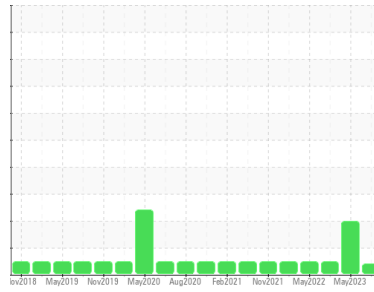




OIL ANALYSIS REPORT

Sample Rating Trend



VISCOSITY



Machine Id
C-414702-B

Component
Compressor

Fluid
ROYAL PURPLE SYNFILM GT 100 (100 GAL)

DIAGNOSIS

Recommendation

No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

The water content is negligible. 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 oil viscosity is higher than normal. The AN level is acceptable for this fluid.

SAMPLE INFORMATION

method	limit/base	current	history1	history2
Sample Number	Client Info	RP0035223	RP0033763	RP0024397
Sample Date	Client Info	04 Jun 2024	18 May 2023	16 Feb 2023
Machine Age	hrs	Client Info	0	0
Oil Age	hrs	Client Info	0	0
Oil Changed	Client Info	N/A	Filtered	N/A
Sample Status		MARGINAL	ABNORMAL	NORMAL

WEAR METALS

method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m >50	<1	<1	0
Chromium	ppm	ASTM D5185m >10	0	0	0
Nickel	ppm	ASTM D5185m	0	0	0
Titanium	ppm	ASTM D5185m	0	0	0
Silver	ppm	ASTM D5185m	0	0	0
Aluminum	ppm	ASTM D5185m >25	0	<1	<1
Lead	ppm	ASTM D5185m >25	0	0	0
Copper	ppm	ASTM D5185m >50	2	<1	<1
Tin	ppm	ASTM D5185m >15	0	0	0
Vanadium	ppm	ASTM D5185m	0	0	0
Cadmium	ppm	ASTM D5185m	0	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	0
Manganese	ppm	ASTM D5185m	0	<1	0
Magnesium	ppm	ASTM D5185m 90	82	95	84
Calcium	ppm	ASTM D5185m	1	4	2
Phosphorus	ppm	ASTM D5185m 35	15	4	0
Zinc	ppm	ASTM D5185m	2	0	1

CONTAMINANTS

method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m >25	<1	<1	<1
Sodium	ppm	ASTM D5185m	1	1	<1
Potassium	ppm	ASTM D5185m >20	0	<1	0
Water	%	ASTM D6304 >0.1	0.029	0.013	0.029
ppm Water	ppm	ASTM D6304 >1000	298	137.9	297.3

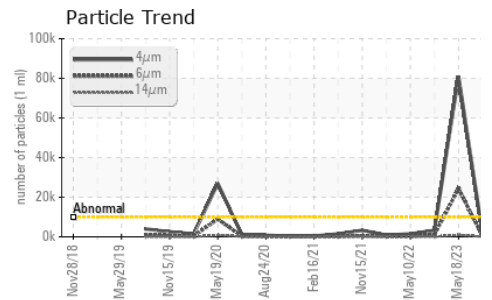
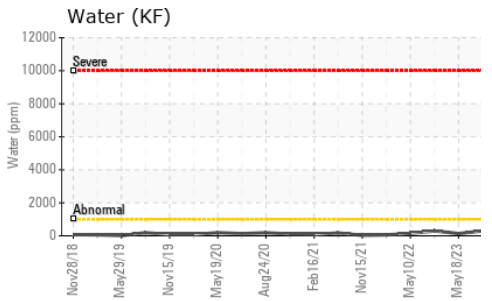
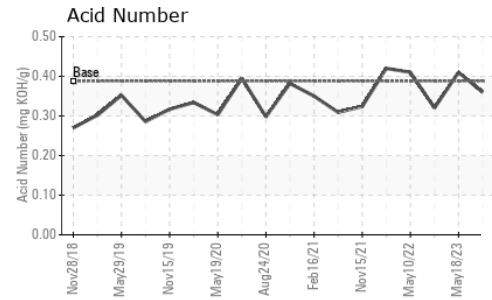
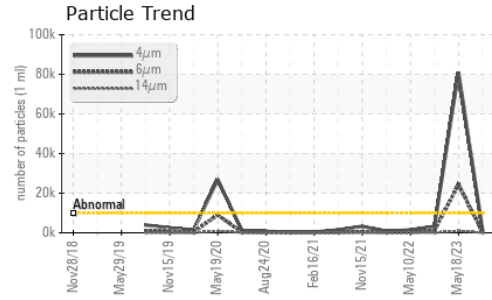
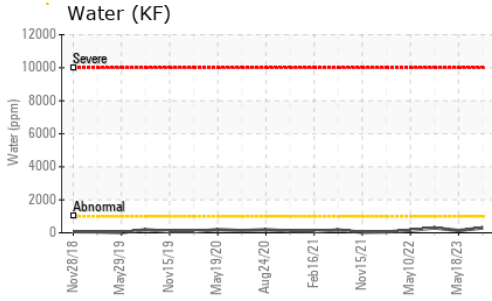
FLUID CLEANLINESS

method	limit/base	current	history1	history2
Particles >4µm	ASTM D7647 >10000	1275	▲ 81052	3292
Particles >6µm	ASTM D7647 >2500	220	▲ 24277	1092
Particles >14µm	ASTM D7647 >320	9	▲ 904	58
Particles >21µm	ASTM D7647 >80	1	▲ 185	4
Particles >38µm	ASTM D7647 >20	0	4	1
Particles >71µm	ASTM D7647 >4	0	0	0
Oil Cleanliness	ISO 4406 (c) >20/18/15	17/15/10	▲ 24/22/17	19/17/13

FLUID DEGRADATION

method	limit/base	current	history1	history2	
Acid Number (AN)	mg KOH/g	ASTM D8045 0.388	0.36	0.41	0.32

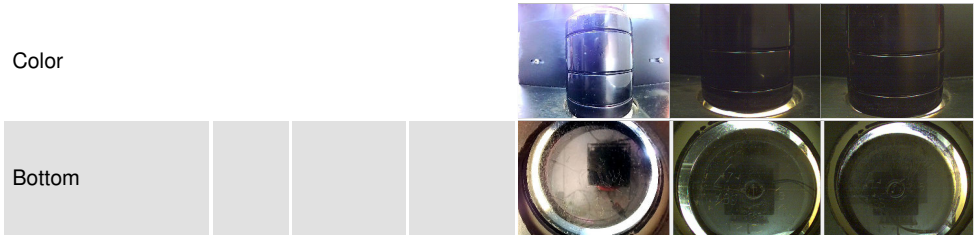
OIL ANALYSIS REPORT



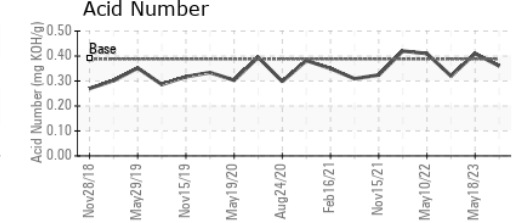
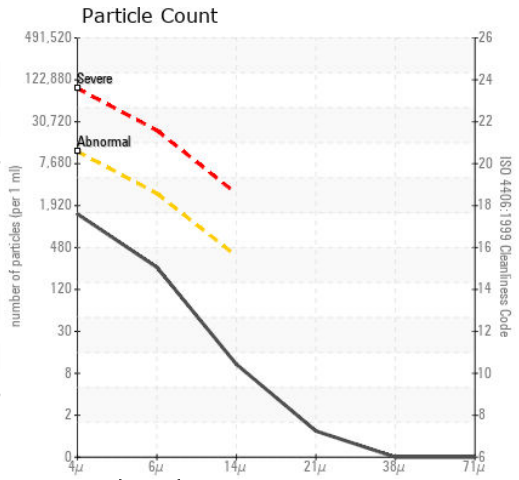
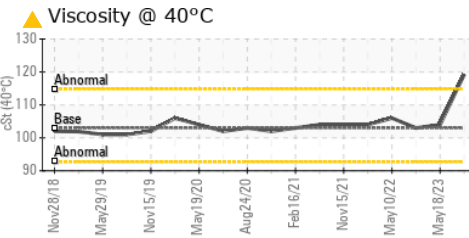
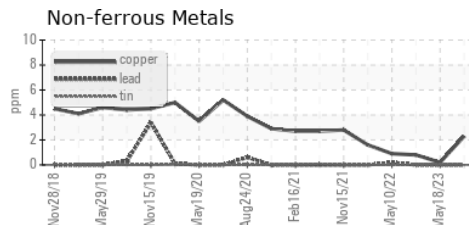
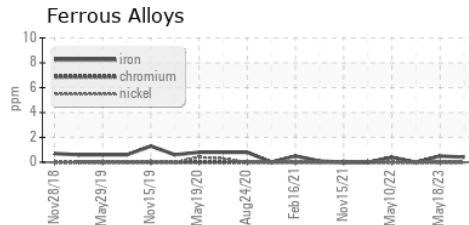
VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	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	103	▲ 119.2	104

SAMPLE IMAGES	method	limit/base	current	history1	history2
---------------	--------	------------	---------	----------	----------



GRAPHS



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513

Sample No. : RP0035223

Lab Number : 06200251

Unique Number : 11062374

Test Package : IND 2 (Additional Tests: PrtCount)

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)

Received : 05 Jun 2024

Tested : 13 Jun 2024

Diagnosed : 13 Jun 2024 - Jonathan Hester

CALUMET MONTANA REFINERY

1807 3RD ST NW

GREAT FALLS, MT

US 59404

Contact: CODY MCRADY

brian.schoechert@clmt.com

T: (406)454-9854

F: