James River Equipment

OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	ABNORMAL
FLUID CONDITION	ABNORMAL

Machine Id
HITACHI 210LC-6N E200
Component
Diesel Engine
Fluid
CAT DIESEL ENGINE OIL 15W40 (6 GAL)

RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

WEAR

The aluminum level is abnormal. All other component wear rates are normal.

CONTAMINATION

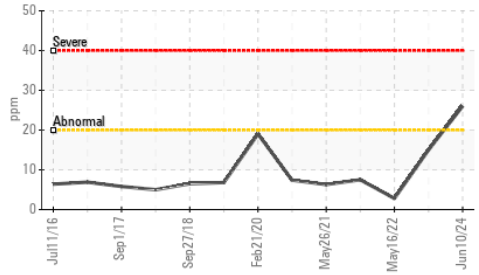
Sodium and/or potassium levels are high.

FLUID CONDITION

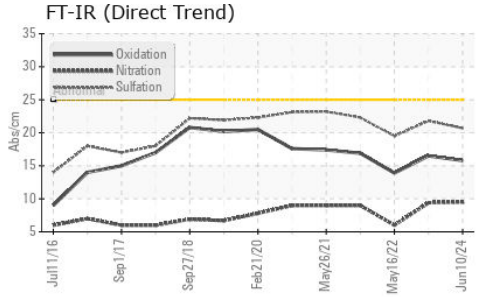
The BN result indicates that there is suitable alkalinity remaining in the oil.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		JR0193316	JR0143617	JR0129170
Sample Date		Client Info		10 Jun 2024	05 Jan 2023	16 May 2022
Machine Age	hrs	Client Info		7197	6686	6129
Oil Age	hrs	Client Info		511	557	521
Filter Age	hrs	Client Info		511	557	521
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	ABNORMAL	NORMAL
Iron	ppm	ASTM D5185m	>100	15	13	3
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		<1	<1	0
Silver	ppm	ASTM D5185m	>3	<1	0	<1
Aluminum	ppm	ASTM D5185m	>20	▲ 26	15	3
Lead	ppm	ASTM D5185m	>40	3	4	<1
Copper	ppm	ASTM D5185m	>330	6	2	<1
Tin	ppm	ASTM D5185m	>15	1	1	<1
Vanadium	ppm	ASTM D5185m		<1	<1	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Silicon	ppm	ASTM D5185m	>25	11	9	6
Potassium	ppm	ASTM D5185m	>20	▲ 40	23	4
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol	%	*ASTM D2982		NEG	NEG	NEG
Soot %	%	*ASTM D7844	>3	0.4	0.5	0.1
Nitration	Abs/cm	*ASTM D7624	>20	9.5	9.4	6.0
Sulfation	Abs/.1mm	*ASTM D7415	>30	20.7	21.8	19.5
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
Sodium	ppm	ASTM D5185m		▲ 258	▲ 128	10
Boron	ppm	ASTM D5185m		110	163	262
Barium	ppm	ASTM D5185m		2	0	0
Molybdenum	ppm	ASTM D5185m		268	271	226
Manganese	ppm	ASTM D5185m		<1	<1	<1
Magnesium	ppm	ASTM D5185m		784	860	812
Calcium	ppm	ASTM D5185m		1408	1603	1377
Phosphorus	ppm	ASTM D5185m		832	911	866
Zinc	ppm	ASTM D5185m	1460	1040	1179	1002
Sulfur	ppm	ASTM D5185m		2651	3684	2638
Oxidation	Abs/.1mm	*ASTM D7414	>25	15.8	16.5	13.9
Base Number (BN)	mg KOH/g	ASTM D2896	11.3	10.1	9.8	9.6
Visc @ 100°C	cSt	ASTM D445	15.5	13.8	13.9	14.4

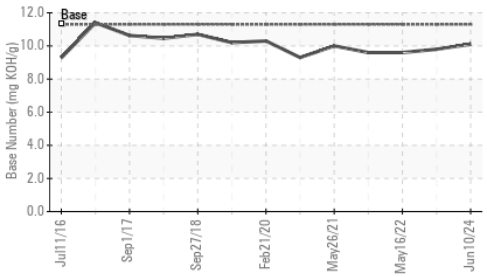
Aluminum (ppm)



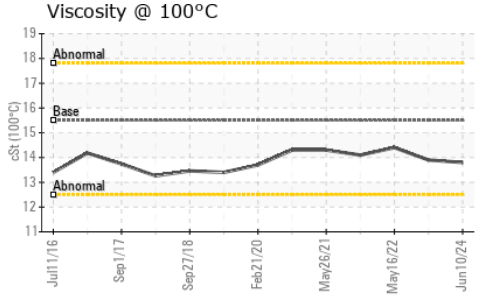
FT-IR (Direct Trend)



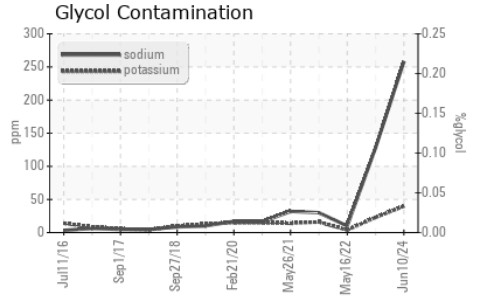
Base Number



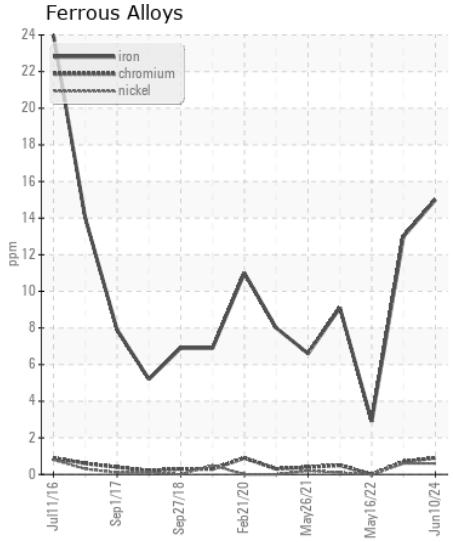
Viscosity @ 100°C



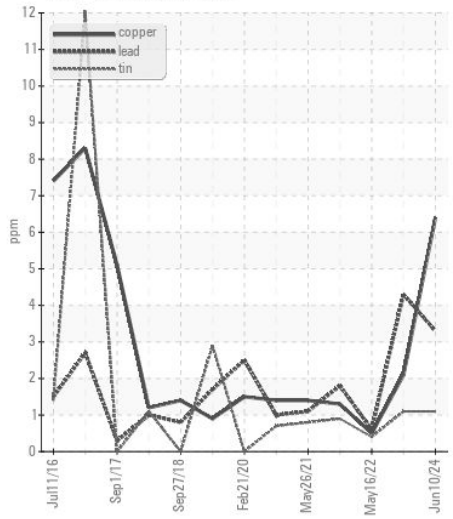
Glycol Contamination



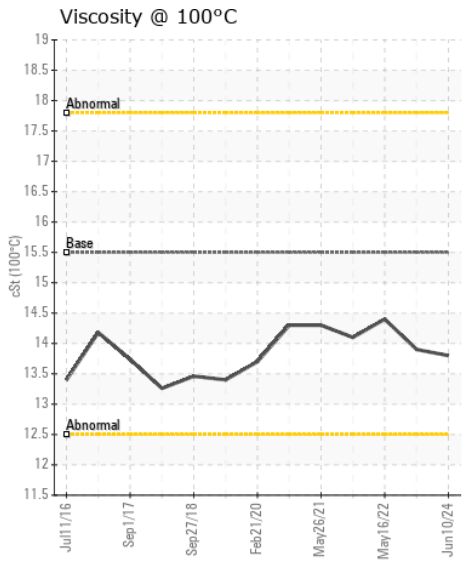
Ferrous Alloys



Non-ferrous Metals



Viscosity @ 100°C



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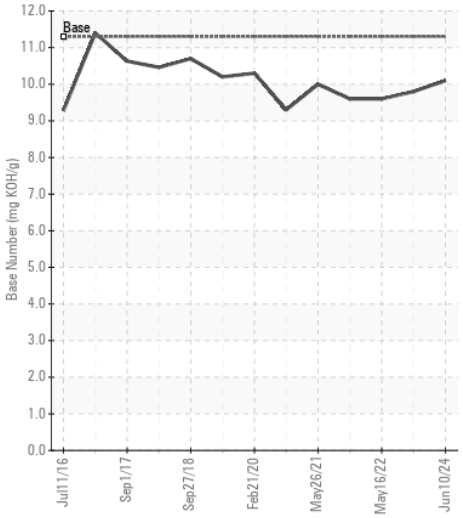

Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : JR0193316 **Received** : 02 Jul 2024
Lab Number : 06225823 **Tested** : 03 Jul 2024
Unique Number : 11109316 **Diagnosed** : 03 Jul 2024 - Jonathan Hester
Test Package : CONST (Additional Tests: Glycol, KV40, TBN)

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)

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