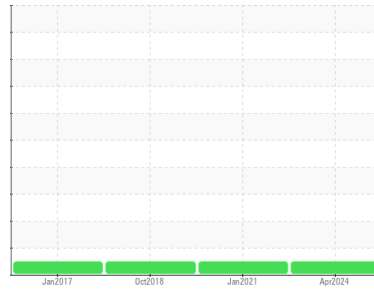




OIL ANALYSIS REPORT

Sample Rating Trend



NORMAL



Machine Id
INGERSOLL
 Component
Natural Gas Engine
 Fluid
{not provided} (--- 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 suitable for further service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | RP0039449 | RP0014800 | RP203733 |
| Sample Date | Client Info | | | 10 Apr 2024 | 11 Jan 2021 | 01 Oct 2018 |
| Machine Age | hrs | Client Info | | 378 | 374 | 366 |
| Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| Oil Changed | Client Info | | | N/A | N/A | N/A |
| Sample Status | | | | NORMAL | NORMAL | NORMAL |

| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|-------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185m | >50 | 5 | 8 | 18 |
| Chromium | ppm | ASTM D5185m | >4 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185m | >2 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Silver | ppm | ASTM D5185m | >3 | 0 | <1 | 0 |
| Aluminum | ppm | ASTM D5185m | >9 | 4 | 5 | <1 |
| Lead | ppm | ASTM D5185m | >30 | 2 | 2 | 2 |
| Copper | ppm | ASTM D5185m | >35 | 6 | 11 | <1 |
| Tin | ppm | ASTM D5185m | >4 | <1 | <1 | 0 |
| Antimony | ppm | ASTM D5185m | | --- | 0 | 0 |
| Vanadium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| Cadmium | ppm | ASTM D5185m | | <1 | 0 | 0 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|-------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185m | | 2 | 12 | 44 |
| Barium | ppm | ASTM D5185m | | <1 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185m | | 141 | 13 | 8 |
| Manganese | ppm | ASTM D5185m | | <1 | <1 | <1 |
| Magnesium | ppm | ASTM D5185m | | 923 | 12 | 10 |
| Calcium | ppm | ASTM D5185m | | 2846 | 3103 | 1581 |
| Phosphorus | ppm | ASTM D5185m | | 318 | 396 | 564 |
| Zinc | ppm | ASTM D5185m | | 339 | 426 | 366 |

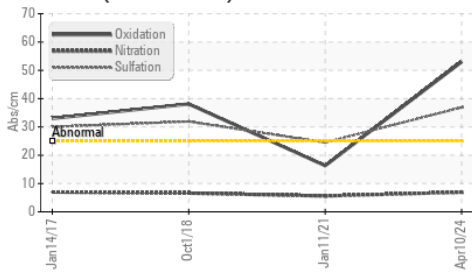
| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|-------------|------------|--------------|----------|----------|
| Silicon | ppm | ASTM D5185m | >+100 | 19 | 13 | 24 |
| Sodium | ppm | ASTM D5185m | | <1 | 3 | 2 |
| Potassium | ppm | ASTM D5185m | >20 | 2 | <1 | 0 |
| Water | % | ASTM D6304 | >0.1 | NEG | 0.119 | NEG |
| ppm Water | ppm | ASTM D6304 | >1000 | --- | 1190 | --- |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot % | % | *ASTM D7844 | | 0.1 | 0.1 | 0.1 |
| Nitration | Abs/cm | *ASTM D7624 | >20 | 6.9 | 5.6 | 6.6 |
| Sulfation | Abs/.1mm | *ASTM D7415 | >30 | 36.9 | 24.5 | 31.9 |

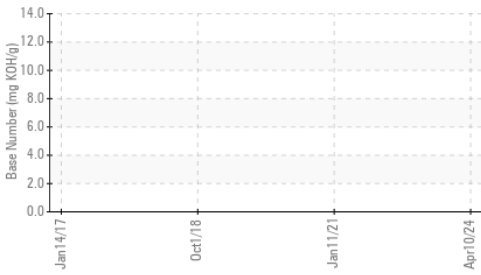
| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|-------------|------------|--------------|----------|----------|
| Oxidation | Abs/.1mm | *ASTM D7414 | >25 | 53.0 | 16.3 | 38.1 |
| Acid Number (AN) | mg KOH/g | ASTM D8045 | | --- | 0.507 | 0.975 |
| Base Number (BN) | mg KOH/g | ASTM D2896 | | 12.90 | --- | --- |

OIL ANALYSIS REPORT

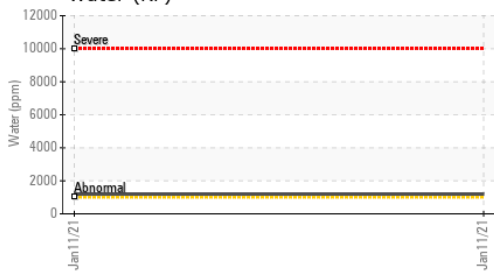
FT-IR (Direct Trend)



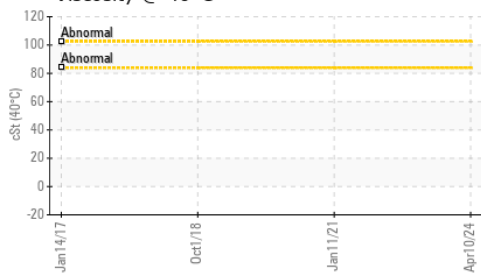
Base Number



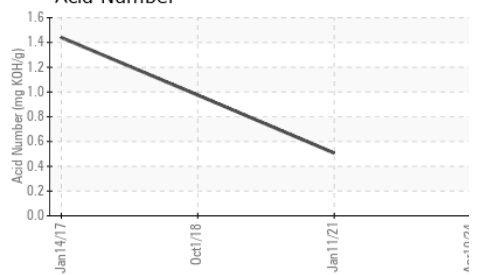
Water (KF)



Viscosity @ 40°C



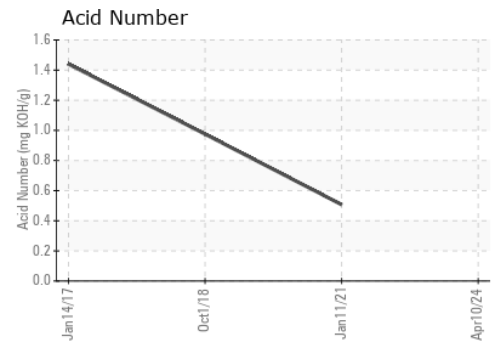
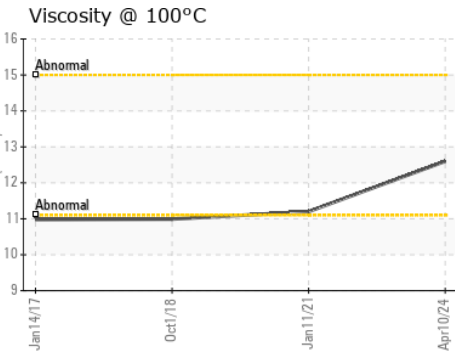
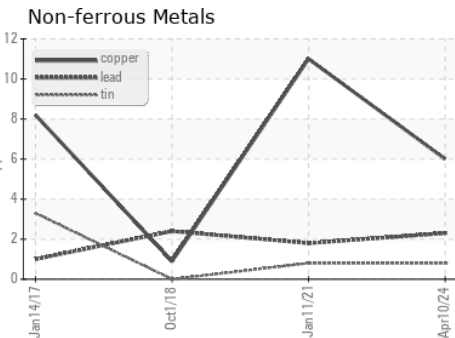
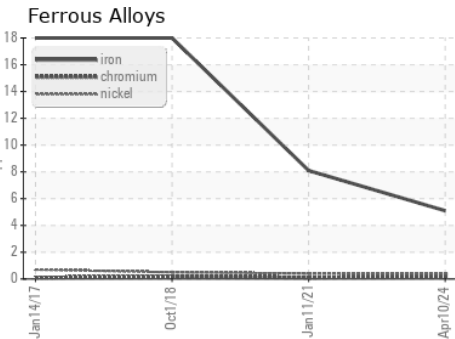
Acid Number



| PARAMETER | 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 | >0.1 | NEG | 0.2% |
| Free Water | scalar | *Visual | | NEG | NEG |

| FLUID PROPERTIES | method | limit/base | current | history1 | history2 |
|------------------|--------|------------|---------|----------|----------|
| Visc @ 100°C | cSt | ASTM D445 | 12.6 | 11.2 | 10.99 |

GRAPHS



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : RP0039449 **Received** : 14 May 2024
Lab Number : 06179509 **Tested** : 17 May 2024
Unique Number : 11030835 **Diagnosed** : 17 May 2024 - Sean Felton
Test Package : IND 2 (Additional Tests: FT-IR, KV100, TBN)

WARWICK SEWER AUTHORITY
 125 ARTHUR DEVINE BLVD
 WARWICK, RI
 US 02888
 Contact: JOHN BROSNAHAN
 john.s.brosnahan@warwickri.com

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)