

OIL ANALYSIS REPORT

Area (YA133458) [B Service] 10642C Component

PETRO CANADA DURON GEO LD 15W40 (8 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

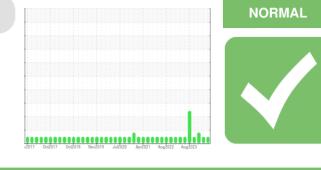
All component wear rates are normal.

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		GFL0124453	GFL0111062	GFL0098518
Sample Date		Client Info		03 Jun 2024	05 Feb 2024	18 Dec 2023
Machine Age	hrs	Client Info		81183	17477	8014
Oil Age	hrs	Client Info		750	1200	1200
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				NORMAL	NORMAL	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	9	13	1 70
Chromium	ppm	ASTM D5185m	>4	<1	<1	3
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	2	47
Lead	ppm	ASTM D5185m	>30	0	<1	12
Copper	ppm	ASTM D5185m	>35	<1	<1	7
Tin	ppm	ASTM D5185m	>4	<1	<1	2
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	Method ASTM D5185m	limit/base	current 13	history1 15	history2 32
	ppm ppm					
Boron		ASTM D5185m	50	13	15	32
Boron Barium	ppm	ASTM D5185m ASTM D5185m	50 5 50	13 <1	15 0	32 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50	13 <1 54	15 0 59	32 0 98
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0	13 <1 54 <1	15 0 59 <1	32 0 98 2 584 1547
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	50 5 50 0 560	13 <1 54 <1 574	15 0 59 <1 608	32 0 98 2 584
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	13 <1 54 <1 574 1617 766 956	15 0 59 <1 608 1650 763 1038	32 0 98 2 584 1547 824 1119
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	13 <1 54 <1 574 1617 766	15 0 59 <1 608 1650 763	32 0 98 2 584 1547 824
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	13 <1 54 <1 574 1617 766 956	15 0 59 <1 608 1650 763 1038	32 0 98 2 584 1547 824 1119
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 0 560 1510 780 870 2040	13 <1 54 <1 574 1617 766 956 2692	15 0 59 <1 608 1650 763 1038 2408	32 0 98 2 584 1547 824 1119 2609
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	50 5 50 0 560 1510 780 870 2040	13 <1 54 <1 574 1617 766 956 2692 current	15 0 59 <1 608 1650 763 1038 2408 history1	32 0 98 2 584 1547 824 1119 2609 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	50 5 50 0 560 1510 780 870 2040 2040 2040 2040	13 <1 54 <1 574 1617 766 956 2692 current 12	15 0 59 <1 608 1650 763 1038 2408 history1 4	32 0 98 2 584 1547 824 1119 2609 history2 17
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 ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 2040 2040 2040	13 <1 54 <1 574 1617 766 956 2692 <u>current</u> 12 6	15 0 59 <1 608 1650 763 1038 2408 history1 4 6	32 0 98 2 584 1547 824 1119 2609 history2 17 3
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 5 50 0 560 1510 780 870 2040 limit/base >+100	13 <1 54 <1 574 1617 766 956 2692 current 12 6 2	15 0 59 <1 608 1650 763 1038 2408 history1 4 6 0	32 0 98 2 584 1547 824 1119 2609 history2 17 3 129
Boron 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	50 5 50 0 560 1510 780 870 2040 limit/base >20 limit/base	13 <1 54 <1 574 1617 766 956 2692 current 12 6 2 2	15 0 59 <1 608 1650 763 1038 2408 history1 4 6 0 0 history1	32 0 98 2 584 1547 824 1119 2609 history2 17 3 129 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	50 5 50 0 560 1510 780 870 2040 limit/base >+100 s20 limit/base	13 <1 54 <1 574 1617 766 956 2692 <u>current</u> 12 6 2 2 2 <u>current</u> 0.1	15 0 59 <1 608 1650 763 1038 2408 history1 4 6 0 0 history1 0	32 0 98 2 584 1547 824 1119 2609 history2 17 3 129 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 5 50 0 560 1510 780 870 2040 limit/base >+100 s20 limit/base	13 <1 54 <1 574 1617 766 956 2692 <i>current</i> 12 6 2 2 <i>current</i> 0.1 10.8	15 0 59 <1 608 1650 763 1038 2408 history1 4 6 0 0 history1 0 12.0	32 0 98 2 584 1547 824 1119 2609 history2 17 3 129 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 5 50 0 560 1510 780 870 2040 Imit/base >+100 S20 Imit/base >20 >30 Imit/base	13 <1 54 <1 574 1617 766 956 2692 <u>current</u> 12 6 2 2 2 <u>current</u> 0.1 10.8 20.4	15 0 59 <1 608 1650 763 1038 2408 history1 4 6 0 0 history1 0 12.0 23.9	32 0 98 2 584 1547 824 1119 2609 history2 17 3 129 history2 0 9.8 21.0
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 TS ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624	50 50 50 0 560 1510 780 870 2040 2040 2040 2040 2040 2040 201 201 201 201 201 201 201 201 201 20	13 <1 54 <1 574 1617 766 956 2692 <i>current</i> 12 6 2 2 <i>current</i> 0.1 10.8 20.4 <i>current</i>	15 0 59 <1 608 1650 763 1038 2408 history1 4 6 0 0 history1 0 12.0 23.9 history1	32 0 98 2 584 1547 824 1119 2609 history2 17 3 129 history2 0 9.8 21.0 history2

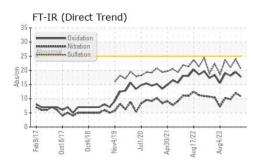


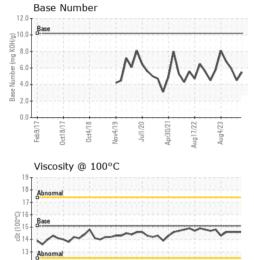
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OIL ANALYSIS REPORT





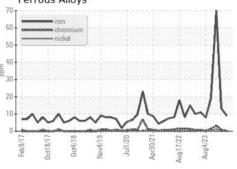
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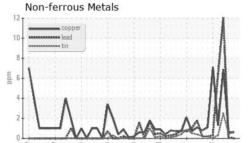
Aug17/22

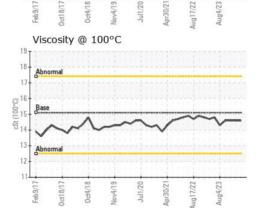
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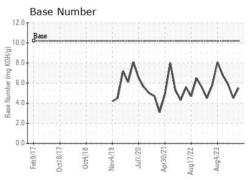
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	LIGHT	NONE	NONE
Sand/Dirt	scalar	*Visual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

Ferrous Alloys









Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 006 - Wilmington Sample No. : GFL0124453 Received : 05 Jun 2024 3618 US Highway 421 N Lab Number : 06199810 Tested : 05 Jun 2024 Wilmington, NC US 28401 Unique Number : 11061933 Diagnosed : 05 Jun 2024 - Wes Davis Test Package : FLEET Contact: Eric Wood Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. eric.wood@gflenv.com T: (717)723-1956 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. F: (910)762-6880

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

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Submitted By: NEIL GRIFFIN