



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
MISS IRENE (S/N 83091600)
 Component
Main Engine
 Fluid
CHEVRON DELO 400 MULTIGRADE 15W40 (40 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		WC0727978	WC0720245	WC0626266
Sample Date		Client Info		01 May 2023	07 Dec 2022	05 Jul 2022
Machine Age	hrs	Client Info		33482	31871	29433
Oil Age	hrs	Client Info		500	500	0
Filter Age	hrs	Client Info		500	500	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

The lead level is abnormal. All other component wear rates are normal.

Iron	ppm	ASTM D5185m	>75	6	7	6
Chromium	ppm	ASTM D5185m	>8	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>3	<1	2	6
Silver	ppm	ASTM D5185m	>2	0	0	<1
Aluminum	ppm	ASTM D5185m	>15	3	3	3
Lead	ppm	ASTM D5185m	>18	▲ 19	3	<1
Copper	ppm	ASTM D5185m	>80	5	<1	2
Tin	ppm	ASTM D5185m	>14	2	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

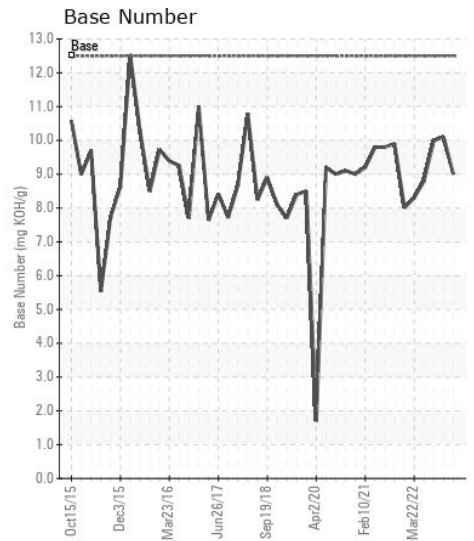
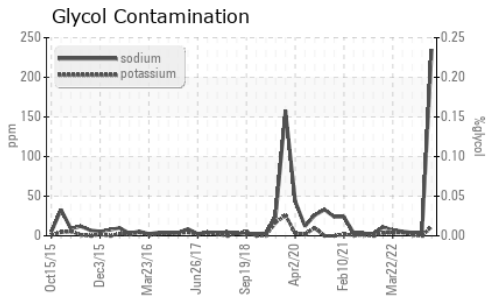
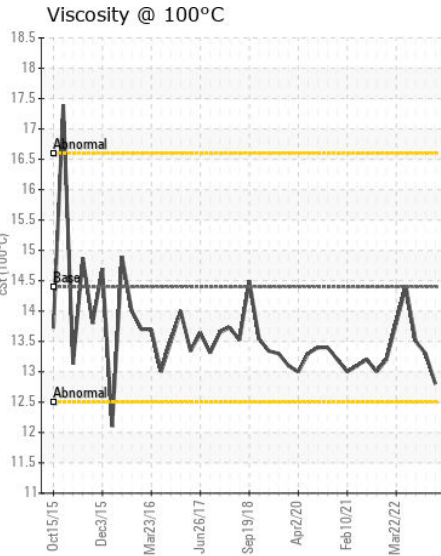
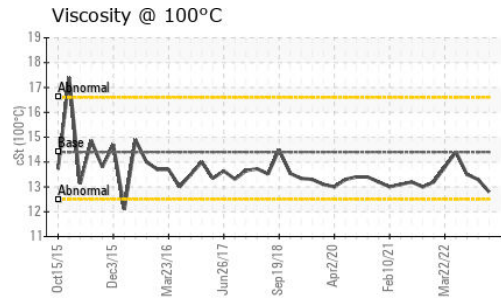
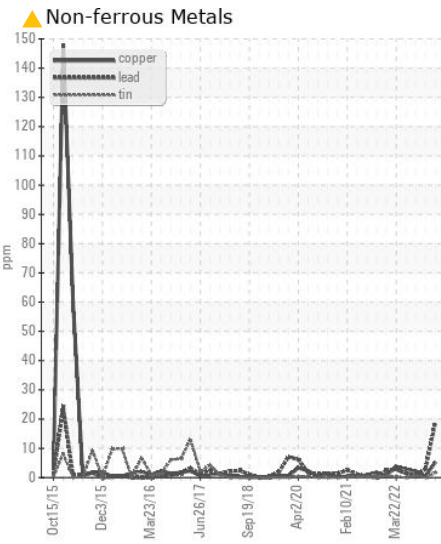
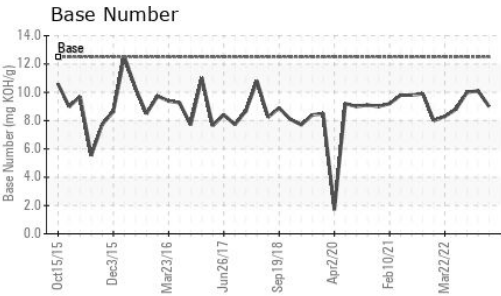
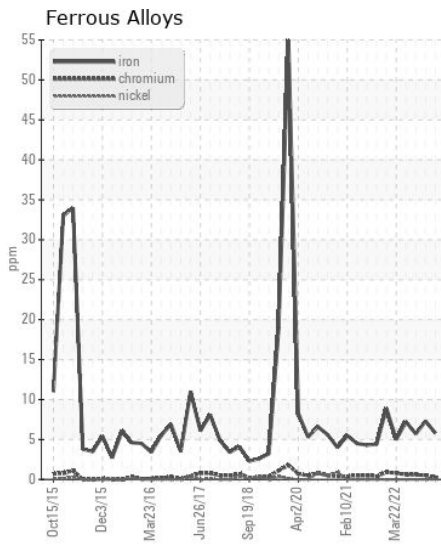
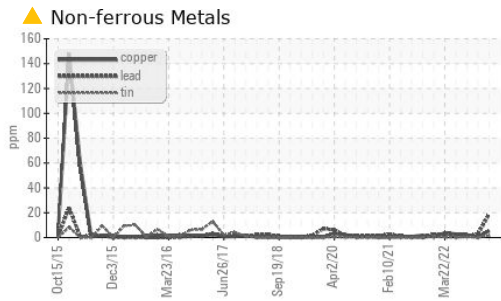
Sodium and/or potassium levels are high. Test for glycol is negative.

Silicon	ppm	ASTM D5185m	>20	7	5	8
Potassium	ppm	ASTM D5185m	>20	▲ 12	0	1
Fuel		WC Method	>4.0	<1.0	<1.0	<1.0
Water		WC Method	>0.1	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844		0.2	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	6.6	9.1	8.9
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.6	24.9	23.5
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 acceptable for the time in service.

Sodium	ppm	ASTM D5185m	>75	▲ 235	4	4
Boron	ppm	ASTM D5185m	151	204	287	220
Barium	ppm	ASTM D5185m	0.4	0	0	0
Molybdenum	ppm	ASTM D5185m	250	155	105	84
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m	0	707	655	710
Calcium	ppm	ASTM D5185m	2046	1667	1649	1759
Phosphorus	ppm	ASTM D5185m	1043	720	723	740
Zinc	ppm	ASTM D5185m	943	876	881	885
Sulfur	ppm	ASTM D5185m	5012	2882	3016	3631
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.6	19.5	17.5
Base Number (BN)	mg KOH/g	ASTM D2896	12.5	9.0	10.1	10
Visc @ 100°C	cSt	ASTM D445	14.4	12.8	13.3	13.5



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0727978 **Received** : 05 May 2023
Lab Number : 05839730 **Diagnosed** : 10 May 2023
Unique Number : 10458533 **Diagnostician** : Jonathan Hester
Test Package : FLEET (Additional Tests: Glycol)

ASSOCIATED TERMINALS - CRANE

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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)