



PROBLEM SUMMARY

Sample Rating Trend

ISO



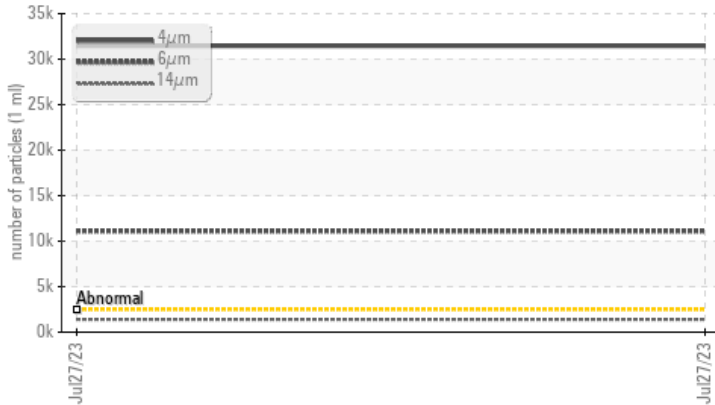
Machine Id
LONG TRCM HYD

Component
Hydraulic System

Fluid
PANOLIN HLP SYNTH 32 (500 LTR)

COMPONENT CONDITION SUMMARY

Particle Trend



RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample in 30-45 days to monitor this situation.

PROBLEMATIC TEST RESULTS

Sample Status			SEVERE	---	---
Particles >4µm	ASTM D7647	>2500	🔴 31453	---	---
Particles >6µm	ASTM D7647	>640	🔴 11112	---	---
Particles >14µm	ASTM D7647	>80	🔴 1394	---	---
Particles >21µm	ASTM D7647	>20	🔴 339	---	---
Particles >38µm	ASTM D7647	>4	🟡 15	---	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	🔴 22/21/18	---	---

Customer Id: ALGMIS
Sample No.: WC0790733
Lab Number: 02578245
Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data:
Wes Davis +1 905-569-8600 x223
wesd@wearcheck.ca

To change component or sample information:
Gloria Gonzalez +1 (289)291-4643 x4643
gloria.gonzalez@wearcheck.com

RECOMMENDED ACTIONS

Action	Status	Date	Done By	Description
Change Filter	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.
Resample	---	---	?	Resample in 30-45 days to monitor this situation.
Check Breathers	---	---	?	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.
Check Dirt Access	---	---	?	We advise that you check all areas where contaminants can enter the system.
Filter Fluid	---	---	?	We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid.

HISTORICAL DIAGNOSIS



OIL ANALYSIS REPORT

Sample Rating Trend

ISO



Machine Id
LONG TRCM HYD

Component
Hydraulic System

Fluid
PANOLIN HLP SYNTH 32 (500 LTR)

DIAGNOSIS

Recommendation

We advise that you check all areas where contaminants can enter the system. We advise that you perform a filter service, and use off-line filtration to improve the cleanliness of the system fluid. 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. Resample in 30-45 days to monitor this situation.

Wear

All component wear rates are normal.

Contamination

There is a high amount of particulates (2 to 100 microns in size) present in the oil. The system cleanliness code is much higher than the acceptable limit for the target ISO 4406 cleanliness code.

Fluid Condition

The AN level is acceptable for this fluid. The oil is still serviceable provided that the contaminant(s) can be reduced to acceptable levels.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0790733	---	---
Sample Date	Client Info		27 Jul 2023	---	---
Machine Age	mths	Client Info	20	---	---
Oil Age	mths	Client Info	20	---	---
Oil Changed	Client Info		Not Chngd	---	---
Sample Status			SEVERE	---	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>40	<1	---
Chromium	ppm	ASTM D5185(m)	>4	0	---
Nickel	ppm	ASTM D5185(m)	>20	0	---
Titanium	ppm	ASTM D5185(m)		0	---
Silver	ppm	ASTM D5185(m)		0	---
Aluminum	ppm	ASTM D5185(m)	>4	<1	---
Lead	ppm	ASTM D5185(m)	>10	0	---
Copper	ppm	ASTM D5185(m)	>60	<1	---
Tin	ppm	ASTM D5185(m)	>4	0	---
Antimony	ppm	ASTM D5185(m)		0	---
Vanadium	ppm	ASTM D5185(m)		0	---
Beryllium	ppm	ASTM D5185(m)		0	---
Cadmium	ppm	ASTM D5185(m)		0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		2	---
Barium	ppm	ASTM D5185(m)		0	---
Molybdenum	ppm	ASTM D5185(m)		0	---
Manganese	ppm	ASTM D5185(m)		0	---
Magnesium	ppm	ASTM D5185(m)		<1	---
Calcium	ppm	ASTM D5185(m)		9	---
Phosphorus	ppm	ASTM D5185(m)		1469	---
Zinc	ppm	ASTM D5185(m)		7	---
Sulfur	ppm	ASTM D5185(m)		1717	---
Lithium	ppm	ASTM D5185(m)		<1	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>20	2	---
Sodium	ppm	ASTM D5185(m)		<1	---
Potassium	ppm	ASTM D5185(m)	>20	<1	---

FLUID CLEANLINESS

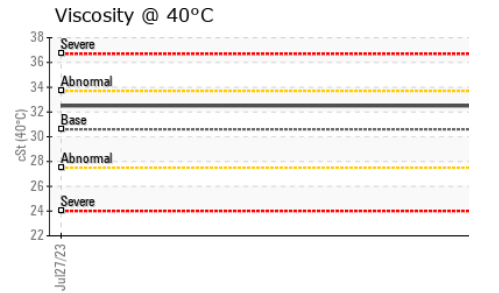
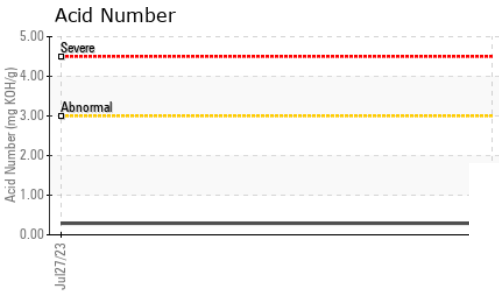
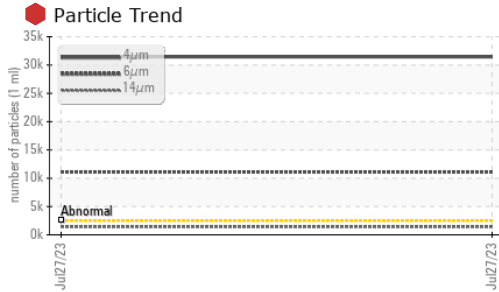
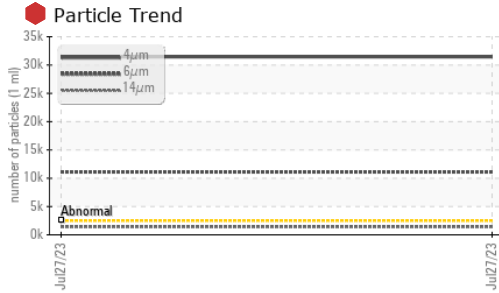
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>2500	31453	---	---
Particles >6µm	ASTM D7647	>640	11112	---	---
Particles >14µm	ASTM D7647	>80	1394	---	---
Particles >21µm	ASTM D7647	>20	339	---	---
Particles >38µm	ASTM D7647	>4	15	---	---
Particles >71µm	ASTM D7647	>3	1	---	---
Oil Cleanliness	ISO 4406 (c)	>18/16/13	22/21/18	---	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	0.29	---	---



OIL ANALYSIS REPORT



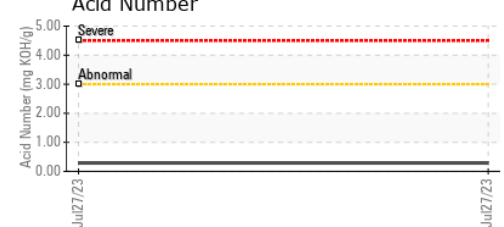
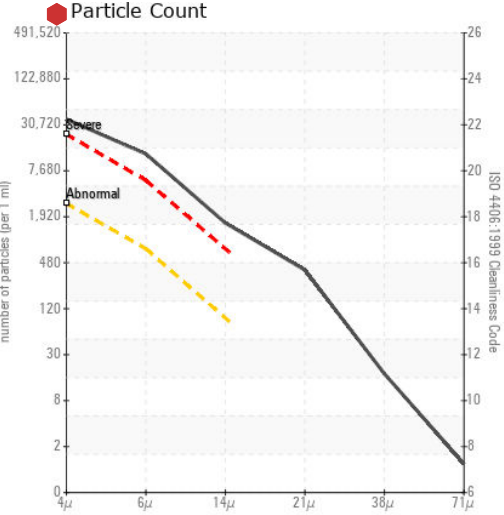
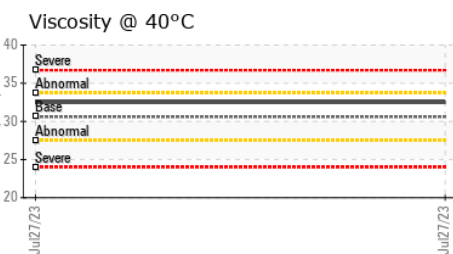
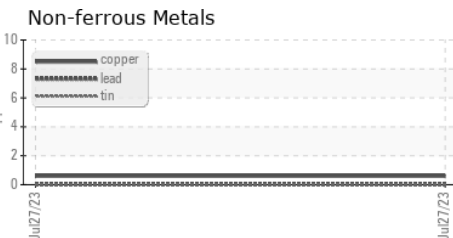
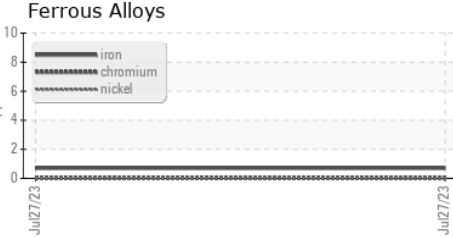
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	---
Debris	scalar	Visual*	NONE	VLITE	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---
Appearance	scalar	Visual*	NORML	NORML	---
Odor	scalar	Visual*	NORML	NORML	---
Emulsified Water	scalar	Visual*	>0.05	NEG	---
Free Water	scalar	Visual*		NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	30.6	32.5	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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Color		no image	no image
Bottom		no image	no image

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **ALGONQUIN POWER SYSTEMS INC.**
Sample No. : WC0790733 **Received** : 24 Aug 2023 354 DAVIS ROAD
Lab Number : 02578245 **Diagnosed** : 28 Aug 2023 OAKVILLE, ON
Unique Number : 5631305 **Diagnostician** : Wes Davis CA L6J 2X1
Test Package : IND 2 Contact: Gary Gazankas

gary.gazankas@algonquinpower.com
 T: (905)465-6119
 F: (905)273-4514

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.