



CONSTRUCTION EQUIPMENT

MW0000294 FREIGHTLINER M2 102 02-012 (S/N HK1277) - DIESEL ENGINE



Sample No: VCP416131
Oil Type: MOBIL 15W40
Job No: MW0000294



SAMPLE INFORMATION

Sample Number	VCP416131	VCP323953	VCP287093	VCP290039
Sample Date	08 Nov 2023	14 Jun 2021	24 Mar 2021	18 Nov 2020
Machine Hours	179872	117316	110336	100500
Oil Hours	5000	7000	5000	5000
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

MCCLUNG-LOGAN EQUIPMENT CO - MANASSAS
8450 QUARRY ROAD
MANASSAS, VA
US 20110
Contact: MIKE MAYHUGH
MMAYHUGH@MCCLUNG-LOGAN.COM
T: (703)393-7344
F: (703)393-7844



OIL CONDITION

Visc @ 100°C	cSt	13.1	12.6	12.9	12.6
Base Number (BN)	mg KOH/g	9.3	---	---	---
Oxidation (PA)	%	69	88	82	85

Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.



CONTAMINATION

Soot %	%	0.3	0.9	0.7	0.8
Nitration (PA)	%	54	85	73	77
Sulfation (PA)	%	61	68	66	66
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	7	4	2	7
Sodium	ppm	0	1	3	3
Potassium	ppm	3	4	2	24



WEAR METALS

Iron	ppm	6	14	10	12
Copper	ppm	0	<1	1	<1
Lead	ppm	1	0	<1	0
Tin	ppm	<1	0	<1	0
Aluminum	ppm	3	0	3	6
Chromium	ppm	0	<1	<1	<1
Molybdenum	ppm	90	47	40	44
Nickel	ppm	<1	<1	0	<1
Titanium	ppm	0	0	0	<1
Silver	ppm	0	0	<1	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	0



ADDITIVES

Calcium	ppm	1515	1654	1487	1686
Magnesium	ppm	618	503	497	552
Zinc	ppm	1007	1065	1031	1041
Phosphorus	ppm	854	943	843	953
Barium	ppm	0	0	0	0
Boron	ppm	222	33	53	26

Depot: VOLVO0002
Unique No: 10739033
Signed: Wes Davis
Report Date: 14 Nov 2023

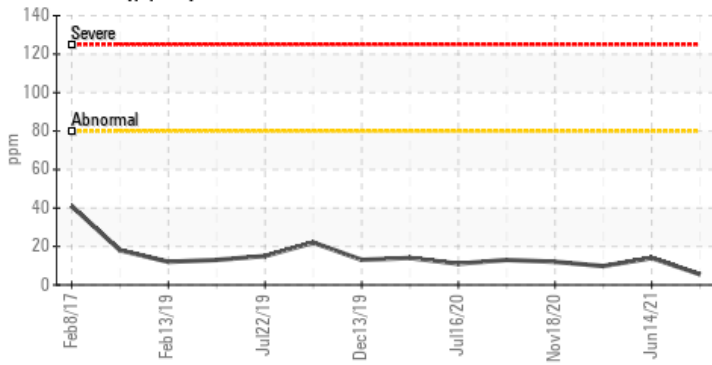


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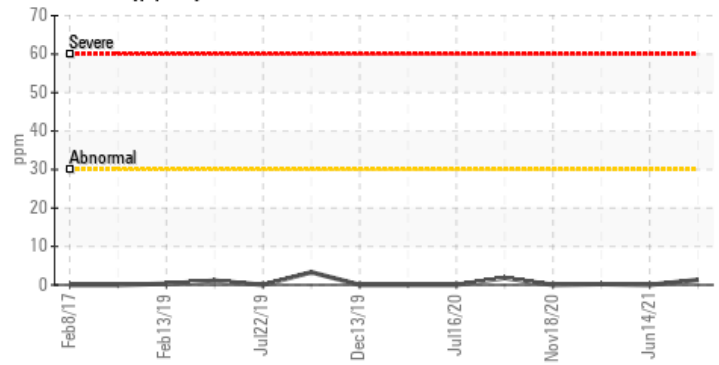


GRAPHS

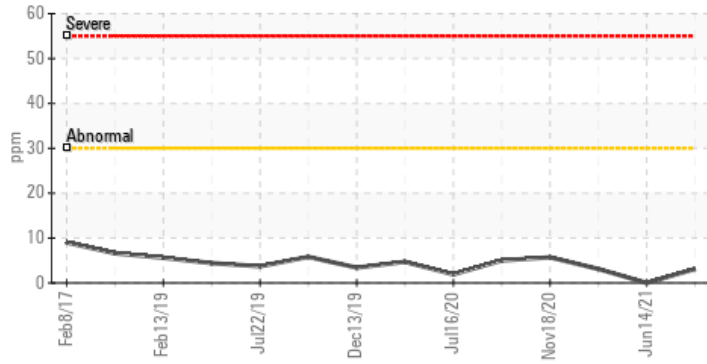
Iron (ppm)



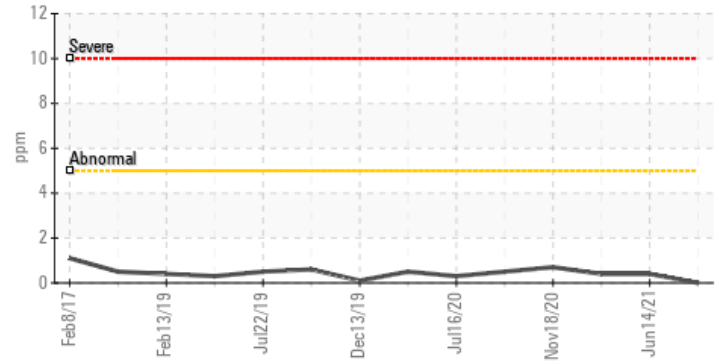
Lead (ppm)



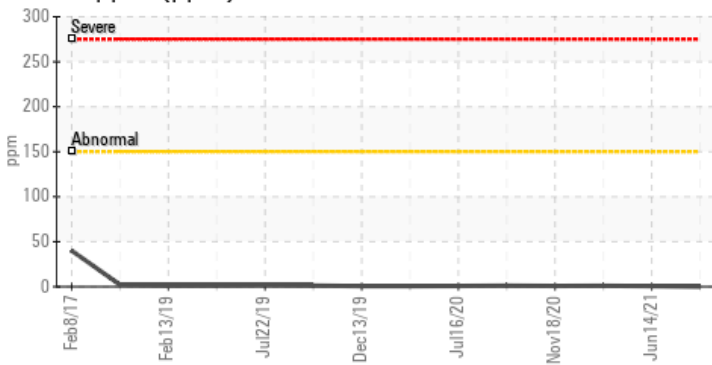
Aluminum (ppm)



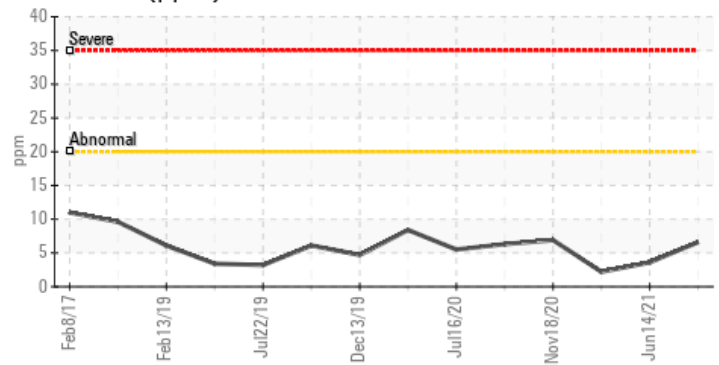
Chromium (ppm)



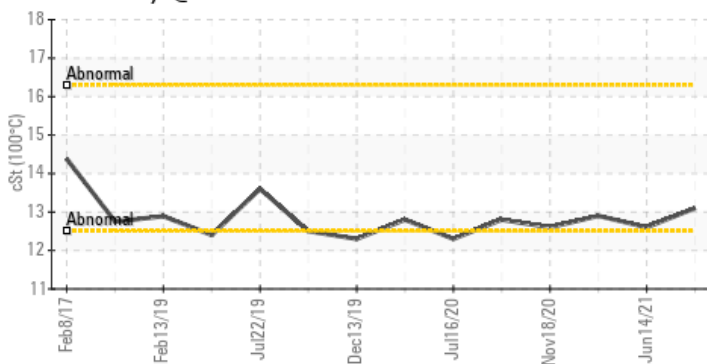
Copper (ppm)



Silicon (ppm)



Viscosity @ 100°C



Base Number

