

OIL ANALYSIS REPORT

Sample Rating Trend



DIAGNOSIS

KEMP QUARRIES / BCS - GRAVETTE [68011] **OHT107** Component

Right Final Drive

PETRO CANADA PRODURO TO-4 SAE 50 (--- GAL)



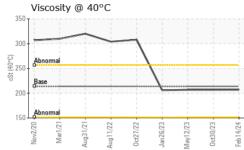
| Recommendation | Sample Number | | Client Info | | PCA0108902 | PCA0087031 | PCA0085727 |
|---|---------------|--------|-------------|------------|-------------|-------------|-------------|
| Resample at the next service interval to monitor. (| Sample Date | | Client Info | | 14 Feb 2024 | 30 Oct 2023 | 12 May 2023 |
| Customer Sample Comment: Pm4) | Machine Age | hrs | Client Info | | 25681 | 25681 | 25099 |
| Wear | Oil Age | hrs | Client Info | | 24114 | 25681 | 25099 |
| All component wear rates are normal. | Oil Changed | | Client Info | | Changed | N/A | N/A |
| Contamination | Sample Status | | | | NORMAL | NORMAL | ABNORMAL |
| There is no indication of any contamination in the oil. | CONTAMINA | ΓΙΟΝ | method | limit/base | current | history1 | history2 |
| Fluid Condition | Water | | WC Method | >0.2 | NEG | NEG | NEG |
| The condition of the oil is acceptable for the time in service. | WEAR METALS | | method | limit/base | current | history1 | history2 |
| | Iron | ppm | ASTM D5185m | | 86 | 69 | 54 |
| | Chromium | ppm | ASTM D5185m | >10 | <1 | 0 | <1 |
| | Nickel | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Titanium | ppm | ASTM D5185m | >15 | <1 | 0 | <1 |
| | Silver | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Aluminum | ppm | ASTM D5185m | >75 | 2 | <1 | 0 |
| | Lead | ppm | ASTM D5185m | >10 | 0 | 0 | 0 |
| | Copper | ppm | ASTM D5185m | >75 | 20 | 20 | 10 |
| | Tin | ppm | ASTM D5185m | >8 | 0 | 0 | <1 |
| | Vanadium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | Cadmium | ppm | ASTM D5185m | | 0 | 0 | 0 |
| | ADDITIVES | | method | limit/base | current | history1 | history2 |
| | Boron | ppm | ASTM D5185m | 2 | 0 | 4 | 5 |
| | Barium | ppm | ASTM D5185m | 0 | 0 | 0 | 11 |
| | Molybdenum | ppm | ASTM D5185m | 0 | 0 | 0 | 1 |
| | Manganese | ppm | ASTM D5185m | 0 | 1 | 0 | <1 |
| | Magnesium | ppm | ASTM D5185m | 9 | 23 | 22 | 35 |
| | Calcium | ppm | ASTM D5185m | 3114 | 2656 | 2745 | 2636 |
| | Phosphorus | ppm | ASTM D5185m | 1099 | 929 | 1020 | 938 |
| | Zinc | ppm | ASTM D5185m | 1245 | 1210 | 1208 | 1075 |
| | Sulfur | ppm | ASTM D5185m | 7086 | 5721 | 5802 | 5836 |
| | CONTAMINAN | NTS | method | limit/base | current | history1 | history2 |
| | Silicon | ppm | ASTM D5185m | >400 | 22 | 22 | 22 |
| | Sodium | ppm | ASTM D5185m | | 0 | 3 | 3 |
| | Potassium | ppm | ASTM D5185m | >20 | 0 | 0 | <1 |
| | VISUAL | | method | | | | history2 |
| | White Motel | aaalar | *\/;ouol | | NONE | | |

| VISUAL | | method | limit/base | current | history1 | history2 |
|------------------|--------|---------|------------|---------|----------|----------|
| 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 | NONE | NONE |
| 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 | >0.2 | NEG | NEG | 0.2% |
| Free Water | scalar | *Visual | | NEG | NEG | NEG |



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FLUID PROPERTIES method limit/base



| Feb14/24 | Color Bottom GRAPH Iron (pp Bottom Iron (pp Iron (pp) Iron (| Aug31/21 | | 22 0d27/22 | 3 Jan 26/23 Jan | May12/23 | 0ct30/23 | Feb14/24 | 30 25 20 5 10 5 0 30 25 20 5 10 5 10 5 | Abnome Abnome 072700 Chrom Severe | interior (ppm) | Aug11/22 | o imag | | | p imagu | |
|--|---|--|--|--|---|---|--|---|--|--|--|---|---|---|--|---|--|
| 2000- 1500- 覧 1000- 500- 0- 1500- 覧 100- 500- 0- | GRAPH Iron (pp Abnorma 12/1/2EW Abnorma 12/1/2EW Abnorma 12/1/2EW | om) IZ/12004 Im (pp | om) | | | | 0ct30/23 | Feb14/24 | 25 20 6 15 10 5 0 30 25 20 6 15 10 | Lead (Severe Abnoma 072700N Chrom | pppm) | Aug11/22 | | | | | |
| 1500 - 토 1000 - 500 - 200 - 150 - 토 100 - 50 - 0 - | Abnormal | om) IZ/12004 Im (pp | om) | | | | 0d30/23 | Feb14/24 | 25 20 6 15 10 5 0 30 25 20 6 15 10 | Abnorma OZZYON Chrom Severe | Julian (t | | 0:427/22 | Jan 26/23 + | May12/23 | 0ct30/23 | |
| 1500 - 토 1000 - 500 - 200 - 150 - 토 100 - 50 - 0 - | Abnormal 0272/volv Abnormal 0272/volv Abnormal 0272/volv | im (pp | om) | | | | 0ct30/23 | Feb14/24 | 25 20 6 15 10 5 0 30 25 20 6 15 10 | Abnorma OZZYON Chrom Severe | Julian (t | | 0ct27/22 | Jan 26/23 + | May12/23 | 0ct30/23 | |
| <table-cell> 팀 1000 - 500 - 0 200 - 1 1500 - 1 토 100 - 500 - 0</table-cell> | Abnormal 0272/voN Aluminui Abnormal 0272/voN | ım (pp | om) | | | | 0ct30/23 | Feb14/24 | 20 Heat 15 10 5 0 30 25 20 Heat 15 10 | Abnorma 02700W Chrom | nium (p | | 0ct27/22 | Jan26/23 | May12/23 | 0ct30/23 | |
| 500 - 0 - 150 - 텵 100 - 50 - 0 - | Mar1/21 Mar1/21 Mar1/21 | ım (pp | om) | | | | 0ct30/23 | Feb14/24 | μ 15 10 5 0 30 25 20 μ 15 10 15 10 10 | Abnorma 02/2000 Chrom | nium (p | | 0ct27/22 | Jan26/23 | May12/23 | 0ct30/23 | |
| 500 - 0 - 150 - 텵 100 - 50 - 0 - | Mar1/21 Mar1/21 Mar1/21 | ım (pp | om) | | | | 0ct30/23 | Feb14/24 | 10 5 0 25 20 편 15 10 | Abnorma 02/2000 Chrom | nium (p | | 0ct27/22 | Jan26/23 + | May12/23 | 0ct30/23 + | |
| 200 - 150 - 톤 100 - 50 - 0 - | Aluminu Severe Abnormal Operations Mathematical Abnormal | ım (pp | om) | | | | 0ct30/23 | Feb14/24 | 0 30 25 20 편 15 10 | Chron Severe | nium (p | | 0ct27/22 | Jan26/23 + | May12/23 | 0ct30/23 | |
| 150 - 털 100 - 50 - 0 - | Aluminu Severe Abnormal Operations Mathematical Abnormal | ım (pp | om) | | | | 0ct30/2 | Feb14/2 | 25 20 톱 15 10 | Chron | nium (p | | 0ct27/2 | Jan26/2 | May12/2 | 0ct30/2 | |
| 150 - 털 100 - 50 - 0 - | Abnormal 07/2/10/10/2/200 | | om) | 22 | | | | | 25 20 톱 15 10 | Severe | | opm) | | | | | |
| 150 - 털 100 - 50 - 0 - | Approximation 1/2/10 | 1/21 | 22 | 22 | | | | | 25 20 톱 15 10 | Severe | | | | | | | |
| 50- 0- | Nov2/20 | ıg31/21 | 22 | 22 | | | | | 퉙 15 10 | Abaama | | | | | | | |
| 50- 0- | Nov2/20 | ıg31/21 | 22 | 22 | | | | | 10 | | | | | | | | |
| | | 1,21 | 22 | 22 | | | | | 5 | | | | | | 1 | | |
| 200 - | | 131/J | 64 | | | 22 | 5 | 4 | 0 | 2 5 | 21. | 12 | 12 | | 5 | | _ |
| 200- | | AL | Aug11/22 | 0ct27/22 | Jan26/23 | May12/23 | 0ct30/23 | Feb14/24 | | Nov2/20 | Aug31/21 | Aug11/22 | 0ct27/22 | Jan26/23 | May12/23 | 0ct30/23 | |
| | Copper | (ppm) |) | | | | | | 1000 | | (ppm) | | | | | | |
| 150. | Severe | | | | | | | | 800 | Severe | | | | | | | |
| 톱 100 - | | | | | | | | | 600 Ed 400 | Abnorma | | | | | | | |
| 50- | Abnormal | | | | | | | | 400 | - 0 | | | | | | | |
| 0- | | 51 | 2 | 2 | | 3 | | + | 0 | | 1 | 2 | 2 | | | | _ |
| | Nov2/2 Mar1/2 | Aug31/2 | Aug11/2 | 0ct27/2 | Jan26/2 | May12/2 | 0ct30/2 | Feb 14/2 | | Nov2/2 Mar1/2 | Aug31/2 | Aug11/2 | 0ct27/2 | Jan 26/2 | May12/2 | 0ct30/2 | |
| 350. | Viscosity | | | | | _ | | | 3500 | | /es | | | | | | |
| 300- | | - | - | _ | | | | | 3000 | - | | us | ~ | | | | _ |
| () 0€) 250 | Abnormal | | | | | | | | 2500 <u>5</u> 2000 | - | •• zinc | | | 1 | | | |
| 평 200 - | Base | | | | | | | | 1500 | | | | | | | CANCEL OF COLUMN | |
| 150- | Abnormal | - | 2 | 2 | 3 | 3 | 3 | 4 | 500 | ********** | | 2 | 2 | - | | | a ka a |
| | Nov2/2 Mar1/2 | Aug31/2 | Aug11/2 | 0ct27/2 | Jan26/2 | May12/2 | 0ct30/2 | Feb14/2 | | Nov2/2 M⇒r1/2 | Aug31/2 | Aug11/2 | 0ct27/2 | Jan 26/2 | May12/2 | 0ct30/2 | |
| o. : PC per : 06 ber : 10 | CA010890 <mark>101211</mark> 899441 | | | Re Te | ceive sted | ed | : 26 : 28 | Feb 2 Feb 2 | 024 024 | | - | uarries | | 1 | t y Stor 5100 Jur Sp | N Hwy orings, JS 72 | y 5 A 76 |
| | 0. 350. 300. 2200. 150. y : ₩0 5. : PC er : 10 ge : M0 ort, cont | y : WearCheck b : PCA010894 w : MOB 1 ort, contact Cust | y : WearCheck USA 200 150 150 150 150 150 150 150 1 | y : WearCheck USA - 50 200 50 50 50 50 50 50 50 50 50 | y : WearCheck USA - 501 Mac 0,027/04 200 0,027/04 Wiscosity @ 40°C 200 0,027/04 0,000 150 0,027/04 0,000 150 0,027/04 0,000 150 0,027/04 150 0,027/04 150 0,027/04 150 150 0,027/04 150 150 150 150 150 150 150 150 | y : WearCheck USA - 501 Madison Decomposed by the second | y : WearCheck USA - 501 Madison Ave., b : PCA0108902 Received r : 10899441 Diagnosed g : MOB 1 ort, contact Customer Service at 1-800-237- | y : WearCheck USA - 501 Madison Ave., Cary, ber : 10899441 Diagnosed : 28 ge : MOB 1 ort, contact Customer Service at 1-800-237-1369 | y : WearCheck USA - 501 Madison Ave., Cary, NC 2 be r : 06101211 r = 10899441 r = 10899441 r = 106101211 r = 10899441 r = 106101211 r = 10899441 r = 106101211 r = 10810000 r = 1081000000 r = 1081000000000000000000000000000000000 | y : WearCheck USA - 501 Madison Ave., Cary, NC 27513 D CA0108902 Received : 26 Feb 2024 28 Feb 2024 - Sei ge : MOB 1 | y : WearCheck USA - 501 Madison Ave., Cary, NC 27513 b : PCA0108902 Received : 26 Feb 2024 r : 10899441 Diagnosed : 28 Feb 2024 - Sean Feltor g : MOB 1 | y : WearCheck USA - 501 Madison Ave., Cary, NC 27513 PCA0108902 Received : 26 Feb 2024 r : 10899441 ber : 10899441 g : MOB 1 | y : WearCheck USA - 501 Madison Ave., Cary, NC 27513 PCA0108902 Received : 26 Feb 2024 r : 10899441 ber : 10899441 g : MOB 1 | y : WearCheck USA - 501 Madison Ave., Cary, NC 27513 PCA0108902 r : 06101211 r : 10899441 g : MOB 1 | y : WearCheck USA - 501 Madison Ave., Cary, NC 27513 PCA0108902 Received : 26 Feb 2024 ber : 10899441 Diagnosed : 28 Feb 2024 - Sean Felton g : MOB 1 ort, contact Customer Service at 1-800-237-1369. Carter in the service in the servi | y : WearCheck USA - 501 Madison Ave., Cary, NC 27513 PCA0108902 r : 06101211 r : 10899441 g : MOB 1 | y : WearCheck USA - 501 Madison Ave., Cary, NC 27513 PCA0108902 r : PCA0108902 r : 06101211 r ested : 28 Feb 2024 r : MOB 1 ort, contact Customer Service at 1-800-237-1369. |

