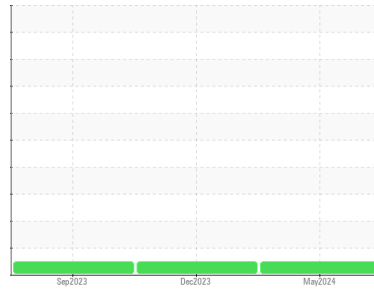




OIL ANALYSIS REPORT

Area
TRACTORS
 Machine Id
[TRACTORS] 152
 Component
Diesel Engine
 Fluid
DIESEL ENGINE OIL SAE 10W30 (--- GAL)

Sample Rating Trend



NORMAL



DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.

Wear

All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORMATION

	method	limit/base	current	history1	history2
Sample Number	Client Info		SBP0006770	SBP0005637	SBP0001916
Sample Date	Client Info		28 May 2024	27 Dec 2023	02 Sep 2023
Machine Age	mls	Client Info	210313	185316	160095
Oil Age	mls	Client Info	25000	25000	25000
Oil Changed	Client Info		Changed	Changed	Changed
Sample Status			NORMAL	NORMAL	NORMAL

CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<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 >120	37	21	33
Chromium	ppm	ASTM D5185m >20	<1	<1	<1
Nickel	ppm	ASTM D5185m >5	3	2	2
Titanium	ppm	ASTM D5185m >2	0	<1	<1
Silver	ppm	ASTM D5185m >2	0	0	0
Aluminum	ppm	ASTM D5185m >20	3	2	4
Lead	ppm	ASTM D5185m >40	0	1	2
Copper	ppm	ASTM D5185m >330	5	4	8
Tin	ppm	ASTM D5185m >15	2	1	2
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 250	1	7	0
Barium	ppm	ASTM D5185m 10	0	10	0
Molybdenum	ppm	ASTM D5185m 100	60	52	67
Manganese	ppm	ASTM D5185m	<1	<1	<1
Magnesium	ppm	ASTM D5185m 450	943	687	1076
Calcium	ppm	ASTM D5185m 3000	1185	1392	1277
Phosphorus	ppm	ASTM D5185m 1150	1024	955	1047
Zinc	ppm	ASTM D5185m 1350	1261	1040	1396
Sulfur	ppm	ASTM D5185m 4250	2997	2880	3660

CONTAMINANTS

	method	limit/base	current	history1	history2
Silicon	ppm	ASTM D5185m >25	10	8	11
Sodium	ppm	ASTM D5185m	9	2	4
Potassium	ppm	ASTM D5185m >20	5	5	10

INFRA-RED

	method	limit/base	current	history1	history2
Soot %	%	*ASTM D7844 >4	0.7	0.6	0.7
Nitration	Abs/cm	*ASTM D7624 >20	10.0	9.9	10.0
Sulfation	Abs/.1mm	*ASTM D7415 >30	22.0	21.9	22.3

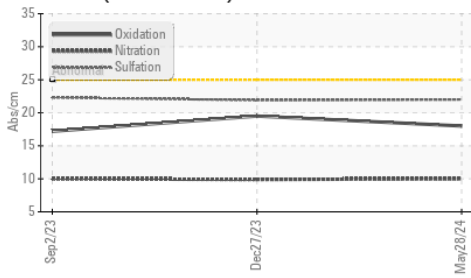
FLUID DEGRADATION

	method	limit/base	current	history1	history2
Oxidation	Abs/.1mm	*ASTM D7414 >25	18.0	19.5	17.2
Base Number (BN)	mg KOH/g	ASTM D2896 8.5	7.6	8.3	6.4

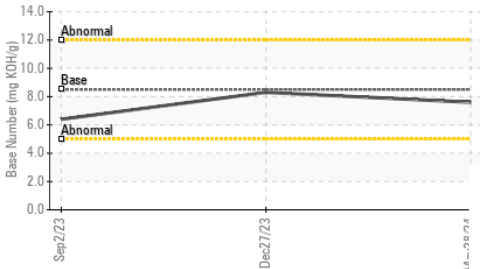


OIL ANALYSIS REPORT

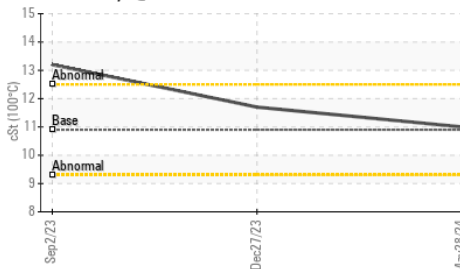
FT-IR (Direct Trend)



Base Number



Viscosity @ 100°C

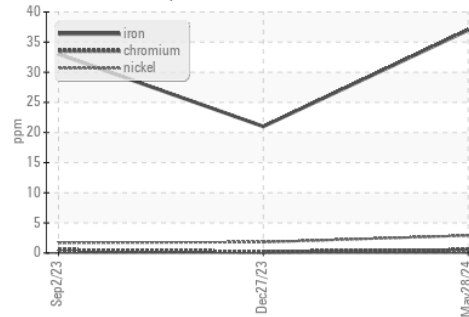


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG

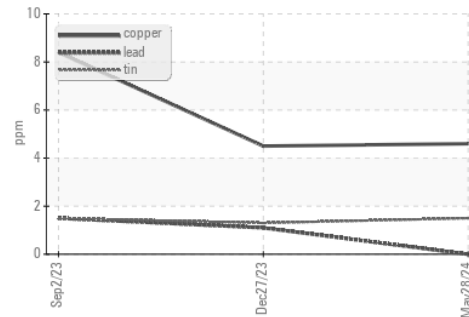
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445 10.9	11.0	11.7	13.2

GRAPHS

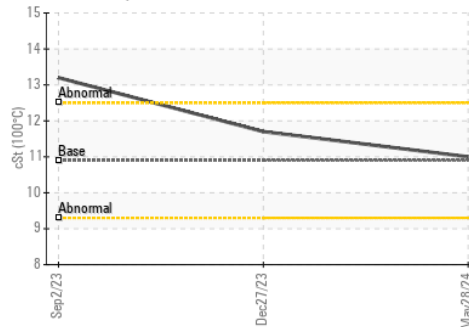
Ferrous Alloys



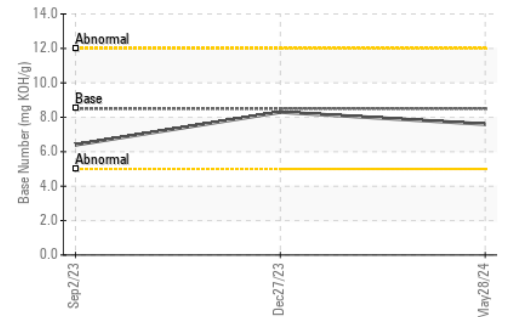
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : SBP0006770 **Received** : 03 Jun 2024
Lab Number : 06198573 **Tested** : 04 Jun 2024
Unique Number : 11060696 **Diagnosed** : 04 Jun 2024 - Wes Davis
Test Package : FLEET

ARMSTRONG RENTALS LLC
 2600 RIDGEVIEW DRIVE
 BEATRICE, NE
 US 68310
 Contact: JOE ARMSTRONG
 joea@armstrongrentalsllc.com
 T: (402)239-9930
 F:

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)