



WEAR	NORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	NORMAL



Area
KEMP QUARRIES / BCS - MILL CREEK [66781]
Machine Id
TTT008
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. Resample at the next service interval to monitor. (Customer Sample Comment: 50 hr after rebuild, PM-1)

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0109068	PCA0086723	---
Sample Date		Client Info		11 Mar 2024	02 Feb 2023	---
Machine Age	hrs	Client Info		7033	6859	---
Oil Age	hrs	Client Info		7033	6859	---
Filter Age	hrs	Client Info		0	0	---
Oil Changed		Client Info		Changed	Changed	---
Filter Changed		Client Info		Changed	Changed	---
Sample Status				ABNORMAL	ABNORMAL	---

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	22	▲ 131	---
Chromium	ppm	ASTM D5185m	>20	1	8	---
Nickel	ppm	ASTM D5185m	>2	<1	2	---
Titanium	ppm	ASTM D5185m	>2	<1	<1	---
Silver	ppm	ASTM D5185m	>2	0	0	---
Aluminum	ppm	ASTM D5185m	>25	4	● 11	---
Lead	ppm	ASTM D5185m	>40	4	16	---
Copper	ppm	ASTM D5185m	>330	14	300	---
Tin	ppm	ASTM D5185m	>15	3	4	---
Vanadium	ppm	ASTM D5185m		0	0	---
White Metal	scalar	*Visual	NONE	NONE	NONE	---
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	---

CONTAMINATION

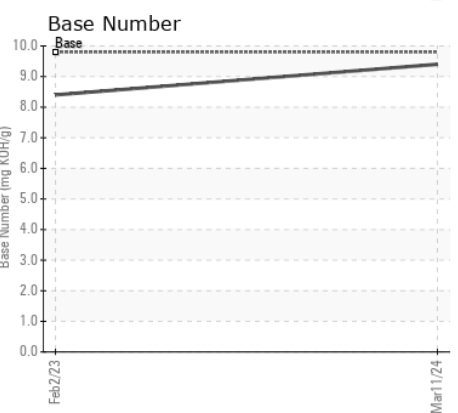
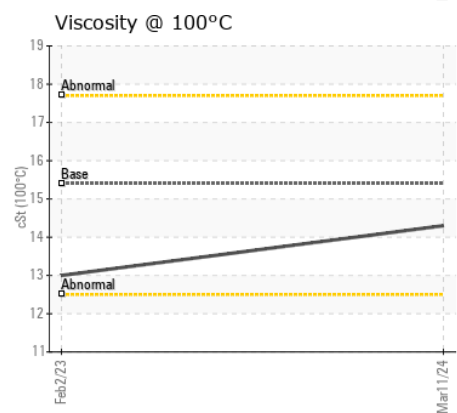
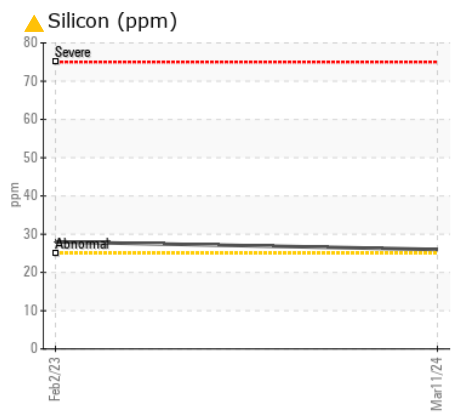
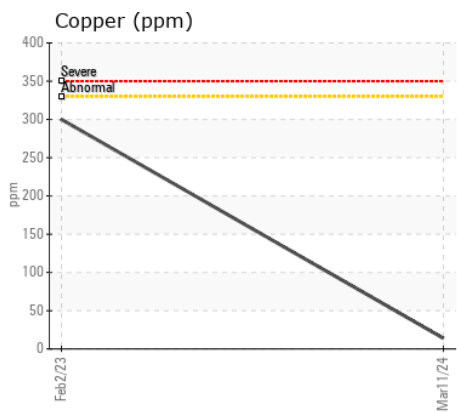
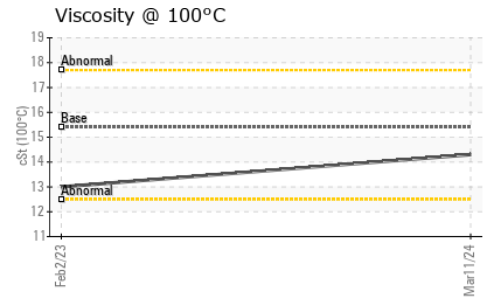
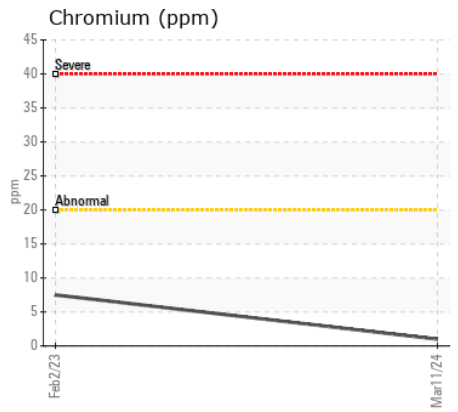
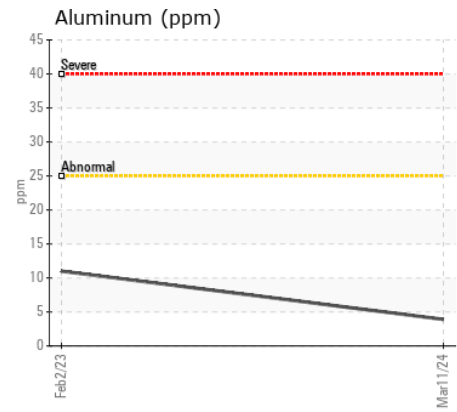
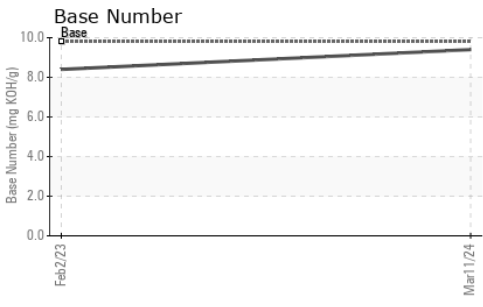
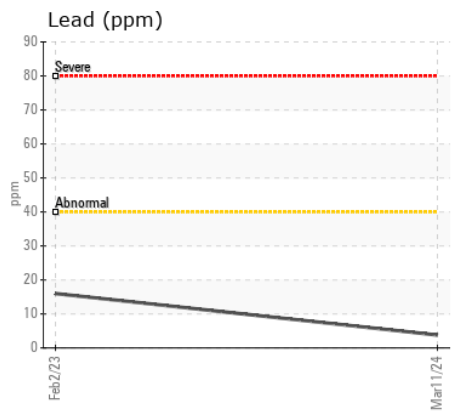
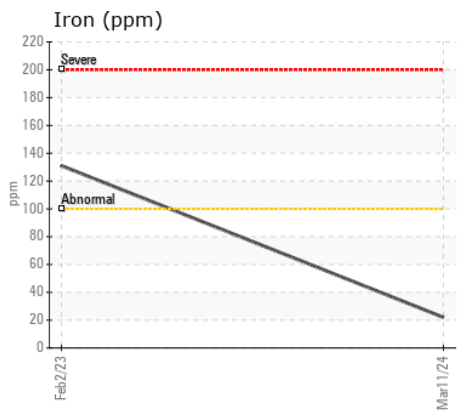
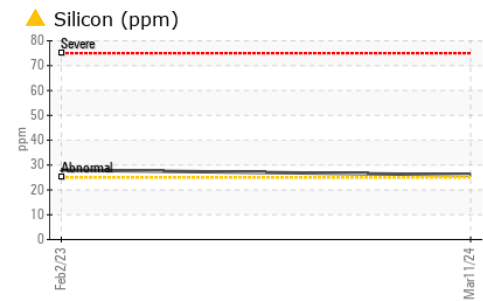
Elemental level of silicon (Si) above normal indicating ingress of seal material.

