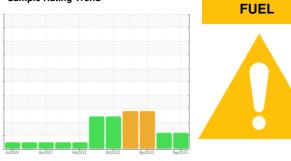


## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id **426013** Component

Diesel Engine

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

Accommend that you drain the oil from the order. We recommend that you drain the oil from the order. We recommend that you drain the oil from the order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend that was not already be not order. We recommend the presence of fuel in the oil.         Simple Status         Immethod imm				method	limit/base	current	history1	history2
We recommend that you drain the oil from this commend an early resample to monitor this condition.       Simple Date       Client Info       0       26 Sep 2023       20 Apr 2023         Wathine Age       hrs       Client Info       0       0       0       16360         Via condition.       Client Info       NA       Changed       Client Info       NA       Changed       Changed         Via condition.       Sample Status       Client Info       NA       Changed       Changed         Via condition.       Total confirm       ppm       ASINOSIMA       200       0       -       -       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0       0	DIAGNOSIS				IIIIIVDase			
omponent was not preample to monitor this continuo.         Name         Clent Info         0         0         1330           Verail         Component wear rates are normal.         Changed         Clent Info         NA         Changed         Changed           Normalization         File is a moderste amount of fuel present in the oil.         NA         Changed         Clent Info         NA         Changed         Changed           Nick continuinton         File is a moderste amount of fuel present in the oil.         File is a moderste serviceable due to the presente in the oil is no forger serviceable due to the presente if contaminants.         File is a moderste serviceable due to the presente if contaminants.         Silver         ppm         Silver         ppm         Silver         ppm         Silver         ppm         Silver         ppm         Silver         1         2         2         Clent								
ecommand an early resample to monitor this ondition.         Oil Age         http://www.modeline.         T3303         f6904         Oil           Vear         Identify the present of fuel in the oil.         Sample Status         Client linis         NA         Changed         Changed           In Tests continue presence of fuel in the oil.         F001 Age         Client linis         NA         Changed         Changed           In Tests continue presence of fuel in the oil.         F001 Changed         Client linis         Status         Status         Status         Status         Client linis         Nation?         Nation?           In Tests continue presenviceable due to the presence of fuel in the oil.         F001 Changed         Transitum         ppm         Status         Status         Client linis         Status         Client linis         Client linis         Client linis         Nation?         Pilot Status         Client linis         Alkinon?         Pilot Status         Client linis         Client linis         Nation?         Pilot Status         Clie						-		
Ordifican.         Ordificanged         Ordificanged         Ordificanged         Ordificanged         Ordificanged         Ordificanged         Ordificanged         NA         Ordinaged         Ordinaged           Component wear rates are normal.         Combinination         Na         Changed         Na         Changed         ABNORMAL						-		
Cardinametical component wear rates are nomat.         Sample Status         Image is a moderate amount of fuel present in the rare is a moderate amount of fuel present in the rest is confirmed presence of lue in the oi.         WEAR METALS         meth of prime is a moderate amount of fuel present in the rorn         ppm         ASTU 058(m)         >120         S         9         6           Fuid Condition ne oil is no longor serviceable due to the presence contaminants.         Nokel         ppm         ASTU 058(m)         >20         0         <1	, ,	•	hrs					
It component wear rates are normal.       Containiation       Method       Method <td< td=""><td>lear</td><td>-</td><td></td><td>Client Info</td><td></td><td></td><td>U</td><td></td></td<>	lear	-		Client Info			U	
Contamination mere is a moderate amount of luei presente of luei in the oil. Teats confirme presence of luei in the oil.         WEAR METALS         method         lunitobse         current         Neitory2         Neitory2           Fuel Condition re oil is no longer serviceable due to the presence contaminants.         fuel (1 min doi).         f		Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
1. Tests confirm the presence of fuel in the oil.       Ppm       ASTM (2618)       >20       0       <1	•	WEAR META	_S	method	limit/base	current	history1	history2
Fluid Condition         ppm         Attraction         ppm         Attracti		Iron	ppm	ASTM D5185(m)	>120	5	9	6
e oil is no longer serviceable due to the presence contaminants.          Titanium       ppm       ASTM 0518/m       >2       0       <1		Chromium	ppm	ASTM D5185(m)	>20	0	<1	0
Silver         ppm         ASTN DS180m         >2         <1         0         0           Aluminum         ppm         ASTN DS180m         >20         1         2         2           Lead         ppm         ASTN DS180m         >330         <1	Fluid Condition	Nickel	ppm	ASTM D5185(m)	>5	0	0	0
Silver         ppm         ASTM 16163m         >2         <1         0         0           Aluminum         ppm         ASTM 16163m         >20         1         2         2           Lead         ppm         ASTM 16163m         >330         <1	The oil is no longer serviceable due to the presence of contaminants.	Titanium		ASTM D5185(m)	>2	0	<1	<1
Aluminum       ppm       ASTM 05185m       >20       1       2       2         Lead       ppm       ASTM 05185m       >40       2       2       <-1		Silver				<1		0
Lead       ppm       ASTM 05185(m)       >40       2       2       <1		Aluminum					2	2
Copper         ppm         ASTMD5185/m         >330         <1         <1         <1           Tin         ppm         ASTMD5185/m         >15         0         <1				· · ·				
Tin       ppm       ASTM D5183(m)       >15       0       <1       <1         Antimony       ppm       ASTM D5183(m)       I       0       0       <1         Vanadium       ppm       ASTM D5183(m)       I       0       0       0       0         Beryllium       ppm       ASTM D5183(m)       I       0       0       0       0         ADDITIVES       method       limit/base       current       historyl       historyl       historyl         Boron       ppm       ASTM D5183(m)       0       25       25       A       35         Barium       ppm       ASTM D5183(m)       0       21       0       0         Magnesium       ppm       ASTM D5183(m)       0       0       38       44       41         Magnesium       ppm       ASTM D5183(m)       0       0       3       44       41         Magnesium       ppm       ASTM D5183(m)       1070       4661       1734       4       1702         Phosphorus       ppm       ASTM D5183(m)       1270       839       923       4       872         Sulfur       ppm       ASTM D5183(m)       226 <t< td=""><td></td><td></td><td></td><td>. ,</td><td></td><td></td><td></td><td></td></t<>				. ,				
Antimony         ppm         ASTM D5185/m         0         0         <1           Vanadium         ppm         ASTM D5185/m         0         0         0           Beryllium         ppm         ASTM D5185/m         0         0         0           Cadmium         ppm         ASTM D5185/m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185/m         0         25         25         35           Barium         ppm         ASTM D5185/m         0         38         44         41           Maganese         ppm         ASTM D5185/m         0         0         -1         -1           Magnesium         ppm         ASTM D5185/m         00         0         -1         -1           Calcium         ppm         ASTM D5185/m         1010         480         534         4         517           Calcium         ppm         ASTM D5185/m         1070         1661         1734         1702           Bary         ppm         ASTM D5185/m         1270         839         923         4         7				( /				
Vanadium         ppm         ASTM D5185(m)         0         0         0           Beryllium         ppm         ASTM D5185(m)         0         0         0           Cadmium         ppm         ASTM D5185(m)         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         0         25         25         4         35           Barium         ppm         ASTM D5185(m)         0         41         0         0           Molybdenum         ppm         ASTM D5185(m)         00         41         41           Magnesium         ppm         ASTM D5185(m)         1010         480         534         4         1702           Phosphorus         ppm         ASTM D5185(m)         1010         480         534         4         1702           Phosphorus         ppm         ASTM D5186(m)         1010         480         2019         2175         2274           Lithium         ppm         ASTM D5186(m)         2060         2019         215         4         3           Sodium         ppm </td <td></td> <td></td> <td></td> <td>210</td> <td></td> <td></td> <td></td>					210			
Beryllium         ppm         ASTM D5185(m)         0         0         0           Cadmium         ppm         ASTM D5185(m)         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         0         25         25         ▲ 35           Barium         ppm         ASTM D5185(m)         0         38         44         41           Manganese         ppm         ASTM D5185(m)         0         0         0         1         1           Magnesium         ppm         ASTM D5185(m)         1010         480         534         ▲ 517           Calcium         ppm         ASTM D5185(m)         1070         1661         1734         ▲ 1702           Phosphorus         ppm         ASTM D5185(m)         1070         1661         1734         ▲ 1702           Phosphorus         ppm         ASTM D5185(m)         1070         1661         1734         ▲ 1702           Sulfur         ppm         ASTM D5185(m)         1270         839         923         ▲ 872           Sulfur         ppm         ASTM D5185(m)		,		· · · ·				
Cadmium         ppm         ASTM D5185(m)         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         0         25         25         35           Barium         ppm         ASTM D5185(m)         0         38         44         41           Magnesium         ppm         ASTM D5185(m)         0         38         44         41           Magnesium         ppm         ASTM D5185(m)         0         0         -1         <1           Magnesium         ppm         ASTM D5185(m)         1010         460         534         517           Calcium         ppm         ASTM D5185(m)         1070         1661         1734         4         1702           Phosphorus         ppm         ASTM D5185(m)         1070         839         923         4         372           Sulfur         ppm         ASTM D5185(m)         1200         839         923         4         3           ContrAdMINANTS         method         limit/base         current         history1         history2           Silion         ppm </td <td></td> <td></td> <td></td> <td></td> <td></td> <td></td> <td></td>								
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185(m)         0         25         25         ▲ 35           Barium         ppm         ASTM D5185(m)         0         <1		,		( /				
Boron       ppm       ASTM D5185(m)       0       25       25       ▲ 35         Barium       ppm       ASTM D5185(m)       0       <1       0       0         Molybdenum       ppm       ASTM D5185(m)       60       38       44       41         Manganese       ppm       ASTM D5185(m)       0       0       <1       <1         Magnesium       ppm       ASTM D5185(m)       1010       480       534       ▲       517         Calcium       ppm       ASTM D5185(m)       1070       1661       1734       ▲       1702         Phosphorus       ppm       ASTM D5185(m)       1270       839       923       ▲       872         Sulfur       ppm       ASTM D5185(m)       1270       839       923       ▲       872         Sulfur       ppm       ASTM D5185(m)       2060       2019       2175       2274         Lithium       ppm       ASTM D5185(m)       205       4       5       4         Sodium       ppm       ASTM D5185(m)       >20       1       4       3         Potassium       ppm       ASTM D5185(m)       >20       1       4.5       4			ррп	( )		-		
Barium       ppm       ASTM D5185(m)       0       <1		ADDITIVES		method	limit/base	current	history1	
Molybdenum       ppm       ASTM D5165(m)       60       38       444       41         Manganese       ppm       ASTM D5165(m)       0       0       <1       <1         Magnesium       ppm       ASTM D5165(m)       1010       480       534       517         Calcium       ppm       ASTM D5165(m)       1010       480       534       517         Calcium       ppm       ASTM D5165(m)       1010       480       534       517         Calcium       ppm       ASTM D5165(m)       1070       1661       1734       1702         Phosphorus       ppm       ASTM D5165(m)       1150       705       8422       2274         Sulfur       ppm       ASTM D5165(m)       2060       2019       2175       2274         Lithium       ppm       ASTM D5165(m)       2060       2019       1150       2175       2274         Stilicon       ppm       ASTM D5165(m)       2060       2019       2175       2274         Stilicon       ppm       ASTM D5165(m)       >20       12       4       3         Stilicon       ppm       ASTM D5165(m)       >20       12       4       3       3.8 <td></td> <td>Boron</td> <td>ppm</td> <td>ASTM D5185(m)</td> <td>0</td> <td>25</td> <td>25</td> <td><b>A</b> 35</td>		Boron	ppm	ASTM D5185(m)	0	25	25	<b>A</b> 35
Manganese       ppm       ASTM D5185(m)       0       0       <1       <1         Magnesium       ppm       ASTM D5185(m)       1010       480       534       ▲ 517         Calcium       ppm       ASTM D5185(m)       1070       1661       1734       ▲ 1702         Phosphorus       ppm       ASTM D5185(m)       1150       705       842       822         Zinc       ppm       ASTM D5185(m)       1270       839       923       ▲ 872         Sulfur       ppm       ASTM D5185(m)       2060       2019       2175       2274         Lithium       ppm       ASTM D5185(m)       2060       2019       2175       2274         Sulfur       ppm       ASTM D5185(m)       2060       2019       2175       2274         Lithium       ppm       ASTM D5185(m)       206       2019       2175       2274         Sulfur       ppm       ASTM D5185(m)       2060       2019       2175       4       3         Sulfur       ppm       ASTM D5185(m)       >20       12       <1		_ ·						
Magnesium       ppm       ASTM D5185(m)       1010       480       534       ▲ 517         Calcium       ppm       ASTM D5185(m)       1070       1661       1734       ▲ 1702         Phosphorus       ppm       ASTM D5185(m)       1150       705       842       822         Zinc       ppm       ASTM D5185(m)       1270       839       923       ▲ 872         Sulfur       ppm       ASTM D5185(m)       2060       2019       2175       2274         Lithium       ppm       ASTM D5185(m)       2060       2019       2175       2274         Solicon       ppm       ASTM D5185(m)       2060       2019       2175       4         Sodium       ppm       ASTM D5185(m)       206       2019       2175       4         Sodium       ppm       ASTM D5185(m)       >25       4       5       4         Sodium       ppm       ASTM D5185(m)       >20       12       <1		Barium	ppm	ASTM D5185(m)	0	<1	0	0
Calcium       ppm       ASTM D5185(m)       1070       1661       1734       ▲ 1702         Phosphorus       ppm       ASTM D5185(m)       1150       705       842       822         Zinc       ppm       ASTM D5185(m)       1270       839       923       ▲ 872         Sulfur       ppm       ASTM D5185(m)       2060       2019       2175       2274         Lithium       ppm       ASTM D5185(m)       2060       2019       2175       2274         Silicon       ppm       ASTM D5185(m)       2060       2019       2175       2274         Silicon       ppm       ASTM D5185(m)       2060       2019       2175       2274         Sodium       ppm       ASTM D5185(m)       205       4       5       4         Sodium       ppm       ASTM D5185(m)       >25       4       5       4         Sodium       ppm       ASTM D5185(m)       >20       12       <1								
Phosphorus       ppm       ASTM D5185(m)       1150       705       842       822         Zinc       ppm       ASTM D5185(m)       1270       839       923       ▲ 872         Sulfur       ppm       ASTM D5185(m)       2060       2019       2175       2274         Lithium       ppm       ASTM D5185(m)       2060       current       history1           Solicon       ppm       ASTM D5185(m)       >25       4       5       4         Sodium       ppm       ASTM D5185(m)       >26       4       5       4         Sodium       ppm       ASTM D5185(m)       >26       4       5       4         Sodium       ppm       ASTM D5185(m)       >26       4       5       4         Sodium       ppm       ASTM D5185(m)       >20       12       <1       0         Fuel       %       ASTM D7932*       >3.0       4.1       4.5       3.8         Glycol       %       ASTM D7844*       >4       0       0.3       0         INFRA-RED       method       limit/base       current       history1       history2         Soot %       %       ASTM		Molybdenum	ppm	ASTM D5185(m)	60	38	44	41
