

## **OIL ANALYSIS REPORT**

Sample Rating Trend



**934022** Component

Machine Id

Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (--- GAL)

### DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

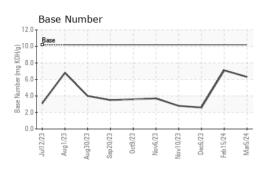
### Fluid Condition

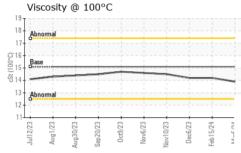
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sample Date         Client Info         05 Mar 2024         15 Feb 2024         06 Dec 2023           Machine Age         hrs         Client Info         1883         1749         1417           Oil Age         hrs         Client Info         1771         1305         0           Oil Changed         Client Info         NA         Not Changd         Not Changd         ABNORMAL           Sample Status         Client Info         NA         Not Changd         ABNORMAL         Not Changd           CONTAMINATION         method         imit/base         current         history1         history2           Water         WC Method         >0.1         NEG         NEG         NEG           WEAR METALS         method         imit/base         current         history1         history2           Iron         ppm         ASTM 05185m         >5         0         <10         >5           Nickel         ppm         ASTM 05185m         >5         0         <11         <1         2           Iranium         ppm         ASTM 05185m         >25         6         4         13         14           Gopper         ppm         ASTM 05185m         >150         1 <t< th=""><th></th><th><b>IATION</b></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>		<b>IATION</b>	method	limit/base	current	history1	history2
Machine Age         hrs         Client Info         1883         1749         1417           Oil Age         hrs         Client Info         1771         1305         0           Oil Changed         Client Info         N/A         Not Changd         Not Changd           Sample Status         Imit/base         current         Nistory1         Nistory2           Water         WC Method         >0.1         NEG         NEG           Wear         WC Method         >0.1         NEG         Neg           Vear         MSTM 05165m         >5         0         0         >9           Nickel         ppm         ASTM 05165m         >5         0         0         5           Silver         ppm         ASTM 05165m         >5         0         0         0           Silver         ppm         ASTM 05165m         >5         0         0         0           Auminum         ppm         ASTM 05165m         >4         13         1         2           Tin         ppm         ASTM 05165m         >4         1         0         1           Vanadium         ppm         ASTM 05165m         0         0         0 <t< th=""><th>Sample Number</th><th></th><th>Client Info</th><th></th><th>GFL0114107</th><th>GFL0108034</th><th>GFL0099912</th></t<>	Sample Number		Client Info		GFL0114107	GFL0108034	GFL0099912
Oil Age         hrs.         Client Info         1771         1305         0           Oil Changed         Client Info         N/A         Not Changd         Not Changd           Sample Status         Imit/base         current         history1         history2           Water         WC Method         >0.1         NEG         NEG           WEAR METALS         method         imit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >5         0         0         >         9           Nickel         ppm         ASTM D5185m         >5         0         <11         <1         <1           Silver         ppm         ASTM D5185m         >5         0         <11         <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         S10         S10	Sample Date		Client Info		05 Mar 2024	15 Feb 2024	06 Dec 2023
Oil Changed Sample Status     Client Info     N/A NORMAL     Not Changd NORMAL     Not Changd ABNORMAL       CONTAMINATION     method     limit/base     current     history1     history2       Water     WC Method     >0.1     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >50     4     5     ▲     101       Chromium     ppm     ASTM D5185m     >5     0     0     ▲     9       Nickel     ppm     ASTM D5185m     >5     0     <1     <1       Silver     ppm     ASTM D5185m     >25     6     4     13       Lead     ppm     ASTM D5185m     >4     <1     0     <1       Copper     ppm     ASTM D5185m     50     33     66     5       Barium     ppm     ASTM D5185m     50     113     104     75       Magne	Machine Age	hrs	Client Info		1883	1749	1417
Sample Status         NORMAL         NORMAL         NORMAL         ABNORMAL           CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.1         NEG         NEG         NEG           Wear METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM 05185m         >50         4         5         101           Chromium         ppm         ASTM 05185m         >5         0         <1         <1           Silver         ppm         ASTM 05185m         >5         0         <1         <1           Aluminum         ppm         ASTM 05185m         >5         0         <1         <1           Copper         ppm         ASTM 05185m         >25         6         4         13           Lead         ppm         ASTM 05185m         >4         0         0         11           Copper         ppm         ASTM 05185m         50         1         <1         2           Nondydoenum         ppm         ASTM 05185m         50         133         66         5	Oil Age	hrs	Client Info		1771	1305	0
CONTAMINATION         method         limit/base         current         history1         history2           Water         WC Method         >0.1         NEG         NEG         NEG           Water         WC Method         >0.1         NEG         NEG         NEG           Water         ppm         ASTM D5165m         >5         0         0         ▲           Iron         ppm         ASTM D5165m         >5         0         0         ▲         9           Othromium         ppm         ASTM D5165m         >5         0         <1         <1         <1           Nickel         ppm         ASTM D5165m         >3         0         0         0         A           Aluminum         ppm         ASTM D5165m         >3         0         0         0         A           Aluminum         ppm         ASTM D5165m         >3         0         0         0         C           Cadmium         ppm         ASTM D5165m         >4         <1         0         <1         2           Tin         ppm         ASTM D5165m         0         0         0         0         C           Cadmium         ppm	Oil Changed		Client Info		N/A	Not Changd	Not Changd
Water         WC Method         >0.1         NEG         NEG         NEG           WEAR METALS         method         limit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         4         5         ▲         101           Chromium         ppm         ASTM D5185m         >50         0         0         ▲           Nickel         ppm         ASTM D5185m         >5         0         <11         <1           Silver         ppm         ASTM D5185m         >25         6         4         131           Lead         ppm         ASTM D5185m         >40         0         0         11           Copper         ppm         ASTM D5185m         >40         0         0         0           Cadmium         ppm         ASTM D5185m         >4         <1         0         <1           Vanadium         ppm         ASTM D5185m         50         33         66         5           Barium         ppm         ASTM D5185m         50         113         104         75           Magnesium         ppm         ASTM D5185m         50         672         7	Sample Status				NORMAL	NORMAL	ABNORMAL
WEAR METALS         method         imit/base         current         history1         history2           Iron         ppm         ASTM D5185m         >50         4         5         ▲         101           Chromium         ppm         ASTM D5185m         >5         0         0         ▲         9           Nickel         ppm         ASTM D5185m         >5         0         <1         <1           Silver         ppm         ASTM D5185m         >25         0         <1         <1           Lead         ppm         ASTM D5185m         >25         6         4         13           Lead         ppm         ASTM D5185m         >40         0         0         11           Copper         ppm         ASTM D5185m         >4         <1         0         <1           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         5         0         0         0           ADDITVES         method         imit/base         current         history1         history2           Boron         ppm         ASTM D5185m         5         0<	CONTAMINATI	ON	method	limit/base	current	history1	history2
Iron         ppm         ASTM D5185m         >50         4         5         ▲         101           Chromium         ppm         ASTM D5185m         >5         0         0         ▲         9           Nickel         ppm         ASTM D5185m         >4         0         0         5           Titanium         ppm         ASTM D5185m         >5         0         <1         <1           Silver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >40         0         0         11           Copper         ppm         ASTM D5185m         >40         0         0         0           Cadmium         ppm         ASTM D5185m         >40         0         0         0           Cadmium         ppm         ASTM D5185m         50         33         66         5           Barium         ppm         ASTM D5185m         50         113         104         75           Magnesium         ppm         ASTM D5185m         50         113         104         75           Galcium         ppm         ASTM D5185m         50	Water		WC Method	>0.1	NEG	NEG	NEG
Chromium         ppm         ASTM D5185m         >5         0         0         ▲ 9           Nickel         ppm         ASTM D5185m         >4         0         0         5           Titanium         ppm         ASTM D5185m         >5         0         <1         <1           Silver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >3         0         0         11           Copper         ppm         ASTM D5185m         >40         0         0         11           Copper         ppm         ASTM D5185m         >150         1         <1         2         1           Vanadium         ppm         ASTM D5185m         >4         <1         0         0         0           Cadmium         ppm         ASTM D5185m         50         33         66         5         5           Baron         ppm         ASTM D5185m         50         113         104         75           Magnesium         ppm         ASTM D5185m         560         644         715         627           Calcium         ppm         ASTM D5185m </th <th>WEAR METALS</th> <th>5</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	WEAR METALS	5	method	limit/base	current	history1	history2
Nickel         ppm         ASTM D5185m         >4         0         0         5           Titanium         ppm         ASTM D5185m         >5         0         <1         <1           Silver         ppm         ASTM D5185m         >5         0         0         0           Aluminum         ppm         ASTM D5185m         >25         6         4         13           Lead         ppm         ASTM D5185m         >25         6         4         13           Lead         ppm         ASTM D5185m         >10         0         0         11           Copper         ppm         ASTM D5185m         >150         1         <1         2           Tin         ppm         ASTM D5185m         >10         0         0         0           Cadmium         ppm         ASTM D5185m         50         33         66         5           Barium         ppm         ASTM D5185m         50         113         104         75           Magnesium         ppm         ASTM D5185m         50         113         104         75           Magnesium         ppm         ASTM D5185m         50         644         715	Iron	ppm	ASTM D5185m	>50	4	5	<b>1</b> 01
Titanium         ppm         ASTM D5185m         >5         0         <1	Chromium	ppm	ASTM D5185m	>5	0	0	<u> </u>
Silver         ppm         ASTM D5185m         >3         0         0         0           Aluminum         ppm         ASTM D5185m         >25         6         4         13           Lead         ppm         ASTM D5185m         >40         0         0         11           Copper         ppm         ASTM D5185m         >150         1         <1         2           Tin         ppm         ASTM D5185m         >4         <1         0         <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         50         113         104         75           Barium         ppm         ASTM D5185m         50         113         104         75           Galacium         ppm         ASTM D5185m         50         644         715         627           Zinc         ppm         ASTM D5185m         780         672         776	Nickel	ppm	ASTM D5185m	>4	0	0	5
Aluminum       ppm       ASTM D5185m       >25       6       4       13         Lead       ppm       ASTM D5185m       >40       0       0       11         Copper       ppm       ASTM D5185m       >150       1       <1       2         Tin       ppm       ASTM D5185m       >4       <1       0       <1         Vanadium       ppm       ASTM D5185m       0       0       0       0         Cadmium       ppm       ASTM D5185m       0       0       0       0         Cadmium       ppm       ASTM D5185m       50       33       66       5         Boron       ppm       ASTM D5185m       50       113       104       75         Barium       ppm       ASTM D5185m       50       113       104       75         Magneseum       ppm       ASTM D5185m       50       113       104       75         Magnesium       ppm       ASTM D5185m       50       113       104       75         Calcium       ppm       ASTM D5185m       50       644       715       627         Calcium       ppm       ASTM D5185m       780       672	Titanium	ppm	ASTM D5185m	>5	0	<1	<1
Lead         ppm         ASTM D5185m         >40         0         0         11           Copper         ppm         ASTM D5185m         >150         1         <1	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper         ppm         ASTM D5185m<>150         1         <1	Aluminum	ppm	ASTM D5185m	>25	6	4	13
Tin         ppm         ASTM D5185m         >4         <1	Lead	ppm	ASTM D5185m	>40	0	0	11
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         50         33         66         5           Barium         ppm         ASTM D5185m         50         113         104         75           Manganese         ppm         ASTM D5185m         50         113         104         75           Manganese         ppm         ASTM D5185m         50         113         104         75           Manganesum         ppm         ASTM D5185m         50         644         715         627           Calcium         ppm         ASTM D5185m         1510         1239         1357         1808           Phosphorus         ppm         ASTM D5185m         780         672         776         782           Zinc         ppm         ASTM D5185m         2040         3241         3456         2487           CONTAMINANTS         method         limit/base         c	Copper	ppm	ASTM D5185m	>150	1	<1	2
Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         50         33         66         5           Barium         ppm         ASTM D5185m         50         33         66         5           Barium         ppm         ASTM D5185m         50         113         104         75           Manganese         ppm         ASTM D5185m         50         113         104         75           Magnesium         ppm         ASTM D5185m         60         644         715         627           Calcium         ppm         ASTM D5185m         560         644         715         627           Calcium         ppm         ASTM D5185m         780         672         776         782           Zinc         ppm         ASTM D5185m         2040         3241         3456         2487           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20	Tin	ppm	ASTM D5185m	>4	<1	0	<1
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         50         33         66         5           Barium         ppm         ASTM D5185m         50         0         0         0           Molybdenum         ppm         ASTM D5185m         50         113         104         75           Manganese         ppm         ASTM D5185m         50         644         715         627           Calcium         ppm         ASTM D5185m         560         644         715         627           Calcium         ppm         ASTM D5185m         780         672         776         782           Zinc         ppm         ASTM D5185m         780         672         776         782           Zinc         ppm         ASTM D5185m         2040         3241         3456         2487           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         8         6         5           Sodium         ppm         ASTM D5185m         >20	Vanadium	ppm	ASTM D5185m		0	0	0
Boron         ppm         ASTM D5185m         50         33         66         5           Barium         ppm         ASTM D5185m         5         0         0         0           Molybdenum         ppm         ASTM D5185m         50         113         104         75           Manganese         ppm         ASTM D5185m         60         <1         <1         3           Magnesium         ppm         ASTM D5185m         560         644         715         627           Calcium         ppm         ASTM D5185m         560         644         715         627           Calcium         ppm         ASTM D5185m         780         672         776         782           Zinc         ppm         ASTM D5185m         780         672         776         782           Zinc         ppm         ASTM D5185m         2040         3241         3456         2487           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         3         3           INFRA-RED         method         limit/base         current </th <th>Cadmium</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>0</th> <th>0</th> <th>0</th>	Cadmium	ppm	ASTM D5185m		0	0	0
Barium         ppm         ASTM D5185m         5         0         0         0           Molybdenum         ppm         ASTM D5185m         50         113         104         75           Manganese         ppm         ASTM D5185m         0         <1         <1         3           Magnesium         ppm         ASTM D5185m         560         644         715         627           Calcium         ppm         ASTM D5185m         560         672         776         782           Zinc         ppm         ASTM D5185m         780         672         776         782           Zinc         ppm         ASTM D5185m         700         787         909         1009           Sulfur         ppm         ASTM D5185m         2040         3241         3456         2487           CONTAMINANTS         method         imit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         3         3           INFRA-RED         ppm         ASTM D5185m         >20         4         3         3           INFRA-RED         method         limit/base         current<	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         50         113         104         75           Manganese         ppm         ASTM D5185m         0         <1         <1         3           Magnesium         ppm         ASTM D5185m         560         644         715         627           Calcium         ppm         ASTM D5185m         560         644         715         627           Calcium         ppm         ASTM D5185m         1510         1239         1357         1808           Phosphorus         ppm         ASTM D5185m         780         672         776         782           Zinc         ppm         ASTM D5185m         2040         3241         3456         2487           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >20         4         3         3           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0         0         0.1         1           Nitration         Abs/cm         *ASTM D7844	Boron	ppm	ASTM D5185m	50	33	66	
Manganese       ppm       ASTM D5185m       0       <1	Barium	ppm	ASTM D5185m	5	0	0	0
Magnesium       ppm       ASTM D5185m       560       644       715       627         Calcium       ppm       ASTM D5185m       1510       1239       1357       1808         Phosphorus       ppm       ASTM D5185m       780       672       776       782         Zinc       ppm       ASTM D5185m       870       787       909       1009         Sulfur       ppm       ASTM D5185m       2040       3241       3456       2487         CONTAMINANTS       method       limit/base       current       history1       history2         Silicon       ppm       ASTM D5185m       >25       8       6       ▲ 55         Sodium       ppm       ASTM D5185m       >20       4       3       3         INFRA-RED       method       limit/base       current       history1       history2         Soot %       %       *ASTM D7844       Q       Q       0.11       13         Sulfation       Abs/cm       *ASTM D7624       >20       6.5       5.5       13.1         Sulfation       Abs/.tmm       *ASTM D7415       >30       21.6       21.6       28.4	Molybdenum	ppm		50	113	104	75
Calcium       ppm       ASTM D5185m       1510       1239       1357       1808         Phosphorus       ppm       ASTM D5185m       780       672       776       782         Zinc       ppm       ASTM D5185m       870       787       909       1009         Sulfur       ppm       ASTM D5185m       2040       3241       3456       2487         CONTAMINANTS       method       limit/base       current       history1       history2         Silicon       ppm       ASTM D5185m       >25       8       6       ▲ 55         Sodium       ppm       ASTM D5185m       >25       8       6       ▲ 55         Sodium       ppm       ASTM D5185m       >20       4       3       3         INFRA-RED       method       limit/base       current       history1       history2         Soot %       %       *ASTM D7844       0       0       0.1       1         Nitration       Abs/cm       *ASTM D7624       >20       6.5       5.5       13.1         Sulfation       Abs/.tmm<*ASTM D7415       >30       21.6       21.6       28.4							
Phosphorus         ppm         ASTM D5185m         780         672         776         782           Zinc         ppm         ASTM D5185m         870         787         909         1009           Sulfur         ppm         ASTM D5185m         2040         3241         3456         2487           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         8         6         ▲ 55           Sodium         ppm         ASTM D5185m         >25         8         6         ▲ 55           Sodium         ppm         ASTM D5185m         >20         4         3         3           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0         0         0.1           Nitration         Abs/cm         *ASTM D7624         >20         6.5         5.5         13.1           Sulfation         Abs/.tmm         *ASTM D7415         >30         21.6         28.4           FLUID DEGRADATION         method <thimit base<="" th="">         current         h</thimit>	Manganese	ppm	ASTM D5185m	0	<1	<1	3
Zinc       ppm       ASTM D5185m       870       787       909       1009         Sulfur       ppm       ASTM D5185m       2040       3241       3456       2487         CONTAMINANTS       method       limit/base       current       history1       history2         Silicon       ppm       ASTM D5185m       >25       8       6       ▲ 55         Sodium       ppm       ASTM D5185m       >20       4       3       3         INFRA-RED       method       limit/base       current       history1       history2         Soot %       %       *ASTM D7844       0       0       0.1         Nitration       Abs/cm       *ASTM D7624       >20       6.5       5.5       13.1         Sulfation       Abs/.1mm       *ASTM D7415       >30       21.6       21.6       28.4	Manganese Magnesium						
SulfurppmASTM D5185m2040324134562487CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>2586▲ 55SodiumppmASTM D5185m>20433PotassiumppmASTM D5185m>20433INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844000.1NitrationAbs/cm*ASTM D7624>206.55.513.1SulfationAbs/limm*ASTM D7415>3021.621.628.4FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	-	ppm	ASTM D5185m	560 1510	644	715	627 1808
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m<>2586▲ 55SodiumppmASTM D5185m<1<114PotassiumppmASTM D5185m>20433INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844000.1NitrationAbs/cm*ASTM D7624>206.55.513.1SulfationAbs/.1mm*ASTM D7415>3021.621.628.4FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Magnesium Calcium Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m	560 1510 780	644 1239 672	715 1357 776	627 1808 782
Silicon       ppm       ASTM D5185m<>25       8       6       ▲ 55         Sodium       ppm       ASTM D5185m       <1	Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780	644 1239 672	715 1357 776	627 1808 782
SodiumppmASTM D5185m<1	Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870	644 1239 672 787	715 1357 776 909	627 1808 782 1009
Potassium         ppm         ASTM D5185m         >20         4         3         3           INFRA-RED         method         limit/base         current         history1         history2           Soot %         %         *ASTM D7844         0         0         0.1           Nitration         Abs/cm         *ASTM D7624         >20         6.5         5.5         13.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.6         21.6         28.4           FLUID DEGRADATION         method         limit/base         current         history1         history2	Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040	644 1239 672 787 3241	715 1357 776 909 3456	627 1808 782 1009 2487
INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844000.1NitrationAbs/cm*ASTM D7624>206.55.513.1SulfationAbs/.1mm*ASTM D7415>3021.621.628.4FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	560 1510 780 870 2040 limit/base	644 1239 672 787 3241 current	715 1357 776 909 3456 history1	627 1808 782 1009 2487 history2
Soot %         %         *ASTM D7844         0         0         0.1           Nitration         Abs/cm         *ASTM D7624         >20         6.5         5.5         13.1           Sulfation         Abs/.1mm         *ASTM D7415         >30         21.6         28.4           FLUID DEGRADATION         method         limit/base         current         history1         history2	Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base	644 1239 672 787 3241 current 8	715 1357 776 909 3456 history1 6	627 1808 782 1009 2487 history2 ▲ 55
NitrationAbs/cm*ASTM D7624>206.55.513.1SulfationAbs/.1mm*ASTM D7415>3021.621.628.4FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2	Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm <b>TS</b> ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base >25	644 1239 672 787 3241 current 8 <	715 1357 776 909 3456 history1 6 <1	627 1808 782 1009 2487 history2 ▲ 55 14
Sulfation         Abs/.1mm         *ASTM D7415         >30         21.6         21.6         28.4           FLUID DEGRADATION         method         limit/base         current         history1         history2	Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm <b>TS</b> ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base >25 >20	644 1239 672 787 3241 current 8 <1 4	715 1357 776 909 3456 history1 6 <1 3	627 1808 782 1009 2487 history2 ▲ 55 14 3
FLUID DEGRADATION method limit/base current history1 history2	Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base >25 >20	644 1239 672 787 3241 current 8 <1 4 current	715 1357 776 909 3456 history1 6 <1 3 history1	627 1808 782 1009 2487 history2 ▲ 55 14 3 history2
	Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	560 1510 780 870 2040 limit/base >25 >20 limit/base	644 1239 672 787 3241 current 8 <1 4 current 0	715 1357 776 909 3456 history1 6 <1 3 history1 0	627 1808 782 1009 2487 history2 ▲ 55 14 3 history2 0.1
	Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm % Xbs/cm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844	560 1510 780 870 2040 limit/base >25 >20 limit/base	644 1239 672 787 3241 current 8 <1 4 current 0 6.5	715 1357 776 909 3456 history1 6 <1 3 history1 0 5.5	627 1808 782 1009 2487 <b>history2</b> ▲ 55 14 3 <b>history2</b> 0.1 13.1
Oxidation         Abs/.1mm         *ASTM D7414         >25         15.5         15.3         25.0	Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	560 1510 780 870 2040 <b>limit/base</b> >25 20 <b>limit/base</b> >20 20	644 1239 672 787 3241 current 8 <1 4 current 0 6.5 21.6	715 1357 776 909 3456 history1 6 <1 3 history1 0 5.5 21.6	627 1808 782 1009 2487 ► 55 14 3 ► 55 14 3 ► 14 3 ► 14 3 ► 11 14 3 ► 11 14 3 ► 11 14 3 • 12 14 3 • 12 14 3 • 12 14 14 3 • 12 14 14 14 14 14 14 14 14 14 14 14 14 14
Base Number (BN)         mg KOH/g         ASTM D2896         10.2         6.3         7.1         2.6	Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm TS ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415	560 1510 780 870 2040 Iimit/base >25 >20 Iimit/base >20 >30	644 1239 672 787 3241 current 8 <1 4 current 0 6.5 21.6 current	715 1357 776 909 3456 history1 6 <1 3 history1 0 5.5 21.6 history1	627 1808 782 1009 2487 ▲ 55 14 3 history2 0.1 13.1 28.4 history2

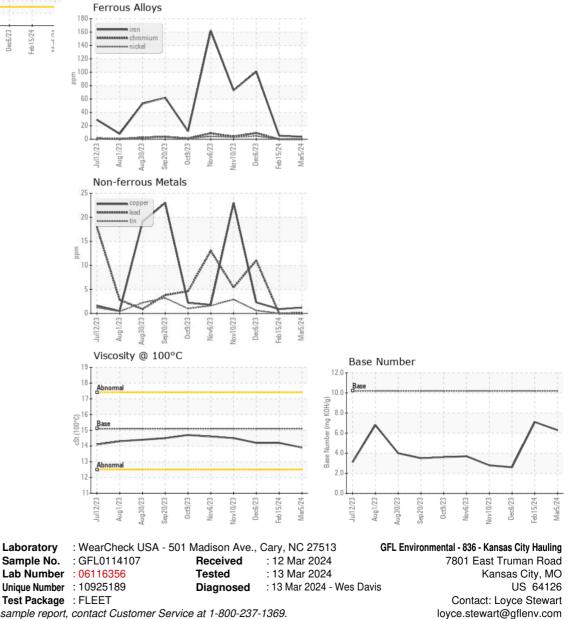


# **OIL ANALYSIS REPORT**





VISUAL		method				history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.1	13.9	14.2	14.2
GRAPHS						





 Certificate 12367
 Test Package
 : FLEET

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
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 \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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