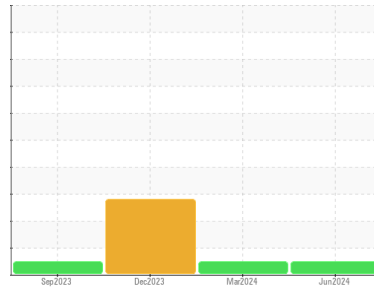




# OIL ANALYSIS REPORT

Area  
**DUMP TRUCKS**  
 Machine Id  
**[DUMP TRUCKS] 133**  
 Component  
**Diesel Engine**  
 Fluid  
**DIESEL ENGINE OIL SAE 10W30 (--- GAL)**

Sample Rating Trend



**NORMAL**



## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

### 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		<b>SBP0007528</b>	SBP0005843	SBP0005638
Sample Date	Client Info		<b>12 Jun 2024</b>	17 Mar 2024	28 Dec 2023
Machine Age	mls	Client Info	<b>320914</b>	294762	286311
Oil Age	mls	Client Info	<b>25000</b>	10000	25000
Oil Changed	Client Info		<b>Changed</b>	Changed	Changed
Sample Status			<b>NORMAL</b>	NORMAL	ABNORMAL

## CONTAMINATION

	method	limit/base	current	history1	history2
Fuel	WC Method	>3.0	<b>&lt;1.0</b>	<1.0	0.1
Water	WC Method	>0.2	<b>NEG</b>	NEG	NEG

## WEAR METALS

	method	limit/base	current	history1	history2	
Iron	ppm	ASTM D5185m	>120	<b>18</b>	8	23
Chromium	ppm	ASTM D5185m	>20	<b>0</b>	<1	<1
Nickel	ppm	ASTM D5185m	>5	<b>1</b>	<1	3
Titanium	ppm	ASTM D5185m	>2	<b>0</b>	<1	<1
Silver	ppm	ASTM D5185m	>2	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>3</b>	3	5
Lead	ppm	ASTM D5185m	>40	<b>1</b>	1	<1
Copper	ppm	ASTM D5185m	>330	<b>3</b>	1	6
Tin	ppm	ASTM D5185m	>15	<b>1</b>	1	<1
Vanadium	ppm	ASTM D5185m		<b>0</b>	<1	0
Cadmium	ppm	ASTM D5185m		<b>0</b>	<1	0

## ADDITIVES

	method	limit/base	current	history1	history2	
Boron	ppm	ASTM D5185m	250	<b>7</b>	4	10
Barium	ppm	ASTM D5185m	10	<b>0</b>	1	11
Molybdenum	ppm	ASTM D5185m	100	<b>66</b>	48	60
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	<1
Magnesium	ppm	ASTM D5185m	450	<b>1020</b>	708	653
Calcium	ppm	ASTM D5185m	3000	<b>1138</b>	970	1459
Phosphorus	ppm	ASTM D5185m	1150	<b>1137</b>	938	867
Zinc	ppm	ASTM D5185m	1350	<b>1364</b>	1085	1029
Sulfur	ppm	ASTM D5185m	4250	<b>3625</b>	3067	2712

## CONTAMINANTS

	method	limit/base	current	history1	history2	
Silicon	ppm	ASTM D5185m	>25	<b>8</b>	4	10
Sodium	ppm	ASTM D5185m		<b>28</b>	16	▲ 69
Potassium	ppm	ASTM D5185m	>20	<b>31</b>	23	▲ 110
Glycol	%	*ASTM D2982		<b>NEG</b>	NEG	NEG

## INFRA-RED

	method	limit/base	current	history1	history2	
Soot %	%	*ASTM D7844	>4	<b>0.5</b>	0.1	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>9.0</b>	4.2	10.6
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.1</b>	15.7	23.4

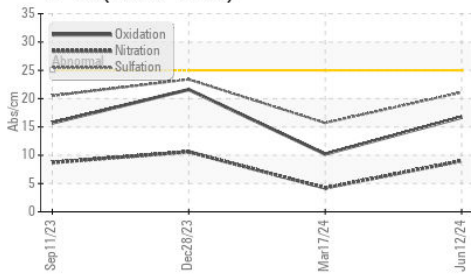
## FLUID DEGRADATION

	method	limit/base	current	history1	history2	
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>16.7</b>	10.2	21.6
Base Number (BN)	mg KOH/g	ASTM D2896	8.5	<b>7.7</b>	7.2	7.1

