



OIL ANALYSIS REPORT

WEAR	ABNORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area
Store 9 - Marietta
Machine Id
5004
Component
Diesel Engine
Fluid
LYDEN 15W40 (--- GAL)

RECOMMENDATION

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. We recommend an early resample to monitor this condition.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		LEC0046970	LEC0041250	LEC0034629
Sample Date		Client Info		10 Jan 2024	07 Jun 2023	31 Jan 2023
Machine Age	hrs	Client Info		706	588	468
Oil Age	hrs	Client Info		120	118	200
Filter Age	hrs	Client Info		120	118	200
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Changed
Sample Status				ABNORMAL	NORMAL	NORMAL

WEAR

An increase in the iron level is noted. Cylinder, crank, or cam shaft wear is indicated.

Iron	ppm	ASTM D5185m	>100	▲ 218	5	12
Chromium	ppm	ASTM D5185m	>20	3	2	0
Nickel	ppm	ASTM D5185m	>4	9	1	0
Titanium	ppm	ASTM D5185m		<1	34	81
Silver	ppm	ASTM D5185m	>3	<1	3	0
Aluminum	ppm	ASTM D5185m	>20	3	2	2
Lead	ppm	ASTM D5185m	>40	16	4	0
Copper	ppm	ASTM D5185m	>330	126	2	0
Tin	ppm	ASTM D5185m	>15	4	2	0
Vanadium	ppm	ASTM D5185m		0	2	<1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE

CONTAMINATION

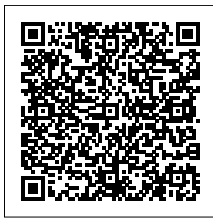
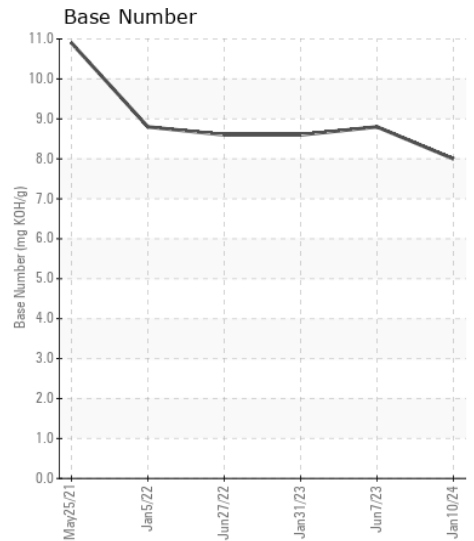
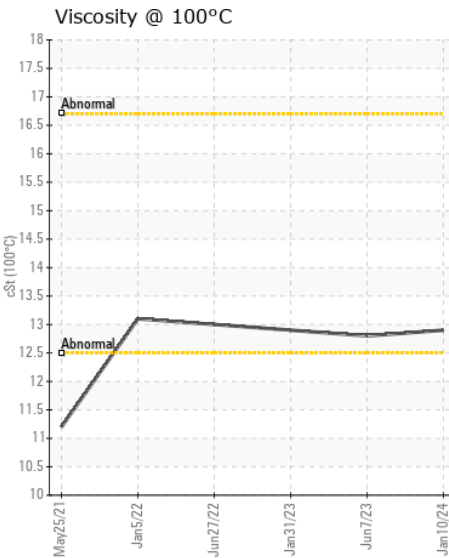
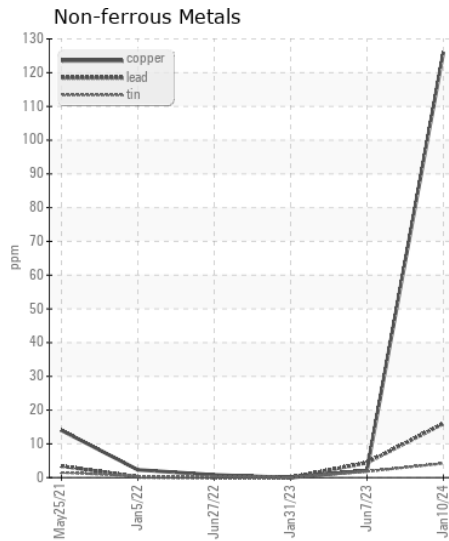
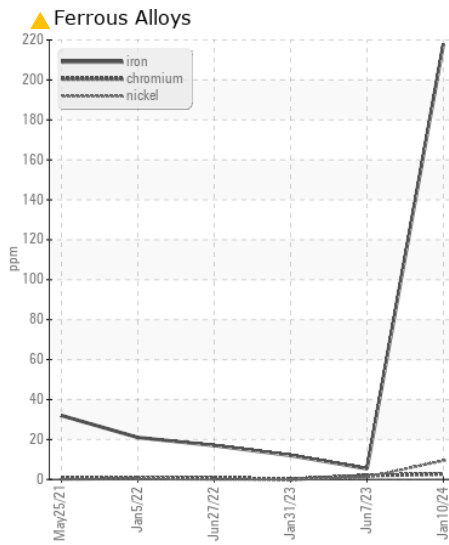
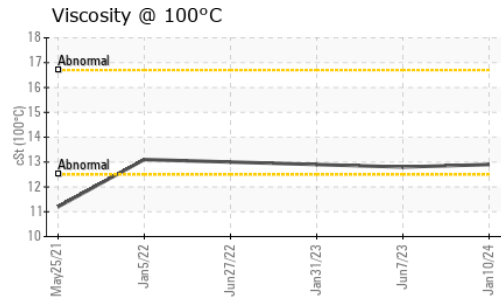
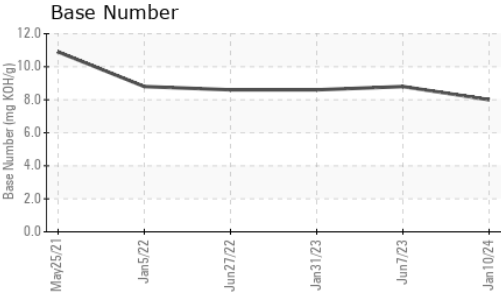
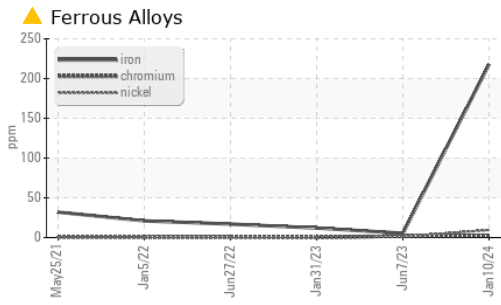
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>120	14	5	5
Potassium	ppm	ASTM D5185m	>20	<1	7	1
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	0.1	0.2	0.5
Nitration	Abs/cm	*ASTM D7624	>20	6.3	6.9	6.8
Sulfation	Abs/.1mm	*ASTM D7415	>30	18.5	18.9	18.5
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		20	4	2
Boron	ppm	ASTM D5185m		98	87	148
Barium	ppm	ASTM D5185m		0	0	0
Molybdenum	ppm	ASTM D5185m		<1	6	11
Manganese	ppm	ASTM D5185m		56	2	<1
Magnesium	ppm	ASTM D5185m		27	381	452
Calcium	ppm	ASTM D5185m		3475	1164	1679
Phosphorus	ppm	ASTM D5185m		1104	690	997
Zinc	ppm	ASTM D5185m		1321	866	1220
Sulfur	ppm	ASTM D5185m		2855	3225	4146
Oxidation	Abs/.1mm	*ASTM D7414	>25	14.1	14.0	13.5
Base Number (BN)	mg KOH/g	ASTM D2896		8.0	8.8	8.6
Visc @ 100°C	cSt	ASTM D445		12.9	12.8	12.9



Certificate L2367

Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513
Sample No. : LEC0046970 **Received** : 18 Jan 2024
Lab Number : 06064019 **Diagnosed** : 20 Jan 2024
Unique Number : 10835401 **Diagnostician** : Don Baldrige
Test Package : CONST (Additional Tests: TBN)

LAROCHE TREE SERVICE
 7 COMMERCE PKWY
 BELLAIRE, OH
 US 43906
 Contact: GLEN VARGO
 glen.vargo@larochetree.com

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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F: