

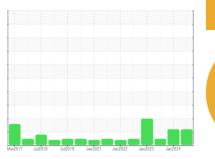
OIL ANALYSIS REPORT

MK-100

B58628 - PALLET INVERTER (620 COOLER) (S/N 2196)

Hydraulic Power Pack

HYDRAULIC OIL FG ISO 46 (--- GAL)



Sample Rating Trend



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.

SAMPLE INFORMATION method limit/base current history1 history2							
Sample Date Client Info 17 Jul 2024 05 Jan 2024 13 Jul 2023 Machine Age mths Client Info 0 0 0 0 Oil Age mths Client Info 0 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status Client Info N/A ATTENTION ATTENTION NORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 1 3 2 Chromium ppm ASTM D5185m >20 1 3 2 Chromium ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >20 4 2 0	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Machine Age mths Client Info 0 0 0 0 Oil Age mths Client Info 0 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A CONTAMINATION method limit/base current history1 history2 Wear WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 1 3 2 Chromium ppm ASTM D5185m >20 1 -1 0 0 Nickel ppm ASTM D5185m >20 0 0 0 0 Silver ppm ASTM D5185m >20 4 2 0 Lead ppm ASTM D5185m >20	Sample Number		Client Info		WC0943454	WC0872424	WC0820527
Oil Age mths Client Info 0 0 0 0 Oil Changed Client Info N/A N/A N/A N/A Sample Status Client Info N/A N/A N/A N/A Contraction of the contraction of	Sample Date		Client Info		17 Jul 2024	05 Jan 2024	13 Jul 2023
Oil Changed Sample Status Client Info N/A N/A N/A N/A N/A Sample Status ATTENTION ATTENTION NORMAL CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 1 3 2 Chromium ppm ASTM D5185m >20 <1	Machine Age	mths	Client Info		0	0	0
Sample Status	Oil Age	mths	Client Info		0	0	0
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 1 3 2 Chromium ppm ASTM D5185m >20 -1 <1 0 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >20 4 2 0 Aluminum ppm ASTM D5185m >20 4 2 0 Lead ppm ASTM D5185m >20 4 2 0 Copper ppm ASTM D5185m >20 <1 0 0 Tin ppm ASTM D5185m >20 <1 0 0 Vanadium ppm ASTM D5185m <1 0 0	Oil Changed		Client Info		N/A	N/A	N/A
Water WC Method >0.05 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 1 3 2 Chromium ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m <1 0 <1 Aluminum ppm ASTM D5185m >20 4 2 0 Lead ppm ASTM D5185m >20 4 2 0 Copper ppm ASTM D5185m >20 <1 0 0 Vanadium ppm ASTM D5185m >20 <1 0 0 Vanadium ppm ASTM D5185m <1 0 0 0 Cadmium ppm ASTM D5185m <1 0 0 0	Sample Status				ATTENTION	ATTENTION	NORMAL
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 1 3 2 Chromium ppm ASTM D5185m >20 <1 <1 0 Nickel ppm ASTM D5185m >20 0 0 0 Titanium ppm ASTM D5185m >20 0 0 0 Silver ppm ASTM D5185m >20 4 2 0 Lead ppm ASTM D5185m >20 4 2 0 Copper ppm ASTM D5185m >20 <1 0 0 Tin ppm ASTM D5185m >20 <1 0 0 Vanadium ppm ASTM D5185m >20 <1 0 0 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 <t< th=""><th>CONTAMINATION</th><th>I</th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></t<>	CONTAMINATION	I	method	limit/base	current	history1	history2
Iron	Water		WC Method	>0.05	NEG	NEG	NEG
Chromium ppm ASTM D5185m >20 <1	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >20 0 0 0 Titanium ppm ASTM D5185m <1 0 0 Silver ppm ASTM D5185m <1 0 <1 Aluminum ppm ASTM D5185m >20 4 2 0 Lead ppm ASTM D5185m >20 <1 0 0 Copper ppm ASTM D5185m >20 <1 0 0 Tin ppm ASTM D5185m >20 <1 0 0 Vanadium ppm ASTM D5185m >20 <1 0 0 Vanadium ppm ASTM D5185m <1 0 0 0 Cadmium ppm ASTM D5185m 5 0 0 0 0 Barium ppm ASTM D5185m 5 0 3 1 0 0 Manganese ppm ASTM D5185m 5 <1 0 <td>Iron</td> <td>ppm</td> <td>ASTM D5185m</td> <td>>20</td> <th>1</th> <td>3</td> <td>2</td>	Iron	ppm	ASTM D5185m	>20	1	3	2
