

Machine Id
WESTERN STAR D-55

Component
Diesel Engine

Fluid
PETRO CANADA DURON ADVANCED 5W30 (--- GAL)



DIAGNOSIS

Recommendation
Échantillonner de nouveau l'équipement au prochain intervalle de vidange afin d'en surveiller la condition.

Wear
Les taux d'usure de tous les composants sont normaux.

Contamination
Elevated aluminum (Al) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. Il n'y a aucun indice de contamination dans l'huile.

Fluid Condition
Le résultat pour le BN indique que la réserve d'alcalinité est acceptable pour l'huile. La viscosité de l'échantillon se situe dans la portée de l'SAE 10W30; nous vous conseillons de vérifier. L'état de l'huile permet d'en prolonger l'utilisation.

SAMPLE INFORMATION method limit/base current history1 history2

| | | | | | |
|---------------|-------------|-------------|--------------------|-----|-----|
| Sample Number | Client Info | | PC0074365 | --- | --- |
| Sample Date | Client Info | | 13 Sep 2023 | --- | --- |
| Machine Age | kms | Client Info | 228641 | --- | --- |
| Oil Age | kms | Client Info | 3852 | --- | --- |
| Oil Changed | | Client Info | N/A | --- | --- |
| Sample Status | | | ABNORMAL | --- | --- |

CONTAMINATION method limit/base current history1 history2

| | | | | | |
|--------|-----------|----|----------------|-----|-----|
| Fuel | WC Method | >5 | <1.0 | --- | --- |
| Glycol | WC Method | | NEG | --- | --- |

WEAR METALS method limit/base current history1 history2

| | | | | | | |
|-----------|-----|---------------|------|--------------|-----|-----|
| Iron | ppm | ASTM D5185(m) | >100 | 29 | --- | --- |
| Chromium | ppm | ASTM D5185(m) | >20 | 3 | --- | --- |
| Nickel | ppm | ASTM D5185(m) | >4 | <1 | --- | --- |
| Titanium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Silver | ppm | ASTM D5185(m) | >3 | <1 | --- | --- |
| Aluminum | ppm | ASTM D5185(m) | >20 | 20 | --- | --- |
| Lead | ppm | ASTM D5185(m) | >40 | <1 | --- | --- |
| Copper | ppm | ASTM D5185(m) | >330 | 24 | --- | --- |
| Tin | ppm | ASTM D5185(m) | >15 | <1 | --- | --- |
| Antimony | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Vanadium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Beryllium | ppm | ASTM D5185(m) | | 0 | --- | --- |
| Cadmium | ppm | ASTM D5185(m) | | 0 | --- | --- |

ADDITIVES method limit/base current history1 history2

| | | | | | | |
|------------|-----|---------------|------|--------------|-----|-----|
| Boron | ppm | ASTM D5185(m) | 0 | 8 | --- | --- |
| Barium | ppm | ASTM D5185(m) | 0 | <1 | --- | --- |
| Molybdenum | ppm | ASTM D5185(m) | 43 | 68 | --- | --- |
| Manganese | ppm | ASTM D5185(m) | 0 | <1 | --- | --- |
| Magnesium | ppm | ASTM D5185(m) | 920 | 1243 | --- | --- |
| Calcium | ppm | ASTM D5185(m) | 1330 | 1041 | --- | --- |
| Phosphorus | ppm | ASTM D5185(m) | 790 | 1104 | --- | --- |
| Zinc | ppm | ASTM D5185(m) | 880 | 1408 | --- | --- |
| Sulfur | ppm | ASTM D5185(m) | 2200 | 2526 | --- | --- |
| Lithium | ppm | ASTM D5185(m) | | <1 | --- | --- |

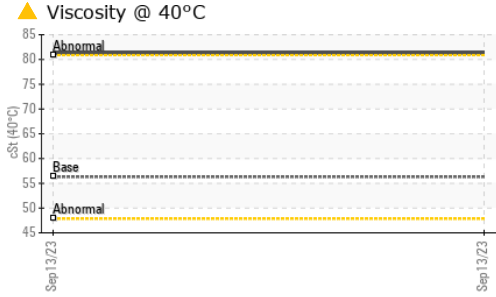
CONTAMINANTS method limit/base current history1 history2

| | | | | | | |
|-----------|-----|---------------|-----|-----------|-----|-----|
| Silicon | ppm | ASTM D5185(m) | >25 | 7 | --- | --- |
| Sodium | ppm | ASTM D5185(m) | | 5 | --- | --- |
| Potassium | ppm | ASTM D5185(m) | >20 | 34 | --- | --- |

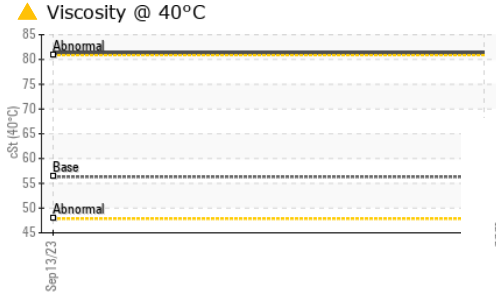
INFRA-RED method limit/base current history1 history2

| | | | | | | |
|-----------|----------|-------------|-----|-------------|-----|-----|
| Soot % | % | ASTM D7844* | >3 | 0.6 | --- | --- |
| Nitration | Abs/cm | ASTM D7624* | >20 | 12.0 | --- | --- |
| Sulfation | Abs./1mm | ASTM D7415* | >30 | 25.0 | --- | --- |

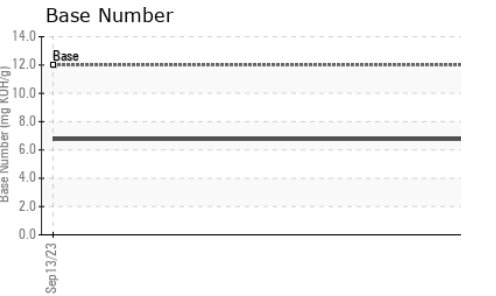
OIL ANALYSIS REPORT



| FLUID DEGRADATION | | method | limit/base | current | history1 | history2 |
|-------------------|----------|-------------|------------|-------------|----------|----------|
| Oxidation | Abs./1mm | ASTM D7414* | >25 | 24.9 | --- | --- |
| Base Number (BN) | mg KOH/g | ASTM D2896* | 12.0 | 6.76 | --- | --- |

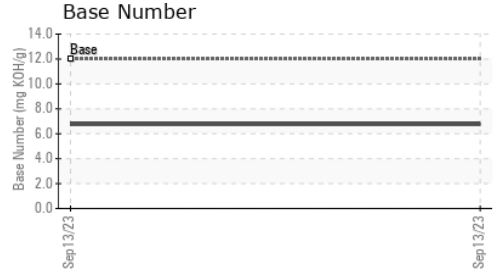
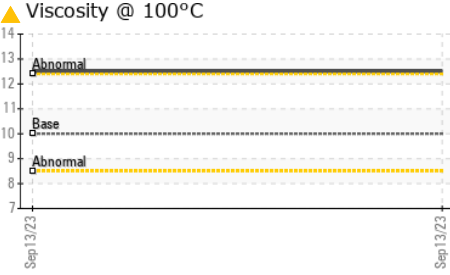
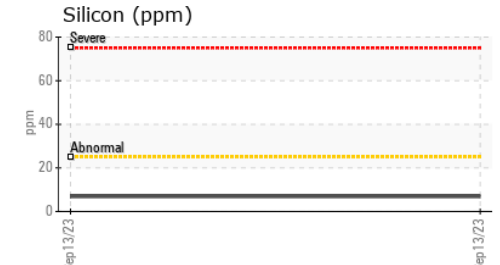
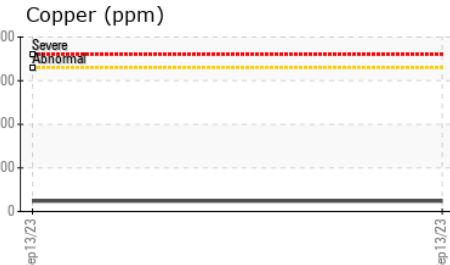
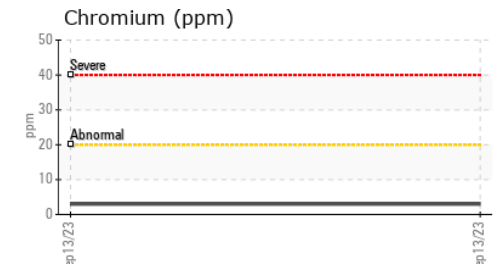
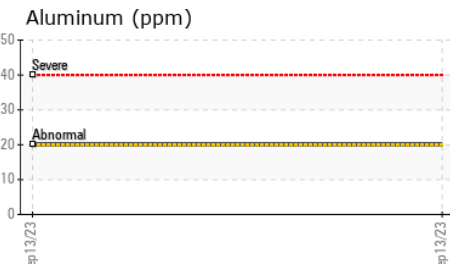
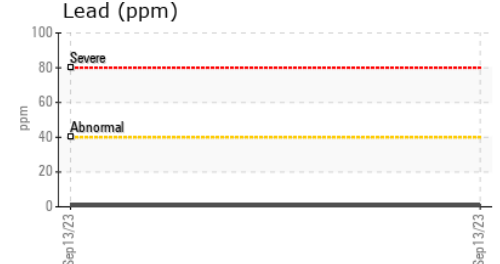
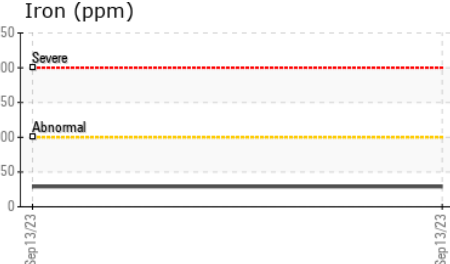
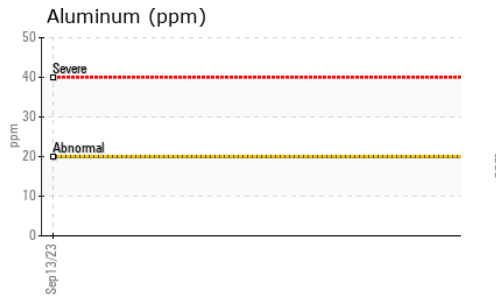


| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|------------|----------|----------|
| Emulsified Water | scalar | Visual* | >0.2 | NEG | --- | --- |
| Free Water | scalar | Visual* | | NEG | --- | --- |



| FLUID PROPERTIES | | method | limit/base | current | history1 | history2 |
|----------------------|-------|---------------|------------|---------------|----------|----------|
| Visc @ 40°C | cSt | ASTM D7279(m) | 56.3 | ▲ 81.3 | --- | --- |
| Visc @ 100°C | cSt | ASTM D7279(m) | 10.0 | ▲ 12.5 | --- | --- |
| Viscosity Index (VI) | Scale | ASTM D2270* | 165 | 151 | --- | --- |

GRAPHS



Laboratory : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9
Sample No. : PC0074365 **Received** : 03 Nov 2023
Lab Number : 02593903 **Diagnosed** : 03 Nov 2023
Unique Number : 5670982 **Diagnostician** : Kevin Marson
Test Package : MOB 2 (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.

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F: