

## **OIL ANALYSIS REPORT**

Sample Rating Trend



(MC10942) 725083 Component **Diesel Engine** 

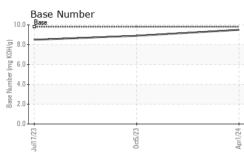
Fluid

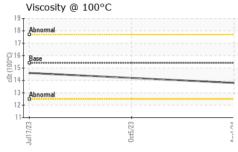
## PETRO CANADA DURON SHP 15W40 (--- GAL)

commendation sample at the next service interval to monitor.     Sample Number     Client Info     GFL0613628     GFL0066280     GFL0066280     GFL0066280     Celebration       sample at the next service interval to monitor.     Machine Age     mis     Client Info     01 Age 200     246060     246060     246060     246060     0       origonet wear rates are normal.     OII Age     mis     Client Info     0     246060     0     0       is suitable for further is suitable aling remaining in the oil. The condition of the is suitable for further service.     NORMAL     NOR	Sample Number     Client Info     GFL0613020     GFL0068280     GFL0069230       ample at the next service interval to monicar. promponent wear rates are normal.     Glient Info     01 Apr.2024     dis Cu2025     T/J ull 2023       is no indication of any contamination in the d Condition     BX result indicates that there is suitable insituable for further service.     O     246080     0     0       UI Paraged     Client Info     0     246080     0     0       BX result indicates that there is suitable is suitable for further service.     CONTAMINATION     method     imitbase     current     Retory     NetGr       Vietar     WC Method     3.0     <1.0     <1.0     <1.0     <1.0       Situable for further service.     WEAR     WEAR     WC Method     3.0     <1.0     <1.0     <1.0       Chromium     ppm     ASIM DSIStin     >2.0     0     0     <1.2       Nickel     ppm     ASIM DSIStin     >2.0     0     <1.2        Silver     ppm     ASIM DSIStin     >2.0     0     <1.2        Diranged				00				
sample at the next service interval to monitor.     Sample Date     Client Info     01     Apr 2024     05     02     246060     246060     0       intamination     is no indication of any contamination in the     NA     Changed     Time Client Info     0     246060     0	View     Sample Date     Client Info     01 Apr 2024     05 Oct 2023     17 Jul 2023       ar     omponent wear rates are normal.     Dial Ape     mils     Client Info     0     246060     0       Latanization     es no indication of any contamination in the is no indication of any contamination in the southed base indicates that there is soutable for further service.     NA     Changed     Client Info     NA     Changed     Changed       BM result Indicates that there is soutable for further service.     WC Method     3.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0     <1.0	DIAGNOSIS	SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
mathem     Machine Age     mts     Client Info     0     249080     246080       Oil Age     mts     Client Info     0     248080     0       Oil Age     mts     Client Info     0     248080     0       Dil Charged     Client Info     N/A     Charged     Charged       B N result indicates that there is auitable gainty remaining in the oil. The condition of the is autable for huther service.     NCM     VEMetro     VEMetro     VEMetro     NLG     NLG       Water     VCO Method     sol     -1.0     <1.0.0	matrix   Machine Age   nic   Client Info   0   246060   246060   0     momponent wear rates are normal.   Coll Changed   Client Info   N/A   Changed   Changed     at condition   Sample Status   0   0   NORMAL   NORMAL   NORMAL   NORMAL     Bit result indicates that throe is suitable for further service.   Fuel   WC Method   >3.0   <1.0	Recommendation	Sample Number		Client Info		GFL06136026	GFL0066280	GFL0060523
Component wear rates are normal.     Did Age     mis     Client Info     0     240080     0       Intermination     Client Info     NA     Changed     Client Info     NA     Changed     Client Info       Id Condition     BA result indicates that three is suitable     CONTAMINATION     method     Introduces     NorMAL	Omponent wear rates are normal.     Itamination     0     240080     0       Is no indication of any contamination in the off.     Is no indication of any contamination in the off.     NORMAL     NO	Resample at the next service interval to monitor.	Sample Date		Client Info		01 Apr 2024	05 Oct 2023	17 Jul 2023
component wear rates are normal.     Did Age mit Die	component wear rates are normal.     Coli Age mis Client Info     0     240080     0       tamination     is no indication of any contamination in the of the condition     NA     Changed     Chient Info     NA     Changed     Changed <t< td=""><td>lear</td><td>Machine Age</td><td>mls</td><td>Client Info</td><td></td><td>0</td><td>246060</td><td>246060</td></t<>	lear	Machine Age	mls	Client Info		0	246060	246060
numination   Oli Anaged   Client Info   NARAL   Changed   Changed     Sample Status   I   I   NORMAL   NORMAL   NORMAL   NORMAL     Id Condition   EDN result indicates that there is suitable almity remaining in the oil. The condition of the is suitable for further service.   NORMAL   VICMIN   WCM Methol   >3.0   <1.0	Item indication of any contamination in the is no indication of any contamination in the is no indication of any contamination in the isonal ison		-	mls	Client Info		0	246060	
Sample Status     NORMAL     NORMAL     NORMAL     NORMAL       id Condition     E Nr each indicates that there is suitable     CONTAMINATION     method     Imitbase     current     Imitbase     Current     Imitbase       is suitable for further service.     Sintable for further service.     WEAR     WC Method     3.0     <1.0	Sample Status     NORMAL     NORMAL     NORMAL       d condition     BM result indicates that there is suitable info there is suitable for further service.     Fuel     WC Method     >3.0     <1.0		-					Changed	Changed
CONTAMINATION   method   limit/basic   current   history1   history2     BV result indicates that there is suitable alinity remaining in the oil. The condition of the is suitable for further service.   WC Method   >3.0   <1.0	Contraining   CONTAMINATION   method   Imb/base   current   Inistory1   Inistory2     Bit result indicates that there is suitable linity remaining in the oil. The condition of the suitable for further service.   NEG   NEG   NEG   NEG   NEG     Water   WC Method   >0.0   NEG   NEG   NEG   NEG     Toron   ppm   ASTM 05185m   >20   4   <1		-				NORMAL	0	
idl Conditione   Fuel   WC Method   >3.0   <1.0	d Condition     Fuel     WC Method     3.0     <1.0				method	limit/base			
be by result indicates inal time is suitable for further service.     Water     WC Method     >0.2     NEG     NEG     NEG     NEG       Glycol     WC Method     >0.2     NEG     NEG     NEG     NEG       Sis suitable for further service.     WC Method     >0.2     NEG     NEG     NEG       WEAR METALS     minitoas     current     History1     History1     History1       Incom     ppm     ASTM D585m     >20     4     <1	Water     WC Method     >0.2     NEG     NEG     NEG       is uitable for further is exvide.     Water     WC Method     >0.2     NEG     NEG     NEG       is uitable for further is exvide.     WC Method     WC Method     Init/base     current     History1     History1       is uitable for further is exvide.     NEG     NEG     NEG     NEG       Water     ppm     ASTM Distism     >20     0     0     <1	uid Condition							
Glycol     WC Method     NEG     NEG     NEG       is suitable for further service.     Glycol     WC Method     Imidbase     current     history1     history2       Iron     ppm     ASTM D385m     >90     26     23     50       Othoromium     ppm     ASTM D385m     >20     0     0     21       Nickel     ppm     ASTM D585m     >20     0     0     21       Nickel     ppm     ASTM D585m     >20     4     2     6       Lead     ppm     ASTM D585m     >20     4     2     6       Copper     ppm     ASTM D585m     >300     0     <1	Giycol     WC Method     NEG     NEG     NEG       sautable for further service.     Giycol     WC Method     Imitbase     current     history1     history2       Iron     ppm     ASTM D518m     >90     26     23     50       Otroromium     ppm     ASTM D518m     >20     4     <1	e BN result indicates that there is suitable							
WEAR METALS     method     limit/base     current     History1     History2       Iron     ppm     ASTM 05185m     >90     26     23     50       Chromium     ppm     ASTM 05185m     >20     4     <1	WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D818m     >20     4     <1	, ,				>0.2			
iron     ppm     ASTM D515m     >90     26     23     50       Chromium     ppm     ASTM D515m     >20     4     -1     2       Nickel     ppm     ASTM D515m     >22     0     0     -1       Titamium     ppm     ASTM D515m     >22     0     0     0       Silver     ppm     ASTM D515m     >20     4     2     6       Lead     ppm     ASTM D515m     >20     4     2     6       Lead     ppm     ASTM D515m     >30     0     -1     2       Tin     ppm     ASTM D515m     >10     0     0     0       Vanadium     ppm     ASTM D515m     >10     0     0     0       Cadmium     ppm     ASTM D515m     0     0     0     0     0       Magnanese     ppm     ASTM D515m     0     0     0     0     1     1     129     129       Cadmium     ppm     ASTM	Iron     ppm     ASTM D5185m     >90     26     23     50       Chromium     ppm     ASTM D5185m     >20     4     <1	is suitable for further service.			WC Method		NEG	NEG	NEG
Chromium     ppm     ASTM D5185m     >20     4     <1     2       Nickel     ppm     ASTM D5185m     >2     0     0     <1	Chromium     ppm     ASTM D5156n     >20     4     <1     2       Nickel     ppm     ASTM D5156n     >2     0     0     2       Silver     ppm     ASTM D5156n     >2     0     0     2       Silver     ppm     ASTM D5156n     >20     4     2     6       Lead     ppm     ASTM D5156n     >330     0     <1		WEAR METAL	S	method	limit/base	current	history1	history2
Nickel     ppm     ASTM D5185n     >2     0     0     <1       Titanium     ppm     ASTM D5185n     >2     0     0     0       Silver     ppm     ASTM D5185n     >2     0     0     0       Atuminum     ppm     ASTM D5185n     >20     4     2     6       Lead     ppm     ASTM D5185n     >20     0     0     <1	Nickel     ppm     ASTM D5185m     >2     0     0     <1       Titanium     ppm     ASTM D5185m     >2     0     0     0     0       Silver     ppm     ASTM D5185m     >20     4     2     6       Aluminum     ppm     ASTM D5185m     >20     4     2     6       Lead     ppm     ASTM D5185m     >20     0     0     0     1       Copper     ppm     ASTM D5185m     >30     0     1     2     1     0     11     1     1     0     3     0     11     1<1		Iron	ppm	ASTM D5185m	>90	26	23	50
Titanium   ppm   ASTM D5185m   >2   0   0   2     Silver   ppm   ASTM D5185m   >2   0   0   0     Auminium   ppm   ASTM D5185m   >20   4   2   0   0     Lead   ppm   ASTM D5185m   >40   0   0   <11   2     Tin   ppm   ASTM D5185m   >15   <1   0   0   <11   2     Vanadium   ppm   ASTM D5185m   15   <1   0   0   <11   2     Cadmium   ppm   ASTM D5185m   0   0   0   0   0     ADDITIVES   method   imit/base   current   history1   History2     Boron   ppm   ASTM D5185m   0   0   11   <1   6     Barium   ppm   ASTM D5185m   0   0   11   <1   0   25     Boron   ppm   ASTM D5185m   0   0   11   <1   101   1235     Magnesium   ppm   ASTM D5185m <t< td=""><td>Titanium   ppm   ASTM D5185m   &gt;2   0   0   2     Silver   ppm   ASTM D5185m   &gt;20   4   2   6     Auminum   ppm   ASTM D5185m   &gt;20   4   2   6     Lead   ppm   ASTM D5185m   &gt;40   0   0   &lt;11   2     Copper   ppm   ASTM D5185m   &gt;330   0   &lt;11   2   1     Vanadium   ppm   ASTM D5185m   15   &lt;1   0   0   0     Vanadium   ppm   ASTM D5185m   0   0   0   0   0   0     ADDITIVES   method   Init/base   current   history1   history1   history2     Boron   ppm   ASTM D5185m   0   0   11   &lt;1   6     Barium   ppm   ASTM D5185m   0   0   11   &lt;1   6     Barium   ppm   ASTM D5185m   0   6   15   9   9   22     Calcium   ppm   ASTM D5185m   0100   91</td><td></td><td>Chromium</td><td>ppm</td><td>ASTM D5185m</td><td>&gt;20</td><td>4</td><td>&lt;1</td><td>2</td></t<>	Titanium   ppm   ASTM D5185m   >2   0   0   2     Silver   ppm   ASTM D5185m   >20   4   2   6     Auminum   ppm   ASTM D5185m   >20   4   2   6     Lead   ppm   ASTM D5185m   >40   0   0   <11   2     Copper   ppm   ASTM D5185m   >330   0   <11   2   1     Vanadium   ppm   ASTM D5185m   15   <1   0   0   0     Vanadium   ppm   ASTM D5185m   0   0   0   0   0   0     ADDITIVES   method   Init/base   current   history1   history1   history2     Boron   ppm   ASTM D5185m   0   0   11   <1   6     Barium   ppm   ASTM D5185m   0   0   11   <1   6     Barium   ppm   ASTM D5185m   0   6   15   9   9   22     Calcium   ppm   ASTM D5185m   0100   91		Chromium	ppm	ASTM D5185m	>20	4	<1	2
Titanium     ppm     ASTM D5185m     >2     0     0     2       Silver     ppm     ASTM D5185m     >2     0     0     0       Aluminium     ppm     ASTM D5185m     >20     4     2     6       Lead     ppm     ASTM D5185m     >330     0     -<1	Titanium     ppm     ASTM D5185m     >2     0     0     2       Silver     ppm     ASTM D5185m     >2     0     0     0       Aumonium     ppm     ASTM D5185m     >20     4     2     6       Lead     ppm     ASTM D5185m     >40     0     0     <11		Nickel	ppm	ASTM D5185m	>2	0	0	<1
Aluminum     ppm     ASTM D5185m     >20     4     2     6       Lead     ppm     ASTM D5185m     >330     0     <1	Aluminum     ppm     ASTM D5185m     >20     4     2     6       Lead     ppm     ASTM D5185m     >40     0     0     <1		Titanium	ppm	ASTM D5185m	>2	0	0	2
Aluminum     ppm     ASTM D5185m     >20     4     2     6       Lead     ppm     ASTM D5185m     >40     0     0     <1	Auminum   ppm   ASTM D5185m   >20   4   2   6     Lead   ppm   ASTM D5185m   >40   0   0   <1		Silver	ppm	ASTM D5185m	>2	0	0	0
Lead   ppm   ASTM D5186m   >400   0   <1	Lead   ppm   ASTM D5185m   >400   0   <1		Aluminum		ASTM D5185m	>20	4	2	6
Copper     prm     ASTM D5185m     >330     0     <1     2       Tin     ppm     ASTM D5185m     >15     <1	Copper     ppm     ASTM D5185m     >330     0     <1     2       Tin     ppm     ASTM D5185m     >15     <1						0	0	<1
Tin   ppm   ASTM D5185m   >15   <1   0   0     Vanadium   ppm   ASTM D5185m   I   0   0   <1	Tin   ppm   ASTM D5185m   >15   <1				ASTM D5185m	>330			
Vanadium     ppm     ASTM D5165m     0     0     <1       Cadmium     ppm     ASTM D5165m     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5165m     0     11     <1	Vanadium     ppm     ASTM D5185m     0     0     <1       Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     11     <1								
Cadmium   ppm   ASTM D5185m   0   0   0     ADDITIVES   method   limit/base   current   history1     Boron   ppm   ASTM D5185m   0   11   <1	Cadmium   ppm   ASTM D5185m   0   0   0     ADDITIVES   method   limit/base   current   history1     Boron   ppm   ASTM D5185m   0   11   <1								
Boron     ppm     ASTM D5185m     0     11     <1     6       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     60     61     59     65       Manganese     ppm     ASTM D5185m     0     <1     0     <1       Magnesium     ppm     ASTM D5185m     1010     937     895     922       Calcium     ppm     ASTM D5185m     1010     937     895     922       Calcium     ppm     ASTM D5185m     1010     937     895     922       Calcium     ppm     ASTM D5185m     1070     1114     1101     1293       Zinc     ppm     ASTM D5185m     1070     1223     1219     1288       Sulfur     ppm     ASTM D5185m     2060     3349     2841     3566       CONTAMINANTS     method     imit/base     current     history1     history2       Silicon     ppm     ASTM D5185m	Boron     ppm     ASTM D5185m     0     11     <1     6       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     60     61     59     65       Manganese     ppm     ASTM D5185m     0     -1     0     <1       Magnesium     ppm     ASTM D5185m     1010     937     895     922       Calcium     ppm     ASTM D5185m     1010     937     895     922       Calcium     ppm     ASTM D5185m     1010     937     895     922       Calcium     ppm     ASTM D5185m     1010     1027     964     1017       Zinc     ppm     ASTM D5185m     1270     1223     1219     1288       Sulfur     ppm     ASTM D5185m     2060     3349     2841     3566       CONTAMINAINT     method     Imit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     2								
Barium   ppm   ASTM D5185m   0   0   0   0     Molybdenum   ppm   ASTM D5185m   60   61   59   65     Manganese   ppm   ASTM D5185m   0   <1   0   <1     Magnesium   ppm   ASTM D5185m   1010   937   895   922     Calcium   ppm   ASTM D5185m   1070   1114   1101   1295     Phosphorus   ppm   ASTM D5185m   1070   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   imit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   200   30   4   4     Potassium   ppm   ASTM D5185m   20   1   0   4     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   'ASTM D71615 <th>Barium   ppm   ASTM D5185m   0   0   0   0     Molybdenum   ppm   ASTM D5185m   60   61   59   65     Manganese   ppm   ASTM D5185m   0   &lt;1   0   &lt;1     Magnesium   ppm   ASTM D5185m   1010   937   895   922     Calcium   ppm   ASTM D5185m   1010   937   895   922     Calcium   ppm   ASTM D5185m   1070   1114   1101   1295     Phosphorus   ppm   ASTM D5185m   1070   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2660   3349   2841   3566     CONTAMINANTS   method   imit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   220   1   0   4     Nitration   ppm   ASTM D5185m   220   1   0.7   1.3     Nitration   Abs/m   'A</th> <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	Barium   ppm   ASTM D5185m   0   0   0   0     Molybdenum   ppm   ASTM D5185m   60   61   59   65     Manganese   ppm   ASTM D5185m   0   <1   0   <1     Magnesium   ppm   ASTM D5185m   1010   937   895   922     Calcium   ppm   ASTM D5185m   1010   937   895   922     Calcium   ppm   ASTM D5185m   1070   1114   1101   1295     Phosphorus   ppm   ASTM D5185m   1070   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2660   3349   2841   3566     CONTAMINANTS   method   imit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   220   1   0   4     Nitration   ppm   ASTM D5185m   220   1   0.7   1.3     Nitration   Abs/m   'A		ADDITIVES		method	limit/base	current	history1	history2
Molybdenum   ppm   ASTM D5185m   60   61   59   65     Manganese   ppm   ASTM D5185m   0   <1	Molybdenum   ppm   ASTM D5185m   60   61   59   65     Manganese   ppm   ASTM D5185m   0   <1		Boron	ppm	ASTM D5185m	0	11	<1	6
Molybdenum   ppm   ASTM D5185m   60   61   59   65     Manganese   ppm   ASTM D5185m   0   <1	Motybdenum   ppm   ASTM D5185m   60   61   59   65     Manganese   ppm   ASTM D5185m   0   <1		Barium	ppm	ASTM D5185m	0	0	0	0
Manganesee   ppm   ASTM D5185m   0   <1   0   <1     Magnesium   ppm   ASTM D5185m   1010   937   895   922     Calcium   ppm   ASTM D5185m   1070   1114   1101   1295     Phosphorus   ppm   ASTM D5185m   1070   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >20   1   0   4     Potassium   ppm   ASTM D5185m   >20   1   0   4     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >6   1   0.7   1.3     Nitration   Abs/rm   *ASTM D7844   >20   9.9   9.1   111.8     Sulfation   Abs/rm	Manganesse   ppm   ASTM D5185m   0   <1   0   <1     Magnesium   ppm   ASTM D5185m   1010   937   895   922     Calcium   ppm   ASTM D5185m   1070   1114   1101   1295     Phosphorus   ppm   ASTM D5185m   1070   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >20   1   0   4     Potassium   ppm   ASTM D5185m   >20   1   0   4     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >6   1   0.7   1.3     Nitration   Abs/rm   *ASTM D7844   >20   9.9   9.1   111.8     Sulfation   Abs/rm		Molybdenum				61	59	65
Magnesium   prm   ASTM D5185m   1010   937   895   922     Calcium   ppm   ASTM D5185m   1070   1114   1101   1295     Phosphorus   ppm   ASTM D5185m   1150   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >206   3349   2841   3566     Sodium   ppm   ASTM D5185m   >265   7   5   6     Sodium   ppm   ASTM D5185m   >20   1   0   4     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7184m   >6   1   0.7   1.3     Nitration   Abs/(mm   *ASTM D7415   >30   20.9   9.1   11.8     Sulfation   Abs/(1mm </td <td>Magnesium   prm   ASTM D5185m   1010   937   895   922     Calcium   ppm   ASTM D5185m   1070   1114   1101   1295     Phosphorus   ppm   ASTM D5185m   1150   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   &gt;206   3349   2841   3566     Sodium   ppm   ASTM D5185m   &gt;265   7   5   6     Sodium   ppm   ASTM D5185m   &gt;20   1   0   4     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   'ASTM D7185m   &gt;20   1   0.7   1.3     Nitration   Abs/(mm   'ASTM D7415   &gt;30   20.9   9.1   11.8     Sulfation   Abs/1mm<!