



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
SHTS
Machine Id
[SHTS] 511
Component
Diesel Engine
Fluid
PETRO CANADA DURON SHP 15W40 (18 QTS)

RECOMMENDATION

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		PCA0041877	WC0901481	WC0843755
Sample Date		Client Info		19 Jun 2024	07 Feb 2024	15 Sep 2023
Machine Age	mls	Client Info		371658	360784	350031
Oil Age	mls	Client Info		10874	10753	10234
Filter Age	mls	Client Info		10874	10753	10234
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>80	10	11	12
Chromium	ppm	ASTM D5185m	>5	0	<1	<1
Nickel	ppm	ASTM D5185m	>2	0	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>30	3	2	2
Lead	ppm	ASTM D5185m	>30	<1	<1	0
Copper	ppm	ASTM D5185m	>150	0	1	<1
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

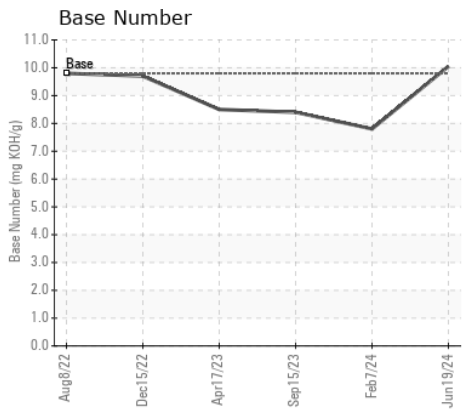
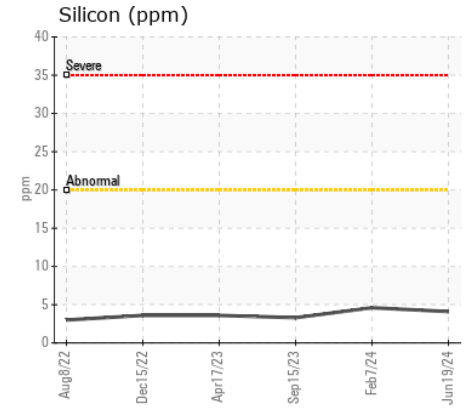
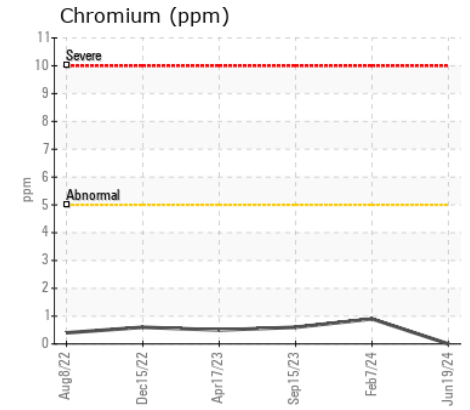
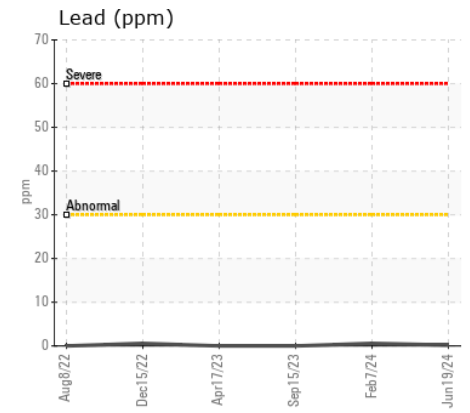
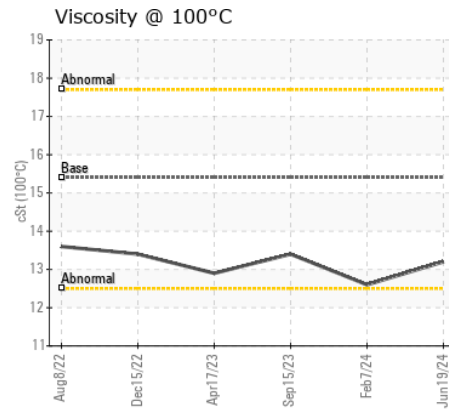
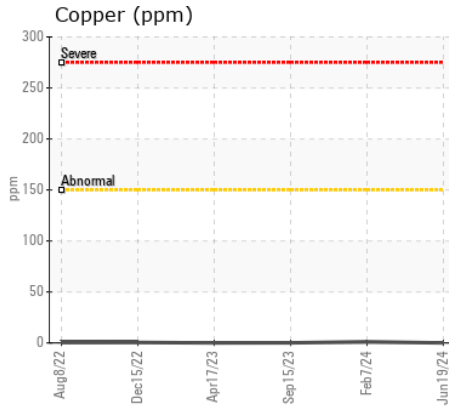
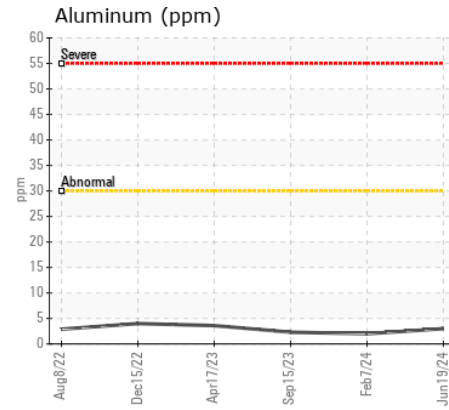
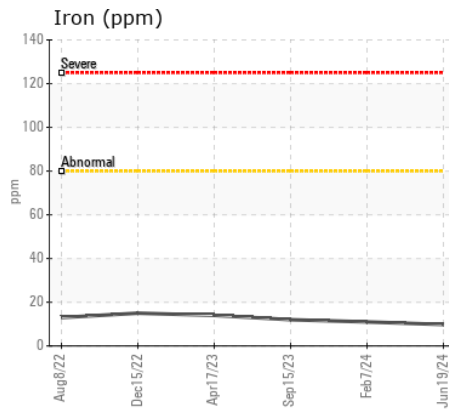
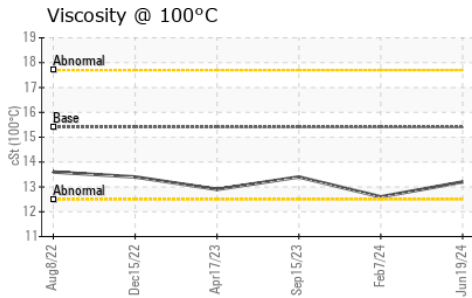
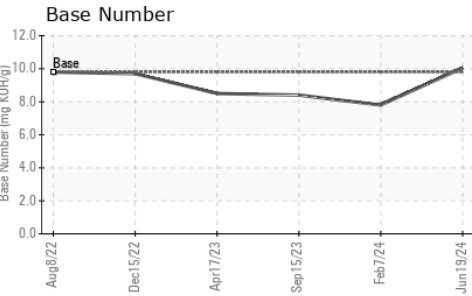
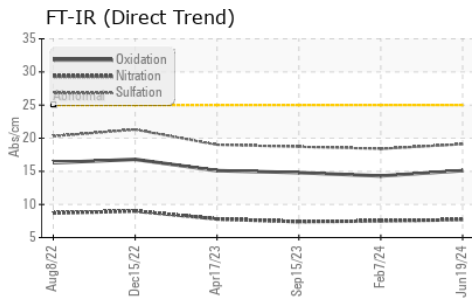
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>20	4	5	3
Potassium	ppm	ASTM D5185m	>20	8	3	2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.2	0.2	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.7	7.5	7.4
Sulfation	Abs/.1mm	*ASTM D7415	>30	19.1	18.4	18.7
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 suitable for further service.

Sodium	ppm	ASTM D5185m		3	0	4
Boron	ppm	ASTM D5185m	0	6	8	6
Barium	ppm	ASTM D5185m	0	0	0	0
Molybdenum	ppm	ASTM D5185m	60	64	58	64
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	1080	882	1021
Calcium	ppm	ASTM D5185m	1070	1165	1034	1128
Phosphorus	ppm	ASTM D5185m	1150	1133	936	1082
Zinc	ppm	ASTM D5185m	1270	1423	1122	1330
Sulfur	ppm	ASTM D5185m	2060	3661	3321	3791
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.1	14.3	14.8
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	10.05	7.8	8.4
Visc @ 100°C	cSt	ASTM D445	15.4	13.2	12.6	13.4



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : PCA0041877
Lab Number : 06224086
Unique Number : 11102283
Test Package : MOB 2

Received : 28 Jun 2024
Tested : 01 Jul 2024
Diagnosed : 01 Jul 2024 - Wes Davis

HUMBOLDT TRANSIT AUTHORITY
 133 V ST
 EUREKA, CA
 US 95501
 Contact: Jim Wilson
 jim@hta.org
 T: (707)443-0828
 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)