

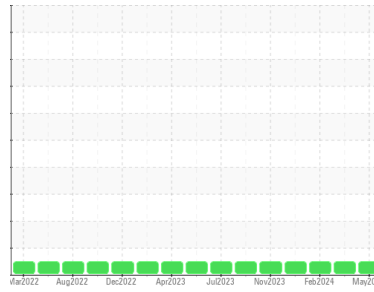


# OIL ANALYSIS REPORT



Machine Id  
**211**     
 Component  
**Diesel Engine**  
 Fluid  
**PETRO CANADA DURON SHP 15W40 (--- GAL)**

### Sample Rating Trend



NORMAL

✓

## 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 INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			<b>SBP0003877</b>	SBP0003882	SBP0003819
Sample Date	Client Info			<b>01 May 2024</b>	14 Mar 2024	05 Feb 2024
Machine Age	hrs Client Info			<b>10761</b>	10516	10230
Oil Age	hrs Client Info			<b>245</b>	286	230
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>6.0		<b>&lt;1.0</b>	<1.0	<1.0
Water	WC Method	>0.2		<b>NEG</b>	NEG	NEG
Glycol	WC Method			<b>NEG</b>	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>200	<b>2</b>	<1	2
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	0
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	<1
Silver	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>30	<b>1</b>	<1	<1
Lead	ppm	ASTM D5185m	>40	<b>0</b>	0	0
Copper	ppm	ASTM D5185m	>20	<b>0</b>	0	<1
Tin	ppm	ASTM D5185m	>20	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	<1
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<b>0</b>	4	3
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>58</b>	58	60
Manganese	ppm	ASTM D5185m	0	<b>0</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>941</b>	1069	990
Calcium	ppm	ASTM D5185m	1070	<b>1082</b>	1156	1110
Phosphorus	ppm	ASTM D5185m	1150	<b>1116</b>	1159	1051
Zinc	ppm	ASTM D5185m	1270	<b>1280</b>	1362	1244
Sulfur	ppm	ASTM D5185m	2060	<b>3773</b>	3899	3818

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	<b>3</b>	3	2
Sodium	ppm	ASTM D5185m		<b>3</b>	2	3
Potassium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1

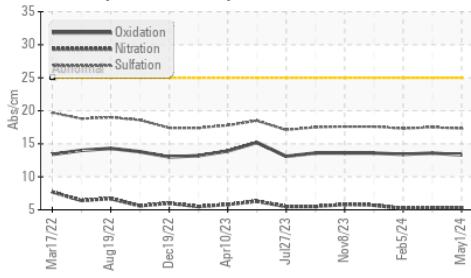
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.3</b>	5.3	5.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.3</b>	17.5	17.3

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.3</b>	13.6	13.4
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>9.4</b>	9.0	8.8

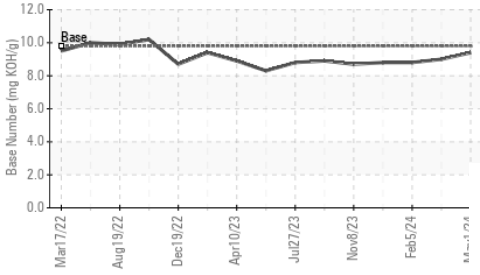


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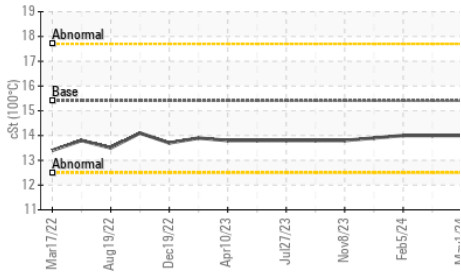
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

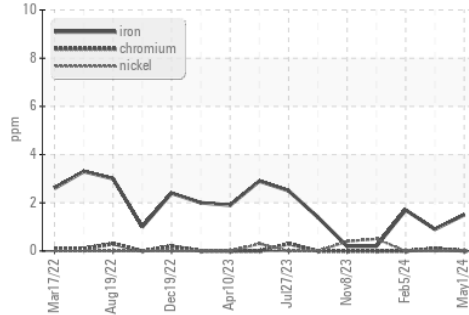


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

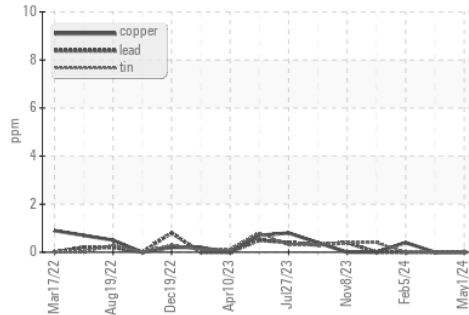
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	<b>14.0</b>	14.0

## GRAPHS

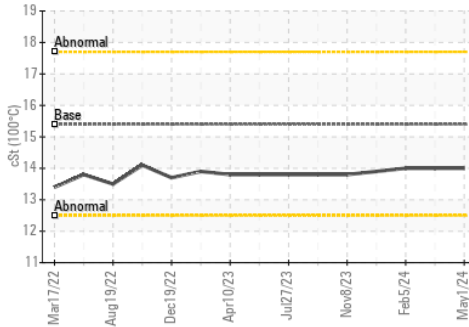
Ferrous Alloys



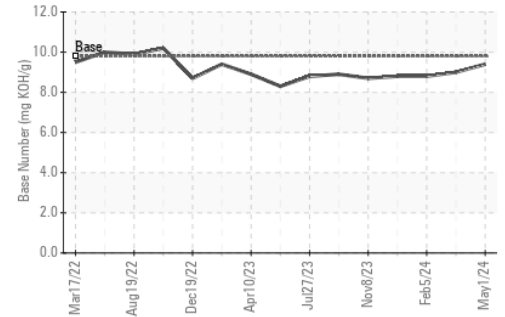
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : SBP0003877      **Received** : 15 Jul 2024  
**Lab Number** : **06237262**      **Tested** : 17 Jul 2024  
**Unique Number** : 11126096      **Diagnosed** : 17 Jul 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**Western Sand and Gravel - 604602**  
 248 CO Road G  
 Ashland, NE  
 US 68003  
 Contact: ZACH SPURLOCK  
 zachs@westernsand.com  
 T: (402)944-3084  
 F:

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)