



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

MONORAIL SYSTEM PH83500 MONO RAIL MOLD CARRIER

Component
Hydraulic System

Fluid
CITGO CITGO GLYCOL FR-40 XD (65 GAL)

RECOMMENDATION

We advise that you check all areas where contaminants can enter the system. We advise that you add water to increase the water concentration level to 40%. Ensure that only distilled water or boiler feed water condensate are used for make-up. 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.

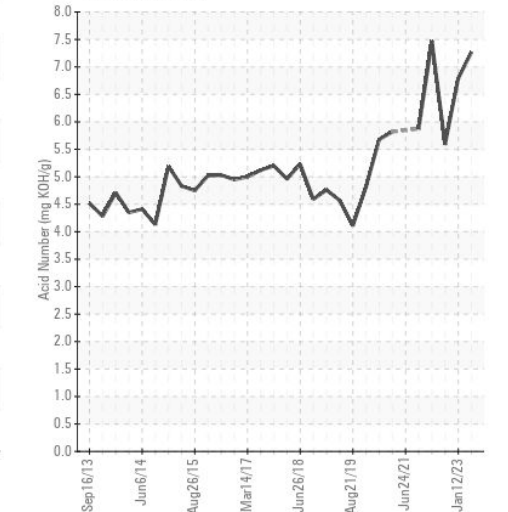
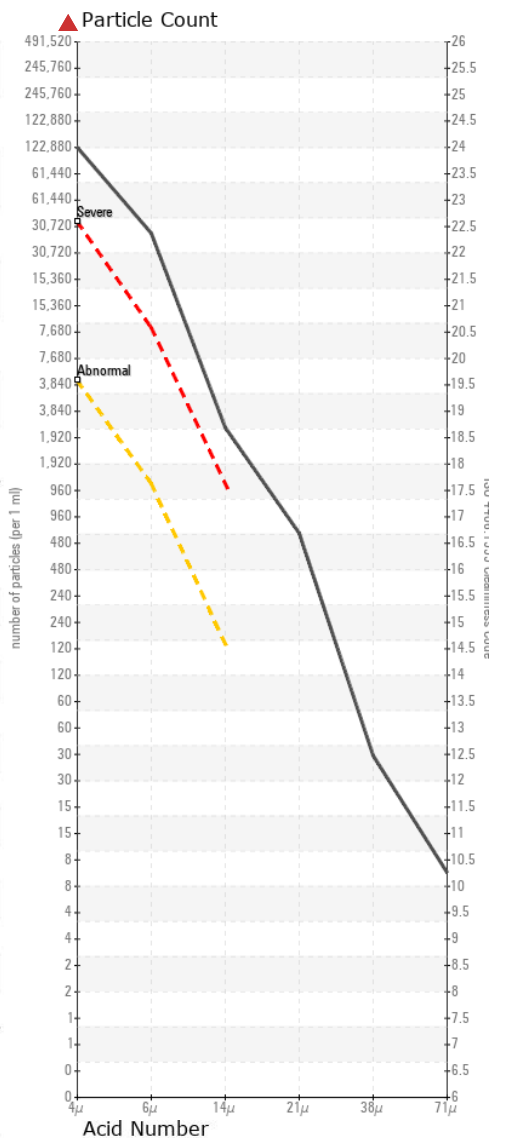
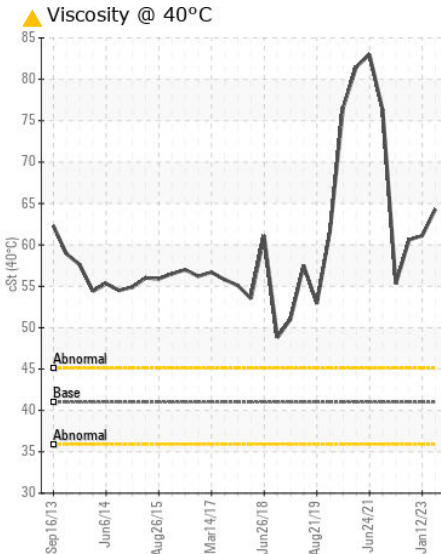
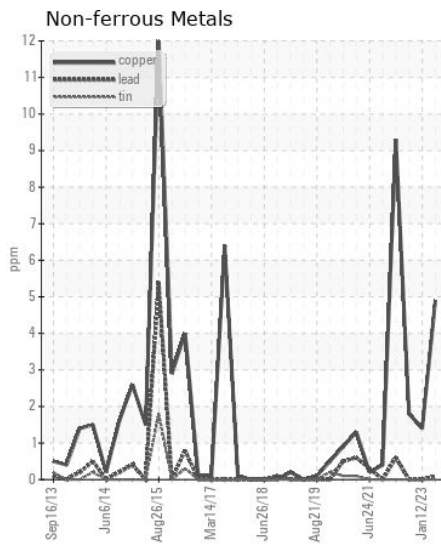
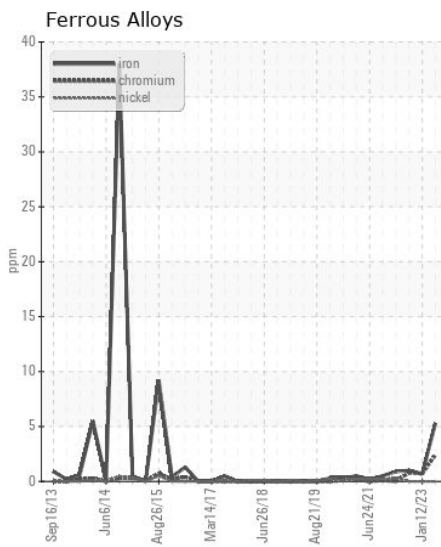
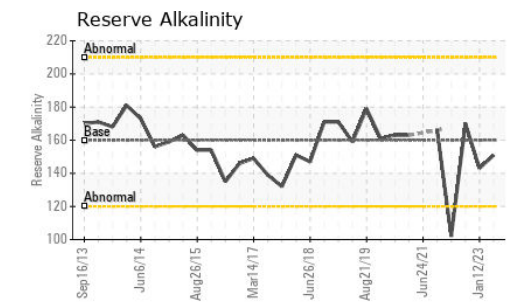
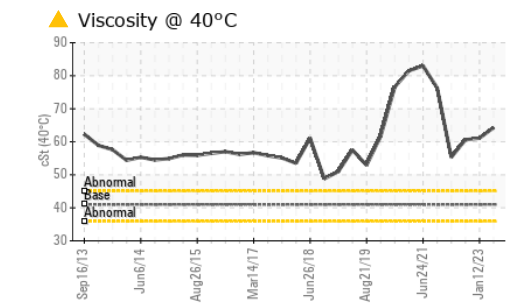
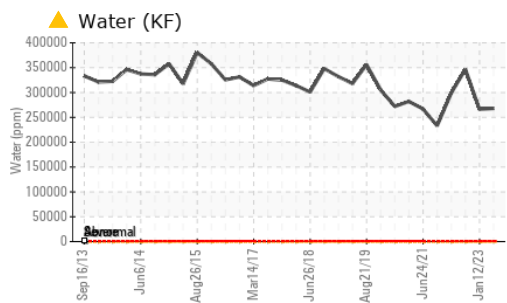
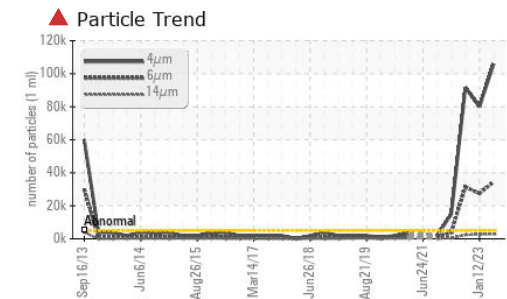
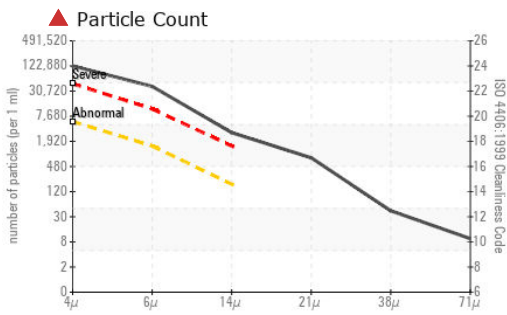
CONTAMINATION

There is a high amount of particulates (2 to 100 microns in size) present in the oil.

FLUID CONDITION

The water concentration level is lower than acceptable for this fluid. Viscosity of sample indicates oil is within ISO 68 range, advise investigate. The AN level is acceptable for this fluid. The pH level of this fluid is within the acceptable limits. The reserve alkalinity of this fluid is acceptable. 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		WC0741331	WC0741334	WC0566175
Sample Date		Client Info		01 May 2023	12 Jan 2023	19 Sep 2022
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Filter Age	hrs	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				SEVERE	SEVERE	SEVERE
Iron	ppm	ASTM D5185(m)	>20	5	<1	1
Chromium	ppm	ASTM D5185(m)	>20	2	<1	<1
Nickel	ppm	ASTM D5185(m)	>20	0	0	0
Titanium	ppm	ASTM D5185(m)		0	0	0
Silver	ppm	ASTM D5185(m)		<1	0	<1
Aluminum	ppm	ASTM D5185(m)	>20	<1	0	0
Lead	ppm	ASTM D5185(m)	>20	<1	0	0
Copper	ppm	ASTM D5185(m)	>20	5	1	2
Tin	ppm	ASTM D5185(m)	>20	0	0	0
Vanadium	ppm	ASTM D5185(m)		<1	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	0	<1
Potassium	ppm	ASTM D5185(m)	>20	62	36	44
Water	%	ASTM D6304*	>50	▲ 26.8	▲ 26.60	34.65
ppm Water	ppm	ASTM D6304*		▲ 268000	▲ 266061.5	346576.3
Particles >4µm		ASTM D7647	>5000	▲ 105871	▲ 80070	▲ 91642
Particles >6µm		ASTM D7647	>1300	▲ 34445	▲ 27389	▲ 31417
Particles >14µm		ASTM D7647	>160	▲ 2711	▲ 2750	▲ 2328
Particles >21µm		ASTM D7647	>40	▲ 680	▲ 754	▲ 456
Particles >38µm		ASTM D7647	>10	▲ 37	▲ 32	11
Particles >71µm		ASTM D7647	>3	▲ 8	4	2
Oil Cleanliness		ISO 4406 (c)	>19/17/14	▲ 24/22/19	▲ 24/22/19	▲ 24/22/18
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	FRGLY	FRGLY	FRGLY
Odor	scalar	Visual*	NORML	NORML	NORML	NORML
Emulsified Water	scalar	Visual*	>50	>10%	>10%	>10%
Sodium	ppm	ASTM D5185(m)		18	16	18
Boron	ppm	ASTM D5185(m)		2	0	<1
Barium	ppm	ASTM D5185(m)		0	0	0
Molybdenum	ppm	ASTM D5185(m)		1	<1	1
Manganese	ppm	ASTM D5185(m)		0	0	0
Magnesium	ppm	ASTM D5185(m)		1	0	<1
Calcium	ppm	ASTM D5185(m)		2	<1	<1
Phosphorus	ppm	ASTM D5185(m)		2	2	3
Zinc	ppm	ASTM D5185(m)		29	16	<1
Sulfur	ppm	ASTM D5185(m)		27	2	5
Acid Number (AN)	mg KOH/g	ASTM D974*		7.27	6.79	5.59
pH	Scale 0-14	ASTM D1287*		8.58	8.54	9.07
Visc @ 40°C	cSt	ASTM D7279(m)	41	▲ 64.3	▲ 61.1	▲ 60.6
Alkiline Reserve (Oils)	ml KOH/g	ASTM D1121*	160	151	143	170



ISO 17025:2017
Accredited
Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : WC0741331
Lab Number : 02557329
Unique Number : 5578369
Test Package : IND 2 (Additional Tests: KF, pH, ReserveAlk, TAN Man)

Received : 12 May 2023
Tested : 16 May 2023
Diagnosed : 16 May 2023 - Kevin Marson

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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.