

OIL ANALYSIS REPORT

Sample Rating Trend





Component

Diesel Engine

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

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.

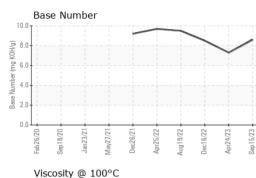
Fluid Condition

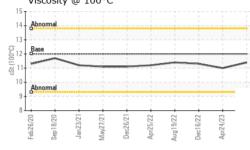
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

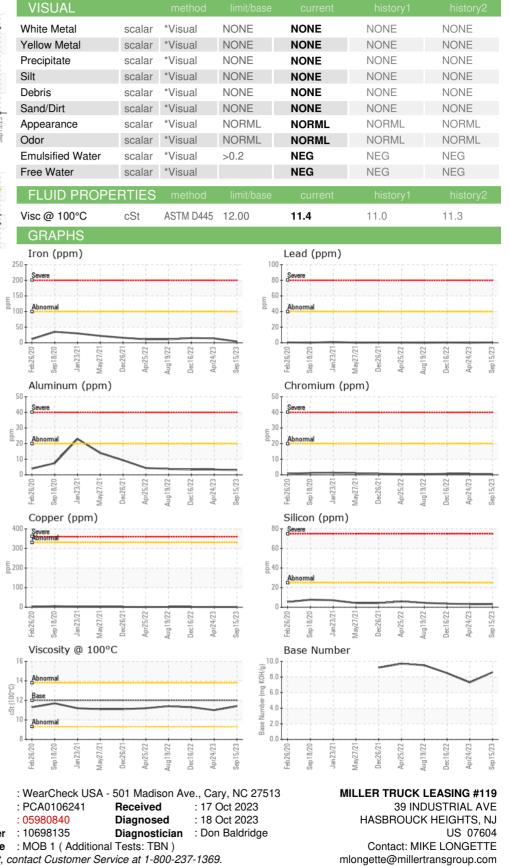
SAMPLE INFOR		method	limit/base	021 Apr2022 Aug2022 Dec2022 Apr2	history1	history2
Sample Number		Client Info		PCA0106241	PCA0095909	PCA0088095
Sample Date		Client Info		15 Sep 2023	24 Apr 2023	16 Dec 2022
Machine Age	mls	Client Info		0	130017	120330
Oil Age	mls	Client Info		0	0	0
Oil Changed	11113	Client Info		N/A	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
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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	4	14	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	<1	0	0
Aluminum	ppm	ASTM D5185m	>20	3	3	3
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>330	1	1	1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 13	history1 9	history2 10
	ppm ppm					
Boron		ASTM D5185m	2	13	9	10
Boron Barium	ppm	ASTM D5185m ASTM D5185m	2 0	13 0	9 0	10 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	13 0 71	9 0 67	10 0 76
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	13 0 71 <1	9 0 67 <1	10 0 76 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	13 0 71 <1 1104	9 0 67 <1 949	10 0 76 <1 916
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	13 0 71 <1 1104 1267	9 0 67 <1 949 1082	10 0 76 <1 916 1200
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995	13 0 71 <1 1104 1267 1271	9 0 67 <1 949 1082 1043	10 0 76 <1 916 1200 963
Boron Barium 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 ASTM D5185m	2 0 50 0 950 1050 995 1180	13 0 71 <1 1104 1267 1271 1586	9 0 67 <1 949 1082 1043 1268	10 0 76 <1 916 1200 963 1199
Boron Barium 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 ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600	13 0 71 <1 1104 1267 1271 1586 4008	9 0 67 <1 949 1082 1043 1268 3791	10 0 76 <1 916 1200 963 1199 3366
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	13 0 71 <1 1104 1267 1271 1586 4008 current	9 0 67 <1 949 1082 1043 1268 3791 history1	10 0 76 <1 916 1200 963 1199 3366 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm 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	2 0 50 950 1050 995 1180 2600 limit/base >25	13 0 71 <1 1104 1267 1271 1586 4008 <u>current</u> 3	9 0 67 <1 949 1082 1043 1268 3791 history1 3	10 0 76 <1 916 1200 963 1199 3366 history2 4
Boron Barium 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 ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	13 0 71 <1 1104 1267 1271 1586 4008 <u>current</u> 3 2	9 0 67 <1 949 1082 1043 1268 3791 history1 3 6	10 0 76 <1 916 1200 963 1199 3366 history2 4 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600 imit/base >25	13 0 71 <1 1104 1267 1271 1586 4008 <u>current</u> 3 2 7	9 0 67 <1 949 1082 1043 1268 3791 history1 3 6 9	10 0 76 <1 916 1200 963 1199 3366 history2 4 2 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 -20 imit/base	13 0 71 <1 1104 1267 1271 1586 4008 <u>current</u> 3 2 7 7 <u>current</u>	9 0 67 <1 949 1082 1043 1268 3791 history1 3 6 9 9	10 0 76 <1 916 1200 963 1199 3366 history2 4 2 7 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20	13 0 71 <1 1104 1267 1271 1586 4008 <i>current</i> 3 2 7 7 <i>current</i> 0.3	9 0 67 <1 949 1082 1043 1268 3791 history1 3 6 9 9 history1 0.5	10 0 76 <1 916 1200 963 1199 3366 history2 4 2 7 <i>history2</i> 0.6
Boron Barium 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 ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 imit/base >25 >20 imit/base >3 >20	13 0 71 <1 1104 1267 1271 1586 4008 <i>current</i> 3 2 7 <i>current</i> 0.3 6.2	9 0 67 <1 949 1082 1043 1268 3791 history1 3 6 9 history1 0.5 7.9	10 0 76 <1 916 1200 963 1199 3366 history2 4 2 7 history2 0.6 8.7
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 TS ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 2600 25 20 220 20 1imit/base >3 20 30 30	13 0 71 <1 1104 1267 1271 1586 4008 <i>current</i> 3 2 7 <i>current</i> 0.3 6.2 17.8	9 0 67 <1 949 1082 1043 1268 3791 history1 3 6 9 <u>history1</u> 0.5 7.9 17.6	10 0 76 <1 916 1200 963 1199 3366 history2 4 2 7 history2 0.6 8.7 19.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAE	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	2 0 50 0 950 1050 995 1180 2600 2600 25 20 220 20 1imit/base >3 20 30 30	13 0 71 <1 104 1267 1271 1586 4008 <i>current</i> 3 2 7 <i>current</i> 0.3 6.2 17.8 <i>current</i>	9 0 67 <1 949 1082 1043 1268 3791 history1 3 6 9 history1 0.5 7.9 17.6 history1	10 0 76 <1 916 1200 963 1199 3366 history2 4 2 7 history2 0.6 8.7 19.5 history2



OIL ANALYSIS REPORT







 Certificate L2367
 Test Package
 : MOB 1 (Additional Tests: TBN)

 To discuss this sample report, contact Customer Service at 1-800-237-1369.
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 * - 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)

Laboratory

Sample No.

Lab Number

Unique Number

Contact/Location: MIKE LONGETTE - MILRUT

F: (201)528-7053

T: