



PROBLEM SUMMARY

Sample Rating Trend

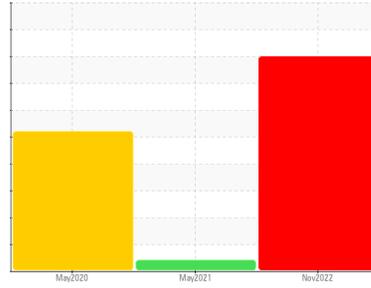
ISO



Machine Id
10574392 DROP CHUTE #1 LOAD STATION

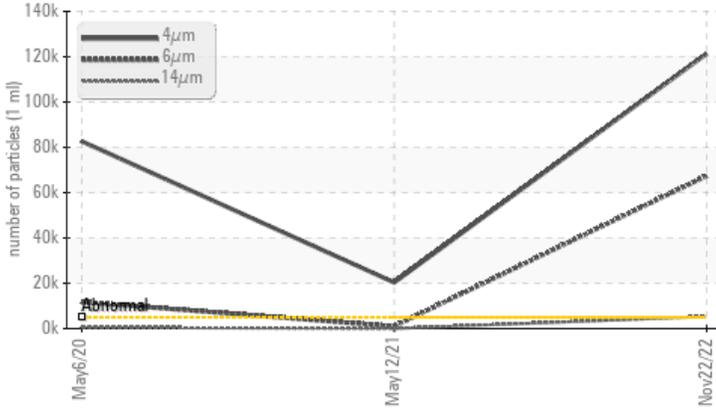
Component
Hydraulic System

Fluid
SHELL TELLUS 68 (3090 LTR)

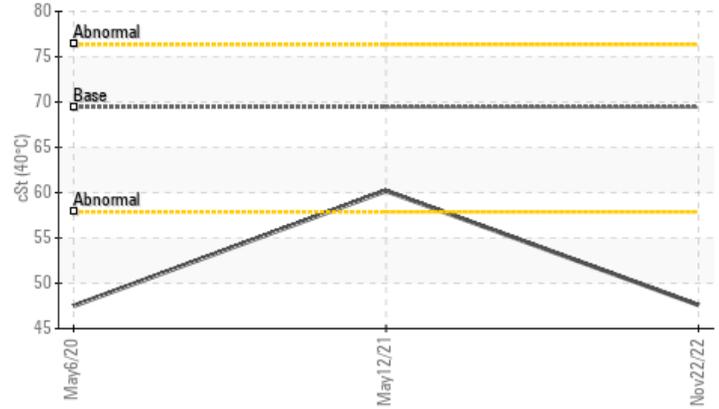


COMPONENT CONDITION SUMMARY

Particle Trend



Viscosity @ 40°C



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	ASTM D7647	SEVERE	ABNORMAL	SEVERE
Particles >4µm	>5000	121371	20336	82659
Particles >6µm	>1300	67374	987	11727
Particles >14µm	>160	5317	21	480
Particles >21µm	>40	865	4	74
Oil Cleanliness	ISO 4406 (c)	24/23/20	22/17/12	24/21/16
Visc @ 40°C	cSt ASTM D7279(m)	69.43	47.6	60.2

Customer Id: INCOOLE
 Sample No.: WC0698314
 Lab Number: 02525521
 Test Package: IND 2



To manage this report scan the QR code

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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

12 May 2021 Diag: Kevin Marson

ISO



We recommend you service the filters on this component. We recommend an early resample to monitor this condition. All component wear rates are normal. Particles >4µm are abnormally high. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report



06 May 2020 Diag: Kevin Marson

ISO



The component was not specified so we have determined that this is a hydraulic system based on the fluid type in use. Please specify the correct component type on your next sample. Check seals and/or filters for points of contaminant entry. We advise that you check for visible metal particles in the oil. 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 recommend you service the filters on this component. Resample in 30-45 days to monitor this situation. Light concentration of visible metal present. Particles >6µm are severely high. Particles >4µm are severely high. Particles >14µm are abnormally high. Particles >21µm are notably high. Viscosity of sample indicates oil is within ISO 46 range, advise investigate. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

view report





OIL ANALYSIS REPORT

Sample Rating Trend



ISO



Machine Id
10574392 DROP CHUTE #1 LOAD STATION
 Component
Hydraulic System
 Fluid
SHELL TELLUS 68 (3090 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

Particles >14µm are severely high. Particles >21µm are severely high. Particles >6µm are severely high. Oil Cleanliness are severely high. Particles >4µm are severely high.

