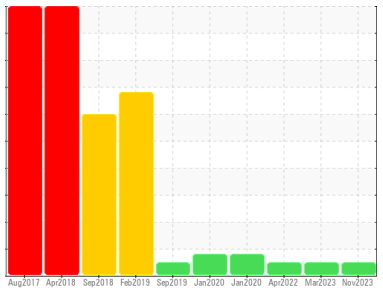
# OIL ANALYSIS REPORT

Sample Rating Trend




**NORMAL**

Area
## CONSTRUCTORS, INC
Machine Id
## 040689
Component
**Gasoline Engine**
Fluid
**MOBIL SUPER 5W30 (--- GAL)**

## 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 acceptable for the time in service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Sample Number | | Client Info | | **SBP0004948** | SBP0002310 | SBP0000677 |
| Sample Date | | Client Info | | **09 Nov 2023** | 07 Mar 2023 | 11 Apr 2022 |
| Machine Age | hrs | Client Info | | **4254** | 3954 | 3314 |
| Oil Age | hrs | Client Info | | **300** | 318 | 376 |
| Oil Changed | | Client Info | | **Changed** | Changed | Changed |
| Sample Status | | | | **NORMAL** | 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 | **52** | 115 | 111 |
| Chromium | ppm | ASTM D5185m | >20 | **2** | 5 | 5 |
| Nickel | ppm | ASTM D5185m | >5 | **<1** | 1 | 2 |
| Titanium | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Silver | ppm | ASTM D5185m | >2 | **0** | 0 | <1 |
| Aluminum | ppm | ASTM D5185m | >40 | **8** | 16 | 14 |
| Lead | ppm | ASTM D5185m | >50 | **0** | <1 | 1 |
| Copper | ppm | ASTM D5185m | >155 | **16** | 17 | 20 |
| Tin | ppm | ASTM D5185m | >10 | **0** | <1 | 1 |
| Vanadium | ppm | ASTM D5185m | | **0** | <1 | <1 |
| Cadmium | ppm | ASTM D5185m | | **0** | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Boron | ppm | ASTM D5185m | | **13** | 20 | 26 |
| Barium | ppm | ASTM D5185m | | **0** | 0 | 0 |
| Molybdenum | ppm | ASTM D5185m | | **68** | 71 | 93 |
| Manganese | ppm | ASTM D5185m | | **1** | 2 | 1 |
| Magnesium | ppm | ASTM D5185m | | **481** | 490 | 596 |
| Calcium | ppm | ASTM D5185m | | **1118** | 1241 | 1423 |
| Phosphorus | ppm | ASTM D5185m | | **651** | 581 | 741 |
| Zinc | ppm | ASTM D5185m | | **744** | 744 | 868 |
| Sulfur | ppm | ASTM D5185m | | **2437** | 2713 | 2557 |

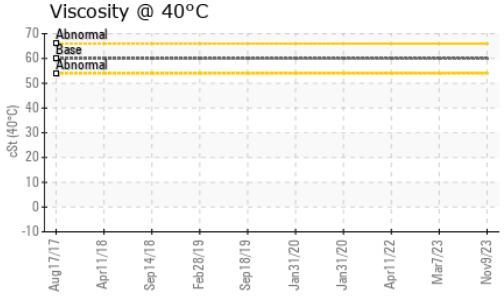
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Silicon | ppm | ASTM D5185m | >30 | **13** | 25 | 17 |
| Sodium | ppm | ASTM D5185m | >400 | **0** | 6 | 8 |
| Potassium | ppm | ASTM D5185m | >20 | **<1** | 3 | 4 |
| Chlorine | ppm | ASTM D5185m | | **---** | --- | --- |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Soot % | % | *ASTM D7844 | | **0.1** | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | **13.2** | 13.9 | 14.4 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | **27.2** | 25.9 | 29.1 |

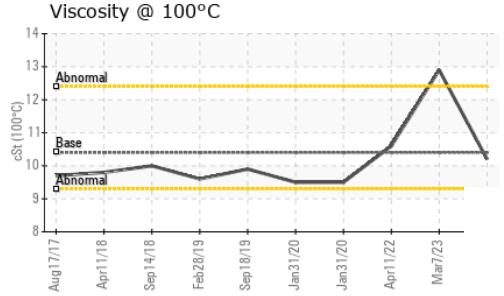
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | **23.8** | 22.5 | 25.3 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | **2.1** | 4.4 | 3.4 |

# OIL ANALYSIS REPORT

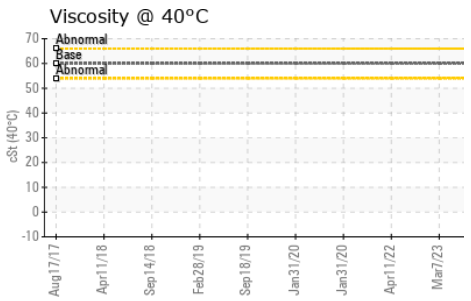
Viscosity @ 40°C




Viscosity @ 100°C




Viscosity @ 40°C

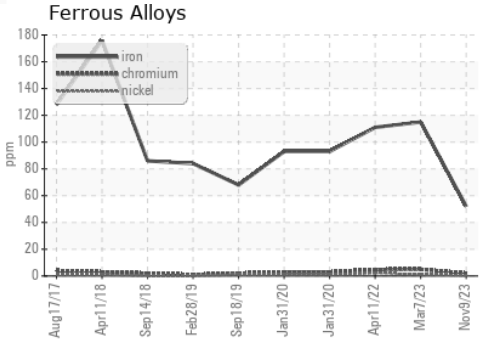



| VISUAL | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| White Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | **NONE** | NONE | NONE |
| 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 |

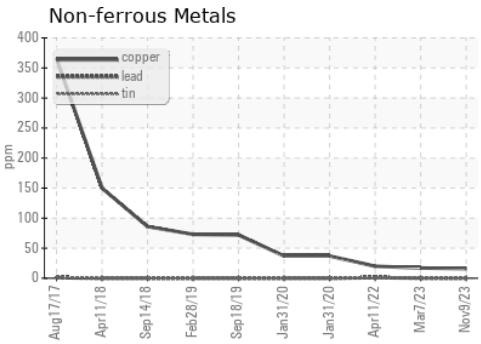
| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|---|---|---|---|---|---|---|
| Visc @ 100°C | cSt | ASTM D445 | 10.4 | **10.2** | 12.9 | 10.6 |

## GRAPHS

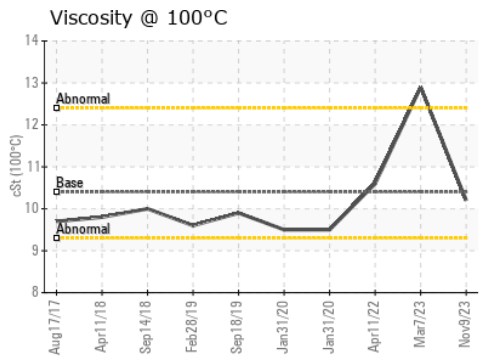
Ferrous Alloys



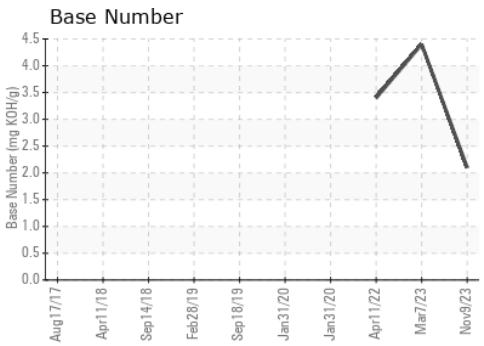

Non-ferrous Metals




Viscosity @ 100°C




Base Number




Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513
**Sample No.** : SBP0004948 **Received** : 16 Nov 2023
**Lab Number** : 06010085 **Diagnosed** : 20 Nov 2023
**Unique Number** : 10749229 **Diagnostician** : Don Baldridge
**Test Package** : FLEET ( Additional Tests: KV40 )

*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)*


**Constructors Inc. - 603659**
1815 Y Street
Lincoln, NE
US 68508
Contact: Jack Linhart
jackl@constructorslincoln.com
T: (402)434-2157
F: