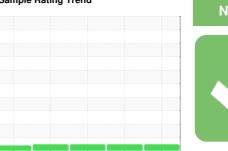


OIL ANALYSIS REPORT

Sample Rating Trend









Machine Id
214 []
Component
Diesel Engine
Fluid

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. NOTE: Please provide information regarding reservoir capacity, filter type and micron rating with next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

Fluid Condition

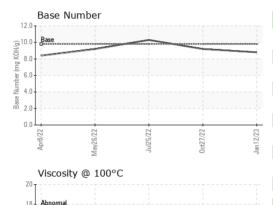
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

- '		Apr2022	May2022	Jul2022 Oct2022	Jan 2023	
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0000837	SBP0000106	SBP0000090
Sample Date		Client Info		12 Jan 2023	27 Oct 2022	25 Jul 2022
Machine Age	hrs	Client Info		1748	1227	823
Oil Age	hrs	Client Info		271	140	322
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	V	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	4	5	5
Chromium	ppm	ASTM D5185m	>20	<1	0	<1
Nickel	ppm	ASTM D5185m	>5	<1	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>30	1	<1	2
Lead	ppm	ASTM D5185m	>40	<1	0	<1
Copper	ppm	ASTM D5185m	>20	6	13	3
Tin	ppm	ASTM D5185m	>20	<1	1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm		limit/base	current 28	history1	history2
	ppm	ASTM D5185m				
Boron	• • • • • • • • • • • • • • • • • • • •	ASTM D5185m	0	28	18	32
Boron Barium	ppm	ASTM D5185m ASTM D5185m	0 0 60	28 0	18	32 2
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60	28 0 48	18 0 44	32 2 40
Boron Barium Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0	28 0 48 <1	18 0 44 <1	32 2 40 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010	28 0 48 <1 955	18 0 44 <1 858	32 2 40 <1 802
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 60 0 1010 1070	28 0 48 <1 955 1347	18 0 44 <1 858 1204	32 2 40 <1 802 1137
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 ASTM D5185m	0 0 60 0 1010 1070 1150	28 0 48 <1 955 1347 1054	18 0 44 <1 858 1204 951	32 2 40 <1 802 1137 916
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 ASTM D5185m	0 0 60 0 1010 1070 1150 1270	28 0 48 <1 955 1347 1054 1211	18 0 44 <1 858 1204 951 1102	32 2 40 <1 802 1137 916 1071
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	28 0 48 <1 955 1347 1054 1211 3930	18 0 44 <1 858 1204 951 1102 3609	32 2 40 <1 802 1137 916 1071 2892
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	28 0 48 <1 955 1347 1054 1211 3930 current	18 0 44 <1 858 1204 951 1102 3609 history1	32 2 40 <1 802 1137 916 1071 2892 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060	28 0 48 <1 955 1347 1054 1211 3930 current	18 0 44 <1 858 1204 951 1102 3609 history1	32 2 40 <1 802 1137 916 1071 2892 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base	28 0 48 <1 955 1347 1054 1211 3930 current 5 4	18 0 44 <1 858 1204 951 1102 3609 history1 6 9	32 2 40 <1 802 1137 916 1071 2892 history2 6 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 60 0 1010 1070 1150 1270 2060 limit/base >20	28 0 48 <1 955 1347 1054 1211 3930 current 5 4	18 0 44 <1 858 1204 951 1102 3609 history1 6 9 3	32 2 40 <1 802 1137 916 1071 2892 history2 6 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	0 0 0 0 1010 1070 1150 1270 2060 limit/base >20	28 0 48 <1 955 1347 1054 1211 3930 current 5 4 2	18 0 44 <1 858 1204 951 1102 3609 history1 6 9 3	32 2 40 <1 802 1137 916 1071 2892 history2 6 2 2
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	ASTM D5185m method *ASTM D7844	0 0 60 0 1010 1150 1270 2060 limit/base >20 limit/base	28 0 48 <1 955 1347 1054 1211 3930 current 5 4 2 current 0.1	18 0 44 <1 858 1204 951 1102 3609 history1 6 9 3 history1 0.2	32 2 40 <1 802 1137 916 1071 2892 history2 6 2 2 history2 0.1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m method *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 0 0 1010 1070 1150 1270 2060 limit/base >20 >20	28 0 48 <1 955 1347 1054 1211 3930 current 5 4 2 current 0.1 6.7	18 0 44 <1 858 1204 951 1102 3609 history1 6 9 3 history1 0.2 8.3	32 2 40 <1 802 1137 916 1071 2892 history2 6 2 2 history2 0.1 7.1
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	ASTM D5185m Method ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D76145	0 0 0 0 1010 1070 1150 1270 2060 limit/base >20 >20 limit/base >3 >20 >3	28 0 48 <1 955 1347 1054 1211 3930 current 5 4 2 current 0.1 6.7 18.5	18 0 44 <1 858 1204 951 1102 3609 history1 6 9 3 history1 0.2 8.3 20.0	32 2 40 <1 802 1137 916 1071 2892 history2 6 2 2 history2 0.1 7.1 19.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRADA	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m METHOD ASTM D5185m METHOD *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m METHOD *ASTM D7844 *ASTM D7624 *ASTM D7615 METHOD	0 0 0 0 1010 1070 1150 1270 2060 limit/base >20 >20 limit/base >3 >20 >30 limit/base	28 0 48 <1 955 1347 1054 1211 3930 current 5 4 2 current 0.1 6.7 18.5 current	18 0 44 <1 858 1204 951 1102 3609 history1 6 9 3 history1 0.2 8.3 20.0 history1	32 2 40 <1 802 1137 916 1071 2892 history2 6 2 2 history2 0.1 7.1 19.3 history2



cSt (100°C)

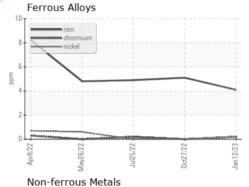
OIL ANALYSIS REPORT

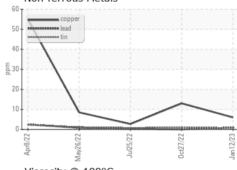


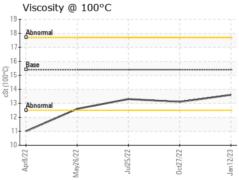
0ct27/22

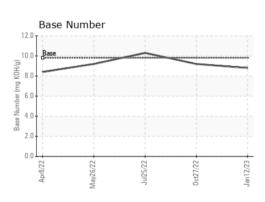
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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 PROPERTIES		method			history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.6	13.1	13.3













Certificate L2367

Laboratory Sample No. Lab Number **Unique Number** Test Package : CONST (Additional Tests: TBN)

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : SBP0000837 : 05752774 : 10312378

To discuss this sample report, contact Customer Service at 1-800-237-1369.

Received Diagnosed

: 27 Jan 2023 : 30 Jan 2023 Diagnostician : Wes Davis

Contact: ZACH SPURLOCK zachs@westernsand.com T: (402)944-3084

Western Sand and Gravel - 604602

* - 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) 248 CO Road G

Ashland, NE

US 68003