

OIL ANALYSIS REPORT

PLANT 1 [907308374] RC-5 PLANT 1 (S/N MK5-128) Component

Refrigeration Compressor

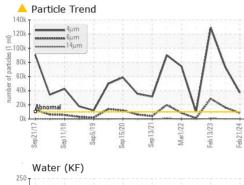
PETRO CANADA

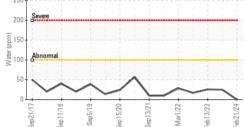
| DIAGNOSIS | SAMPLE INFOR | MATION | method | limit/base | current | history1 | history2 |
|------------------------------------------------------------------------------------|------------------|----------|--------------|------------|-------------|-------------|-------------|
| Recommendation | Sample Number | | Client Info | | PCA0116837 | PCA0068400 | PCA0071498 |
| corrective action is recommended at this time. | Sample Date | | Client Info | | 21 Feb 2024 | 25 Jul 2023 | 13 Feb 2023 |
| ample at the next service interval to monitor. | Machine Age | hrs | Client Info | | 51293 | 48704 | 45117 |
| ar | Oil Age | hrs | Client Info | | 0 | 0 | 0 |
| component wear rates are normal. | Oil Changed | | Client Info | | Not Changd | Not Changd | Not Changd |
| ontamination | Sample Status | | | | ABNORMAL | ABNORMAL | ABNORMAL |
| re is a high amount of silt (particulates < 14 ons in size) present in the oil. | WEAR METAL | S | method | limit/base | current | history1 | history2 |
| d Condition | Iron | ppm | ASTM D5185m | >8 | 2 | 7 | 12 |
| AN level is acceptable for this fluid. The | Chromium | ppm | ASTM D5185m | >2 | 0 | 0 | 0 |
| lition of the oil is suitable for further service. | Nickel | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Titanium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Silver | ppm | ASTM D5185m | >2 | 0 | <1 | 0 |
| | Aluminum | ppm | ASTM D5185m | >3 | 0 | 0 | <1 |
| | Lead | ppm | ASTM D5185m | >2 | <1 | 0 | <1 |
| | Copper | ppm | ASTM D5185m | >8 | 0 | 0 | 0 |
| | Tin | ppm | ASTM D5185m | >4 | 0 | <1 | 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 | | 0 | 0 | 0 |
| | Barium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Molybdenum | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Manganese | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Magnesium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Calcium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Phosphorus | ppm | ASTM D5185m | | 0 | 0 | 2 |
| | Zinc | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Sulfur | ppm | ASTM D5185m | | 1080 | 1268 | 985 |
| | CONTAMINA | NTS | method | limit/base | current | history1 | history2 |
| | Silicon | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| | Sodium | ppm | ASTM D5185m | | <1 | 0 | 0 |
| | Potassium | ppm | ASTM D5185m | | 1 | <1 | 0 |
| | Water | % | ASTM D6304 | | 0.00 | 0.002 | 0.003 |
| | ppm Water | ppm | ASTM D6304 | >100 | 0 | 24.8 | 25.7 |
| | FLUID CLEAN | LINESS | | limit/base | | history1 | history2 |
| | Particles >4µm | | ASTM D7647 | | A 37216 | ▲ 73361 | ▲ 129124 |
| | Particles >6µm | | ASTM D7647 | | <u> </u> | ▲ 16167 | ▲ 28747 |
| | Particles >14µm | | ASTM D7647 | | 201 | 267 | ▲ 509 |
| | Particles >21µm | | ASTM D7647 | | 25 | 20 | 42 |
| | Particles >38µm | | ASTM D7647 | | 0 | 0 | 1 |
| | Particles >71µm | | ASTM D7647 | | 0 | 0 | 0 |
| | Oil Cleanliness | | ISO 4406 (c) | | | ▲ 23/21/15 | ▲ 24/22/16 |
| | FLUID DEGRA | DATION | method | limit/base | current | history1 | history2 |
| | Acid Number (AN) | mg KOH/g | ASTM D974 | 0.1 | 0.014 | 0.014 | 0.015 |
| | | | | | | | |

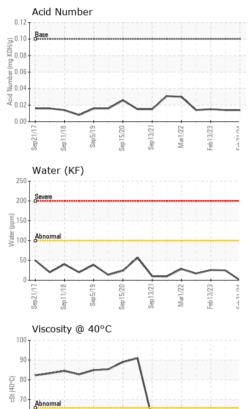
Sample Rating Trend ISO



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15/20

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Base

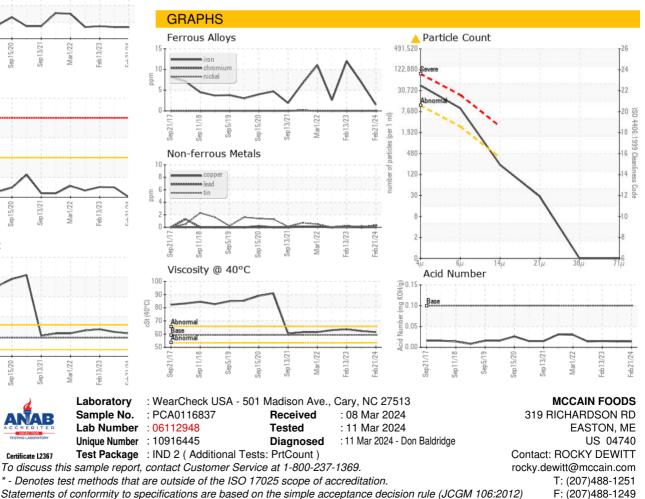
Abnormal

60

50

P

| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|-----------|------------|---------|----------|------------|
| VISUAL | | method | in in base | Guirein | matory | Thistory 2 |
| White Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Yellow Metal | scalar | *Visual | NONE | NONE | NONE | NONE |
| Precipitate | scalar | *Visual | NONE | NONE | NONE | NONE |
| Silt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Debris | scalar | *Visual | NONE | NONE | LIGHT | LIGHT |
| Sand/Dirt | scalar | *Visual | NONE | NONE | NONE | NONE |
| Appearance | scalar | *Visual | NORML | NORML | NORML | NORML |
| Odor | scalar | *Visual | NORML | NORML | NORML | NORML |
| Emulsified Water | scalar | *Visual | >0.01 | NEG | NEG | NEG |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |
| FLUID PROPE | | method | limit/base | current | history1 | history2 |
| | | method | IIIII/Dase | Current | Thistory | Thistoryz |
| Visc @ 40°C | cSt | ASTM D445 | 59.3 | 61.5 | 62.3 | 63.6 |
| SAMPLE IMAG | ES | method | limit/base | current | history1 | history2 |
| Color | | | | | | |
| Bottom | | | | | | |



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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