

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id 315 [Component Diesel E Fluid PETRO

315 [] Component Diesel Engine Fluid PETRO CANADA DURON SHP 15W40 (--- 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.

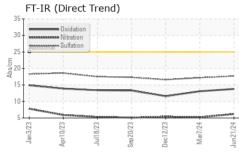
Fluid Condition

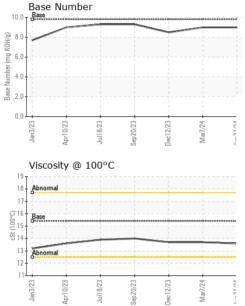
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	ATION	method	limit/base	current	nistory i	nistory2
Sample Number		Client Info		SBP0003873	SBP0003818	SBP0003814
Sample Date		Client Info		21 Jun 2024	07 Mar 2024	12 Dec 2023
Machine Age	hrs	Client Info		9742	9383	9123
Oil Age	hrs	Client Info		359	260	250
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
			11 1. 11			
CONTAMINATIO	N	method	limit/base	current	history1	history2
Fuel		WC Method	>6.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	2	1	0
Chromium	ppm	ASTM D5185m	>20	0	0	0
Nickel	ppm	ASTM D5185m	>5	0	0	<1
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	1	<1	1
Lead	ppm	ASTM D5185m	>40	0	0	0
Copper	ppm	ASTM D5185m	>20	0	<1	0
Tin	ppm	ASTM D5185m	>20	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
Cadmium	ppm	ASTM D5185m		0	0	0
ouumum	10 10			0	0	0
ADDITIVES	le le	method	limit/base	current	history1	history2
			limit/base	current	history1	
ADDITIVES	ppm	method	0			history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m	0	current 0	history1 2	history2 1
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	current 0 0	history1 2 0	history2 1 0
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m	0 0 60	current 0 0 59 0	history1 2 0 52	history2 1 0 37
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	current 0 0 59	history1 2 0 52 0	history2 1 0 37 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	current 0 0 59 0 948	history1 2 0 52 0 870	history2 1 0 37 <1 646
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	Current 0 0 59 0 948 1093	history1 2 0 52 0 870 1059	history2 1 0 37 <1 646 1384
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	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 59 0 948 1093 1096	history1 2 0 52 0 870 1059 988	history2 1 0 37 <1 646 1384 986
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 0 1010 1070 1150 1270	Current 0 0 59 0 948 1093 1096 1287	history1 2 0 52 0 870 1059 988 1148	history2 1 0 37 <1 646 1384 986 1161
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 1010 1070 1150 1270 2060	Current 0 59 0 948 1093 1096 1287 3729	history1 2 0 52 0 870 1059 988 1148 3548	history2 1 0 37 <1 646 1384 986 1161 3203
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	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	0 0 60 1010 1070 1150 1270 2060	Current 0 59 0 948 1093 1096 1287 3729 Current	history1 2 0 52 0 870 1059 988 1148 3548 history1	history2 1 0 37 <1 646 1384 986 1161 3203 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060	current 0 0 59 0 948 1093 1096 1287 3729 current 3	history1 2 0 52 0 870 1059 988 1148 3548 history1 2	history2 1 0 37 <1 646 1384 986 1161 3203 history2 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 60 1010 1070 1150 1270 2060 kimit/base	current 0 0 59 0 948 1093 1096 1287 3729 current 3 4	history1 2 0 52 0 870 1059 988 1148 3548 history1 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	history2 1 0 37 <1 646 1384 986 1161 3203 history2 2 2 2 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 limit/base >20	current 0 59 0 948 1093 1096 1287 3729 current 3 4 <1 current	history1 2 0 52 0 870 1059 988 1148 3548 history1 2 2 0 history1 2 0 history1	history2 1 0 37 <1 646 1384 986 1161 3203 history2 2 2 2 2 1 2 2 2 1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	0 0 0 1010 1070 1150 1270 2060 Imit/base >20 S	current 0 0 59 0 948 1093 1096 1287 3729 current 3 4 <1 current 0.1	history1 2 0 52 0 870 1059 988 1148 3548 history1 2 2 0 history1 0 history1 0.1	history2 1 0 37 <1 646 1384 986 1161 3203 history2 2 2 2 2 1 history2 0.1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS 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 2060 2060 220 20 20 20	current 0 59 0 948 1093 1096 1287 3729 current 3 4 <1 current	history1 2 0 52 0 870 1059 988 1148 3548 history1 2 2 0 history1 2 0 history1	history2 1 0 37 <1 646 1384 986 1161 3203 history2 2 2 2 2 2 2 2 2 31 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS 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 imit/base >20 imit/base >3 >20 >3 >20	Current 0 59 0 948 1093 1096 1287 3729 current 3 4 <1 current 0.1 6.2 17.7	history1 2 0 52 0 870 1059 988 1148 3548 history1 2 2 0 history1 0 history1 0.1 5.2 17.2	history2 1 0 37 <1 646 1384 986 1161 3203 history2 2 2 2 2 2 0.1 5.4 16.6
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7185M *ASTM D7844 *ASTM D7415 method	0 0 0 1010 1070 1150 1270 2060 2060 2060 200 200 200 200 200 200	current 0 59 0 948 1093 1096 1287 3729 current 3 4 <1 current 0.1 6.2 17.7 current	history1 2 0 52 0 870 1059 988 1148 3548 history1 2 2 0 history1 0 history1 0.1 5.2 17.2 history1	history2 1 0 37 <1 646 1384 986 1161 3203 history2 2 2 2 2 1 history2 0.1 5.4 16.6 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS 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 imit/base >20 imit/base >3 >20 >3 >20	Current 0 59 0 948 1093 1096 1287 3729 current 3 4 <1 current 0.1 6.2 17.7	history1 2 0 52 0 870 1059 988 1148 3548 history1 2 2 0 history1 0 history1 0.1 5.2 17.2	history2 1 0 37 <1 646 1384 986 1161 3203 history2 2 2 2 2 2 0.1 5.4 16.6



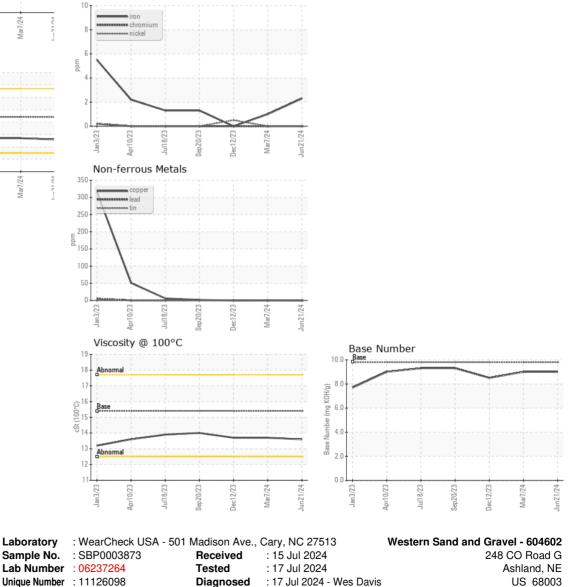
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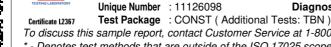




VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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 PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.7	13.7
GRAPHS						

Ferrous Alloys





Diagnosed

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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