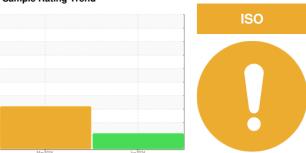


# **OIL ANALYSIS REPORT**

Sample Rating Trend



Machine Id

# NK 112822 - LPH2

Component Compressor

CIMARRON HB-150 (--- GAL)

### Recommendation

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

All component wear rates are normal.

## Contamination

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil.

### **Fluid Condition**

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

Client Info   O6 Jun 2024   O6 May 2024   O7				May2024	Jun 2024		
Client Info							
Cample Date   Client Info   O6 Jun 2024   O6 May 2024   O7	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info	Sample Number		Client Info		TO90004079	TO90004251	
Dil Age	Sample Date		Client Info		06 Jun 2024	06 May 2024	
Dil Changed   Client Info   N/A   N/A	Machine Age	hrs	Client Info		0	0	
Sample Status         ATTENTION         SEVERE            WEAR METALS         method         limit/base         current         history1         history2           fron         ppm         ASTM D5185m         >50         0         2            Chromium         ppm         ASTM D5185m         >10         0         <1	Oil Age	hrs	Client Info		0	0	
WEAR METALS         method         limit/base         current         history1         history2           ron         ppm         ASTM D5185m         >50         0         2            Chromium         ppm         ASTM D5185m         >10         0         -1            Nickel         ppm         ASTM D5185m         <1	Oil Changed		Client Info		N/A	N/A	
Chromium	Sample Status				ATTENTION	SEVERE	
Chromium         ppm         ASTM D5185m         >10         0         <1	WEAR METALS		method	limit/base	current	history1	history2
ASTM D5185m   ASTM D5185m   ASTM D5185m   ASTM D5185m   D	ron	ppm	ASTM D5185m	>50	0	2	
ASTM D5185m   D	Chromium	ppm	ASTM D5185m	>10	0	<1	
Silver	Nickel	ppm	ASTM D5185m		<1	<1	
Aluminum ppm ASTM D5185m >2.5	Γitanium	ppm	ASTM D5185m		0	<1	
Lead         ppm         ASTM D5185m         >25         0         <1	Silver	ppm	ASTM D5185m		0	0	
Lead         ppm         ASTM D5185m         >25         0         <1	Aluminum	ppm	ASTM D5185m	>25	<1	2	
Copper         ppm         ASTM D5185m         >50         0         <1	_ead		ASTM D5185m	>25	0	<1	
ASTM D5185m   D	Copper		ASTM D5185m	>50	0	<1	
Vanadium         ppm         ASTM D5185m         0         <1            Cadmium         ppm         ASTM D5185m         0         <1            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         0            Barium         ppm         ASTM D5185m         0         0         1            Magnesium         ppm         ASTM D5185m         0         0         4            Magnesium         ppm         ASTM D5185m         0         1         <1            Magnesium         ppm         ASTM D5185m         0         0         4            Calcium         ppm         ASTM D5185m         0         0         4            Phosphorus         ppm         ASTM D5185m         0         4         3            Zinc         ppm         ASTM D5185m         0         4         3            Contrallina         ppm         ASTM D5185m         0         4         3	• •						
Cadmium         ppm         ASTM D5185m         0         <1            ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         0            Barium         ppm         ASTM D5185m         0         0         1            Molybdenum         ppm         ASTM D5185m         0         0         <1            Magnesium         ppm         ASTM D5185m         0         1         <1            Magnesium         ppm         ASTM D5185m         0         0         4            Magnesium         ppm         ASTM D5185m         0         0         4            Phosphorus         ppm         ASTM D5185m         0         4         3            Zinc         ppm         ASTM D5185m         0         46         7            CONTAMINANTS         method         limit/base         current         history1         history2           Bislicon         ppm         ASTM D5185m         20         5         1	Vanadium		ASTM D5185m		0	<1	
Boron ppm ASTM D5185m 0 0 1 Barium ppm ASTM D5185m 0 0 1 Molybdenum ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 0 0 Magnesium ppm ASTM D5185m 0 1 Magnesium ppm ASTM D5185m 0 1 Calcium ppm ASTM D5185m 0 0 4 Phosphorus ppm ASTM D5185m 0 8 18 Zinc ppm ASTM D5185m 0 4 3 Sulfur ppm ASTM D5185m 0 46 7  CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 0 Sodium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m 0 Potassium ppm ASTM D5185m >25 2 1 Dym Water % ASTM D6304 >2.26 0.818 ▲ 1.34 Dym Water ppm ASTM D6304 >2.260 8180 ▲ 1.3400  FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >10000 18864 7767 Particles >6μm ASTM D7647 >200 4665 1578 Particles >14μm ASTM D7647 >200 4665 1578 Particles >14μm ASTM D7647 >200 1 1 Particles >38μm ASTM D7647 >20 1 1 Particles >71μm ASTM D7647 >20 1 1 Particles >71μm ASTM D7647 >20 1 1 Dil Cleanliness ISO 4406 (c) >20/18/15 21/19/14 20/18/12  FLUID DEGRADATION method limit/base current history1 history2  FLUID DEGRADATION method limit/base current history1  FLUID DEGRADATION method limit/base current history1 history2  FLUID DEGRADATION method limit/base current history1  FLUID DEGRADATION method limit/base current history1 history2							
Barium ppm ASTM D5185m 0 0 1 Molybdenum ppm ASTM D5185m 0 0 0 -1 Magnesee ppm ASTM D5185m 0 1 Magnesium ppm ASTM D5185m 0 1 Phosphorus ppm ASTM D5185m 0 0 4 Phosphorus ppm ASTM D5185m 0 4 3 Sulfur ppm ASTM D5185m 0 46 7  CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 0 46 7  CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 0 -1 Potassium ppm ASTM D5185m >20 5 1 Potassium ppm ASTM D6304 >2.266 0.818	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         0         0         <1            Manganese         ppm         ASTM D5185m         <1	Boron	ppm	ASTM D5185m	0	0	0	
Manganese         ppm         ASTM D5185m         <1         0	Barium	ppm	ASTM D5185m	0	0	1	
Manganese         ppm         ASTM D5185m         <1         0            Magnesium         ppm         ASTM D5185m         0         1         <1            Calcium         ppm         ASTM D5185m         0         0         4            Phosphorus         ppm         ASTM D5185m         0         4         3            Zinc         ppm         ASTM D5185m         0         46         7            Sulfur         ppm         ASTM D5185m         0         46         7            CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         0         <1            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         2         1            Potatssium         ppm         ASTM D5185m         >20         5         1            Vater         %         ASTM D5185m         >20         5         1	Molybdenum	ppm	ASTM D5185m	0	0	<1	
Magnesium         ppm         ASTM D5185m         0         1         <1            Calcium         ppm         ASTM D5185m         0         0         4            Phosphorus         ppm         ASTM D5185m         0         8         18            Zinc         ppm         ASTM D5185m         0         4         3            Sulfur         ppm         ASTM D5185m         0         46         7            CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         2         1            Potassium         ppm         ASTM D5185m         >20         5         1            Potassium         ppm         ASTM D5185m         >20         5         1            Potassium         ppm         ASTM D5185m         >20         5         1            Potatssium         ppm         ASTM D6304         >2.2.26         0.818         \( \text{\text	•	ppm	ASTM D5185m		<1	0	
Calcium         ppm         ASTM D5185m         0         4            Phosphorus         ppm         ASTM D5185m         0         8         18            Zinc         ppm         ASTM D5185m         0         4         3            Sulfur         ppm         ASTM D5185m         0         46         7            CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         2         1            Sodium         ppm         ASTM D5185m         >20         5         1            Potassium         ppm         ASTM D5185m         >20         5         1            Potassium         ppm         ASTM D5185m         >20         5         1            Water         %         ASTM D5185m         >20         5         1            Potassium         ppm         ASTM D5185m         >20         5         1            Water         %         ASTM D5185m         >20         8         180	-	ppm	ASTM D5185m	0	1	<1	
