



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area

SHTS
Machine Id

[SHTS] 512
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		WC0901447	WC0901475	WC0843744
Sample Date		Client Info		11 Jun 2024	31 Jan 2024	25 Sep 2023
Machine Age	mls	Client Info		391719	381046	370105
Oil Age	mls	Client Info		10673	10941	11046
Filter Age	mls	Client Info		10673	10941	11046
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	13	10	14
Chromium	ppm	ASTM D5185m	>5	<1	<1	<1
Nickel	ppm	ASTM D5185m	>2	<1	<1	<1
Titanium	ppm	ASTM D5185m		<1	<1	<1
Silver	ppm	ASTM D5185m	>3	<1	0	0
Aluminum	ppm	ASTM D5185m	>30	4	5	2
Lead	ppm	ASTM D5185m	>30	<1	<1	0
Copper	ppm	ASTM D5185m	>150	1	1	1
Tin	ppm	ASTM D5185m	>5	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
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.

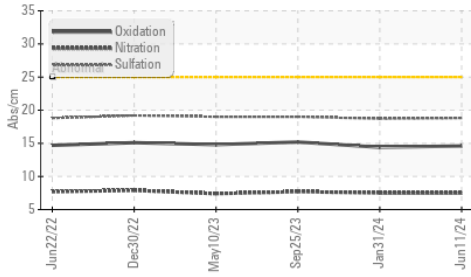
Silicon	ppm	ASTM D5185m	>20	4	4	4
Potassium	ppm	ASTM D5185m	>20	5	6	3
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.3	0.4	0.3
Nitration	Abs/cm	*ASTM D7624	>20	7.5	7.5	7.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.8	18.7	19.0
Silt	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

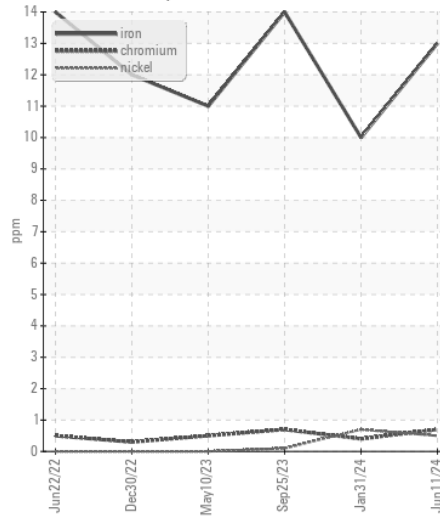
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		3	4	4
Boron	ppm	ASTM D5185m	0	5	7	2
Barium	ppm	ASTM D5185m	0	<1	0	0
Molybdenum	ppm	ASTM D5185m	60	64	64	64
Manganese	ppm	ASTM D5185m	0	<1	<1	<1
Magnesium	ppm	ASTM D5185m	1010	928	946	1035
Calcium	ppm	ASTM D5185m	1070	1054	1051	1101
Phosphorus	ppm	ASTM D5185m	1150	1001	1044	1034
Zinc	ppm	ASTM D5185m	1270	1186	1267	1291
Sulfur	ppm	ASTM D5185m	2060	2899	2960	3042
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.6	14.4	15.2
Base Number (BN)	mg KOH/g	ASTM D2896	9.8	8.0	7.7	8.4
Visc @ 100°C	cSt	ASTM D445	15.4	13.2	12.8	13.2

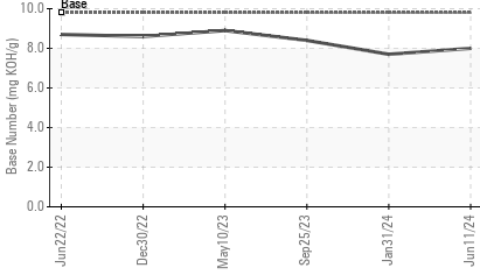
FT-IR (Direct Trend)



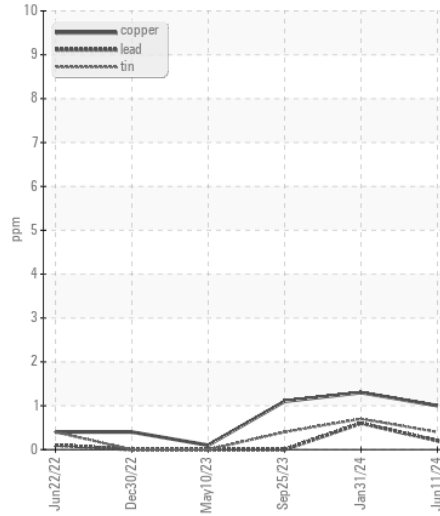
Ferrous Alloys



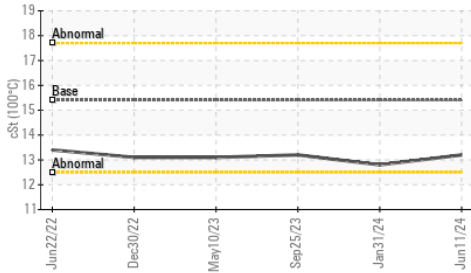
Base Number



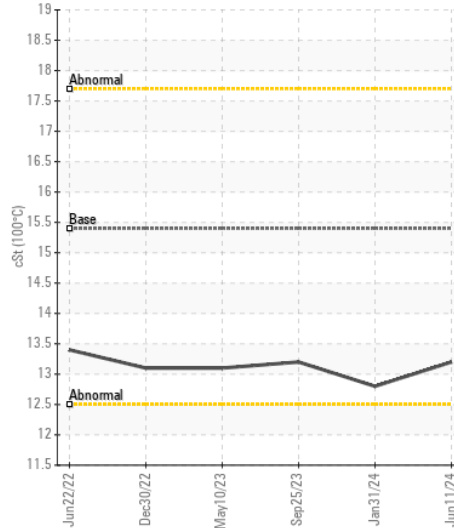
Non-ferrous Metals



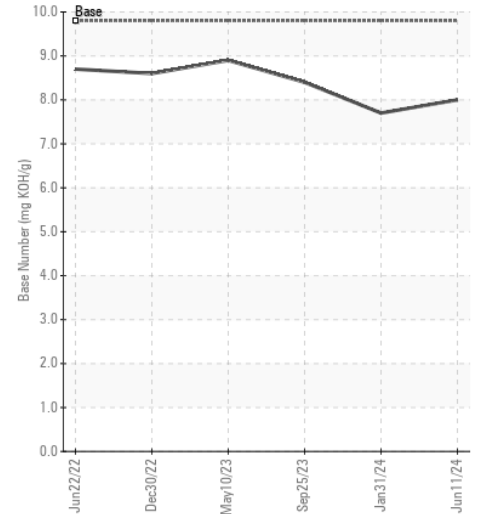
Viscosity @ 100°C



Viscosity @ 100°C



Base Number



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0901447
Lab Number : 06213030
Unique Number : 11085894
Test Package : FLEET
Received : 17 Jun 2024
Tested : 19 Jun 2024
Diagnosed : 19 Jun 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)