Zinc       ppm       ASTM D5185(m)       1270       839       923       ▲ 872         Sulfur       ppm       ASTM D5185(m)       2060       2019       2175       2274         Lithium       ppm       ASTM D5185(m)       0       <1       <1       <1         CONTAMINANTS       method       limit/base       current       history1       history2         Silicon       ppm       ASTM D5185(m)       >25       4       5       4         Sodium       ppm       ASTM D5185(m)       >25       4       3         Potassium       ppm       ASTM D5185(m)       >20       12       <1		Molybdenum Manganese	ppm ppm	ASTM D5185(m) ASTM D5185(m)	60 0	38 0	44 <1	41 <1
SulfurppmASTM D5185(m)2060201921752274LithiumppmASTM D5185(m) <t< td=""><td></td><td>Molybdenum Manganese Magnesium</td><td>ppm ppm ppm</td><td>ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)</td><td>60 0 1010</td><td>38 0 480</td><td>44 &lt;1 534</td><td>41 &lt;1 ▲ 517</td></t<>		Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	60 0 1010	38 0 480	44 <1 534	41 <1 ▲ 517
SulfurppmASTM D5185(m)2060201921752274LithiumppmASTM D5185(m) <t< td=""><td></td><td>Molybdenum Manganese Magnesium Calcium</td><td>ppm ppm ppm ppm</td><td>ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)</td><td>60 0 1010 1070</td><td>38 0 480 1661</td><td>44 &lt;1 534 1734</td><td>41 &lt;1 ▲ 517 ▲ 1702</td></t<>		Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	60 0 1010 1070	38 0 480 1661	44 <1 534 1734	41 <1 ▲ 517 ▲ 1702
LithiumppmASTM D5185(m)<		Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	60 0 1010 1070 1150	38 0 480 1661 705	44 <1 534 1734 842	41 <1 ▲ 517 ▲ 1702 822
SiliconppmASTM D5185(m)>25454SodiumppmASTM D5185(m)I343PotassiumppmASTM D5185(m)>2012<1		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	60 0 1010 1070 1150 1270	38 0 480 1661 705 839	44 <1 534 1734 842 923	41 <1 ▲ 517 ▲ 1702 822 ▲ 872
SodiumppmASTM D5185(m)343PotassiumppmASTM D5185(m)>2012<10Fuel%ASTM D7593*>3.04.14.53.8Glycol%ASTM D7922*0.0NEGNEGINFRA-REDmethodlimit/basecurrenthistory1history2Soot %%ASTM D7624*>400.30NitrationAbs/cmASTM D7624*>207.89.57.8SulfationAbs/.1mmASTM D7415*>3022.122.621.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	60 0 1010 1070 1150 1270	38 0 480 1661 705 839 2019	44 <1 534 1734 842 923 2175	41 <1 ▲ 517 ▲ 1702 822 ▲ 872 2274
SodiumppmASTM D5185(m)343PotassiumppmASTM D5185(m)>2012<1		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	60 0 1010 1070 1150 1270 2060	38 0 480 1661 705 839 2019 <1	44 <1 534 1734 842 923 2175 <1	41 <1 ▲ 517 ▲ 1702 822 ▲ 872 2274 <1
PotassiumppmASTM D5185(m)>2012<10Fuel%ASTM D7593*>3.04.14.53.8Glycol%ASTM D7922*0.0NEGNEGINFRA-REDmethodlimit/basecurrenthistory1history2Soot %%ASTM D7624*>400.30NitrationAbs/cmASTM D7624*>207.89.57.8SulfationAbs/tmASTM D7415*>3022.122.621.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	60 0 1010 1070 1150 1270 2060 limit/base	38 0 480 1661 705 839 2019 <1 current	44 <1 534 1734 842 923 2175 <1 history1	41 <1 ▲ 517 ▲ 1702 822 ▲ 872 2274 <1 history2
Fuel%ASTM D7593*>3.04.14.53.8Glycol%ASTM D7922*0.0NEGNEGINFRA-REDmethodlimit/basecurrenthistory1history2Soot %%ASTM D7844*>400.30NitrationAbs/cmASTM D7624*>207.89.57.8SulfationAbs/tmASTM D7415*>3022.122.621.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) <b>method</b> ASTM D5185(m)	60 0 1010 1070 1150 1270 2060 limit/base >25	38 0 480 1661 705 839 2019 <1 current 4	44 <1 534 1734 842 923 2175 <1 history1 5	41 <1 ▲ 517 ▲ 1702 822 ▲ 872 2274 <1 history2 4
Glycol%ASTM D7922*0.0NEGNEGINFRA-REDmethodlimit/basecurrenthistory1history2Soot %%ASTM D7844*>400.30NitrationAbs/cmASTM D7624*>207.89.57.8SulfationAbs/.1mmASTM D7415*>3022.122.621.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	60 0 1010 1070 1150 1270 2060 limit/base >25	38 0 480 1661 705 839 2019 <1 current 4 3	44 <1 534 1734 842 923 2175 <1 history1 5 4	41 <1 517 ▲ 517 ▲ 1702 822 ▲ 872 2274 <1 history2 4 3
Soot %         %         ASTM D7844*         >4         0         0.3         0           Nitration         Abs/cm         ASTM D7624*         >20         7.8         9.5         7.8           Sulfation         Abs/1mm         ASTM D7415*         >30         22.1         22.6         21.2           FLUID DEGRADATION         method         limit/base         current         history1         history2		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m) ASTM D5185(m)	60 0 1010 1070 1150 1270 2060 limit/base >25 >25	38 0 480 1661 705 839 2019 <1 <1 current 4 3 12	44 <1 534 1734 842 923 2175 <1 <b>history1</b> 5 4 <1	41 <1 517 ▲ 517 ▲ 1702 822 ▲ 872 2274 <1    4 3 0
Soot %         %         ASTM D7844*         >4         0         0.3         0           Nitration         Abs/cm         ASTM D7624*         >20         7.8         9.5         7.8           Sulfation         Abs/1mm         ASTM D7415*         >30         22.1         22.6         21.2           FLUID DEGRADATION         method         limit/base         current         history1         history2		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D5185(m)	60 0 1010 1070 1150 1270 2060 limit/base >25 >25	38 0 480 1661 705 839 2019 <1 2019<1current4312▲ 4.1	44 <1 534 1734 842 923 2175 <1 history1 5 4 <1 ▲ 4.5	41 <1 517 ▲ 517 ▲ 1702 822 ▲ 872 2274 <1 history2 4 3 0 ▲ 3.8
NitrationAbs/cmASTM D7624*>207.89.57.8SulfationAbs/.1mmASTM D7415*>3022.122.621.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI Silicon Sodium Potassium Fuel Glycol	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* ASTM D7922*	60 0 1010 1070 1150 1270 2060 imit/base >25 >20 >20 >3.0	38 0 480 1661 705 839 2019 <1 current 4 3 12 ▲ 4.1 0.0	44 <1 534 1734 842 923 2175 <1 <b>history1</b> 5 4 <1 ▲ 4.5 NEG	41 <1 517 ▲ 517 ▲ 1702 822 & 872 2274 <1 history2 4 3 0 ▲ 3.8 NEG
SulfationAbs/.1mmASTM D7415*>3022.122.621.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI Silicon Sodium Potassium Fuel Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7593* ASTM D7593*	60 0 1010 1070 1150 2060 J J J J J J J J J J J J J J J J J J	38 0 480 1661 705 839 2019 <1 2019   <1	44 <1 534 1734 842 923 2175 <1 history1 5 4 <1 5 4 <1 ↓ 4.5 NEG history1	41 <1 517 ≤1702 822 2274 <1 history2 4 3 0 ≤3.8 NEG history2
FLUID DEGRADATION method limit/base current history1 history2		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI Silicon Sodium Potassium Fuel Glycol INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm vTTS	ASTM D5185(m) ASTM D7593* ASTM D7593* ASTM D7922*	60 0 1010 1070 1150 1270 2060 /////////////////////////////////	38 0 480 1661 705 839 2019 <1 current 4 3 12 ▲ 4.1 0.0 current 0	44 <1 534 1734 842 923 2175 <1 <b>history1</b> 5 4 <1 5 4 <1 ↓ 4.5 NEG history1 0.3	41 <1 517 ≤17 ≤22 2274 <1 bistory2 4 3 0 ≤3 NEG bistory2 0
		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI Silicon Sodium Potassium Fuel Glycol INFRA-RED Soot % Nitration	ppm         ppm	ASTM D5185(m) ASTM D7593* ASTM D7593* ASTM D7922*	60 0 1010 1070 1150 1270 2060 imit/base >25 >20 >3.0 imit/base >4 >20	38 0 480 1661 705 839 2019 <1 current 4 3 12 ▲ 4.1 0.0 current 0 7.8	44 <1 534 1734 842 923 2175 <1 • history1 5 4 <1 • 4 5 4 <1 • 1 • • 4 5 NEG • NEG • 0.3 9.5	41 <1 <17 517 1702 822 822 2274 <1 14 3 0 138 NEG NEG 0 7.8
		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI Silicon Sodium Potassium Fuel Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7922* <b>Method</b> ASTM D7924* ASTM D7844* ASTM D7624*	60 0 1010 1070 1150 1270 2060 imit/base >25 >20 >3.0 imit/base >4 >20	38 0 480 1661 705 839 2019 <1 current 4 3 12 ▲ 4.1 0.0 current 0 7.8	44 <1 534 1734 842 923 2175 <1 • history1 5 4 <1 • 4 5 4 <1 • 1 • • 4 5 NEG • NEG • 0.3 9.5	41 <1 517 ≤517 ≤22 2274 <1 bistory2 4 3 0 ≤3.8 NEG bistory2 0 7.8
Oxidation         Abs/.1mm         ASTM D7414*         >25         20.8         21.3         19.5		Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Lithium CONTAMINAI Silicon Sodium Potassium Fuel Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185(m) ASTM D7922* <b>Method</b> ASTM D7924* ASTM D7844* ASTM D7624*	60 0 1010 1070 1150 2060 2060 2060 205 20 >20 >3.0 3.0 20 >3.0 20 >3.0 20 >3.0	38 0 480 1661 705 839 2019 <1 current 4 3 12 ▲ 4.1 0.0 current 0 7.8 22.1	44 <1 534 1734 842 923 2175 <1 istory1 5 4 <1 istory1 0.3 9.5 22.6	41 <1 517 517 1702 822 872 2274 <1 history2 4 3 0 3.8 NEG history2 0 7.8 21.2



## **OIL ANALYSIS REPORT**

