

OIL ANALYSIS REPORT

Sample Rating Trend





Component

Diesel Engine

PETRO CANADA DURON UHP 5W30 (35 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.

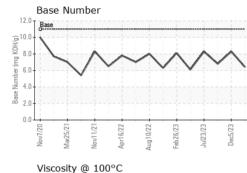
Fluid Condition

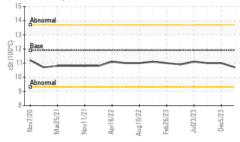
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

TS)		lov2020 Mar2	021 Nov2021 Apr2022	Aug2022 Feb2023 Jul2023	Dec2023	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0117929	PCA0112411	PCA0106126
Sample Date		Client Info		06 Feb 2024	05 Dec 2023	30 Sep 2023
Machine Age	mls	Client Info		0	352883	335628
Oil Age	mls	Client Info		40000	20500	0
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<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	26	18	31
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		7	<1	1
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>25	3	2	3
Lead	ppm	ASTM D5185m	>40	2	<1	1
Copper	ppm	ASTM D5185m	>330	6	5	7
Tin	ppm	ASTM D5185m	>15	1	<1	1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		<1	<1	<1
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	4	<1	0
Barium	ppm	ASTM D5185m	0	0	0	12
Molybdenum	ppm	ASTM D5185m	64	46	59	63
Manganese	ppm	ASTM D5185m	0	1	<1	1
Magnesium	ppm	ASTM D5185m	1160	760	935	962
Calcium	ppm	ASTM D5185m	820	1070	1066	1136
Phosphorus	nnm	AOTH DEVOE				
	ppm	ASTM D5185m	1160	903	1025	1054
Zinc	ppm	ASTM D5185m ASTM D5185m	1160 1260	903 1031	1025 1228	1054 1275
	ppm ppm	ASTM D5185m	1260	1031	1228	1275
Sulfur CONTAMINAN Silicon	ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m	1260 3000	1031 3187	1228 3378 history1 6	1275 3228 history2 17
Sulfur CONTAMINAN Silicon	ppm ppm TS	ASTM D5185m ASTM D5185m method	1260 3000 limit/base	1031 3187 current 6 3	1228 3378 history1 6 <1	1275 3228 history2
Sulfur CONTAMINAN Silicon Sodium	ppm ppm TS ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	1260 3000 limit/base	1031 3187 current 6	1228 3378 history1 6	1275 3228 history2 17
Sulfur CONTAMINAN Silicon Sodium	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	1260 3000 limit/base >25	1031 3187 current 6 3	1228 3378 history1 6 <1	1275 3228 history2 17 0
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m	1260 3000 limit/base >25 >20	1031 3187 current 6 3 3	1228 3378 history1 6 <1 2	1275 3228 history2 17 0 4
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m method	1260 3000 limit/base >25 >20 limit/base	1031 3187 current 6 3 3 3 current	1228 3378 history1 6 <1 2 2 history1	1275 3228 history2 17 0 4 history2
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method *ASTM D7844	1260 3000 limit/base >25 >20 limit/base >3	1031 3187 current 6 3 3 current 0.5	1228 3378 history1 6 <1 2 2 history1 0.3	1275 3228 history2 17 0 4 history2 0.5
Silicon Sodium Potassium	ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624	1260 3000 limit/base >25 >20 limit/base >3 >20	1031 3187 current 6 3 3 3 current 0.5 9.5	1228 3378 history1 6 <1 2 2 history1 0.3 7.4	1275 3228 history2 17 0 4 history2 0.5 9.7
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm TS ppm ppm ppm ppm % Abs/cm Abs/.1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624	1260 3000 limit/base >25 >20 limit/base >3 >20 >30	1031 3187 current 6 3 3 current 0.5 9.5 20.0	1228 3378 history1 6 <1 2 history1 0.3 7.4 18.4	1275 3228 history2 17 0 4 history2 0.5 9.7 20.3
Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm TS ppm ppm ppm ppm ppm % Abs/cm Abs/cm Abs/1mm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D7624 *ASTM D7415	1260 3000 imit/base >25 >20 imit/base >3 >20 >30 >30	1031 3187 current 6 3 3 3 current 0.5 9.5 20.0 current	1228 3378 history1 6 <1 2 history1 0.3 7.4 18.4 history1	1275 3228 history2 17 0 4 history2 0.5 9.7 20.3 history2

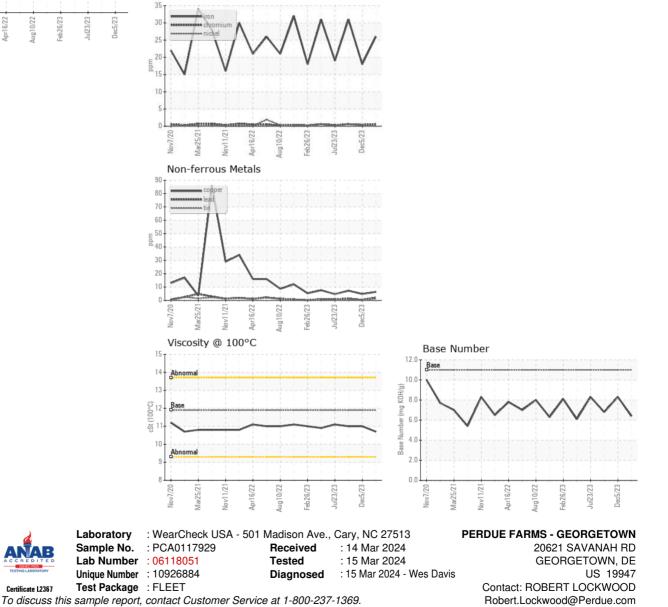


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VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	11.9	10.7	11.0	11.0
GRAPHS						
Ferrous Alloys						



* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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

Certificate L2367

Contact/Location: ROBERT LOCKWOOD - PERGEODE

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