



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL



Machine Id
MARK STAAB (S/N TSJ00301)
Component
Port Main Engine
Fluid
CHEVRON DELO 400 XLE 15W40 (245 GAL)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		MW0062236	MW0062259	MW0062257
Sample Date		Client Info		01 Jul 2024	03 Apr 2024	11 Mar 2024
Machine Age	hrs	Client Info		82795	80801	80251
Oil Age	hrs	Client Info		815	1248	698
Filter Age	hrs	Client Info		815	550	698
Oil Changed		Client Info		Not Chngd	Changed	Not Chngd
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	4	9	7
Chromium	ppm	ASTM D5185m	>8	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	<1
Titanium	ppm	ASTM D5185m	>3	12	18	17
Silver	ppm	ASTM D5185m	>2	0	<1	0
Aluminum	ppm	ASTM D5185m	>15	2	2	2
Lead	ppm	ASTM D5185m	>18	0	<1	<1
Copper	ppm	ASTM D5185m	>80	3	5	2
Tin	ppm	ASTM D5185m	>14	<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.

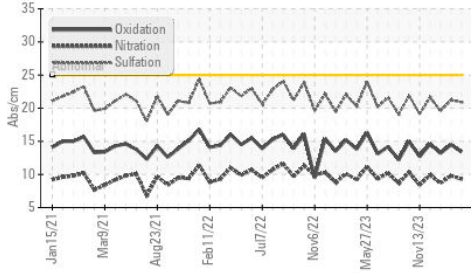
Silicon	ppm	ASTM D5185m	>20	4	5	4
Potassium	ppm	ASTM D5185m	>20	2	4	4
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844		1.8	1.6	1.1
Nitration	Abs/cm	*ASTM D7624	>20	9.3	9.8	8.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.9	21.2	19.6
Silt	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	>0.1	NEG	NEG	NEG

FLUID CONDITION

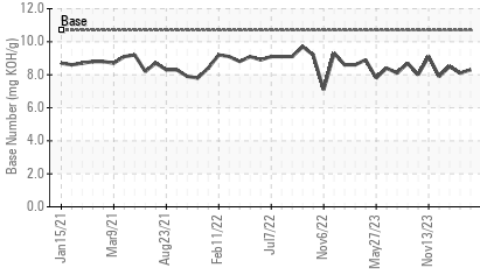
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m	>75	2	2	1
Boron	ppm	ASTM D5185m		94	102	119
Barium	ppm	ASTM D5185m		0	<1	0
Molybdenum	ppm	ASTM D5185m		47	36	33
Manganese	ppm	ASTM D5185m		<1	1	<1
Magnesium	ppm	ASTM D5185m		753	798	764
Calcium	ppm	ASTM D5185m		1578	1660	1588
Phosphorus	ppm	ASTM D5185m	760	760	715	726
Zinc	ppm	ASTM D5185m	830	864	879	859
Sulfur	ppm	ASTM D5185m	2770	3631	3115	3327
Oxidation	Abs/.1mm	*ASTM D7414	>25	13.4	14.5	13.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.7	8.3	8.1	8.5
Visc @ 100°C	cSt	ASTM D445	14.9	15.3	15.8	15.2

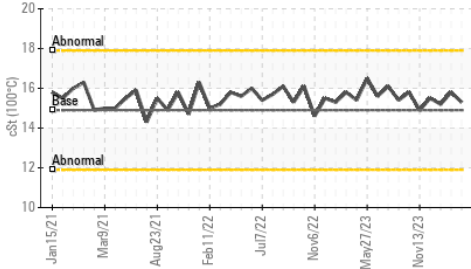
FT-IR (Direct Trend)



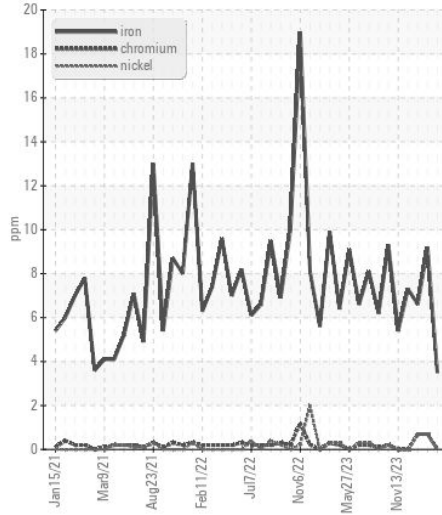
Base Number



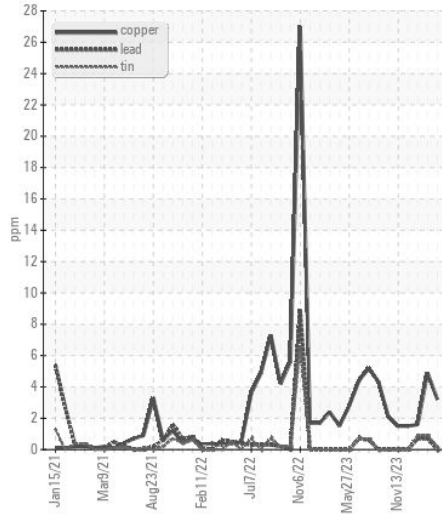
Viscosity @ 100°C



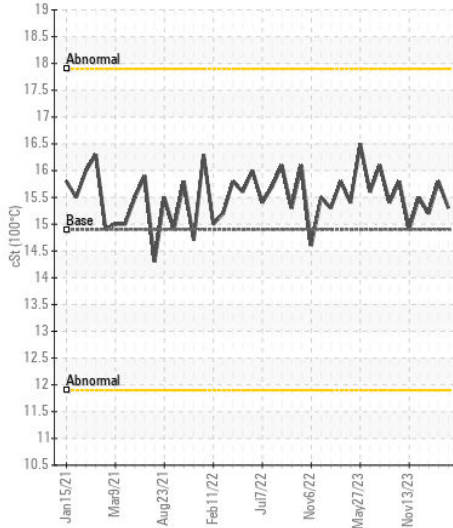
Ferrous Alloys



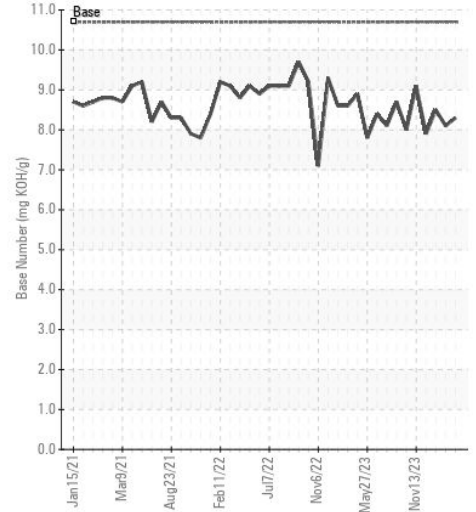
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0062236
Lab Number : 06227260
Unique Number : 11110753
Test Package : MAR 2

Received : 03 Jul 2024
Tested : 05 Jul 2024
Diagnosed : 05 Jul 2024 - Wes Davis

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 JEFFERSONVILLE, IN
 US 47130
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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)

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