Silicon	ppm	ASTM D5185m	>25	▲ 26	▲ 28	---
Potassium	ppm	ASTM D5185m	>20	2	5	---
Fuel		WC Method	>5	<1.0	<1.0	---
Water		WC Method	>0.2	NEG	NEG	---
Glycol		WC Method		NEG	NEG	---
Soot %	%	*ASTM D7844	>3	0.1	0.7	---
Nitration	Abs/cm	*ASTM D7624	>20	5.8	12.4	---
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.1	26.0	---
Silt	scalar	*Visual	NONE	NONE	NONE	---
Debris	scalar	*Visual	NONE	NONE	NONE	---
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	---
Appearance	scalar	*Visual	NORML	NORML	NORML	---
Odor	scalar	*Visual	NORML	NORML	NORML	---
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	---

FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		5	36	---
Boron	ppm	ASTM D5185m	0	2	6	---
Barium	ppm	ASTM D5185m	0	1	0	---
Molybdenum	ppm	ASTM D5185m	60	62	64	---
Manganese	ppm	ASTM D5185m	0	<1	2	---
Magnesium	ppm	ASTM D5185m	1010	1011	965	---
Calcium	ppm	ASTM D5185m	1070	1181	1311	---
Phosphorus	ppm	ASTM D5185m	1150	1131	999	---
Zinc	ppm	ASTM D5185m	1270	1332	1278	---
Sulfur	ppm	ASTM D5185m	2060	3637	3194	---
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.5	25.9	---
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	9.4	8.4	---
Visc @ 100°C	cSt	ASTM D445	15.4	14.3	13.0	---



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0109068 **Received** : 18 Mar 2024
Lab Number : 06121413 **Tested** : 19 Mar 2024
Unique Number : 10930246 **Diagnosed** : 20 Mar 2024 - Don Baldrige
Test Package : MOB 1 (Additional Tests: TBN)

Kemp Quarries - BCS-Mill Creek
 609 Lazy E Rd
 Noel, MO
 US 64854
 Contact: TRAVIS ELLIS
 tellis@kempquarries.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)