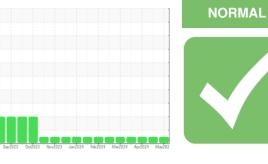


OIL ANALYSIS REPORT

Sample Rating Trend





414061 Component Diesel Engine

Machine Id

PETRO CANADA DURON SHP 15W40 (600 GAL)

SAMPLE INFORMATION method limit/base

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.

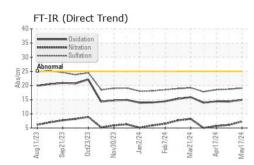
Fluid Condition

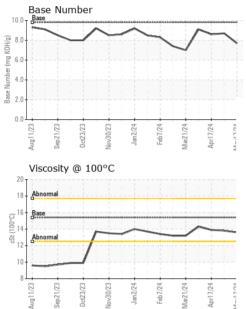
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

		methoa	iimit/base	current	nistory i	nistoryz
Sample Number		Client Info		GFL0118672	GFL0118713	GFL0118638
Sample Date		Client Info		17 May 2024	26 Apr 2024	17 Apr 2024
Machine Age	hrs	Client Info		2119	1955	1879
Oil Age	hrs	Client Info		600	150	400
Oil Changed		Client Info		Changed	Not Changd	Not Changd
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	S	method	limit/base	current	history1	history2
Iron			>120		8	5
-	ppm	ASTM D5185m		11	0	
Chromium	ppm	ASTM D5185m	>20	1		<1
Nickel	ppm	ASTM D5185m	>5	3	<1	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>2	1	0	0
Aluminum	ppm	ASTM D5185m	>20	5	2	2
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	22	17	19
Tin	ppm		>15	2	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
ADDITIVES		ام م مالا م میں	limit/base		he has a second	history2
ADDITIVES		method	iimit/base	current	history1	THSTOLYZ
Boron	ppm		0	0	0	<1
	ppm ppm					
Boron		ASTM D5185m	0	0	0	<1
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0	0 0	0	<1 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	0 0 62	0 0 63	<1 0 60
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	0 0 62 <1	0 0 63 0	<1 0 60 <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	0 0 62 <1 989	0 0 63 0 1070	<1 0 60 <1 994
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	0 0 62 <1 989 1101	0 0 63 0 1070 1175	<1 0 60 <1 994 1074
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	0 0 62 <1 989 1101 1070	0 0 63 0 1070 1175 1100	<1 0 60 <1 994 1074 1048
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	0 0 62 <1 989 1101 1070 1247	0 0 63 0 1070 1175 1100 1410	<1 0 60 <1 994 1074 1048 1257
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 1010 1070 1150 1270 2060	0 0 62 <1 989 1101 1070 1247 3414	0 0 63 0 1070 1175 1100 1410 3906	<1 0 60 <1 994 1074 1048 1257 3492
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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	0 0 60 1010 1070 1150 1270 2060	0 0 62 <1 989 1101 1070 1247 3414 current 6	0 0 63 0 1070 1175 1100 1410 3906 history1	<1 0 60 <1 994 1074 1048 1257 3492 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm 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 1010 1070 1150 1270 2060	0 0 62 <1 989 1101 1070 1247 3414 current	0 0 63 0 1070 1175 1100 1410 3906 history1 3	<1 0 60 <1 994 1074 1048 1257 3492 history2 4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm 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	0 0 60 1010 1070 1150 1270 2060 kimit/base >25	0 0 62 <1 989 1101 1070 1247 3414 <u>current</u> 6 3	0 0 63 0 1070 1175 1100 1410 3906 history1 3 <1	<1 0 60 <1 994 1074 1048 1257 3492 history2 4 1
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	0 0 0 1010 1070 1150 1270 2060 imit/base >25	0 0 62 <1 989 1101 1070 1247 3414 <i>current</i> 6 3 15 <i>current</i>	0 0 63 0 1070 1175 1100 1410 3906 history1 3 <1 0 history1	<1 0 60 <1 994 1074 1048 1257 3492 history2 4 1 2 kistory2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >25 >20 limit/base	0 0 62 <1 989 1101 1070 1247 3414 <i>current</i> 6 3 15 <i>current</i> 0.3	0 0 63 0 1070 1175 1100 1410 3906 history1 3 <1 0 history1 0.2	<1 0 60 <1 994 1074 1048 1257 3492 history2 4 1 2 history2 0.2
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	0 0 0 1010 1070 1150 1270 2060 <i>limit/base</i> >25 >20 <i>limit/base</i> >4 >20	0 0 62 <1 989 1101 1070 1247 3414 <i>current</i> 6 3 15 <i>current</i> 0.3 7.3	0 0 63 0 1070 1175 1100 1410 3906 history1 3 <1 0 history1 0.2 6.1	<1 0 60 <1 994 1074 1048 1257 3492 history2 4 1 2 history2 0.2 5.7
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 imit/base >25 imit/base >4 >20	0 0 62 <1 989 1101 1070 1247 3414 <i>current</i> 6 3 15 <i>current</i> 0.3 7.3 19.1	0 0 63 0 1070 1175 1100 1410 3906 history1 3 <1 0 history1 0.2 6.1 18.7	<1 0 60 <1 994 1074 1048 1257 3492 history2 4 1 2 0.2 5.7 18.5
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 D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 2260 225 220 220 imit/base >4 >20 >30 imit/base	0 0 62 <1 989 1101 1070 1247 3414 <i>current</i> 6 3 15 <i>current</i> 0.3 7.3 19.1	0 0 63 0 1070 1175 1100 1410 3906 history1 3 <1 0 history1 0.2 6.1 18.7 history1	<1 0 60 <1 994 1074 1048 1257 3492 history2 4 1 2 0.2 5.7 18.5 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAI Oxidation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7414	0 0 0 1010 1070 1150 1270 2060 imit/base >25 imit/base >4 >20 30 imit/base	0 0 62 <1 989 1101 1070 1247 3414 current 6 3 15 current 0.3 7.3 19.1 current 14.9	0 0 63 0 1070 1175 1100 1410 3906 history1 3 <1 0 history1 0.2 6.1 18.7 history1 14.3	<1 0 60 <1 994 1074 1048 1257 3492 history2 4 1 2 0.2 5.7 18.5 history2 14.4
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 D7844 *ASTM D7844 *ASTM D7844	0 0 0 1010 1070 1150 2260 225 220 220 imit/base >4 >20 >30 imit/base	0 0 62 <1 989 1101 1070 1247 3414 <i>current</i> 6 3 15 <i>current</i> 0.3 7.3 19.1	0 0 63 0 1070 1175 1100 1410 3906 history1 3 <1 0 history1 0.2 6.1 18.7 history1	<1 0 60 <1 994 1074 1048 1257 3492 history2 4 1 2 0.2 5.7 18.5 history2



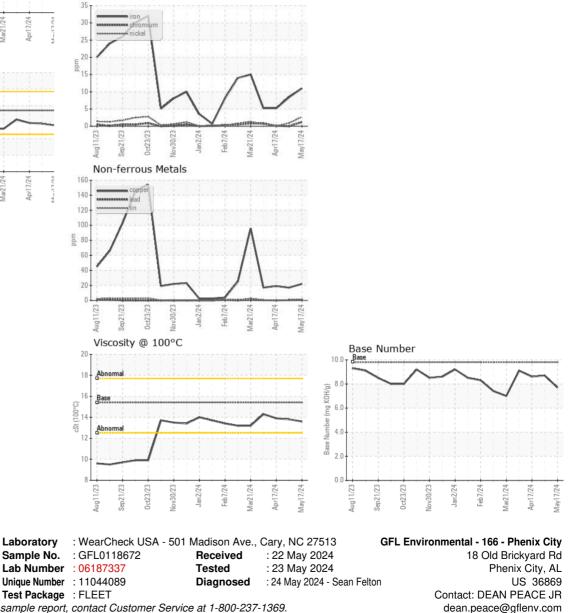
OIL ANALYSIS REPORT





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	13.6	13.8	13.9
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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Certificate 12367

Submitted By: DARRIN WRIGHT

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