Phosphorus         ppm         ASTM D5185m         0         8         18            Zinc         ppm         ASTM D5185m         0         4         3            Sulfur         ppm         ASTM D5185m         0         46         7            CONTAMINANTS         method         limit/base         current         history1         history1           Silicon         ppm         ASTM D5185m         >25         2         1            Sodium         ppm         ASTM D5185m         >20         5         1            Potassium         ppm         ASTM D5185m         >20         5         1            Vater         %         ASTM D5185m         >20         5         1            Water         %         ASTM D5185m         >20         5         1            Potassium         ppm         ASTM D5185m         >20         5         1            Water         %         ASTM D5185m         >20         8         1.34            Particles >4µm         ASTM D6304         >2.2060         8180         767 <td>Calcium</td> <td></td> <td>ASTM D5185m</td> <td>0</td> <td>0</td> <td>4</td> <td></td>	Calcium		ASTM D5185m	0	0	4	
Zinc	Phosphorus			0	8	18	
Sulfur         ppm         ASTM D5185m         0         46         7            CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >25         2         1            Sodium         ppm         ASTM D5185m         0         <1            Potassium         ppm         ASTM D5185m         >20         5         1            Water         %         ASTM D5185m         >20         5         1            Water         %         ASTM D6304         >2.2.26         0.818         1.34            ppm Water         ppm         ASTM D6304         >2.2.26         0.818         1.34            Particles >4µm         ASTM D7647         >10000         18864         7767            Particles >4µm         ASTM D7647         >2500         4665         1578            Particles >21µm         ASTM D7647         >80         28         3            Particles >71µm         ASTM D7647         >4         0         1 <td></td> <td></td> <td></td> <td>0</td> <td>4</td> <td>3</td> <td></td>				0	4	3	
Silicon ppm ASTM D5185m >25 2 1 Sodium ppm ASTM D5185m 0 <1 Potassium ppm ASTM D5185m >20 5 1 Water % ASTM D6304 >2.26 0.818 ▲ 1.34 Popm Water ppm ASTM D6304 >22600 8180 ▲ 13400 Particles >4µm ASTM D7647 >10000 18864 7767 Particles >6µm ASTM D7647 >2500 4665 1578 Particles >14µm ASTM D7647 >320 156 34 Particles >21µm ASTM D7647 >80 28 3 Particles >38µm ASTM D7647 >20 1 1 Particles >71µm ASTM D7647 >4 0 1	-				46		
Sodium   ppm   ASTM D5185m   20   5   1	CONTAMINANTS	5	method	limit/base	current	history1	history2
Potassium         ppm         ASTM D5185m         >20         5         1            Water         %         ASTM D6304         >2.26         0.818         ▲         1.34            opm Water         ppm         ASTM D6304         >22600         8180         ▲         13400            FLUID CLEANLINESS         method         limit/base         current         history1         history1           Particles >4μm         ASTM D7647         >10000         18864         7767            Particles >6μm         ASTM D7647         >2500         4665         1578            Particles >14μm         ASTM D7647         >320         156         34            Particles >21μm         ASTM D7647         >80         28         3            Particles >71μm         ASTM D7647         >4         0         1	Silicon	ppm	ASTM D5185m	>25	2	1	
Water       %       ASTM D6304       >2.26       0.818       ▲ 1.34          oppm Water       ppm       ASTM D6304       >2.2600       8180       ▲ 13400          FLUID CLEANLINESS       method       limit/base       current       history1       history1         Particles >4μm       ASTM D7647       >10000       18864       7767          Particles >6μm       ASTM D7647       >2500       4665       1578          Particles >14μm       ASTM D7647       >320       156       34          Particles >21μm       ASTM D7647       >80       28       3          Particles >38μm       ASTM D7647       >20       1       1          Particles >71μm       ASTM D7647       >4       0       1	Sodium	ppm	ASTM D5185m		0	<1	
Water         %         ASTM D6304         >2.2.26         0.818         ▲ 1.34            opm Water         ppm         ASTM D6304         >22.600         8180         ▲ 13400            FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >10000         18864         7767            Particles >6μm         ASTM D7647         >2500         4665         1578            Particles >14μm         ASTM D7647         >320         156         34            Particles >21μm         ASTM D7647         >80         28         3            Particles >38μm         ASTM D7647         >20         1         1            Particles >71μm         ASTM D7647         >4         0         1            Particles >	Potassium	ppm	ASTM D5185m	>20	5	1	
FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4μm         ASTM D7647         >10000         18864         7767            Particles >6μm         ASTM D7647         >2500         4665         1578            Particles >14μm         ASTM D7647         >320         156         34            Particles >21μm         ASTM D7647         >80         28         3            Particles >38μm         ASTM D7647         >20         1         1            Particles >71μm         ASTM D7647         >4         0         1            Particles >71μm         ASTM D7647         >4<	Nater		ASTM D6304	>2.26	0.818	<b>▲</b> 1.34	
Particles >4μm       ASTM D7647       >10000       18864       7767          Particles >6μm       ASTM D7647       >2500       4665       1578          Particles >14μm       ASTM D7647       >320       156       34          Particles >21μm       ASTM D7647       >80       28       3          Particles >38μm       ASTM D7647       >20       1       1          Particles >71μm       ASTM D7647       >4       0       1          Particles >71μm       ASTM D7647       >4       0       1          Dil Cleanliness       ISO 4406 (c)       >20/18/15       21/19/14       20/18/12          FLUID DEGRADATION       method       limit/base       current       history1       history2	opm Water	ppm	ASTM D6304	>22600	8180	▲ 13400	
Particles >6μm       ASTM D7647       >2500       4665       1578          Particles >14μm       ASTM D7647       >320       156       34          Particles >21μm       ASTM D7647       >80       28       3          Particles >38μm       ASTM D7647       >20       1       1          Particles >71μm       ASTM D7647       >4       0       1          Particles >71μm       ASTM D7647       >4       0       1          Dil Cleanliness       ISO 4406 (c)       >20/18/15       21/19/14       20/18/12          FLUID DEGRADATION       method       limit/base       current       history1       history1	FLUID CLEANLIN	NESS	method	limit/base	current	history1	history2
Particles >14μm         ASTM D7647         >320         156         34            Particles >21μm         ASTM D7647         >80         28         3            Particles >38μm         ASTM D7647         >20         1         1            Particles >71μm         ASTM D7647         >4         0         1            Dil Cleanliness         ISO 4406 (c)         >20/18/15         21/19/14         20/18/12            FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >4µm		ASTM D7647	>10000	<b>18864</b>	7767	
Particles >21μm         ASTM D7647         >80         28         3            Particles >38μm         ASTM D7647         >20         1         1            Particles >71μm         ASTM D7647         >4         0         1            Dil Cleanliness         ISO 4406 (c)         >20/18/15         21/19/14         20/18/12            FLUID DEGRADATION         method         limit/base         current         history1         history2	Particles >6µm		ASTM D7647	>2500	<b>4665</b>	1578	
Particles >38μm         ASTM D7647         >20         1         1            Particles >71μm         ASTM D7647         >4         0         1            Dil Cleanliness         ISO 4406 (c)         >20/18/15         21/19/14         20/18/12            FLUID DEGRADATION         method         limit/base         current         history1         history1	Particles >14µm		ASTM D7647	>320	156	34	
Particles >71μm         ASTM D7647         >4         0         1            Dil Cleanliness         ISO 4406 (c)         >20/18/15         21/19/14         20/18/12            FLUID DEGRADATION         method         limit/base         current         history1         history1	Particles >21µm		ASTM D7647	>80	28	3	
Dil Cleanliness ISO 4406 (c) >20/18/15 21/19/14 20/18/12 FLUID DEGRADATION method limit/base current history1 history1	Particles >38µm		ASTM D7647	>20	1	1	
FLUID DEGRADATION method limit/base current history1 history2	Particles >71µm		ASTM D7647	>4	0	1	
	Oil Cleanliness		ISO 4406 (c)	>20/18/15	<b>2</b> 1/19/14	20/18/12	
Acid Number (AN) mg KOH/g ASTM D8045 0.064 0.14	FLUID DEGRADA	NOITA	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D8045		0.064	0.14	



## **OIL ANALYSIS REPORT**







Certificate 12367

Laboratory Sample No.

Lab Number

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : TO90004079 : 06216307 Unique Number : 11089171

Received : 20 Jun 2024 **Tested** : 24 Jun 2024

Diagnosed : 24 Jun 2024 - Don Baldridge 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.

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

Report Id: CIMCAR [WUSCAR] 06216307 (Generated: 06/24/2024 15:49:12) Rev: 1

Contact/Location: CARLOS LEAL - CIMCAR

T:

F:

4425 GRANDI RD, UNIT F

Contact: CARLOS LEAL

cleal@cimarron.com

CARLSBAD, NM

UM 88220-8923