



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Machine Id
PIERCE 2223
 Component
Diesel Engine
 Fluid
CHEVRON DELO 400 XLE 15W40 (35 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0804027	WC0741898	WC0666072
Sample Date		Client Info		22 May 2023	03 Nov 2022	03 Mar 2022
Machine Age	hrs	Client Info		9074	8914	8624
Oil Age	hrs	Client Info		455	290	533
Filter Age	hrs	Client Info		165	290	277
Oil Changed		Client Info		Changed	Not Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>200	31	24	38
Chromium	ppm	ASTM D5185m	>10	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m	>2	11	10	11
Silver	ppm	ASTM D5185m	>2	<1	0	0
Aluminum	ppm	ASTM D5185m	>30	1	2	2
Lead	ppm	ASTM D5185m	>30	<1	<1	2
Copper	ppm	ASTM D5185m	>30	4	3	5
Tin	ppm	ASTM D5185m	>4	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

There is no indication of any contamination in the oil.

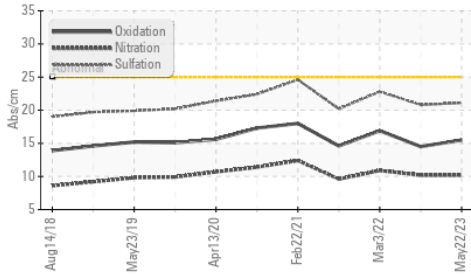
Silicon	ppm	ASTM D5185m	>30	6	6	8
Potassium	ppm	ASTM D5185m	>20	4	1	0
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.8	0.8	1
Nitration	Abs/cm	*ASTM D7624	>20	10.2	10.2	10.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	21.1	20.8	22.8
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

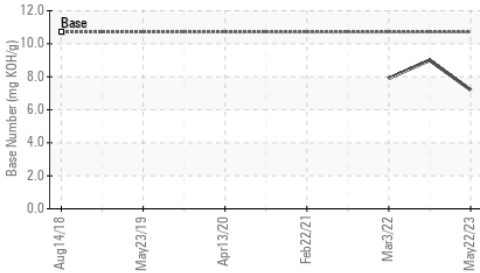
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		7	4	4
Boron	ppm	ASTM D5185m		84	100	65
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		52	55	46
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		696	663	698
Calcium	ppm	ASTM D5185m		1453	1430	1403
Phosphorus	ppm	ASTM D5185m	760	713	732	731
Zinc	ppm	ASTM D5185m	830	902	866	860
Sulfur	ppm	ASTM D5185m	2770	3391	3446	2658
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.5	14.5	16.9
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	7.2	9.0	7.9
Visc @ 100°C	cSt	ASTM D445	14.9	12.7	12.7	12.6

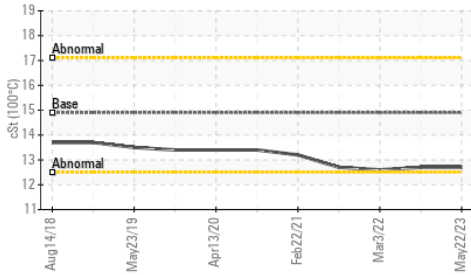
FT-IR (Direct Trend)



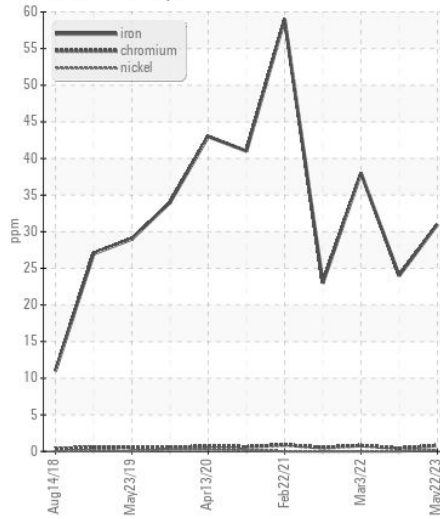
Base Number



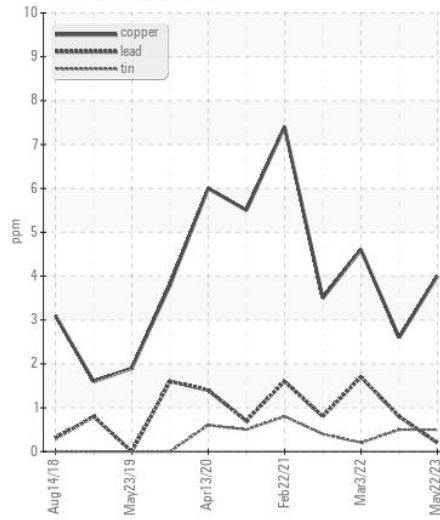
Viscosity @ 100°C



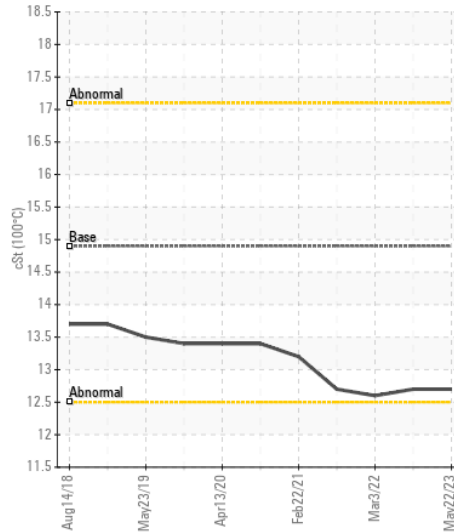
Ferrous Alloys



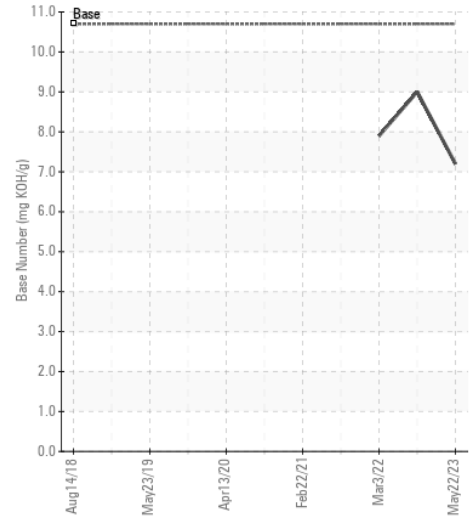
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0804027 **Received** : 25 May 2023
Lab Number : 05857000 **Tested** : 26 May 2023
Unique Number : 10486355 **Diagnosed** : 26 May 2023 - Wes Davis
Test Package : CONST (Additional Tests: TBN)

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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)