

## **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id 206960

Component Diesel Engine

PETRO CANADA DURON SHP 10W30 (--- GAL)

### 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.

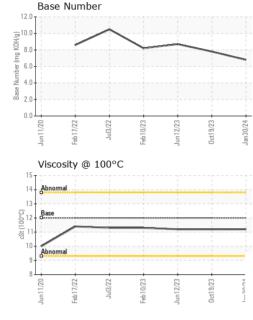
#### Fluid Condition

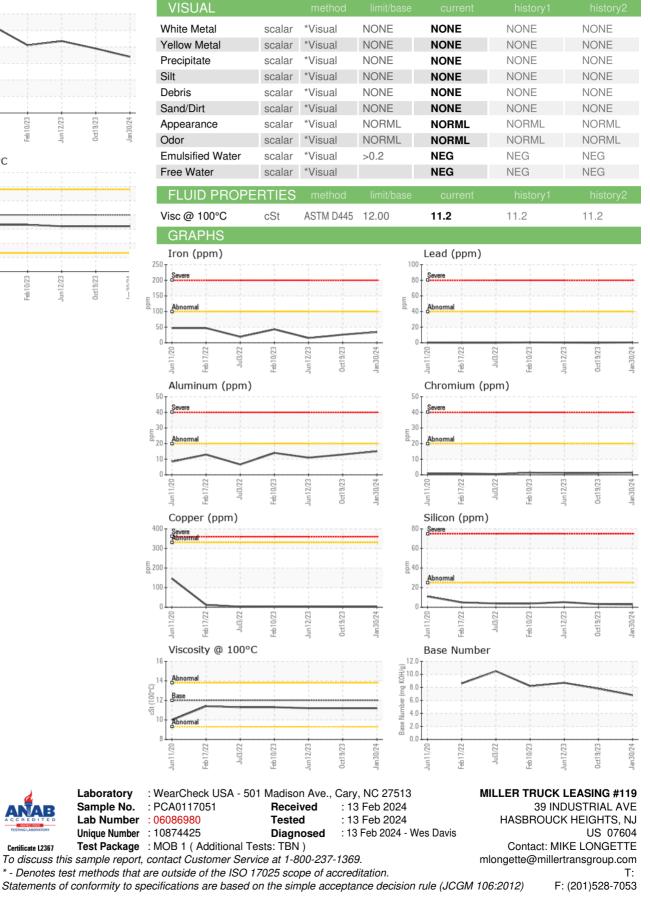
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

GAL)		Jun2020	Feb2022 Jul2022	Feb 2023 Jun 2023 Oct2023	Jan 2024	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0117051	PCA0110429	PCA0095935
Sample Date		Client Info		30 Jan 2024	19 Oct 2023	12 Jun 2023
Machine Age	mls	Client Info		76154	0	63918
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	N/A	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
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	34	26	15
Chromium	ppm	ASTM D5185m	>20	1	1	1
Nickel	ppm	ASTM D5185m	>4	<1	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	15	13	11
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	3	3	4
Tin	ppm	ASTM D5185m	>15	2	1	2
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	2	5	8	13
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	50	67	65	63
Manganese	ppm	ASTM D5185m	0	<1	<1	1
Magnesium						
-	ppm	ASTM D5185m	950	932	890	979
Calcium	ppm	ASTM D5185m ASTM D5185m	1050	932 1245	890 1097	979 1181
Calcium Phosphorus	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1050 995	932 1245 1033	890 1097 1070	979 1181 1097
Calcium Phosphorus Zinc	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180	932 1245 1033 1214	890 1097 1070 1222	979 1181 1097 1352
Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	1050 995	932 1245 1033	890 1097 1070	979 1181 1097
Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	1050 995 1180 2600 limit/base	932 1245 1033 1214 3087 current	890 1097 1070 1222 2920 history1	979 1181 1097 1352 4057 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm VTS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600	932 1245 1033 1214 3087 current 3	890 1097 1070 1222 2920 history1 3	979 1181 1097 1352 4057 history2 5
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25	932 1245 1033 1214 3087 current 3 1	890 1097 1070 1222 2920 history1 3 <1	979 1181 1097 1352 4057 history2 5 <1
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm VTS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25	932 1245 1033 1214 3087 current 3	890 1097 1070 1222 2920 history1 3	979 1181 1097 1352 4057 history2 5
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm JTS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25	932 1245 1033 1214 3087 current 3 1 6 current	890 1097 1070 1222 2920 history1 3 <1 5 history1	979 1181 1097 1352 4057 history2 5 <1 6 history2
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm JTS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25 >20 limit/base >3	932 1245 1033 1214 3087 current 3 1 6 current 0.9	890 1097 1070 1222 2920 history1 3 <1 5 history1 0.7	979 1181 1097 1352 4057 history2 5 <1 6 history2 0.4
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm JTS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	932 1245 1033 1214 3087 current 3 1 6 current 0.9 11.1	890 1097 1070 1222 2920 history1 3 <1 5 history1 0.7 10.3	979 1181 1097 1352 4057 history2 5 <1 6 history2 0.4 7.7
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm yTTS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25 >20 limit/base >3	932 1245 1033 1214 3087 current 3 1 6 current 0.9	890 1097 1070 1222 2920 history1 3 <1 5 history1 0.7	979 1181 1097 1352 4057 history2 5 <1 6 history2 0.4
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm yTTS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	932 1245 1033 1214 3087 current 3 1 6 current 0.9 11.1	890 1097 1070 1222 2920 history1 3 <1 5 history1 0.7 10.3	979 1181 1097 1352 4057 history2 5 <1 6 history2 0.4 7.7
Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm yTTS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	1050 995 1180 2600 <b>limit/base</b> >25 >20 <b>limit/base</b> >3 >20 >3 >20	932 1245 1033 1214 3087 current 3 1 6 current 0.9 11.1 21.8	890 1097 1070 1222 2920 history1 3 <1 5 <u>history1</u> 0.7 10.3 20.0	979 1181 1097 1352 4057 <b>history2</b> 5 <1 6 <b>history2</b> 0.4 7.7 19.4



# **OIL ANALYSIS REPORT**





Certificate L2367