



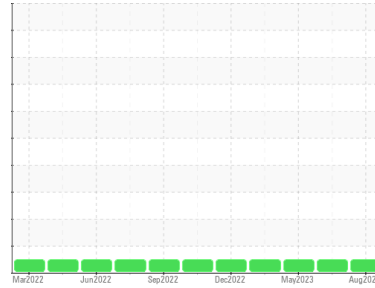
# OIL ANALYSIS REPORT

## Sample Rating Trend

**NORMAL**



Machine Id  
**213** []  
 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>SBP0003840</b>	SBP0003833	SBP0003808
Sample Date	Client Info		<b>09 Aug 2023</b>	21 Jun 2023	03 May 2023
Machine Age	hrs	Client Info	<b>5575</b>	5256	4881
Oil Age	hrs	Client Info	<b>319</b>	375	275
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
Glycol	WC Method		<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >200	<b>1</b>	2	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	<1
Silver	ppm	ASTM D5185m >2	<b>0</b>	0	0
Aluminum	ppm	ASTM D5185m >30	<b>0</b>	<1	<1
Lead	ppm	ASTM D5185m >40	<b>&lt;1</b>	0	0
Copper	ppm	ASTM D5185m >20	<b>&lt;1</b>	<1	<1
Tin	ppm	ASTM D5185m >20	<b>&lt;1</b>	0	<1
Vanadium	ppm	ASTM D5185m	<b>&lt;1</b>	<1	<1
Cadmium	ppm	ASTM D5185m	<b>0</b>	0	0

## ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	<b>14</b>	15	18
Barium	ppm	ASTM D5185m 0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m 60	<b>56</b>	58	59
Manganese	ppm	ASTM D5185m 0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m 1010	<b>954</b>	1006	1008
Calcium	ppm	ASTM D5185m 1070	<b>1115</b>	1183	1195
Phosphorus	ppm	ASTM D5185m 1150	<b>996</b>	1040	1060
Zinc	ppm	ASTM D5185m 1270	<b>1237</b>	1242	1262
Sulfur	ppm	ASTM D5185m 2060	<b>3242</b>	3805	3840

## CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	<b>2</b>	2	2
Sodium	ppm	ASTM D5185m	<b>3</b>	4	4
Potassium	ppm	ASTM D5185m >20	<b>0</b>	0	0

## INFRA-RED

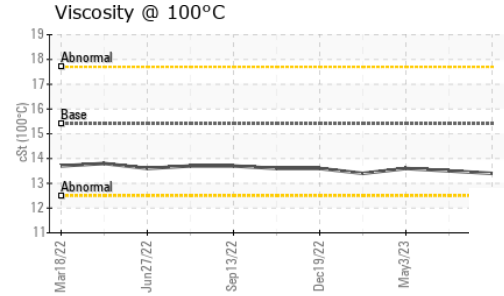
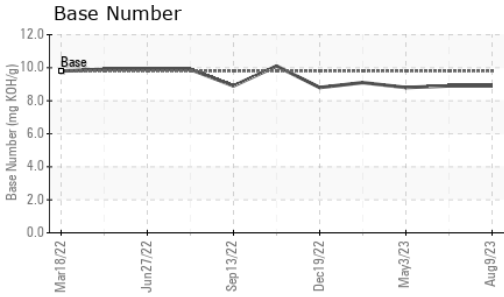
	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >3	<b>0.1</b>	0.1	0.1
Nitration	Abs/cm	*ASTM D7624 >20	<b>5.4</b>	5.6	5.6
Sulfation	Abs/.1mm	*ASTM D7415 >30	<b>17.4</b>	17.5	17.4

## FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	<b>13.1</b>	13.2	13.2
Base Number (BN)	mg KOH/g	ASTM D2896 9.8	<b>8.9</b>	8.9	8.8



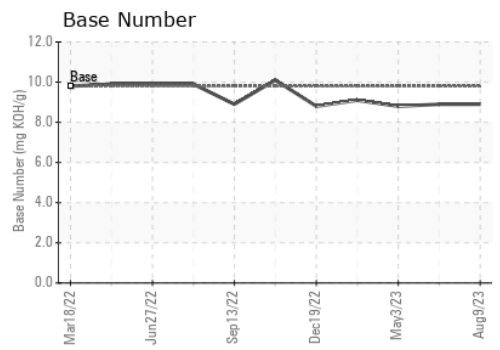
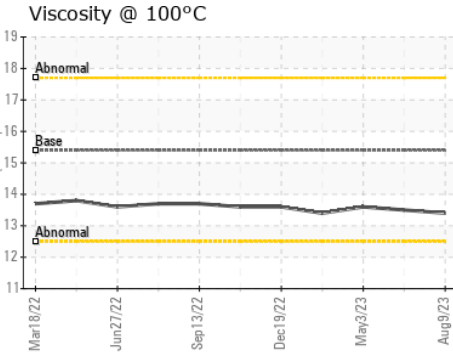
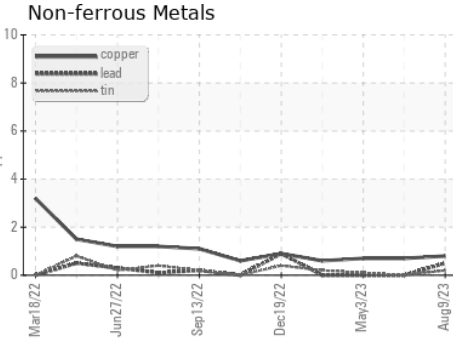
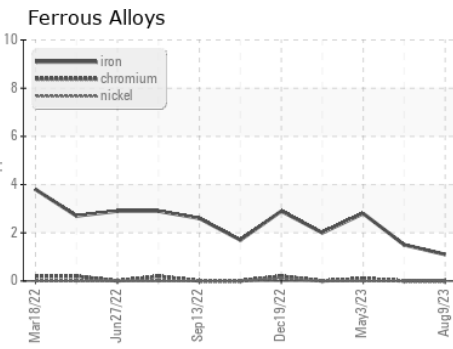
# OIL ANALYSIS REPORT



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>	13.5	13.6

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : SBP0003840 **Received** : 02 Oct 2023  
**Lab Number** : **05966933** **Diagnosed** : 03 Oct 2023  
**Unique Number** : 10673484 **Diagnostician** : 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  
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Certificate L2367  
 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)