

## **OIL ANALYSIS REPORT**

Sample Rating Trend





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

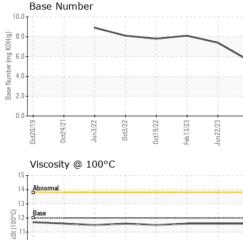
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

ITS)		0ct2019 (	0ct2021 Jun2022 Oct20	22 Oct2022 Feb2023 Jun2023	Oct2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0106300	PCA0092344	PCA0092317
Sample Date		Client Info		07 Oct 2023	22 Jun 2023	13 Feb 2023
Machine Age	mls	Client Info		318355	308049	295577
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	33	29	17
Chromium	ppm	ASTM D5185m	>20	2	2	1
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m		18	16	10
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m		10	11	7
Tin		ASTM D5185m	>15	10	1	<1
Vanadium	ppm	ASTM D5185m	>10	י <1	0	0
	ppm					
	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	<1	6	8
Devision						
Barium	ppm	ASTM D5185m	0	0	0	0
	ppm ppm	ASTM D5185m ASTM D5185m	0 50	0 68	0 65	0 65
Molybdenum			50	-		
Molybdenum Manganese	ppm	ASTM D5185m	50	68	65	65
Molybdenum Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	50 0	68 1	65 <1	65 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950	68 1 1019	65 <1 887	65 <1 923
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050	68 1 1019 1224	65 <1 887 1166	65 <1 923 1130
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995	68 1 1019 1224 1099	65 <1 887 1166 995	65 <1 923 1130 989
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180	68 1 1019 1224 1099 1461	65 <1 887 1166 995 1216	65 <1 923 1130 989 1256
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	50 0 950 1050 995 1180 2600	68 1 1019 1224 1099 1461 3063	65 <1 887 1166 995 1216 2728	65 <1 923 1130 989 1256 3549
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	68 1 1019 1224 1099 1461 3063 current	65 <1 887 1166 995 1216 2728 history1	65 <1 923 1130 989 1256 3549 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >25	68 1 1019 1224 1099 1461 3063 current 6	65 <1 887 1166 995 1216 2728 history1 7	65 <1 923 1130 989 1256 3549 history2 4
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 <b>method</b> ASTM D5185m	50 0 950 1050 995 1180 2600 limit/base >25	68 1 1019 1224 1099 1461 3063 <u>current</u> 6 1	65 <1 887 1166 995 1216 2728 history1 7 2	65 <1 923 1130 989 1256 3549 history2 4 2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	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	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20	68 1 1019 1224 1099 1461 3063 current 6 1 12	65 <1 887 1166 995 1216 2728 history1 7 2 8	65 <1 923 1130 989 1256 3549 history2 4 2 6
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS 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 limit/base >25 >20 limit/base >3	68 1 1019 1224 1099 1461 3063 <u>current</u> 6 1 1 12 <u>current</u> 1.2	65 <1 887 1166 995 1216 2728 history1 7 2 8 8 history1 0.9	65 <1 923 1130 989 1256 3549 history2 4 2 6 history2 0.6
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	68 1 1019 1224 1099 1461 3063 current 6 1 12 current	65 <1 887 1166 995 1216 2728 history1 7 2 8 8 history1	65 <1 923 1130 989 1256 3549 history2 4 2 6 history2
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	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20	68 1 1019 1224 1099 1461 3063 current 6 1 12 current 1.2 9.7	65 <1 887 1166 995 1216 2728 history1 7 2 8 8 history1 0.9 9.6	65 <1 923 1130 989 1256 3549 history2 4 2 6 history2 0.6 7.8
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 0 950 1050 995 1180 2600 <b>limit/base</b> >25 20 <b>limit/base</b> >3 >20 >30	68 1 1019 1224 1099 1461 3063 <u>current</u> 6 1 12 <u>current</u> 1.2 9.7 22.4	65 <1 887 1166 995 1216 2728 history1 7 2 8 history1 0.9 9.6 21.6	65 <1 923 1130 989 1256 3549 history2 4 2 6 history2 0.6 7.8 19.2



Abnorma

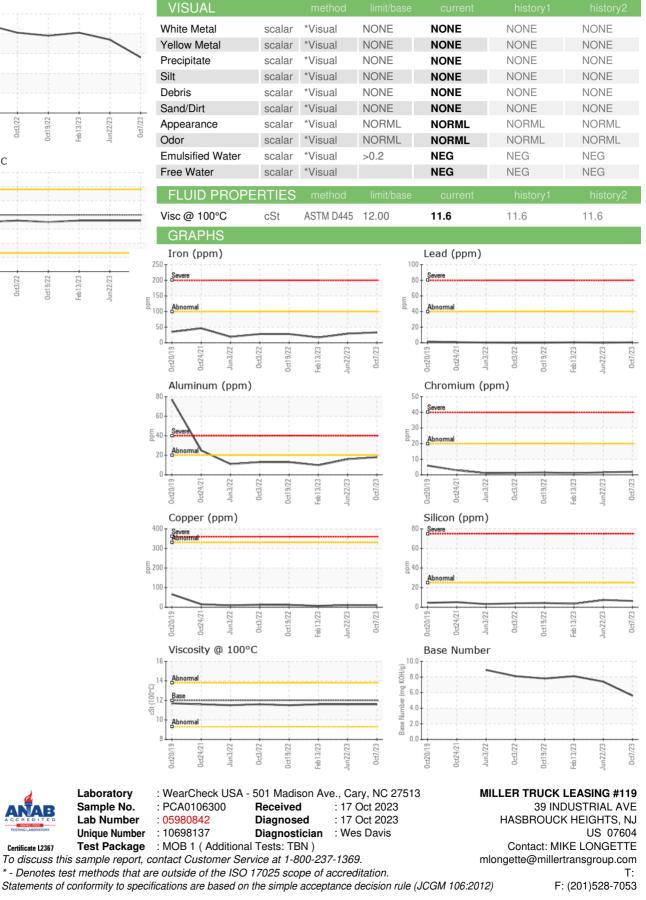
# **OIL ANALYSIS REPORT**



0ct3/22

un3/22

Feb13/23



Certificate L2367

Contact/Location: MIKE LONGETTE - MILRUT