

Machine Id
SPARTAN-CRIMSON P211 25033
Component
Diesel Engine
Fluid
CASTROL HYPURON 15W40 (23 LTR)

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 condition of the oil is acceptable for the time in service.

| SAMPLE INFORMATION | | method | limit/base | current | history1 | history2 |
|--------------------|-------------|-------------|------------|--------------------|-------------|-------------|
| Sample Number | Client Info | | | PC0075208 | AP97009 | AP98812 |
| Sample Date | Client Info | | | 29 Feb 2024 | 11 Mar 2020 | 25 Sep 2015 |
| Machine Age | mths | Client Info | | 0 | 110436 | 53287 |
| Oil Age | mths | Client Info | | 6 | 0 | 0 |
| 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 | 0.0 | 0.0 |

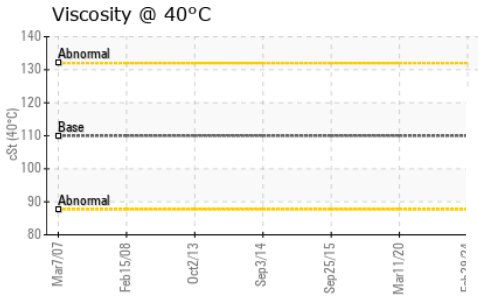
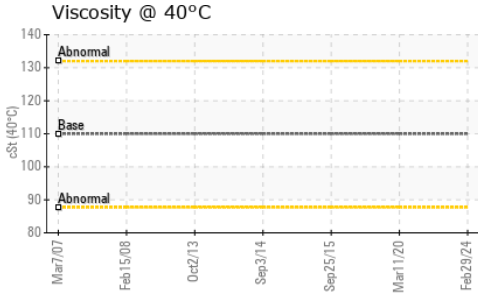
| WEAR METALS | | method | limit/base | current | history1 | history2 |
|-------------|-----|---------------|------------|--------------|----------|----------|
| Iron | ppm | ASTM D5185(m) | >75 | 23 | 16 | 13 |
| Chromium | ppm | ASTM D5185(m) | >5 | <1 | <1 | <1 |
| Nickel | ppm | ASTM D5185(m) | >4 | <1 | <1 | <1 |
| Titanium | ppm | ASTM D5185(m) | >2 | 0 | <1 | <1 |
| Silver | ppm | ASTM D5185(m) | >2 | 0 | <1 | <1 |
| Aluminum | ppm | ASTM D5185(m) | >15 | 2 | 3 | 6 |
| Lead | ppm | ASTM D5185(m) | >25 | 4 | 3 | 4 |
| Copper | ppm | ASTM D5185(m) | >100 | 2 | 2 | 27 |
| Tin | ppm | ASTM D5185(m) | >4 | 0 | <1 | <1 |
| Antimony | ppm | ASTM D5185(m) | | 0 | <1 | 2 |
| Vanadium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Beryllium | ppm | ASTM D5185(m) | | 0 | 0 | 0 |
| Cadmium | ppm | ASTM D5185(m) | | 0 | 0 | <1 |

| ADDITIVES | | method | limit/base | current | history1 | history2 |
|------------|-----|---------------|------------|--------------|----------|----------|
| Boron | ppm | ASTM D5185(m) | | 10 | 35 | 32 |
| Barium | ppm | ASTM D5185(m) | | 0 | 0 | <1 |
| Molybdenum | ppm | ASTM D5185(m) | | 52 | 51 | <1 |
| Manganese | ppm | ASTM D5185(m) | | 0 | <1 | <1 |
| Magnesium | ppm | ASTM D5185(m) | | 828 | 928 | 10 |
| Calcium | ppm | ASTM D5185(m) | | 1230 | 1146 | 2482 |
| Phosphorus | ppm | ASTM D5185(m) | | 921 | 951 | 1056 |
| Zinc | ppm | ASTM D5185(m) | | 1115 | 1166 | 1246 |
| Sulfur | ppm | ASTM D5185(m) | | 2747 | 2883 | 3745 |
| Lithium | ppm | ASTM D5185(m) | | <1 | <1 | <1 |

| CONTAMINANTS | | method | limit/base | current | history1 | history2 |
|--------------|-----|---------------|------------|----------|----------|----------|
| Silicon | ppm | ASTM D5185(m) | >25 | 7 | 7 | 7 |
| Sodium | ppm | ASTM D5185(m) | | 3 | <1 | 2 |
| Potassium | ppm | ASTM D5185(m) | >20 | 4 | 6 | 16 |

| INFRA-RED | | method | limit/base | current | history1 | history2 |
|-----------|----------|-------------|------------|-------------|----------|----------|
| Soot % | % | ASTM D7844* | >6 | 0.7 | 0.4 | 0.2 |
| Nitration | Abs/cm | ASTM D7624* | >20 | 12.3 | 12.6 | 10.3 |
| Sulfation | Abs/.1mm | ASTM D7415* | >30 | 28.1 | 28.4 | 24.2 |

OIL ANALYSIS REPORT

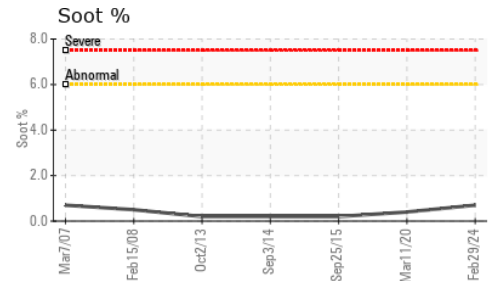
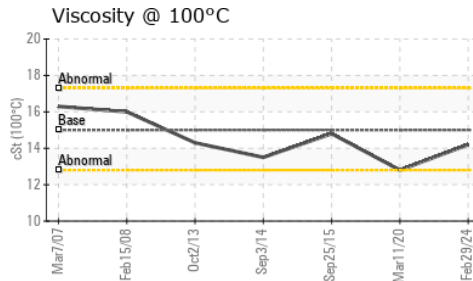
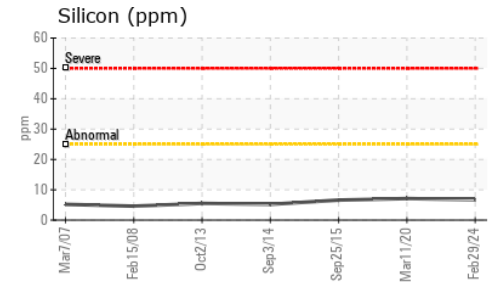
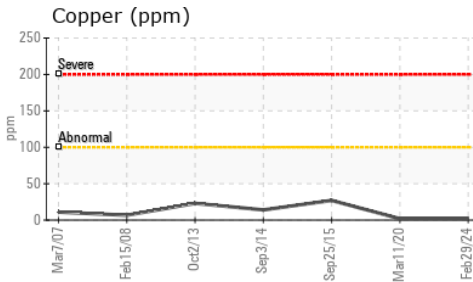
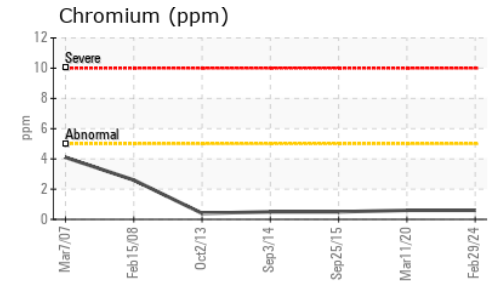
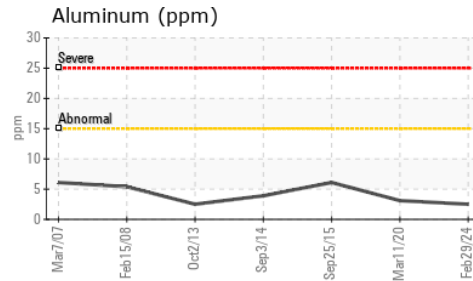
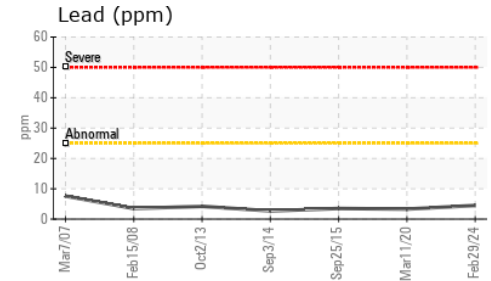
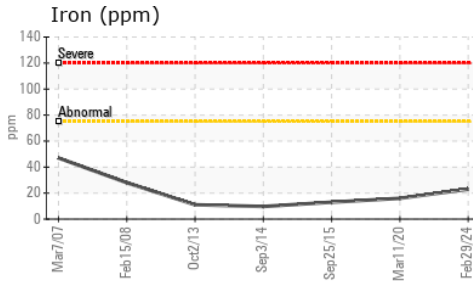


| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation | Abs./1mm | ASTM D7414* | >25 | 28.2 | 23.5 | 20.5 |

| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|------------|----------|----------|
| 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 @ 40°C | cSt | ASTM D7279(m) | 110 | 105 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 15.0 | 14.2 | 12.8 | 14.8 |
| Viscosity Index (VI) | Scale | ASTM D2270* | 140 | 137 | --- | --- |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0075208 **Received** : 01 Mar 2024
Lab Number : **02619136** **Tested** : 01 Mar 2024
Unique Number : 5736246 **Diagnosed** : 01 Mar 2024 - Kevin Marson
Test Package : MOB 1 (Additional Tests: KV40, VI)

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To discuss this sample report, contact Customer Service at 1-800-268-2131.
 Test denoted (*) outside scope of accreditation, (m) method modified, (e) tested at external lab.
 Validity of results and interpretation are based on the sample and information as supplied.