James River Equipment

OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Area
[05W44442]
Machine Id
CATERPILLAR 938M 0J3R03125
Component
Diesel Engine
Fluid
JOHN DEERE ENGINE OIL PLUS 50 II 15W40 (22 QTS)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

All component wear rates are normal.

CONTAMINATION

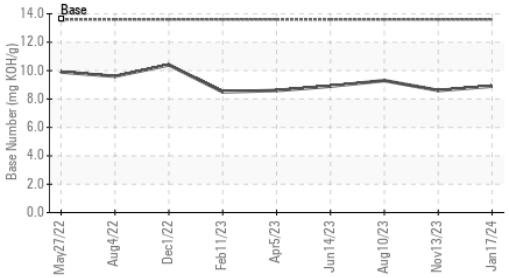
Sodium and/or potassium levels are high.

FLUID CONDITION

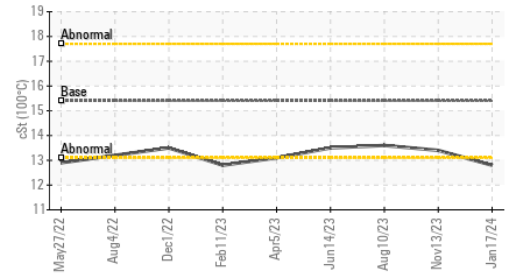
The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		**JR0199203**	JR0192061	JR0182125
Sample Date		Client Info		**17 Jan 2024**	13 Nov 2023	10 Aug 2023
Machine Age	hrs	Client Info		**14960**	14521	14004
Oil Age	hrs	Client Info		**439**	517	456
Filter Age	hrs	Client Info		**439**	0	456
Oil Changed		Client Info		**Changed**	Changed	Changed
Filter Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	**10**	9	6
Chromium	ppm	ASTM D5185m	>20	**0**	0	<1
Nickel	ppm	ASTM D5185m	>2	**0**	0	<1
Titanium	ppm	ASTM D5185m	>2	**0**	0	0
Silver	ppm	ASTM D5185m	>2	**0**	0	<1
Aluminum	ppm	ASTM D5185m	>25	**11**	8	7
Lead	ppm	ASTM D5185m	>40	**<1**	0	0
Copper	ppm	ASTM D5185m	>330	**<1**	0	<1
Tin	ppm	ASTM D5185m	>15	**<1**	<1	0
Vanadium	ppm	ASTM D5185m		**<1**	0	<1
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	**6**	7	6
Potassium	ppm	ASTM D5185m	>20	▲ **47**	44	36
Fuel	%	ASTM D3524	>5	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol	%	*ASTM D2982		**NEG**	0.0	NEG
Soot %	%	*ASTM D7844	>3	**0.2**	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	**7.6**	8.3	8.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	**21.5**	21.5	21.2
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	>0.2	**NEG**	NEG	NEG
Sodium	ppm	ASTM D5185m		▲ **100**	89	74
Boron	ppm	ASTM D5185m		**224**	244	226
Barium	ppm	ASTM D5185m		**0**	0	<1
Molybdenum	ppm	ASTM D5185m		**235**	261	270
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**751**	849	760
Calcium	ppm	ASTM D5185m		**1557**	1392	1405
Phosphorus	ppm	ASTM D5185m		**959**	927	871
Zinc	ppm	ASTM D5185m		**1122**	1136	1080
Sulfur	ppm	ASTM D5185m		**3196**	3260	3201
Oxidation	Abs/.1mm	*ASTM D7414	>25	**15.2**	16.1	15.9
Base Number (BN)	mg KOH/g	ASTM D2896	13.6	**8.9**	8.6	9.3
Visc @ 100°C	cSt	ASTM D445	15.4	**12.8**	13.4	13.6

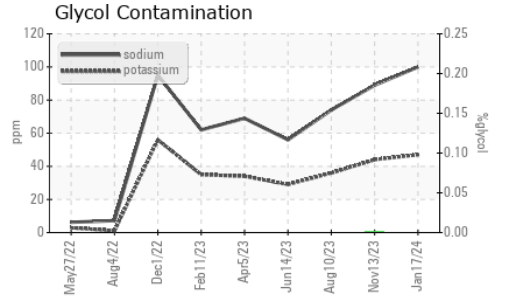
Base Number



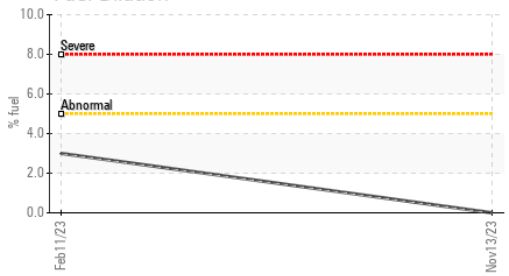
Viscosity @ 100°C



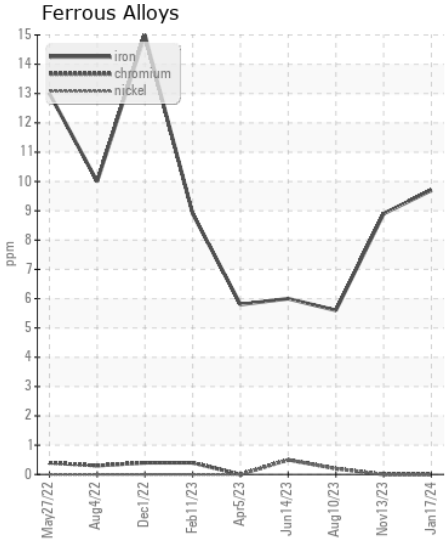
Glycol Contamination



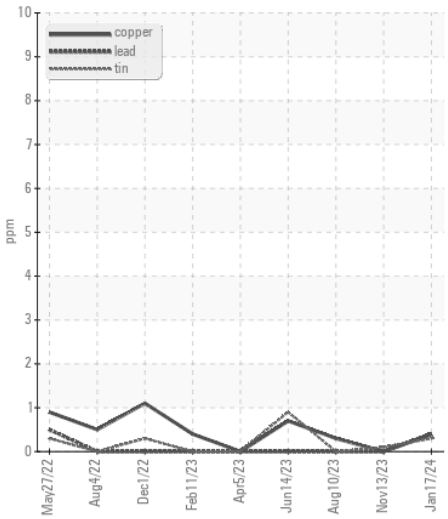
Fuel Dilution



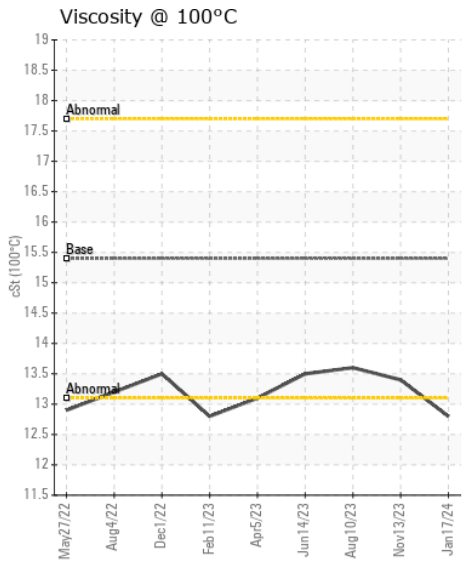
Ferrous Alloys



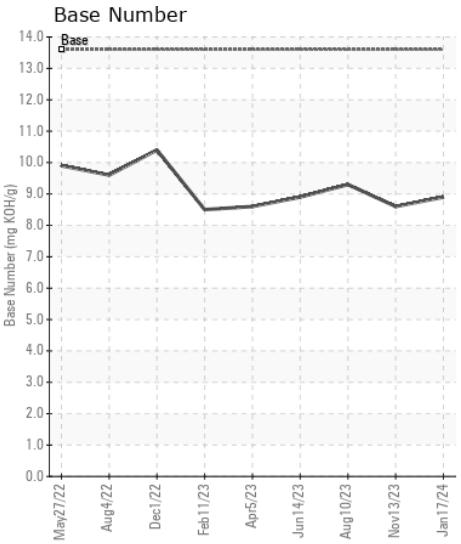
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0199203 **Recieved** : 18 Jan 2024
Lab Number : 06064970 **Diagnosed** : 19 Jan 2024
Unique Number : 10836352 **Diagnostician** : Jonathan Hester
Test Package : CONST (Additional Tests: FuelDilution, Glycol, TBN)

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)

JRE - MANASSAS PARK
9107 OWENS DRIVE
MANASSAS PARK, VA
US 20111
Contact: DON VEST
dvest@jamesriverequipment.com
T: (703)631-8500
F: (703)631-4715