

OIL ANALYSIS REPORT

(YA133458) 10642C

Component **Natural Gas Engine**

PETRO CANADA DURON GEO LD 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

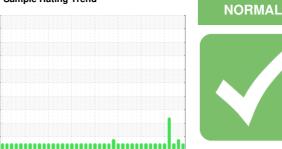
All component wear rates are normal.

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 suitable for further service.

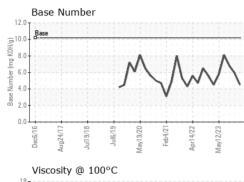


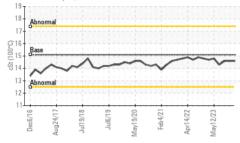
Sample Rating Trend

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0111062	GFL0098518	GFL0087743
Sample Date		Client Info		05 Feb 2024	18 Dec 2023	01 Sep 2023
Machine Age	hrs	Client Info		17477	8014	7674
Oil Age	hrs	Client Info		1200	1200	1200
Oil Changed		Client Info		Not Changd	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	13	▲ 70	19
Chromium	ppm	ASTM D5185m	>4	<1	3	1
Nickel	ppm	ASTM D5185m	>2	0	1	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	2	47	1
Lead	ppm	ASTM D5185m	>30	<1	12	6
Copper	ppm	ASTM D5185m	>35	<1	7	1
Tin	ppm	ASTM D5185m	>4	<1	2	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
				U		
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 50	-		history2 33
				current	history1	
Boron	ppm	ASTM D5185m	50	current 15	history1 32	33
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	current 15 0	history1 32 0	33 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	current 15 0 59	history1 32 0 98	33 0 66
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	current 15 0 59 <1	history1 32 0 98 2	33 0 66 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	current 15 0 59 <1 608	history1 32 0 98 2 584	33 0 66 <1 719
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780	current 15 0 59 <1 608 1650	history1 32 0 98 2 584 1547	33 0 66 <1 719 1966
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	50 5 50 0 560 1510 780	current 15 0 59 <1 608 1650 763	history1 32 0 98 2 584 1547 824	33 0 66 <1 719 1966 985
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870	current 15 0 59 <1 608 1650 763 1038	history1 32 0 98 2 584 1547 824 1119	33 0 66 <1 719 1966 985 1164
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040	current 15 0 59 <1 608 1650 763 1038 2408	history1 32 0 98 2 584 1547 824 1119 2609	33 0 66 <1 719 1966 985 1164 3161
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base	current 15 0 59 <1 608 1650 763 1038 2408 current	history1 32 0 98 2 584 1547 824 1119 2609 history1	33 0 66 <1 719 1966 985 1164 3161 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm 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 method	50 5 50 0 560 1510 780 870 2040 limit/base >+100	current 15 0 59 <1 608 1650 763 1038 2408 current 4	history1 32 0 98 2 584 1547 824 1119 2609 history1 17	33 0 66 <1 719 1966 985 1164 3161 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm 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	50 5 50 0 560 1510 780 870 2040 limit/base >+100	current 15 0 59 <1 608 1650 763 1038 2408 current 4 6	history1 32 0 98 2 584 1547 824 1119 2609 history1 17 3	33 0 66 <1 719 1966 985 1164 3161 history2 4 8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100	current 15 0 59 <1 608 1650 763 1038 2408 current 4 6 0	history1 32 0 98 2 584 1547 824 1119 2609 history1 17 3 129	33 0 66 <1 719 1966 985 1164 3161 history2 4 8 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100 	current 15 0 59 <1 608 1650 763 1038 2408 current 4 6 0 current	history1 32 0 98 2 584 1547 824 1119 2609 history1 17 3 129 history1	33 0 66 <1 719 1966 985 1164 3161 history2 4 8 0 0 history2
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 ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100 	current 15 0 59 <1 608 1650 763 1038 2408 current 4 6 0 current 0	history1 32 0 98 2 584 1547 824 1119 2609 history1 17 3 129 history1 0	33 0 66 <1 719 1966 985 1164 3161 history2 4 8 0 history2 0.1
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >20 limit/base	current 15 0 59 <1 608 1650 763 1038 2408 current 4 6 0 current 0 12.0	history1 32 0 98 2 584 1547 824 1119 2609 history1 17 3 129 history1 0 9.8	33 0 66 <1 719 1966 985 1164 3161 history2 4 8 0 history2 0.1 10.2
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	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 imit/base >+100 >20 imit/base	current 15 0 59 <1 608 1650 763 1038 2408 current 4 6 0 current 0 12.0 23.9	history1 32 0 98 2 584 1547 824 1119 2609 history1 17 3 129 history1 0 9.8 21.0	33 0 66 <1 719 1966 985 1164 3161 history2 4 8 0 0 history2 0.1 10.2 23.7

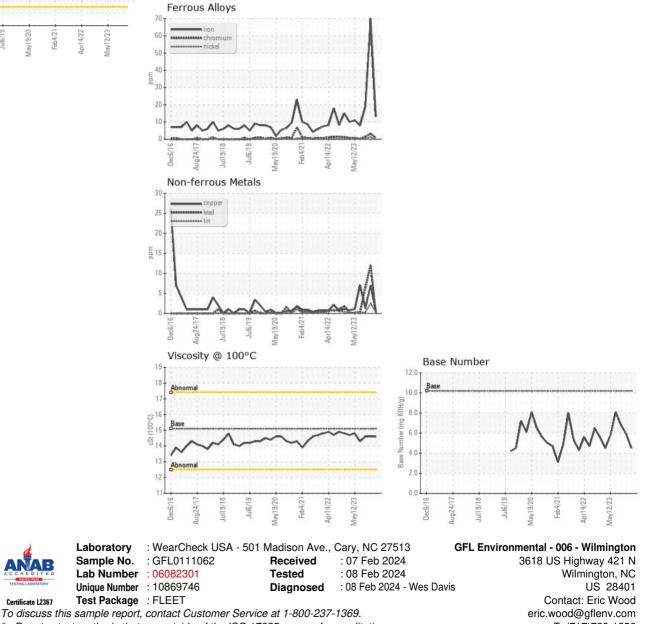


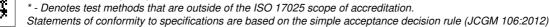
OIL ANALYSIS REPORT





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	>0.1	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	15.1	14.6	14.6	14.6
GRAPHS						





Certificate L2367