

OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL

Machine Id

928113-443 Component Diesel Engine

Fluid

PETRO CANADA DURON SHP 15W40 (600 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

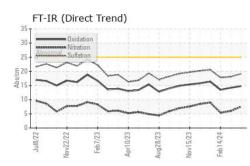
Fluid Condition

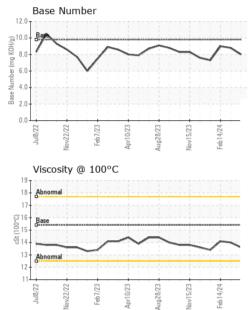
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		GFL0118727	GFL0110581	GFL0110565
Sample Date		Client Info		08 May 2024	25 Mar 2024	14 Feb 2024
Machine Age	hrs	Client Info		23558	23251	165294
Oil Age	hrs	Client Info		200	200	600
Oil Changed		Client Info		Not Changd	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	2	2
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	1	1	0
Lead	ppm	ASTM D5185m	>40	<1	<1	<1
Copper	ppm	ASTM D5185m	>330	4	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	2	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES	ppm	ASTM D5185m method	limit/base	0 current	0 history1	0 history2
	ppm ppm	method	limit/base 0			-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	0	current 4	history1 0	history2 2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	0	current 4 0	history1 0 0	history2 2 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 4 0 60	history1 0 0 55	history2 2 0 59
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 4 0 60 1	history1 0 0 55 0	history2 2 0 59 0
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 4 0 60 1 993	history1 0 55 0 976 1067 946	history2 2 0 59 0 925 1019 1031
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 4 0 60 1 993 1082	history1 0 55 0 976 1067	history2 2 0 59 0 925 1019
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 4 0 60 1 993 1082 1049	history1 0 55 0 976 1067 946	history2 2 0 59 0 925 1019 1031
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 4 0 60 1 993 1082 1049 1295	history1 0 55 0 976 1067 946 1237	history2 2 0 59 0 925 1019 1031 1182
ADDITIVES Boron Barium Molybdenum Manganese Magnesium 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 4 0 60 1 993 1082 1049 1295 3530 current 10	history1 0 0 55 0 976 1067 946 1237 3584 history1 6	history2 2 0 59 0 925 1019 1031 1182 3073 history2 10
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 1010 1070 1150 1270 2060	Current 4 0 60 1 993 1082 1049 1295 3530 Current	history1 0 55 0 976 1067 946 1237 3584 history1	history2 2 0 59 0 925 1019 1031 1182 3073 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Chosphorus 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 1010 1070 1150 1270 2060	current 4 0 60 1 993 1082 1049 1295 3530 current 10	history1 0 0 55 0 976 1067 946 1237 3584 history1 6	history2 2 0 59 0 925 1019 1031 1182 3073 history2 10
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 4 0 60 1 993 1082 1049 1295 3530 Current 10 5 0 Current	history1 0 55 0 976 1067 946 1237 3584 history1 6 3 1 history1	history2 2 0 59 0 925 1019 1031 1182 3073 history2 10 2 0 +history2 0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	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	current 4 0 60 1 993 1082 1049 1295 3530 current 10 5 0	history1 0 0 55 0 976 1067 946 1237 3584 history1 6 3 1	history2 2 0 59 0 925 1019 1031 1182 3073 history2 10 2 0
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 4 0 60 1 993 1082 1049 1295 3530 Current 10 5 0 Current	history1 0 55 0 976 1067 946 1237 3584 history1 6 3 1 history1	history2 2 0 59 0 925 1019 1031 1182 3073 history2 10 2 0 +history2 0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base >3	current 4 0 60 1 993 1082 1049 1295 3530 current 10 5 0 current 0.4	history1 0 0 55 0 976 1067 946 1237 3584 history1 6 3 1 history1 0 0.2	history2 2 0 59 0 925 1019 1031 1182 3073 history2 10 2 0 history2 0 0.2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Silicon Sidium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 imit/base >25 >20 imit/base >3 >20	current 4 0 60 1 993 1082 1049 1295 3530 current 10 5 0 current 0.4 7.5	history1 0 0 55 0 976 1067 946 1237 3584 history1 6 3 1 history1 0.2 6.0	history2 2 0 59 0 925 1019 1031 1182 3073 history2 10 2 0 history2 0 bistory2 0.2 5.4
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 TS ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 2060 225 20 225 20 20 3 20 20 20 20 20 20 20 20 20 20 20 20 20	current 4 0 60 1 993 1082 1049 1295 3530 current 10 5 0 current 0.4 7.5 19.1	history1 0 0 55 0 976 1067 946 1237 3584 history1 6 3 1 0.2 6.0 18.1	history2 2 0 59 0 925 1019 1031 1182 3073 history2 10 2 0 history2 0 12 0.2 5.4 17.8



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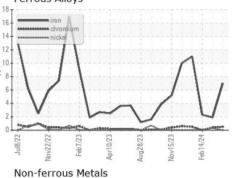


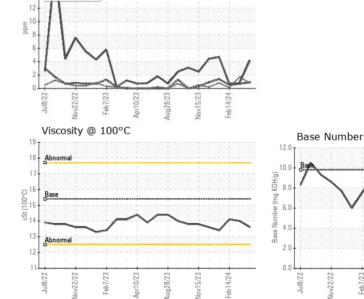


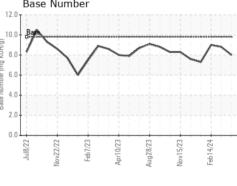
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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	14.0	14.1
GRAPHS						

Ferrous Alloys

18 16 14







Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 GFL Environmental - 166 - Phenix City Sample No. : GFL0118727 Received : 13 May 2024 18 Old Brickyard Rd Lab Number : 06176709 Tested : 14 May 2024 Phenix City, AL Unique Number : 11022762 Diagnosed : 14 May 2024 - Wes Davis US 36869 Test Package : FLEET Contact: DEAN PEACE JR Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. dean.peace@gflenv.com * - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: F:

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

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Submitted By: DARRIN WRIGHT