



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
KEMP QUARRIES / BCS - STILLWELL

Machine Id
TTH018

Component
Diesel Engine

Fluid
PETRO CANADA DURON SHP 15W40 (--- GAL)

RECOMMENDATION

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

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0109329	PCA0086389	PCA0025468
Sample Date		Client Info		03 Apr 2024	05 Jul 2023	28 Jan 2022
Machine Age	hrs	Client Info		1180	832	242
Oil Age	hrs	Client Info		1180	832	242
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	ABNORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>90	37	56	25
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>2	1	1	0
Titanium	ppm	ASTM D5185m	>2	<1	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	4	1
Lead	ppm	ASTM D5185m	>40	28	▲ 44	5
Copper	ppm	ASTM D5185m	>330	37	31	3
Tin	ppm	ASTM D5185m	>15	4	6	1
Vanadium	ppm	ASTM D5185m		0	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

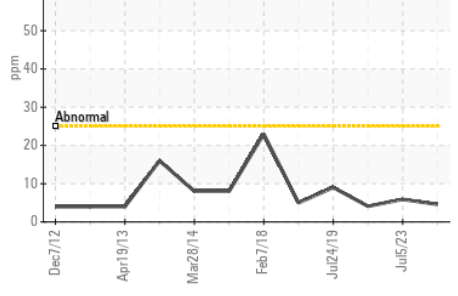
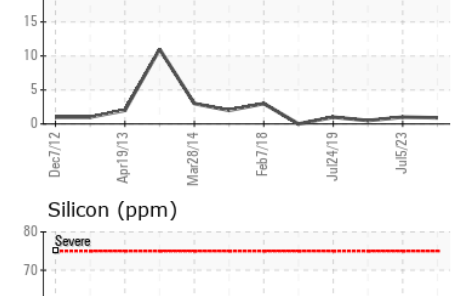
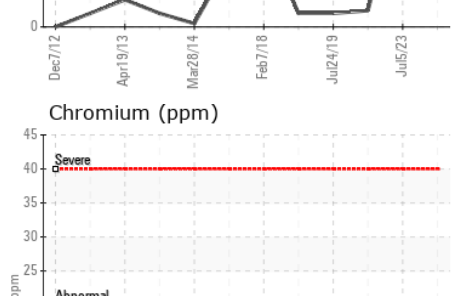
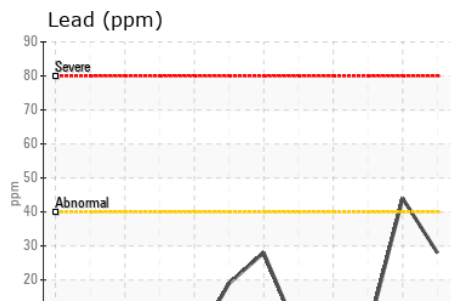
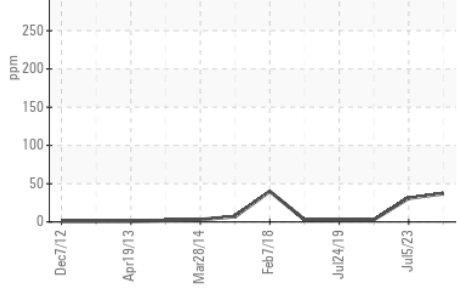
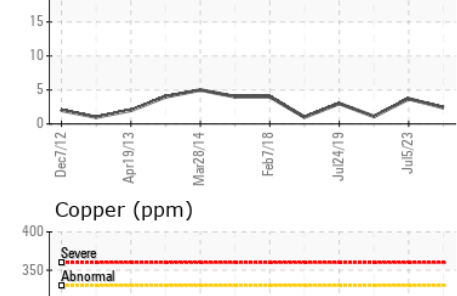
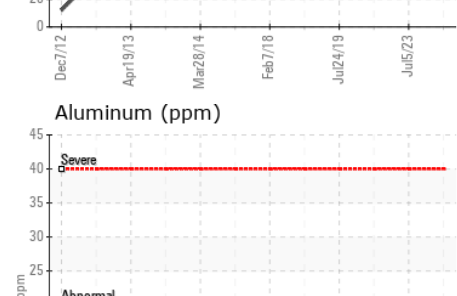
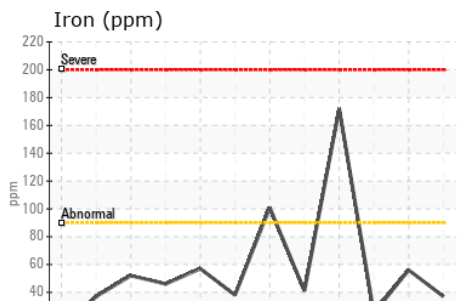
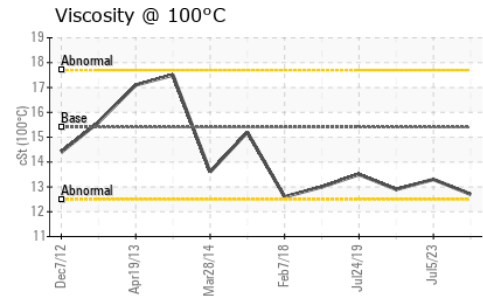
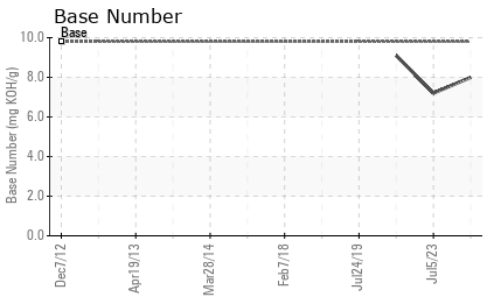
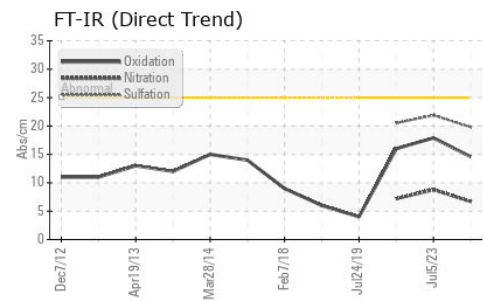
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>25	5	6	4
Potassium	ppm	ASTM D5185m	>20	2	<1	0
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>6	0.7	1.1	0.3
Nitration	Abs/cm	*ASTM D7624	>20	6.7	8.8	7.2
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.8	21.9	20.5
Silt	scalar	*Visual	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
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG

FLUID CONDITION

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

Sodium	ppm	ASTM D5185m		0	3	3
Boron	ppm	ASTM D5185m	0	<1	2	8
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	64	64	63
Manganese	ppm	ASTM D5185m	0	<1	1	<1
Magnesium	ppm	ASTM D5185m	1010	969	1034	985
Calcium	ppm	ASTM D5185m	1070	1132	1154	1195
Phosphorus	ppm	ASTM D5185m	1150	1045	1063	1036
Zinc	ppm	ASTM D5185m	1270	1215	1370	1285
Sulfur	ppm	ASTM D5185m	2060	2982	3428	2663
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.6	17.9	16.0
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.0	7.2	9.1
Visc @ 100°C	cSt	ASTM D445	15.4	12.7	13.3	12.9



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0109329 **Received** : 15 Apr 2024
Lab Number : 06148406 **Tested** : 16 Apr 2024
Unique Number : 10978484 **Diagnosed** : 17 Apr 2024 - Sean Felton
Test Package : MOB 1 (Additional Tests: TBN)

Kemp Quarries - Benton County Stone - Stillwell
 463917 Highway 100
 Bunch, OK
 US 74931
 Contact:

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

stilwell@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)

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F: