IND II WEAR CHECK

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
139-211 DUMPER #1
Component
Hydraulic System
Fluid
ESSO NUTO H ISO32 (310 GAL)

RECOMMENDATION

We advise that you check for the source of water entry. Check seals and/or filters for points of contaminant entry. The air breather requires service. If unrated, we recommend that you replace with a suitable micron rated and/or desiccant air breather. If rated, we recommend that you service/replace the breather. We advise that you use off-line filtration with water adsorbent filters to attempt to remove the water from this oil. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

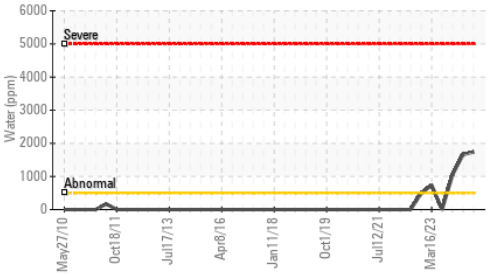
There is a moderate concentration of water present in the oil. The system cleanliness is acceptable for your target ISO 4406 cleanliness code.

FLUID CONDITION

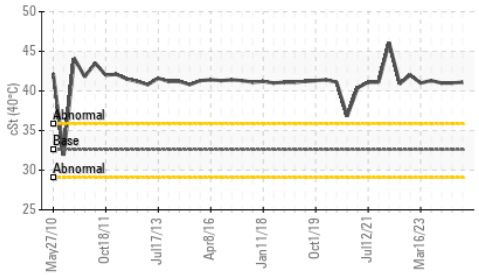
Viscosity of sample indicates oil is within ISO 46 range, advise investigate. The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**WC0900441**	WC0870404	WC0840187
Sample Date		Client Info		**02 Apr 2024**	07 Dec 2023	03 Aug 2023
Machine Age	mths	Client Info		**0**	0	0
Oil Age	mths	Client Info		**0**	0	0
Filter Age	mths	Client Info		**0**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Filter Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL
Iron	ppm	ASTM D5185(m)	>20	**15**	15	16
Chromium	ppm	ASTM D5185(m)	>20	**2**	2	2
Nickel	ppm	ASTM D5185(m)	>20	**0**	0	0
Titanium	ppm	ASTM D5185(m)		**0**	0	0
Silver	ppm	ASTM D5185(m)		**0**	<1	0
Aluminum	ppm	ASTM D5185(m)	>20	**<1**	<1	1
Lead	ppm	ASTM D5185(m)	>20	**11**	14	12
Copper	ppm	ASTM D5185(m)	>20	**55**	55	57
Tin	ppm	ASTM D5185(m)	>20	**<1**	<1	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
White Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	Visual*	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185(m)	>15	**1**	3	3
Potassium	ppm	ASTM D5185(m)	>20	**<1**	0	0
Water	%	ASTM D6304*	>0.05	▲ **0.173**	▲ 0.166	▲ 0.105
ppm Water	ppm	ASTM D6304*	>500	▲ **1739**	▲ 1661	▲ 1055.0
Particles >4µm		ASTM D7647	>5000	**4281**	2903	● 6794
Particles >6µm		ASTM D7647	>1300	**843**	506	● 1577
Particles >14µm		ASTM D7647	>160	**61**	19	129
Particles >21µm		ASTM D7647	>40	**12**	5	42
Particles >38µm		ASTM D7647	>10	**1**	1	2
Particles >71µm		ASTM D7647	>3	**0**	1	1
Oil Cleanliness		ISO 4406 (c)	>19/17/14	**19/17/13**	19/16/11	● 20/18/14
Silt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Debris	scalar	Visual*	NONE	**NONE**	NONE	VLITE
Sand/Dirt	scalar	Visual*	NONE	**NONE**	NONE	NONE
Appearance	scalar	Visual*	NORML	▲ **MILKY**	NORML	▲ MILKY
Odor	scalar	Visual*	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	Visual*	>0.05	▲ **.2%**	▲ .5%	▲ .2%
Sodium	ppm	ASTM D5185(m)		**1**	2	1
Boron	ppm	ASTM D5185(m)		**<1**	<1	1
Barium	ppm	ASTM D5185(m)		**0**	<1	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	<1
Magnesium	ppm	ASTM D5185(m)		**<1**	<1	1
Calcium	ppm	ASTM D5185(m)		**14**	14	15
Phosphorus	ppm	ASTM D5185(m)		**306**	301	329
Zinc	ppm	ASTM D5185(m)		**292**	295	299
Sulfur	ppm	ASTM D5185(m)		**2425**	2413	2433
Acid Number (AN)	mg KOH/g	ASTM D974*	.40	**0.26**	0.27	0.29
Visc @ 40°C	cSt	ASTM D7279(m)	32.6	▲ **41.1**	▲ 41.0	▲ 41.0

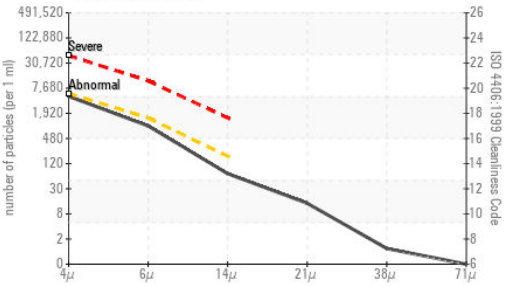
Water (KF)



Viscosity @ 40°C



Particle Count



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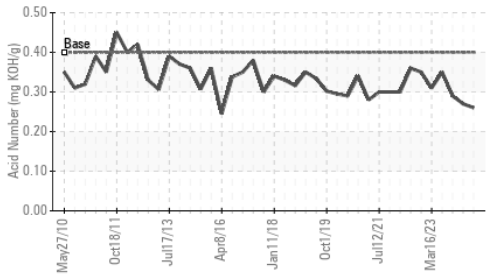
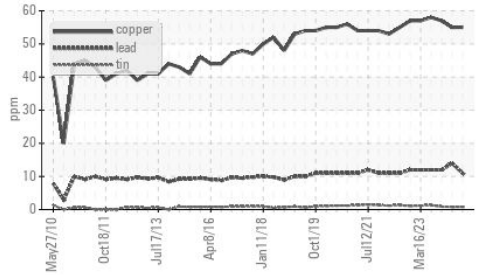
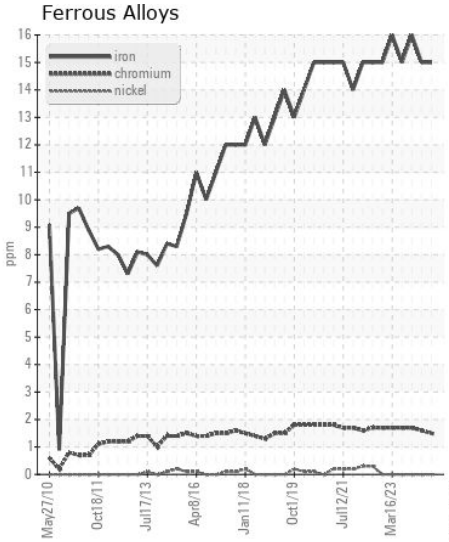


Non-ferrous Metals



Ferrous Alloys



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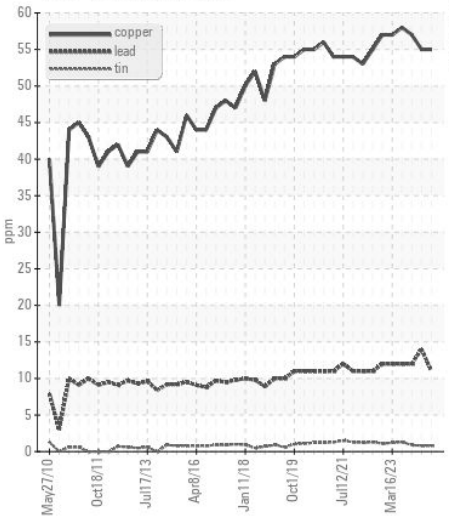
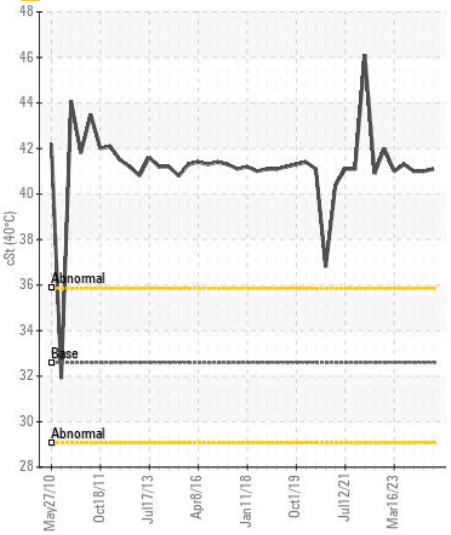
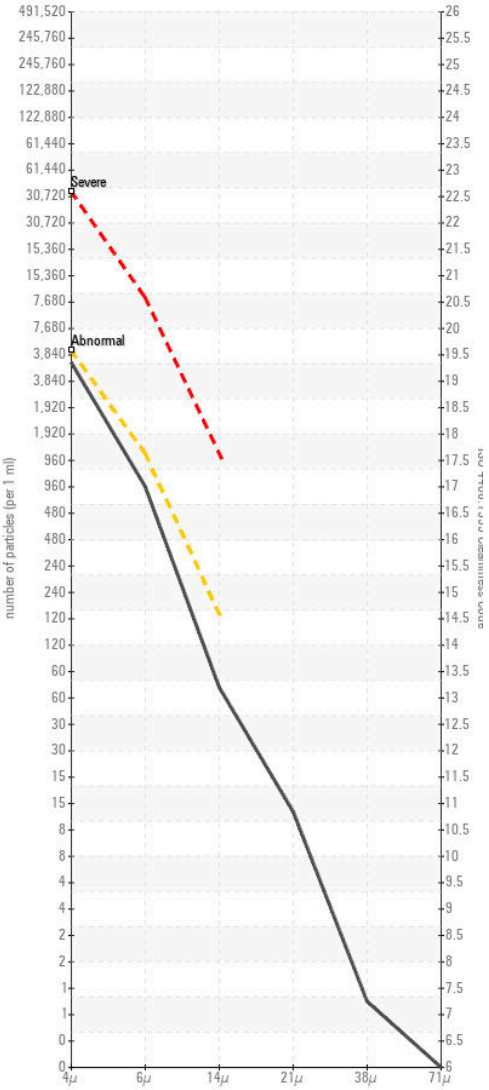


Viscosity @ 40°C



Particle Count



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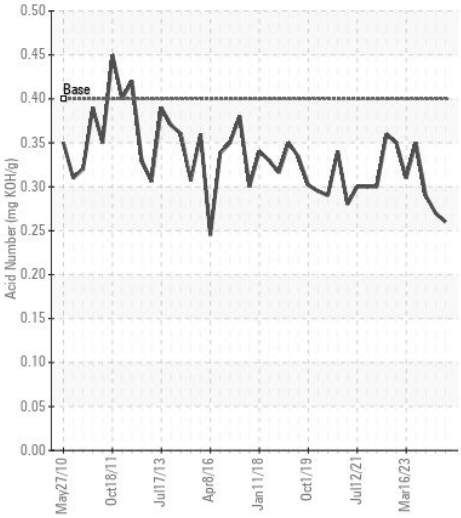

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0900441
Lab Number : 02627884
Unique Number : 5761016
Test Package : IND 2 (Additional Tests: KF)

Received : 10 Apr 2024
Tested : 11 Apr 2024
Diagnosed : 11 Apr 2024 - Kevin Marson

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.

ARAUCO - St. Stephen
151 Church Street
St. Stephen, NB
CA E3L 3A6
Contact: Jim Sears
Jim.Sears@arauco.com
T: (506)465-2858
F: (506)465-2831