1     -<1       Copper     ppm     ASTM D5185m     >4     -<1     -<1     -<1       Vanadium     ppm     ASTM D5185m     >4     -<1     -<1     -<1       Adaminum     ppm     ASTM D5185m     -     13 </th <th>Oil Age</th> <th>hrs</th> <th>Client Info</th> <th></th> <th>3</th> <th>277</th> <th>600</th>	Oil Age	hrs	Client Info		3	277	600
Sample Status     SEVERE     SEVERE     SEVERE     ABNORMAL       CONTAMINATION     method     imit/base     current     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >110     54     60     33       Chromium     ppm     ASTM D5185m     >2     0     1     <1       Nickel     ppm     ASTM D5185m     >2     0     <1     0       Nickel     ppm     ASTM D5185m     >25     7     100     7       Lead     ppm     ASTM D5185m     >4     3     1     <1       Copper     ppm     ASTM D5185m     >4     3     1     <1       Cadmium     ppm     ASTM D5185m     20     <1     <1     <1       Magnesize     ppm     ASTM D5185m     0     <1     <1     <1  C	Oil Changed		Client Info		Changed	Changed	Changed
CONTAMINATION     method     imit/base     ourrent     history1     history2       Water     WC Method     >0.2     NEG     NEG     NEG       Wear METALS     method     imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >4     1     2     2       Nickel     ppm     ASTM D5185m     >2     0     -1     -1       Nickel     ppm     ASTM D5185m     >2     0     -1     0       Aluminum     ppm     ASTM D5185m     >2     0     -1     0       Aluminum     ppm     ASTM D5185m     >45     4     3     1     -1       Copper     ppm     ASTM D5185m     >45     4     -1     1     -1       Cadmium     ppm     ASTM D5185m     0     -1     -1     -1       ASTM D5185m     0     -1     -1     -1     -1     -1       ASTM D5185m     0     2     00     0 <td< th=""><th>Sample Status</th><th></th><th></th><th></th><th>SEVERE</th><th>SEVERE</th><th>ABNORMAL</th></td<>	Sample Status				SEVERE	SEVERE	ABNORMAL
Water     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5165m     >110     54     60     33       Chromium     ppm     ASTM D5165m     >2     0     1     2       Nickel     ppm     ASTM D5165m     >2     0     11     2       Silver     ppm     ASTM D5165m     >2     0     <11     2       Gopper     ppm     ASTM D5165m     >45     4     3     1     <1       Copper     ppm     ASTM D5165m     >45     4     3     1     <1       Copper     ppm     ASTM D5165m     >4     <1     1     <1     <1       Cadmium     ppm     ASTM D5165m     0     <137     R     8       Barium     ppm     ASTM D5165m     92     208     83       Magaaese     ppm     ASTM D5165m     988     1003 </th <th>CONTAMINAT</th> <th>ION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5165m     >110     54     60     33       Chromium     ppm     ASTM D5165m     >2     0     1     <1       Nickel     ppm     ASTM D5165m     >2     0     1     0       Silver     ppm     ASTM D5165m     >2     0     <1     0       Aluminum     ppm     ASTM D5165m     >2     0     <1     0       Aluminum     ppm     ASTM D5165m     >25     7     10     7       Lead     ppm     ASTM D5165m     >4     3     1     <1       Copper     ppm     ASTM D5165m     0     <1     <1     <1       Vanadium     ppm     ASTM D5165m     0     <1     <1     <1       Vanadium     ppm     ASTM D5165m     92     208     83     33       Baroin     ppm     ASTM D5165m     92     208     337 <th>Water</th> <th></th> <th>WC Method</th> <th>&gt;0.2</th> <th>NEG</th> <th>NEG</th> <th>NEG</th>	Water		WC Method	>0.2	NEG	NEG	NEG
Iron     ppm     ASTM D5185m     >110     54     60     33       Chromium     ppm     ASTM D5185m     >4     1     2     2       Nickel     ppm     ASTM D5185m     >2     0     1     <10       Silver     ppm     ASTM D5185m     >2     0     <10     7       Lead     ppm     ASTM D5185m     >25     7     10     7       Lead     ppm     ASTM D5185m     >4     3     1     1       Copper     ppm     ASTM D5185m     >4     5     4     1     1     1     1       Vanadium     ppm     ASTM D5185m     >4     <1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1     1	WEAR METAL	S	method	limit/base	current	history1	history2
Chromium     ppm     ASTM D5185m     >4     1     2     2       Nickel     ppm     ASTM D5185m     >2     0     1     <1       Titanium     ppm     ASTM D5185m     >2     0     <1     2       Silver     ppm     ASTM D5185m     >25     7     10     7       Lead     ppm     ASTM D5185m     >25     7     10     7       Lead     ppm     ASTM D5185m     >45     4     3     1       Copper     ppm     ASTM D5185m     >4     <1     1     <1       Vanadium     ppm     ASTM D5185m     >4     <1     1     <1       Cadmium     ppm     ASTM D5185m     0     <1     <1     <1       ADDITIVES     method     limit/base     current     history1     history2       Barium     ppm     ASTM D5185m     92     208     83       Maganese     ppm     ASTM D5185m     998     1003     1226	Iron	ppm	ASTM D5185m	>110	54	60	33
Nickel     ppm     ASTM D5185m     >2     0     1     <1	Chromium	ppm	ASTM D5185m	>4	1	2	2
Titanium     ppm     ASTM D5185m     2     0     -1     2       Sliver     ppm     ASTM D5185m     >2     0     -1     0       Aluminum     ppm     ASTM D5185m     >25     7     10     7       Lead     ppm     ASTM D5185m     >45     4     3     1       Copper     ppm     ASTM D5185m     >45     4     3     1       Copper     ppm     ASTM D5185m     >4     <1     1     <1       Copper     ppm     ASTM D5185m     >4     <1     1     <1     <1       Vanadium     ppm     ASTM D5185m     0     <13     7     8       Boron     ppm     ASTM D5185m     92     208     83       Manganese     ppm     ASTM D5185m     92     208     83       Magnesium     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     1033     220     26	Nickel	ppm	ASTM D5185m	>2	0	1	<1
Silver     ppm     ASTM D5185m     >2     0     <1	Titanium	ppm	ASTM D5185m		2	1	2
Aluminum     ppm     ASTM D5185m     >25     7     10     7       Lead     ppm     ASTM D5185m     >45     4     3     1       Copper     ppm     ASTM D5185m     >85     137     & 86     4       Tin     ppm     ASTM D5185m     >4     1     1     1       Vanadium     ppm     ASTM D5185m     >4     1     1     1       Cadmium     ppm     ASTM D5185m     94     <1     1     1       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     92     208     83       Barium     ppm     ASTM D5185m     92     208     83       Magnesium     ppm     ASTM D5185m     92     208     83       Magnesium     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     3374     3296     4236       CONTAMINANT     method	Silver	ppm	ASTM D5185m	>2	0	<1	0
Lead     ppm     ASTM D5185m     >45     4     3     1       Copper     ppm     ASTM D5185m     >85     137     & 86     4       Tin     ppm     ASTM D5185m     >4     <1     1     <1       Vanadium     ppm     ASTM D5185m     0     <1     <1       Cadmium     ppm     ASTM D5185m     0     <13	Aluminum	ppm	ASTM D5185m	>25	7	10	7
Copper     ppm     ASTM D5185m     >85     ▲ 137     ▲ 86     4       Tin     ppm     ASTM D5185m     >4     <1     1     <1       Vanadium     ppm     ASTM D5185m     0     <1     <1       Cadmium     ppm     ASTM D5185m     0     <1     <1       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     2     0       Molybdenum     ppm     ASTM D5185m     92     208     83       Mangaese     ppm     ASTM D5185m     92     208     83       Magnesium     ppm     ASTM D5185m     92     208     83       Magnesium     ppm     ASTM D5185m     92     208     83       Magnesium     ppm     ASTM D5185m     1072     1072     1260       Phosphorus     ppm     ASTM D5185m     3374     3296     4236       CONTAMINANTS     method     limit/base     current </th <th>Lead</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;45</th> <th>4</th> <th>3</th> <th>1</th>	Lead	ppm	ASTM D5185m	>45	4	3	1
Tin     ppm     ASTM D5185m     >4     <1	Copper	ppm	ASTM D5185m	>85	<u> </u>	<u> </u>	4
Vanadium     ppm     ASTM D5185m     0     <1	Tin	ppm	ASTM D5185m	>4	<1	1	<1
Cadmium     ppm     ASTM D5185m     0     <1	Vanadium	ppm	ASTM D5185m		0	<1	<1
ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     13     7     8       Barium     ppm     ASTM D5185m     0     2     0       Molybdenum     ppm     ASTM D5185m     92     208     83       Magnese     ppm     ASTM D5185m     92     208     83       Magnesium     ppm     ASTM D5185m     92     208     83       Calcium     ppm     ASTM D5185m     849     812     1070       Calcium     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     3374     3296     4236       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >20	Cadmium	ppm	ASTM D5185m		0	<1	<1
Boron     ppm     ASTM D5185m     13     7     8       Barium     ppm     ASTM D5185m     0     2     0       Molybdenum     ppm     ASTM D5185m     92     208     83       Manganese     ppm     ASTM D5185m     92     208     83       Magnesium     ppm     ASTM D5185m     92     208     83       Calcium     ppm     ASTM D5185m     92     208     83       Dasphorus     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     1003     1226       Sulfur     ppm     ASTM D5185m     3374     3296     4236       Sodium     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >20     645     2295     164       Fuel     %     ASTM D5185m     >20     645	ADDITIVES		method	limit/base	current	history1	history2
Barium     ppm     ASTM D5185m     0     2     0       Molybdenum     ppm     ASTM D5185m     92     208     83       Manganese     ppm     ASTM D5185m     1     2     4       Magnesium     ppm     ASTM D5185m     849     812     1070       Calcium     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     103     1226       Zinc     ppm     ASTM D5185m     998     103     1226       Sulfur     ppm     ASTM D5185m     3374     3296     4236       CONTAMINANTS     method     limit/base     current     history1     history2       Sulfacion     ppm     ASTM D5185m     >20     645     2295     164       Fuel     %     ASTM D3284     >5     3.9	Boron	ppm	ASTM D5185m		13	7	8
Molybdenum     ppm     ASTM D5185m     92     208     83       Manganese     ppm     ASTM D5185m     1     2     4       Magnesium     ppm     ASTM D5185m     849     812     1070       Calcium     ppm     ASTM D5185m     998     1003     1226       Phosphorus     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     1003     1226       Sulfur     ppm     ASTM D5185m     998     1003     1226       Solicon     ppm     ASTM D5185m     998     1003     1226       Solicon     ppm     ASTM D5185m     3374     3296     4236       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >20     645     2295     164       Fuel     %     ASTM D5185m	Barium	ppm	ASTM D5185m		0	2	0
Manganese     ppm     ASTM D5185m     1     2     4       Magnesium     ppm     ASTM D5185m     849     812     1070       Calcium     ppm     ASTM D5185m     1072     1072     1260       Phosphorus     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     1003     1226       Sulfur     ppm     ASTM D5185m     3374     3296     4236       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >20     645     2295     164       Fuel     %     ASTM D5185m     >20     645     2295     164       Fuel     %     ASTM D5185m     >20     645     2295     164       Fuel     %     <	Molybdenum	ppm	ASTM D5185m		92	208	83
Magnesium     ppm     ASTM D5185m     849     812     1070       Calcium     ppm     ASTM D5185m     1072     1260       Phosphorus     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     3374     3296     4236       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >20     4 645     2295     164       Fuel     %     ASTM D5185m     >20     4 010     0.20     NEG       INFRA-RED     method     limit/base     current     history1     history2       Soot %	Manganese	ppm	ASTM D5185m		1	2	4
Calcium     ppm     ASIM D5185m     1072     1072     1072     1260       Phosphorus     ppm     ASTM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     1190     1137     1441       Sulfur     ppm     ASTM D5185m     3374     3296     4236       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >20     645     2295     164       Fuel     %     ASTM D3524     >5     3.9     <1.0     0.5       Glycol     %     *ASTM D7844     >3     1.3     0.9     0.7       Nitration     Abs/cm     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/cm     *ASTM D7415     >30     22.4     22.	Magnesium	ppm	ASTM D5185m		849	812	1070
Phosphorus     ppm     ASIM D5185m     998     1003     1226       Zinc     ppm     ASTM D5185m     1190     1137     1441       Sulfur     ppm     ASTM D5185m     3374     3296     4236       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >20     ▲ 634     ▲ 2403     ▲ 216       Potassium     ppm     ASTM D5185m     >20     ▲ 645     ▲ 2295     ▲ 164       Fuel     %     ASTM D524     >5     ▲ 3.9     <1.0     0.5        Glycol     %     *ASTM D7844     >3     1.3     0.9     0.7       Nitration     Abs/cm     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7415     >30	Calcium	ppm	ASTM D5185m		1072	1072	1260
Zinc     ppm     ASIM D5185m     1190     1137     1441       Sulfur     ppm     ASTM D5185m     3374     3296     4236       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >20     645     2295     164       Potassium     ppm     ASTM D5185m     >20     645     2295     164       Fuel     %     ASTM D3524     >5     3.9     <1.0     0.5       Glycol     %     *ASTM D7844     >5     3.9     <1.0     0.20     NEG       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7415     >30	Phosphorus	ppm	ASTM D5185m		998	1003	1226
Sulfur     ppm     ASIM D5185m     3374     3296     4236       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >20     645     2295     164       Potassium     ppm     ASTM D5185m     >20     645     2295     164       Fuel     %     ASTM D3524     >5     3.9     <1.0     0.5       Glycol     %     *ASTM D2982      0.10     0.20     NEG       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.4     22.0     19.9       FLUID DEGRADATION     method     limit/base     curre	Zinc	ppm	ASTM D5185m		1190	1137	1441
CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >30     10     16     20       Potassium     ppm     ASTM D5185m     >20     ▲ 645     ▲ 2295     ▲ 164       Fuel     %     ASTM D5185m     >20     ▲ 645     ▲ 2295     ▲ 164       Fuel     %     ASTM D5185m     >20     ▲ 645     ▲ 2295     ▲ 164       Glycol     %     *ASTM D5182     >5     ▲ 3.9     <1.0     0.5       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     1.3     0.9     0.7       Nitration     Abs/cm     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.4     22.0     19.9       FLUID DEGRADATION     method	Sulfur	ppm	ASTM D5185m		3374	3296	4236
Silicon     ppm     ASTM D5185m     >30     10     16     20       Sodium     ppm     ASTM D5185m     >30     634     2403     216       Potassium     ppm     ASTM D5185m     >20     645     2295     164       Fuel     %     ASTM D3524     >5     3.9     <1.0     0.5       Glycol     %     *ASTM D3524     >5     3.9     <1.0     0.5       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     1.3     0.9     0.7       Nitration     Abs/.mm     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.4     22.0     19.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     16.3     16.2     14.8       Base Number (BN)     mg KOHg	CONTAMINAN	TS	method	limit/base	current	history1	history2
Sodium     ppm     ASTM D5185m     ▲ 634     ▲ 2403     ▲ 216       Potassium     ppm     ASTM D5185m     >20     ▲ 645     ▲ 2295     ▲ 164       Fuel     %     ASTM D3524     >5     ▲ 3.9     <1.0     0.5       Glycol     %     *ASTM D3524     >5     ▲ 3.9     <1.0     NEG       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     1.3     0.9     0.7       Nitration     Abs/cm     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.4     22.0     19.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     16.3     16.2     14.8       Base Number (BN)     mg KOH/g     ASTM D2896     10.6     25.8     9.8	Silicon	ppm	ASTM D5185m	>30	10	16	20
Potassium     ppm     ASTM D5185m     >20     ▲ 645     ▲ 2295     ▲ 164       Fuel     %     ASTM D3524     >5     ▲ 3.9     <1.0     0.5       Glycol     %     *ASTM D2982     ▲ 0.10     ▲ 0.20     NEG       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     1.3     0.9     0.7       Nitration     Abs/cm     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.4     22.0     19.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     16.3     16.2     14.8       Base Number (BN)     mg KOH/g     ASTM D2896     10.6     25.8     9.8	Sodium	ppm	ASTM D5185m		<b>6</b> 34	<u> </u>	<u> </u>
Fuel   %   ASTM D3524   >5   ▲ 3.9   <1.0	Potassium	ppm	ASTM D5185m	>20	A 645	▲ 2295	<b>1</b> 64
Glycol     %     *ASTM D2982     0.10     0.20     NEG       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     1.3     0.9     0.7       Nitration     Abs/cm     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.4     22.0     19.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     16.3     16.2     14.8       Base Number (BN)     mg KOH/g     ASTM D2896     10.6     25.8     9.8	Fuel	%	ASTM D3524	>5	<b>A</b> 3.9	<1.0	0.5
INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     1.3     0.9     0.7       Nitration     Abs/cm     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.4     22.0     19.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     16.3     16.2     14.8       Base Number (BN)     mg KOH/g     ASTM D2896     10.6     25.8     9.8	Glycol	%	*ASTM D2982		<b>0.10</b>	▲ 0.20	NEG
Soot %     %     *ASTM D7844     >3     1.3     0.9     0.7       Nitration     Abs/cm     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7624     >20     11.3     22.0     19.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     16.3     16.2     14.8       Base Number (BN)     mg KOH/g     ASTM D2896     10.6     25.8     9.8	INFRA-RED		method	limit/base	current	history1	history2
Nitration     Abs/cm     *ASTM D7624     >20     11.3     15.9     7.7       Sulfation     Abs/.1mm     *ASTM D7415     >30     22.4     22.0     19.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     16.3     16.2     14.8       Base Number (BN)     mg KOH/g     ASTM D2896     10.6     25.8     9.8	Soot %	%	*ASTM D7844	>3	1.3	0.9	0.7
Sulfation     Abs/.1mm     *ASTM D7415     >30     22.4     22.0     19.9       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     16.3     16.2     14.8       Base Number (BN)     mg KOH/g     ASTM D2896     10.6     25.8     9.8	Nitration	Abs/cm	*ASTM D7624	>20	11.3	15.9	7.7
FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     16.3     16.2     14.8       Base Number (BN)     mg KOH/g     ASTM D2896     10.6     25.8     9.8	Sulfation	Abs/.1mm	*ASTM D7415	>30	22.4	22.0	19.9
Oxidation     Abs/.1mm     *ASTM D7414     >25     16.3     16.2     14.8       Base Number (BN)     mg KOH/g     ASTM D2896     10.6     25.8     9.8	FLUID DEGRAD	DATION	method	limit/base	current	history1	history2
Base Number (BN)     mg KOH/g     ASTM D2896     10.6     25.8     9.8	Oxidation	Abs/.1mm	*ASTM D7414	>25	16.3	16.2	14.8
	Base Number (BN)	mg KOH/g	ASTM D2896		10.6	25.8	9.8



# **OIL ANALYSIS REPORT**



Submitted By: See also GFL642B - Jessica Shearer