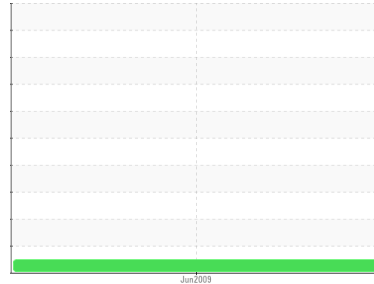


# OIL ANALYSIS REPORT

Sample Rating Trend

**NORMAL**



Area  
**[70036864]**  
Machine Id  
**TURBOFLO 32**

Component  
**New (Unused) Oil**  
Fluid  
**PETRO CANADA TURBOFLO 32 (--- GAL)**

## DIAGNOSIS

### Recommendation

This is the baseline readout on this new (unused) oil.

### Contamination

The water content is negligible.

### Fluid Condition

The viscosity index is 141.

## SAMPLE INFORMATION

| method        | limit/base      | current            | history1 | history2 |
|---------------|-----------------|--------------------|----------|----------|
| Sample Number | Client Info     | <b>PC</b>          | ---      | ---      |
| Sample Date   | Client Info     | <b>30 Jun 2009</b> | ---      | ---      |
| Machine Age   | cyc Client Info | <b>0</b>           | ---      | ---      |
| Oil Age       | cyc Client Info | <b>0</b>           | ---      | ---      |
| Oil Changed   | Client Info     | <b>N/A</b>         | ---      | ---      |
| Sample Status |                 | <b>NORMAL</b>      | ---      | ---      |

## CONTAMINATION

| method | limit/base | current    | history1 | history2 |
|--------|------------|------------|----------|----------|
| Water  | WC Method  | <b>NEG</b> | ---      | ---      |

## WEAR METALS

| method   | limit/base        | current  | history1 | history2 |
|----------|-------------------|----------|----------|----------|
| Iron     | ppm ASTM D5185(m) | <b>0</b> | ---      | ---      |
| Chromium | ppm ASTM D5185(m) | <b>0</b> | ---      | ---      |
| Nickel   | ppm ASTM D5185(m) | <b>0</b> | ---      | ---      |
| Titanium | ppm ASTM D5185(m) | <b>0</b> | ---      | ---      |
| Silver   | ppm ASTM D5185(m) | <b>0</b> | ---      | ---      |
| Aluminum | ppm ASTM D5185(m) | <b>0</b> | ---      | ---      |
| Lead     | ppm ASTM D5185(m) | <b>0</b> | ---      | ---      |
| Copper   | ppm ASTM D5185(m) | <b>0</b> | ---      | ---      |
| Tin      | ppm ASTM D5185(m) | <b>0</b> | ---      | ---      |
| Vanadium | ppm ASTM D5185(m) | <b>0</b> | ---      | ---      |

## ADDITIVES

| method     | limit/base        | current      | history1 | history2 |
|------------|-------------------|--------------|----------|----------|
| Boron      | ppm ASTM D5185(m) | <b>3</b>     | ---      | ---      |
| Barium     | ppm ASTM D5185(m) | <b>0</b>     | ---      | ---      |
| Molybdenum | ppm ASTM D5185(m) | <b>0</b>     | ---      | ---      |
| Manganese  | ppm ASTM D5185(m) | <b>0</b>     | ---      | ---      |
| Magnesium  | ppm ASTM D5185(m) | <b>0</b>     | ---      | ---      |
| Calcium    | ppm ASTM D5185(m) | <b>0</b>     | ---      | ---      |
| Phosphorus | ppm ASTM D5185(m) | <b>117</b>   | ---      | ---      |
| Zinc       | ppm ASTM D5185(m) | <b>&lt;1</b> | ---      | ---      |
| Sulfur     | ppm ASTM D5185(m) | <b>37</b>    | ---      | ---      |

## CONTAMINANTS

| method    | limit/base        | current      | history1 | history2 |
|-----------|-------------------|--------------|----------|----------|
| Silicon   | ppm ASTM D5185(m) | <b>0</b>     | ---      | ---      |
| Sodium    | ppm ASTM D5185(m) | <b>&lt;1</b> | ---      | ---      |
| Potassium | ppm ASTM D5185(m) | <b>0</b>     | ---      | ---      |

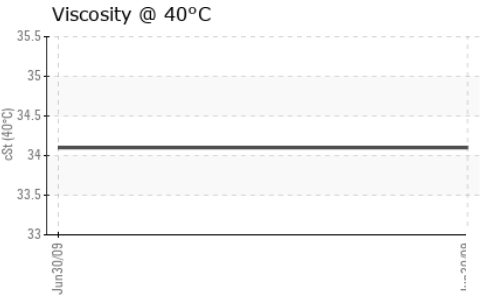
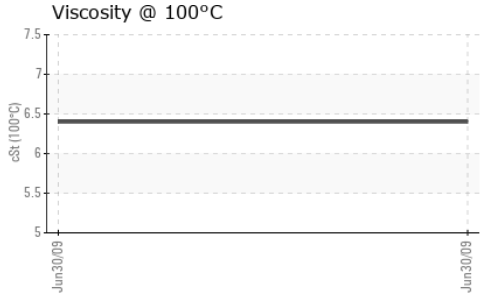
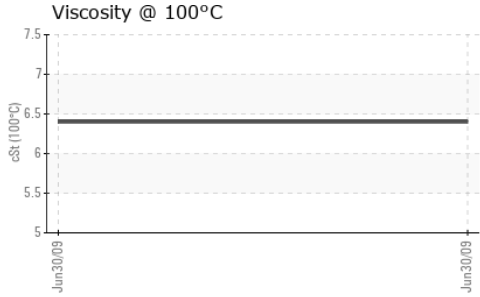
## FLUID CLEANLINESS

| method          | limit/base   | current         | history1 | history2 |
|-----------------|--------------|-----------------|----------|----------|
| Particles >4µm  | ASTM D7647   | <b>3022</b>     | ---      | ---      |
| Particles >6µm  | ASTM D7647   | <b>586</b>      | ---      | ---      |
| Particles >14µm | ASTM D7647   | <b>54</b>       | ---      | ---      |
| Particles >21µm | ASTM D7647   | <b>10</b>       | ---      | ---      |
| Particles >38µm | ASTM D7647   | <b>1</b>        | ---      | ---      |
| Particles >71µm | ASTM D7647   | <b>0</b>        | ---      | ---      |
| Oil Cleanliness | ISO 4406 (c) | <b>19/16/13</b> | ---      | ---      |

## FLUID DEGRADATION

| method           | limit/base          | current      | history1 | history2 |
|------------------|---------------------|--------------|----------|----------|
| Acid Number (AN) | mg KOH/g ASTM D974* | <b>0.035</b> | ---      | ---      |

# OIL ANALYSIS REPORT



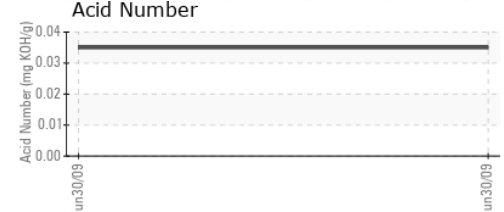
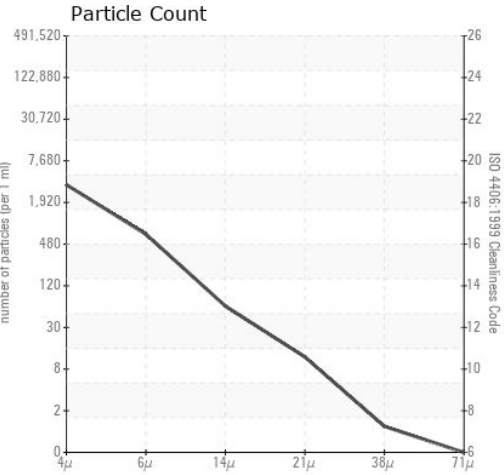
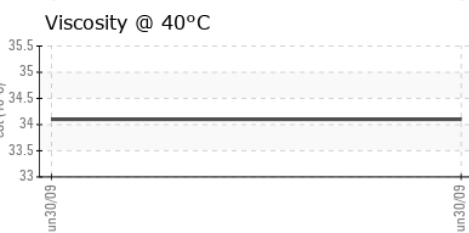
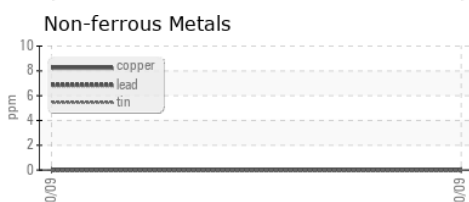
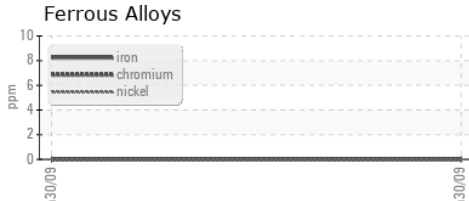
| VISUAL           | method | limit/base | current | history1 | history2 |     |
|------------------|--------|------------|---------|----------|----------|-----|
| White Metal      | scalar | Visual*    | NONE    | NONE     | ---      | --- |
| Yellow Metal     | scalar | Visual*    | NONE    | NONE     | ---      | --- |
| Precipitate      | scalar | Visual*    | NONE    | NONE     | ---      | --- |
| Silt             | scalar | Visual*    | NONE    | NONE     | ---      | --- |
| Debris           | scalar | Visual*    | NONE    | NONE     | ---      | --- |
| Sand/Dirt        | scalar | Visual*    | NONE    | NONE     | ---      | --- |
| Appearance       | scalar | Visual*    | NORML   | NORML    | ---      | --- |
| Odor             | scalar | Visual*    | NORML   | NORML    | ---      | --- |
| Emulsified Water | scalar | Visual*    | NEG     | ---      | ---      |     |
| Free Water       | scalar | Visual*    | NEG     | ---      | ---      |     |

| FLUID PROPERTIES     | method | limit/base    | current | history1 | history2 |
|----------------------|--------|---------------|---------|----------|----------|
| Visc @ 40°C          | cSt    | ASTM D7279(m) | 34.1    | ---      | ---      |
| Visc @ 100°C         | cSt    | ASTM D7279(m) | 6.4     | ---      | ---      |
| Viscosity Index (VI) | Scale  | ASTM D2270*   | 141     | ---      | ---      |

### SAMPLE IMAGES

| SAMPLE IMAGES | method | limit/base | current | history1 | history2 |
|---------------|--------|------------|---------|----------|----------|
| Color         |        |            |         | no image | no image |
| Bottom        |        |            |         | no image | no image |

### GRAPHS



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : PC **Received** : 22 Jul 2009  
**Lab Number** : 01551189 **Tested** : 23 Jul 2009  
**Unique Number** : 2948531 **Diagnosed** :  
**Test Package** : MAR 2 ( Additional Tests: KV100, PrtCount, TAN Man, VI )

**Suncor - Terra Nova Projects**  
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 St. John's, NL  
 CA A1C 1B6  
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 F: (709)724-2835

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.