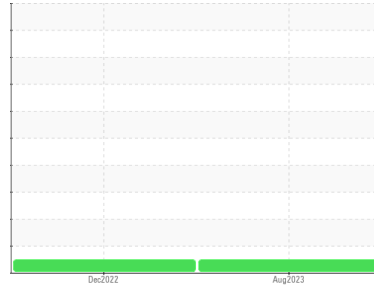




OIL ANALYSIS REPORT

Sample Rating Trend

NORMAL



Area
Subsea Crane
 Machine Id
Subsea Crane- Hydraulic (S/N SP2034-1)
 Component
Hydraulic System
 Fluid
MOBIL DTE 10 EXCEL 46 (6200 LTR)

DIAGNOSIS

Recommendation

Confirm the source of the lubricant being utilized for top-up/fill. Resample at the next service interval to monitor. The fluid was specified as MOBIL DTE 10 EXCEL 46, however, a fluid match indicates that this fluid is ISO 46 AW Hydraulic Oil. Please confirm the oil type and grade on your next sample. Please contact your representative for information regarding the proper sampling kits for your service. NOTE: We recommend using Advanced Oil Monitoring (AOM) kits for this system. The AOM test package includes advanced level testing to determine the suitability of turbine and large industrial compressor oils for continued use.

Wear

Component wear rates appear to be normal (unconfirmed).

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

Additive levels indicate the addition of a different brand, or type of oil. The condition of the oil is acceptable for the time in service (unconfirmed).

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number	Client Info			WC0754033	WC0754048	---
Sample Date	Client Info			22 Aug 2023	09 Dec 2022	---
Machine Age	hrs	Client Info		0	16000	---
Oil Age	hrs	Client Info		0	0	---
Oil Changed	Client Info			N/A	N/A	---
Sample Status				NORMAL	NORMAL	---

CONTAMINATION		method	limit/base	current	history1	history2
Water	WC Method		>0.1	NEG	NEG	---

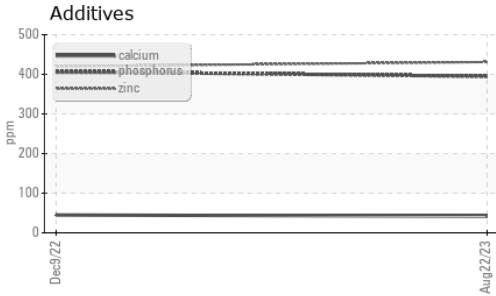
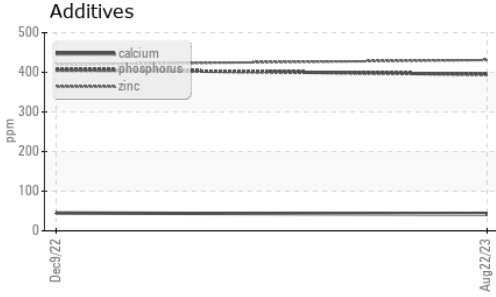
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>20	<1	<1	---
Chromium	ppm	ASTM D5185(m)	>10	0	0	---
Nickel	ppm	ASTM D5185(m)	>10	0	<1	---
Titanium	ppm	ASTM D5185(m)		0	0	---
Silver	ppm	ASTM D5185(m)		0	0	---
Aluminum	ppm	ASTM D5185(m)	>10	0	<1	---
Lead	ppm	ASTM D5185(m)	>10	<1	<1	---
Copper	ppm	ASTM D5185(m)	>75	4	4	---
Tin	ppm	ASTM D5185(m)	>10	0	<1	---
Antimony	ppm	ASTM D5185(m)		0	<1	---
Vanadium	ppm	ASTM D5185(m)		0	0	---
Beryllium	ppm	ASTM D5185(m)		0	0	---
Cadmium	ppm	ASTM D5185(m)		0	0	---

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		<1	<1	---
Barium	ppm	ASTM D5185(m)		0	0	---
Molybdenum	ppm	ASTM D5185(m)		0	0	---
Manganese	ppm	ASTM D5185(m)		0	0	---
Magnesium	ppm	ASTM D5185(m)		<1	<1	---
Calcium	ppm	ASTM D5185(m)		42	45	---
Phosphorus	ppm	ASTM D5185(m)		395	407	---
Zinc	ppm	ASTM D5185(m)		431	420	---
Sulfur	ppm	ASTM D5185(m)		2237	2346	---
Lithium	ppm	ASTM D5185(m)		<1	<1	---

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



OIL ANALYSIS REPORT



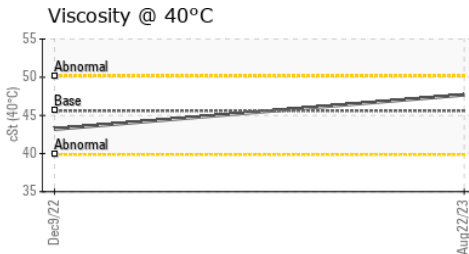
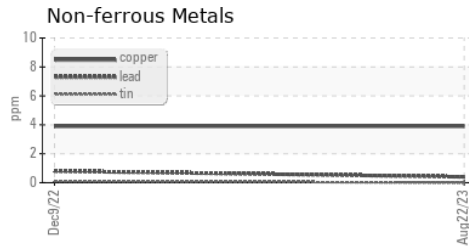
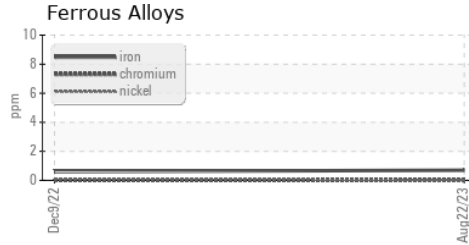
PARAMETER	VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	Visual*	NONE	NONE	NONE	---
Yellow Metal	scalar	Visual*	NONE	NONE	NONE	---
Precipitate	scalar	Visual*	NONE	NONE	NONE	---
Silt	scalar	Visual*	NONE	NONE	NONE	---
Debris	scalar	Visual*	NONE	NONE	NONE	---
Sand/Dirt	scalar	Visual*	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	---

PARAMETER	method	limit/base	current	history1	history2	
FLUID PROPERTIES						
Visc @ 40°C	cSt	ASTM D7279(m)	45.6	47.7	43.2	---

PARAMETER	method	limit/base	current	history1	history2
SAMPLE IMAGES					

Color			no image
Bottom			no image

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 Horizon Maritime Services Ltd. - Horizon Enabler
Sample No. : WC0754033 **Received** : 06 Sep 2023 87 Water Street, 2nd Floor
Lab Number : 02580689 **Diagnosed** : 06 Sep 2023 St. John's, NL
Unique Number : 5633749 **Diagnostician** : Kevin Marson CA A1C 1A5
Test Package : MAR 1 Contact: Andrew Whalen

To discuss this sample report, contact Customer Service at 1-800-268-2131. chiefeng.enabler@horizonmaritime.com
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab. T:
 Validity of results and interpretation are based on the sample and information as supplied. F: