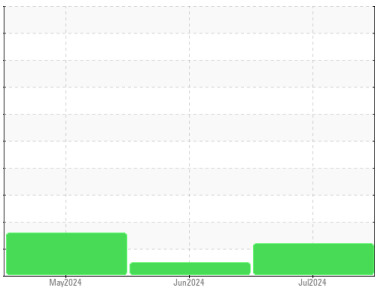
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
LEROI VRUOXY0081 - HP4 FALCON RIDGE (S/N LE15923)
Component
Compressor
Fluid
CIMARRON HB-150 (--- GAL)

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.

Wear
The iron level is abnormal. All other component wear rates are normal.

Contamination
Moderate concentration of visible dirt/debris present in the oil.

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		**TO90004478**	TO90004531	TO90004237
Sample Date		Client Info		**10 Jul 2024**	07 Jun 2024	07 May 2024
Machine Age	hrs	Client Info		**0**	0	0
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**ABNORMAL**	NORMAL	ABNORMAL

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>50	▲ **53**	33	47
Chromium	ppm	ASTM D5185m	>10	**0**	0	<1
Nickel	ppm	ASTM D5185m		**<1**	<1	0
Titanium	ppm	ASTM D5185m		**0**	0	0
Silver	ppm	ASTM D5185m		**0**	0	<1
Aluminum	ppm	ASTM D5185m	>25	**<1**	<1	<1
Lead	ppm	ASTM D5185m	>25	**0**	0	<1
Copper	ppm	ASTM D5185m	>50	**0**	0	<1
Tin	ppm	ASTM D5185m	>15	**1**	1	1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	0	**0**	0	0
Barium	ppm	ASTM D5185m	0	**0**	0	0
Molybdenum	ppm	ASTM D5185m	0	**0**	0	0
Manganese	ppm	ASTM D5185m		**0**	<1	0
Magnesium	ppm	ASTM D5185m	0	**2**	1	0
Calcium	ppm	ASTM D5185m	0	**0**	0	0
Phosphorus	ppm	ASTM D5185m	0	**10**	23	9
Zinc	ppm	ASTM D5185m	0	**0**	4	0
Sulfur	ppm	ASTM D5185m	0	**778**	1008	1850

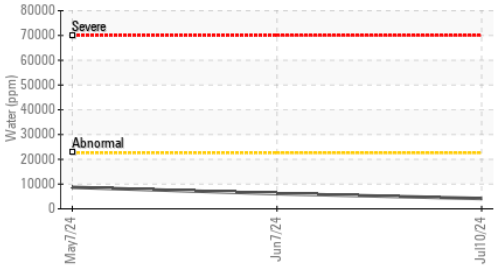
CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>25	**<1**	<1	<1
Sodium	ppm	ASTM D5185m		**3**	2	5
Potassium	ppm	ASTM D5185m	>20	**2**	6	3
Water	%	ASTM D6304	>2.26	**0.416**	0.612	0.871
ppm Water	ppm	ASTM D6304	>22600	**4160**	6120	8710

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>10000	**---**	2292	▲ 173769
Particles >6µm		ASTM D7647	>2500	**---**	1046	▲ 48960
Particles >14µm		ASTM D7647	>320	**---**	254	▲ 356
Particles >21µm		ASTM D7647	>80	**---**	23	21
Particles >38µm		ASTM D7647	>20	**---**	2	1
Particles >71µm		ASTM D7647	>4	**---**	0	0
Oil Cleanliness		ISO 4406 (c)	>20/18/15	**---**	18/17/15	▲ 25/23/16

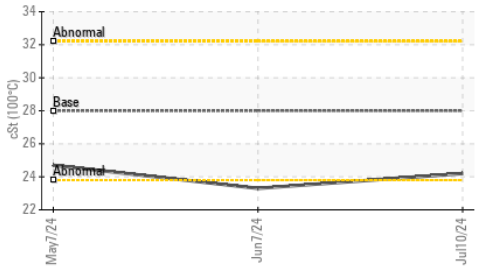
FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**0.25**	0.36	0.57

OIL ANALYSIS REPORT

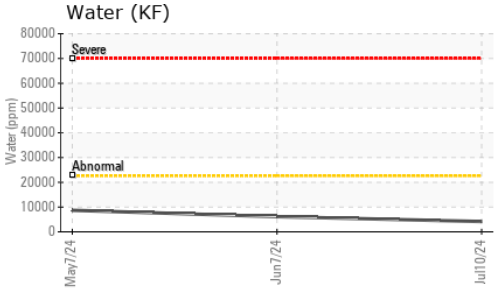
Water (KF)



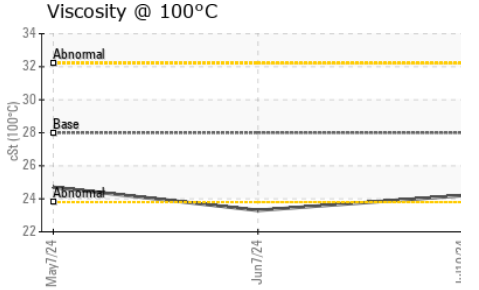
Viscosity @ 100°C



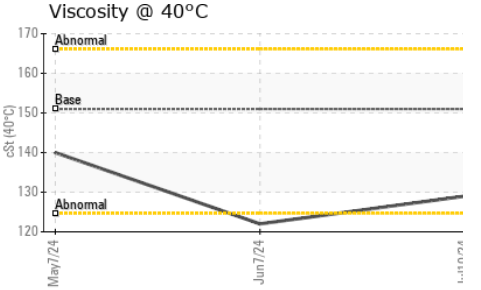
Water (KF)



Viscosity @ 100°C



Viscosity @ 40°C



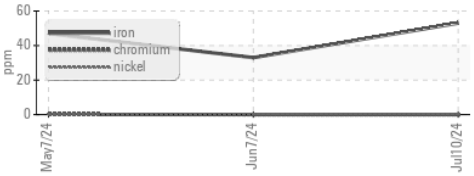
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	▲ **MODER**	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Appearance	scalar	*Visual	NORML	**NORML**	NORML	NORML
Odor	scalar	*Visual	NORML	**NORML**	NORML	NORML
Emulsified Water	scalar	*Visual	>2.26	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	151	**129**	122	140
Visc @ 100°C	cSt	ASTM D445	28	**24.2**	23.3	24.7
Viscosity Index (VI)	Scale	ASTM D2270	224	**221**	222	210

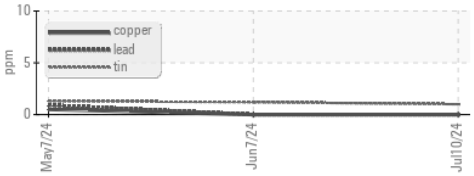
SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

GRAPHS

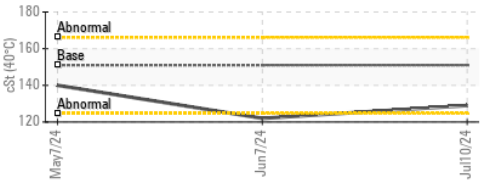
▲ Ferrous Alloys



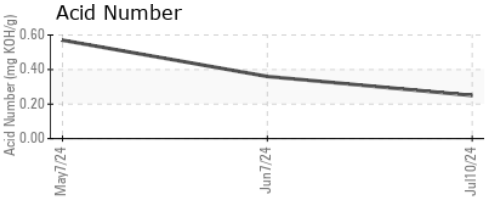
Non-ferrous Metals



Viscosity @ 40°C



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : TO90004478
Lab Number : 06238431
Unique Number : 11127265
Test Package : IND 2 (Additional Tests: KF, KV100, PrtCount, VI)

Received : 16 Jul 2024
Tested : 18 Jul 2024
Diagnosed : 18 Jul 2024 - Don Baldridge

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)

CIMARRON ENERGY - CARLSBAD
4425 GRANDI RD, UNIT F
CARLSBAD, NM
UM 88220-8923
Contact: CARLOS LEAL
cleal@cimarron.com
T:
F:

Report Id: CIMCAR [WUSCAR] 06238431 (Generated: 07/18/2024 14:33:19) Rev: 1

Contact/Location: CARLOS LEAL - CIMCAR