



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	SEVERE
FLUID CONDITION	ABNORMAL

Machine Id
RO-11 (S/N 462237)

Component
Diesel Engine

Fluid
VALVOLINE PREMIUM BLUE (--- QTS)

RECOMMENDATION

We advise that you check the fuel injection system. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		WC0731570	WC0638732	WC0638713
Sample Date		Client Info		05 Oct 2022	14 May 2022	29 Oct 2021
Machine Age	hrs	Client Info		2729	1965	1224
Oil Age	hrs	Client Info		764	741	661
Filter Age	hrs	Client Info		764	741	661
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				SEVERE	SEVERE	ABNORMAL

WEAR

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	49	60	39
Chromium	ppm	ASTM D5185m	>20	2	2	1
Nickel	ppm	ASTM D5185m	>4	1	<1	0
Titanium	ppm	ASTM D5185m		1	0	0
Silver	ppm	ASTM D5185m	>3	1	0	<1
Aluminum	ppm	ASTM D5185m	>20	2	3	3
Lead	ppm	ASTM D5185m	>40	<1	2	2
Copper	ppm	ASTM D5185m	>330	5	11	44
Tin	ppm	ASTM D5185m	>15	2	<1	1
Vanadium	ppm	ASTM D5185m		1	0	0
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

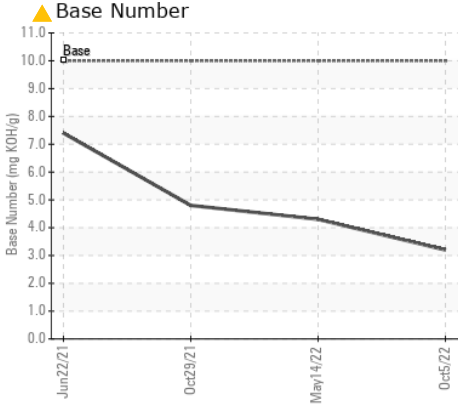
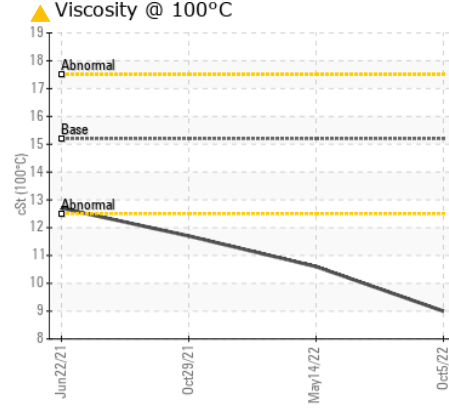
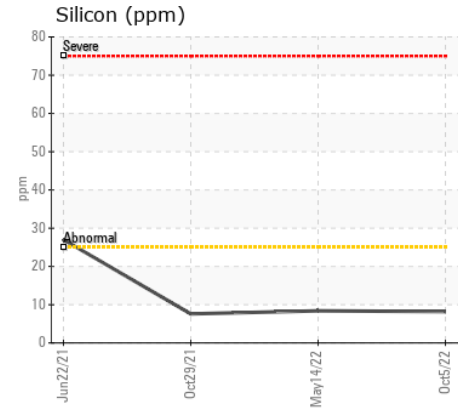
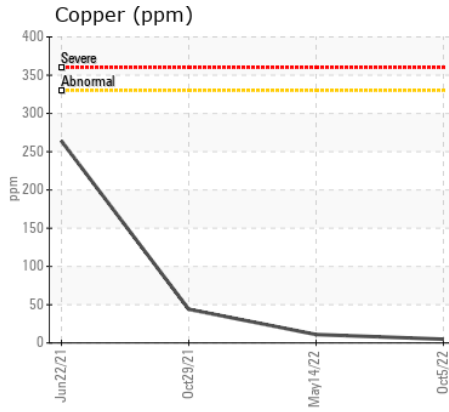
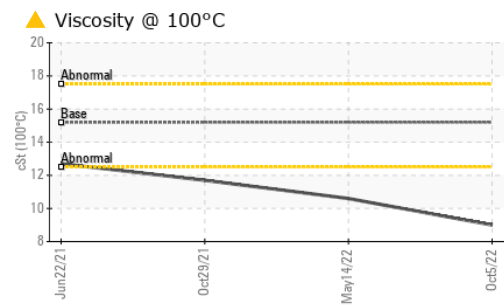
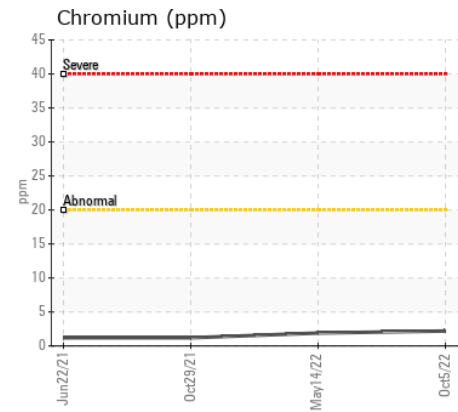
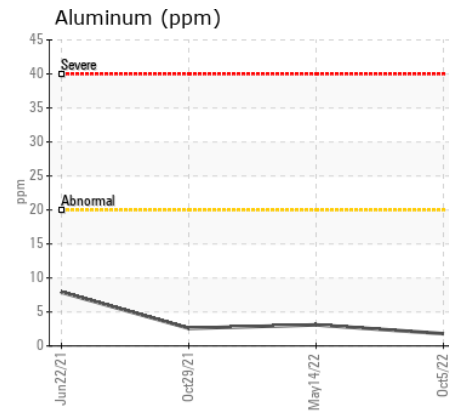
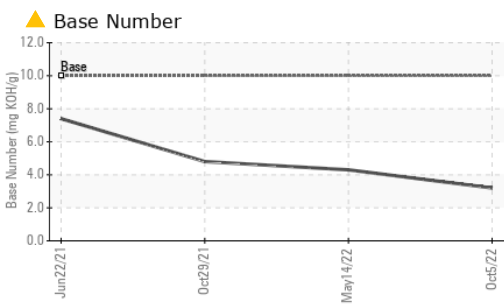
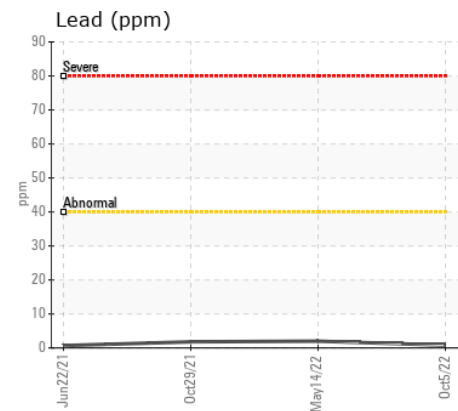
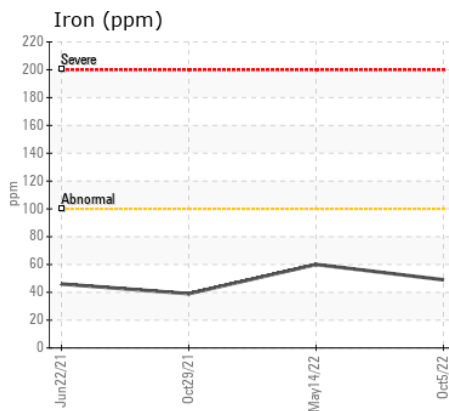
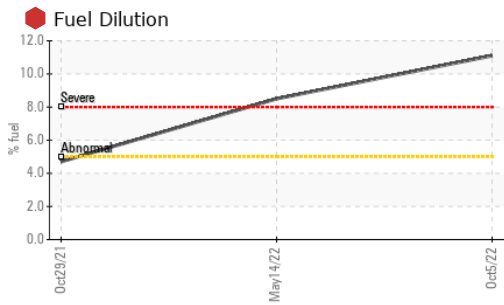
There is a high amount of fuel present in the oil.

Silicon	ppm	ASTM D5185m	>25	8	8	8
Potassium	ppm	ASTM D5185m	>20	2	7	4
Fuel	%	ASTM D3524	>5	11.1	8.5	4.7
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.8	0.8	0.6
Nitration	Abs/cm	*ASTM D7624	>20	14.9	14.1	10.7
Sulfation	Abs/.1mm	*ASTM D7415	>30	31.3	28.9	23.5
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

Fuel is present in the oil and is lowering the viscosity. The BN level is low. The oil is no longer serviceable due to the presence of contaminants.

Sodium	ppm	ASTM D5185m		4	2	2
Boron	ppm	ASTM D5185m	2.9	15	31	23
Barium	ppm	ASTM D5185m	0.1	4	0	0
Molybdenum	ppm	ASTM D5185m	0.0	63	60	41
Manganese	ppm	ASTM D5185m		2	1	2
Magnesium	ppm	ASTM D5185m	18	508	616	405
Calcium	ppm	ASTM D5185m	2936	995	1314	1529
Phosphorus	ppm	ASTM D5185m	998	574	645	668
Zinc	ppm	ASTM D5185m	1095	694	777	801
Sulfur	ppm	ASTM D5185m	5469	2137	2104	2292
Oxidation	Abs/.1mm	*ASTM D7414	>25	35.9	30.8	22
Base Number (BN)	mg KOH/g	ASTM D2896	10.0	3.2	4.3	4.8
Visc @ 100°C	cSt	ASTM D445	15.2	9	10.6	11.7



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : WC0731570 **Received** : 10 Oct 2022
Lab Number : 05661890 **Diagnosed** : 11 Oct 2022
Unique Number : 10166459 **Diagnostician** : Jonathan Hester
Test Package : MOBCE (Additional Tests: PercentFuel, TBN)

TULLY CONSTRUCTION BOULEVARD
 127-50 NORTHERN BLVD
 FLUSHING, NY
 US 11368
 Contact: MATT FLYNN
 Mflynn@tullyconstruction.com
 T: (917)299-4960
 F:

Certificate L2367
 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)