

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 130181

Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (--- 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.

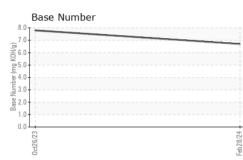
Fluid Condition

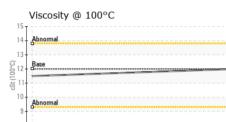
The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

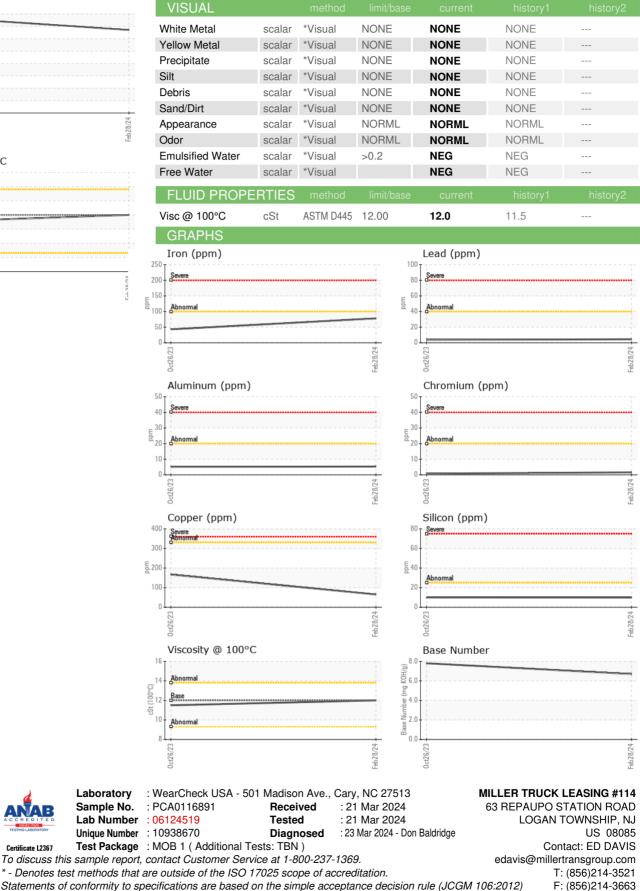
			0ct2023	Feb2024		
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0116891	PCA0105771	
Sample Date		Client Info		28 Feb 2024	26 Oct 2023	
Machine Age	mls	Client Info		54722	29234	
Oil Age	mls	Client Info		25488	13210	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel			>5	<1.0	<1.0	
Water		WC Method	>0.2	NEG	NEG	
Glycol		WC Method	20.L	NEG	NEG	
-	_			NEG		
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	78	43	
Chromium	ppm	ASTM D5185m	>20	2	<1	
Nickel	ppm	ASTM D5185m	>4	<1	0	
Titanium	ppm	ASTM D5185m		<1	0	
Silver	ppm	ASTM D5185m	>3	<1	0	
Aluminum	ppm	ASTM D5185m	>20	5	5	
Lead	ppm	ASTM D5185m	>40	4	4	
Copper	ppm	ASTM D5185m	>330	65	167	
Tin	ppm	ASTM D5185m	>15	5	3	
		ASTM D5185m		<1	0	
Vanadium	mag	ASTIV DJIOJII		<	0	
Vanadium Cadmium	ppm ppm	ASTM D5185m		0	0	
Cadmium			limit/base		0	
Cadmium ADDITIVES	ppm	ASTM D5185m method		0 current	0 history1	 history2
Cadmium ADDITIVES Boron	ppm ppm	ASTM D5185m method ASTM D5185m	2	0 current 3	0 history1 6	 history2
Cadmium ADDITIVES Boron Barium	ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2 0	0 current 3 2	0 history1 6 <1	 history2
Cadmium ADDITIVES Boron Barium Molybdenum	ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	0 current 3 2 83	0 history1 6 <1 56	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	0 current 3 2 83 2	0 history1 6 <1 56 1	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	0 current 3 2 83 2 1014	0 history1 6 <1 56 1 778	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	0 current 3 2 83 2 1014 1440	0 history1 6 <1 56 1 778 1303	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	0 current 3 2 83 2 1014 1014 1440 1075	0 history1 6 <1 56 1 778 1303 873	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Malganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	0 current 3 2 83 2 1014 1440 1075 1420	0 history1 6 <1 56 1 778 1303 873 1175	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	0 current 3 2 83 2 1014 1014 1440 1075	0 history1 6 <1 56 1 778 1303 873	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180	0 current 3 2 83 2 1014 1440 1075 1420	0 history1 6 <1 56 1 778 1303 873 1175	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method 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	0 current 3 2 83 2 1014 1014 1075 1420 2795	0 history1 6 <1 56 1 778 1303 873 1175 2719	 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method 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	0 current 3 2 83 2 1014 1014 1075 1420 2795 current	0 history1 6 <1 56 1 778 1303 873 1175 2719 history1	 history2 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method 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	0 current 3 2 83 2 1014 1014 1075 1420 2795 current 10	0 history1 6 <1 56 1 778 1303 873 1175 2719 history1 10	 history2 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Method	2 0 50 950 1050 995 1180 2600 limit/base >25	0 current 3 2 83 2 1014 1440 1075 1420 2795 current 10 5	0 history1 6 <1 56 1 778 1303 873 1175 2719 history1 10 4	 history2 history2 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method 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 >25 >20	0 current 3 2 83 2 1014 1014 1075 1420 2795 current 10 5 4	0 history1 6 <1 56 1 778 1303 873 1175 2719 history1 10 4 3	 history2 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 Imit/base >25 -20 Imit/base	0 current 3 2 83 2 1014 1014 1040 1075 1420 2795 current 10 5 4 current	0 history1 6 <1 56 1 778 1303 873 1175 2719 history1 10 4 3 3 history1	 history2 history2 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3	0 current 3 2 83 2 1014 1440 1075 1420 2795 current 10 5 4 current 1.9	0 history1 6 <1 56 1 778 1303 873 1175 2719 history1 10 4 3 3 history1 0.7	 history2 history2 history2 history2
Cadmium ADDITIVES 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 ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	0 current 3 2 83 2 1014 1440 1075 1420 2795 current 10 5 4 current 1.9 16.7	0 history1 6 <1 56 1 778 1303 873 1175 2719 history1 10 4 3 history1 0.7 10.4	 history2 history2 history2 history2
Cadmium ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAM	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20 >30	0 current 3 2 83 2 1014 1040 1075 1420 2795 current 10 5 4 current 1.9 16.7 28.1 current	0 history1 6 <1 56 1 778 1303 873 1175 2719 history1 10 4 3 history1 0.7 10.4 21.1 history1	 history2 history2
Cadmium ADDITIVES 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 ppm ppm	ASTM D5185m method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 imit/base >3 >20	0 current 3 2 83 2 1014 1440 1075 1420 2795 current 10 5 4 current 1.9 16.7 28.1	0 history1 6 <1 56 1 778 1303 873 1175 2719 history1 10 4 3 history1 0.7 10.4 21.1	history2



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

Certificate L2367

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