

# **OIL ANALYSIS REPORT**

## **NORMAL**

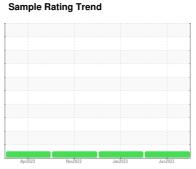


# KEMP QUARRIES / BCS - GRAVETTE WL143

Component

Transmission (Manual)

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





## DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor. ( Customer Sample Comment: PM-3 changed filters )

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the component.

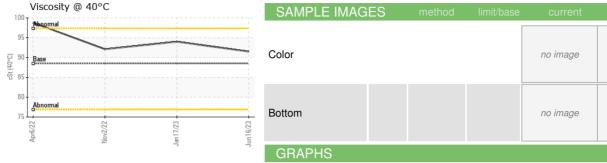
### **Fluid Condition**

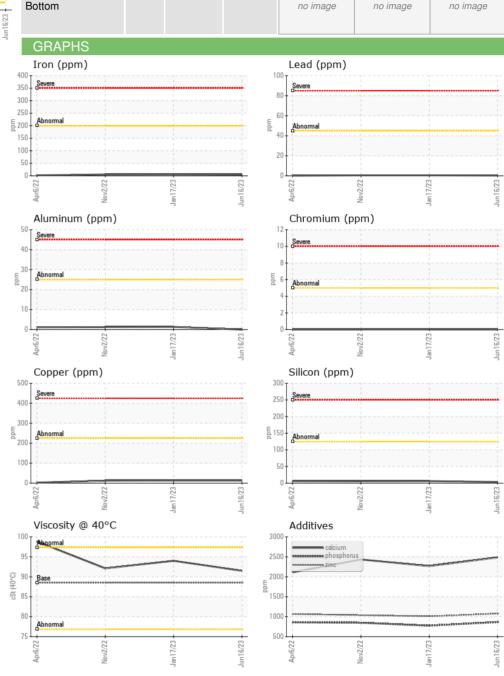
The condition of the oil is acceptable for the time in service.

Sample Number   Client Info   PCA0086361   PCA0062021   PCA007021   PCA00702	10 10-4 SAE 30 (	GAL)	Apr202	2 Nov2022	Jan 2023 Ju	in2023	
Sample Date	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age   hrs   Client Info   39015   38511   38107	Sample Number		Client Info		PCA0086361	PCA0062021	PCA0070214
Oil Changed	Sample Date		Client Info		16 Jun 2023	17 Jan 2023	02 Nov 2022
Oil Changed   Client Info   N/A   NORMAL   NORMAL   NORMAL	Machine Age	hrs	Client Info		39015	38511	38107
NORMAL   NORMAL   NORMAL   NORMAL   WEAR METALS   method   limit/base   current   history1   history2	Oil Age	hrs	Client Info		39015	38511	38107
NORMAL   NORMAL   NORMAL   NORMAL   WEAR METALS   method   imit/base   current   history1   history2	Oil Changed		Client Info		N/A	Changed	N/A
	Sample Status				NORMAL	NORMAL	NORMAL
Chromium         ppm         ASTM D5185m         >5         0         0         0           Nickel         ppm         ASTM D5185m         >5         0         0         0           Titanium         ppm         ASTM D5185m         >5         0         0         0           Silver         ppm         ASTM D5185m         >7         0         <1	WEAR METALS	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>200	5	6	6
Description	Chromium	ppm	ASTM D5185m	>5	0	0	0
Silver	Nickel	ppm	ASTM D5185m	>5	0	0	0
Aluminum	Titanium	ppm	ASTM D5185m		0	0	<1
Lead	Silver	ppm	ASTM D5185m	>7	0	<1	0
Lead	Aluminum	ppm	ASTM D5185m	>25	0	1	1
Copper	Lead				<1	<1	<1
Vanadium		• •		>225			
Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         6         20         18           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         3         4         4           Mangaese         ppm         ASTM D5185m         9         0         <1         <1           Magnesium         ppm         ASTM D5185m         1         28         47         46           Calcium         ppm         ASTM D5185m         1194         865         776         849           Zinc         ppm         ASTM D5185m         1281         1079         1010         1039           Sulfur         ppm         ASTM D5185m         1281         1079         1010         1039           Silicon         ppm         ASTM D5185m         >12.5         3					<1		<1
Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         2         6         20         18           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         0         3         4         4           Manganese         ppm         ASTM D5185m         9         0         <1         <1           Magnesium         ppm         ASTM D5185m         1         28         47         46           Calcium         ppm         ASTM D5185m         3131         2485         2269         2433           Phosphorus         ppm         ASTM D5185m         1194         865         776         849           Zinc         ppm         ASTM D5185m         1281         1079         1010         1039           Sulfur         ppm         ASTM D5185m         3811         4136         4726         4433           CONTAMINANTS         method         limit/base         current         histo	Vanadium	• •	ASTM D5185m			0	0
Boron   ppm   ASTM D5185m   2   6   20   18							
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum         ppm         ASTM D5185m         0         3         4         4           Manganese         ppm         ASTM D5185m         9         0         <1	Boron	ppm	ASTM D5185m	2	6	20	18
Manganese         ppm         ASTM D5185m         9         0         <1         <1           Magnesium         ppm         ASTM D5185m         1         28         47         46           Calcium         ppm         ASTM D5185m         1         28         47         46           Calcium         ppm         ASTM D5185m         3131         2485         2269         2433           Phosphorus         ppm         ASTM D5185m         1194         865         776         849           Zinc         ppm         ASTM D5185m         1281         1079         1010         1039           Sulfur         ppm         ASTM D5185m         1281         1079         1010         1039           Sulfur         ppm         ASTM D5185m         3811         4136         4726         4433           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         3         6         6         6           Sodium         ppm         ASTM D5185m         >125         3         6         6         6 <th< td=""><td>Barium</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><td>0</td><td>0</td><td>0</td></th<>	Barium	ppm	ASTM D5185m	0	0	0	0
Magnesium         ppm         ASTM D5185m         1         28         47         46           Calcium         ppm         ASTM D5185m         3131         2485         2269         2433           Phosphorus         ppm         ASTM D5185m         3131         2485         776         849           Zinc         ppm         ASTM D5185m         1281         1079         1010         1039           Sulfur         ppm         ASTM D5185m         3811         4136         4726         4433           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         3         6         6           Sodium         ppm         ASTM D5185m         >125         3         6         6           WISUAL         ppm         ASTM D5185m         >125	Molybdenum	ppm	ASTM D5185m	0	3	4	4
Calcium         ppm         ASTM D5185m         3131         2485         2269         2433           Phosphorus         ppm         ASTM D5185m         1194         865         776         849           Zinc         ppm         ASTM D5185m         1281         1079         1010         1039           Sulfur         ppm         ASTM D5185m         3811         4136         4726         4433           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         3         6         6           Sodium         ppm         ASTM D5185m         >125         3         6         6           Sodium         ppm         ASTM D5185m         >20         1         0         2           VISUAL         method         limit/base         current         history1         history2           VISUAL         method         limit/base         current         history1         history2           VISUAL         NONE         NONE         NONE         NONE         NONE         NONE         NONE         NONE         NONE	Manganese	ppm	ASTM D5185m	9	0	<1	<1
Calcium         ppm         ASTM D5185m         3131         2485         2269         2433           Phosphorus         ppm         ASTM D5185m         1194         865         776         849           Zinc         ppm         ASTM D5185m         1281         1079         1010         1039           Sulfur         ppm         ASTM D5185m         3811         4136         4726         4433           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         3         6         6           Sodium         ppm         ASTM D5185m         >20         1         0         2           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE         NONE         NONE         NONE         NONE         NONE         NO	Magnesium	ppm	ASTM D5185m	1	28	47	46
Zinc         ppm         ASTM D5185m         1281         1079         1010         1039           Sulfur         ppm         ASTM D5185m         3811         4136         4726         4433           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         3         6         6           Sodium         ppm         ASTM D5185m         >125         3         6         6           Sodium         ppm         ASTM D5185m         >20         1         0         2           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE         NONE	Calcium	ppm	ASTM D5185m	3131	2485	2269	2433
Zinc         ppm         ASTM D5185m         1281         1079         1010         1039           Sulfur         ppm         ASTM D5185m         3811         4136         4726         4433           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         3         6         6           Sodium         ppm         ASTM D5185m         >20         1         0         2           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Vyellow Metal         scalar         *Visual         NONE	Phosphorus	ppm	ASTM D5185m	1194	865	776	849
Sulfur         ppm         ASTM D5185m         3811         4136         4726         4433           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >125         3         6         6           Sodium         ppm         ASTM D5185m         0         1         0           Potassium         ppm         ASTM D5185m         >20         1         0         2           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE			ASTM D5185m	1281	1079	1010	1039
Silicon					4136		
Sodium         ppm         ASTM D5185m         0         1         0           Potassium         ppm         ASTM D5185m         >20         1         0         2           VISUAL         method         limit/base         current         history1         history2           White Metal         scalar         *Visual         NONE         NONE         NONE         NONE           Yellow Metal         scalar         *Visual         NONE         NONE         NONE         NONE         NONE           Precipitate         scalar         *Visual         NONE	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 1 0 2  VISUAL method limit/base current history1 history2  White Metal scalar *Visual NONE NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Silicon	ppm	ASTM D5185m	>125	3	6	6
White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Sodium	ppm	ASTM D5185m		0	1	0
White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG NEG FLUID PROPERTIES method limit/base current history1 history2	Potassium	ppm	ASTM D5185m	>20	1	0	2
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGNEGFree Waterscalar*VisualNEGNEGNEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silt scalar *Visual NONE NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG NEG Free Water scalar *Visual NEG NEG NEG FLUID PROPERTIES method limit/base current history1 history2	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debris scalar *Visual NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE NONE NONE NON	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt scalar *Visual NONE NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG NEG Free Water scalar *Visual NEG NEG NEG FLUID PROPERTIES method limit/base current history1 history2	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance scalar *Visual NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.1 NEG NEG NEG Free Water scalar *Visual NEG NEG NEG FLUID PROPERTIES method limit/base current history1 history2	Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORM	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water       scalar       *Visual       >0.1       NEG       NEG       NEG       NEG         Free Water       scalar       *Visual       NEG       NEG       NEG       NEG         FLUID PROPERTIES       method       limit/base       current       history1       history2	Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water       scalar       *Visual       >0.1       NEG       NEG       NEG       NEG         Free Water       scalar       *Visual       NEG       NEG       NEG       NEG         FLUID PROPERTIES       method       limit/base       current       history1       history2	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Free Water scalar *Visual NEG NEG NEG FLUID PROPERTIES method limit/base current history1 history2	Emulsified Water	scalar	*Visual		NEG	NEG	NEG
		scalar	*Visual		NEG	NEG	NEG
Visc @ 40°C	FLUID PROPE	RTIES	method	limit/base	current	history1	history2
	Visc @ 40°C	cSt	ASTM D445	88.5	91.5	94.0	92.1



# **OIL ANALYSIS REPORT**









Certificate L2367

Laboratory Sample No. Lab Number

**Unique Number** 

: 05882800

: PCA0086361 : 10533283 Test Package : MOB 1

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 23 Jun 2023

Diagnosed : 29 Jun 2023 Diagnostician : Don Baldridge Kemp Quarries - Benton County Stone - Gravette

no image

no image

15100 N Hwy 59 Sulphur Springs, AR US 72768

Contact:

T:

F:

To discuss this sample report, contact Customer Service at 1-800-237-1369.

gravette@bentoncountystone.com

\* - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

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