

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id

945004-260236

Natural Gas Engine

Fluid PETRO CANADA DURON GEO LD 15W40 (7 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

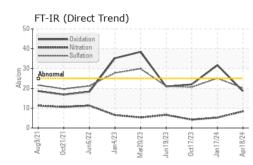
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

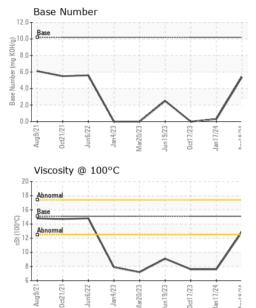
SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0114563	GFL0081079	GFL0081110
Sample Date		Client Info		18 Apr 2024	17 Jan 2024	17 Oct 2023
Machine Age	hrs	Client Info		18613	13211	12746
Oil Age	hrs	Client Info		1200	609	144
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	ABNORMAL	ABNORMAL
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	6	0	15
Chromium	ppm	ASTM D5185m	>4	<1	0	<1
Nickel	ppm	ASTM D5185m	>2	0	0	<1
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	2	0	2
Lead	ppm	ASTM D5185m	>30	<1	0	0
Copper	ppm	ASTM D5185m	>35	<1	<1	<1
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Deven			50	19	- 4	29
Boron	ppm	ASTM D5185m	50	19	14	29
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	50	0	0	0
				-		
Barium	ppm	ASTM D5185m	5	0	0	0
Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	5 50	0 44	0	0
Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5 50 0	0 44 <1	0 8 <1	0 8 0
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 50 0 560	0 44 <1 446	0 8 <1 74	0 8 0 56
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 50 0 560 1510	0 44 <1 446 1409	0 8 <1 74 282	0 8 0 56 225
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 50 0 560 1510 780	0 44 <1 446 1409 700	0 8 <1 74 282 273	0 8 0 56 225 219
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	5 50 0 560 1510 780 870	0 44 <1 446 1409 700 774	0 8 <1 74 282 273 120	0 8 0 56 225 219 88
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	5 50 0 560 1510 780 870 2040 limit/base	0 44 <1 446 1409 700 774 2670	0 8 <1 74 282 273 120 1495	0 8 0 56 225 219 88 1729
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	5 50 0 560 1510 780 870 2040 limit/base	0 44 <1 446 1409 700 774 2670 current	0 8 <1 74 282 273 120 1495 history1	0 8 0 56 225 219 88 1729 history2
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	5 50 0 560 1510 780 870 2040 <i>limit/base</i> >+100	0 44 <1 446 1409 700 774 2670 current 3	0 8 <1 74 282 273 120 1495 history1 1	0 8 0 56 225 219 88 1729 history2 3
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870 2040 <i>limit/base</i> >+100	0 44 <1 446 1409 700 774 2670 current 3 5	0 8 <1 74 282 273 120 1495 history1 1 2	0 8 0 56 225 219 88 1729 history2 3 7
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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 ASTM D5185m	5 50 0 560 1510 780 870 2040 limit/base >+100	0 44 <1 446 1409 700 774 2670 current 3 5 0	0 8 <1 74 282 273 120 1495 history1 1 2 0	0 8 0 56 225 219 88 1729 history2 3 7 <1
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870 2040 <i>limit/base</i> >+100 >20 <i>limit/base</i>	0 44 <1 446 1409 700 774 2670 current 3 5 0 0 current	0 8 <1 74 282 273 120 1495 history1 1 2 0 history1	0 8 0 56 225 219 88 1729 history2 3 7 <1 history2
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	5 50 0 560 1510 780 870 2040 <i>limit/base</i> >+100 >20 <i>limit/base</i>	0 44 <1 446 1409 700 774 2670 current 3 5 0 current 0	0 8 <1 74 282 273 120 1495 history1 1 2 0 history1 0	0 8 0 56 225 219 88 1729 history2 3 7 <1 ×1 history2 0.1
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	ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870 2040 imit/base >+100 >20 imit/base	0 44 <1 446 1409 700 774 2670 <u>current</u> 3 5 0 <u>current</u> 0 8.4	0 8 <1 74 282 273 120 1495 history1 1 2 0 history1 0 5.2	0 8 0 56 225 219 88 1729 history2 3 7 <1 history2 0.1 4.2
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	ASTM D5185m ASTM D5185m	5 50 0 560 1510 780 870 2040 2040 2040 2040 2040 2040 2040 20	0 44 <1 446 1409 700 774 2670 current 3 5 0 current 0 8.4 20.1	0 8 <1 74 282 273 120 1495 history1 1 2 0 history1 0 5.2 25.1	0 8 0 56 225 219 88 1729 history2 3 7 <1 history2 0.1 4.2 20.6
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7415	5 50 0 560 1510 780 870 2040 2040 2040 2040 2040 2040 2040 20	0 44 <1 446 1409 700 774 2670 current 3 5 0 current 0 8.4 20.1 current	0 8 <1 74 282 273 120 1495 history1 1 2 0 history1 0 5.2 25.1 history1	0 8 0 56 225 219 88 1729 history2 3 7 <1 history2 0.1 4.2 20.6 history2



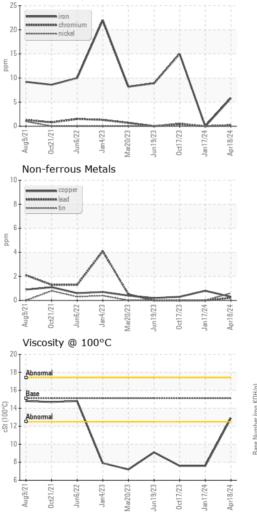
OIL ANALYSIS REPORT

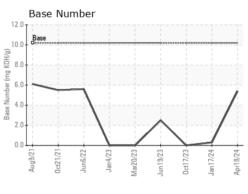
Ferrous Alloys

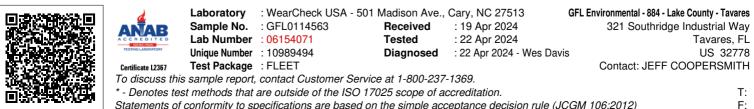




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	12.9	7.6	7.6
GRAPHS						







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

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