

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id 10750C

Component **Natural Gas Engine**

Elui PETRO CANADA DURON GEO LD 15W40 (28 QTS)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

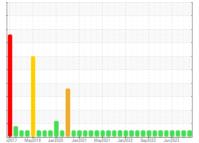
All component wear rates are normal.

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.





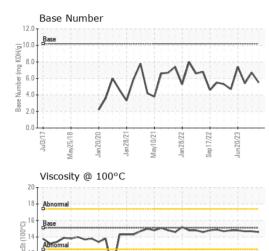
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0098132	GFL0098109	GFL0088545
Sample Date		Client Info		04 Jan 2024	01 Nov 2023	22 Aug 2023
Machine Age	hrs	Client Info		6355	6355	6355
Oil Age	hrs	Client Info		435	430	452
Oil Changed		Client Info		N/A	N/A	N/A
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	7	11	8
Chromium	ppm	ASTM D5185m	>4	1	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	2	<1	<1
Lead	ppm	ASTM D5185m	>30	0	0	0
Copper	ppm	ASTM D5185m	>35	2	2	2
Tin	ppm	ASTM D5185m	>4	<1	0	0
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
ADDITIVES			11 1.0			
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	limit/base	current 10	history1 11	nistory2 7
	ppm ppm					
Boron		ASTM D5185m	50	10	11	7
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5 50	10 0	11 0	7 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	10 0 49	11 0 56	7 0 52
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	10 0 49 <1	11 0 56 0	7 0 52 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	10 0 49 <1 557	11 0 56 0 582	7 0 52 <1 549
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560 1510	10 0 49 <1 557 1500	11 0 56 0 582 1624	7 0 52 <1 549 1571
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	10 0 49 <1 557 1500 721	11 0 56 0 582 1624 747	7 0 52 <1 549 1571 740
Boron 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 ASTM D5185m	50 5 50 0 560 1510 780 870	10 0 49 <1 557 1500 721 940	11 0 56 0 582 1624 747 999	7 0 52 <1 549 1571 740 949
Boron 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	50 5 50 560 1510 780 870 2040	10 0 49 <1 557 1500 721 940 2349	11 0 56 0 582 1624 747 999 2655	7 0 52 <1 549 1571 740 949 2611
Boron 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 ASTM D5185m	50 5 50 0 560 1510 780 870 2040	10 0 49 <1 557 1500 721 940 2349 current	11 0 56 0 582 1624 747 999 2655 history1	7 0 52 <1 549 1571 740 949 2611 history2
Boron 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 method ASTM D5185m	50 50 0 560 1510 780 870 2040 limit/base >+100	10 0 49 <1 557 1500 721 940 2349 current 3	11 0 56 0 582 1624 747 999 2655 history1 4	7 0 52 <1 549 1571 740 949 2611 history2 4
Boron 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 method ASTM D5185m	50 50 0 560 1510 780 870 2040 limit/base >+100	10 0 49 <1 557 1500 721 940 2349 current 3 7	11 0 56 0 582 1624 747 999 2655 history1 4 2	7 0 52 <1 549 1571 740 949 2611 history2 4 4
Boron 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	50 50 0 560 1510 780 870 2040 limit/base >+100	10 0 49 <1 557 1500 721 940 2349 current 3 7 <1	11 0 56 0 582 1624 747 999 2655 history1 4 2 2	7 0 52 <1 549 1571 740 949 2611 history2 4 4 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	50 50 0 560 1510 780 870 2040 2040 >+100 >20 20 }	10 0 49 <1 557 1500 721 940 2349 current 3 7 <1 current	11 0 56 0 582 1624 747 999 2655 history1 4 2 2 2 history1	7 0 52 <1 549 1571 740 949 2611 history2 4 4 4 <1 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 TS ppm ppm ppm	ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 Iimit/base >+100 20 Iimit/base	10 0 49 <1 557 1500 721 940 2349 <u>current</u> 3 7 <1 2 4	11 0 56 0 582 1624 747 999 2655 history1 4 2 2 2 history1 0	7 0 52 <1 549 1571 740 949 2611 history2 4 4 4 <1 history2 0
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	ASTM D5185m ASTM D5185m	50 50 00 560 1510 780 870 2040 Iimit/base >+100 20 Iimit/base	10 0 49 <1 557 1500 721 940 2349 current 3 7 <1 2 4 0 0 10.4	111 0 56 0 582 1624 747 999 2655 history1 4 2 2 history1 0 10.1	7 0 52 <1 549 1571 740 949 2611 history2 4 4 4 <1 history2 0 9.8
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	ASTM D5185m ASTM D5185m	50 50 560 1510 780 870 2040 Iinit/base >+100 \$-20 Iinit/base \$-20	10 0 49 <1 557 1500 721 940 2349 <u>current</u> 3 7 <1 <u>current</u> 0 10.4 19.8	111 0 56 0 582 1624 747 999 2655 history1 4 2 2 history1 0 10.1 19.2	7 0 52 <1 549 1571 740 949 2611 history2 4 4 4 <1 kistory2 0 9.8 19.3



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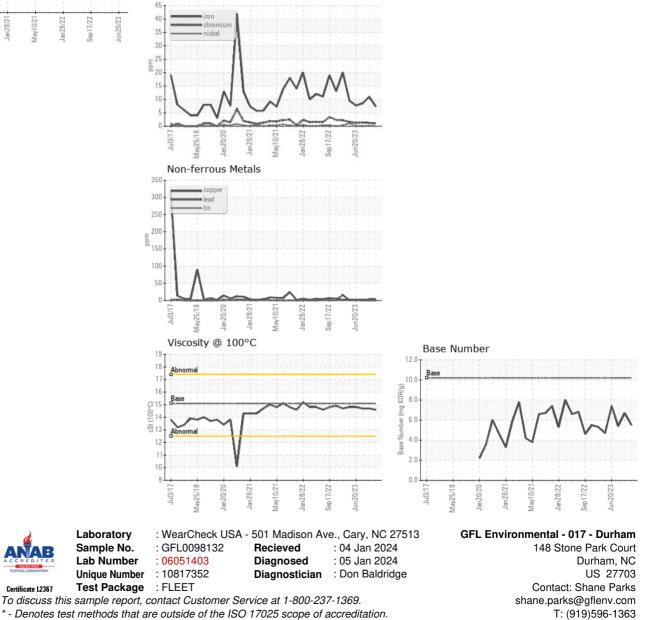
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OIL ANALYSIS REPORT



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	14.7	14.7
GRAPHS						

Ferrous Alloys



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

Submitted By: Shane Parks

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