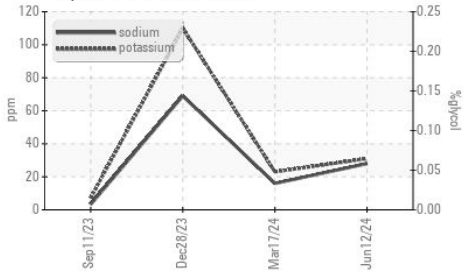


# OIL ANALYSIS REPORT

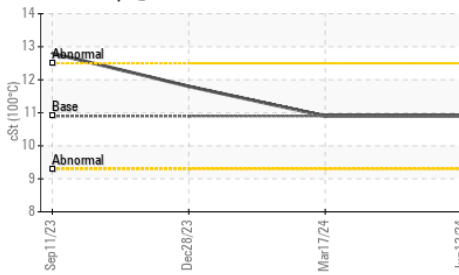
FT-IR (Direct Trend)



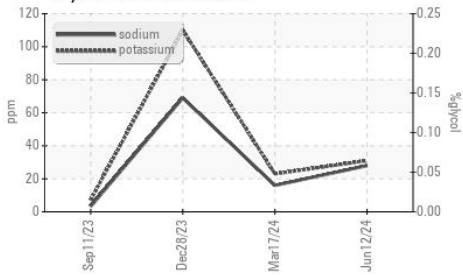
Glycol Contamination



Viscosity @ 100°C



Glycol Contamination

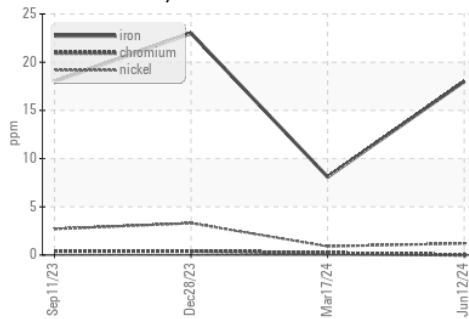


VISUAL	method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE
Appearance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

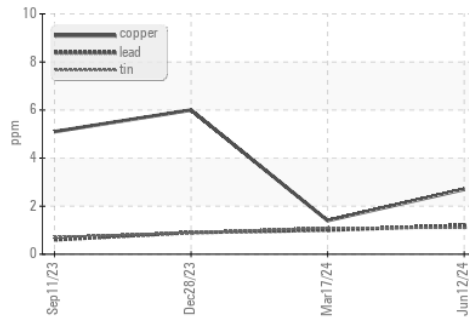
FLUID PROPERTIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	10.9	10.9	11.8

## GRAPHS

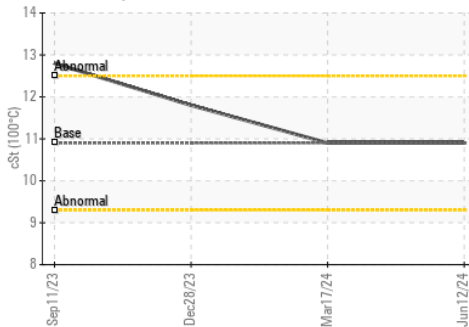
Ferrous Alloys



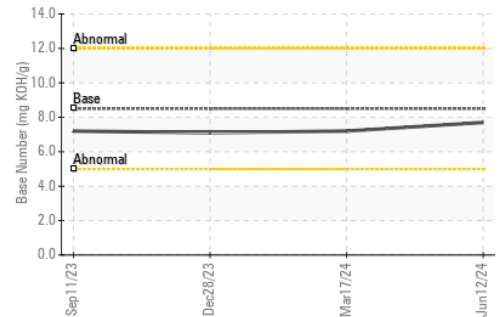
Non-ferrous Metals



Viscosity @ 100°C



Base Number



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : SBP0007528      **Received** : 21 Jun 2024  
**Lab Number** : 06217625      **Tested** : 25 Jun 2024  
**Unique Number** : 11090489      **Diagnosed** : 25 Jun 2024 - Don Baldrige  
**Test Package** : FLEET ( Additional Tests: Glycol )

**ARMSTRONG RENTALS LLC**  
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 BEATRICE, NE  
 US 68310  
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 joea@armstrongrentalsllc.com  
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 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)