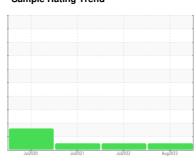


OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



443174 - RG&E

Component **Hydraulic System**

DEXRON III (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) DEXRON III. Please confirm.

Please specify the component make and model with your next sample.

Wear

All component wear rates are normal.

Contamination

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

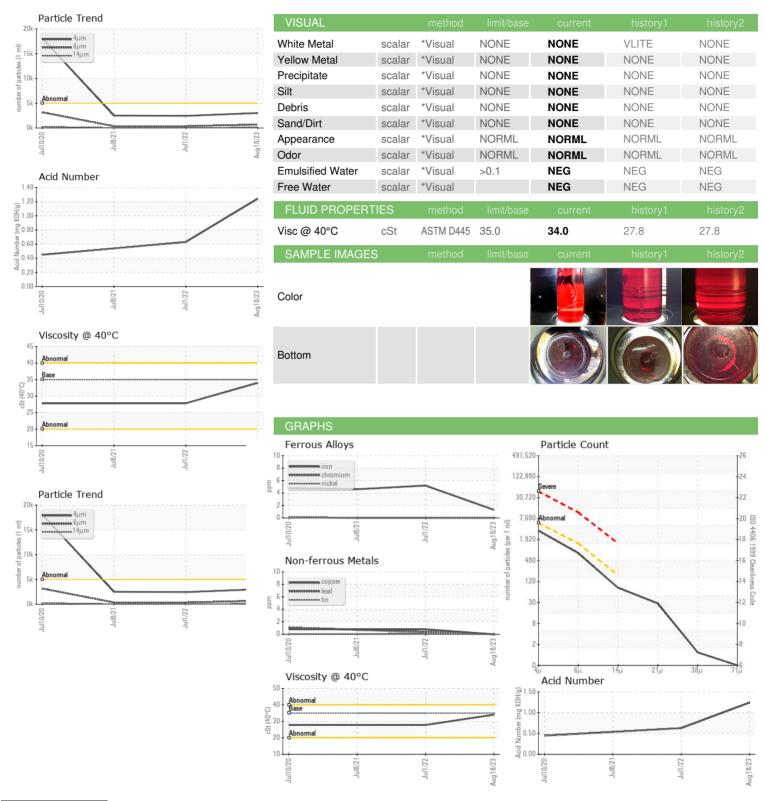
Fluid Condition

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

SAMPLE INFORMATION method fimil/base current history1 history2			Jul202	Jul2021	Jul2022 A	ug2023	
Sample Date Client Info	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age yrs Client Info 1	Sample Number		Client Info		WC0747143	WC0695672	WC0517007
Oil Age yrs Client Info Not Changd Not Changd NORMAL NORMAL Sample Status method limit/base current history1 history2 Iron ppm ASTM D5185m >20 1 5 5 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Silver ppm ASTM D5185m >10 0 0 0 Aluminum ppm ASTM D5185m >10 0 1 1 Lead ppm ASTM D5185m >10 0 <1	Sample Date		Client Info		18 Aug 2023	01 Jul 2022	08 Jul 2021
Oil Changed Sample Status Client Info Not Changd NORMAL Not Changd NORMAL N/A N/A WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 1 5 5 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Niker ppm ASTM D5185m >10 0 0 0 Sliver ppm ASTM D5185m >10 0 <1 0 Aluminum ppm ASTM D5185m >10 0 <1 <1 Lead ppm ASTM D5185m >10 0 <1 <1 Copper ppm ASTM D5185m >10 0 <1 <1 Tin ppm ASTM D5185m >10 0 <1 <1 Antimony ppm ASTM D5185m 0 0<	Machine Age	yrs	Client Info		1	0	0
Sample Status	Oil Age	yrs	Client Info		1	0	0
WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >20 1 5 5 Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Silver ppm ASTM D5185m 0 <1 0 0 Aluminum ppm ASTM D5185m >10 <1 <1 0 Aluminum ppm ASTM D5185m >10 0 <1 <1 0 Aluminum ppm ASTM D5185m >10 0 <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	Oil Changed		Client Info		Not Changd	Not Changd	N/A
Iron	Sample Status				NORMAL	NORMAL	NORMAL
Chromium ppm ASTM D5185m >10 0 0 0 Nickel ppm ASTM D5185m >10 0 0 0 Titanium ppm ASTM D5185m 0 <1 0 Silver ppm ASTM D5185m >10 <1 <1 0 Aluminum ppm ASTM D5185m >10 <1 <1 0 Lead ppm ASTM D5185m >10 0 <1 <1 <1 Copper ppm ASTM D5185m >10 0 <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	WEAR METALS		method	limit/base	current	history1	history2
Nickel ppm ASTM D5185m >10 0 0 0 Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m 0 <1 0 Aluminum ppm ASTM D5185m >10 <1 <1 0 Lead ppm ASTM D5185m >10 0 <1 <1 <1 Copper ppm ASTM D5185m >10 0 <1 <1 <1 Tin ppm ASTM D5185m >10 0 <1 <1 <1 Vanadium ppm ASTM D5185m 0 0 0 0 0 Cadmium ppm ASTM D5185m 0 0 0 0 0 0 ADDITIVES method limit/base current history1 history2 63 8arium pm ASTM D5185m 0 0 0 0 0 0 0 0 <td< th=""><th>Iron</th><th>ppm</th><th>ASTM D5185m</th><th>>20</th><th>1</th><th>5</th><th>5</th></td<>	Iron	ppm	ASTM D5185m	>20	1	5	5
Titanium ppm ASTM D5185m 0 0 0 Silver ppm ASTM D5185m 0 <1	Chromium	ppm	ASTM D5185m	>10	0	0	0
Stilver	Nickel	ppm	ASTM D5185m	>10	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m		0	0	0
Lead ppm ASTM D5185m >10 0 <1	Silver	ppm	ASTM D5185m		0	<1	0
Copper ppm ASTM D5185m >75 0 <1	Aluminum	ppm	ASTM D5185m	>10	<1	<1	0
Copper ppm ASTM D5185m >75 0 <1	Lead	ppm	ASTM D5185m	>10	0	<1	<1
Tin ppm ASTM D5185m >10 0 <1	Copper		ASTM D5185m	>75	0	<1	<1
Antimony ppm ASTM D5185m 0 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 0 0 0 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1			ASTM D5185m	>10	0	<1	0
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 139 57 63 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1	Antimony	ppm	ASTM D5185m				0
Cadmium ppm ASTM D5185m D D D D	-	ppm	ASTM D5185m		0	0	0
Boron ppm ASTM D5185m 139 57 63 Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1	Cadmium		ASTM D5185m		0	0	0
Barium ppm ASTM D5185m 0 0 0 Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 59 116 121 Phosphorus ppm ASTM D5185m 311 277 303 Zinc ppm ASTM D5185m 27 137 144 Sulfur ppm ASTM D5185m 27 137 144 Sulfur ppm ASTM D5185m 2246 1830 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1 1 <1 Sodium ppm ASTM D5185m 20 <1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4µm ASTM D7647 >5000 <th>ADDITIVES</th> <th></th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history1</th> <th>history2</th>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 <1 <1 Manganese ppm ASTM D5185m 0 0 <1 Magnesium ppm ASTM D5185m 59 116 121 Phosphorus ppm ASTM D5185m 311 277 303 Zinc ppm ASTM D5185m 27 137 144 Sulfur ppm ASTM D5185m 22 1387 2246 1830 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1	Boron	ppm	ASTM D5185m		139	57	63
Manganese ppm ASTM D5185m 0 0 <1	Barium	ppm	ASTM D5185m		0	0	0
Magnesium ppm ASTM D5185m 0 1 2 Calcium ppm ASTM D5185m 59 116 121 Phosphorus ppm ASTM D5185m 311 277 303 Zinc ppm ASTM D5185m 27 137 144 Sulfur ppm ASTM D5185m 2246 1830 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 20 <1 1 <1 Sodium ppm ASTM D5185m 20 <1 1 <1 Sodium ppm ASTM D5185m 20 <1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3013 2440 2509 Particles >514μm ASTM D7647 >160 70 40 26 Particles >71μm ASTM D764	Molybdenum	ppm	ASTM D5185m		0	<1	<1
Calcium ppm ASTM D5185m 59 116 121 Phosphorus ppm ASTM D5185m 311 277 303 Zinc ppm ASTM D5185m 27 137 144 Sulfur ppm ASTM D5185m 2246 1830 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m 20 <1 1 <1 Sodium ppm ASTM D5185m 20 <1 1 <1 Sodium ppm ASTM D5185m 20 <1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3013 2440 2509 Particles >6μm ASTM D7647 >1300 685 343 350 Particles >21μm ASTM D7647 >40 25 16 7 Particles >71μm	Manganese	ppm	ASTM D5185m		0	0	<1
Phosphorus ppm ASTM D5185m 311 277 303 Zinc ppm ASTM D5185m 27 137 144 Sulfur ppm ASTM D5185m 1387 2246 1830 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1 1 <1 Sodium ppm ASTM D5185m >20 <1 0 <1 Potassium ppm ASTM D5185m >20 <1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3013 2440 2509 Particles >6μm ASTM D7647 >1300 685 343 350 Particles >21μm ASTM D7647 >40 25 16 7 Particles >38μm ASTM D7647 >3 0 0 0 Oil	Magnesium	ppm	ASTM D5185m		0	1	2
Zinc ppm ASTM D5185m 27 137 144 Sulfur ppm ASTM D5185m 1387 2246 1830 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1 1 <1 Sodium ppm ASTM D5185m 2 5 4 Potassium ppm ASTM D5185m >20 <1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3013 2440 2509 Particles >6μm ASTM D7647 >1300 685 343 350 Particles >14μm ASTM D7647 >160 70 40 26 Particles >21μm ASTM D7647 >40 25 16 7 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO	Calcium	ppm	ASTM D5185m		59	116	121
Zinc ppm ASTM D5185m 27 137 144 Sulfur ppm ASTM D5185m 1387 2246 1830 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1 1 <1 Sodium ppm ASTM D5185m 2 5 4 Potassium ppm ASTM D5185m >20 <1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3013 2440 2509 Particles >6μm ASTM D7647 >1300 685 343 350 Particles >14μm ASTM D7647 >160 70 40 26 Particles >21μm ASTM D7647 >40 25 16 7 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO	Phosphorus	ppm	ASTM D5185m		311	277	303
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >20 <1 1 <1 Sodium ppm ASTM D5185m 2 5 4 Potassium ppm ASTM D5185m >20 <1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3013 2440 2509 Particles >6μm ASTM D7647 >1300 685 343 350 Particles >14μm ASTM D7647 >160 70 40 26 Particles >21μm ASTM D7647 >40 25 16 7 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/17/13 18/16/12 19/16/12 FLUID DEGRADATION method limit/base current history1		ppm	ASTM D5185m		27	137	144
Silicon ppm ASTM D5185m >20 <1	Sulfur	ppm	ASTM D5185m		1387	2246	1830
Sodium ppm ASTM D5185m 2 5 4 Potassium ppm ASTM D5185m >20 <1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3013 2440 2509 Particles >6μm ASTM D7647 >1300 685 343 350 Particles >14μm ASTM D7647 >160 70 40 26 Particles >21μm ASTM D7647 >40 25 16 7 Particles >38μm ASTM D7647 >10 1 2 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/17/13 18/16/12 19/16/12 FLUID DEGRADATION method limit/base current history1 history2	CONTAMINANTS	;	method	limit/base	current	history1	history2
Sodium ppm ASTM D5185m 2 5 4 Potassium ppm ASTM D5185m >20 <1 0 <1 FLUID CLEANLINESS method limit/base current history1 history2 Particles >4μm ASTM D7647 >5000 3013 2440 2509 Particles >6μm ASTM D7647 >1300 685 343 350 Particles >14μm ASTM D7647 >160 70 40 26 Particles >21μm ASTM D7647 >40 25 16 7 Particles >38μm ASTM D7647 >10 1 2 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/17/13 18/16/12 19/16/12 FLUID DEGRADATION method limit/base current history1 history2	Silicon	ppm	ASTM D5185m	>20	<1	1	<1
