

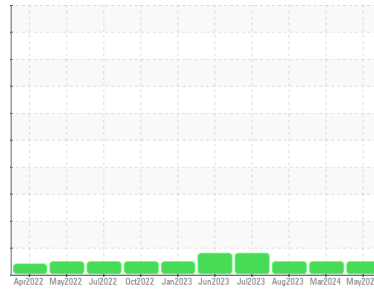


# OIL ANALYSIS REPORT



Machine Id  
**214** []  
 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>SBP0003876</b>	SBP0003820	SBP0003839
Sample Date	Client Info			<b>03 May 2024</b>	14 Mar 2024	29 Aug 2023
Machine Age	hrs	Client Info		<b>4025</b>	3708	2976
Oil Age	hrs	Client Info		<b>317</b>	232	248
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>3</b>	3	3
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	0	<1
Nickel	ppm	ASTM D5185m	>5	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
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>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m	>20	<b>&lt;1</b>	2	7
Tin	ppm	ASTM D5185m	>20	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	<b>0</b>	6	6
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>57</b>	56	51
Manganese	ppm	ASTM D5185m	0	<b>0</b>	0	<1
Magnesium	ppm	ASTM D5185m	1010	<b>976</b>	950	929
Calcium	ppm	ASTM D5185m	1070	<b>1151</b>	1099	1080
Phosphorus	ppm	ASTM D5185m	1150	<b>1128</b>	1037	991
Zinc	ppm	ASTM D5185m	1270	<b>1334</b>	1196	1188
Sulfur	ppm	ASTM D5185m	2060	<b>3977</b>	3717	3551

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

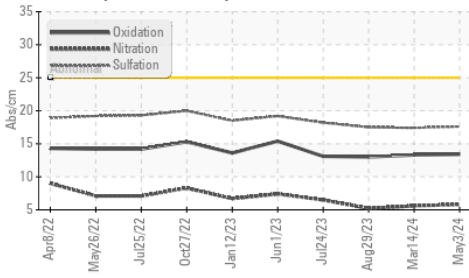
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>5.8</b>	5.6	5.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>17.6</b>	17.4	17.5

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>13.4</b>	13.3	13.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>9.4</b>	9.3	8.9

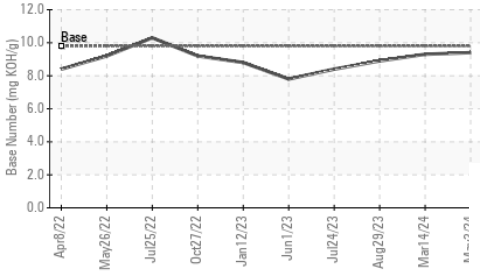


# OIL ANALYSIS REPORT

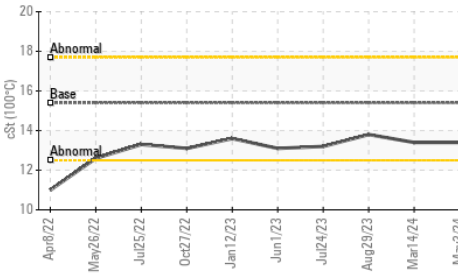
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

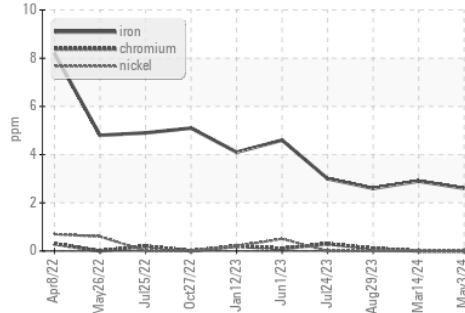


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

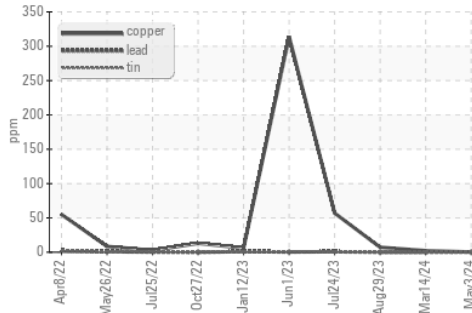
FLUID PROPERTIES	method	limit/base	current	history1	history2	
Visc @ 100°C	cSt	ASTM D445	15.4	<b>13.4</b>	13.4	13.8

## GRAPHS

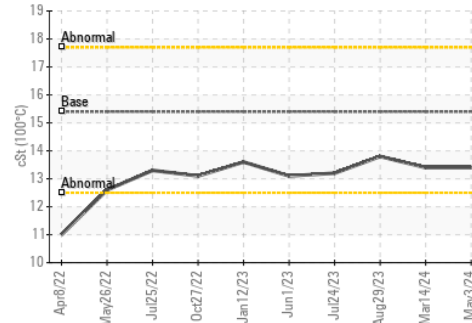
Ferrous Alloys



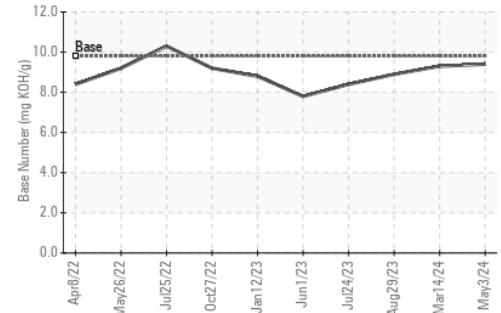
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : SBP0003876      **Received** : 15 Jul 2024  
**Lab Number** : **06237280**      **Tested** : 17 Jul 2024  
**Unique Number** : 11126114      **Diagnosed** : 17 Jul 2024 - Wes Davis  
**Test Package** : CONST ( Additional Tests: TBN )

**Western Sand and Gravel - 604602**  
 248 CO Road G  
 Ashland, NE  
 Ashland, NE 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)