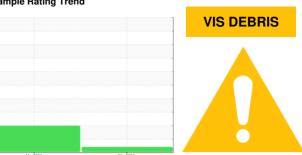


OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

LEROI VRUOXY0041 - RED TANKS 27/28 OGS (S/N LE15927)

Compressor

CIMARRON HB-150 (--- GAL)

DIAGNOSIS

Recommendation

Oil and filter change at the time of sampling has been noted. 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.

All component wear rates are normal.

Contamination

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

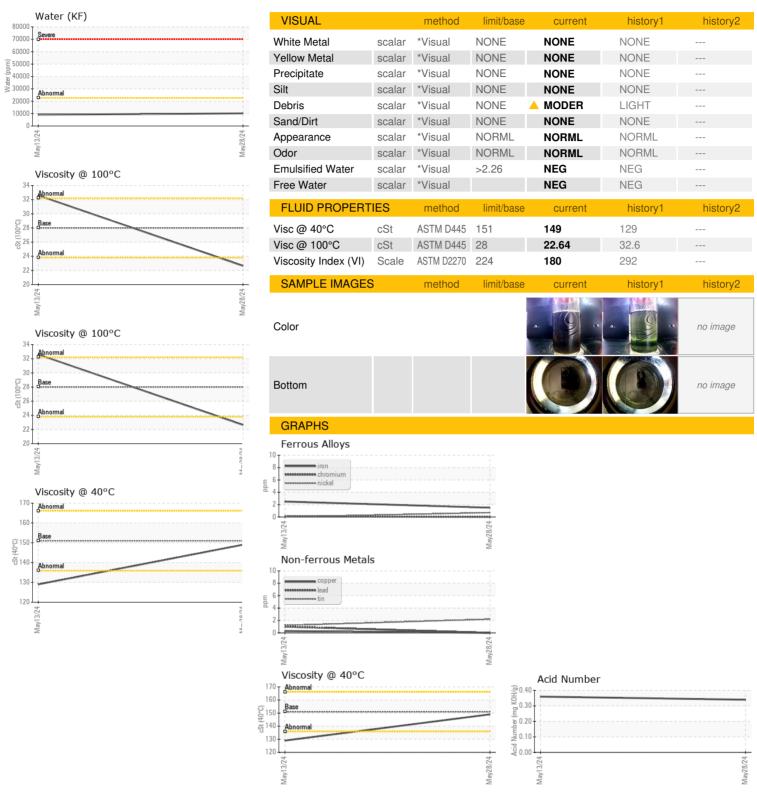
Fluid Condition

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

Sample Number Client Info TO90004074 TO90004245				May2024	May2024		
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 0 0 0 0 0 0 0 0 0	Sample Number		Client Info		TO90004074	TO90004245	
Dil Age	Sample Date		Client Info		28 May 2024	13 May 2024	
Cilient Info	Machine Age	hrs	Client Info		0	0	
Sample Status MBNORMAL ABNORMAL ABNORMAL	Oil Age	hrs	Client Info		0	0	
WEAR METALS method limit/base current history1 history2 ron ppm ASTM D5185m >70 2 2 2 Chromium ppm ASTM D5185m >10 0 -1 Nickel ppm ASTM D5185m 0 0 Silver ppm ASTM D5185m 0 -1 Aluminum ppm ASTM D5185m 0 -1 Aluminum ppm ASTM D5185m 0 1 Aluminum ppm ASTM D5185m 20 0 -1 Aluminum ppm ASTM D5185m >3 2 1 Aluminum ppm ASTM D5185m >3 2 1 Astm D5185m >3 2 1 Astm D5185m 6 0 <t< td=""><td>Oil Changed</td><td></td><td>Client Info</td><td></td><td>Changed</td><td>N/A</td><td></td></t<>	Oil Changed		Client Info		Changed	N/A	
Chromium	Sample Status				ABNORMAL	ABNORMAL	
Chromium ppm ASTM D5185m >10 0 <1 Nickel ppm ASTM D5185m <1	WEAR METALS		method	limit/base	current	history1	history2
ASTM D5185m ASTM D5185m	Iron	ppm	ASTM D5185m	>70	2	2	
Description	Chromium	ppm	ASTM D5185m	>10	0	<1	
Silver	Nickel	ppm	ASTM D5185m		<1	0	
Aluminum ppm ASTM D5185m >3 1 <1 Lead ppm ASTM D5185m >4 0 1 Copper ppm ASTM D5185m >20 0 <1 Tin ppm ASTM D5185m >3 2 1 Vanadium ppm ASTM D5185m >3 2 1 Vanadium ppm ASTM D5185m <1 0 Cadmium ppm ASTM D5185m 0 6 0 0 Barium 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 0 0 0 Magnesium ppm ASTM D5185m 0 0 0 0 Calcium ppm ASTM D5185m 0 9 0 Salfium ppm ASTM D5185m 0 10 0 Calcium ppm ASTM D5185m 0 12 0 Sulfur ppm ASTM D5185m 0 12 0 CONTAMINANTS method limit/base current history1 history3 Sodium ppm ASTM D5185m >445 41 <1 Sodium ppm ASTM D5185m >20 5 3 Water % ASTM D6304 >2.260 1020 9080 FLUID CLEANLINESS method limit/base current history1 history3 Particles >4µm ASTM D7647 >10000 A 66425 Particles >6µm ASTM D7647 >20 A 1036 Particles >6µm ASTM D7647 >80 Particles >6µm ASTM D7647 >80 Particles >6µm ASTM D7647 >80 Particles >7µm ASTM D7647 >80 Particles >3µm ASTM D7647 >80 Particles >7µm ASTM D7647 >80 Particles >7µm ASTM D7647 >4 Particles >7µm ASTM D7647 >4 Particles >7µm ASTM D7647 >80 Particles >7µm ASTM D7647 >80 Particles >7µm ASTM D7647 >80 Particles >7µm ASTM D7647 >4 Particles >7µm ASTM D7647 >80 Particles >7µm ASTM D7647 >4 Particles >7µm	Titanium	ppm	ASTM D5185m		0	0	
Lead ppm ASTM D5185m >4 0 1	Silver	ppm	ASTM D5185m		0	<1	
Copper ppm ASTM D5185m >20 0 <1 Tin ppm ASTM D5185m >3 2 1 Vanadium ppm ASTM D5185m <1	Aluminum	ppm	ASTM D5185m	>3	1	<1	
Tin	Lead	ppm	ASTM D5185m	>4	0	1	
Vanadium ppm ASTM D5185m <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <td>Copper</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>20</td> <td>0</td> <td><1</td> <td></td>	Copper	ppm	ASTM D5185m	>20	0	<1	
Cadmium ppm ASTM D5185m <1 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 6 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 0 3 0 Magnesium ppm ASTM D5185m 0 9 0 Calcium ppm ASTM D5185m 0 9 0 Phosphorus ppm ASTM D5185m 0 12 0 Zinc ppm ASTM D5185m 0 12 0 Sulfur ppm ASTM D5185m 2 41 <1 Sodium ppm ASTM D5185m 2 41 <1	Tin	ppm	ASTM D5185m	>3	2	1	
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 0 6 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 3 0 Magnesium ppm ASTM D5185m 0 9 0 Calcium ppm ASTM D5185m 0 9 0 Phosphorus ppm ASTM D5185m 0 9 0 Zinc ppm ASTM D5185m 0 12 0 Zinc ppm ASTM D5185m 0 705 926 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 20 5	Vanadium	ppm	ASTM D5185m		<1	<1	
Boron ppm ASTM D5185m 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	Cadmium	ppm	ASTM D5185m		<1	0	
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m 0 3 0 Magnesium ppm ASTM D5185m 0 9 0 Calcium ppm ASTM D5185m 0 37 53 Phosphorus ppm ASTM D5185m 0 12 0 Zinc ppm ASTM D5185m 0 12 0 Sulfur ppm ASTM D5185m 0 705 926 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >45 41 <1	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 0 0 Manganese ppm ASTM D5185m <1	Boron	ppm	ASTM D5185m	0	6	0	
Manganese ppm ASTM D5185m <1 0 Magnesium ppm ASTM D5185m 0 3 0 Calcium ppm ASTM D5185m 0 9 0 Phosphorus ppm ASTM D5185m 0 37 53 Zinc ppm ASTM D5185m 0 12 0 Sulfur ppm ASTM D5185m 0 705 926 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 2 4 Sodium ppm ASTM D5185m 20 5 3 Potassium ppm ASTM D5185m >20 5 3 Potassium ppm ASTM D5185m >20 5 3 Water % ASTM D5185m >20 5 3	Barium	ppm	ASTM D5185m	0	0	0	
Magnesium ppm ASTM D5185m 0 3 0 Calcium ppm ASTM D5185m 0 9 0 Phosphorus ppm ASTM D5185m 0 37 53 Zinc ppm ASTM D5185m 0 12 0 Sulfur ppm ASTM D5185m 0 705 926 Sulfur ppm ASTM D5185m 0 705 926 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >45 41 <1	Molybdenum	ppm	ASTM D5185m	0	0	0	
Calcium ppm ASTM D5185m 0 9 0 Phosphorus ppm ASTM D5185m 0 37 53 Zinc ppm ASTM D5185m 0 12 0 Sulfur ppm ASTM D5185m 0 705 926 CONTAMINANTS method limit/base current history1 history3 Silicon ppm ASTM D5185m >45 41 <1	Manganese	ppm	ASTM D5185m		<1	0	
Phosphorus ppm ASTM D5185m 0 37 53 Zinc ppm ASTM D5185m 0 12 0 Sulfur ppm ASTM D5185m 0 705 926 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 245 41 <1 Sodium ppm ASTM D5185m 2 4 Potassium ppm ASTM D5185m 20 5 3 Water % ASTM D5185m >20 5 3 Water % ASTM D5185m >20 5 3 Potassium ppm ASTM D6304 >2.26 1.02 0.908 Potassium ppm ASTM D6304 >2.2600 10200 9080 FLUID CLEANLINESS method limit/base current <	Magnesium	ppm	ASTM D5185m	0	3	0	
Zinc ppm ASTM D5185m 0 12 0 Sulfur ppm ASTM D5185m 0 705 926 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >45 41 <1 Sodium ppm ASTM D5185m 20 5 3 Potassium ppm ASTM D5185m >20 5 3 Water % ASTM D6304 >2.2.26 1.02 0.908 ppm Water ppm ASTM D6304 >2.2600 10200 9080 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >10000 ♠ 66425 Particles >21µm ASTM D7647 >320 ♠ 1036 Particles >38µm ASTM D7647 >80 </td <td>Calcium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>0</td> <td>9</td> <td>0</td> <td></td>	Calcium	ppm	ASTM D5185m	0	9	0	
Sulfur ppm ASTM D5185m 0 705 926 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >45 41 <1	Phosphorus	ppm	ASTM D5185m	0	37	53	
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >45 41 <1	Zinc	ppm	ASTM D5185m	0	12	0	
Silicon ppm ASTM D5185m >45 41 <1 Sodium ppm ASTM D5185m 2 4 Potassium ppm ASTM D5185m >20 5 3 Water % ASTM D6304 >2.26 1.02 0.908 ppm Water ppm ASTM D6304 >22600 10200 9080 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >10000 △ 66425 Particles >6μm ASTM D7647 >2500 △ 22383 Particles >14μm ASTM D7647 >320 △ 1036 Particles >21μm ASTM D7647 >80 △ 104 Particles >38μm ASTM D7647 >20 1 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 △ 23/22/17 FLUID DEGRADATION method limit/base current history1 history2 ### ASTM D7647 ASTM D7647 >4 0 ### ASTM D7647 ASTM D7647 >4 0 ### ASTM D7647 ASTM	Sulfur	ppm	ASTM D5185m	0	705	926	
Sodium ppm ASTM D5185m 2 4 Potassium ppm ASTM D5185m >20 5 3 Water % ASTM D6304 >2.26 1.02 0.908 ppm Water ppm ASTM D6304 >22600 10200 9080 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >10000 Δ 66425 Particles >6μm ASTM D7647 >2500 Δ 22383 Particles >14μm ASTM D7647 >320 Δ 1036 Particles >21μm ASTM D7647 >80 Δ 104 Particles >71μm ASTM D7647 >4 0 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 Δ 23/22/17	CONTAMINANTS	3	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 5 3 Water % ASTM D6304 >2.2.26 1.02 0.908 ppm Water ppm ASTM D6304 >2.2600 10200 9080 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >10000 Δ 66425 Particles >6μm ASTM D7647 >2500 Δ 22383 Particles >14μm ASTM D7647 >320 Δ 1036 Particles >21μm ASTM D7647 >80 Δ 104 Particles >38μm ASTM D7647 >4 0 Particles >71μm ASTM D7647 >4 0 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) <t< td=""><td>Silicon</td><td>ppm</td><td>ASTM D5185m</td><td>>45</td><td>41</td><td><1</td><td></td></t<>	Silicon	ppm	ASTM D5185m	>45	41	<1	
Water % ASTM D6304 >2.26 1.02 0.908 ppm Water ppm ASTM D6304 >22600 10200 9080 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >10000 Δ 66425 Particles >6μm ASTM D7647 >2500 Δ 22383 Particles >14μm ASTM D7647 >320 Δ 1036 Particles >21μm ASTM D7647 >80 Δ 104 Particles >38μm ASTM D7647 >20 1 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 Δ 23/22/17 FLUID DEGRADATION method limit/base current history1 history2	Sodium	ppm	ASTM D5185m		2	4	
Water % ASTM D6304 >2.26 1.02 0.908 ppm Water ppm ASTM D6304 >22600 10200 9080 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >10000 Δ 66425 Particles >6μm ASTM D7647 >2500 Δ 1036 Particles >14μm ASTM D7647 >80 Δ 104 Particles >21μm ASTM D7647 >20 Δ 104 Particles >38μm ASTM D7647 >4 0 Particles >71μm ASTM D7647 >4 0	Potassium	ppm	ASTM D5185m	>20	5	3	
ppm Water ppm ASTM D6304 >22600 10200 9080 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >10000 Δ 66425 Particles >6μm ASTM D7647 >2500 Δ 22383 Particles >14μm ASTM D7647 >320 Δ 1036 Particles >21μm ASTM D7647 >80 Δ 104 Particles >38μm ASTM D7647 >20 1 Particles >71μm ASTM D7647 >4 0 Particles >71μm <	Water		ASTM D6304	>2.26	1.02	0.908	
Particles >4μm ASTM D7647 >10000 ▲ 66425 Particles >6μm ASTM D7647 >2500 ▲ 22383 Particles >14μm ASTM D7647 >320 ▲ 1036 Particles >21μm ASTM D7647 >80 ▲ 104 Particles >38μm ASTM D7647 >20 1 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 ▲ 23/22/17 FLUID DEGRADATION method limit/base current history1 history2							
Particles >6μm ASTM D7647 >2500 Δ 22383 Particles >14μm ASTM D7647 >320 Δ 1036 Particles >21μm ASTM D7647 >80 Δ 104 Particles >38μm ASTM D7647 >20 1 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 Δ 23/22/17 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	NESS	method	limit/base	current	history1	history2
Particles >14μm ASTM D7647 >320 ▲ 1036 Particles >21μm ASTM D7647 >80 ▲ 104 Particles >38μm ASTM D7647 >20 1 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 ▲ 23/22/17 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647	>10000		<u>▲</u> 66425	
Particles >21μm ASTM D7647 >80 ▲ 104 Particles >38μm ASTM D7647 >20 1 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 ▲ 23/22/17 FLUID DEGRADATION method limit/base current history1 history2	Particles >6µm		ASTM D7647	>2500		<u>^</u> 22383	
Particles >38μm ASTM D7647 >20 1 Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 Δ 23/22/17 FLUID DEGRADATION method limit/base current history1 history2	Particles >14μm		ASTM D7647	>320		<u> </u>	
Particles >71µm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 ▲ 23/22/17 FLUID DEGRADATION method limit/base current history1 history2	Particles >21μm		ASTM D7647	>80		<u> </u>	
Particles >71μm ASTM D7647 >4 0 Oil Cleanliness ISO 4406 (c) >20/18/15 ▲ 23/22/17 FLUID DEGRADATION method limit/base current history1 history2	Particles >38µm		ASTM D7647	>20		1	
Oil Cleanliness ISO 4406 (c) >20/18/15 △ 23/22/17 FLUID DEGRADATION method limit/base current history1 history2				>4		0	
•				>20/18/15		△ 23/22/17	
Acid Number (AN) mg KOH/g ASTM D8045 0.34 0.36	FLUID DEGRADA	ATION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045		0.34	0.36	



OIL ANALYSIS REPORT







Certificate 12367

Report Id: CIMCAR [WUSCAR] 06205572 (Generated: 06/22/2024 19:09:35) Rev: 1

Laboratory Sample No.

Lab Number : 06205572

: TO90004074 Unique Number : 11073033

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 10 Jun 2024

Tested : 18 Jun 2024 Diagnosed

: 18 Jun 2024 - Jonathan Hester Test Package : IND 2 (Additional Tests: KF, KV100, PrtCount, VI)

To discuss this sample report, contact Customer Service at 1-800-237-1369. st - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

CARLSBAD, NM UM 88220-8923 Contact: CARLOS LEAL cleal@cimarron.com T:

4425 GRANDI RD, UNIT F

CIMARRON ENERGY - CARLSBAD

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: CARLOS LEAL - CIMCAR

F: