

OIL ANALYSIS REPORT

Area [W51858 SEG 4] JOHN DEERE 17D 1FF017DXKCK221701

Hydraulic System

HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

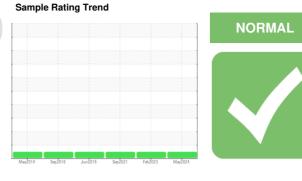
All component wear rates are normal.

Contamination

The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil.

Fluid Condition

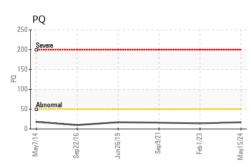
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

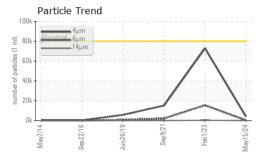


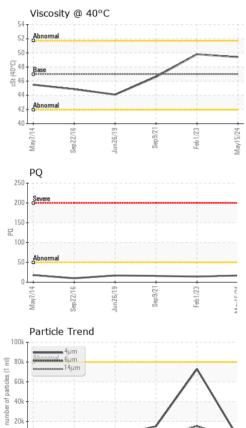
SAMPLE INFORM	NATION	method	limit/base	current	history1	history2
Sample Number		Client Info		JR0211567	JR0148385	JR0088753
Sample Date		Client Info		15 May 2024	01 Feb 2023	09 Sep 2021
Machine Age	hrs	Client Info		6464	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.075	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
PQ		ASTM D8184	>50	17	14	16
Iron	ppm	ASTM D5185m	>32	7	4	4
Chromium	ppm	ASTM D5185m	>9	2	0	0
Nickel	ppm	ASTM D5185m	>5	2	0	0
Titanium	ppm	ASTM D5185m		2	0	0
Silver	ppm	ASTM D5185m		3	0	0
Aluminum	ppm	ASTM D5185m	>9	2	<1	0
Lead	ppm	ASTM D5185m	>28	3	<1	0
Copper	ppm	ASTM D5185m	>50	7	1	<1
Tin	ppm	ASTM D5185m	>5	2	0	0
Antimony	ppm	ASTM D5185m				0
Vanadium	ppm	ASTM D5185m		2	0	0
				-	-	
Cadmium	ppm	ASTM D5185m		2	0	0
Cadmium ADDITIVES	ppm	ASTM D5185m method	limit/base			0 history2
	ppm ppm		limit/base	2	0	-
ADDITIVES		method	limit/base	2 current	0 history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	2 current 0	0 history1 0	history2 <1
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	2 current 0 1	0 history1 0 0	history2 <1 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	2 current 0 1 3	0 history1 0 0 <1	history2 <1 0 0
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	2 current 0 1 3 4	0 history1 0 0 <1 2	history2 <1 0 0 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	2 current 0 1 3 4 2	0 history1 0 0 <1 2 3	history2 <1 0 0 2 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	827	2 current 0 1 3 4 2 7	0 history1 0 0 <1 2 3 3 3	history2 <1 0 0 2 <1 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	827	2 current 0 1 3 4 2 7 301	0 history1 0 0 <1 2 3 3 3 311	history2 <1 0 0 2 <1 <1 357
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	827 0	2 current 0 1 3 4 2 7 301 59	0 history1 0 <1 2 3 3 311 72 490 history1	history2 <1 0 0 2 <1 <1 357 24
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	827 0 13 limit/base >11	2 current 0 1 3 4 2 7 301 59 348 current 4	0 history1 0 0 <1 2 3 3 3 3 11 72 490 history1 <1	<1 0 2 <1 0 2 <1 357 24 224 history2 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	827 0 13 limit/base	2 current 0 1 3 4 2 7 301 59 348 current 4 <	0 history1 0 <1 2 3 3 311 72 490 history1	history2 <1 0 2 <1 2 <1 <1 357 24 224 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	827 0 13 limit/base >11 >21	2 current 0 1 3 4 2 7 301 59 348 current 4	0 history1 0 0 <1 2 3 3 3 3 11 72 490 history1 <1	<1 0 2 <1 0 2 <1 357 24 224 history2 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	827 0 13 limit/base >11 >21	2 current 0 1 3 4 2 7 301 59 348 current 4 <	0 history1 0 0 <1 2 3 3 3 11 72 490 history1 <1 0	<1 0 2 <1 2 <1 357 24 224 history2 <1 0 0 0 0 0 0 24 224 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	827 0 13 limit/base >11 >21 >20	2 current 0 1 3 4 2 7 301 59 348 current 4 <1 3	0 history1 0 <1 2 3 3 311 72 490 history1 <1 0 0	<1 0 2 <1 0 21 <1 357 24 224 history2 <1 0 0 0 0 0 0 0 0 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	827 0 13 limit/base >11 >21 >21 >20 limit/base >80000	2 current 0 1 3 4 2 7 301 59 348 current 4 <1 3 current	0 history1 0 0 <1 2 3 3 311 72 490 history1 <1 0 0 0 history1	<1 0 2 <1 0 21 <1 357 24 224 history2 <1 0 0 0 0 0 0 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	827 0 13 limit/base >11 >21 >21 >20 limit/base >80000	2 current 0 1 3 4 2 7 301 59 348 current 4 <1 3 current 4 4 3 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1	0 history1 0 0 <1 2 3 3 3 311 72 490 history1 <1 0 0 0 history1 72899	<1 0 2 <1 0 21 <1 357 24 224 history2 <1 0 0 history2 <1 0 0 0 15198
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	827 0 13 imit/base >11 >21 >20 imit/base >80000 >20000 >640	2 current 0 1 3 4 2 7 301 59 348 current 4 <1 3 current 4 4 2 7 301 59 348 current 4 4 2 7 301 59 348 current 4 2 2 7 301 59 348 current 4 3 3 2 2 3 4 2 3 3 4 3 3 4 3 4 3 4 3 3 4 3 4 3 4 3 4 3 4 3 4 5 9 3 4 8 5 9 3 4 8 5 9 3 4 8 5 9 3 4 8 5 9 3 4 8 5 9 3 4 8 5 9 3 4 8 5 9 3 4 8 5 9 3 4 8 5 9 3 4 8 5 7 5 9 3 4 8 5 6 5 9 3 4 8 5 7 5 6 5 9 3 4 8 5 7 5 9 3 4 8 5 7 5 9 3 4 8 5 5 7 5 7 5 7 5 9 3 4 8 5 7 5 7 5 7 5 9 3 4 8 5 7 5 5 5 5 5 5 5 5 5 5 5 5 5	0 history1 0 0 1 2 3 3 3 11 72 490 history1 <1 0 0 0 history1 72899 15443	<1 0 2 <1 0 21 <1 357 24 224 history2 <1 0 0 history2 <1 0 0 0 15198 2054
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	827 0 13 imit/base >11 >21 >20 imit/base >80000 >20000 >640	2 current 0 1 3 4 2 7 301 59 348 current 4 <1 3 current 4 4 3 1 3 1 1 1 1 1 1 1 1 1 1 1 1 1	0 history1 0 0 1 2 3 3 3 11 72 490 history1 <1 0 0 0 history1 72899 15443 331	history2 <1 0 2 <1 357 24 224 history2 <1 0 0 1 0 1 0 0 0 15198 2054 68
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	827 0 13 imit/base >11 >21 >20 imit/base >80000 >20000 >640 >160 >40	2 current 0 1 3 4 2 7 301 59 348 current 4 <1 3 current 4 4 <1 3 current 4 6	0 history1 0 0 2 3 3 3 11 72 490 history1 <1 0 0 0 history1 72899 15443 331 45	<1 0 2 <1 2 <1 357 24 224 history2 <1 0 0 1 0 15198 2054 68 15



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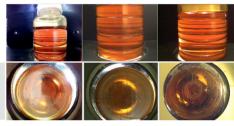
Nav7/1

Sep22/16

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.21	0.12	0.102
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	>0.075	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	47	49.4	49.8	46.6
SAMPLE IMAGES		method	limit/base	current	history1	history2

Color

Bottom



Ferrous Alloys sRarticle Count 491,5 122,8 30,720 -20 Sep9/21 7.680 Feb1/23 Mav7/14 en22/16 /lav15/24 4406:1999 Cle articles (per 1 1,920 18 Non-ferrous Metals 480 16 120 1.4 30 12 8 Feb1/23 Sep 9/21 Mav15/24 Mav7/ 102 ma Viscosity @ 40°C (B/H0.30 Acid Number 55 Abno ç 2 50 Ê 0.20 Ja q. 0.10 충 45 Base Abnorma Acid N 000 40 Sep9/21. Feb1/23 -Feb1/23 un26/19 May15/24 Sep 9/21 lun26/19 Sen22/16 May15/24 Sen 22/16 Mav7/14 Mav7/1 : WearCheck USA - 501 Madison Ave., Cary, NC 27513 **JRE - ASHLAND** Sample No. : JR0211567 Received : 17 May 2024 11047 LEADBETTER RD Lab Number : 06182708 Tested : 20 May 2024 ASHLAND, VA Diagnosed : 20 May 2024 - Angela Borella US 23005

Unique Number : 11034034 Test Package : CONST (Additional Tests: PQ)

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)

Report Id: JAMASH [WUSCAR] 06182708 (Generated: 05/20/2024 16:49:41) Rev: 1

Certificate 12367

Feb1/23 -

Laboratory

Contact/Location: DAVID ZIEG - JAMASH

dzieg@jamesriverequipment.com

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Contact: DAVID ZIEG

T: (804)798-6001

F: (804)798-0292