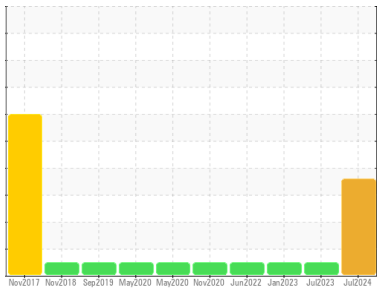
OIL ANALYSIS REPORT

Sample Rating Trend



DIRT

Area
CONSTRUCTORS, INC
Machine Id
03-0399
Component
Gasoline Engine
Fluid
MOBIL 1 5W30 (--- GAL)

DIAGNOSIS

Recommendation
We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor.

Wear
All component wear rates are normal.

Contamination
Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress.

Fluid Condition
The BN level is low. The condition of the oil is acceptable for the time in service.

SAMPLE INFORMATION		method	limit/base	current	history1	history2
Sample Number		Client Info		**SBP0007139**	SBP0004762	SBP0002260
Sample Date		Client Info		**11 Jul 2024**	28 Jul 2023	20 Jan 2023
Machine Age	hrs	Client Info		**6794**	6432	6137
Oil Age	hrs	Client Info		**362**	295	297
Oil Changed		Client Info		**Changed**	Changed	Changed
Sample Status				**ABNORMAL**	NORMAL	NORMAL

CONTAMINATION		method	limit/base	current	history1	history2
Fuel		WC Method	>4.0	**<1.0**	<1.0	<1.0
Water		WC Method	>0.2	**NEG**	NEG	NEG
Glycol		WC Method		**NEG**	NEG	NEG

WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>150	**85**	54	39
Chromium	ppm	ASTM D5185m	>20	**5**	3	3
Nickel	ppm	ASTM D5185m	>5	**<1**	1	2
Titanium	ppm	ASTM D5185m		**<1**	<1	<1
Silver	ppm	ASTM D5185m	>2	**0**	0	0
Aluminum	ppm	ASTM D5185m	>40	**10**	9	6
Lead	ppm	ASTM D5185m	>50	**0**	0	0
Copper	ppm	ASTM D5185m	>155	**14**	14	16
Tin	ppm	ASTM D5185m	>10	**0**	<1	<1
Vanadium	ppm	ASTM D5185m		**0**	0	<1
Cadmium	ppm	ASTM D5185m		**0**	0	0

ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	94	**25**	32	46
Barium	ppm	ASTM D5185m	0.0	**0**	1	1
Molybdenum	ppm	ASTM D5185m	0.0	**69**	73	69
Manganese	ppm	ASTM D5185m		**2**	<1	<1
Magnesium	ppm	ASTM D5185m	1388	**495**	475	434
Calcium	ppm	ASTM D5185m	820	**1240**	1186	1075
Phosphorus	ppm	ASTM D5185m	720	**683**	617	581
Zinc	ppm	ASTM D5185m	780	**780**	739	684
Sulfur	ppm	ASTM D5185m	2240	**3024**	2734	2475

CONTAMINANTS		method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m	>30	**30**	22	16
Sodium	ppm	ASTM D5185m	>400	**5**	3	4
Potassium	ppm	ASTM D5185m	>20	**5**	2	2

INFRA-RED		method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844		**0.1**	0.1	0.1
Nitration	Abs/cm	*ASTM D7624	>20	**12.9**	11.3	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	**27.7**	24.2	22.7

FLUID DEGRADATION		method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414	>25	**26.4**	19.3	15.1
Base Number (BN)	mg KOH/g	ASTM D2896		**2.2**	3.2	4.5

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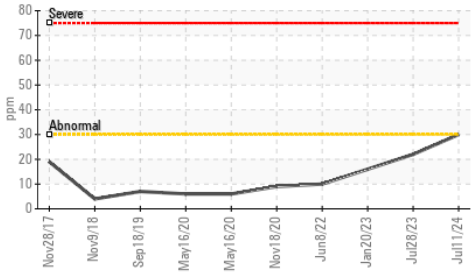
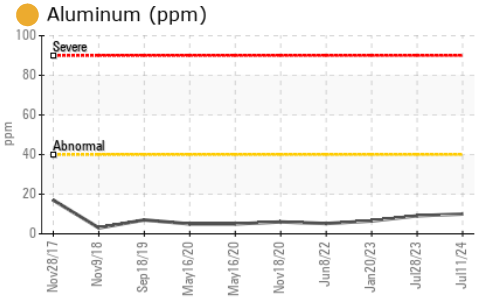
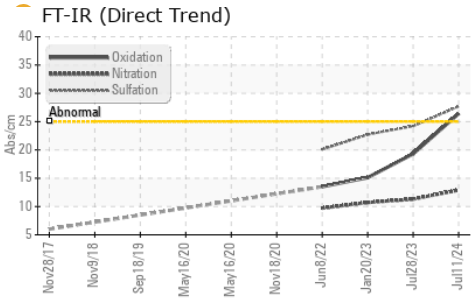
Silicon (ppm)



