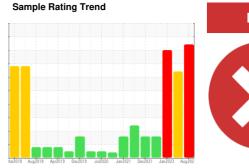


OIL ANALYSIS REPORT

KEMP QUARRIES / BCS - GRAVETTE
Machine Id
WL117

Component Gear Drive

PETRO CANADA TRAXON 80W90 (--- GAL)



DIAGNOSIS

Recommendation

We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. The oil change at the time of sampling has been noted. We recommend an early resample to monitor this condition. (Customer Sample Comment: PM-4 changed fluid)

Wear

All component wear rates are normal.

Contamination

Appearance is milky. There is a moderate concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. Moderate concentration of visible dirt/debris present in the oil.

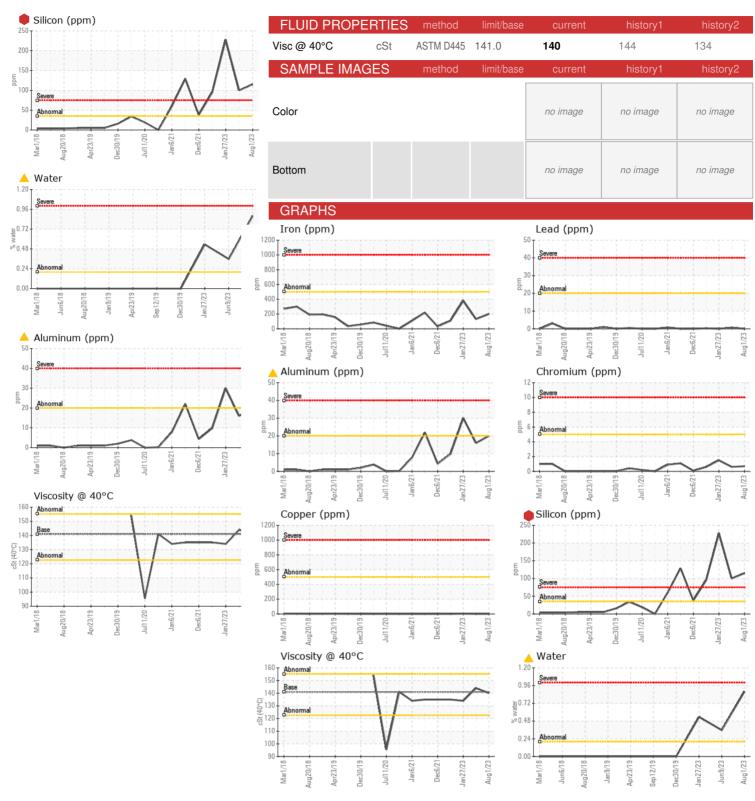
Fluid Condition

The oil is no longer serviceable due to the presence of contaminants.

