

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.

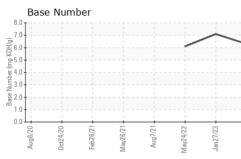
Fluid Condition

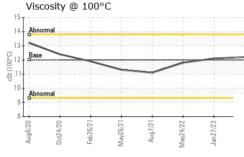
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0102877	PCA0085187	PCA0073238
Sample Date		Client Info		08 Aug 2023	27 Jan 2023	24 May 2022
Machine Age	mls	Client Info		431165	404789	79278
Oil Age	mls	Client Info		27837	0	79278
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
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	27	37	41
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		2	31	2
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	7	9	9
Lead	ppm	ASTM D5185m	>40	0	2	<1
Copper	ppm	ASTM D5185m	>330	2	3	4
Tin	ppm	ASTM D5185m	>15	<1	2	<1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	10 10 100	AOTH DEADE				
Cadinian	ppm	ASTM D5185m		0	0	0
ADDITIVES	рртт	method	limit/base	0 current	0 history1	0 history2
	ppm		limit/base			
ADDITIVES		method	2	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	2	current 14	history1 16	history2 10
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	2 0 50	current 14 0	history1 16 0	history2 10 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50	current 14 0 64	history1 16 0 42	history2 10 0 62
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0	current 14 0 64 <1	history1 16 0 42 <1	history2 10 0 62 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950	current 14 0 64 <1 970	history1 16 0 42 <1 785 1623 1030	history2 10 0 62 <1 789 1185 965
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 0 950 1050	current 14 0 64 <1 970 1722	history1 16 0 42 <1 785 1623 1030 1375	history2 10 0 62 <1 789 1185 965 1176
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	current 14 0 64 <1 970 1722 1258	history1 16 0 42 <1 785 1623 1030 1375 4011	history2 10 0 62 <1 789 1185 965 1176 2638
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	2 0 50 950 1050 995 1180 2600	current 14 0 64 <1 970 1722 1258 1701 4857 current	history1 16 0 42 <1 785 1623 1030 1375 4011 history1	history2 10 0 62 <1 789 1185 965 1176 2638 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus 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 14 0 64 <1 970 1722 1258 1701 4857 current 6	history1 16 0 42 <1 785 1623 1030 1375 4011 history1 8	history2 10 0 62 <1 789 1185 965 1176 2638 history2 11
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	2 0 50 950 1050 995 1180 2600 limit/base >25	current 14 0 64 <1 970 1722 1258 1701 4857 current 6 8	history1 16 0 42 <1 785 1623 1030 1375 4011 history1 8 2	history2 10 0 62 <1 789 1185 965 1176 2638 history2 11 0
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 0 950 1050 995 1180 2600 limit/base >25 >20	current 14 0 64 <1 970 1722 1258 1701 4857 current 6	history1 16 0 42 <1 785 1623 1030 1375 4011 history1 8 2 3	history2 10 0 62 <1 789 1185 965 1176 2638 history2 11 0 3
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 14 0 64 <1 970 1722 1258 1701 4857 current 6 8 0 current	history1 16 0 42 <1 785 1623 1030 1375 4011 history1 8 2 3 history1	history2 10 0 62 <1 789 1185 965 1176 2638 history2 11 0 3 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	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	current 14 0 64 <1 970 1722 1258 1701 4857 current 6 8 0 current 0.5	history1 16 0 42 <1 785 1623 1030 1375 4011 history1 8 2 3 history1 0.8	history2 10 0 62 <1 789 1185 965 1176 2638 history2 11 0 3 history2 0.9
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current 14 0 64 <1 970 1722 1258 1701 4857 current 6 8 0 current 0.5 10.4	history1 16 0 42 <1 785 1623 1030 1375 4011 history1 8 2 3 history1 0.8 9.7	history2 10 0 62 <1 789 1185 965 1176 2638 history2 11 0 3 history2 0.9 9.9
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	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	current 14 0 64 <1 970 1722 1258 1701 4857 current 6 8 0 current 0.5	history1 16 0 42 <1 785 1623 1030 1375 4011 history1 8 2 3 history1 0.8	history2 10 0 62 <1 789 1185 965 1176 2638 history2 11 0 3 history2 0.9
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20	current 14 0 64 <1 970 1722 1258 1701 4857 current 6 8 0 current 0.5 10.4	history1 16 0 42 <1 785 1623 1030 1375 4011 history1 8 2 3 history1 0.8 9.7	history2 10 0 62 <1 789 1185 965 1176 2638 history2 11 0 3 history2 0.9 9.9
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 ppm	method ASTM D5185m ASTM D5185m	2 0 50 0 950 1050 995 1180 2600 <i>imit/base</i> >25 >20 <i>imit/base</i> >3 >20 >30	current 14 0 64 <1 970 1722 1258 1701 4857 current 6 8 0 current 0.5 10.4 22.4	history1 16 0 42 <1 785 1623 1030 1375 4011 history1 8 2 3 history1 0.8 9.7 21.7	history2 10 0 62 <1 789 1185 965 1176 2638 history2 11 0 3 history2 0.9 9.9 22.5



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

Certificate L2367

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