



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Area  
**RTS**  
 Machine Id  
**[RTS] 884**

Component  
**Diesel Engine**

Fluid  
**PETRO CANADA DURON SHP 15W40 (24 QTS)**

## RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>WC0901479</b>	WC0843775	WC0843761
Sample Date		Client Info		<b>22 Feb 2024</b>	20 Nov 2023	23 Aug 2023
Machine Age	mls	Client Info		<b>643901</b>	633078	621601
Oil Age	mls	Client Info		<b>10823</b>	11477	12000
Filter Age	mls	Client Info		<b>10823</b>	11477	12000
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	ATTENTION

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	<b>22</b>	19	21
Chromium	ppm	ASTM D5185m	>5	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	<1	0
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	0	0
Silver	ppm	ASTM D5185m	>2	<b>0</b>	<1	0
Aluminum	ppm	ASTM D5185m	>15	<b>1</b>	2	0
Lead	ppm	ASTM D5185m	>25	<b>0</b>	0	1
Copper	ppm	ASTM D5185m	>100	<b>2</b>	<1	<1
Tin	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Vanadium	ppm	ASTM D5185m		<b>0</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

## CONTAMINATION

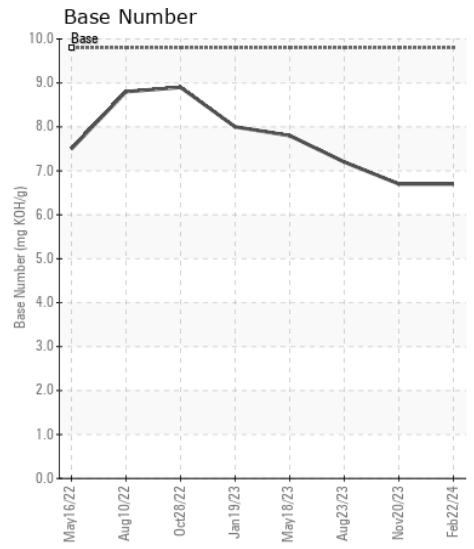
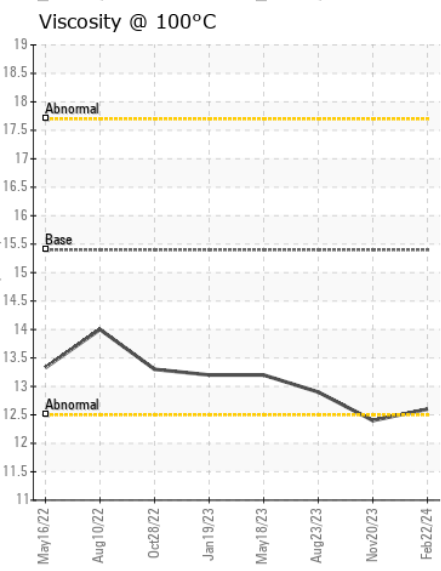
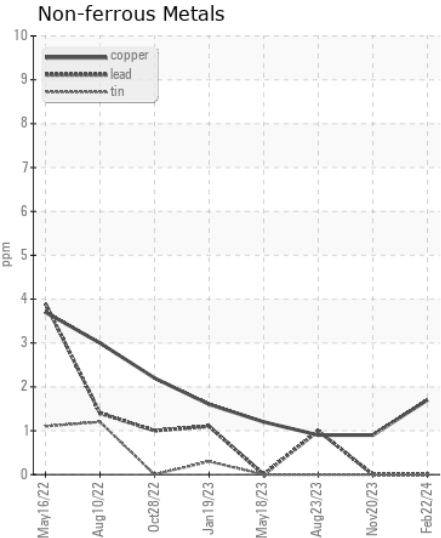
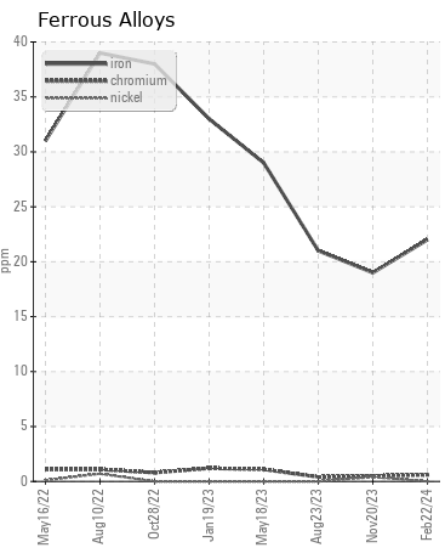
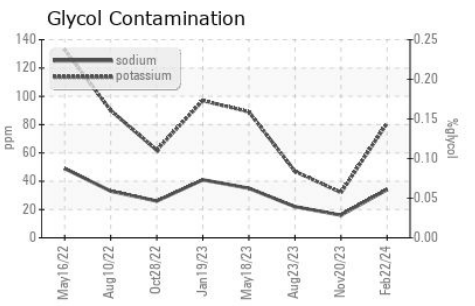
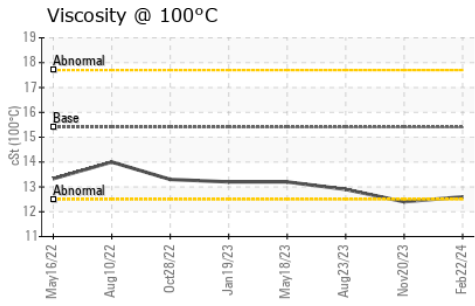
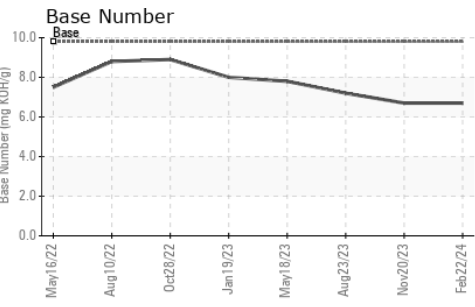
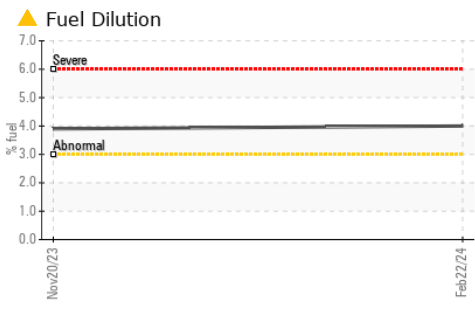
Sodium and/or potassium levels are high. There is a moderate amount of fuel present in the oil. Test for glycol is negative.

Silicon	ppm	ASTM D5185m	>25	<b>8</b>	10	11
Potassium	ppm	ASTM D5185m	>20	<b>▲ 81</b>	32	● 47
Fuel	%	ASTM D3524	>3.0	<b>▲ 4.0</b>	▲ 3.9	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>6	<b>0.5</b>	0.5	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>10.4</b>	10.4	10.5
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.0</b>	21.3	21.0
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

## FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil.

Sodium	ppm	ASTM D5185m		<b>34</b>	16	22
Boron	ppm	ASTM D5185m	0	<b>7</b>	8	<1
Barium	ppm	ASTM D5185m	0	<b>0</b>	0	0
Molybdenum	ppm	ASTM D5185m	60	<b>74</b>	64	66
Manganese	ppm	ASTM D5185m	0	<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	1010	<b>1026</b>	931	1078
Calcium	ppm	ASTM D5185m	1070	<b>1157</b>	1040	1219
Phosphorus	ppm	ASTM D5185m	1150	<b>1152</b>	1066	1069
Zinc	ppm	ASTM D5185m	1270	<b>1371</b>	1275	1373
Sulfur	ppm	ASTM D5185m	2060	<b>3186</b>	3015	3728
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>17.2</b>	17.5	17.7
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	<b>6.7</b>	6.7	7.2
Visc @ 100°C	cSt	ASTM D445	15.4	<b>12.6</b>	▲ 12.4	12.9



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : WC0901479 **Received** : 28 Feb 2024  
**Lab Number** : 06103530 **Tested** : 04 Mar 2024  
**Unique Number** : 10901760 **Diagnosed** : 04 Mar 2024 - Jonathan Hester  
**Test Package** : FLEET ( Additional Tests: Glycol, PercentFuel )

**HUMBOLDT TRANSIT AUTHORITY**  
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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)