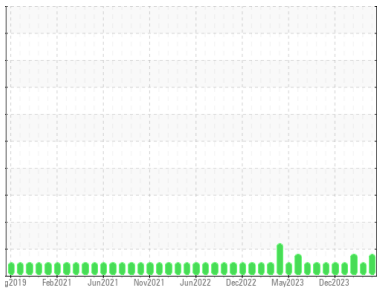
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Area
CHARLIE M EVERHART
Machine Id
[CHARLIE M EVERHART] 001 534782-1
Component
Port Main Engine
Fluid
CHEVRON DELO 400 LE 15W40 (30 GAL)

DIAGNOSIS

Recommendation
No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
The copper level is abnormal. All other 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		**MW0062856**	MW0064468	MW0055290
Sample Date		Client Info		**18 Apr 2024**	01 Mar 2024	01 Feb 2024
Machine Age	hrs	Client Info		**3924**	3178	2372
Oil Age	hrs	Client Info		**971**	165	926
Oil Changed		Client Info		**N/A**	Changed	Not Changd
Sample Status				**ABNORMAL**	NORMAL	MARGINAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	<1.0	▲ 2.7
Water		WC Method	>0.1	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>75	**19**	8	9
Chromium	ppm	ASTM D5185m	>8	**1**	<1	0
Nickel	ppm	ASTM D5185m	>2	**<1**	0	0
Titanium	ppm	ASTM D5185m	>3	**1**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>15	**6**	3	3
Lead	ppm	ASTM D5185m	>18	**8**	3	3
Copper	ppm	ASTM D5185m	>80	▲ **121**	30	6
Tin	ppm	ASTM D5185m	>14	**1**	0	<1
Vanadium	ppm	ASTM D5185m		**<1**	0	0
Cadmium	ppm	ASTM D5185m		**<1**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**659**	388	407
Barium	ppm	ASTM D5185m		**2**	0	0
Molybdenum	ppm	ASTM D5185m		**194**	122	111
Manganese	ppm	ASTM D5185m		**1**	0	<1
Magnesium	ppm	ASTM D5185m		**934**	617	595
Calcium	ppm	ASTM D5185m		**2330**	1522	1444
Phosphorus	ppm	ASTM D5185m	1200	**1084**	807	725
Zinc	ppm	ASTM D5185m	1300	**1294**	878	855
Sulfur	ppm	ASTM D5185m	3200	**4124**	2779	2444

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	**11**	7	6
Sodium	ppm	ASTM D5185m	>75	**2**	<1	2
Potassium	ppm	ASTM D5185m	>20	**3**	2	<1

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**7.3**	6.3	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	**23.7**	22.8	23.0

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**17.4**	16.5	17.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.6	**9.37**	10.08	9.24

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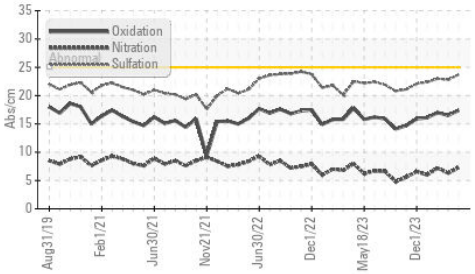
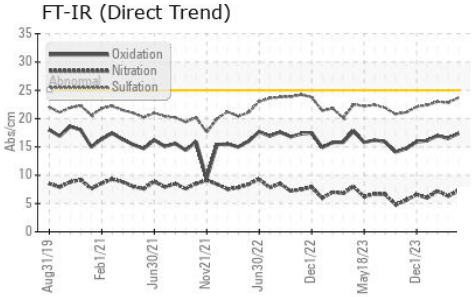
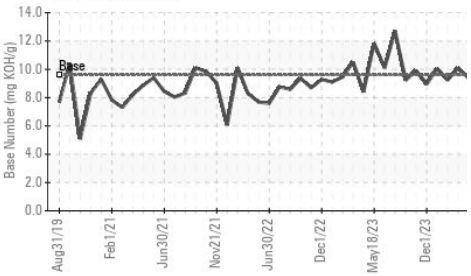
FT-IR (Direct Trend)



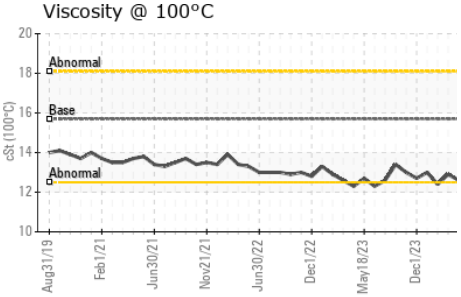
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

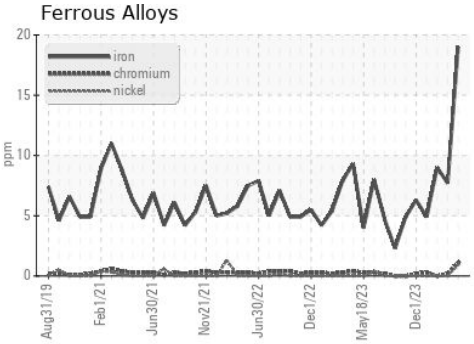


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

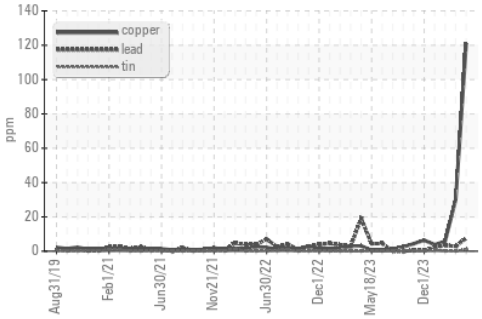
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	15.7	**12.6**	12.9	12.4

GRAPHS

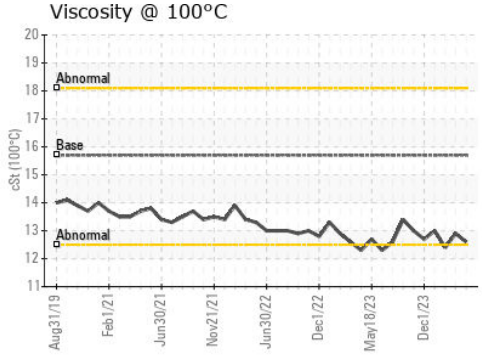
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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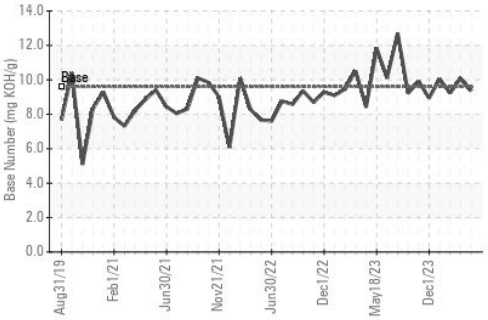

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : MW0062856
Lab Number : 06153821
Unique Number : 10989244
Test Package : MAR 2

Received : 18 Apr 2024
Tested : 23 Apr 2024
Diagnosed : 23 Apr 2024 - Jonathan Hester

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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Report Id: INGPAD [WUSCAR] 06153821 (Generated: 04/23/2024 19:06:00) Rev: 1

Contact/Location: JAMES ADAIR - INGPAD