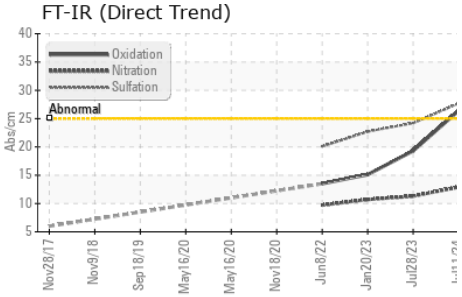
Aluminum (ppm)



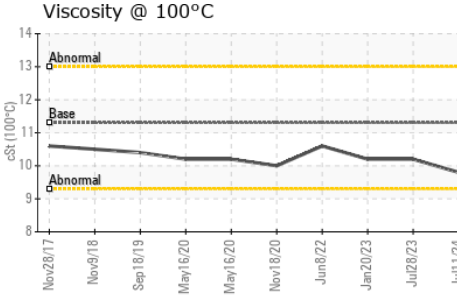
FT-IR (Direct Trend)



FT-IR (Direct Trend)



Viscosity @ 100°C

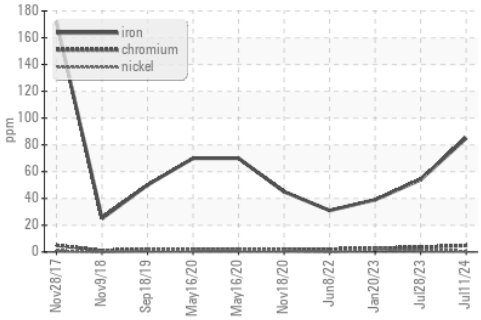


VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	**NONE**	NONE	NONE
Precipitate	scalar	*Visual	NONE	**NONE**	NONE	NONE
Silt	scalar	*Visual	NONE	**NONE**	NONE	NONE
Debris	scalar	*Visual	NONE	**NONE**	NONE	NONE
Sand/Dirt	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
Free Water	scalar	*Visual		**NEG**	NEG	NEG

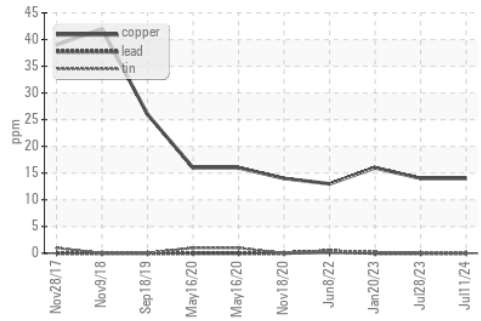
FLUID PROPERTIES		method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	11.3	**9.8**	10.2	10.2

GRAPHS

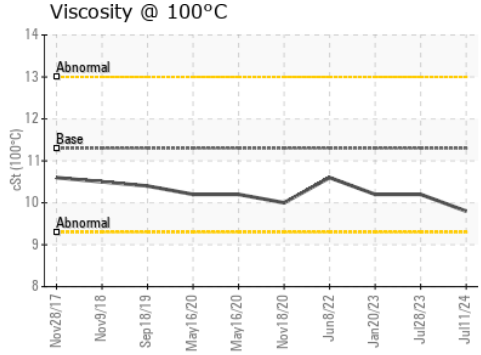
Ferrous Alloys



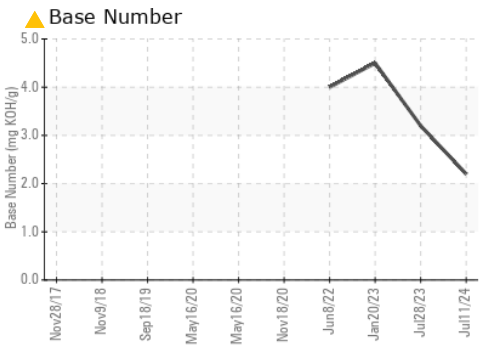
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : SBP0007139
Lab Number : 06237422
Unique Number : 11126256
Test Package : FLEET

Received : 15 Jul 2024
Tested : 16 Jul 2024
Diagnosed : 18 Jul 2024 - Jonathan Hester

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: CONLINNE [WUSCAR] 06237422 (Generated: 07/18/2024 09:32:10) Rev: 1

Submitted By: Loren Michael