

# **OIL ANALYSIS REPORT**

## Area **KEMP** QUARRIES / BCS - GRAVETTE [69378] **OHT119** Component

Component Transmission (Auto)

Fluid PETRO CANADA PRODURO TO-4 SAE 30 (--- GAL)

### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: Pm4 )

#### Wear

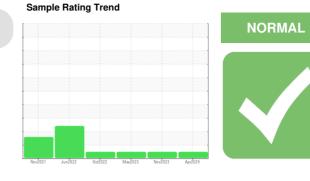
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil.

### Fluid Condition

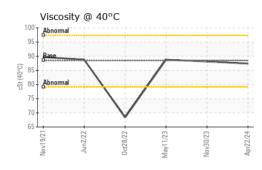
The condition of the oil is acceptable for the time in service.



	MATION	method				history2
Sample Number		Client Info		PCA0108526	PCA0084765	PCA0085730
Sample Date		Client Info		22 Apr 2024	30 Nov 2023	11 May 2023
Machine Age	hrs	Client Info		27297	26752	26286
Oil Age	hrs	Client Info		26831	466	26286
Oil Changed		Client Info		Changed	N/A	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Water		WC Method	>0.1	NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>160	14	12	14
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>5	0	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>5	0	0	0
Aluminum	ppm	ASTM D5185m	>50	2	3	<1
Lead	ppm	ASTM D5185m	>50	3	7	4
Copper	ppm	ASTM D5185m	>225	13	13	22
Tin	ppm	ASTM D5185m	>10	1	1	4
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	2	4	<1
Barium	ppm	ASTM D5185m	0	1	0	11
Molybdenum	ppm	ASTM D5185m	0	<1	6	23
Molybdenum Manganese	ppm ppm	ASTM D5185m ASTM D5185m		<1 <1	6 0	23 <1
-						
Manganese	ppm	ASTM D5185m	9	<1	0	<1
Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	9 1	<1 49	0 90	<1 372
Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131	<1 49 2882	0 90 3718	<1 372 1977
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131 1194	<1 49 2882 957	0 90 3718 1356	<1 372 1977 904
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131 1194 1281	<1 49 2882 957 1097	0 90 3718 1356 1524	<1 372 1977 904 1033
Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131 1194 1281 3811	<1 49 2882 957 1097 4242	0 90 3718 1356 1524 5734	<1 372 1977 904 1033 3640
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131 1194 1281 3811 imit/base	<1 49 2882 957 1097 4242 current	0 90 3718 1356 1524 5734 history1	<1 372 1977 904 1033 3640 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	9 1 3131 1194 1281 3811 limit/base >20	<1 49 2882 957 1097 4242 current 16	0 90 3718 1356 1524 5734 history1 11	<1 372 1977 904 1033 3640 history2 14
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	9 1 3131 1194 1281 3811 limit/base >20	<1 49 2882 957 1097 4242 <u>current</u> 16 <1	0 90 3718 1356 1524 5734 history1 11 <1	<1 372 1977 904 1033 3640 history2 14 1
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131 1194 1281 3811 <b>limit/base</b> >20	<1 49 2882 957 1097 4242 <u>current</u> 16 <1 0	0 90 3718 1356 1524 5734 history1 11 <1 3	<1 372 1977 904 1033 3640 history2 14 1 1 <1
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL	ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131 1194 1281 3811 imit/base >20 imit/base	<1 49 2882 957 1097 4242 <u>current</u> 16 <1 0	0 90 3718 1356 1524 5734 history1 11 <1 3 history1	<1 372 1977 904 1033 3640 history2 14 1 <1 <1 history2
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm TS ppm ppm ppm scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m XSTM D5185m	9 1 3131 1194 1281 3811 <b>imit/base</b> >20 <b>imit/base</b> NONE	<1 49 2882 957 1097 4242 current 16 <1 0 current NONE	0 90 3718 1356 1524 5734 history1 11 <1 3 history1 NONE	<1 372 1977 904 1033 3640 history2 14 1 <1 <1 kistory2 NONE
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm ppm ppm ppm TS ppm ppm ppm scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Yisual	9 1 3131 1194 1281 3811 <b>imit/base</b> >20 <b>imit/base</b> NONE NONE	<1 49 2882 957 1097 4242  current 16 <10 0 current NONE NONE NONE	0 90 3718 1356 1524 5734 history1 11 <1 3 history1 NONE NONE NONE	<1 372 1977 904 1033 3640 history2 14 1 1 <1 kistory2 NONE NONE
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m Yuisual *Visual *Visual	9 1 3131 1194 1281 3811 <b>imit/base</b> >20 <b>imit/base</b> NONE NONE NONE	<1 49 2882 957 1097 4242 <i>current</i> 16 <10 0 <i>current</i> NONE NONE NONE NONE	0 90 3718 1356 1524 5734 history1 11 <1 3 	<1 372 1977 904 1033 3640 history2 14 1 1 <1 <i>history2</i> NONE NONE NONE
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual	9 1 3131 1194 1281 3811 imit/base >20 20 imit/base NONE NONE NONE NONE NONE	<1 49 2882 957 1097 4242 <i>current</i> 16 <10 0 <i>current</i> NONE NONE NONE NONE NONE	0 90 3718 1356 1524 5734 history1 11 <1 3 history1 NONE NONE NONE NONE NONE	<1 372 1977 904 1033 3640 history2 14 1 1 <1 ×1 NONE NONE NONE NONE NONE
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual	9 1 3131 1194 1281 3811 3811 <b>imit/base</b> >20 <b>imit/base</b> NONE NONE NONE NONE NONE NONE	<1 49 2882 957 1097 4242 <i>current</i> 16 <10 0 <i>current</i> NONE NONE NONE NONE NONE NONE NONE NON	0 90 3718 1356 1524 5734 history1 11 <1 3 history1 NONE NONE NONE NONE NONE NONE	<1 372 1977 904 1033 3640 history2 14 1 1 <1 <1 history2 NONE NONE NONE NONE NONE NONE NONE
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual	9 1 3131 1194 1281 3811 <b>imit/base</b> >20 <b>imit/base</b> NONE NONE NONE NONE NONE NONE NONE NONE	<1 49 2882 957 1097 4242 <i>current</i> 16 <10 0 <i>current</i> NONE NONE NONE NONE NONE NONE NONE NON	0 90 3718 1356 1524 5734 history1 11 <1 3 history1 NONE NONE NONE NONE NONE NONE NONE NON	<1 372 1977 904 1033 3640 history2 14 1 1 <1 <1 kistory2 NONE NONE NONE NONE NONE NONE NONE NON
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	9 1 3131 1194 1281 3811 <b>imit/base</b> >20 <b>imit/base</b> NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE	<1 49 2882 957 1097 4242 <i>current</i> 16 <10 0 <i>current</i> NONE NONE NONE NONE NONE NONE NONE NON	0 90 3718 1356 1524 5734 history1 11 <1 3 history1 NONE NONE NONE NONE NONE NONE NONE NON	<1 372 1977 904 1033 3640 history2 14 1 1 <1 <1 NONE NONE NONE NONE NONE NONE NONE NON
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm ppm ppm ppm ppm ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	9 1 3131 1194 1281 3811 <b>imit/base</b> >20 <b>imit/base</b> NONE	<1 49 2882 957 1097 4242  current 16 <10 0  current NONE NONE NONE NONE NONE NONE NONE NON	0 90 3718 1356 1524 5734 history1 11 <1 3 history1 NONE NONE NONE NONE NONE NONE NONE NON	<1 372 1977 904 1033 3640 history2 14 1 1 <1 ×1 NONE NONE NONE NONE NONE NONE NONE NON



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Certificate 12367

Laboratory

Sample No.