

JOHN DEERE 409 - DIESEL ENGINE

Sample No: JR0189881

Oil Type: MOBIL 15W40

SAMPLE INFORMATION

Sample Number	JR0189881	JR0189721	JR0135315	JR0135309
Sample Date	08 Mar 2024	18 Dec 2023	18 Sep 2023	10 Aug 2023
Machine Hours	6500	6004	5500	5337
Oil Hours	500	500	500	337
Oil Changed	Changed	Changed	Changed	Not Changd
Sample Status	ABNORMAL	ABNORMAL	SEVERE	SEVERE

THE SCOTTS COMPANY

3175 BRIGHT LEAF RD
LAWRENCEVILLE, VA
US 23868

Contact: REX WATSON

T: (434)848-2727

F: (434)848-2250

OIL CONDITION

Visc @ 100°C	cSt	12.8	12.7	13.3	13.0
Base Number (BN)	mg KOH/g	10.1	10.6	11.1	14.3
Oxidation (PA)	%	79	76	55	58

Diagnosis

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. Exhaust valve wear is indicated. Sodium and/or potassium levels remain elevated. Test for glycol is negative. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.

CONTAMINATION

Water	%	NEG	NEG	NEG	NEG
Soot %	%	0.2	0.2	0.1	0.2
Nitration (PA)	%	53	55	66	78
Sulfation (PA)	%	61	61	56	60
Glycol	%	NEG	0.0	0.20	0.20
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	5	5	15	20
Sodium	ppm	54	178	956	1526
Potassium	ppm	50	160	776	1317

WEAR METALS

Iron	ppm	36	19	21	24
Copper	ppm	<1	2	14	19
Lead	ppm	0	0	2	2
Tin	ppm	<1	<1	<1	<1
Aluminum	ppm	2	2	4	4
Chromium	ppm	<1	1	<1	1
Molybdenum	ppm	46	63	227	161
Nickel	ppm	11	2	2	2
Titanium	ppm	0	0	0	0
Silver	ppm	0	0	0	<1
Manganese	ppm	1	<1	<1	<1
Vanadium	ppm	0	<1	0	0

ADDITIVES

Calcium	ppm	1687	1531	1325	1270
Magnesium	ppm	542	564	808	791
Zinc	ppm	1150	1083	1181	1193
Phosphorus	ppm	956	929	1002	1011
Barium	ppm	0	0	0	<1
Boron	ppm	42	42	148	16

Depot: SCOLAW

Unique No: 10938292

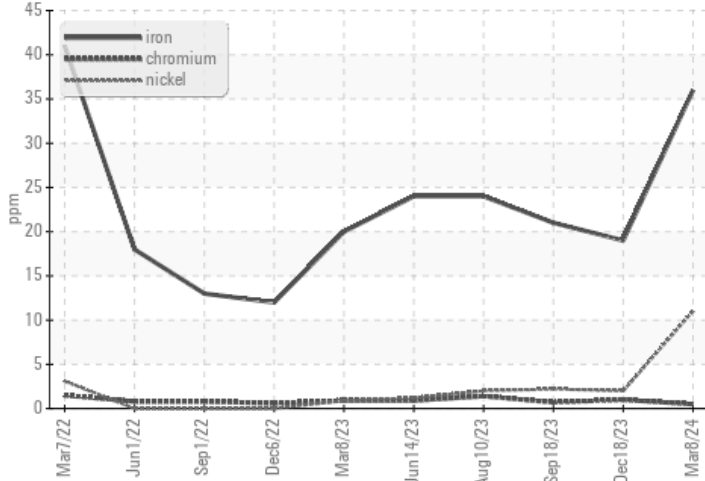
Signed: Jonathan Hester

Report Date: 25 Mar 2024

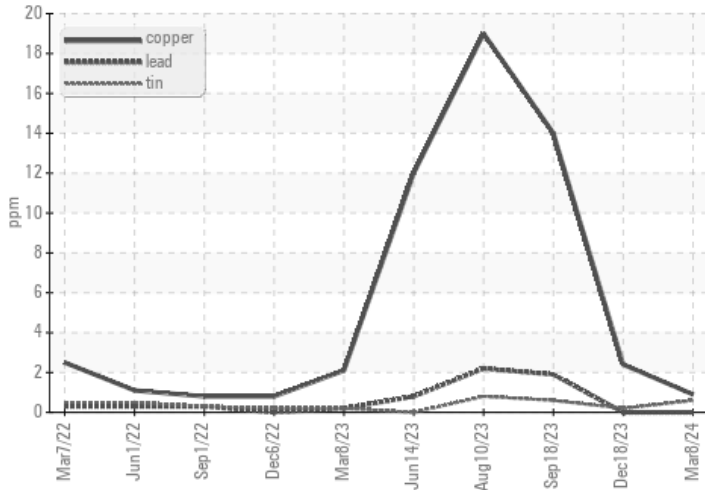
Contact/Location: REX WATSON - SCOLAW

GRAPHS

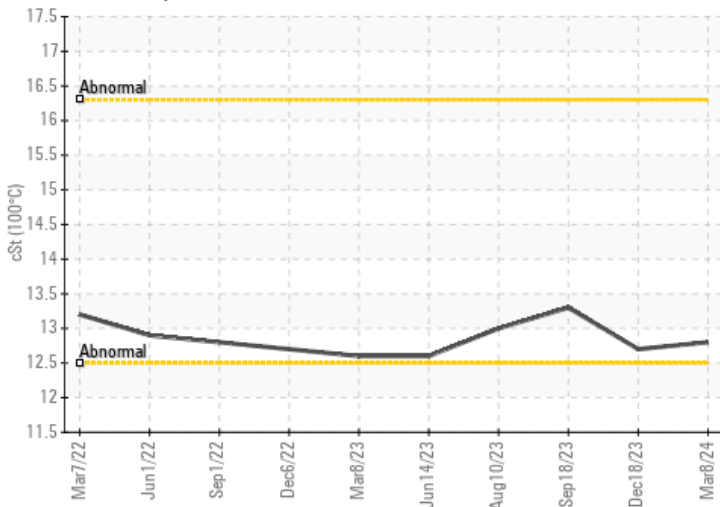
▲ Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



Base Number

