

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.

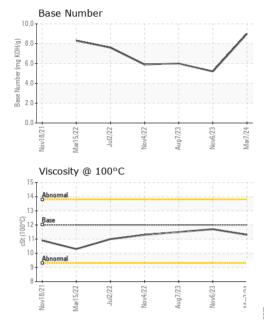
Fluid Condition

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

-		1072021	W82022 302022	Nov2022 Aug2023 Nov2023	Mar2024	
SAMPLE INFOR	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0120642	PCA0110507	PCA0103049
Sample Date		Client Info		07 Mar 2024	06 Nov 2023	07 Aug 2023
Machine Age	mls	Client Info		137502	123537	111310
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	N/A
Sample Status				NORMAL	NORMAL	NORMAL
-		mathad	limit/base			biotory ()
CONTAMINAT		method		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	8	55	41
Chromium	ppm	ASTM D5185m	>20	1	3	2
Nickel	ppm	ASTM D5185m	>4	0	<1	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	4	15	11
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm		>330	11	55	47
Tin	ppm	ASTM D5185m	>15	<1	3	2
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	ppm	method	limit/base	0 current	0 history1	0 history2
		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 4	history1 2	
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0	current 4 0	history1 2 0	history2 3 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 4 0 89	history1 2 0 63	history2 3 0 65
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 4 0 89 0	history1 2 0 63 1	history2 3 0 65 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 4 0 89 0 1389	history1 2 0 63 1 928	history2 3 0 65 <1 949
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	Current 4 0 89 0 1389 1382	history1 2 0 63 1 928 1167	history2 3 0 65 <1 949 1208
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	Current 4 0 89 0 1389 1382 1354	history1 2 0 63 1 928 1167 902	history2 3 0 65 <1 949 1208 918
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180	Current 4 0 89 0 1389 1382 1354 1662	history1 2 0 63 1 928 1167 902 1211	history2 3 0 65 <1 949 1208 918 1247
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600	Current 4 0 89 0 1389 1382 1354 1662 4304	history1 2 0 63 1 928 1167 902 1211 2111	history2 3 0 65 <1 949 1208 918 1247 2725
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600	current 4 0 89 0 1389 1382 1354 1362 4304 current	history1 2 0 63 1 928 1167 902 1211 2111 2111 2111 history1	history2 3 0 65 <1 949 1208 918 1247 2725 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600	current 4 0 89 0 1389 1382 1354 1662 4304 current 7	history1 2 0 63 1 928 1167 902 1211 2111 history1 8	history2 3 0 65 <1 949 1208 918 1247 2725 history2 5
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current 4 0 89 0 1389 1382 1354 1662 4304 current 7 1	history1 2 0 63 1 928 1167 902 1211 2111 history1 8 4	history2 3 0 65 <1 949 1208 918 1247 2725 history2 5 4
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current 4 0 89 0 1389 1382 1354 1662 4304 current 7 1 3	history1 2 0 63 1 928 1167 902 1211 2111 history1 8 4 19	history2 3 0 65 <1 949 1208 918 1247 2725 history2 5 4 15
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current 4 0 89 0 1389 1354 1662 4304 current 7 1 3 current	history1 2 0 63 1 928 1167 902 1211 2111 history1 8 4 19 history1	history2 3 0 65 <1 949 1208 918 1247 2725 history2 5 4 15 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current 4 0 89 0 1389 1354 1662 4304 current 7 1 3 current 0.2	history1 2 0 63 1 928 1167 902 1211 2111 history1 8 4 19 history1 1.6	history2 3 0 65 <1 949 1208 918 1247 2725 history2 5 4 15 history2 1.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 -20 limit/base	current 4 0 89 0 1389 1354 1662 4304 current 7 1 3 current	history1 2 0 63 1 928 1167 902 1211 2111 history1 8 4 19 history1	history2 3 0 65 <1 949 1208 918 1247 2725 history2 5 4 15 history2 1.1 9.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base	current 4 0 89 0 1389 1354 1662 4304 current 7 1 3 current 0.2	history1 2 0 63 1 928 1167 902 1211 2111 history1 8 4 19 history1 1.6	history2 3 0 65 <1 949 1208 918 1247 2725 history2 5 4 15 history2 1.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 limit/base >25 >20 limit/base >3 >20	current 4 0 89 0 1389 1354 1662 4304 current 7 1 3 current 0.2 5.8	history1 2 0 63 1 928 1167 902 1211 2111 history1 8 4 19 history1 1.6 12.1	history2 3 0 65 <1 949 1208 918 1247 2725 history2 5 4 15 history2 1.1 9.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 i mit/base >25 20 i mit/base >3 >20 >30	current 4 0 89 0 1389 1354 1662 4304 current 7 1 3 current 0.2 5.8 17.7	history1 2 0 63 1 928 1167 902 1211 2111 history1 8 4 19 history1 1.6 12.1 2.4.4	3 0 65 <1 949 1208 918 1247 2725 history2 5 4 15 history2 1.1 9.6 21.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415 method	2 0 50 0 950 1050 995 1180 2600 i mit/base >25 20 i mit/base >3 >20 >30	current 4 0 89 0 1389 1354 1662 4304 current 7 1 3 current 0.2 5.8 17.7 current	history1 2 0 63 1 928 1167 902 1211 2111 history1 8 4 19 history1 1.6 12.1 2.4.4	3 0 65 <1 949 1208 918 1247 2725 history2 5 4 15 history2 1.1 9.6 21.2 history2



OIL ANALYSIS REPORT





Certificate L2367

Laboratory

Sample No.

Lab Number

Contact/Location: MIKE LONGETTE - MILRUT