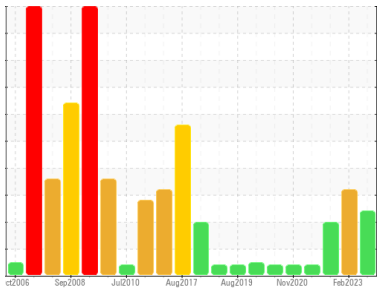
OIL ANALYSIS REPORT

Area
OKLAHOMA/102/EG - MOTOR GRADER
Machine Id
78.79 [OKLAHOMA^102^EG - MOTOR GRADER]
Component
Hydraulic System
Fluid
MOBIL DELVAC MX 15W40 (--- GAL)

Sample Rating Trend



DIRT

DIAGNOSIS

Recommendation
Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
There is a high amount of silt (particulates < 14 microns in size) present in the oil. Elemental level of silicon (Si) above normal.

Fluid Condition
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**WC0935303**	WC0778421	WC0662414
Sample Date		Client Info		**12 May 2024**	08 Feb 2023	07 Feb 2022
Machine Age	hrs	Client Info		**23148**	22697	131200
Oil Age	hrs	Client Info		**108953**	17512	17512
Oil Changed		Client Info		**Changed**	Changed	N/A
Sample Status				**ABNORMAL**	ABNORMAL	ABNORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Water		WC Method	>0.1	**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>20	**15**	12	16
Chromium	ppm	ASTM D5185m	>10	**<1**	<1	<1
Nickel	ppm	ASTM D5185m	>10	**0**	0	<1
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m		**<1**	0	0
Aluminum	ppm	ASTM D5185m	>10	**10**	9	9
Lead	ppm	ASTM D5185m	>10	**<1**	<1	<1
Copper	ppm	ASTM D5185m	>75	**15**	9	9
Tin	ppm	ASTM D5185m	>10	**<1**	0	0
Antimony	ppm	ASTM D5185m		**---**	---	0
Vanadium	ppm	ASTM D5185m		**0**	0	0
Cadmium	ppm	ASTM D5185m		**0**	0	0

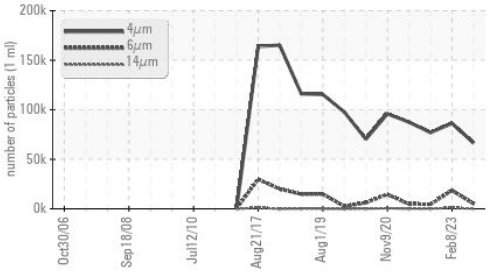
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m		**59**	48	63
Barium	ppm	ASTM D5185m		**0**	0	0
Molybdenum	ppm	ASTM D5185m		**11**	12	14
Manganese	ppm	ASTM D5185m		**<1**	<1	<1
Magnesium	ppm	ASTM D5185m		**241**	224	297
Calcium	ppm	ASTM D5185m		**2399**	2368	2395
Phosphorus	ppm	ASTM D5185m		**880**	831	927
Zinc	ppm	ASTM D5185m		**1040**	991	986
Sulfur	ppm	ASTM D5185m		**4408**	4428	3307

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>20	▲ **23**	▲ 22	▲ 22
Sodium	ppm	ASTM D5185m		**3**	<1	4
Potassium	ppm	ASTM D5185m	>20	**3**	<1	2

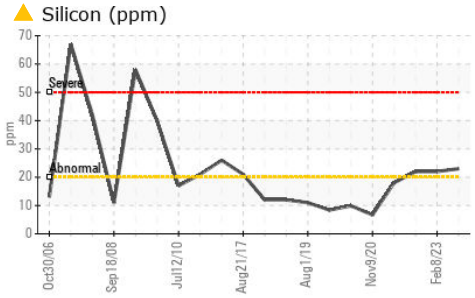
FLUID CLEANLINESS		method	limit/base	current	history1	history2
Particles >4µm		ASTM D7647		**66428**	86260	76900
Particles >6µm		ASTM D7647	>2500	▲ **5157**	▲ 18621	● 4549
Particles >14µm		ASTM D7647	>640	**89**	▲ 975	44
Particles >21µm		ASTM D7647	>160	**15**	▲ 168	5
Particles >38µm		ASTM D7647	>40	**0**	2	0
Particles >71µm		ASTM D7647	>10	**0**	0	0
Oil Cleanliness		ISO 4406 (c)	>--/18/16	▲ **23/20/14**	▲ 24/21/17	● 23/19/13

OIL ANALYSIS REPORT

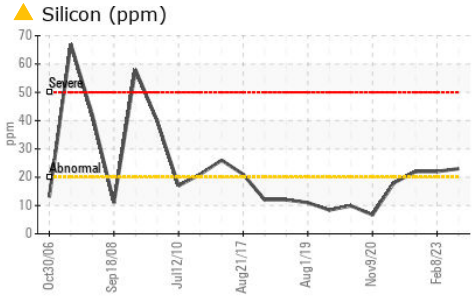
Particle Trend



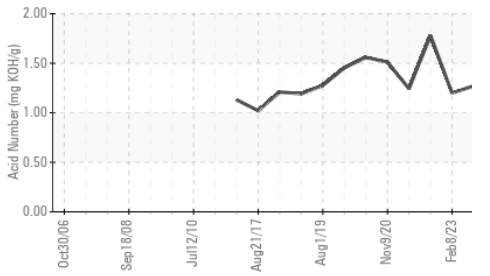
Silicon (ppm)



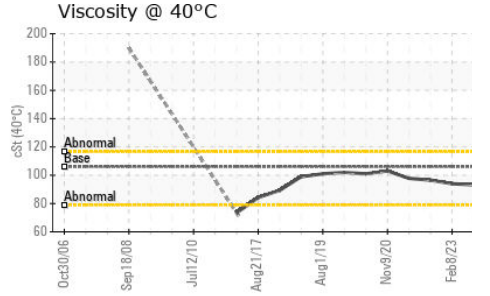
Silicon (ppm)



Acid Number



Viscosity @ 40°C

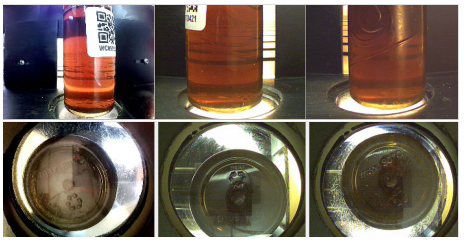


FLUID DEGRADATION		method	limit/base	current	history1	history2
Acid Number (AN)	mg KOH/g	ASTM D8045		**1.27**	1.20	1.78

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**	LIGHT	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	>0.1	**NEG**	NEG	NEG
Free Water	scalar	*Visual		**NEG**	NEG	NEG

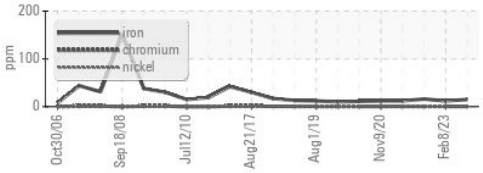
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	106	**93.2**	94.0	96.5

SAMPLE IMAGES	method	limit/base	current	history1	history2
Color					
Bottom					

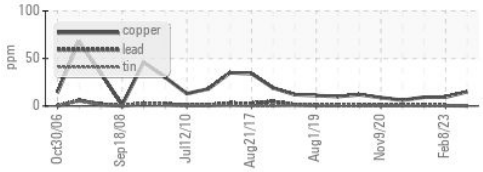


GRAPHS

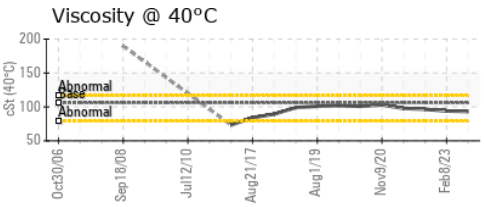
Ferrous Alloys



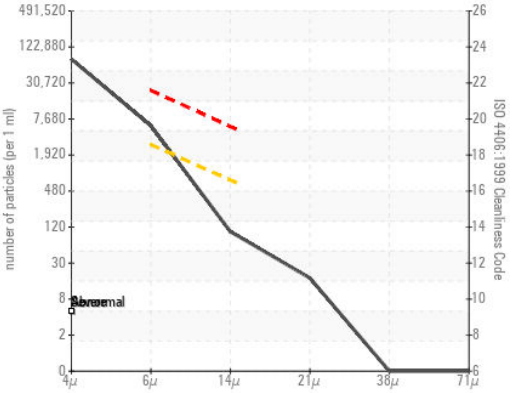
Non-ferrous Metals



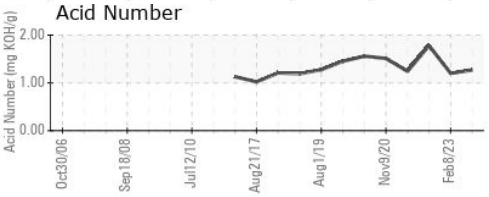
Viscosity @ 40°C



Particle Count



Acid Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0935303
Lab Number : 06184904
Unique Number : 11036230
Test Package : CONST

Received : 20 May 2024
Tested : 22 May 2024
Diagnosed : 22 May 2024 - Don Baldridge

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)

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Report Id: SHEWIC [WUSCAR] 06184904 (Generated: 05/22/2024 17:36:43) Rev: 1

Submitted By: GARRETT ADAMS