

OIL ANALYSIS REPORT

Sample Rating Trend



413023 Component Diesel Engine

PETRO CANADA DURON SHP 15W40 (--- GAL)

SAMPLE INFORMATION method

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Machine Id

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

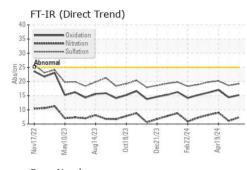
Fluid Condition

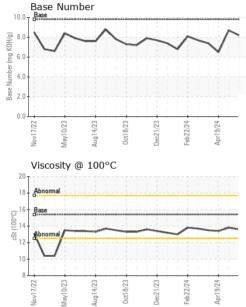
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		method	iiiiii/base	current	nistory i	nistoryz
Sample Number		Client Info		GFL0123153	GFL0104971	GFL0104869
Sample Date		Client Info		27 May 2024	07 May 2024	19 Apr 2024
Machine Age	hrs	Client Info		4256	4113	3963
Oil Age	hrs	Client Info		4256	3686	3816
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
-						
CONTAMINAT	ION	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 METAL	0	mathad	limit/bass	ourroat	biotory	biotom/Q
	3	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>120	5	2	13
Chromium	ppm	ASTM D5185m	>20	0	0	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	3
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	1	<1	4
Lead	ppm	ASTM D5185m	>40	0	0	2
Copper	ppm	ASTM D5185m	>330	1	<1	2
Tin	ppm	ASTM D5185m	>15	0	0	2
Vanadium	ppm	ASTM D5185m		0	0	<1
Cadmium	ppm	ASTM D5185m		0	0	<1
Gaumum	ppm	/ to fill Do toolii		0	0	
ADDITIVES	ppm	method	limit/base	current	history1	history2
		method	limit/base	current	history1	
ADDITIVES	ppm	method ASTM D5185m				history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 0 0	history1 2 0	history2 <1
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 0 0 58	history1 2 0 55	history2 <1 0 64
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	ourrent 0 0 58 <1	history1 2 0 55 <1	history2 <1 0 64 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 0 0 58 <1 940	history1 2 0 55 <1 882	history2 <1 0 64 <1 998
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	current 0 58 <1 940 1109	history1 2 0 55 <1 882 1010	<1 0 64 <1 998 1083
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150	current 0 58 <1 940 1109 1039	history1 2 0 55 <1 882 1010 971	history2 <1 0 64 <1 998 1083 1124
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 0 0 58 <1 940 1109 1039 1234	history1 2 0 55 <1 882 1010 971 1155	<1 0 64 <1 998 1083 1124 1270
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method 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	Current 0 58 <1 940 1109 1039 1234 3471	history1 2 0 55 <1 882 1010 971 1155 3334	<1 0 64 <1 998 1083 1124 1270 2981
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070 1150 1270	current 0 0 58 <1 940 1109 1039 1234	history1 2 0 55 <1 882 1010 971 1155	<1 0 64 <1 998 1083 1124 1270
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method 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	Current 0 58 <1 940 1109 1039 1234 3471	history1 2 0 55 <1 882 1010 971 1155 3334	<1 0 64 <1 998 1083 1124 1270 2981
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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	Current 0 0 58 <1 940 1109 1039 1234 3471 Current	history1 2 0 55 <1 882 1010 971 1155 3334 history1	<1 0 64 <1 998 1083 1124 1270 2981 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method 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	current 0 0 58 <1 940 1109 1039 1234 3471 current 0	history1 2 0 55 <1 882 1010 971 1155 3334 history1 2	<1 0 64 <1 998 1083 1124 1270 2981 history2 6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	current 0 0 58 <1 940 1109 1039 1234 3471 current 0 14	history1 2 0 55 <1 882 1010 971 1155 3334 history1 2 8	<1 0 64 <1 998 1083 1124 1270 2981 history2 6 17
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25	current 0 0 58 <1 940 1109 1039 1234 3471 current 0 14 6	history1 2 0 55 <1 882 1010 971 1155 3334 history1 2 8 2 3	<1 0 64 <1 998 1083 1124 1270 2981 history2 6 17 11
ADDITIVES 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	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25	current 0 0 58 <1 940 1109 1039 1234 3471 current 0 14 6 current	history1 2 0 55 <1 882 1010 971 1155 3334 history1 2 8 2 8 2 8 2 8 2 8 2 8 2 8 2 history1	<1 0 64 <1 998 1083 1124 1270 2981 history2 6 17 11 history2
ADDITIVES 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 TS	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >20	current 0 0 58 <1 940 1109 1039 1234 3471 current 0 14 6 current 0.3	history1 2 0 55 <1 882 1010 971 1155 3334 history1 2 8 2 8 1010 971 1155 3334 history1 2 8 2 8 2 8 2 8 2 0.2	<1 0 64 <1 998 1083 1124 1270 2981 history2 6 17 11 history2 0.5
ADDITIVES 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	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 >25 >20 imit/base >20	current 0 0 58 <1 940 1109 1039 1234 3471 current 0 14 6 current 0.3 7.3	history1 2 0 55 <1 882 1010 971 1155 3334 history1 2 8 2 history1 0.2 6.1 18.6	<1 0 64 <1 998 1083 1124 1270 2981 history2 6 17 11 history2 0.5 9.0 20.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAM	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7185 method *ASTM D7624 *ASTM D7415 method	0 0 0 1010 1070 1150 1270 2060 2060 225 220 220 220 220 20 20 20 20 20 20 20 20	current 0 0 58 <1 940 1109 1039 1234 3471 current 0 14 6 current 0.3 7.3 19.2 current	history1 2 0 55 <1 882 1010 971 1155 3334 history1 2 8 2 8 2 8 2 8 2 8 2 10 0.2 6.1 18.6 history1	<1 0 64 <1 998 1083 1124 1270 2981 history2 6 17 11 history2 0.5 9.0 20.2 history2
ADDITIVES 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	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 25 20 225 20 20 20 20 20 20 20 20 20 20 20 20 20	current 0 0 58 <1 940 1109 1039 1234 3471 current 0 14 6 current 0.3 7.3 19.2	history1 2 0 55 <1 882 1010 971 1155 3334 history1 2 8 2 history1 0.2 6.1 18.6	<1 0 64 <1 998 1083 1124 1270 2981 history2 6 17 11 history2 0.5 9.0 20.2



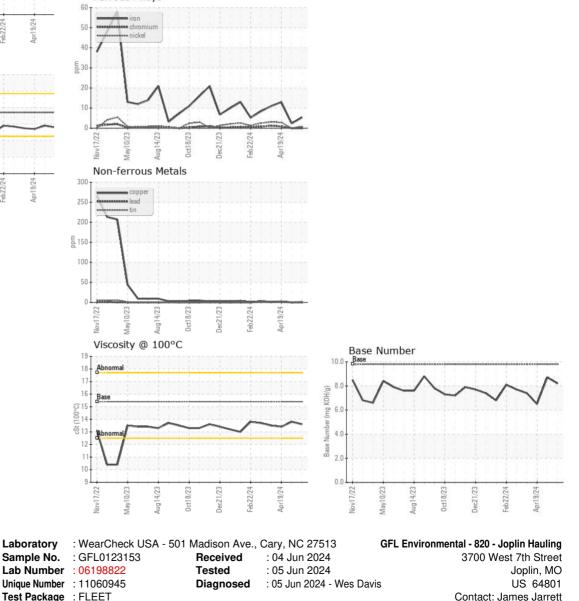
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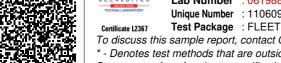




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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 PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.8	13.4
GRAPHS						

Ferrous Alloys





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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Submitted By: VINCE ASTI Page 2 of 2

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