



WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	ABNORMAL

Machine Id
JOHN DEERE 85G 1FF085GXCHJ019123
 Component
Hydraulic System
 Fluid
HITACHI HYDRAULIC SUPER EX 46HN (--- GAL)

RECOMMENDATION

Recommend drain oil if not already done. Reduce drain interval to 2000 hours or drain and flush and use recommended zinc free oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0218921	JR0157207	JR0094136
Sample Date		Client Info		19 Jun 2024	19 Dec 2022	01 Jul 2021
Machine Age	hrs	Client Info		4123	3329	2408
Oil Age	hrs	Client Info		4123	3329	2408
Filter Age	hrs	Client Info		794	1783	0
Oil Changed		Client Info		Not Changed	Not Changed	Not Changed
Filter Changed		Client Info		Changed	Changed	Not Changed
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL

WEAR

All component wear rates are normal.

PQ		ASTM D8184	>50	23	11	22
Iron	ppm	ASTM D5185m	>32	24	27	20
Chromium	ppm	ASTM D5185m	>9	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m		0	0	<1
Aluminum	ppm	ASTM D5185m	>9	3	3	0
Lead	ppm	ASTM D5185m	>28	0	<1	<1
Copper	ppm	ASTM D5185m	>50	11	12	8
Tin	ppm	ASTM D5185m	>5	0	2	0
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

The amount and size of particulates present in the system are acceptable.

Silicon	ppm	ASTM D5185m	>11	5	6	2
Potassium	ppm	ASTM D5185m	>20	3	2	2
Water		WC Method	>0.075	NEG	NEG	NEG
Particles >4µm		ASTM D7647	>80000	19277	12091	▲ 10715
Particles >6µm		ASTM D7647	>20000	4766	1336	● 1528
Particles >14µm		ASTM D7647	>640	118	15	79
Particles >21µm		ASTM D7647	>160	17	2	17
Particles >38µm		ASTM D7647	>40	0	1	2
Particles >71µm		ASTM D7647	>10	0	0	0
Oil Cleanliness		ISO 4406 (c)	>23/21/16	21/19/14	21/18/11	▲ 21/18/13
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

FLUID CONDITION

Zinc level above manufacturer's recommendations. The AN level is acceptable for this fluid.

Sodium	ppm	ASTM D5185m	>21	4	2	<1
Boron	ppm	ASTM D5185m		4	7	11
Barium	ppm	ASTM D5185m		<1	0	0
Molybdenum	ppm	ASTM D5185m		2	3	4
Manganese	ppm	ASTM D5185m		1	<1	<1
Magnesium	ppm	ASTM D5185m		34	44	38
Calcium	ppm	ASTM D5185m		294	385	352
Phosphorus	ppm	ASTM D5185m	827	530	552	507
Zinc	ppm	ASTM D5185m	0	▲ 221	▲ 277	230
Sulfur	ppm	ASTM D5185m	13	909	1109	852
Acid Number (AN)	mg KOH/g	ASTM D8045	0.06	0.56	0.49	0.350
Visc @ 40°C	cSt	ASTM D445	47	49.7	47.5	47.8

