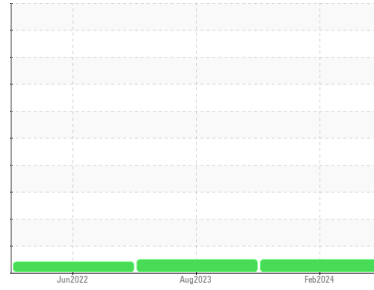




# OIL ANALYSIS REPORT

## Sample Rating Trend



**NORMAL**



Machine Id

**532** [ ]

Component

**Diesel Engine**

Fluid

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

### 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>SBP0003816</b>	SBP0003841	SBP0000085
Sample Date	Client Info			<b>12 Feb 2024</b>	02 Aug 2023	27 Jun 2022
Machine Age	hrs	Client Info		<b>1212</b>	912	411
Oil Age	hrs	Client Info		<b>300</b>	249	279
Oil Changed	Client Info			<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ATTENTION

CONTAMINATION		method	limit/base	current	history1	history2
Fuel	WC Method	>5		<b>&lt;1.0</b>	<1.0	0.1
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	>100	<b>21</b>	16	18
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	<1	4
Lead	ppm	ASTM D5185m	>40	<b>0</b>	<1	0
Copper	ppm	ASTM D5185m	>330	<b>2</b>	2	4
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<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>10</b>	11	9
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>59</b>	56	56
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>1082</b>	986	902
Calcium	ppm	ASTM D5185m	1070	<b>1266</b>	1167	1227
Phosphorus	ppm	ASTM D5185m	1150	<b>1137</b>	1006	1013
Zinc	ppm	ASTM D5185m	1270	<b>1385</b>	1256	1226
Sulfur	ppm	ASTM D5185m	2060	<b>3678</b>	3169	3454

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	<b>5</b>	5	9
Sodium	ppm	ASTM D5185m		<b>2</b>	2	<1
Potassium	ppm	ASTM D5185m	>20	<b>2</b>	2	4

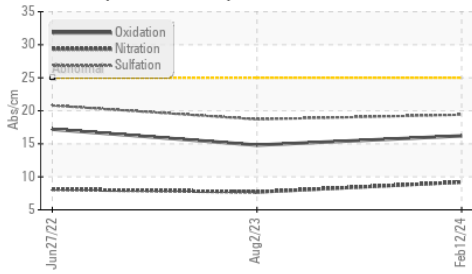
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844	>3	<b>0.2</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.2</b>	7.7	8.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>19.4</b>	18.7	20.8

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.2</b>	14.8	17.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>7.4</b>	8.3	9.6

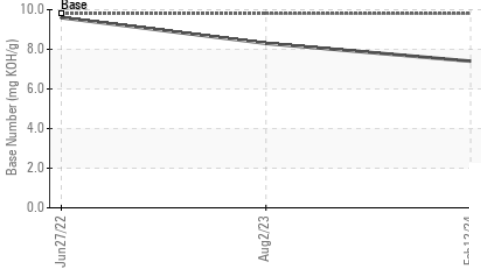


# OIL ANALYSIS REPORT

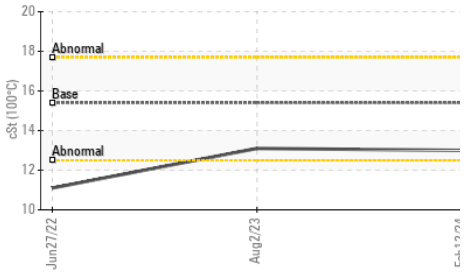
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

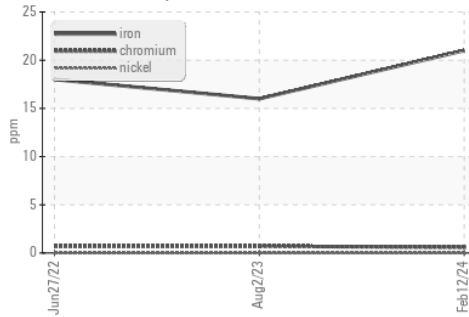


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

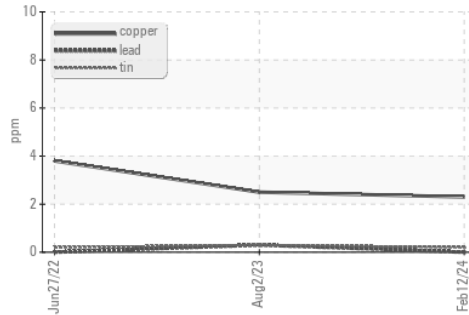
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.4	13.0	13.1

### GRAPHS

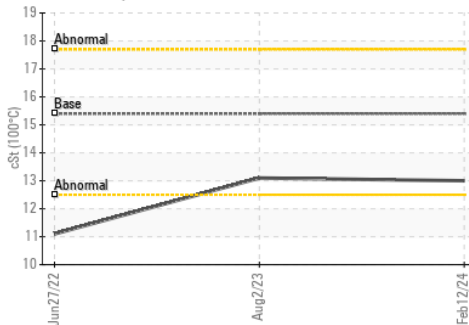
Ferrous Alloys



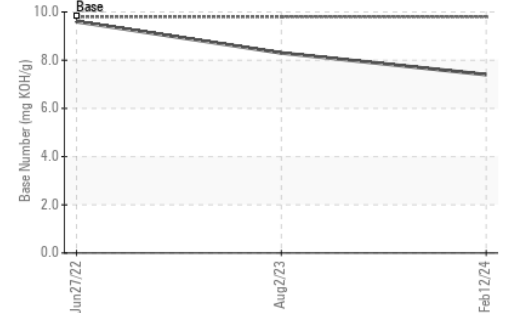
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : SBP0003816      **Received** : 15 Apr 2024  
**Lab Number** : 06149364      **Tested** : 16 Apr 2024  
**Unique Number** : 10979442      **Diagnosed** : 16 Apr 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)