

OIL ANALYSIS REPORT

Area KEMP QUARRIES / PRYOR STONE [69385] WL078 Component

Component Transmission (Manual) Fluid

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: $\mbox{PM-2}$ changed fluid and filters)

Wear

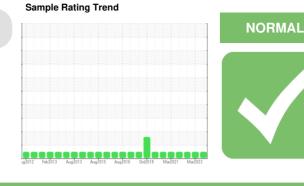
All component wear rates are normal.

Contamination

There is no indication of any contamination in the oil.

Fluid Condition

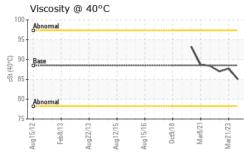
The condition of the oil is acceptable for the time in service.

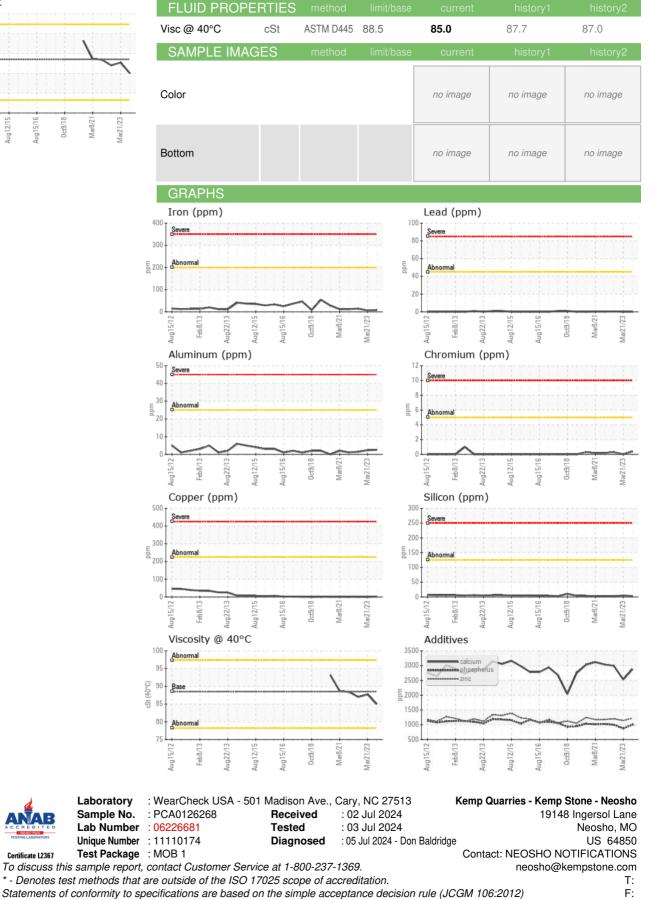


SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0126268	PCA0086077	PCA0037725
Sample Date		Client Info		25 Jun 2024	21 Mar 2023	30 Jun 2022
Machine Age	hrs	Client Info		31066	30527	30129
Oil Age	hrs	Client Info		31066	30527	30129
Oil Changed		Client Info		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	>200	8	6	14
Chromium	ppm	ASTM D5185m	>5	<1	0	<1
Nickel	ppm	ASTM D5185m	>5	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>7	0	0	<1
Aluminum	ppm	ASTM D5185m	>25	3	2	2
Lead	ppm	ASTM D5185m	>45	0	0	<1
Copper	ppm	ASTM D5185m	>225	2	0	<1
Tin	ppm	ASTM D5185m	>10	0	0	<1
Antimony	ppm	ASTM D5185m				
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	4	2	5
			-	4	2	
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum			0 0	0 2	0 2	0 2
Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0 0 9	0 2 0	0 2 <1	0 2 <1
Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 9 1	0 2 0 22	0 2 <1 28	0 2 <1 33
Molybdenum Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 9 1 3131	0 2 0 22 2876	0 2 <1 28 2529	0 2 <1 33 2989
Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 9 1 3131 1194	0 2 0 22 2876 1001	0 2 <1 28 2529 875	0 2 <1 33 2989 998
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 9 1 3131 1194 1281	0 2 0 22 2876 1001 1223	0 2 <1 28 2529 875 1138	0 2 <1 33 2989 998 1200
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 9 1 3131 1194	0 2 0 22 2876 1001	0 2 <1 28 2529 875	0 2 <1 33 2989 998
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 9 1 3131 1194 1281	0 2 0 22 2876 1001 1223 3882 current	0 2 <1 28 2529 875 1138 4144 history1	0 2 <1 33 2989 998 1200
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 9 1 3131 1194 1281 3811 limit/base	0 2 0 22 2876 1001 1223 3882	0 2 <1 28 2529 875 1138 4144	0 2 <1 33 2989 998 1200 5973 history2 3
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 0 9 1 3131 1194 1281 3811 limit/base	0 2 0 22 2876 1001 1223 3882 current	0 2 <1 28 2529 875 1138 4144 history1 5 <	0 2 <1 33 2989 998 1200 5973 history2 3 3 3
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0 0 9 1 3131 1194 1281 3811 limit/base	0 2 0 22 2876 1001 1223 3882 current 3	0 2 <1 28 2529 875 1138 4144 history1 5	0 2 <1 33 2989 998 1200 5973 history2 3
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m ASTM D5185m	0 0 9 1 3131 1194 1281 3811 <i>limit/base</i> >125	0 2 0 22 2876 1001 1223 3882 current 3 0	0 2 <1 28 2529 875 1138 4144 history1 5 <	0 2 <1 33 2989 998 1200 5973 history2 3 3 3
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm 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 ASTM D5185m	0 0 9 1 3131 1194 1281 3811 limit/base >125	0 2 0 22 2876 1001 1223 3882 current 3 0 1	0 2 <1 28 2529 875 1138 4144 history1 5 < <1 0	0 2 <1 33 2989 998 1200 5973 history2 3 3 <1
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL	ppm ppm 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	0 0 9 1 3131 1194 1281 3811 limit/base >20 limit/base	0 2 0 22 2876 1001 1223 3882 current 3 0 1 1	0 2 <1 28 2529 875 1138 4144 history1 5 < <1 0	0 2 <1 33 2989 998 1200 5973 history2 3 3 3 <1 history2
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m X The S185m	0 0 9 1 3131 1194 1281 3811 281 3811 25 >20 20 1imit/base NONE	0 2 2 0 22 2876 1001 1223 3882 <u>current</u> 3 0 1 1 <u>current</u> NONE NONE NONE	0 2 <1 28 2529 875 1138 4144 history1 5 <1 0 history1 NONE	0 2 <1 33 2989 998 1200 5973 history2 3 3 3 <1 <u>history2</u> NONE NONE NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm scalar	ASTM D5185m ASTM D5185m	0 0 9 1 3131 1194 1281 3811 281 3811 >125 >20 imit/base >20 imit/base NONE	0 2 2 2876 1001 1223 3882 <u>current</u> 3 0 1 1 <u>current</u> NONE NONE	0 2 <1 28 2529 875 1138 4144 history1 5 <1 0 vistory1 NONE NONE NONE	0 2 <1 33 2989 998 1200 5973 history2 3 3 <1 history2 NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm scalar scalar scalar	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m *Visual *Visual *Visual *Visual *Visual *Visual	0 0 9 1 3131 1194 1281 3811 281 3811 25 20 20 <u>limit/base</u> NONE NONE NONE	0 2 2 2876 1001 1223 3882 current 3 0 1 1 current NONE NONE NONE NONE NONE NONE	0 2 <1 28 2529 875 1138 4144 history1 5 <1 0 vistory1 NONE NONE NONE NONE	0 2 <1 33 2989 998 1200 5973 history2 3 3 3 <1 NONE NONE NONE NONE NONE NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Precipitate Silt	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	0 0 9 1 3131 1194 1281 3811 281 3811 281 20 20 20 1000E NONE NONE NONE NONE NONE NONE NONE	0 2 2 2876 1001 1223 3882 <u>current</u> 3 0 1 1 <u>current</u> NONE NONE NONE NONE	0 2 <1 28 2529 875 1138 4144 history1 5 <1 0 history1 NONE NONE NONE NONE NONE NONE NONE NON	0 2 <1 33 2989 998 1200 5973 history2 3 3 3 <1 history2 NONE NONE NONE NONE NONE
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	0 0 9 1 3131 1194 1281 3811 281 3811 281 20 20 10000 NONE NONE NONE NONE NONE NONE NONE	0 2 2 0 22 2876 1001 1223 3882 <i>current</i> 3 3 0 1 2 <i>current</i> 3 0 1 <i>current</i> 8 <i>NONE</i> NONE NONE NONE NONE NONE NONE NONE	0 2 2 3 5 5 3 5 3 3 5 3 3 1 138 4 144 5 5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 2 <1 33 2989 998 1200 5973 history2 3 3 3 <1 NONE NONE NONE NONE NONE NONE NONE NON
Molybdenum 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 ppm	ASTM D5185m 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 *Visual	0 0 0 1 1 1194 1281 281 3811 194 1281 3811 10 125 125 10 20 1000 1000 1000 1000	0 2 2 0 22 2876 1001 1223 3882 <u>current</u> 3 0 1 1 <u>current</u> NONE NONE NONE NONE NONE NONE NONE NON	0 2 <1 28 2529 875 1138 4144 history1 5 <10 0 history1 NONE NONE NONE NONE NONE NONE NONE NON	0 2 <1 33 2989 998 1200 5973 history2 3 3 3 <1 history2 NONE NONE NONE NONE NONE NONE NONE NON
Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium VISUAL White Metal Yellow Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m ASTM D5185m Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	0 0 9 1 3131 1194 1281 3811 281 3811 281 20 20 10000 NONE NONE NONE NONE NONE NONE NONE	0 2 2 0 22 2876 1001 1223 3882 <i>current</i> 3 3 0 1 2 <i>current</i> 3 0 1 <i>current</i> 8 <i>NONE</i> NONE NONE NONE NONE NONE NONE NONE	0 2 2 3 5 5 3 5 3 3 5 3 3 1 138 4 144 5 5 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3 3	0 2 <1 33 2989 998 1200 5973 history2 3 3 3 <1 NONE NONE NONE NONE NONE NONE NONE NON



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