

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

732017

Component
Natural Gas Engine

Fluid PETRO CANADA DURON GEO LD 15W40 (30 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.

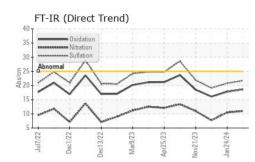
Fluid Condition

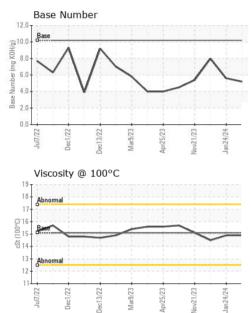
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0106906	GFL0092141	GFL0092094
Sample Date		Client Info		08 Apr 2024	24 Jan 2024	02 Dec 2023
Machine Age	hrs	Client Info		6691	6082	37902
Oil Age	hrs	Client Info		37902	600	37902
Oil Changed		Client Info		Changed	Changed	Not Changd
Sample Status				NORMAL	NORMAL	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	5	5	5
Chromium	ppm	ASTM D5185m	>4	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>9	<1	2	1
Lead	ppm	ASTM D5185m	>30	0	<1	0
Copper	ppm	ASTM D5185m	>35	0	<1	<1
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	12	15	39
Barium	10.10.100	ASTM D5185m	5	0	0	2
	ppm			-		
Molybdenum	ppm	ASTM D5185m	50	54	53	58
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m	50 0	54 <1	53 <1	58 0
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560	54 <1 558	53 <1 566	58 0 619
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510	54 <1 558 1680	53 <1 566 1612	58 0 619 1721
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780	54 <1 558 1680 693	53 <1 566 1612 725	58 0 619 1721 840
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780 870	54 <1 558 1680 693 942	53 <1 566 1612 725 1006	58 0 619 1721 840 1020
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780	54 <1 558 1680 693	53 <1 566 1612 725	58 0 619 1721 840 1020 2956
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780 870 2040 limit/base	54 <1 558 1680 693 942 2560 current	53 <1 566 1612 725 1006 2437 history1	58 0 619 1721 840 1020 2956 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780 870 2040	54 <1 558 1680 693 942 2560 current 3	53 <1 566 1612 725 1006 2437 history1 3	58 0 619 1721 840 1020 2956 history2 4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780 870 2040 <i>limit/base</i> >+100	54 <1 558 1680 693 942 2560 current 3 6	53 <1 566 1612 725 1006 2437 history1	58 0 619 1721 840 1020 2956 history2 4 6
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780 870 2040 <i>limit/base</i> >+100	54 <1 558 1680 693 942 2560 current 3	53 <1 566 1612 725 1006 2437 history1 3	58 0 619 1721 840 1020 2956 history2 4
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780 870 2040 <i>limit/base</i> >+100	54 <1 558 1680 693 942 2560 current 3 6 0 Current	53 <1 566 1612 725 1006 2437 history1 3 6 <1 history1	58 0 619 1721 840 1020 2956 history2 4 6 2 2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	50 0 560 1510 780 870 2040 limit/base >200 limit/base	54 <1 558 1680 693 942 2560 current 3 6 0 current 0	53 <1 566 1612 725 1006 2437 history1 3 6 <1 4 history1 0	58 0 619 1721 840 1020 2956 history2 4 6 2 2 history2 0.1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780 870 2040 limit/base >200 limit/base	54 <1 558 1680 693 942 2560 current 3 6 0 Current	53 <1 566 1612 725 1006 2437 history1 3 6 <1 history1	58 0 619 1721 840 1020 2956 history2 4 6 2 2 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	50 0 560 1510 780 870 2040 limit/base >200 limit/base	54 <1 558 1680 693 942 2560 current 3 6 0 current 0	53 <1 566 1612 725 1006 2437 history1 3 6 <1 4 history1 0	58 0 619 1721 840 1020 2956 history2 4 6 2 2 history2 0.1
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 D51854	50 0 560 1510 780 870 2040 2040 >+100 >>100 >20 Imit/base >20	54 <1 558 1680 693 942 2560 current 3 6 0 current 0 0 11.0	53 <1 566 1612 725 1006 2437 <u>history1</u> 3 6 <1 <u>history1</u> 0 10.5	58 0 619 1721 840 1020 2956 history2 4 6 2 2 history2 0.1 7.7
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	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7844	50 0 560 1510 780 870 2040 imit/base >+100 \$20 imit/base \$20 \$30	54 <1 558 1680 693 942 2560 current 3 6 0 current 0 0 11.0 21.7	53 <1 566 1612 725 1006 2437 history1 3 6 <1 4 history1 0 10.5 20.8	58 0 619 1721 840 1020 2956 history2 4 6 2 <u>history2</u> 0.1 7.7 19.1



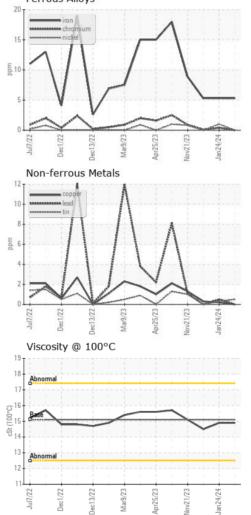
OIL ANALYSIS REPORT

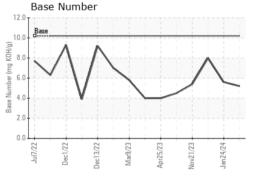




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	14.9	14.9	14.5
GRAPHS						

Ferrous Alloys





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 856 - Houston South Sample No. : GFL0106906 Received : 10 Apr 2024 8515 Highway 6 South ŝ Lab Number : 06144917 Tested : 11 Apr 2024 Houston, TX Unique Number : 10969725 Diagnosed : 11 Apr 2024 - Wes Davis US 77083 Test Package : FLEET Contact: Apolinar Zacarias Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. pzacariascano@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

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