Client Info			4×2118 Aug	018 Arz019 Dec2019	W2020 Isra2021 Dec2021 Isra	023 Aug 07	
Client Info	SAMPLE INFORI	MATION	√ method	limit/base	current	history1	history2
Machine Age	Sample Number		Client Info		PCA0086418	PCA0085788	PCA0086724
Dil Age	Sample Date		Client Info		01 Aug 2023	09 Jun 2023	27 Jan 2023
Dil Changed Client Info SEVERE	Machine Age	hrs	Client Info		5552	5317	4875
Dil Changed Client Info SEVERE		hrs	Client Info		5552	5317	4875
Sever Sev	-		Client Info		Changed	N/A	Changed
Chromium	Sample Status				_	SEVERE	SEVERE
Description	WEAR METAL	S	method	limit/base	current	history1	history2
Nickel	Iron	ppm	ASTM D5185m	>500	201	131	380
Description	Chromium	ppm	ASTM D5185m	>5	<1	<1	2
Silver	Nickel	ppm	ASTM D5185m	>8	<1	<1	1
Aluminum ppm ASTM D5185m >20	Titanium	ppm	ASTM D5185m		1	1	2
Lead ppm ASTM D5185m >20 0 <1 0 Copper ppm ASTM D5185m >500 0 <1 4 Tin ppm ASTM D5185m >500 0 <1 <1 Vanadium ppm ASTM D5185m >75 <1 <1 <1 Cadmium ppm ASTM D5185m 0 <1 <1 0 Cadmium ppm ASTM D5185m 243 194 131 157 Barium ppm ASTM D5185m 0 0 <1 <1 Wolybdenum ppm ASTM D5185m 0 0 <1 <1 Manganese ppm ASTM D5185m 0 0 <1 <1 Magnesium ppm ASTM D5185m 3 2 5 Magnesium ppm ASTM D5185m 3 2 5 Calcium ppm ASTM D5185m 987 960 921 855	Silver	ppm	ASTM D5185m		0	0	0
Description	Aluminum	ppm	ASTM D5185m	>20	<u>^</u> 20	16	△ 30
Description	Lead		ASTM D5185m	>20	0	<1	0
Tin	Copper		ASTM D5185m	>500	0	<1	4
Vanadium ppm ASTM D5185m 0 <1 0 Cadmium ppm ASTM D5185m <1 <1 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 243 194 131 157 Barium ppm ASTM D5185m 1 0 0 <1 <1 Molybdenum ppm ASTM D5185m 1 0 <1 <1 <1 Manganese ppm ASTM D5185m 2 16 9 18 Calcium ppm ASTM D5185m 2 16 9 18 Calcium ppm ASTM D5185m 2 16 9 18 Calcium ppm ASTM D5185m 987 960 921 855 Zinc ppm ASTM D5185m 21530 21478 21419 21460 CONTAMINANTS method limit/base current	Tin		ASTM D5185m	>75	<1	<1	<1
Cadmium ppm ASTM D5185m <1 <1 <1 ADDITIVES method limit/base current history1 history2 Boron ppm ASTM D5185m 243 194 131 157 Barium ppm ASTM D5185m 0 0 <1	Vanadium		ASTM D5185m		0	<1	0
Boron ppm ASTM D5185m 243 194 131 157	Cadmium		ASTM D5185m		<1	<1	<1
Barium	ADDITIVES		method	limit/base	current	history1	history2
Barium	Boron	ppm	ASTM D5185m	243	194	131	157
Manganese ppm ASTM D5185m 3 2 5 Magnesium ppm ASTM D5185m 2 16 9 18 Calcium ppm ASTM D5185m 6 386 516 593 Phosphorus ppm ASTM D5185m 987 960 921 855 Zinc ppm ASTM D5185m 1 53 216 84 Sulfur ppm ASTM D5185m 21530 21478 21419 21460 CONTAMINANTS method limit/base current history1 history2 CONTAMINANTS	Barium		ASTM D5185m	1	0	0	<1
Magnesium ppm ASTM D5185m 2 16 9 18 Calcium ppm ASTM D5185m 6 386 516 593 Phosphorus ppm ASTM D5185m 987 960 921 855 Zinc ppm ASTM D5185m 1 53 216 84 Sulfur ppm ASTM D5185m 21530 21478 21419 21460 CONTAMINANTS method limit/base current history1 history2 Water % ASTM D5185m	Molybdenum	ppm	ASTM D5185m		0	<1	<1
Calcium ppm ASTM D5185m 6 386 516 593 Phosphorus ppm ASTM D5185m 987 960 921 855 Zinc ppm ASTM D5185m 1 53 216 84 Sulfur ppm ASTM D5185m 21530 21478 21419 21460 CONTAMINANTS method limit/base current history1 history2 Gilicon ppm ASTM D5185m >35 115 100 228 Sodium ppm ASTM D5185m >20 9 8 11 Potassium ppm ASTM D5185m >20 9 8 11 Water % ASTM D6304 >0.2 4 0.880 4 0.357 4 0.534 vpm Water ppm ASTM D6304 >0.2 4 0.880 4 0.357 4 0.534 vpm Water ppm ASTM D6304 >0.2 4 0.880 <td>Manganese</td> <td>ppm</td> <td>ASTM D5185m</td> <td></td> <th>3</th> <td>2</td> <td>5</td>	Manganese	ppm	ASTM D5185m		3	2	5
Calcium ppm ASTM D5185m 6 386 516 593 Phosphorus ppm ASTM D5185m 987 960 921 855 Zinc ppm ASTM D5185m 1 53 216 84 Sulfur ppm ASTM D5185m 21530 21478 21419 21460 CONTAMINANTS method limit/base current history1 history2 Gilicon ppm ASTM D5185m >35 115 100 228 Sodium ppm ASTM D5185m >20 9 8 11 Potassium ppm ASTM D5185m >20 9 8 11 Water % ASTM D6304 >0.2 4 0.880 4 0.357 4 0.534 vpm Water ppm ASTM D6304 >0.2 4 0.880 4 0.357 4 0.534 vpm Water ppm ASTM D6304 >0.2 4 0.880 <td>Magnesium</td> <td>ppm</td> <td>ASTM D5185m</td> <td>2</td> <th>16</th> <td>9</td> <td>18</td>	Magnesium	ppm	ASTM D5185m	2	16	9	18