Titanium ppm ASTM D5185m <1	Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Silver ppm ASTM D5185m <1	Nickel	ppm	ASTM D5185m	>20	0	0	0
Aluminum ppm ASTM D5185m >20 4 2 0 Lead ppm ASTM D5185m >20 0 0 0 Copper ppm ASTM D5185m >20 <1 0 0 Tin ppm ASTM D5185m >20 <1 0 0 Vanadium ppm ASTM D5185m <1 0 0 Cadmium ppm ASTM D5185m <1 0 0 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 3 1 Molybdenum ppm ASTM D5185m 5 <1 0 0 Manganese ppm ASTM D5185m 5 <1 0 0 Calcium ppm ASTM D5185m 12 0 <1 0 Phos	Titanium	ppm	ASTM D5185m		<1	0	0
Lead ppm ASTM D5185m >20 0 0 0 Copper ppm ASTM D5185m >20 <1	Silver	ppm	ASTM D5185m		<1	0	<1
Copper ppm ASTM D5185m >20 <1	Aluminum	ppm	ASTM D5185m	>20	4	2	0
Tin ppm ASTM D5185m >20 <1	Lead	ppm	ASTM D5185m	>20	0	0	0
Vanadium ppm ASTM D5185m <1	Copper	ppm	ASTM D5185m	>20	<1	0	0
Cadmium ppm ASTM D5185m <1	Tin	ppm	ASTM D5185m	>20	<1	0	0
ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 3 1 Molybdenum ppm ASTM D5185m 5 <1 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 5 <1 0 0 Calcium ppm ASTM D5185m 12 0 <1 0 Phosphorus ppm ASTM D5185m 400 442 474 422 Zinc ppm ASTM D5185m 12 3 0 4 Sulfur ppm ASTM D5185m 650 485 512 561	Vanadium	ppm	ASTM D5185m		<1	0	0
Boron ppm ASTM D5185m 5 0 0 0 Barium ppm ASTM D5185m 5 0 3 1 Molybdenum ppm ASTM D5185m 5 <1	Cadmium	ppm	ASTM D5185m		<1	0	0
Barium ppm ASTM D5185m 5 0 3 1 Molybdenum ppm ASTM D5185m 5 <1 0 0 Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 5 <1 0 0 Calcium ppm ASTM D5185m 12 0 <1 0 Phosphorus ppm ASTM D5185m 400 442 474 422 Zinc ppm ASTM D5185m 12 3 0 4 Sulfur ppm ASTM D5185m 650 485 512 561	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 5 <1	Boron	ppm	ASTM D5185m	5	0	0	0
Manganese ppm ASTM D5185m 0 0 0 Magnesium ppm ASTM D5185m 5 <1	Barium	ppm	ASTM D5185m	5	0	3	1
Magnesium ppm ASTM D5185m 5 <1	Molybdenum	ppm	ASTM D5185m	5	<1	0	0
Calcium ppm ASTM D5185m 12 0 <1	Manganese	ppm	ASTM D5185m		0	0	0
Phosphorus ppm ASTM D5185m 400 442 474 422 Zinc ppm ASTM D5185m 12 3 0 4 Sulfur ppm ASTM D5185m 650 485 512 561	Magnesium	ppm	ASTM D5185m	5	<1	0	0
Zinc ppm ASTM D5185m 12 3 0 4 Sulfur ppm ASTM D5185m 650 485 512 561	Calcium	ppm	ASTM D5185m	12	0	<1	0
Sulfur ppm ASTM D5185m 650 485 512 561	Phosphorus	ppm	ASTM D5185m	400	442	474	422
	Zinc	ppm	ASTM D5185m	12	3	0	4
CONTAMINANTS method limit/base current history1 history2	Sulfur	ppm	ASTM D5185m	650	485	512	561
	CONTAMINANTS		method	limit/base	current	history1	history2
Silicon ppm ASTM D5185m >15 2 3 3		ppm	ASTM D5185m	>15	2	3	3
Sodium ppm ASTM D5185m 0 0 0		ppm	ASTM D5185m		0		0
Potassium ppm ASTM D5185m >20 <1	Potassium	ppm	ASTM D5185m	>20	<1	<1	<1
FLUID CLEANLINESS method limit/base current history1 history2	FLUID CLEANLIN	ESS	method	limit/base	current	history1	history2
Particles >4μm ASTM D7647 >10000 18941 14150 784							
Particles >6μm ASTM D7647 >2500 3757 4189 234	•		ASTM D7647	>2500	3757	4189	
Particles >14μm ASTM D7647 >320 196 270 25							
Particles >21μm ASTM D7647 >80 31 49 6	Particles >21µm			>80	31	49	6
Particles >38μm ASTM D7647 >20 1 1 0	Particles >38µm			>20		1	0
Particles >71 μ m ASTM D7647 >4 0 0	Particles >71µm		ASTM D7647	>4	0	0	
Oil Cleanliness ISO 4406 (c) >20/18/15 21/19/15 21/19/15 17/15/12	Oil Oleanlinean		ISO 4406 (c)	>20/18/15	21/19/15	21/19/15	17/15/12
FLUID DEGRADATION method limit/base current history1 history2	Oil Cleanliness		. ,		_		

Acid Number (AN)

0.28

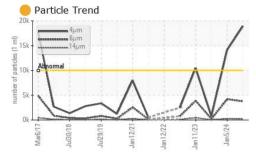
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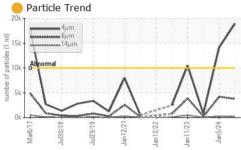
mg KOH/g ASTM D8045 0.50

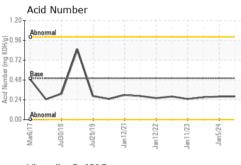
Contact/Location: RYAN LOWE - HORAUS

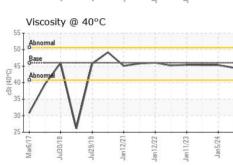


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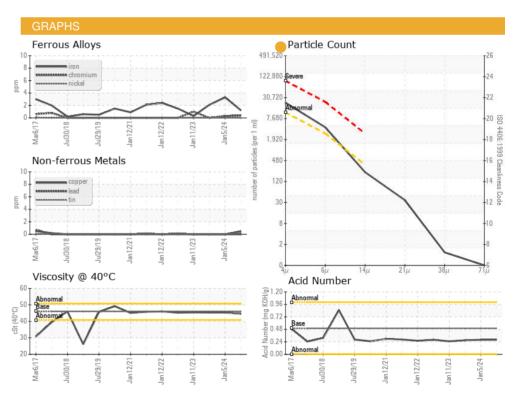






VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.05	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	TES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	44.5	45.3	45.3

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ttom	(E		







Laboratory Sample No.

: WC0943454 Lab Number : 06240291 Unique Number : 11129125

Col

Bot

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

Received : 18 Jul 2024 **Tested** : 19 Jul 2024

Diagnosed : 20 Jul 2024 - Don Baldridge

Test Package : IND 2 Certificate 12367 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)

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