

# **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.

#### 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.

						V.	
TS)		Dec2018 De	cc2019 Jun2020 Feb	52021 Oct2021 Jun2022 1	Mar2023		
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2	
Sample Number		Client Info		PCA0098946	PCA0089945	PCA0082208	
Sample Date		Client Info		02 Nov 2023	11 Mar 2023	21 Nov 2022	
Machine Age	mls	Client Info		209540	180221	167142	
Dil Age	mls	Client Info		0	0	18747	
Dil Changed		Client Info		Changed	Changed	Changed	
Sample Status				NORMAL	NORMAL	NORMAL	
CONTAMINATI	ON	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	
WEAR METALS	S	method	limit/base	current	history1	history2	
ron	ppm	ASTM D5185m	>100	18	16	27	
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1	
lickel	ppm	ASTM D5185m	>4	0	0	0	
Titanium	ppm	ASTM D5185m	~ 7	0	<1	0	
Silver	ppm	ASTM D5185m	>3	<1	0	0	
Numinum	ppm		>20	8	8	14	
ead	ppm	ASTM D5185m	>40	4	2	5	
Copper	ppm		>330	2	6	3	
in	ppm	ASTM D5185m	>15	- <1	<1	2	
/anadium	ppm	ASTM D5185m		0	0	0	
Cadmium	ppm	ASTM D5185m		0	0	0	
ADDITIVES		method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	2	5	7	8	
Barium	ppm	ASTM D5185m	0	0	0	0	
/lolybdenum	ppm	ASTM D5185m	50	67	62	70	
langanese	ppm	ASTM D5185m	0	0	2	<1	
/agnesium	ppm	ASTM D5185m	950	940	886	903	
Calcium				340	000	000	
hosphorus	ppm	ASTM D5185m	1050	1349	1218	1224	
noopnorao	ppm ppm	ASTM D5185m ASTM D5185m					
			1050	1349	1218	1224	
Zinc	ppm	ASTM D5185m	1050 995	1349 1144	1218 977	1224 1007	
Zinc	ppm ppm ppm	ASTM D5185m ASTM D5185m	1050 995 1180	1349 1144 1383 3324	1218 977 1197	1224 1007 1230	
Zinc Sulfur CONTAMINAN	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600	1349 1144 1383 3324	1218 977 1197 3176	1224 1007 1230 3564	
zinc Sulfur CONTAMINAN <sup>-</sup> Silicon	ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m method	1050 995 1180 2600 limit/base	1349 1144 1383 3324 current	1218 977 1197 3176 history1	1224 1007 1230 3564 history2	
Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm TS ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	1050 995 1180 2600 limit/base >25	1349 1144 1383 3324 current 4	1218 977 1197 3176 history1 4	1224 1007 1230 3564 history2 5	
Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25	1349 1144 1383 3324 current 4 8 6	1218 977 1197 3176 history1 4 10	1224 1007 1230 3564 history2 5 11	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 <i>limit/base</i> >25 >20	1349 1144 1383 3324 current 4 8 6	1218 977 1197 3176 history1 4 10 2	1224 1007 1230 3564 history2 5 11 6	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m Method	1050 995 1180 2600 limit/base >25 >20 limit/base	1349 1144 1383 3324 current 4 8 6 current	1218 977 1197 3176 history1 4 10 2 history1	1224 1007 1230 3564 history2 5 11 6 history2	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> *ASTM D7844	1050 995 1180 2600 limit/base >25 >20 limit/base >3	1349 1144 1383 3324 current 4 8 6 current 1.3	1218 977 1197 3176 history1 4 10 2 history1 1	1224 1007 1230 3564 history2 5 11 6 history2 2	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Vitration	ppm ppm pm TS ppm ppm ppm ppm % Abs/cm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7824 *ASTM D7415	1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	1349 1144 1383 3324 current 4 8 6 current 1.3 12.2 22.1	1218 977 1197 3176 history1 4 10 2 history1 1 1 11.2	1224 1007 1230 3564 history2 5 11 6 history2 2 2 15.3	
Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm pm TS ppm ppm ppm ppm % Abs/cm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7824 *ASTM D7415	1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20 >30	1349 1144 1383 3324 current 4 8 6 current 1.3 12.2 22.1	1218 977 1197 3176 history1 4 10 2 history1 1 1 11.2 20.4	1224 1007 1230 3564 <b>history2</b> 5 11 6 <b>history2</b> 2 15.3 26.3	



cSt (100°C)

Abnorm

Jec31/

# **OIL ANALYSIS REPORT**

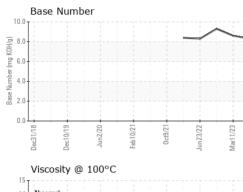
\*Visual

scalar

NONE

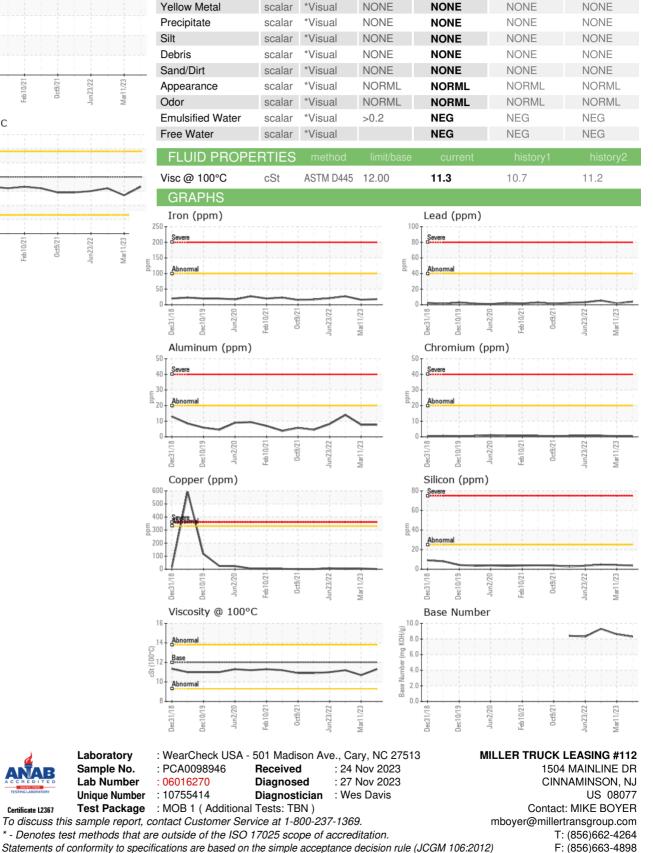
VISUAL

White Metal



ah10/71

un73/77



NONE

NONE

NONE



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Contact/Location: MIKE BOYER - MILPEN