

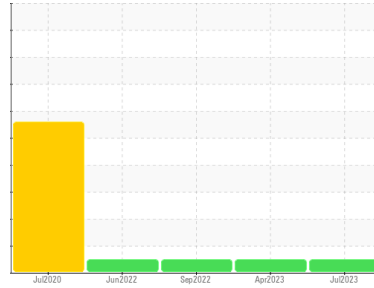


# OIL ANALYSIS REPORT



Area  
**CONSTRUCTORS, INC**  
 Machine Id  
**MACK MP 7 EGR 010093**  
 Component  
**Diesel Engine**  
 Fluid  
**MOBIL DELVAC 1300 SUPER 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>SBP0004552</b>  | SBP0003750  | SBP0001362  |
| Sample Date   | Client Info |             | <b>14 Jul 2023</b> | 07 Apr 2023 | 09 Sep 2022 |
| Machine Age   | hrs         | Client Info | <b>4552</b>        | 3995        | 3429        |
| Oil Age       | hrs         | Client Info | <b>557</b>         | 566         | 647         |
| Oil Changed   | Client Info |             | <b>Changed</b>     | Changed     | Changed     |
| Sample Status |             |             | <b>NORMAL</b>      | NORMAL      | NORMAL      |

## CONTAMINATION

|        | method    | limit/base | current        | history1 | history2 |
|--------|-----------|------------|----------------|----------|----------|
| Fuel   | WC Method | >3.0       | <b>&lt;1.0</b> | <1.0     | <1.0     |
| Glycol | WC Method |            | <b>NEG</b>     | NEG      | NEG      |

## WEAR METALS

|          | method | limit/base       | current      | history1 | history2 |
|----------|--------|------------------|--------------|----------|----------|
| Iron     | ppm    | ASTM D5185m >120 | <b>11</b>    | 10       | 10       |
| Chromium | ppm    | ASTM D5185m >20  | <b>&lt;1</b> | 0        | <1       |
| Nickel   | ppm    | ASTM D5185m >5   | <b>&lt;1</b> | 0        | 0        |
| Titanium | ppm    | ASTM D5185m >2   | <b>&lt;1</b> | 0        | 0        |
| Silver   | ppm    | ASTM D5185m >2   | <b>0</b>     | 0        | <1       |
| Aluminum | ppm    | ASTM D5185m >20  | <b>2</b>     | 2        | 4        |
| Lead     | ppm    | ASTM D5185m >40  | <b>1</b>     | 0        | 2        |
| Copper   | ppm    | ASTM D5185m >330 | <b>1</b>     | <1       | 4        |
| Tin      | ppm    | ASTM D5185m >15  | <b>1</b>     | <1       | <1       |
| Vanadium | ppm    | ASTM D5185m      | <b>&lt;1</b> | 0        | 0        |
| Cadmium  | ppm    | ASTM D5185m      | <b>0</b>     | 0        | 0        |

## ADDITIVES

|            | method | limit/base  | current      | history1 | history2 |
|------------|--------|-------------|--------------|----------|----------|
| Boron      | ppm    | ASTM D5185m | <b>4</b>     | 5        | 21       |
| Barium     | ppm    | ASTM D5185m | <b>1</b>     | 0        | 0        |
| Molybdenum | ppm    | ASTM D5185m | <b>58</b>    | 55       | 37       |
| Manganese  | ppm    | ASTM D5185m | <b>&lt;1</b> | <1       | <1       |
| Magnesium  | ppm    | ASTM D5185m | <b>966</b>   | 912      | 657      |
| Calcium    | ppm    | ASTM D5185m | <b>1196</b>  | 1187     | 1319     |
| Phosphorus | ppm    | ASTM D5185m | <b>1015</b>  | 987      | 764      |
| Zinc       | ppm    | ASTM D5185m | <b>1274</b>  | 1250     | 972      |
| Sulfur     | ppm    | ASTM D5185m | <b>3571</b>  | 3209     | 2464     |

## CONTAMINANTS

|           | method | limit/base      | current  | history1 | history2 |
|-----------|--------|-----------------|----------|----------|----------|
| Silicon   | ppm    | ASTM D5185m >25 | <b>4</b> | 6        | 6        |
| Sodium    | ppm    | ASTM D5185m     | <b>6</b> | 4        | 5        |
| Potassium | ppm    | ASTM D5185m >20 | <b>6</b> | 3        | 8        |

## INFRA-RED

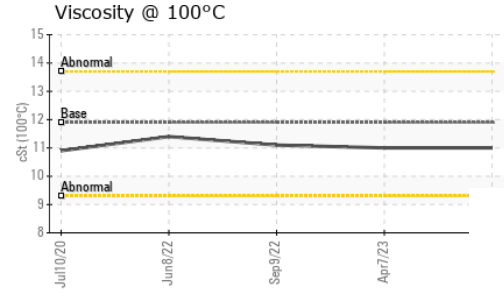
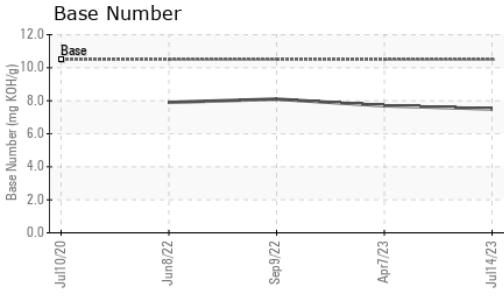
|           | method   | limit/base      | current     | history1 | history2 |
|-----------|----------|-----------------|-------------|----------|----------|
| Soot %    | %        | *ASTM D7844 >4  | <b>0.2</b>  | 0.3      | 0.3      |
| Nitration | Abs/cm   | *ASTM D7624 >20 | <b>8.7</b>  | 8.5      | 10.1     |
| Sulfation | Abs/.1mm | *ASTM D7415 >30 | <b>20.0</b> | 19.8     | 22.6     |

## FLUID DEGRADATION

|                  | method   | limit/base      | current     | history1 | history2 |
|------------------|----------|-----------------|-------------|----------|----------|
| Oxidation        | Abs/.1mm | *ASTM D7414 >25 | <b>16.9</b> | 16.4     | 20.3     |
| Base Number (BN) | mg KOH/g | ASTM D2896 10.5 | <b>7.5</b>  | 7.7      | 8.1      |



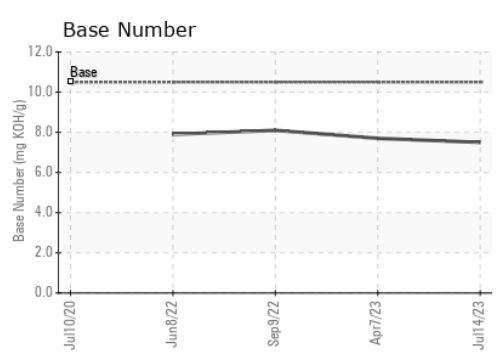
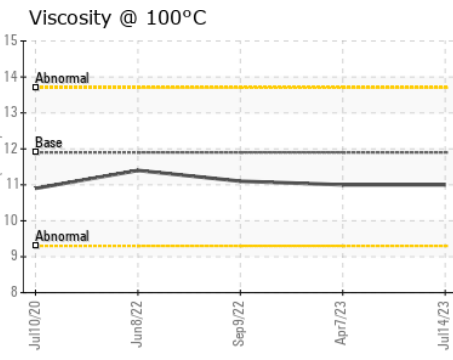
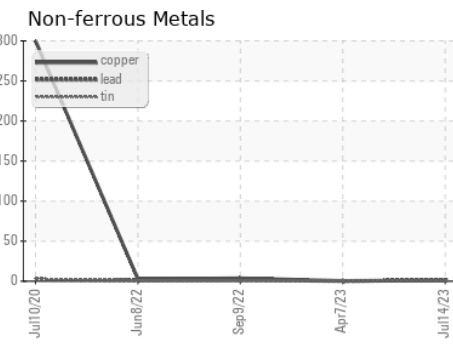
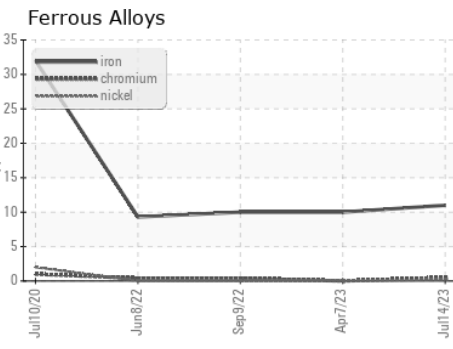
# OIL ANALYSIS REPORT



| 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  | 11.9    | <b>11.0</b> | 11.0     | 11.1 |

## GRAPHS



**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : SBP0004552 **Received** : 17 Jul 2023  
**Lab Number** : **05900676** **Diagnosed** : 19 Jul 2023  
**Unique Number** : 10562032 **Diagnostician** : Doug Bogart  
**Test Package** : FLEET

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

Certificate L2367  
 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)