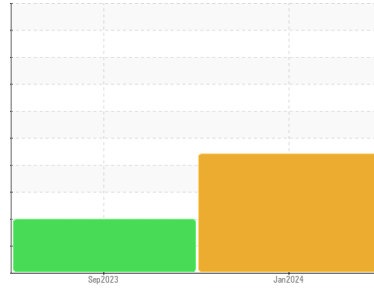


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id
TITAN CONCRETE CRANE
Component
Hydraulic System
Fluid
ESSO NUTO H ISO 46 (400 GAL)

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. Please specify the component make and model with your next sample.

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 water content is negligible. 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		Y2K0001654	Y2K0001109	---
Sample Date	Client Info		12 Jan 2024	28 Sep 2023	---
Machine Age	hrs	Client Info	0	0	---
Oil Age	hrs	Client Info	0	0	---
Oil Changed	Client Info		N/A	Not Changd	---
Sample Status			SEVERE	ABNORMAL	---

WEAR METALS

	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m >20	0	1	---
Chromium	ppm	ASTM D5185m >10	0	<1	---
Nickel	ppm	ASTM D5185m >10	0	<1	---
Titanium	ppm	ASTM D5185m	0	0	---
Silver	ppm	ASTM D5185m	0	0	---
Aluminum	ppm	ASTM D5185m >10	0	0	---
Lead	ppm	ASTM D5185m >10	0	0	---
Copper	ppm	ASTM D5185m >75	<1	<1	---
Tin	ppm	ASTM D5185m >10	0	0	---
Vanadium	ppm	ASTM D5185m	0	0	---
Cadmium	ppm	ASTM D5185m	0	0	---

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m 0	0	0	---
Barium	ppm	ASTM D5185m 0	0	0	---
Molybdenum	ppm	ASTM D5185m 0	0	<1	---
Manganese	ppm	ASTM D5185m	<1	0	---
Magnesium	ppm	ASTM D5185m 5	6	4	---
Calcium	ppm	ASTM D5185m 50	61	61	---
Phosphorus	ppm	ASTM D5185m 330	322	334	---
Zinc	ppm	ASTM D5185m 410	414	456	---
Sulfur	ppm	ASTM D5185m 2700	5336	6825	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >20	3	<1	---
Sodium	ppm	ASTM D5185m	0	0	---
Potassium	ppm	ASTM D5185m >20	0	<1	---
Water	%	ASTM D6304 >0.1	0.012	0.008	---
ppm Water	ppm	ASTM D6304 >1000	124	83.1	---

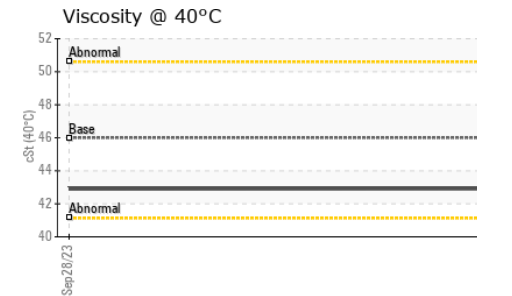
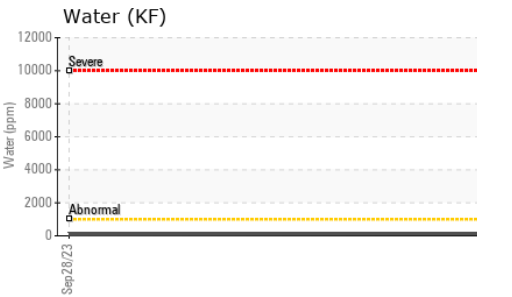
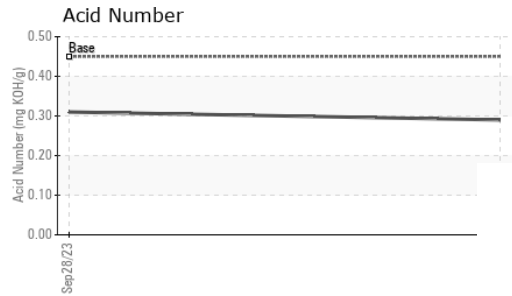
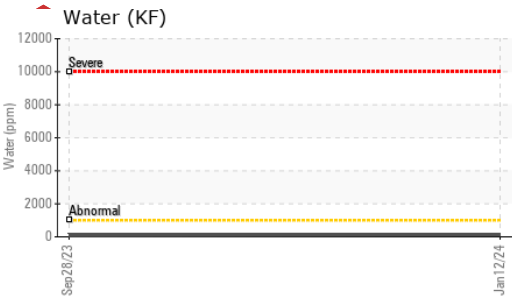
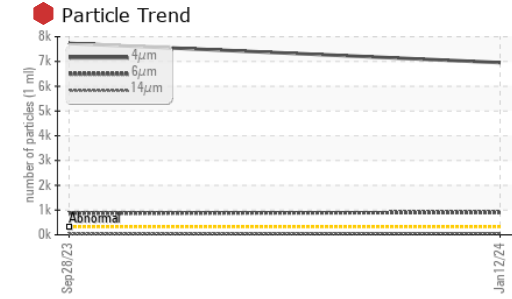
FLUID CLEANLINESS

	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>320	6953	7731	---
Particles >6µm	ASTM D7647	>80	902	871	---
Particles >14µm	ASTM D7647	>20	59	34	---
Particles >21µm	ASTM D7647	>4	18	9	---
Particles >38µm	ASTM D7647	>3	1	1	---
Particles >71µm	ASTM D7647	>3	0	1	---
Oil Cleanliness	ISO 4406 (c)	>15/13/11	20/17/13	20/17/12	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045 0.45	0.29	0.31	---

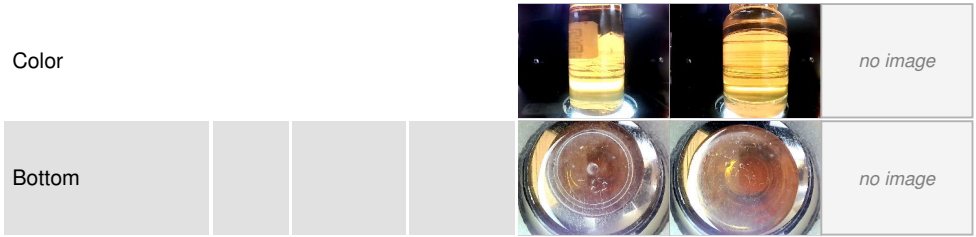
OIL ANALYSIS REPORT



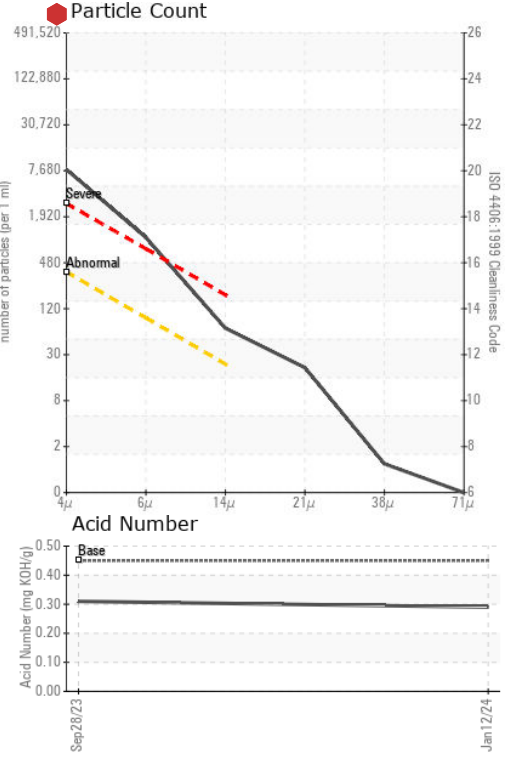
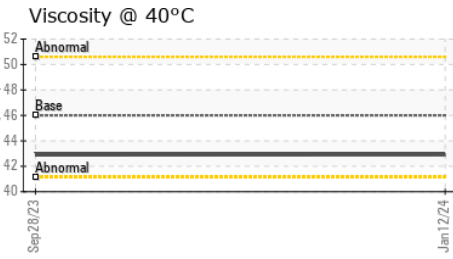
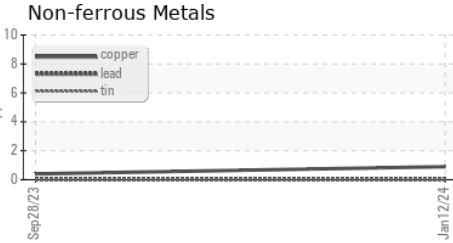
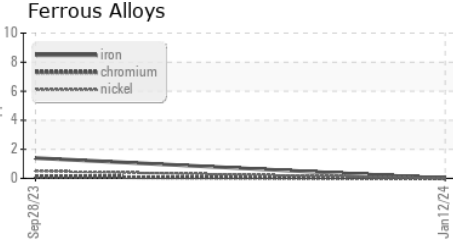
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual NONE	NONE	NONE	---
Precipitate	scalar	*Visual NONE	NONE	NONE	---
Silt	scalar	*Visual NONE	NONE	NONE	---
Debris	scalar	*Visual NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual NONE	NONE	NONE	---
Appearance	scalar	*Visual NORML	NORML	NORML	---
Odor	scalar	*Visual NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual >0.1	NEG	NEG	---
Free Water	scalar	*Visual	NEG	NEG	---

FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445 46	42.91	42.9	---

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : Y2K0001654 **Received** : 19 Jan 2024
Lab Number : 06065599 **Diagnosed** : 24 Jan 2024
Unique Number : 10836981 **Diagnostician** : Wes Davis
Test Package : MOB 2 (Additional Tests: KF)

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 155 JOHNSONTOWN RD
 SLOATSBURG, NY
 US 10974
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 johnsonhydraulicsservice@yahoo.com
 T: (845)570-1810
 F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.
 * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.
 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)