

OIL ANALYSIS REPORT



Machine Id

GCS-3 ENTRY Component Hydraulic System

AW HYDRAULIC OIL ISO 46 (300 GAL)

DIAGNOSIS

A Recommendation

We recommend you service the filters on this component. Resample at the next service interval to monitor.

Wear

All component wear rates are normal.

Contamination

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

Fluid Condition

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

SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PTK0005296	PTK0004432	PTK0003597
Sample Date		Client Info		01 May 2024	28 Aug 2023	19 Sep 2022
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				ABNORMAL	NORMAL	NORMAL
CONTAMINATION	J	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	1	0	0
Chromium	ppm	ASTM D5185m	>10	0	0	0
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m		0	0	0
Aluminum	ppm	ASTM D5185m	>10	0	0	0
Lead	ppm	ASTM D5185m	>10	0	0	0
Copper	ppm	ASTM D5185m	>75	3	<1	<1
Tin	ppm	ASTM D5185m	>10	0	0	0
Antimony	ppm	ASTM D5185m				
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	5	0	0	0
		ASTM D5185m	5	0	6	0
Barium	ppm	ASTIVI DUTOUIII	5	-	0	0
Barium Molybdenum	ppm ppm	ASTM D5185m	5	0	0	0
Molybdenum	ppm	ASTM D5185m		0	0	0
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m	5	0 0	0 0	0
Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	5 25	0 0 0	0 0 4	0 0 0 0
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200	0 0 0 34	0 0 4 54	0 0 0 59
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300	0 0 0 34 354	0 0 4 54 357	0 0 0 59 362
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370	0 0 34 354 421	0 0 4 54 357 447	0 0 0 59 362 456
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370 2500	0 0 34 354 421 955	0 0 4 54 357 447 1001	0 0 59 362 456 1059
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 limit/base	0 0 34 354 421 955 current	0 0 4 54 357 447 1001 history1	0 0 0 59 362 456 1059 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	5 25 200 300 370 2500 limit/base	0 0 34 354 421 955 current <1	0 0 4 54 357 447 1001 history1 0	0 0 59 362 456 1059 history2 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	5 25 200 300 370 2500 limit/base >20	0 0 34 354 421 955 <u>current</u> <1 2	0 0 4 54 357 447 1001 history1 0 0	0 0 59 362 456 1059 history2 <1 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 limit/base >20	0 0 34 354 421 955 current <1 2 0	0 0 4 54 357 447 1001 history1 0 0 0	0 0 59 362 456 1059 history2 <1 <1 <1 0
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 Iimit/base >20 Iimit/base	0 0 34 354 421 955 current <1 2 0 current	0 0 4 54 357 447 1001 history1 0 0 0 0 0 0	0 0 0 59 362 456 1059 history2 <1 <1 0 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINI Particles >4µm	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 25 200 300 370 2500 Iimit/base >20 Iimit/base >10000	0 0 34 354 421 955 <u>current</u> <1 2 0 <u>current</u> 2 328	0 0 4 54 357 447 1001 history1 0 0 0 0 0 0 history1 7021	0 0 0 59 362 456 1059 history2 <1 <1 <1 0 history2 4547
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINI Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	5 25 200 300 2500 limit/base >20 limit/base >20 limit/base >20	0 0 34 354 421 955 <u>current</u> <1 2 0 <u>current</u> 23328 ▲ 23328	0 0 4 54 357 447 1001 history1 0 0 0 0 history1 7021 1116	0 0 0 59 362 456 1059 history2 <1 <1 <1 0 history2 4547 1030
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647	5 25 200 300 2500 2500 limit/base >20 20 limit/base >20 >20 20 20 20	0 0 0 34 354 421 955 <u>current</u> <1 2 0 <u>current</u> 2 3328 ▲ 23328 2754 24	0 0 4 54 357 447 1001 history1 0 0 0 0 0 history1 7021 1116 59	0 0 0 59 362 456 1059 history2 <1 <1 <1 0 history2 4547 1030 42
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLINI Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	5 25 200 300 2500 2500 2500 >20 20 1imit/base >20 20 20 20 20 20 20 20 20 20 20 20 20 2	0 0 34 354 421 955 current <1 2 0 current 2 32328 ▲ 2754 24 3	0 0 4 54 357 447 1001 history1 0 0 0 0 history1 7021 1116 59 15	0 0 0 59 362 456 1059 history2 <1 <1 <1 0 history2 4547 1030 42 7

ISO 4406 (c) >20/18/15 **A 22/19/12**

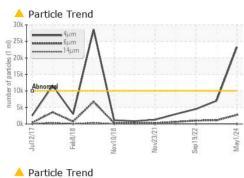
Oil Cleanliness

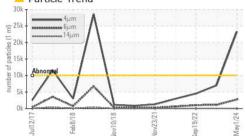
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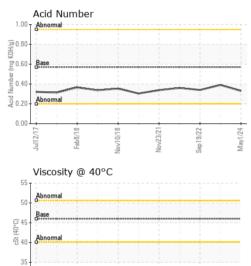
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OIL ANALYSIS REPORT



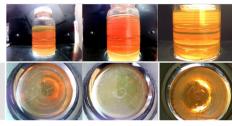




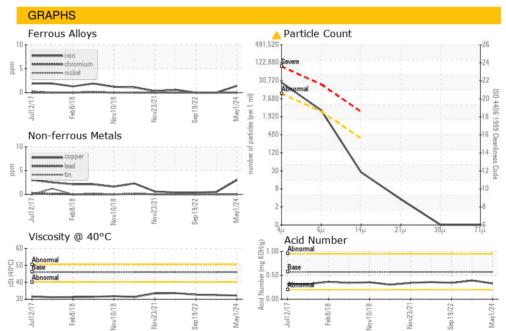
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FLUID DEGRADA	TION	method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.57	0.33	0.39	0.34
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	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	>0.1	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	46	32.2	32.5	32.7
SAMPLE IMAGES	6	method	limit/base	current	history1	history2

Color



Bottom



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **HEIDTMAN STEEL 10 NORTHGATE INDUSTRIAL DR** Sample No. : PTK0005296 Received : 12 Jul 2024 Lab Number : 06234845 Tested : 15 Jul 2024 GRANITE CITY, IL Unique Number : 11123679 Diagnosed : 15 Jul 2024 - Don Baldridge US 62040 Test Package : MOB 2 Contact: RUSS BARTHELEMY Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. russ.barthelemy@heidtman.com T: (618)798-5559 * - 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: HEIGRA [WUSCAR] 06234845 (Generated: 07/15/2024 12:57:04) Rev: 1

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Submitted By: AUSTIN GOUGH Page 2 of 2

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