--</td--><td rowspan="8"></td><td></td><td></td><td></td><td></td><td></td><td></td><td></td></td>	Magnesium   prm   ASTM D5185m   1010   937   895   922     Calcium   ppm   ASTM D5185m   1070   1114   1101   1295     Phosphorus   ppm   ASTM D5185m   1150   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >206   3349   2841   3566     Sodium   ppm   ASTM D5185m   >265   7   5   6     Sodium   ppm   ASTM D5185m   >20   1   0   4     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   'ASTM D7185m   >20   1   0.7   1.3     Nitration   Abs/(mm   'ASTM D7415   >30   20.9   9.1   11.8     Sulfation   Abs/1mm </td <td rowspan="8"></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Calcium   ppm   ASTM D5185m   1070   1114   1101   1295     Phosphorus   ppm   ASTM D5185m   1150   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   7   5   6     Sodium   ppm   ASTM D5185m   >20   1   0   4     Potassium   ppm   ASTM D5185m   >20   1   0.7   1.3     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >6   1   0.7   1.3     Nitration   Abs/m   *ASTM D7445   >30   20.9   9.1   11.8     Sulfation   Abs/m   *ASTM D7445   >30   20.9   20.8   23.1     FLUID DEGRADATION   metho	Calcium   ppm   ASTM D5185m   1070   1114   1101   1295     Phosphorus   ppm   ASTM D5185m   1150   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   7   5   6     Sodium   ppm   ASTM D5185m   >20   1   0   4     Potassium   ppm   ASTM D5185m   >20   1   0.7   1.3     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >6   1   0.7   1.3     Nitration   Abs/m   *ASTM D7824   >20   9.9   9.1   11.8     Sulfation   Abs/m   *ASTM D7415   >30   20.9   20.8   23.1     FLUID DEGRA/TION   Method<		•						
Phosphorus   ppm   ASTM D5185m   1150   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   7   5   6     Sodium   ppm   ASTM D5185m   >20   1   0   4     Potassium   ppm   ASTM D5185m   >20   1   0   4     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >6   1   0.7   1.3     Nitration   Abs/cm   *ASTM D7624   >20   9.9   9.1   11.8     Sulfation   Abs/cm   *ASTM D7415   >30   20.9   20.8   23.1     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/tmm	Phosphorus   ppm   ASTM D5185m   1150   1027   964   1017     Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   7   5   6     Sodium   ppm   ASTM D5185m   >20   1   0   4     Potassium   ppm   ASTM D5185m   >20   1   0   4     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >6   1   0.7   1.3     Nitration   Abs/cm   *ASTM D7445   >30   20.9   9.1   11.8     Sulfation   Abs/limm   *ASTM D7415   >30   20.9   20.8   23.1     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/limm </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   7   5   6     Sodium   ppm   ASTM D5185m   >25   7   5   6     Sodium   ppm   ASTM D5185m   >20   1   0   4     Potassium   ppm   ASTM D5185m   >20   1   0.7   1.3     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >6   1   0.7   1.3     Nitration   Abs/cm   *ASTM D7624   >20   9.9   9.1   11.8     Sulfation   Abs/tmm   *ASTM D7415   >30   20.9   20.8   23.1     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/tmm <t< td=""><td>Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   &gt;25   7   5   6     Sodium   ppm   ASTM D5185m   &gt;25   7   5   6     Sodium   ppm   ASTM D5185m   &gt;20   1   0   4     Potassium   ppm   ASTM D5185m   &gt;20   1   0.7   1.3     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   &gt;6   1   0.7   1.3     Nitration   Abs/cm   *ASTM D7624   &gt;20   9.9   9.1   11.8     Sulfation   Abs/tmm   *ASTM D7415   &gt;30   20.9   20.8   23.1     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/tmm   <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<></td></t<>	Zinc   ppm   ASTM D5185m   1270   1223   1219   1288     Sulfur   ppm   ASTM D5185m   2060   3349   2841   3566     CONTAMINANTS   method   limit/base   current   history1   history2     Silicon   ppm   ASTM D5185m   >25   7   5   6     Sodium   ppm   ASTM D5185m   >25   7   5   6     Sodium   ppm   ASTM D5185m   >20   1   0   4     Potassium   ppm   ASTM D5185m   >20   1   0.7   1.3     INFRA-RED   method   limit/base   current   history1   history2     Soot %   %   *ASTM D7844   >6   1   0.7   1.3     Nitration   Abs/cm   *ASTM D7624   >20   9.9   9.1   11.8     Sulfation   Abs/tmm   *ASTM D7415   >30   20.9   20.8   23.1     FLUID DEGRADATION   method   limit/base   current   history1   history2     Oxidation   Abs/tmm <t< td=""><td></td><td></td><td></td><td></td><td></td><td></td><td></td></t<>								
SulfurppmASTM D5185m2060334928413566CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25756SodiumppmASTM D5185m>20104PotassiumppmASTM D5185m>20104INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>610.71.3NitrationAbs/cm*ASTM D7624>209.99.111.8SulfationAbs/.1mm*ASTM D7415>3020.920.823.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2517.616.920.4	SulfurppmASTM D5185m2060334928413566CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25756SodiumppmASTM D5185m>20104PotassiumppmASTM D5185m>20104INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>610.71.3NitrationAbs/cm*ASTM D7624>209.99.111.8SulfationAbs/.1mm*ASTM D7415>3020.920.823.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2517.616.920.4								
Note: No	CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>25756SodiumppmASTM D5185m>20664PotassiumppmASTM D5185m>20104INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>610.71.3NitrationAbs/cm*ASTM D7624>209.99.111.8SulfationAbs/tmm*ASTM D7415>3020.920.823.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/tmm*ASTM D7414>2517.616.920.4								
SiliconppmASTM D5185m>25756SodiumppmASTM D5185mPotassium664PotassiumppmASTM D5185m>20104INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>610.71.3NitrationAbs/cm*ASTM D7624>209.99.111.8SulfationAbs/lm*ASTM D7415>3020.920.823.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/lm*ASTM D7414>2517.616.920.4	SiliconppmASTM D5185m>25756SodiumppmASTM D5185m>20644PotassiumppmASTM D5185m>20104INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>610.71.3NitrationAbs/cm*ASTM D7624>209.99.111.8SulfationAbs/lim*ASTM D7415>3020.920.823.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/lim*ASTM D7414>2517.616.920.4		CONTAMINAN	ITS	method	limi <u>t/base</u>	current	history1	history2
Sodium     ppm     ASTM D5185m     6     6     4       Potassium     ppm     ASTM D5185m     >20     1     0     4       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >6     1     0.7     1.3       Nitration     Abs/rm     *ASTM D7624     >20     9.9     9.1     11.8       Sulfation     Abs/.1mm     *ASTM D7415     >30     20.9     20.8     23.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     17.6     16.9     20.4	Sodium     ppm     ASTM D5185m     6     6     4       Potassium     ppm     ASTM D5185m<>20     1     0     4       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844<>6     1     0.7     1.3       Nitration     Abs/rm     *ASTM D7624<>20     9.9     9.1     11.8       Sulfation     Abs/.1mm     *ASTM D7415<>30     20.9     20.8     23.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414<>25     17.6     16.9     20.4								
PotassiumppmASTM D5185m>20104INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>610.71.3NitrationAbs/rm*ASTM D7624>209.99.111.8SulfationAbs/1mm*ASTM D7415>3020.920.823.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/1mm*ASTM D7414>2517.616.920.4	PotassiumppmASTM D5185m>20104INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>610.71.3NitrationAbs/cm*ASTM D7624>209.99.111.8SulfationAbs/1mm*ASTM D7415>3020.920.823.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/1mm*ASTM D7414>2517.616.920.4								
Soot %     %     *ASTM D7844     >6     1     0.7     1.3       Nitration     Abs/cm     *ASTM D7624     >20     9.9     9.1     11.8       Sulfation     Abs/1mm     *ASTM D7415     >30     20.9     20.8     23.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/1mm     *ASTM D7414     >25     17.6     16.9     20.4	Soot %     %     *ASTM D7844     >6     1     0.7     1.3       Nitration     Abs/cm     *ASTM D7624     >20     9.9     9.1     11.8       Sulfation     Abs/1mm     *ASTM D7415     >30     20.9     20.8     23.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/1mm     *ASTM D7414     >25     17.6     16.9     20.4		Potassium			>20			4
