

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id SJB720

#### Component Diesel Engine

Fluid PETRO CANADA DURON SHP 10W30 (--- QTS)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

#### 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 INFORM	<b>MATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0100914	PCA0097803	PCA0094478
Sample Date		Client Info		10 Aug 2023	15 May 2023	07 Apr 2023
Machine Age	mls	Client Info		84597	71944	67344
Oil Age	mls	Client Info		5597	4400	5635
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	ABNORMAL
CONTAMINATI	ON	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	31	12	72
Chromium	ppm	ASTM D5185m		<1	0	6
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m	T.4	0	0	<1
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m		5	2	49
Lead	ppm	ASTM D5185m		2	<1	<1
Copper	ppm	ASTM D5185m		3	1	14
Tin	ppm	ASTM D5185m	>15	1	<1	3
Vanadium	ppm	ASTM D5185m	>15	0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	ppm			U	-	-
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	5	17	36
Barium	nnm	ASTM D5185m	0	0	2	<1
	ppm					
	ppm	ASTM D5185m	50	66	65	38
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m	50 0	1	<1	7
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950	1 1038	<1 797	7 588
Molybdenum Manganese Magnesium Calcium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050	1 1038 1240	<1 797 1152	7 588 1571
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995	1 1038 1240 1140	<1 797 1152 1011	7 588 1571 766
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180	1 1038 1240	<1 797 1152 1011 1158	7 588 1571 766 971
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995	1 1038 1240 1140	<1 797 1152 1011	7 588 1571 766
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	50 0 950 1050 995 1180 2600 limit/base	1 1038 1240 1140 1445 4029 current	<1 797 1152 1011 1158 3213 history1	7 588 1571 766 971 3999 history2
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	50 0 950 1050 995 1180 2600 limit/base	1 1038 1240 1140 1445 4029	<1 797 1152 1011 1158 3213	7 588 1571 766 971 3999
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	50 0 950 1050 995 1180 2600 limit/base	1 1038 1240 1140 1445 4029 current	<1 797 1152 1011 1158 3213 history1	7 588 1571 766 971 3999 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >25	1 1038 1240 1140 1445 4029 current 5	<1 797 1152 1011 1158 3213 history1 3	7 588 1571 766 971 3999 history2 ▲ 27
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN <sup>T</sup> Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >25	1 1038 1240 1140 1445 4029 current 5 2	<1 797 1152 1011 1158 3213 history1 3 0	7 588 1571 766 971 3999 history2 ▲ 27 5
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	1 1038 1240 1140 1445 4029 current 5 2 2 2	<1 797 1152 1011 1158 3213 history1 3 0 2	7 588 1571 766 971 3999 history2 ▲ 27 5 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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 D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3	1 1038 1240 1140 1445 4029 current 5 2 2 2 2 current	<1 797 1152 1011 1158 3213 history1 3 0 2 history1	7 588 1571 766 971 3999 history2 27 5 2 2 history2
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 ASTM D5185m	50 0 950 1050 995 1180 2600 <i>limit/base</i> >25 >20 <i>limit/base</i> >3	1 1038 1240 1140 1445 4029 current 5 2 2 2 2 current 1.6	<1 797 1152 1011 1158 3213 history1 3 0 2 2 history1 0.6	7 588 1571 766 971 3999 history2 27 5 2 2 history2 0.7
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm rS ppm ppm ppm ppm ppm spm	ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	1 1038 1240 1140 1445 4029 current 5 2 2 2 current 1.6 11.3	<1 797 1152 1011 1158 3213 history1 3 0 2 history1 0.6 7.1	7 588 1571 766 971 3999 history2 27 5 2 2 history2 0.7 7.4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm rS ppm ppm ppm ppm ppm spm	ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 <b>imit/base</b> >25 20 >20 <b>imit/base</b> >3 >20 >30	1 1038 1240 1140 1445 4029 current 5 2 2 2 current 1.6 11.3 21.9	<1 797 1152 1011 1158 3213 history1 3 0 2 history1 0.6 7.1 19.4	7 588 1571 766 971 3999 history2 27 5 2 2 history2 0.7 7.4 17.4



cSt (100°C) B

Abnom

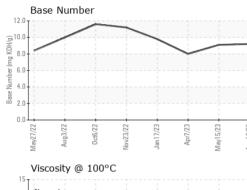
Aug 3/77

lct6/77

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# **OIL ANALYSIS REPORT**

VISUAL



Apr7/23

an17/23

CC/ECMM





Contact/Location: ED DAVIS - MILLOG