

OIL ANALYSIS REPORT

Sample Rating Trend





Component

Natural Gas Engine

PETRO CANADA DURON GEO LD 15W40 (--- LTR)

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.

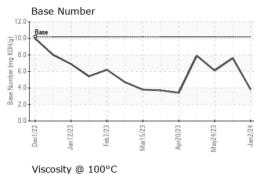
Fluid Condition

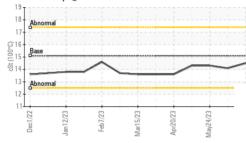
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI		method	limit/base	current	history1	history?
	WATION		IIIIII/Dase		· · · · · · · · · · · · · · · · · · ·	history2
Sample Number		Client Info		GFL0099927	GFL0099906	GFL0083786
Sample Date		Client Info		02 Jan 2024	05 Dec 2023	24 May 2023
Machine Age	hrs	Client Info		2176	1960	1561
Oil Age	hrs	Client Info		0 Not Observed	1200 Channed	0 Nat Observed
Oil Changed		Client Info		Not Changd NORMAL	Changed NORMAL	Not Changd NORMAL
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	16	2	7
Chromium	ppm	ASTM D5185m	>4	2	0	<1
Nickel	ppm	ASTM D5185m	>2	<1	0	<1
Titanium	ppm	ASTM D5185m		<1	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m		2	<1	2
Lead	ppm	ASTM D5185m	>30	7	<1	2
Copper	ppm	ASTM D5185m	>35	1	<1	2
Tin	ppm	ASTM D5185m	>4	2	0	1
Vanadium	ppm	ASTM D5185m		<1	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	50	11	36	23
20.0						
Barium	ppm	ASTM D5185m	5	0	0	0
		ASTM D5185m ASTM D5185m	5 50	61	47	0 52
Barium	ppm		50	61 <1	47 <1	52 1
Barium Molybdenum	ppm ppm	ASTM D5185m	50	61	47	52 1 634
Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m	50 0	61 <1 627 1815	47 <1	52 1 634 1562
Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560	61 <1 627 1815 835	47 <1 559 1682 848	52 1 634 1562 784
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780 870	61 <1 627 1815 835 1060	47 <1 559 1682 848 1007	52 1 634 1562 784 968
Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 0 560 1510 780	61 <1 627 1815 835	47 <1 559 1682 848	52 1 634 1562 784
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	50 0 560 1510 780 870	61 <1 627 1815 835 1060	47 <1 559 1682 848 1007	52 1 634 1562 784 968
Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	50 0 560 1510 780 870 2040 limit/base >+100	61 <1 627 1815 835 1060 2484 current 5	47 <1 559 1682 848 1007 2693 history1 5	52 1 634 1562 784 968 2752
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	50 0 560 1510 780 870 2040 limit/base >+100	61 <1 627 1815 835 1060 2484 current	47 <1 559 1682 848 1007 2693 history1	52 1 634 1562 784 968 2752 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 method ASTM D5185m	50 0 560 1510 780 870 2040 <i>limit/base</i> >+100	61 <1 627 1815 835 1060 2484 current 5	47 <1 559 1682 848 1007 2693 history1 5	52 1 634 1562 784 968 2752 history2 18
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 ASTM D5185m ASTM D5185m	50 0 560 1510 780 870 2040 <i>limit/base</i> >+100	61 <1 627 1815 835 1060 2484 current 5 10	47 <1 559 1682 848 1007 2693 history1 5 3	52 1 634 1562 784 968 2752 history2 18 4
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	50 0 560 1510 780 870 2040 linit/base >+100	61 <1 627 1815 835 1060 2484 <u>current</u> 5 10 0	47 <1 559 1682 848 1007 2693 history1 5 3 <1	52 1 634 1562 784 968 2752 history2 18 4 2
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 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 >2040	61 <1 627 1815 835 1060 2484 current 5 10 0	47 <1 559 1682 848 1007 2693 history1 5 3 <1 history1	52 1 634 1562 784 968 2752 history2 18 4 2 2 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	ASTM D5185m ASTM D5185m	50 0 560 1510 780 870 2040 limit/base >2040	61 <1 627 1815 835 1060 2484 <u>current</u> 5 10 0 <u>current</u> 0.3	47 <1 559 1682 848 1007 2693 history1 5 3 <1 5 3 <1 history1 0	52 1 634 1562 784 968 2752 history2 18 4 2 2 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 *ASTM D7844	50 0 560 1510 780 870 2040 limit/base >+100 >20 limit/base	61 <1 627 1815 835 1060 2484 current 5 10 0 current 0.3 13.1	47 <1 559 1682 848 1007 2693 history1 5 3 <1 5 3 <1 history1 0 7.4	52 1 634 1562 784 968 2752 history2 18 4 2 2 history2 0.1 9.0
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 D51854 *ASTM D7844 *ASTM D7844	50 0 560 1510 780 870 2040 2040 >+100 >+100 >20 20 imit/base >20 >30 imit/base	61 <1 627 1815 835 1060 2484 current 5 10 0 current 0.3 13.1 27.0	47 <1 559 1682 848 1007 2693 history1 5 3 <1 history1 0 7.4 19.1	52 1 634 1562 784 968 2752 history2 18 4 2 history2 0.1 9.0 19.7
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 D7844 *ASTM D7624 *ASTM D7614	50 0 560 1510 780 870 2040 2040 >+100 >+100 >20 20 imit/base >20 >30 imit/base	61 <1 627 1815 835 1060 2484 <u>current</u> 5 10 0 <u>current</u> 0.3 13.1 27.0 <u>current</u>	47 <1 559 1682 848 1007 2693 history1 5 3 <1 5 3 <1 history1 0 7.4 19.1 history1	52 1 634 1562 784 968 2752 history2 18 4 2 history2 0.1 9.0 19.7 history2

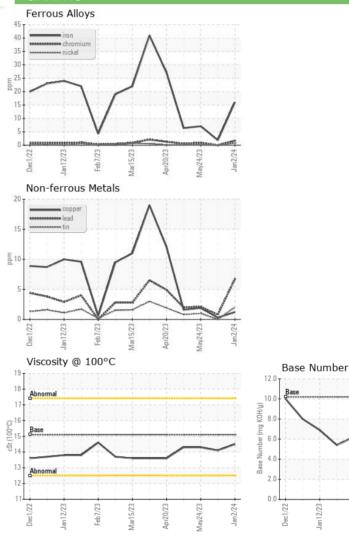


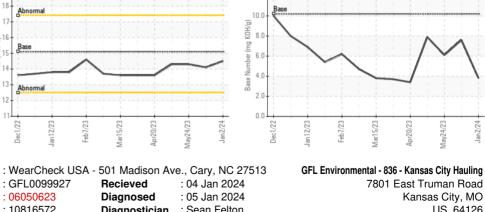
OIL ANALYSIS REPORT





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	LIGHT
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	14.5	14.1	14.3
GRAPHS						





US 64126 Contact: Robert Hart rhart@gflenv.com T: (580)461-1509 F:



Test Package : FLEET Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. * - 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)

Recieved

Diagnosed

: 04 Jan 2024

: 05 Jan 2024

Diagnostician : Sean Felton

: GFL0099927

: 06050623

Laboratory

Sample No.

Lab Number

Unique Number : 10816572

Contact/Location: See also GFL823, 834, 837, 840 - Robert Hart - GFL836