Zinc ppm ASTM D5185m 1 53 216 84 Sulfur ppm ASTM D5185m 21530 21478 21419 21460 CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 115 100 228 Sodium ppm ASTM D5185m >35 115 100 228 Potassium ppm ASTM D5185m >20 9 8 11 Water % ASTM D6304 >0.2 0.880 0.357 0.534 Popm Water ppm ASTM D6304 >2000 8800 3570 5340 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 <	Calcium	ppm	ASTM D5185m	6	386	516	593
Zinc	Phosphorus	ppm	ASTM D5185m	987	960	921	855
CONTAMINANTS method limit/base current history1 history2 Silicon ppm ASTM D5185m >35 ■ 115 ■ 100 ■ 228 Sodium ppm ASTM D5185m >35 ■ 115 ■ 100 ■ 228 Potassium ppm ASTM D5185m >20 9 8 11 Water % ASTM D6304 >0.2 ▲ 0.880 ▲ 0.357 ▲ 0.534 ppm Water ppm ASTM D6304 >2000 ▲ 8800 ▲ 3570 ▲ 5340 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 Debris scalar *Visual NONE NONE NONE NONE	Zinc		ASTM D5185m	1	53	216	84
Solition	Sulfur		ASTM D5185m	21530	21478	21419	21460
Sodium	CONTAMINAN	TS	method	limit/base	current	history1	history2
Potassium ppm ASTM D5185m >20 9 8 11 Water % ASTM D6304 >0.2 \$\times 0.880 \$\times 0.357 \$\times 0.534 \$\times 0.	Silicon	ppm	ASTM D5185m	>35	115	1 00	228
Water % ASTM D6304 >0.2	Sodium	ppm	ASTM D5185m		1	1	2
Opm Water ppm ASTM D6304 >2000 ▲ 8800 ▲ 3570 ▲ 5340 VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER 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 NORM NONE NORML HAZY Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 0.2% 0.2% 0.2%	Potassium	ppm	ASTM D5185m	>20	9	8	11
VISUAL method limit/base current history1 history2 White Metal scalar *Visual NONE NONE MODER MODER 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 Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML MILKY NORML HAZY Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2	Water	%	ASTM D6304	>0.2	△ 0.880	△ 0.357	△ 0.534
White Metal scalar *Visual NONE NONE MODER MODER 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 MODER NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML MILKY NORML HAZY Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 0.2% 0.2%	opm Water	ppm	ASTM D6304	>2000	▲ 8800	▲ 3570	<u></u> 5340
Yellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONEMODERNONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLMILKYNORMLHAZYOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%0.2%0.2%	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			MODER	MODER
Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE MODER NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML MILKY NORML HAZY Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 0.2% 0.2% 0.2%	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Debris scalar *Visual NONE A MODER NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML MILKY NORML HAZY Odor scalar *Visual NORML NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 0.2% 0.2% 0.2%	Precipitate	scalar	*Visual		NONE	NONE	NONE
Sand/Dirt scalar *Visual NONE NONE NONE NONE Appearance scalar *Visual NORML MILKY NORML HAZY Odor scalar *Visual NORML NORML NORML NORML Emulsified Water scalar *Visual >0.2 0.2% 0.2% 0.2%	Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearancescalar*VisualNORMLMILKYNORMLHAZYOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.20.2%0.2%0.2%	Debris	scalar	*Visual	NONE	MODER	NONE	NONE
Odor scalar *Visual NORML NORML NORML NORML NORML NORML Scalar *Visual >0.2 ▲ 0.2% 0.2% 0.2%	Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Emulsified Water scalar *Visual >0.2 🛕 0.2% 0.2% 0.2%	Appearance	scalar	*Visual	NORML	▲ MILKY	NORML	▲ HAZY
	Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Free Water scalar *Visual NEG NEG NEG	Emulsified Water	scalar	*Visual	>0.2	0.2%	0.2%	0.2%
	Free Water	scalar	*Visual		NEG	NEG	NEG



OIL ANALYSIS REPORT





Certificate L2367

Laboratory Sample No. Lab Number Unique Number

: 05926906 : 10606853

: PCA0086418

Received : 16 Aug 2023 : 18 Aug 2023 Diagnosed

: WearCheck USA - 501 Madison Ave., Cary, NC 27513

Diagnostician : Don Baldridge Test Package : MOB 1 (Additional Tests: KF)

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)

Kemp Quarries - Benton County Stone - Gravette

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Contact:

gravette@bentoncountystone.com

T: F: