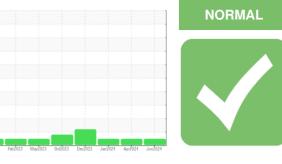


OIL ANALYSIS REPORT

Sample Rating Trend



Area (GAC711) 913015 Component Diesel Engine Fluid

PETRO CANADA DURON SHP 15W40 (11 GAL)

SAMPLE INFORMATION method

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.

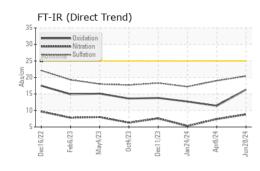
Fluid Condition

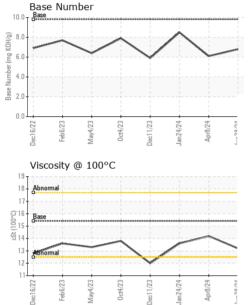
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		method	initi/base	Current	Thistory I	· · · · ·
Sample Number		Client Info		GFL0103403	GFL0103405	GFL0103411
Sample Date		Client Info		28 Jun 2024	08 Apr 2024	24 Jan 2024
Machine Age	hrs	Client Info		4808	4222	3657
Oil Age	hrs	Client Info		586	565	73
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
			12 . 19 /1			
CONTAMINATI	ON	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
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS	S	method	limit/base	current	history1	history2
Iron	ppm		>120	12	17	4
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	1	0	9
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	4	2
Lead	ppm	ASTM D5185m	>40	4	0	<1
Copper	ppm	ASTM D5185m	>330	2	54	<1
Tin	ppm	ASTM D5185m	>15	2	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
			11 1. 0			
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	Method ASTM D5185m	limit/base	current 3	history1 <1	history2 11
	ppm ppm					
Boron		ASTM D5185m	0	3	<1	11
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	3 0	<1 0	11 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	3 0 63	<1 0 6	11 0 53
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	3 0 63 <1	<1 0 6 <1	11 0 53 <1
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	3 0 63 <1 895	<1 0 6 <1 110	11 0 53 <1 810
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	3 0 63 <1 895 1071	<1 0 6 <1 110 2374	11 0 53 <1 810 1108
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	0 0 60 0 1010 1070 1150	3 0 63 <1 895 1071 1043	<1 0 6 <1 110 2374 964	11 0 53 <1 810 1108 973
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	0 0 60 0 1010 1070 1150 1270	3 0 63 <1 895 1071 1043 1238	<1 0 6 <1 110 2374 964 1165	11 0 53 <1 810 1108 973 1173
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm 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 1270 2060	3 0 63 <1 895 1071 1043 1238 3329	<1 0 6 <1 110 2374 964 1165 4131	11 0 53 <1 810 1108 973 1173 3022
Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus Zinc Sulfur CONTAMINAN Silicon	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	3 0 63 <1 895 1071 1043 1238 3329 current 4	<1 0 6 <1 110 2374 964 1165 4131 history1	11 0 53 <1 810 1108 973 1173 3022 history2 3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	3 0 63 <1 895 1071 1043 1238 3329 current	<1 0 6 <1 110 2374 964 1165 4131 history1 6	11 0 53 <1 810 1108 973 1173 3022 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20	3 0 63 <1 895 1071 1043 1238 3329 current 4 5 2	<1 0 6 <1 110 2374 964 1165 4131 history1 6 1 4	11 0 53 <1 810 1108 973 1173 3022 history2 3 3 3 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	3 0 63 <1 895 1071 1043 1238 3329 current 4 5 2 2	<1 0 6 <1 110 2374 964 1165 4131 history1 6 1 4 history1	11 0 53 <1 810 1108 973 1173 3022 history2 3 3 2 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 ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	3 0 63 <1 895 1071 1043 1238 3329 current 4 5 2 2 current 0.6	<1 0 6 <1 110 2374 964 1165 4131 history1 6 1 4 history1 0.3	11 0 53 <1 810 1108 973 1173 3022 history2 3 3 2 history2 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Solicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 imit/base >20	3 0 63 <1 895 1071 1043 1238 3329 current 4 5 2 2 current 0.6 8.8	<1 0 6 <1 110 2374 964 1165 4131 history1 6 1 4 4 history1 0.3 7.4	11 0 53 <1 810 1108 973 1173 3022 history2 3 3 2 history2 0.1 5.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	3 0 63 <1 895 1071 1043 1238 3329 current 4 5 2 2 current 0.6	<1 0 6 <1 110 2374 964 1165 4131 history1 6 1 4 history1 0.3	11 0 53 <1 810 1108 973 1173 3022 history2 3 3 2 history2 0.1
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	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 imit/base >20	3 0 63 <1 895 1071 1043 1238 3329 current 4 5 2 2 current 0.6 8.8	<1 0 6 <1 110 2374 964 1165 4131 history1 6 1 4 4 history1 0.3 7.4	11 0 53 <1 810 1108 973 1173 3022 history2 3 3 2 history2 0.1 5.3
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	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 20 20 20 20 20 20 20 20 20 20 20	3 0 63 <1 895 1071 1043 1238 3329 current 4 5 2 2 current 0.6 8.8 20.4	<1 0 6 <1 110 2374 964 1165 4131 history1 6 1 4 4 history1 0.3 7.4 19.0	11 0 53 <1 810 1108 973 1173 3022 history2 3 3 2 history2 0.1 5.3 17.2
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 TS ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 220 20 20 20 20 20 20 20 20 20 20 20	3 0 63 <1 895 1071 1043 1238 3329 current 4 5 2 current 0.6 8.8 20.4 current	<1 0 6 <1 110 2374 964 1165 4131 history1 6 1 4 history1 0.3 7.4 19.0 history1	11 0 53 <1 810 1108 973 1173 3022 history2 3 3 2 history2 0.1 5.3 17.2 history2



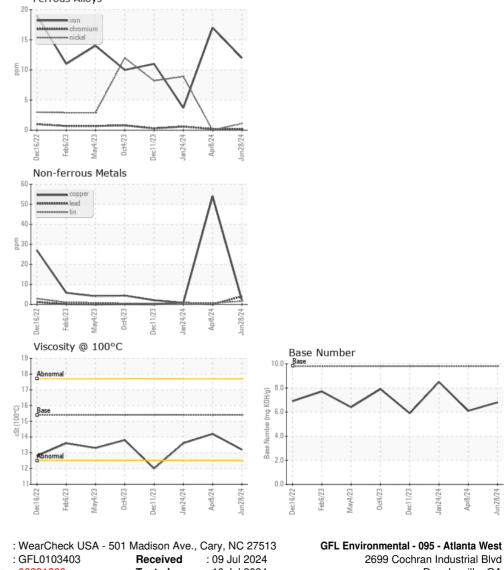
OIL ANALYSIS REPORT





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	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 PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.2	14.2	13.6
GRAPHS						

Ferrous Alloys



Laboratory Sample No. 2699 Cochran Industrial Blvd Lab Number : 06231200 Tested : 10 Jul 2024 Douglasville, GA Unique Number : 11114693 Diagnosed : 10 Jul 2024 - Wes Davis US 30127-1332 Test Package : FLEET Contact: Darrell Welch Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. darrell.welch@gflenv.com T: (800)207-6618 * - 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)

Submitted By: Darrell Welch

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