Soot %     %     *ASTM D7844     >6     1     0.7     1.3       Nitration     Abs/cm     *ASTM D7624     >20     9.9     9.1     11.8       Sulfation     Abs/.1mm     *ASTM D7415     >30     20.9     20.8     23.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     17.6     16.9     20.4	Soot %     %     *ASTM D7844     >6     1     0.7     1.3       Nitration     Abs/cm     *ASTM D7624     >20     9.9     9.1     11.8       Sulfation     Abs/1mm     *ASTM D7415     >30     20.9     20.8     23.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/1mm     *ASTM D7414     >25     17.6     16.9     20.4		INFRA-RED		method	limit/base	current	history1	history2
Nitration     Abs/cm     *ASTM D7624     >20     9.9     9.1     11.8       Sulfation     Abs/.1mm     *ASTM D7415     >30     20.9     20.8     23.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     17.6     16.9     20.4	Nitration     Abs/cm     *ASTM D7624     >20     9.9     9.1     11.8       Sulfation     Abs/.1mm     *ASTM D7415     >30     20.9     20.8     23.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     17.6     16.9     20.4		Soot %	%	*ASTM D7844	>6	1	0.7	1.3
Sulfation     Abs/.1mm     *ASTM D7415     >30     20.9     20.8     23.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     17.6     16.9     20.4	SulfationAbs/.1mm*ASTM D7415>3020.920.823.1FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.1mm*ASTM D7414>2517.616.920.4								
Oxidation     Abs/.1mm     *ASTM D7414     >25     17.6     16.9     20.4	Oxidation     Abs/.1mm     *ASTM D7414     >25     17.6     16.9     20.4								
			FLUID DEGRA	DAT <u>ION</u>	method	limi <u>t/base</u>	current	history1	history2
						>25	17.6	16.9	20.4
			UNIUALIUN	UN9/1111111	AUTIVI D7414	~cJ	17.0	10.5	20.4



## **OIL ANALYSIS REPORT**





			UAL		method	limit/base	current	history1	history2
		White		scalar	*Visual	NONE	NONE	NONE	NONE
			/ Metal	scalar	*Visual	NONE	NONE	NONE	NONE
		Precip	itate	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
0ct5/23	Apr1/24	Appea	rance	scalar	*Visual	NORML	NORML	NORML	NORML
ō	AI	Odor		scalar	*Visual	NORML	NORML	NORML	NORML
		Emuls	ified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
		Free V	Vater	scalar	*Visual		NEG	NEG	NEG
		ELL	JID PROP	ERTIES	method	limit/base	current	history1	history2
			0 100°C	cSt	ASTM D445	10.4	13.8	14.2	14.6
	1		APHS						
		50 T S	ous Alloys						
723 -	vc		iron						
0ct5/23	۸1	40 -	nickel						
		30-							
		udd							
		20-							
		10-							
		10							
		0			***********************				
		Jul17/23		0ct5/23		Apr1/24			
		Ju		Ō		A			
			-ferrous Met	als					
		<sup>10</sup>	copper						
		8-	mmm lead						
		1	un						
		6							
		udd 4							
		2							
					_				
		53 10		23		24			
		Jul17/23		0ct5/23		Apr1/24			
		Visc	osity @ 100°	С					
		<sup>19</sup> T	, c			10.0	Base Number		
		18 - Abnor	mal						
		17				(B) 8.0			
						P 6.0			
		© <sup>16</sup> Base							
		() () () () () () () () () () () () () (				L J			
		(0.001) ts 14				and the second s			
		() 16 Base Base 15 14 13 Abnor	mal			u) Jaquing 4.0			
		10	mal			Hand Hand Hand Hand Hand Hand Hand Hand			
		13 12 11	mal			2.0	-		
		13 12 11	mal	Jct5/23		2.0	-	bel5/23	
		13 - Abnor	mal	0ct5/23		2.0		0et5/23	
	Laboratory	13 Abnor 12			n Ave Carv	0.0 Horal 1/24	Jul17/23		
	Laboratory Sample No.	13 Abnor 12	neck USA - 5			0.0 Horal 1/24	Jul17/23	vironmental - 9	<b>38 - Hager Ci</b> W9724 WIS-3
	Sample No. Lab Number	: WearCH : GFL06 : 061360	neck USA - 5 136026 <mark>26</mark>	01 Madiso	<b>ved</b> : 02 d : 03	, NC 27513 2 Apr 2024 3 Apr 2024	EZ/LING GFL En	vironmental - 9	<b>38 - Hager Ci</b> W9724 WIS-3 GER CITY, V
	Sample No.	<sup>13</sup> Abnor <sup>12</sup> 11 : WearCl : GFL06 <sup>-</sup> : 061360 : 109554	neck USA - 5 136026 <mark>26</mark>	01 Madiso <b>Recei</b>	<b>ved</b> : 02 d : 03	, NC 27513 2 Apr 2024	EZ/LING GFL En	vironmental - 9 HA	<b>38 - Hager Ci</b> W9724 WIS-3

VISUAI method limit/base current history1 history2

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

Submitted By: See also GFL904,A,B,C, 927, 938 - Andy Kane

F: