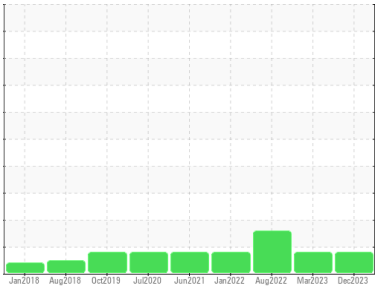
OIL ANALYSIS REPORT

Sample Rating Trend



WEAR

Machine Id
JOHN DEERE 644K 6816 (S/N 1DW644KZTGF675568)
Component
Hydraulic System
Fluid
JOHN DEERE HYDRAU (80 LTR)

DIAGNOSIS

Recommendation
We recommend that you drain the oil from the component if this has not already been done. We recommend an early resample to monitor this condition.

Wear
Chromium ppm levels are abnormal. Ring wear is indicated.

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 oil is no longer serviceable as a result of the abnormal and/or severe wear.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**PC0052726**	PC0030508	PC0030460
Sample Date		Client Info		**14 Dec 2023**	21 Mar 2023	04 Aug 2022
Machine Age	hrs	Client Info		**10339**	9462	8676
Oil Age	hrs	Client Info		**0**	0	0
Oil Changed		Client Info		**Not Changd**	Not Changd	Not Changd
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.075	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185(m)	>71	**20**	18	19
Chromium	ppm	ASTM D5185(m)	>11	▲ **18**	▲ 19	▲ 19
Nickel	ppm	ASTM D5185(m)	>6	**2**	2	2
Titanium	ppm	ASTM D5185(m)		**0**	<1	<1
Silver	ppm	ASTM D5185(m)		**<1**	<1	<1
Aluminum	ppm	ASTM D5185(m)	>11	**3**	2	2
Lead	ppm	ASTM D5185(m)	>13	**<1**	<1	<1
Copper	ppm	ASTM D5185(m)	>21	**7**	7	8
Tin	ppm	ASTM D5185(m)	>5	**0**	0	0
Antimony	ppm	ASTM D5185(m)		**0**	0	<1
Vanadium	ppm	ASTM D5185(m)		**0**	0	0
Beryllium	ppm	ASTM D5185(m)		**0**	0	0
Cadmium	ppm	ASTM D5185(m)		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185(m)		**3**	3	4
Barium	ppm	ASTM D5185(m)		**0**	0	0
Molybdenum	ppm	ASTM D5185(m)		**2**	3	3
Manganese	ppm	ASTM D5185(m)		**0**	<1	<1
Magnesium	ppm	ASTM D5185(m)		**30**	33	37
Calcium	ppm	ASTM D5185(m)	87	**316**	343	360
Phosphorus	ppm	ASTM D5185(m)	727	**702**	755	684
Zinc	ppm	ASTM D5185(m)	900	**857**	875	871
Sulfur	ppm	ASTM D5185(m)	1500	**1749**	1733	1787
Lithium	ppm	ASTM D5185(m)		**<1**	<1	<1

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185(m)	>24	**4**	3	3
Sodium	ppm	ASTM D5185(m)	>21	**6**	6	6
Potassium	ppm	ASTM D5185(m)	>20	**3**	2	2

FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647	>80000	**11471**	13446	33510
Particles >6µm		ASTM D7647	>5000	**2173**	1141	▲ 6934
Particles >14µm		ASTM D7647	>640	**200**	106	260
Particles >21µm		ASTM D7647	>160	**62**	33	37
Particles >38µm		ASTM D7647	>40	**4**	2	1
Particles >71µm		ASTM D7647	>10	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>23/19/16	**21/18/15**	21/17/14	▲ 22/20/15

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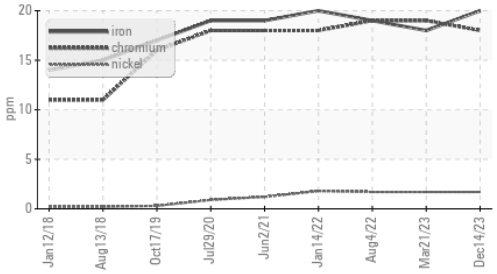
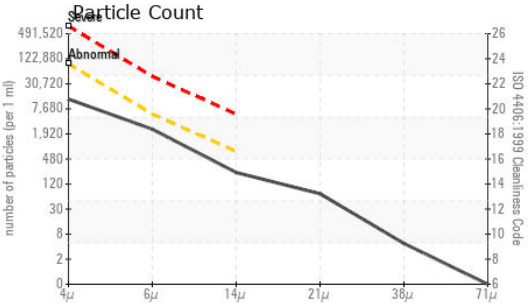
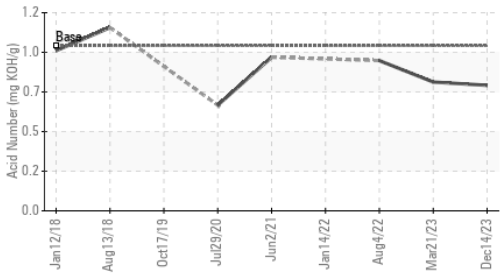
Ferrous Alloys



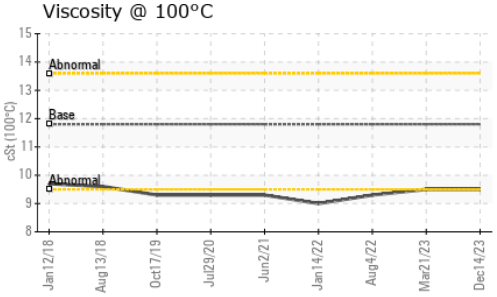
Particle Count



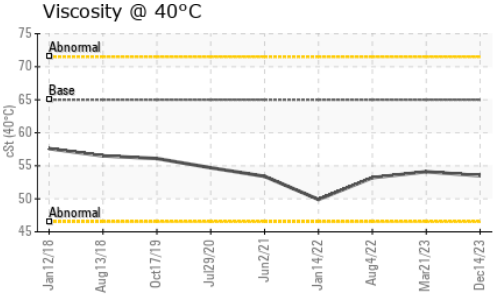
Acid Number



Viscosity @ 100°C



Viscosity @ 40°C

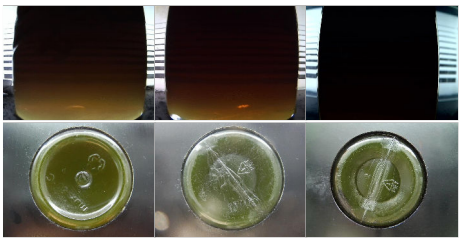


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D974*	1.0	**0.76**	0.78	0.91

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**	VLITE	NONE
Sand/Dirt	scalar	Visual*	NONE	**VLITE**	NONE	VLITE
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 D7279(m)	65	**53.5**	54.1	53.2
Visc @ 100°C	cSt	ASTM D7279(m)	11.8	**9.5**	9.5	9.3
Viscosity Index (VI)	Scale	ASTM D2270*	178	**162**	160	158

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					



ISO 17025:2017 Accredited Laboratory

Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9 **TRUCK AND EQUIPMENT SOLUTION**
Sample No. : PC0052726 **Recieved** : 22 Dec 2023 2 BERTRAM INDUSTRIAL PKWY.
Lab Number : 02604952 **Diagnosed** : 27 Dec 2023 MIDHURST, ON
Unique Number : 5698037 **Diagnostician** : Kevin Marson CA L9X 1L2
Test Package : IND 2 (Additional Tests: KV100, VI) Contact: Julie Holden
parts@tesbarrie.com
T: (705)792-7620
F: (705)725-5425

To discuss this sample report, contact Customer Service at 1-800-268-2131.
Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
Validity of results and interpretation are based on the sample and information as supplied.