



# OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL

Machine Id  
**PIERCE M20149**  
Component  
**Diesel Engine**  
Fluid  
**UNITED OIL DURALENE (--- GAL)**

## RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>DC0034092</b>	DC0026293	DC0021247
Sample Date		Client Info		<b>20 Mar 2024</b>	25 Apr 2023	24 Jun 2022
Machine Age	mls	Client Info		<b>63557</b>	60822	59037
Oil Age	mls	Client Info		<b>0</b>	0	0
Filter Age	mls	Client Info		<b>0</b>	0	0
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>ABNORMAL</b>	ABNORMAL	NORMAL

## WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>57</b>	62	23
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	<1
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	<1
Titanium	ppm	ASTM D5185m		<b>0</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>0</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>2</b>	3	1
Lead	ppm	ASTM D5185m	>40	<b>0</b>	1	1
Copper	ppm	ASTM D5185m	>330	<b>6</b>	2	2
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	<1
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

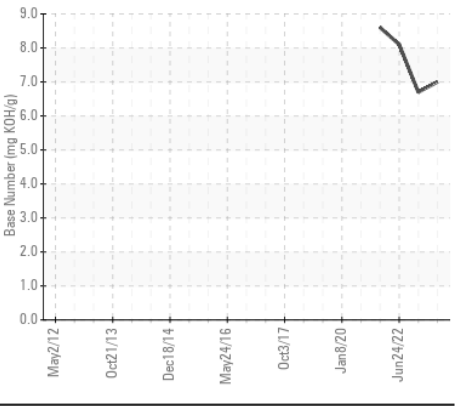
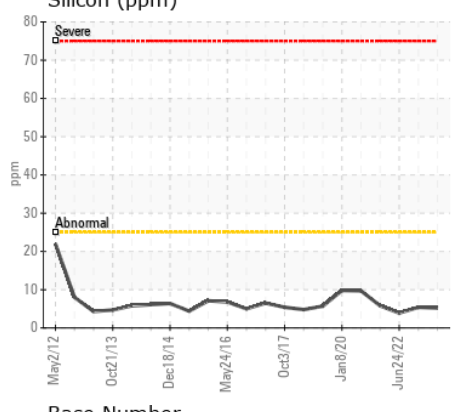
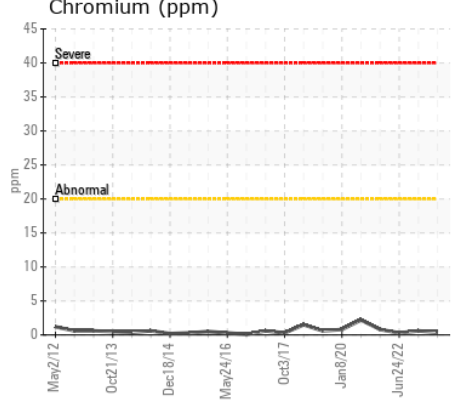
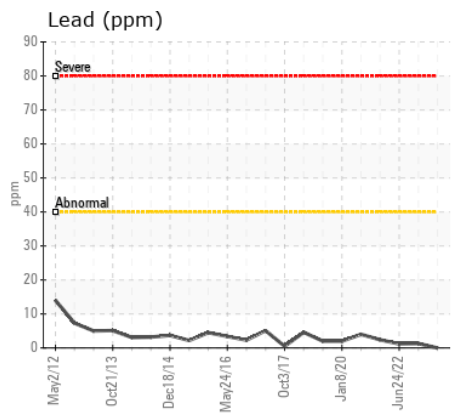
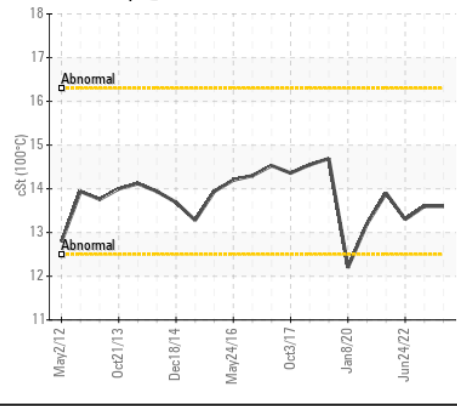
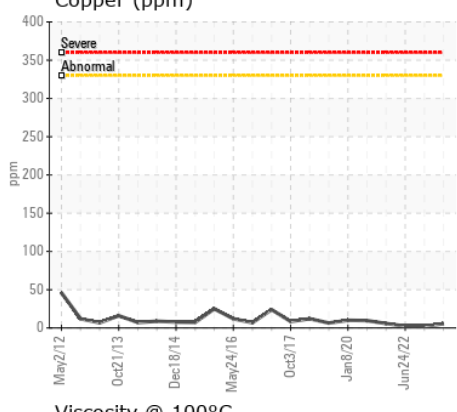
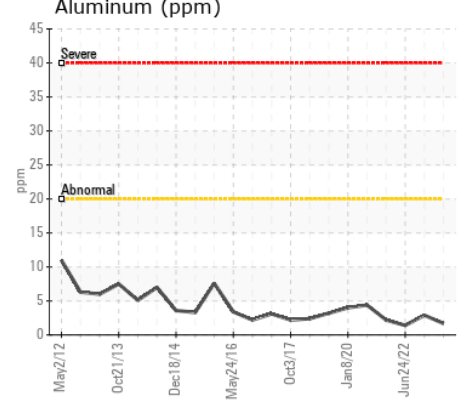
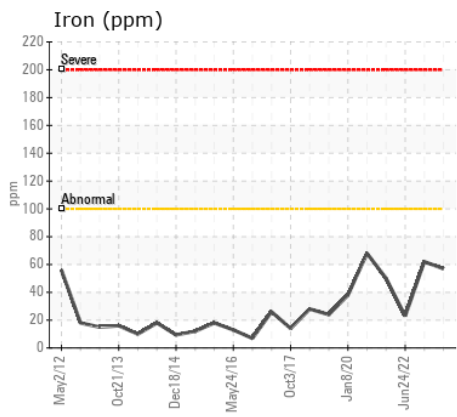
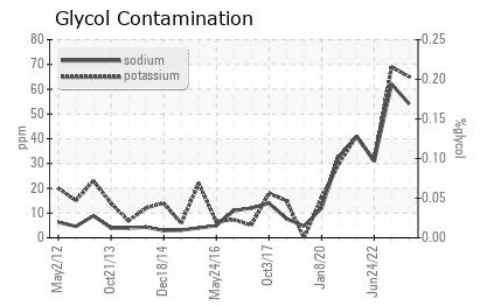
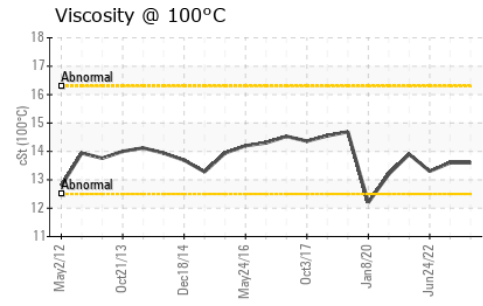
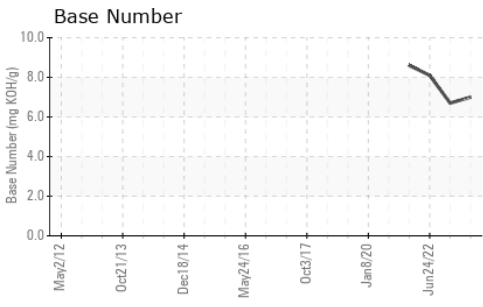
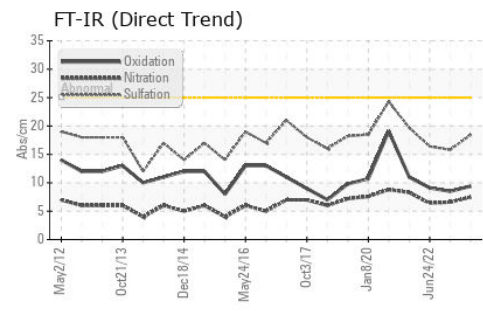
Sodium and/or potassium levels are high. Test for glycol is negative.

Silicon	ppm	ASTM D5185m	>25	<b>5</b>	5	4
Potassium	ppm	ASTM D5185m	>20	<b>▲ 65</b>	▲ 69	31
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>1.4</b>	0.9	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.5</b>	6.6	6.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>18.4</b>	15.8	16.4
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. The condition of the oil is acceptable for the time in service.

Sodium	ppm	ASTM D5185m		<b>54</b>	62	31
Boron	ppm	ASTM D5185m		<b>2</b>	6	7
Barium	ppm	ASTM D5185m		<b>1</b>	0	0
Molybdenum	ppm	ASTM D5185m		<b>7</b>	8	5
Manganese	ppm	ASTM D5185m		<b>2</b>	<1	<1
Magnesium	ppm	ASTM D5185m		<b>36</b>	33	42
Calcium	ppm	ASTM D5185m		<b>2367</b>	2397	2310
Phosphorus	ppm	ASTM D5185m		<b>929</b>	928	857
Zinc	ppm	ASTM D5185m		<b>1060</b>	1092	975
Sulfur	ppm	ASTM D5185m		<b>4355</b>	4400	4180
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>9.4</b>	8.5	9.1
Base Number (BN)	mg KOH/g	ASTM D2896		<b>7.0</b>	6.7	8.1
Visc @ 100°C	cSt	ASTM D445		<b>13.6</b>	13.6	13.3



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : DC0034092  
**Lab Number** : 06155713  
**Unique Number** : 10991136  
**Test Package** : MOB 1 ( Additional Tests: Glycol, TBN )

**Received** : 22 Apr 2024  
**Tested** : 24 Apr 2024  
**Diagnosed** : 24 Apr 2024 - Don Baldrige

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)

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