

OIL ANALYSIS REPORT

Sample Rating Trend







KEMP QUARRIES / BCS - GRAVETTE [67225] Machine Id WL127

Component Front Right Final Drive

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. (Customer Sample Comment: Pm-1)

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 Number Client Info PCA0086874 PCA00868480 PCA0086345 PCA0086834 PCA0086834	RO TO-4 SAE 50 (-	GAL)	lun2019 Nov2	2019 Aug2020 Mar2021	Mar2022 Aug2022 Mar2023	Sep2023	
Client Info	SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Machine Age hrs Client Info 33270 32702 32254 Oil Age hrs Client Info 568 32702 32254 Oil Changed Client Info N/A Changed N/A Sample Status NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 Water WC Method >0.2 NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >10 <1	Sample Number		Client Info		PCA0069874	PCA0086480	PCA0086347
Oil Age	Sample Date		Client Info		08 Dec 2023	01 Sep 2023	09 Jun 2023
Colient Info	Machine Age	hrs	Client Info		33270	32702	32254
NORMAL NORMAL NORMAL NORMAL CONTAMINATION method limit/base current history1 history2 history2 water WC Method >0.2 NEG Neg	Oil Age	hrs	Client Info		568	32702	32254
CONTAMINATION method limit/base current history1 history2 Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5185m >800 5 6 8 Chromium ppm ASTM D5185m >10 <1	Oil Changed		Client Info		N/A	Changed	N/A
Water WC Method >0.2 NEG NEG NEG WEAR METALS method limit/base current history1 history2 Iron ppm ASTM D5188m >800 5 6 8 Chromium ppm ASTM D5188m >5 <1 0 <1 Nickel ppm ASTM D5188m >5 <1 0 0 Titanium ppm ASTM D5188m >15 <1 <1 <1 <1 Siliver ppm ASTM D5188m >2 0 0 0 <1 Aluminum ppm ASTM D5188m >2 0 0 <1 1 Copper ppm ASTM D5188m >10 <1 0 <1 <1 0 <1 Copper ppm ASTM D5188m >8 <1 <1 0 <1 1 <1 0 <1 <1 <1 <1<	Sample Status				NORMAL	NORMAL	NORMAL
WEAR METALS	CONTAMINATI	ION	method	limit/base	current	history1	history2
Chromium	Water		WC Method	>0.2	NEG	NEG	NEG
Chromium	WEAR METALS	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>800	5	6	8
Nickel	Chromium	ppm	ASTM D5185m	>10	<1	0	<1
Titanium	Nickel		ASTM D5185m	>5	<1	0	0
Silver	Titanium		ASTM D5185m	>15	<1	<1	<1
Lead	Silver	ppm	ASTM D5185m	>2	0	0	0
Lead	Aluminum		ASTM D5185m	>75	3	0	<1
Copper ppm ASTM D5185m >75 <1 0 <1 Tin ppm ASTM D5185m >8 <1	Lead		ASTM D5185m	>10	<1		1
Trin	Copper		ASTM D5185m	>75	<1	0	<1
Vanadium ppm ASTM D5185m 0 0 <1 Cadmium ppm ASTM D5185m <1 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 3 2 4 Barium ppm ASTM D5185m 0 8 0 0 Molybdenum ppm ASTM D5185m 0 2 1 2 Manganese ppm ASTM D5185m 0 <1 <1 <1 <1 Magnesium ppm ASTM D5185m 9 17 20 21 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <1 <	Tin		ASTM D5185m	>8	<1	<1	
Cadmium ppm ASTM D5185m <1 0 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 2 3 2 4 Barium ppm ASTM D5185m 0 8 0 0 Molybdenum ppm ASTM D5185m 0 2 1 2 Manganese ppm ASTM D5185m 0 <1	Vanadium		ASTM D5185m		0	0	
Boron	Cadmium				<1		
Barium	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum ppm ASTM D5185m 0 2 1 2 Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 9 17 20 21 Calcium ppm ASTM D5185m 3114 3485 3339 3005 Phosphorus ppm ASTM D5185m 1099 1041 1041 1036 Zinc ppm ASTM D5185m 1099 1041 1041 1036 Zinc ppm ASTM D5185m 1245 1160 1295 1321 Sulfur ppm ASTM D5185m 7086 5975 5891 6146 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m	Boron	ppm	ASTM D5185m	2	3	2	4
Manganese ppm ASTM D5185m 0 <1 <1 <1 Magnesium ppm ASTM D5185m 9 17 20 21 Calcium ppm ASTM D5185m 3114 3485 3339 3005 Phosphorus ppm ASTM D5185m 1099 1041 1041 1036 Zinc ppm ASTM D5185m 1245 1160 1295 1321 Sulfur ppm ASTM D5185m 7086 5975 5891 6146 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m >20 2 1 2 Potassium ppm ASTM D5185m >20 2 1 2 VISUAL method limit/base current history1 history2 White Metal scalar *Visual <td< td=""><td>Barium</td><td>ppm</td><td>ASTM D5185m</td><td>0</td><td>8</td><td>0</td><td>0</td></td<>	Barium	ppm	ASTM D5185m	0	8	0	0
Magnesium ppm ASTM D5185m 9 17 20 21 Calcium ppm ASTM D5185m 3114 3485 3339 3005 Phosphorus ppm ASTM D5185m 1099 1041 1041 1036 Zinc ppm ASTM D5185m 1245 1160 1295 1321 Sulfur ppm ASTM D5185m 7086 5975 5891 6146 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m >20 2 1 2 Potassium ppm ASTM D5185m >20 2 1 2 VISUAL method limit/base current history1 history2 White Metal scalar *Visual	Molybdenum	ppm	ASTM D5185m	0	2	1	2
Calcium ppm ASTM D5185m 3114 3485 3339 3005 Phosphorus ppm ASTM D5185m 1099 1041 1041 1036 Zinc ppm ASTM D5185m 1245 1160 1295 1321 Sulfur ppm ASTM D5185m 7086 5975 5891 6146 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m >0 1 2 Potassium ppm ASTM D5185m >20 2 1 2 VISUAL method limit/base current history1 history2 VISUAL method limit/base current history1 history2 VISUAL NONE NONE NONE NONE NONE Visual NO	Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Phosphorus ppm ASTM D5185m 1099 1041 1041 1036 Zinc ppm ASTM D5185m 1245 1160 1295 1321 Sulfur ppm ASTM D5185m 7086 5975 5891 6146 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m >20 2 1 2 Potassium ppm ASTM D5185m >20 2 1 2 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual NONE NONE NONE NONE NONE NONE NONE </td <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>9</td> <td>17</td> <td>20</td> <td>21</td>	Magnesium	ppm	ASTM D5185m	9	17	20	21
Zinc ppm ASTM D5185m 1245 1160 1295 1321 Sulfur ppm ASTM D5185m 7086 5975 5891 6146 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m >400 1 2 Potassium ppm ASTM D5185m >20 2 1 2 VISUAL method limit/base current history1 history2 VISUAL method limit/base current history1 history2 VISUAL NONE NONE NONE NONE NONE Vellow Metal scalar *Visual NONE NONE NONE NONE NONE Vellow Metal scalar *Visual NONE NONE NONE NONE NONE NONE	Calcium	ppm	ASTM D5185m	3114	3485	3339	3005
Sulfur ppm ASTM D5185m 7086 5975 5891 6146 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m >400 1 2 Potassium ppm ASTM D5185m >20 2 1 2 Potassium ppm ASTM D5185m >20 2 1 2 VISUAL method limit/base current history1 history2 White Metal scalar *Visual 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	Phosphorus	ppm	ASTM D5185m	1099	1041	1041	1036
Sulfur ppm ASTM D5185m 7086 5975 5891 6146 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m 0 1 2 Potassium ppm ASTM D5185m >20 2 1 2 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE Yellow Metal scalar *Visual 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 NORML NORML NO	Zinc	ppm	ASTM D5185m	1245	1160	1295	1321
Silicon ppm ASTM D5185m >400 8 10 5 Sodium ppm ASTM D5185m 0 1 2 Potassium ppm ASTM D5185m >20 2 1 2 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 NORML NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML NORML	Sulfur		ASTM D5185m	7086	5975	5891	6146
Sodium ppm ASTM D5185m 0 1 2 Potassium ppm ASTM D5185m >20 2 1 2 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 NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 2 1 2 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE NONE NONE NONE Yellow Metal scalar *Visual 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 Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	Silicon	ppm	ASTM D5185m	>400	8	10	5
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 LIGHT NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	Sodium	ppm	ASTM D5185m		0	1	2
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 LIGHT NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	Potassium	ppm	ASTM D5185m	>20	2	1	2
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONELIGHTNONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	VISUAL		method	limit/base	current	history1	history2
Precipitate scalar *Visual NONE NONE NONE NONE Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE LIGHT NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE LIGHT NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML NORML NORML NORML Odor scalar *Visual NORML NORML NORML NORML	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debrisscalar*VisualNONENONELIGHTNONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORML	Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Debris	scalar	*Visual	NONE	NONE	LIGHT	NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORML	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML	Appearance	scalar	*Visual	NORML		NORML	NORML
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
	Emulsified Water						

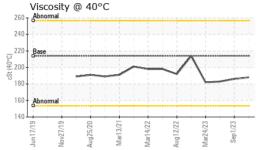
NEG

scalar *Visual

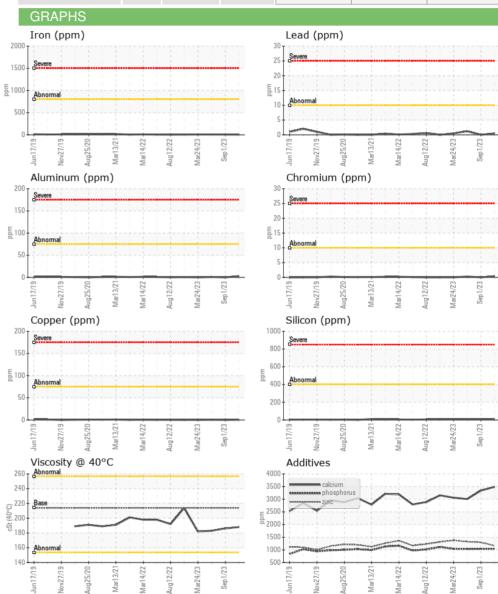
NEG



OIL ANALYSIS REPORT



FLUID PROPE	RTIES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	213.9	188	186	183
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color				no image	no image	no image
Bottom				no image	no image	no image
GRAPHS						





Certificate L2367

Laboratory Sample No. Lab Number **Unique Number**

: PCA0069874 : 06039711 : 10794940 Test Package : MOB 1

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Recieved : 19 Dec 2023

: 21 Dec 2023 Diagnosed Diagnostician : Jonathan Hester

15100 N Hwy 59 Sulphur Springs, AR

Kemp Quarries - Benton County Stone - Gravette

US 72768

Contact: gravette@bentoncountystone.com

T:

F:

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

* - 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)

Report Id: KEMSUL [WUSCAR] 06039711 (Generated: 12/21/2023 13:51:23) Rev: 1