

Sample Rating Trend



Area (89634X) Walgreens - Tractor [Walgreens - Tractor] 136A68022

Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (11 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.

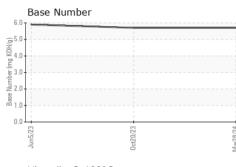
Fluid Condition

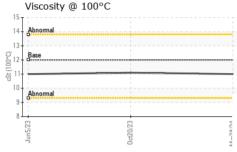
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

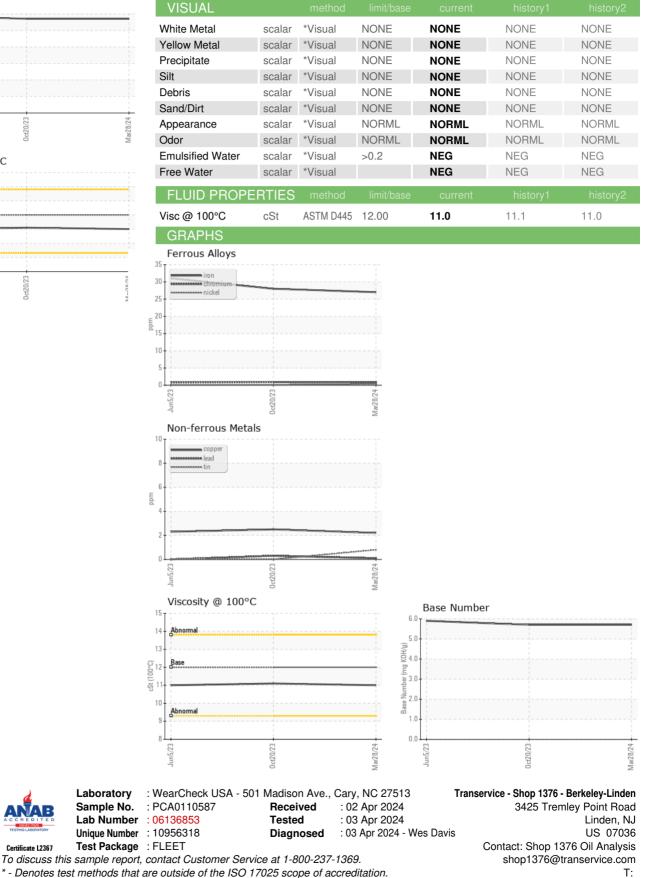
Sample Number Client Info PCA0110587 PCA0093468 PCA0093455 Sample Date Client Info 28 Mar 2024 20 Oct 2023 05 Jun 2023 Machine Age mis Client Info 214821 10025 193170 Oil Age mis Client Info 214821 10025 193170 Oil Changed Client Info N/A Changed Changed Sample Status Client Info N/A Changed Changed CONTAMINATION method 55 <1.0 <1.0 <1.0 WC Method >5 <1.0 <1.0 <1.0 <1.0 Water WC Method >5 <1.0 <1.0 <1.0 Romo ppm ASTM 05168 >5 <1 <1 <1 Norkel ppm ASTM 05168 >3 0 0 0 Korkel ppm ASTM 05168 >3 1 <1 <1 <1 Korkel ppm ASTM 05168	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age mis Client Info 214821 203195 193170 Oil Age mis Client Info 214821 10025 193170 Oil Changed Client Info N/A Changed Changed Sample Status NORMAL NORMAL SEVERE CONTAMINATION method Imit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG NEG Chromium ppm ASTM 05185m >80 27 28 31 Chromium ppm ASTM 05185m >2 <1 <1 <1 Nickel ppm ASTM 05185m >3 0 0 0 Auminum ppm ASTM 05185m >30 <1 <1 0 Copper ppm ASTM 05185m >5	Sample Number		Client Info		PCA0110587	PCA0093466	PCA0093555
Oil Age mis Client Info 214821 10025 193170 Oil Changed Client Info N/A Changed Changed Sample Status Imit/bass current NoRMAL SEVERE CONTAMINATION method imit/bass current Nistory1 Nistory2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method So 27 28 31 Glycol WC Method So <1 <1 <1 Nickel ppm ASTM D5185m >80 27 28 31 Tatanium ppm ASTM D5185m >2 <1 <1 0 Tatanium ppm ASTM D5185m >3 0 0 0 Lead ppm ASTM D5185m >5 <1 0 0 Copper ppm ASTM D5185m >5 <1 0 0 Cadmium ppm ASTM D5185m	Sample Date		Client Info		28 Mar 2024	20 Oct 2023	05 Jun 2023
Oil Changed Sample Status Client Info N/A Changed NORMAL Changed NORMAL Changed SEVERE CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >5 <1.0 <1.0 <1.0 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >5 <1 <1 <1 <1 Nickel ppm ASTM D5185m >3 0 0 0 0 Aluminum ppm ASTM D5185m >3 0 0 0 0 Copper ppm ASTM D5185m >30 <1 <1 <1 <1 Copper ppm ASTM D5185m >5 <1 0 0 0 Copper <t< th=""><th>Machine Age</th><th>mls</th><th>Client Info</th><th></th><th>214821</th><th>203195</th><th>193170</th></t<>	Machine Age	mls	Client Info		214821	203195	193170
Sample Status NORMAL NORMAL NORMAL SEVERE CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG 0.10 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM 05165m >80 27 28 31 Chromium ppm ASTM 05165m >2 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1	Oil Age	mls	Client Info		214821	10025	193170
CONTAMINATION method limit/base current history1 history2 Fuel WC Method >5 <1.0 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method NEG NEG NEG 0.10 WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 27 28 31 Chromium ppm ASTM D5185m >5 <1 <1 <1 Nickel ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >30 3 4 <1 Lead ppm ASTM D5185m >30 <1 <1 0 0 Copper ppm ASTM D5185m >5 <1 0 0 Cadmium ppm ASTM D5185m 55 <1 0 0	Oil Changed		Client Info		N/A	Changed	Changed
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Water WC Method >0.2 NEG NEG NEG NEG Glycol WC Method Imit/base current history1 history2 Iron ppm ASTM D5185m >80 27 28 31 Chromium ppm ASTM D5185m >2 <1 <1 <1 Nickel ppm ASTM D5185m >2 <1 <1 0 Silver ppm ASTM D5185m >3 0 0 0 Auminum ppm ASTM D5185m >30 <1 <1 0 Silver ppm ASTM D5185m >30 <1 <1 0 Copper ppm ASTM D5185m >10 0 0 0 Vanadium ppm ASTM D5185m >5 <1 0 0 Adminum ppm ASTM D5185m 0 55 <1 0 Adminum ppm ASTM D5185m 50 55 42 <th>CONTAMINAT</th> <th>ION</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	CONTAMINAT	ION	method	limit/base	current	history1	history2
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WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >80 27 28 31 Chromium ppm ASTM D5185m >2 <1 <1 <1 Nickel ppm ASTM D5185m >2 <1 <1 0 Titanium ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >30 <1 <1 0 Copper ppm ASTM D5185m >30 <1 <1 0 0 Copper ppm ASTM D5185m >5 <1 0 0 0 Vanadium ppm ASTM D5185m >5 <1 <1 <1 <1 Cadmium ppm ASTM D5185m 0 0 0 0 Maganese ppm ASTM D5185m 0 5 42 67 Maganesium ppm ASTM D5185	Water		WC Method	>0.2	NEG	NEG	NEG
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Chromium ppm ASTM D5185m >5 <1	WEAR METAL	S	method	limit/base	current	history1	history2
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Silver ppm ASTM D5185m >3 0 0 0 Aluminum ppm ASTM D5185m >30 3 4 <1 Lead ppm ASTM D5185m >30 <1 <1 0 Copper ppm ASTM D5185m >150 2 2 2 Tin ppm ASTM D5185m >5 <1 0 0 Vanadium ppm ASTM D5185m >5 <1 <1 <1 Cadmium ppm ASTM D5185m 5 <1 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 50 55 42 67 Maganese ppm ASTM D5185m 50 55 42 67 Maganesium ppm ASTM D5185m 50 583 701 783 Calcium ppm ASTM D5185m 950 929 </th <th>Nickel</th> <th>ppm</th> <th>ASTM D5185m</th> <th>>2</th> <th><1</th> <th><1</th> <th>0</th>	Nickel	ppm	ASTM D5185m	>2	<1	<1	0
Aluminum ppm ASTM D5185m >30 3 4 <1	Titanium	ppm	ASTM D5185m		3	15	4
Lead ppm ASTM D5185m >30 <1	Silver	ppm	ASTM D5185m	>3	0	0	0
Copper ppm ASTM D5185m >150 2 2 2 Tin ppm ASTM D5185m >5 <1 0 0 Vanadium ppm ASTM D5185m >5 <1 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 13 13 5 Barium ppm ASTM D5185m 0 0 0 0 Molydenum ppm ASTM D5185m 0 <11 <1 <1 Magnesium ppm ASTM D5185m 950 883 701 783 Calcium ppm ASTM D5185m 950 883 701 783 Calcium ppm ASTM D5185m 950 929 931 874 Zinc ppm ASTM D5185m 200 3568 <t< th=""><th>Aluminum</th><th>ppm</th><th>ASTM D5185m</th><th>>30</th><th>3</th><th>4</th><th><1</th></t<>	Aluminum	ppm	ASTM D5185m	>30	3	4	<1
Tin ppm ASTM D5185m >5 <1	Lead	ppm	ASTM D5185m	>30	<1	<1	0
Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>150	2	2	2
Cadmium ppm ASTM D5185m 0 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 13 13 5 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 0 55 42 67 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 883 701 783 Calcium ppm ASTM D5185m 950 883 701 783 Calcium ppm ASTM D5185m 950 929 931 874 Zinc ppm ASTM D5185m 960 3568 3236 3357 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 <td< th=""><th>Tin</th><th>ppm</th><th>ASTM D5185m</th><th>>5</th><th><1</th><th>0</th><th>0</th></td<>	Tin	ppm	ASTM D5185m	>5	<1	0	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 13 13 5 Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 55 42 67 Magnesium ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 883 701 783 Calcium ppm ASTM D5185m 1050 1177 1424 1220 Phosphorus ppm ASTM D5185m 995 929 931 874 Zinc ppm ASTM D5185m 2600 3568 3236 3357 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 5 8 7 Sodium ppm ASTM D5185m >20	Vanadium	ppm	ASTM D5185m		<1	<1	<1
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Barium ppm ASTM D5185m 0 0 0 0 Molybdenum ppm ASTM D5185m 50 55 42 67 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 883 701 783 Calcium ppm ASTM D5185m 1050 1177 1424 1220 Phosphorus ppm ASTM D5185m 1050 1177 1424 1220 Phosphorus ppm ASTM D5185m 1050 1177 1424 1220 Phosphorus ppm ASTM D5185m 995 929 931 874 Zinc ppm ASTM D5185m 2600 3568 3236 3357 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 3 160 Potassium ppm ASTM D518							
Molybdenum ppm ASTM D5185m 50 55 42 67 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 950 883 701 783 Calcium ppm ASTM D5185m 1050 1177 1424 1220 Phosphorus ppm ASTM D5185m 1050 1177 1424 1220 Phosphorus ppm ASTM D5185m 1050 1177 1424 1220 Phosphorus ppm ASTM D5185m 995 929 931 874 Zinc ppm ASTM D5185m 995 929 931 874 Zinc ppm ASTM D5185m 2600 3568 3236 3357 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 2 3 106 Potassium ppm AST	ADDITIVES		method	limit/base	current	history1	history2
Manganese ppm ASTM D5185m 0 <1		ppm					
Magnesium ppm ASTM D5185m 950 883 701 783 Calcium ppm ASTM D5185m 1050 11177 1424 1220 Phosphorus ppm ASTM D5185m 995 929 931 874 Zinc ppm ASTM D5185m 1180 1196 1240 1107 Sulfur ppm ASTM D5185m 2600 3568 3236 3357 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 5 8 7 Sodium ppm ASTM D5185m >20 5 8 7 Sodium ppm ASTM D5185m >20 2 3 160 Potassium ppm ASTM D5185m >20 2 3 195 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3	Boron		ASTM D5185m	2	13	13	5
Calcium ppm ASTM D5185m 1050 1177 1424 1220 Phosphorus ppm ASTM D5185m 995 929 931 874 Zinc ppm ASTM D5185m 995 929 931 874 Zinc ppm ASTM D5185m 1180 1196 1240 1107 Sulfur ppm ASTM D5185m 2600 3568 3236 3357 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 5 8 7 Sodium ppm ASTM D5185m >20 2 160 195 Potassium ppm ASTM D5185m >20 2 3 195 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.6 0.6 Nitration Abs/.tmm<*ASTM D7415 >30	Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	13 0	13 0	5 0
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Zinc ppm ASTM D5185m 1180 1196 1240 1107 Sulfur ppm ASTM D5185m 2600 3568 3236 3357 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 5 8 7 Sodium ppm ASTM D5185m >20 5 8 7 Sodium ppm ASTM D5185m 2 2 160 Potassium ppm ASTM D5185m >20 2 3 195 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.6 0.6 Nitration Abs/cm *ASTM D7624 >20 10.8 10.3 12.6 Sulfation Abs/tmm *ASTM D7415 >30 22.3 22.5 24.2 FLUID DEGRADATION method limit/base curr	Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	13 0 55 <1	13 0 42 <1	5 0 67 <1
Sulfur ppm ASTM D5185m 2600 3568 3236 3357 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 5 8 7 Sodium ppm ASTM D5185m >20 5 8 7 Sodium ppm ASTM D5185m >20 2 160 100 Potassium ppm ASTM D5185m >20 2 3 195 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.6 0.6 Nitration Abs/cm *ASTM D7624 >20 10.8 10.3 12.6 Sulfation Abs/imm *ASTM D7415 >30 22.3 22.5 24.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414	Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	13 0 55 <1 883	13 0 42 <1 701 1424	5 0 67 <1 783
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m<>20587SodiumppmASTM D5185m22160PotassiumppmASTM D5185m>2023▲ 195INFRA-REDmethodlimit/basecurrenthistory1history2Soot %%*ASTM D7844>30.60.60.6NitrationAbs/cm*ASTM D7624>2010.810.312.6SulfationAbs/.tmm*ASTM D7415>3022.322.524.2FLUID DEGRADATIONmethodlimit/basecurrenthistory1history2OxidationAbs/.tmm*ASTM D7414>2519.619.021.1	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	13 0 55 <1 883 1177 929	13 0 42 <1 701 1424 931	5 0 67 <1 783 1220 874
Silicon ppm ASTM D5185m >20 5 8 7 Sodium ppm ASTM D5185m 2 2 2 160 Potassium ppm ASTM D5185m >20 2 3 ▲ 195 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.6 0.6 Nitration Abs/cm *ASTM D7624 >20 10.8 10.3 12.6 Sulfation Abs/tm *ASTM D7415 >30 22.3 22.5 24.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/tmm *ASTM D7414 >25 19.6 19.0 21.1	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	2 0 50 0 950 1050 995	13 0 55 <1 883 1177 929	13 0 42 <1 701 1424 931	5 0 67 <1 783 1220 874
Sodium ppm ASTM D5185m 2 2 160 Potassium ppm ASTM D5185m >20 2 3 195 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.6 0.6 Nitration Abs/cm *ASTM D7624 >20 10.8 10.3 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 22.5 24.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.0 21.1	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	2 0 50 950 1050 995 1180	13 0 55 <1 883 1177 929 1196	13 0 42 <1 701 1424 931 1240	5 0 67 <1 783 1220 874 1107
Potassium ppm ASTM D5185m >20 2 3 ▲ 195 INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.6 0.6 Nitration Abs/cm *ASTM D7624 >20 10.8 10.3 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 22.5 24.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.0 21.1	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	13 0 55 <1 883 1177 929 1196 3568 current	13 0 42 <1 701 1424 931 1240 3236	5 0 67 <1 783 1220 874 1107 3357 history2
INFRA-RED method limit/base current history1 history2 Soot % % *ASTM D7844 >3 0.6 0.6 0.6 Nitration Abs/cm *ASTM D7624 >20 10.8 10.3 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 22.5 24.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.0 21.1	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	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 D5185m	2 0 50 950 1050 995 1180 2600	13 0 555 <1 883 1177 929 1196 3568 current 5	13 0 42 <1 701 1424 931 1240 3236 history1 8	5 0 67 <1 783 1220 874 1107 3357 history2 7
Soot % % *ASTM D7844 >3 0.6 0.6 0.6 Nitration Abs/cm *ASTM D7624 >20 10.8 10.3 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 22.5 24.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.0 21.1	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 ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base	13 0 55 <1 883 1177 929 1196 3568 current 5 2	13 0 42 <1 701 1424 931 1240 3236 history1 8 2	5 0 67 <1 783 1220 874 1107 3357 history2 7 160
Nitration Abs/cm *ASTM D7624 >20 10.8 10.3 12.6 Sulfation Abs/.1mm *ASTM D7415 >30 22.3 22.5 24.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.0 21.1	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 ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base	13 0 55 <1 883 1177 929 1196 3568 current 5 2	13 0 42 <1 701 1424 931 1240 3236 history1 8 2	5 0 67 <1 783 1220 874 1107 3357 history2 7 160
Sulfation Abs/.1mm *ASTM D7415 >30 22.3 22.5 24.2 FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.0 21.1	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 0 950 1050 995 1180 2600 limit/base >20	13 0 55 <1 883 1177 929 1196 3568 current 5 2 2 2 2	13 0 42 <1 701 1424 931 1240 3236 history1 8 2 3 3 history1	5 0 67 <1 783 1220 874 1107 3357 history2 7 160 ▲ 195 history2
FLUID DEGRADATION method limit/base current history1 history2 Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.0 21.1	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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >20	13 0 55 <1 883 1177 929 1196 3568 current 5 2 2 2 2 2 current 0.6	13 0 42 <1 701 1424 931 1240 3236 history1 8 2 3 3 history1 0.6	5 0 67 <1 783 1220 874 1107 3357 history2 7 160 ▲ 195 history2 0.6
Oxidation Abs/.1mm *ASTM D7414 >25 19.6 19.0 21.1	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	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >20 limit/base >20	13 0 55 <1 883 1177 929 1196 3568 current 5 2 2 2 2 2 current 0.6	13 0 42 <1 701 1424 931 1240 3236 history1 8 2 3 3 history1 0.6	5 0 67 <1 783 1220 874 1107 3357 history2 7 160 ▲ 195 history2 0.6
	Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >20 limit/base >20	13 0 55 <1 883 1177 929 1196 3568 <i>current</i> 5 2 2 2 <i>current</i> 0.6 10.8	13 0 42 <1 701 1424 931 1240 3236 history1 8 2 3 3 history1 0.6 10.3	5 0 67 783 1220 874 1107 3357 history2 7 160 195 195 history2 0.6 12.6
Base Number (BN) mg KOH/g ASTM D2896 5.7 5.9	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	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >20 imit/base >3 >20	13 0 55 <1 883 1177 929 1196 3568 <u>current</u> 5 2 2 2 2 <u>current</u> 0.6 10.8 22.3	13 0 42 <1 701 1424 931 1240 3236 history1 8 2 3 3 history1 0.6 10.3 22.5	5 0 67 <1 783 1220 874 1107 3357 history2 7 160 ▲ 195 history2 0.6 12.6 24.2
	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	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 0 50 0 950 1050 995 1180 2600 imit/base >20 20 imit/base >3 >20 >30	13 0 55 <1 883 1177 929 1196 3568 <i>current</i> 5 2 2 2 2 <i>current</i> 0.6 10.8 22.3	13 0 42 <1 701 1424 931 1240 3236 history1 8 2 3 history1 0.6 10.3 22.5 history1	5 0 67 <1 783 1220 874 1107 3357 history2 7 ● 160 • 160 • 195 • history2 0.6 12.6 24.2 • history2



OIL ANALYSIS REPORT







* - 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)

Certificate L2367

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