

OIL ANALYSIS REPORT

GFL035
Machine Id
10674

Component **Diesel Engine**

PETRO CANADA DURON SHP 15W40 (30 QTS)

Sample Rating Trend



DIAGNOSIS

Recommendation

No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Wear

All component wear rates are normal.

Contamination

Sodium and/or potassium levels are high. Test for glycol is negative.

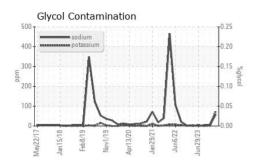
Fluid Condition

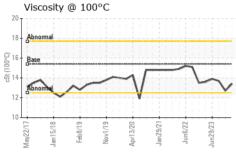
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

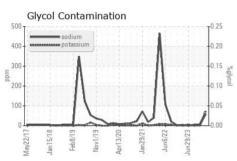
,		sy2017 Jan20				
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0102350	GFL0102353	GFL0085242
Sample Date		Client Info		27 Feb 2024	01 Feb 2024	27 Oct 2023
Machine Age	hrs	Client Info		0	8895	8895
Oil Age	hrs	Client Info		600	600	600
Oil Changed		Client Info		Not Changd	Not Changd	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINATION	NC	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS)	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	12	26	20
Chromium	ppm	ASTM D5185m	>5	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	1	2	4
Titanium	ppm	ASTM D5185m	>2	0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	2	5	4
Lead	ppm	ASTM D5185m	>25	1	0	0
Copper	ppm	ASTM D5185m	>100	21	0	0
Tin	ppm	ASTM D5185m	>4	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
	le le	method	limit/base		history1	
ADDITIVES		memoa	IIIIIII/nase	current	nisiorvi	history2
Boron	ppm	ASTM D5185m	0	7	4	7
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	0	7 0	4 <1	7
Boron		ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	7 0 60	4 <1 60	7 4 61
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	7 0 60 <1	4 <1 60 <1	7 4 61 <1
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	7 0 60	4 <1 60 <1 846	7 4 61 <1 833
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	7 0 60 <1 1101 1224	4 <1 60 <1	7 4 61 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	7 0 60 <1 1101	4 <1 60 <1 846	7 4 61 <1 833
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	7 0 60 <1 1101 1224	4 <1 60 <1 846 1044	7 4 61 <1 833 941
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	7 0 60 <1 1101 1224 1032	4 <1 60 <1 846 1044 1003	7 4 61 <1 833 941 1039
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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	7 0 60 <1 1101 1224 1032 1497	4 <1 60 <1 846 1044 1003 1206	7 4 61 <1 833 941 1039 1135
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 ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 0 60 <1 1101 1224 1032 1497 3553	4 <1 60 <1 846 1044 1003 1206 2762	7 4 61 <1 833 941 1039 1135 2676
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 0 60 <1 1101 1224 1032 1497 3553	4 <1 60 <1 846 1044 1003 1206 2762 history1	7 4 61 <1 833 941 1039 1135 2676 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	7 0 60 <1 1101 1224 1032 1497 3553 current	4 <1 60 <1 846 1044 1003 1206 2762 history1 10	7 4 61 <1 833 941 1039 1135 2676 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	7 0 60 <1 1101 1224 1032 1497 3553 current 7 ▲ 59	4 <1 60 <1 846 1044 1003 1206 2762 history1 10 5	7 4 61 <1 833 941 1039 1135 2676 history2 11 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	7 0 60 <1 1101 1224 1032 1497 3553 current 7 ▲ 59 ▲ 74	4 <1 60 <1 846 1044 1003 1206 2762 history1 10 5 1	7 4 61 <1 833 941 1039 1135 2676 history2 11 4 0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Glycol	ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25	7 0 60 <1 1101 1224 1032 1497 3553 current 7 ▲ 59 ▲ 74 NEG	4 <1 60 <1 846 1044 1003 1206 2762 history1 10 5 1 NEG	7 4 61 <1 833 941 1039 1135 2676 history2 11 4 0 NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm	ASTM D5185m *ASTM D5185m ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D5185m *ASTM D2982 method	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	7 0 60 <1 1101 1224 1032 1497 3553 current 7 ▲ 59 ▲ 74 NEG	4 <1 60 <1 846 1044 1003 1206 2762 history1 10 5 1 NEG history1	7 4 61 <1 833 941 1039 1135 2676 history2 11 4 0 NEG history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm	ASTM D5185m ASTM D7844	0 0 60 0 1010 1150 1270 2060 limit/base >25 >20	7 0 60 <1 1101 1224 1032 1497 3553 current 7 ▲ 59 ▲ 74 NEG current 0.2	4 <1 60 <1 846 1044 1003 1206 2762 history1 10 5 1 NEG history1 0.6	7 4 61 <1 833 941 1039 1135 2676 history2 11 4 0 NEG history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm	ASTM D5185m Method ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7824	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	7 0 60 <1 1101 1224 1032 1497 3553	4 <1 60 <1 846 1044 1003 1206 2762 history1 10 5 1 NEG history1 0.6 10.4	7 4 61 <1 833 941 1039 1135 2676 history2 11 4 0 NEG history2 0.6 8.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm	ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20	7 0 60 <1 1101 1224 1032 1497 3553	4 <1 60 <1 846 1044 1003 1206 2762 history1 10 5 1 NEG history1 0.6 10.4 20.4	7 4 61 <1 833 941 1039 1135 2676 history2 11 4 0 NEG history2 0.6 8.0 18.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANT Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm	ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415 method	0 0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >25	7 0 60 <1 1101 1224 1032 1497 3553 current 7 ▲ 59 ▲ 74 NEG current 0.2 6.7 18.2 current	4 <1 60 <1 846 1044 1003 1206 2762 history1 10 5 1 NEG history1 0.6 10.4 20.4 history1	7 4 61 <1 833 941 1039 1135 2676 history2 11 4 0 NEG history2 0.6 8.0 18.8 history2



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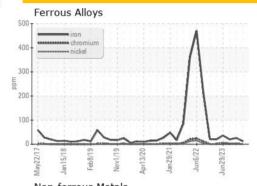


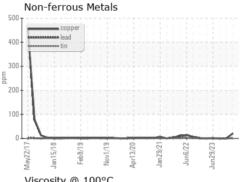


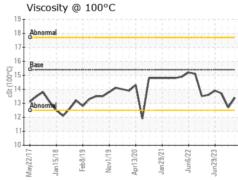
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG

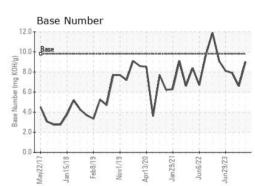
FLUID PROP	EHIIES	method	iiiiii/base	current	riistory i	riistoryz
Visc @ 100°C	cSt	ASTM D445	15.4	13.4	12.7	13.7

GRAPHS













Laboratory Sample No. Lab Number : 06104212 Unique Number : 10902442

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : GFL0102350

Received **Tested** Diagnosed Test Package: FLEET (Additional Tests: Glycol)

: 29 Feb 2024 : 04 Mar 2024

: 04 Mar 2024 - Jonathan Hester

GFL Environmental - 035 - Greensboro 1236 Elon Place High Point, NC US 27263

Contact: JORGE COSTA jorge.costa@gflenv.com T: (336)668-3712

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)

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