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.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0698314	WC0474301	WC0308891
Sample Date	Client Info		22 Nov 2022	12 May 2021	06 May 2020
Machine Age	hrs	Client Info	0	0	0
Oil Age	hrs	Client Info	0	0	0
Oil Changed	Client Info		N/A	N/A	N/A
Sample Status			SEVERE	ABNORMAL	SEVERE

WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185(m)	>20	3	2	13
Chromium	ppm	ASTM D5185(m)	>20	0	0	<1
Nickel	ppm	ASTM D5185(m)	>20	<1	<1	3
Titanium	ppm	ASTM D5185(m)		0	<1	<1
Silver	ppm	ASTM D5185(m)		0	<1	<1
Aluminum	ppm	ASTM D5185(m)	>20	<1	<1	1
Lead	ppm	ASTM D5185(m)	>20	0	2	0
Copper	ppm	ASTM D5185(m)	>20	2	3	2
Tin	ppm	ASTM D5185(m)	>20	0	0	0
Antimony	ppm	ASTM D5185(m)		<1	0	<1
Vanadium	ppm	ASTM D5185(m)		0	0	0
Beryllium	ppm	ASTM D5185(m)		0	0	0
Cadmium	ppm	ASTM D5185(m)		0	1	<1

ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185(m)		<1	<1	<1
Barium	ppm	ASTM D5185(m)		0	<1	<1
Molybdenum	ppm	ASTM D5185(m)		0	0	0
Manganese	ppm	ASTM D5185(m)		0	0	<1
Magnesium	ppm	ASTM D5185(m)	11	13	1	14
Calcium	ppm	ASTM D5185(m)	39	89	39	44
Phosphorus	ppm	ASTM D5185(m)	260	270	264	242
Zinc	ppm	ASTM D5185(m)	279	284	330	309
Sulfur	ppm	ASTM D5185(m)	2109	3089	852	2821
Lithium	ppm	ASTM D5185(m)		<1	<1	<1

CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185(m)	>15	3	3	4
Sodium	ppm	ASTM D5185(m)		<1	<1	0
Potassium	ppm	ASTM D5185(m)	>20	0	<1	<1

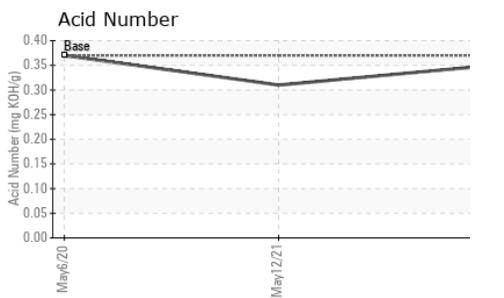
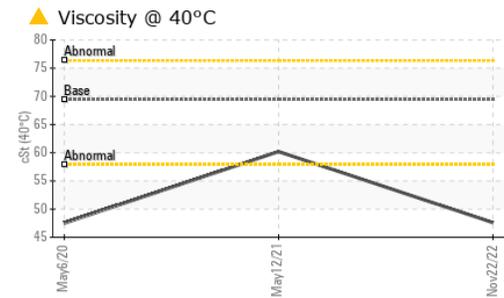
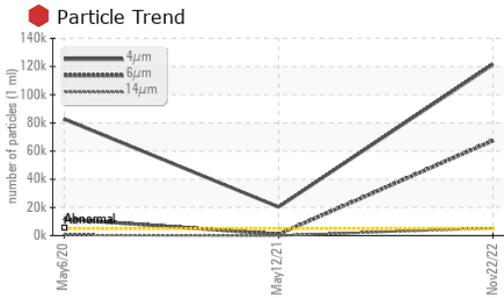
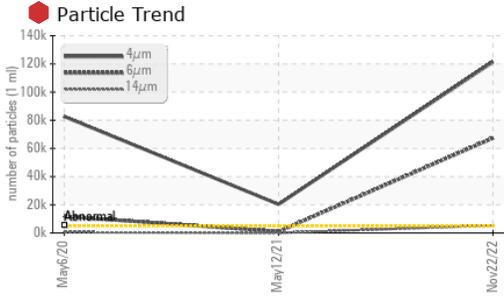
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	121371	20336	82659
Particles >6µm	ASTM D7647	>1300	67374	987	11727
Particles >14µm	ASTM D7647	>160	5317	21	480
Particles >21µm	ASTM D7647	>40	865	4	74
Particles >38µm	ASTM D7647	>10	8	0	0
Particles >71µm	ASTM D7647	>3	0	0	0
Oil Cleanliness	ISO 4406 (c)	>19/17/14	24/23/20	22/17/12	24/21/16

FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D974*	0.37	0.35	0.31	0.37

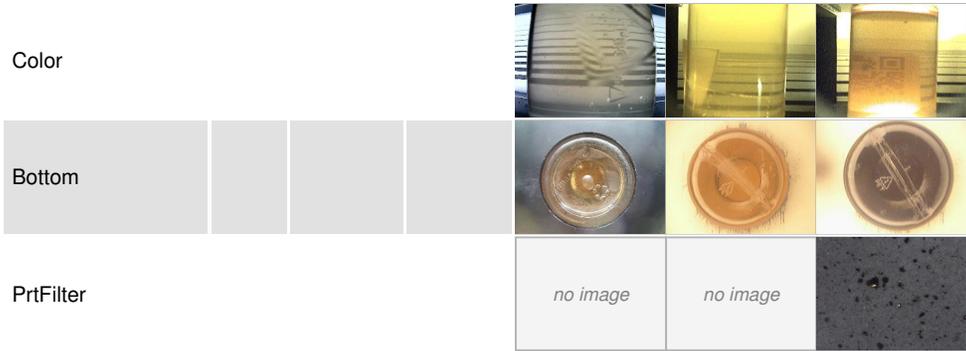
OIL ANALYSIS REPORT



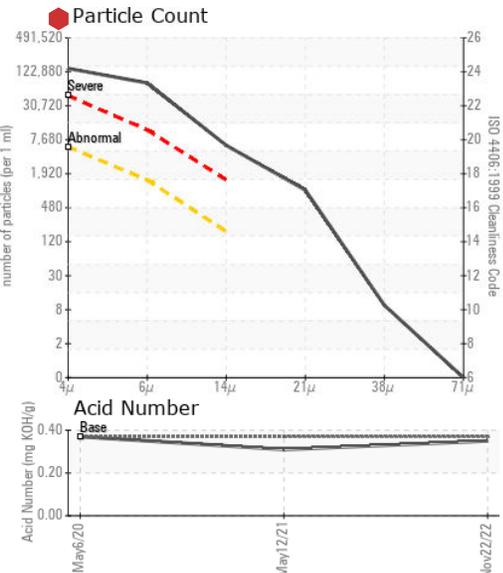
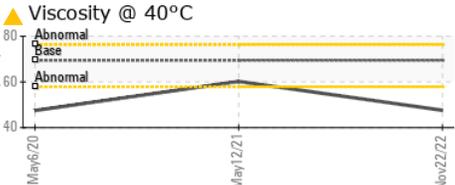
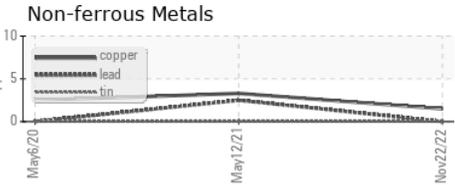
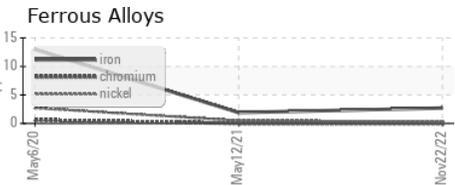
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	VLITE
Yellow Metal	scalar	Visual*	NONE	NONE	▲ LIGHT
Precipitate	scalar	Visual*	NONE	NONE	NONE
Silt	scalar	Visual*	NONE	NONE	NONE
Debris	scalar	Visual*	NONE	NONE	NONE
Sand/Dirt	scalar	Visual*	NONE	NONE	NONE
Appearance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

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D7279(m)	69.43 ▲ 47.6	60.2	▲ 47.5

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0698314 **Received** : 29 Nov 2022
Lab Number : 02525521 **Diagnosed** : 30 Nov 2022
Unique Number : 5490502 **Diagnostician** : Kevin Marson
Test Package : IND 2 (Additional Tests: TAN Man)

Vale - Coleman Mine
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 LEVACK, ON
 CA P0M 2C0
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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.