Potassium ppm ASTM D5185m >20 <1			ASTM D5185m		2	5	4
Particles >4μm ASTM D7647 >5000 3013 2440 2509 Particles >6μm ASTM D7647 >1300 685 343 350 Particles >14μm ASTM D7647 >160 70 40 26 Particles >21μm ASTM D7647 >40 25 16 7 Particles >38μm ASTM D7647 >10 1 2 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/17/13 18/16/12 19/16/12 FLUID DEGRADATION method limit/base current history1 history2	Potassium		ASTM D5185m	>20	<1	0	<1
Particles >6μm ASTM D7647 >1300 685 343 350 Particles >14μm ASTM D7647 >160 70 40 26 Particles >21μm ASTM D7647 >40 25 16 7 Particles >38μm ASTM D7647 >10 1 2 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/17/13 18/16/12 19/16/12 FLUID DEGRADATION method limit/base current history1 history2	FLUID CLEANLIN	IESS	method	limit/base	current	history1	history2
Particles >6μm ASTM D7647 >1300 685 343 350 Particles >14μm ASTM D7647 >160 70 40 26 Particles >21μm ASTM D7647 >40 25 16 7 Particles >38μm ASTM D7647 >10 1 2 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/17/13 18/16/12 19/16/12 FLUID DEGRADATION method limit/base current history1 history2	Particles >4µm		ASTM D7647	>5000	3013	2440	2509
$\begin{array}{c ccccccccccccccccccccccccccccccccccc$	Particles >6µm		ASTM D7647	>1300	685	343	350
Particles >21μm ASTM D7647 >40 25 16 7 Particles >38μm ASTM D7647 >10 1 2 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/17/13 18/16/12 19/16/12 FLUID DEGRADATION method limit/base current history1 history2	•					40	26
Particles >38μm ASTM D7647 >10 1 2 1 Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/17/13 18/16/12 19/16/12 FLUID DEGRADATION method limit/base current history1 history2				>40		16	7
Particles >71μm ASTM D7647 >3 0 0 0 Oil Cleanliness ISO 4406 (c) >19/17/14 19/17/13 18/16/12 19/16/12 FLUID DEGRADATION method limit/base current history1 history2	·						
Oil Cleanliness ISO 4406 (c) >19/17/14 19/17/13 18/16/12 19/16/12 FLUID DEGRADATION method limit/base current history1 history2	•						0
	•						
	FLUID DEGRADA	ATION _	method_	limit/base	current	history1	history2
							•



OIL ANALYSIS REPORT







Certificate L2367

Laboratory Sample No. Lab Number

Unique Number

: 05931473 : 10616744 Test Package : CONST

To discuss this sample report, contact Customer Service at 1-800-237-1369.

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : WC0747143 Received : 22 Aug 2023 : 23 Aug 2023 Diagnosed

Diagnostician

: Wes Davis

PALFINGER - BRANCH 410 632 CEDAR SWAMP RD JACKSON, NJ

US 08527

Contact: ANTHONY HARTIGAN

a.hartigan@palfinger.com T:

* - 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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