

OIL ANALYSIS REPORT

Sample Rating Trend



Machine Id

E-156

Component Hydraulic System

JOHN DEERE ZINC-FREE HYDRAULIC OIL 46 (--- 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	IATION	method			history1	history2
Sample Number		Client Info		WC0900335	WC0663508	WC0663488
Sample Date		Client Info		19 Jun 2024	13 Jun 2022	22 Apr 2022
Machine Age	hrs	Client Info		8547	5667	5353
Oil Age	hrs	Client Info		2003	1232	2323
Oil Changed		Client Info		Changed	Not Change	Not Change
Sample Status				NORMAI	NORMAI	ABNORMAL
Campio Claido					HOT WIN IE	A BITOT IIII A E
CONTAMINATION	۷	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	15	16	15
Chromium	ppm	ASTM D5185m	>10	3	<1	<1
Nickel	ppm	ASTM D5185m	>10	0	0	0
Titanium	ppm	ASTM D5185m		<1	1	2
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>10	10	4	4
Lead	ppm	ASTM D5185m	>10	0	<1	<1
Copper	ppm	ASTM D5185m	>75	4	7	8
Tin	ppm	ASTM D5185m	>10	0	0	<1
Antimony	ppm	ASTM D5185m				
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
		mothod	limit/baco	ourropt	history1	history?
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base	current 1	history1 3	history2 4
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	limit/base	current 1 0	history1 3 0	history2 4 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 1 0 <1	history1 3 0 1	history2 4 0 1
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 1 0 <1 0	history1 3 0 1 <1	history2 4 0 1 <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 1 0 <1 0 17	history1 3 0 1 <1 9	history2 4 0 1 <1 8
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	current 1 0 <1 0 17 1685	history1 3 0 1 <1 9 1129	history2 4 0 1 <1 8 1237
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	limit/base	current 1 0 <1 0 17 1685 731	history1 3 0 1 <1 9 1129 664	history2 4 0 1 <1 8 1237 721
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 1 0 <1 0 17 1685 731 713	history1 3 0 1 <1 9 1129 664 552	history2 4 0 1 <1 8 1237 721 526
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	Current 1 0 <1 0 17 1685 731 713 2624	history1 3 0 1 <1 9 1129 664 552 1765	history2 4 0 1 <1 8 1237 721 526 1566
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 1 0 <1 0 17 1685 731 713 2624 current	history1 3 0 1 <1 9 1129 664 552 1765 history1	history2 4 0 1 <1 8 1237 721 526 1566 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base limit/base >20	current 1 0 <1 0 17 1685 731 713 2624 current 14	history1 3 0 1 <1 9 1129 664 552 1765 history1 6	history2 4 0 1 <1 8 1237 721 526 1566 history2 5
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	limit/base	current 1 0 <1 0 17 1685 731 713 2624 current 14 4	history1 3 0 1 <1 9 1129 664 552 1765 history1 6 0	history2 4 0 1 <1 8 1237 721 526 1566 history2 5 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 1 0 <1 0 17 1685 731 713 2624 current 14 4 2	history1 3 0 1 <1 9 1129 664 552 1765 history1 6 0 2	4 0 1 <1 8 1237 721 526 1566 history2 5 2 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base limit/base >20 >20 limit/base	current 1 0 <1 0 17 1685 731 713 2624 current 14 4 2 current	history1 3 0 1 <1 9 1129 664 552 1765 history1 6 0 2 history1	history2 4 0 1 <1 8 1237 721 526 1566 history2 5 2 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	limit/base ////////////////////////////////////	current 1 0 <1 0 17 1685 731 713 2624 current 14 4 2 current 4604	history1 3 0 1 <1 9 1129 664 552 1765 history1 6 0 2 history1 2242	history2 4 0 1 <1 8 1237 721 526 1566 history2 5 2 0 history2 ▲ 29228
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >6µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m	limit/base	current 1 0 <1 0 17 1685 731 713 2624 current 14 4 2 current 4604 154	history1 3 0 1 <1 9 1129 664 552 1765 history1 6 0 2 history1 2242 76	history2 4 0 1 <1 8 1237 721 526 1566 history2 5 2 0 history2 5 2 0 history2 >3939
ADDITIVES Boron Barium 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 ppm ppm ppm	method ASTM D5185m	limit/base >20 >20 limit/base >20 limit/base >5000 >1300 >160	current 1 0 <1 0 17 1685 731 713 2624 current 14 2 current 4604 154 8	history1 3 0 1 <1 9 1129 664 552 1765 history1 6 0 2 history1 2242 76 9	history2 4 0 1 <1 <1 8 1237 721 526 1566 bistory2 history2 <
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 ppm	method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647	limit/base /// // // // // // // // // // // // /	current 1 0 <1 0 17 1685 731 713 2624 current 14 2 current 4604 154 8 2	history1 3 0 1 <1 9 1129 664 552 1765 history1 6 0 2 history1 2242 76 9 3	history2 4 0 1 <1 8 1237 721 526 1566 bistory2 5 2 0 history2 29228 939 17 2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm Particles >38µm	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base ////////////////////////////////////	current 1 0 <1 0 17 1685 731 713 2624 current 14 4 2 current 4604 154 8 2 0	history1 3 0 1 <1 9 1129 664 552 1765 history1 6 0 2 history1 2242 76 9 3 0	history2 4 0 1 <1 8 1237 721 526 1566 bistory2 5 2 0 bistory2 29228 939 17 2 0

ISO 4406 (c) >19/17/14

Oil Cleanliness

18/13/10

22/17/11

19/14/10



30 Ê^{25k}

20k 15k 10k 5k

0

1.00 (⁸.0) (⁸/H0) Ê0.60 - a E 0.40 Pi 0.20 Bas 0.00

> > 44

30

(문^{25k}

1) sapipled 15k

101 101

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Abr 51

Apr29/21

Abnom 42 40

Particle Trend

Apr29/21

nr29/7

Abnor

Acid Number

Particle Trend

Apr22/22

ur22/22

Apr22/22

Apr22/22

Viscosity @ 40°C

lun13/22

Jun 13/22

Jun13/22 -

Certificate 12367

OIL ANALYSIS REPORT

FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.804	0.27	0.39
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	LIGHT	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 PROPER	ΓIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	47	42.5	43.1	42.8
SAMPLE IMAGES		method	limit/base	current	history1	history2
			_			

Color



Bottom





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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