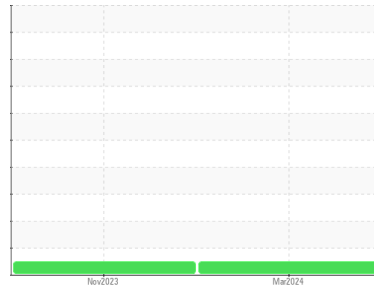




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Area
RRHP HPU 699 Elevation
 Machine Id
029-200-412 Unit 2 HPU
 Component
Hydraulic System
 Fluid
MOBIL DTE 26 (1446 GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

Fluid Condition

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		WC0927633	WC0879260	---
Sample Date	Client Info		11 Mar 2024	22 Nov 2023	---
Machine Age	hrs	Client Info	7867	7480	---
Oil Age	hrs	Client Info	7867	7480	---
Oil Changed	Client Info		Not Chngd	Filtered	---
Sample Status			NORMAL	NORMAL	---

WEAR METALS

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

ADDITIVES

	method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	0	---
Barium	ppm	ASTM D5185m	<1	0	---
Molybdenum	ppm	ASTM D5185m	<1	0	---
Manganese	ppm	ASTM D5185m	<1	0	---
Magnesium	ppm	ASTM D5185m	<1	0	---
Calcium	ppm	ASTM D5185m	131	127	---
Phosphorus	ppm	ASTM D5185m	501	461	---
Zinc	ppm	ASTM D5185m	682	672	---
Sulfur	ppm	ASTM D5185m	8832	7879	---

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >15	1	1	---
Sodium	ppm	ASTM D5185m	<1	<1	---
Potassium	ppm	ASTM D5185m >20	<1	0	---
Water	%	ASTM D6304 >0.05	0.003	0.007	---
ppm Water	ppm	ASTM D6304 >500	33	76	---

FLUID CLEANLINESS

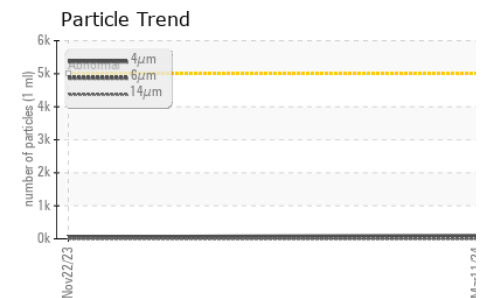
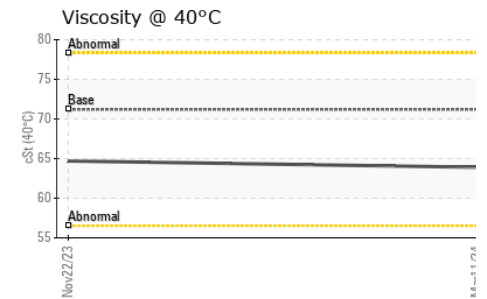
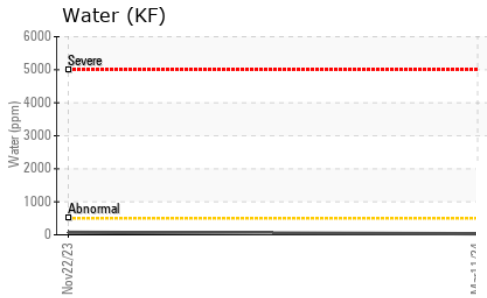
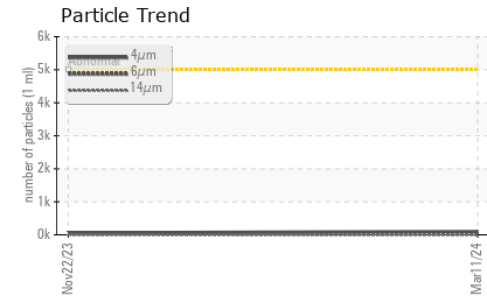
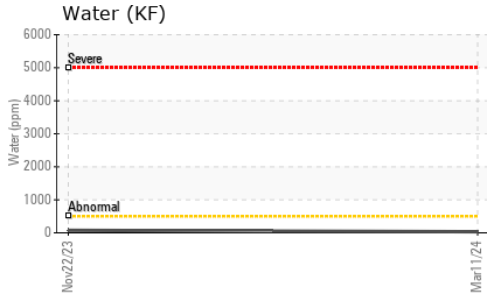
	method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647	>5000	104	58	---
Particles >6µm	ASTM D7647	>1300	24	25	---
Particles >14µm	ASTM D7647	>160	5	5	---
Particles >21µm	ASTM D7647	>40	2	1	---
Particles >38µm	ASTM D7647	>10	1	0	---
Particles >71µm	ASTM D7647	>3	0	0	---
Oil Cleanliness	ISO 4406 (c)	>19/17/14	14/12/10	13/12/10	---

FLUID DEGRADATION

	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.701	0.82	---



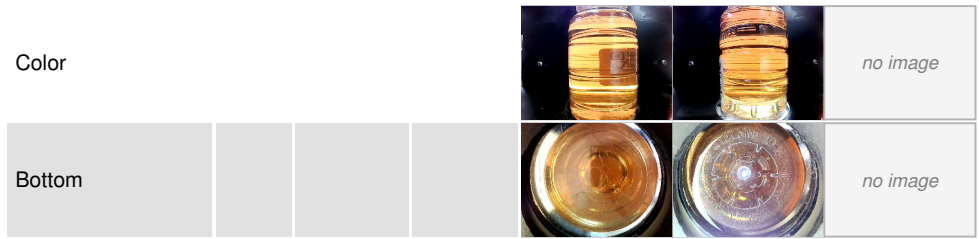
OIL ANALYSIS REPORT



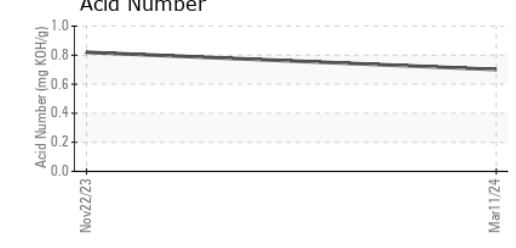
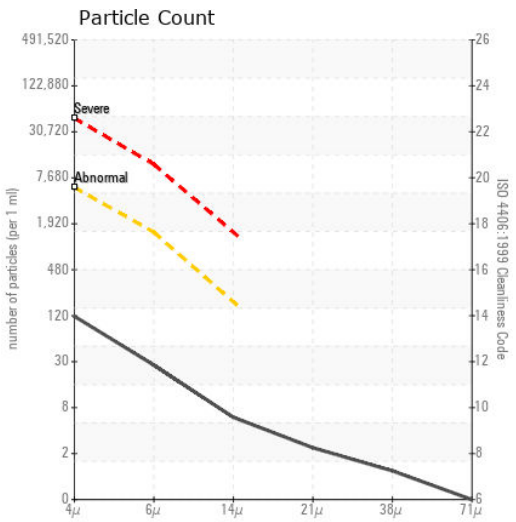
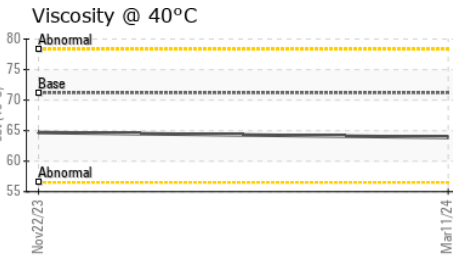
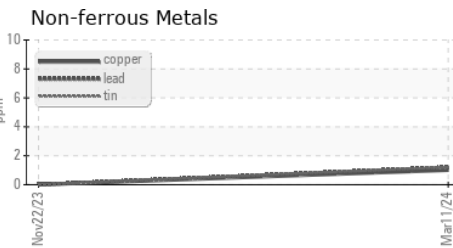
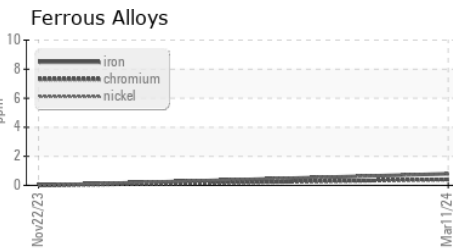
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	---
Precipitate	scalar	*Visual	NONE	NONE	---
Silt	scalar	*Visual	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	---
Appearance	scalar	*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 D445	71.2	63.9	64.7

SAMPLE IMAGES	method	limit/base	current	history1	history2
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GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0927633
Lab Number : 06147331
Unique Number : 10977409
Test Package : PLANT

Missouri River Energy Services - Red Rock Hydro
 1004 216th Place
 Pella, IA
 CA 50219

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)

Contact: Vern Cochran
 vern.cochran@mrenergy.com
 T: (605)357-6920

F: