

OIL ANALYSIS REPORT

KEMP QUARRIES / KEMP STONE - FAIRLAND

Component Transmission (Auto)

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

DIAGNOSIS

Recommendation

The filter change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: PM-3 changed filters)

🔺 Wear

Moderate concentration of visible metal present. All component wear rates are normal.

Contamination

There is no indication of any contamination in the fluid.

Fluid Condition

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

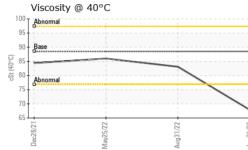
GAL)		Dec202	May2022	Aug2022 Ju	n2023			
SAMPLE INFOR	MATION	method	limit/base	current	history 1	history 2		
Sample Number		Client Info		PCA0086312	PCA0062458	PCA0061930		
Sample Date		Client Info		21 Jun 2023	31 Aug 2022	25 May 2022		
Machine Age	hrs	Client Info		37279	36774	36356		
Oil Age	hrs	Client Info		37279	36774	36356		
Oil Changed		Client Info		N/A	Changed	N/A		
Sample Status				ABNORMAL	NORMAL	NORMAL		
WEAR METAL	S	method	limit/base	current	history 1	history 2		
Iron	ppm	ASTM D5185m	>160	12	4	12		
Chromium	ppm		>5	0	0	<1		
Nickel	ppm	ASTM D5185m	>5	0	<1	0		
Titanium	ppm	ASTM D5185m	-	2	0	<1		
Silver	ppm	ASTM D5185m	>5	0	<1	<1		
Aluminum	ppm	ASTM D5185m		<1	2	1		
Lead	ppm	ASTM D5185m	>50	0	<1	<1		
Copper	ppm	ASTM D5185m		7	34	13		
Tin	ppm	ASTM D5185m	>10	0	<1	<1		
Antimony	ppm	ASTM D5185m						
Vanadium	ppm	ASTM D5185m		0	0	0		
Cadmium	ppm	ASTM D5185m		0	0	<1		
ADDITIVES		method	limit/base	current	history 1	history 2		
Boron	ppm	ASTM D5185m	2	0	4	6		
Barium	ppm		0	14	0	0		
				<1				
-	ppm	ASTM D5185m	0	-	2	4		
Vanganese	ppm	ASTM D5185m	9	0	<1	<1		
Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	9	17	<1 21	<1 23		
Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131	17 381	<1 21 2754	<1 23 2585		
Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131 1194	17 381 447	<1 21 2754 775	<1 23 2585 837		
Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131 1194 1281	17 381 447 584	<1 21 2754 775 973	<1 23 2585 837 1094		
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	17 381 447 584 1471	<1 21 2754 775 973 3027	<1 23 2585 837 1094 3434		
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 limit/base	17 381 447 584 1471 current	<1 21 2754 775 973 3027 history 1	<1 23 2585 837 1094 3434 history 2		
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	9 1 3131 1194 1281 3811	17 381 447 584 1471 current 12	<1 21 2754 775 973 3027 history 1 4	<1 23 2585 837 1094 3434 history 2 5		
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131 1194 1281 3811 limit/base >20	17 381 447 584 1471 <u>current</u> 12 0	<1 21 2754 775 973 3027 history 1 4 0	<1 23 2585 837 1094 3434 history 2 5 2		
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm tTS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	9 1 3131 1194 1281 3811 limit/base >20	17 381 447 584 1471 current 12	<1 21 2754 775 973 3027 history 1 4	<1 23 2585 837 1094 3434 history 2 5		
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 ASTM D5185m ASTM D5185m ASTM D5185m	9 1 3131 1194 1281 3811 limit/base >20	17 381 447 584 1471 <u>current</u> 12 0 <1	<1 21 2754 775 973 3027 history 1 4 0	<1 23 2585 837 1094 3434 history 2 5 2		
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL	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 limit/base >20 >20	17 381 447 584 1471 <u>current</u> 12 0 <1	<1 21 2754 775 973 3027 history 1 4 0 0	<1 23 2585 837 1094 3434 history 2 5 2 0		
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal	ppm ppm ppm ppm ppm ppm ppm ppm 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 iimit/base >20 >20 iimit/base	17 381 447 584 1471 current 12 0 <1 current	<1 21 2754 775 973 3027 history 1 4 0 0 0	<1 23 2585 837 1094 3434 history 2 5 2 0 history 2		
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	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 limit/base >20 limit/base NONE	17 381 447 584 1471 <u>current</u> 12 0 <1 current Current MODER	<1 21 2754 775 973 3027 history 1 4 0 0 0 history 1 NONE	<1 23 2585 837 1094 3434 history 2 5 2 0 history 2 NONE		
Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm trs ppm ppm ppm ppm scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m YVisual	9 1 3131 1194 1281 3811 limit/base >20 limit/base NONE NONE	17 381 447 584 1471 current 12 0 <1 current current MODER NONE	<1 21 2754 775 973 3027 history 1 4 0 0 0 history 1 NONE NONE	<1 23 2585 837 1094 3434 history 2 5 2 0 history 2 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	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual	9 1 3131 1194 1281 3811 limit/base >20 limit/base NONE NONE NONE NONE	17 381 447 584 1471 current 12 0 <1 current € MODER NONE NONE	<1 21 2754 775 973 3027 history 1 4 0 0 0 history 1 NONE NONE NONE NONE	<1 23 2585 837 1094 3434 history 2 5 2 0 history 2 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 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 limit/base >20 limit/base NONE NONE NONE NONE	17 381 447 584 1471 <u>current</u> 12 0 <1 20 <1 <i>current</i> MODER NONE NONE NONE	<1 21 2754 775 973 3027 history 1 4 0 0 0 history 1 NONE NONE NONE NONE NONE NONE	<1 23 2585 837 1094 3434 history 2 5 2 0 history 2 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 TS 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	9 1 3131 1194 1281 3811 limit/base >20 limit/base NONE NONE NONE NONE NONE NONE NONE	17 381 447 584 1471 <u>current</u> 12 0 <1 2 0 <1 <i>current</i> MODER NONE NONE NONE NONE	<1 21 2754 775 973 3027 history 1 4 0 0 0 history 1 NONE NONE NONE NONE NONE NONE NONE NON	<1 23 2585 837 1094 3434 1094 3434 5 2 0 10 10 10 10 10 10 10 10 10 10 10 10 1		
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 ppm	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 9 1 3131 1194 1281 3811 imit/base >20 imit/base NONE NONE NONE NONE NONE NONE NONE NONE	17 381 447 584 1471 <u>current</u> 12 0 <1 2 0 <1 <u>current</u> MODER NONE NONE NONE NONE NONE NONE	<1 21 2754 775 973 3027 history 1 4 0 0 0 history 1 NONE NONE NONE NONE NONE NONE NONE NON	<1 23 2585 837 1094 3434 1094 3434 5 2 5 2 0 10 10 10 10 10 10 10 10 10 10 10 10 1		
Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm rts ppm ppm ppm ppm scalar 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 9 1 3131 1194 1281 3811 imit/base >20 imit/base NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE NONE	17 381 447 584 1471 current 12 0 <1 current 0 <1 wone NONE NONE NONE NONE NONE NONE NONE NON	<1 21 2754 775 973 3027 history 1 4 0 0 0 history 1 NONE NONE NONE NONE NONE NONE NONE NON	<1 23 2585 837 1094 3434 history 2 5 2 0 history 2 NONE NONE NONE NONE NONE NONE NONE NON		

Sample Rating Trend

VISUAL METAL



OIL ANALYSIS REPORT



	Visc @ 40°C		ASTM D445		67.9	83.1	86.0
	SAMPLE IMA	AGES	method	limit/base	current	history 1	history
	Color				no image	no image	no image
	_				no mago	no inago	no imago
Aug31/22							
	Bottom				no image	no image	no image
	CRADUC						
	GRAPHS Iron (ppm)				Lead (ppm)		
	300 250 Severe		1	120	Smioro	1	
	200 - Abnormal			80			
	E 150 -			특 60 40	Abnormal		
	50 -			40			
	V2		77/	0		/22	
	Dec28/21 May25/22		Augs1/22	Jun21/23	Dec28/21	May25/22 Aug31/22	3
	Aluminum (ppm	1)		12	Chromium (p	pm)	
	80 -			10	Severe	,	
	Abnormal			8 44 6	Abnormal		
	40 -			4			
	20			2			
	Dec28/21 May25/22		Aug3 1/22	Jun21/23	Dec28/21	May25/22 . Aug31/22 .	
	⊂ ≊ Copper (ppm)		АП	ηΓ	 Silicon (ppm) 		
	500			40	Severe	1	
	400			30			
	Abnormal			틆 20	Abnormal		
	100-			10			
	3/21		- 77/	0	3/21	/22	
	Dec28/21 May25/22		Aug3 1/22	Jun21/23	Dec28/21	May25/22 . Aug31/22 -	3
	Viscosity @ 40°	С		3000	Additives		
	95 - Base			2500	calcium phosphore	21	\backslash
	() 85- 			2000 <u>5</u> 1500	zinc		
	3 80 Abnormal			1000	To be been been been been been been been		Tallan Manager
	70			500			
	Dec28/21 May25/22		Aug31/22	Jun21/23	Dec28/21	May25/22 Aug31/22.	3
Laboratory Sample No.	: WearCheck USA : PCA0086312	Received	: 30 .	ry, NC 27513 Jun 2023	Kemp (Quarries - Kemp S	Stone - Fairla 8350 S 590
Lab Number Unique Number	: 05888566	Diagnosed Diagnostic	1 : 05 .	Jul 2023 In Felton			Fairland, US 743
ate L2367 Test Package		Diagnostic					Conta

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