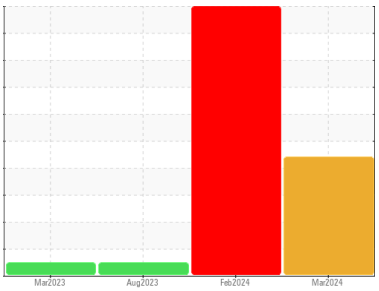
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Machine Id
REACTOR 4
Component
Gearbox
Fluid
ULTA-TEC 220 (--- GAL)

DIAGNOSIS

Recommendation
Filter the oil using B6=75 or better quality filter media. Consider wether there is any possibility of Aluminum-Silicon-Calcium materials that could be airborne in the production area. Change / upgrade breathers if possible. IF the sample was drained from a drain port, or siphoned with a tube, the results may be worse that the actual machine conditions. Sample using fixed sample ports and repeatability if possible.

Wear
Aluminum particulate is elevated. Please indicate where there is any Aluminum or Calcium thickened greases in use around this drive, and communicate that to AMRRI. These three chemicals represents machine metals, contaminant metals and additive metals. This is an unusual combination of items to increase concurrently.

Contamination
Particulate level is elevated. Filter if possible to remove particulate.

Fluid Condition
Fluid health factors suggest the oil is acceptable for continued use.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PLS0000753**	PLS0000761	WC0820459
Sample Date		Client Info		**12 Mar 2024**	01 Feb 2024	31 Aug 2023
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**8000**	0	0
Oil Changed		Client Info		**N/A**	N/A	N/A
Sample Status				**ABNORMAL**	SEVERE	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.2	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184*		**0**	0	0
Iron	ppm	ASTM D5185(m)	>200	**14**	14	3
Chromium	ppm	ASTM D5185(m)	>15	**0**	0	0
Nickel	ppm	ASTM D5185(m)	>15	**0**	0	0
Titanium	ppm	ASTM D5185(m)		**<1**	0	0
Silver	ppm	ASTM D5185(m)		**0**	0	0
Aluminum	ppm	ASTM D5185(m)	>25	▲ **33**	▲ 33	4
Lead	ppm	ASTM D5185(m)	>100	**0**	0	0
Copper	ppm	ASTM D5185(m)	>200	**0**	0	0
Tin	ppm	ASTM D5185(m)	>25	**0**	0	0
Antimony	ppm	ASTM D5185(m)	>5	**0**	0	0
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

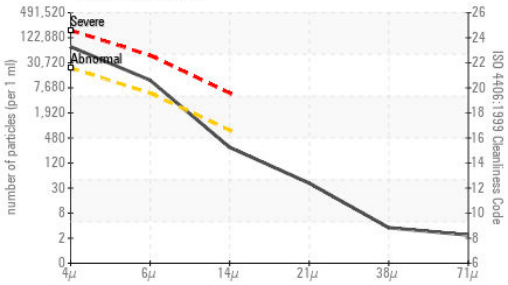
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**2**	<1	2
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**0**	0	0
Manganese	ppm	ASTM D5185(m)		**0**	0	0
Magnesium	ppm	ASTM D5185(m)		**6**	6	<1
Calcium	ppm	ASTM D5185(m)		▲ **39**	▲ 42	2
Phosphorus	ppm	ASTM D5185(m)		**445**	455	480
Zinc	ppm	ASTM D5185(m)		**4**	3	3
Sulfur	ppm	ASTM D5185(m)		▲ **467**	● 290	44
Lithium	ppm	ASTM D5185(m)		**2**	2	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>50	▲ **107**	▲ 111	39
Sodium	ppm	ASTM D5185(m)		**14**	▲ 15	2
Potassium	ppm	ASTM D5185(m)	>20	**<1**	<1	<1

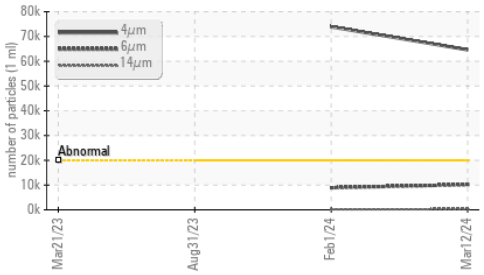
INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	ASTM D7844*		**0**	0	---
Nitration	Abs/cm	ASTM D7624*		**4.6**	4.6	---
Sulfation	Abs/.1mm	ASTM D7415*		**12.6**	12.5	---

OIL ANALYSIS REPORT

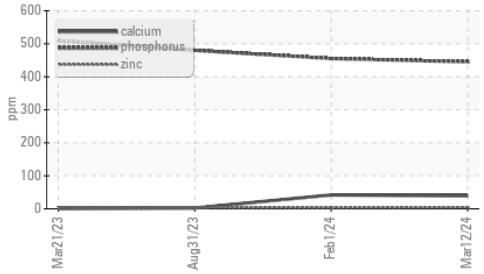
Particle Count



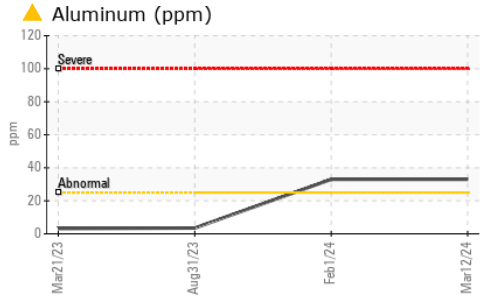
Particle Trend



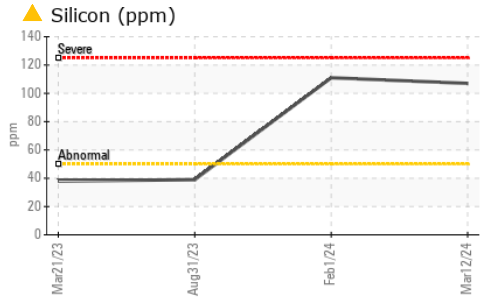
Additives



Aluminum (ppm)



Silicon (ppm)

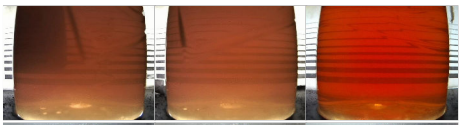


FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>20000	▲ **64634**	▲ 73914	---
Particles >6µm		ASTM D7647	>5000	▲ **10177**	● 8882	---
Particles >14µm		ASTM D7647	>640	**251**	192	---
Particles >21µm		ASTM D7647	>160	**35**	45	---
Particles >38µm		ASTM D7647	>40	**3**	5	---
Particles >71µm		ASTM D7647	>10	**2**	0	---
Oil Cleanliness		ISO 4406 (c)	>21/19/16	▲ **23/21/15**	▲ 23/20/15	---

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	ASTM D7414*		**4.0**	4.1	---
Acid Number (AN)	mg KOH/g	ASTM D974*		**0.39**	0.43	0.43

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	**VLITE**	NONE	VLITE
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
Free Water	scalar	Visual*		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)		**224**	219	215

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PLS0000753
Lab Number : 02629023
Unique Number : 5762155
Test Package : IND 2 (Additional Tests: FT-IR, PQ, PrtCount, TAN Man)
Received : 15 Apr 2024
Tested : 16 Apr 2024
Diagnosed : 27 May 2024 - Mike Johnson

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.

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