

## **OIL ANALYSIS REPORT**

# Sample Rating Trend



NORMAL

Machine Id FREIGHTLINER 675641 Component

Diesel Engine

PETRO CANADA DURON SHP 10W30 (42 QTS)

### 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.

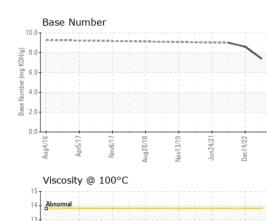
Sample Number     Client Info     PCA0101986     PCA0082242     PCA0070875       Sample Date     Client Info     01 Sep 2023     14 Dec 2022     29 Jun 2022       Machine Age     mis     Client Info     0     250971     238465       Oil Age     mis     Client Info     Changed     Changed     Changed       Oil Changed     Client Info     Tr426     12518     0       CONTAMINATION     method     Imit/base     Current     history1     history1       Fuel     WC Method     S3.0     <1.0     <1.0     <1.0       Glycol     WC Method     S3.0     <1.0     <1.0     <1.0       Mickel     ppm     ASTM D5185m     >5     <1     <1     <1       Nickel     ppm     ASTM D5185m     >3     <1     0     <1       Nickel     ppm     ASTM D5185m     >2     0     <1     0       Silver     ppm     ASTM D5185m     >2     0     <1     0       Silver     ppm	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age     mis     Client Info     17426     250971     238465       Oil Ghanged     Client Info     17426     12518     0       Oil Ghanged     Client Info     Changed     Changed     Changed     Changed       Sample Status     NORMAL     NORMAL     NORMAL     NORMAL     NORMAL       CONTAMINATION     method     Innit/base     current     history1     history2       Fuel     WC Method     >3.0     <1.0     <1.0     <1.0       Glycol     WC Method     S.0     <1.0     NEG     NEG       WEAR METALS     method     innit/base     current     history1     history2       Iron     ppm     ASTM D5185     >5     <1     0     0       Iron     ppm     ASTM D5185     >5     <1     0     0       Ikickel     ppm     ASTM D5185     >3     0     <1     1       Lead     ppm     ASTM D5185     S     4     1     1       Lead     pp	Sample Number		Client Info		PCA0101986	PCA0082242	PCA0070875
Oil Age     mis     Client Info     17426     12518     0       Oil Changed     Client Info     Changed     Changed     Changed       Sample Status     Imitibase     current     history1     history2       Fuel     WC Method     >3.0     <1.0     <1.0     <1.0       Glycol     WC Method     >3.0     <1.0     <1.0     <1.0       Glycol     WC Method     >3.0     <1     <1     <1       Glycol     WC Method     >3.0     <1     0     <1       Chromium     ppm     ASTM D5185m     >5     <1     0     0       Silver     ppm     ASTM D5185m     >5     <1     0     0     0       Auminum     ppm     ASTM D5185m     >5     <1     0	Sample Date		Client Info		01 Sep 2023	14 Dec 2022	29 Jun 2022
Oil Changed Sample Status Client Info Changed NORMAL Changed NORMAL Changed NORMAL Changed NORMAL   CONTAMINATION method limit/base current history1 history2   Fuel WC Method >3.0 <1.0 <1.0 <1.0   Glycol WC Method >3.0 <1.0 <1.0 <1.0   Chromium ppm ASTM 05185m >65 15 11 3   Chromium ppm ASTM 05185m >65 <1 <1 <1   Nickel ppm ASTM 05185m >3 0 <1 0   Aluminum ppm ASTM 05185m >35 <1 1 <1   Lead ppm ASTM 05185m >35 <1 1 <1   Lead ppm ASTM 05185m >35 <1 1 <1   Lead ppm ASTM 05185m >35 <1 1 <1   Attimony	Machine Age	mls	Client Info		0	250971	238465
Sample Status     NORMAL     NORMAL     NORMAL     NORMAL       CONTAMINATION     method     imit/base     current     history1     history2       Fuel     WC Method     >3.0     <1.0     <1.0     <1.0       Glycol     WC Method     NEG     NEG     NEG       WEAR METALS     method     imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >5     <1     <1     <1       Nickel     ppm     ASTM D5185m     >5     <1     0     0       Silver     ppm     ASTM D5185m     >5     <1     0     0       Copper     ppm     ASTM D5185m     >35     4     4     1       Lead     ppm     ASTM D5185m     >35          Vanadium     ppm     ASTM D5185m     >35          Vanadium     ppm     ASTM D5185m     >35          Vanadium	Oil Age	mls	Client Info		17426	12518	0
CONTAMINATION     method     limit/base     current     history1     history2       Fuel     WC Method     >3.0     <1.0     <1.0     <1.0     <1.0       Glycol     WC Method     NEG     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >5     <1     <1     <1       Nickel     ppm     ASTM D5185m     >5     <1     0     0       Silver     ppm     ASTM D5185m     >5     <1     0     0       Aluminum     ppm     ASTM D5185m     >3     0     <1     0       Copper     ppm     ASTM D5185m     >35     4     4     1     1       Lead     ppm     ASTM D5185m     >35          Autiminum     ppm     ASTM D5185m     3     3     3     1     1       Lead     ppm     ASTM D5185m     0     0<	Oil Changed		Client Info		Changed	Changed	Changed
Fuel     WC Method     >3.0     <1.0	Sample Status				NORMAL	NORMAL	NORMAL
Glycol     WC Method     NEG     NEG     NEG     NEG       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >5     <1     <1     <1       Nickel     ppm     ASTM D5185m     >5     <1     0     0       Titanium     ppm     ASTM D5185m     >5     <1     0     0       Aluminum     ppm     ASTM D5185m     >5     <1     0     0       Copper     ppm     ASTM D5185m     >35     4     4     1       Lead     ppm     ASTM D5185m     >10     0     <1     0       Copper     ppm     ASTM D5185m     >180     3     3     <1     1       Antimony     ppm     ASTM D5185m     >35          Vanadium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0	CONTAMINAT	ION	method	limit/base	current	history1	history2
WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >65     15     11     3       Chromium     ppm     ASTM D5185m     >3     0     <1     0       Nickel     ppm     ASTM D5185m     >3     0     <1     0       Silver     ppm     ASTM D5185m     >2     0     0     <1       Aluminum     ppm     ASTM D5185m     >35     <1     0     0       Copper     ppm     ASTM D5185m     >180     3     3     <1     1       Lead     ppm     ASTM D5185m     >180     3     3     <1     1       Antimony     ppm     ASTM D5185m     >8     <1     1     <1       Vanadium     ppm     ASTM D5185m     0     0     0     <1       Vanadium     ppm     ASTM D5185m     0     0     0     0     <1       Vanadium     ppm     ASTM D5185m	Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Iron     ppm     ASTM D5185m     >65     15     11     3       Chromium     ppm     ASTM D5185m     >5     <1     <1     <1       Nickel     ppm     ASTM D5185m     >3     0     <1     0       Titanium     ppm     ASTM D5185m     >5     <1     0     0       Silver     ppm     ASTM D5185m     >5     <1     0     <1       Aluminum     ppm     ASTM D5185m     >35      4     1       Lead     ppm     ASTM D5185m     >10     0     <1     0       Copper     ppm     ASTM D5185m     >8     <1     1     <1       Antimony     ppm     ASTM D5185m     >8     <1     0     0       Cadmium     ppm     ASTM D5185m     >8     <1     0     0       Antimony     ppm     ASTM D5185m     <6     13     36       Barium     ppm     ASTM D5185m     0     0     0     0	Glycol		WC Method		NEG	NEG	NEG
Chromium     ppm     ASTM D5185m     >5     <1	WEAR METAL	S	method	limit/base	current	history1	history2
Chromium     ppm     ASTM D5185m     >5     <1	Iron	maa	ASTM D5185m	>65	15	11	3
Nickel     ppm     ASTM D5185m     >3     0     <1	-				-		
Titanium     ppm     ASTM D5185m     >5     <1							
Silver     ppm     ASTM D5185m     >2     0     0     <1	Titanium						0
Aluminum     ppm     ASTM D5185m     >35     4     4     1       Lead     ppm     ASTM D5185m     >10     0     <1     0       Copper     ppm     ASTM D5185m     >180     3     3     <1       Tin     ppm     ASTM D5185m     >8     <1     1     <1       Antimony     ppm     ASTM D5185m     >35          Vanadium     ppm     ASTM D5185m     >35          Vanadium     ppm     ASTM D5185m     >35          Vanadium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     5     666     66     67       Manganese     ppm     ASTM D5185m     50     1004     900     905       Calcium     ppm     ASTM D5185m     1050     1266     1168     1190       Phosphorus     ppm     ASTM D5185m     955						0	<1
Lead     ppm     ASTM D5185m     >10     0     <1	Aluminum			>35		4	1
Copper     ppm     ASTM D5185m     >180     3     3     <1	Lead		ASTM D5185m	>10	0	<1	0
Tin     ppm     ASTM D5185m     >8     <1	Copper		ASTM D5185m	>180	3	3	<1
Name     ppm     ASTM D5185m     <1			ASTM D5185m	>8	<1	1	<1
Cadmium     ppm     ASTM D5185m     0     0     <1	Antimony	ppm	ASTM D5185m	>35			
ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     2     6     13     36       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     50     66     66     67       Manganese     ppm     ASTM D5185m     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     950     1004     900     905       Calcium     ppm     ASTM D5185m     950     1048     965     1022       Zinc     ppm     ASTM D5185m     995     1048     965     1022       Zinc     ppm     ASTM D5185m     2600     3679     3396     3756       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     >20		ppm	ASTM D5185m		<1	0	0
Boron     ppm     ASTM D5185m     2     6     13     36       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     50     66     66     67       Manganese     ppm     ASTM D5185m     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     950     1004     900     905       Calcium     ppm     ASTM D5185m     950     1048     965     1022       Zinc     ppm     ASTM D5185m     995     1048     965     1022       Zinc     ppm     ASTM D5185m     995     1048     965     1022       Zinc     ppm     ASTM D5185m     180     1328     1242     1238       Sulfur     ppm     ASTM D5185m     2600     3679     3396     3756       CONTAMINANTS     method     limit/base     current     history1     history2       Sulfur     ppm     ASTM D5185m     >15 <th>Cadmium</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>0</th> <th>0</th> <th>&lt;1</th>	Cadmium	ppm	ASTM D5185m		0	0	<1
Barium     ppm     ASTM D5185m     0     0     0     0     0       Molybdenum     ppm     ASTM D5185m     50     66     66     67       Manganese     ppm     ASTM D5185m     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     950     1004     900     905       Calcium     ppm     ASTM D5185m     1050     1266     1168     1190       Phosphorus     ppm     ASTM D5185m     1050     1266     1168     1022       Zinc     ppm     ASTM D5185m     995     1048     965     1022       Zinc     ppm     ASTM D5185m     995     1048     965     1022       Zinc     ppm     ASTM D5185m     2600     3679     3396     3756       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5							
Molybdenum     ppm     ASTM D5185m     50     66     66     67       Manganese     ppm     ASTM D5185m     0     <1	ADDITIVES		method	limit/base	current	history1	history2
Maganese     ppm     ASTM D5185m     0     <1		ppm					
Magnesium     ppm     ASTM D5185m     950     1004     900     905       Calcium     ppm     ASTM D5185m     1050     1266     1168     1190       Phosphorus     ppm     ASTM D5185m     995     1048     965     1022       Zinc     ppm     ASTM D5185m     1180     1328     1242     1238       Sulfur     ppm     ASTM D5185m     2600     3679     3396     3756       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     >20     3     2     3       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.9     0.7     0.1       Nitration     Abs/.1mm     *ASTM D7624     >20     8.5     8.5     4.8       Sulfation     Abs/.1mm     *ASTM D74	Boron		ASTM D5185m	2	6	13	36
Calcium     ppm     ASTM D5185m     1050     1266     1168     1190       Phosphorus     ppm     ASTM D5185m     995     1048     965     1022       Zinc     ppm     ASTM D5185m     995     1048     965     1022       Zinc     ppm     ASTM D5185m     1180     1328     1242     1238       Sulfur     ppm     ASTM D5185m     2600     3679     3396     3756       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     >20     3     2     3       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.9     0.7     0.1       Nitration     Abs/.mm< *ASTM D7624     >20	Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	6 0	13 0	36 0
Phosphorus     ppm     ASTM D5185m     995     1048     965     1022       Zinc     ppm     ASTM D5185m     1180     1328     1242     1238       Sulfur     ppm     ASTM D5185m     2600     3679     3396     3756       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     >20     3     2     3       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.9     0.7     0.1       Nitration     Abs/cm     *ASTM D7624     >20     8.5     8.5     4.8       Sulfation     Abs/tmm     *ASTM D7624     >20     8.5     8.5     4.8       FLUID DEGRADATION     method     limit/base <th>Boron Barium Molybdenum</th> <th>ppm ppm</th> <th>ASTM D5185m ASTM D5185m ASTM D5185m</th> <th>2 0 50</th> <th>6 0 66</th> <th>13 0 66</th> <th>36 0 67</th>	Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	6 0 66	13 0 66	36 0 67
Zinc     ppm     ASTM D5185m     1180     1328     1242     1238       Sulfur     ppm     ASTM D5185m     2600     3679     3396     3756       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     >20     3     2     3       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.9     0.7     0.1       Nitration     Abs/cm     *ASTM D7624     >20     8.5     8.5     4.8       Sulfation     Abs/tmm     *ASTM D7415     >30     19.6     19.9     17.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.tmm     *ASTM D7414	Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	6 0 66 <1	13 0 66 <1	36 0 67 <1
Sulfur     ppm     ASTM D5185m     2600     3679     3396     3756       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     >20     3     2     3       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.9     0.7     0.1       Nitration     Abs/cm     *ASTM D7624     >20     8.5     8.5     4.8       Sulfation     Abs/tm     *ASTM D7624     >20     8.5     19.9     17.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.tm     *ASTM D7414     >25     15.2     15.4     12.4	Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	6 0 66 <1 1004	13 0 66 <1 900	36 0 67 <1 905
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m<>15543SodiumppmASTM D5185m4<1<1PotassiumppmASTM D5185m>20323INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.90.70.1NitrationAbs/cm*ASTM D7624>208.58.54.8SulfationAbs/limm*ASTM D7614>3019.619.917.1FLUID DEGRADATION methodlimit/basecurrenthistory1history2OxidationAbs/.imm*ASTM D7414>2515.215.412.4	Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	6 0 66 <1 1004 1266	13 0 66 <1 900 1168	36 0 67 <1 905 1190
Silicon     ppm     ASTM D5185m     >15     5     4     3       Sodium     ppm     ASTM D5185m     4     <1	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	6 0 66 <1 1004 1266 1048	13 0 66 <1 900 1168 965	36 0 67 <1 905 1190 1022
Sodium     ppm     ASTM D5185m     4     <1	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	6 0 66 <1 1004 1266 1048 1328	13 0 66 <1 900 1168 965 1242	36 0 67 <1 905 1190 1022 1238
Potassium     ppm     ASTM D5185m     >20     3     2     3       INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.9     0.7     0.1       Nitration     Abs/cm     *ASTM D7624     >20     8.5     8.5     4.8       Sulfation     Abs/.1mm     *ASTM D7415     >30     19.6     19.9     17.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     15.2     15.4     12.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	6 0 66 <1 1004 1266 1048 1328 3679	13 0 66 <1 900 1168 965 1242 3396	36 0 67 <1 905 1190 1022 1238 3756
INFRA-RED     method     limit/base     current     history1     history2       Soot %     %     *ASTM D7844     >3     0.9     0.7     0.1       Nitration     Abs/cm     *ASTM D7624     >20     8.5     8.5     4.8       Sulfation     Abs/.imm     *ASTM D7415     >30     19.6     19.9     17.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.imm     *ASTM D7414     >25     15.2     15.4     12.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	6 0 66 <1 1004 1266 1048 1328 3679 current	13 0 66 <1 900 1168 965 1242 3396 history1	36 0 67 <1 905 1190 1022 1238 3756 history2
Soot %     %     *ASTM D7844     >3     0.9     0.7     0.1       Nitration     Abs/cm     *ASTM D7624     >20     8.5     8.5     4.8       Sulfation     Abs/.1mm     *ASTM D7415     >30     19.6     19.9     17.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     15.2     15.4     12.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	6 0 66 <1 1004 1266 1048 1328 3679 current 5	13 0 66 <1 900 1168 965 1242 3396 history1 4	36 0 67 <1 905 1190 1022 1238 3756 history2 3
Nitration     Abs/cm     *ASTM D7624     >20     8.5     8.5     4.8       Sulfation     Abs/.1mm     *ASTM D7415     >30     19.6     19.9     17.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     15.2     15.4     12.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >15	6 0 66 <1 1004 1266 1048 1328 3679 <u>current</u> 5 4	13 0 66 <1 900 1168 965 1242 3396 history1 4 <1	36 0 67 <1 905 1190 1022 1238 3756 history2 3 <1
Sulfation     Abs/.1mm     *ASTM D7415     >30     19.6     19.9     17.1       FLUID DEGRADATION     method     limit/base     current     history1     history2       Oxidation     Abs/.1mm     *ASTM D7414     >25     15.2     15.4     12.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <b>limit/base</b> >15 >20	6 0 66 <1 1004 1266 1048 1328 3679 current 5 4 3	13 0 66 <1 900 1168 965 1242 3396 history1 4 <1 2	36 0 67 <1 905 1190 1022 1238 3756 history2 3 <1 3
FLUID DEGRADATION method limit/base current history1 history2   Oxidation Abs/.1mm *ASTM D7414 >25 15.2 15.4 12.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>Imit/base</b> >20 <b>Imit/base</b>	6 0 66 <1 1004 1266 1048 1328 3679 current 5 4 3 3 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	13 0 66 <1 900 1168 965 1242 3396 history1 4 <1 2 history1	36 0 67 <1 905 1190 1022 1238 3756 history2 3 <1 3 }
Oxidation Abs/.1mm *ASTM D7414 >25 15.2 15.4 12.4	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>limit/base</b> >20 <b>limit/base</b> >3	6 0 66 <1 1004 1266 1048 1328 3679 <i>current</i> 5 4 3 <i>current</i> 0.9	13 0 66 <1 900 1168 965 1242 3396 history1 4 <1 2 history1 0.7	36 0 67 <1 905 1190 1022 1238 3756 history2 3 <1 3 <1 3 history2 0.1
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 <i>imit/base</i> >15 >20 <i>imit/base</i>	6 0 66 <1 1004 1266 1048 1328 3679 <u>current</u> 5 4 3 3 <u>current</u> 0.9 8.5	13 0 66 <1 900 1168 965 1242 3396 history1 4 <1 2 history1 0.7 8.5	36 0 67 <1 905 1190 1022 1238 3756 history2 3 <1 3 <1 3 history2 0.1 4.8
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm t ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <b>imit/base</b> >20 <b>imit/base</b> >3 >20	6 0 66 <1 1004 1266 1048 1328 3679 <u>current</u> 5 4 3 3 7 0.9 8.5 19.6	13 0 66 <1 900 1168 965 1242 3396 history1 4 <1 2 history1 0.7 8.5 19.9	36 0 67 <1 905 1190 1022 1238 3756 history2 3 <1 3 <1 3 <b>history2</b> 0.1 4.8 17.1
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	2 0 0 50 0 950 1050 995 1180 2600 2600 215 250 20 20 20 20 20 20 20 20 20 20 20 20 20	6 0 66 <1 1004 1266 1048 1328 3679 current 5 4 3 3 current 0.9 8.5 19.6 current	13 0 66 <1 900 1168 965 1242 3396 history1 4 <1 2 history1 0.7 8.5 19.9 history1	36 0 67 <1 905 1190 1022 1238 3756 history2 3 <1 3 <1 3 history2 0.1 4.8 17.1 history2



cSt (100°C)

Abnorm

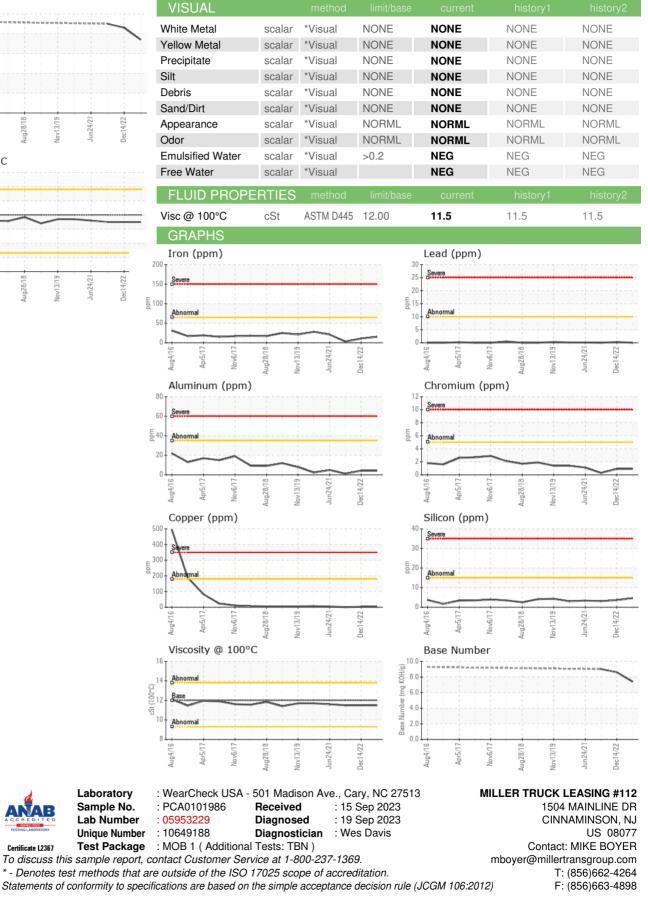
# **OIL ANALYSIS REPORT**



un24/71

hw12/19

Dec14/22



Certificate L2367

Laboratory

Sample No.

Lab Number

Contact/Location: MIKE BOYER - MILPEN