



OIL ANALYSIS REPORT

WEAR	<b>NORMAL</b>
CONTAMINATION	<b>NORMAL</b>
FLUID CONDITION	<b>NORMAL</b>

Area  
**Store 9 - Marietta**

Machine Id

**1119**

Component

**Diesel Engine**

Fluid

**SHELL ROTELLA T 15W40 (--- GAL)**

**RECOMMENDATION**

Resample at the next service interval to monitor.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		<b>LEC0050897</b>	LEC0049239	LEC0048273
Sample Date		Client Info		<b>06 Jul 2024</b>	16 Apr 2024	06 Mar 2024
Machine Age	mls	Client Info		<b>453568</b>	426464	413303
Oil Age	mls	Client Info		<b>10000</b>	10000	10000
Filter Age	mls	Client Info		<b>10000</b>	10000	10000
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	ABNORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>22</b>	12	32
Chromium	ppm	ASTM D5185m	>20	<b>&lt;1</b>	<1	0
Nickel	ppm	ASTM D5185m	>4	<b>0</b>	0	0
Titanium	ppm	ASTM D5185m		<b>2</b>	<1	0
Silver	ppm	ASTM D5185m	>3	<b>&lt;1</b>	0	0
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	3	3
Lead	ppm	ASTM D5185m	>40	<b>1</b>	0	7
Copper	ppm	ASTM D5185m	>330	<b>2</b>	2	7
Tin	ppm	ASTM D5185m	>15	<b>&lt;1</b>	<1	0
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	0
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

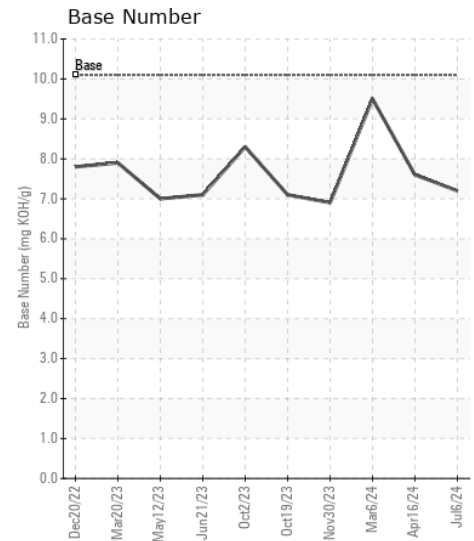
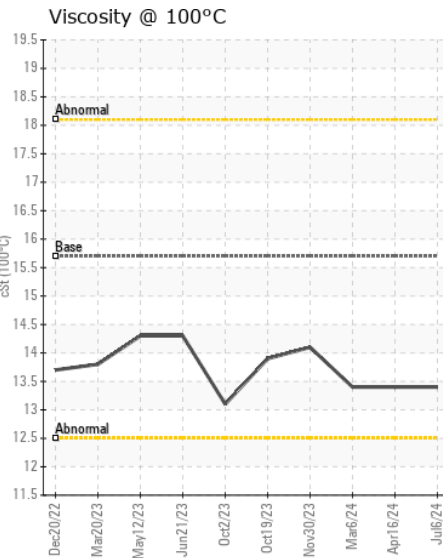
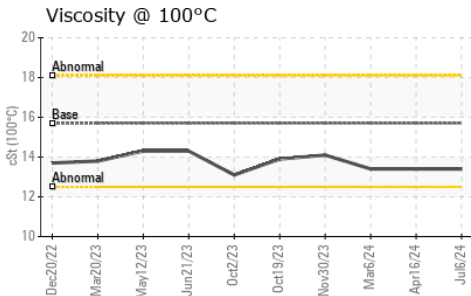
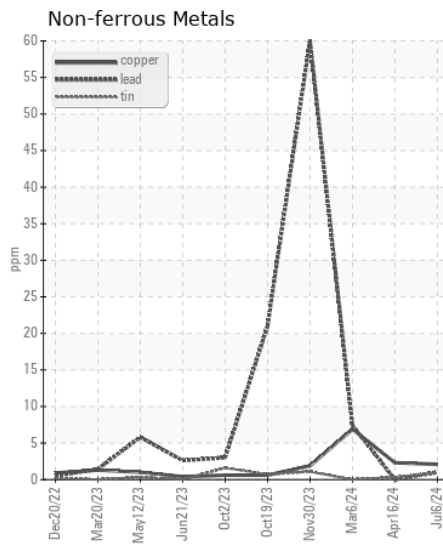
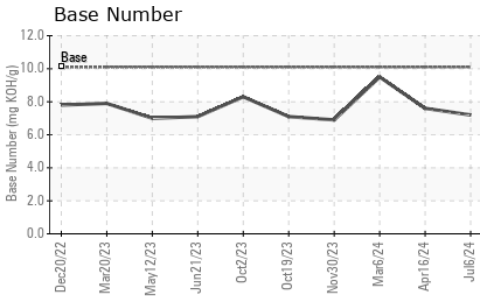
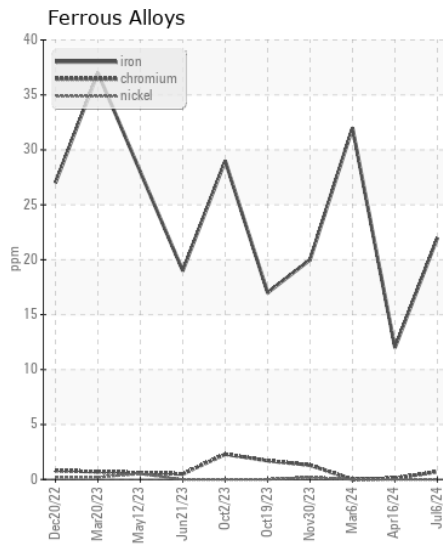
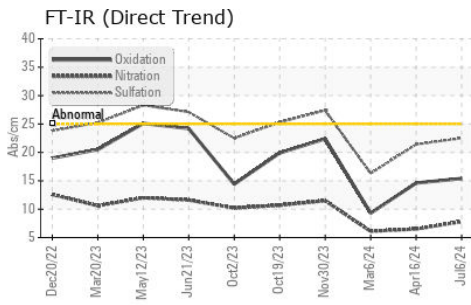
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>120	<b>11</b>	▲ 21	▲ 24
Potassium	ppm	ASTM D5185m	>20	<b>5</b>	9	<1
Fuel		WC Method	>5	<b>&lt;1.0</b>	<1.0	<1.0
Water		WC Method	>0.2	<b>NEG</b>	NEG	NEG
Glycol		WC Method		<b>NEG</b>	NEG	NEG
Soot %	%	*ASTM D7844	>3	<b>0.7</b>	0.4	0.5
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.8</b>	6.5	6.1
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>22.5</b>	21.4	16.3
Silt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Debris	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Appearance	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Odor	scalar	*Visual	NORML	<b>NORML</b>	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	<b>NEG</b>	NEG	NEG

**FLUID CONDITION**

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Sodium	ppm	ASTM D5185m		<b>0</b>	2	3
Boron	ppm	ASTM D5185m	316	<b>341</b>	370	100
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	0	6
Molybdenum	ppm	ASTM D5185m	1.2	<b>86</b>	90	50
Manganese	ppm	ASTM D5185m		<b>&lt;1</b>	<1	2
Magnesium	ppm	ASTM D5185m	24	<b>413</b>	475	127
Calcium	ppm	ASTM D5185m	2292	<b>1440</b>	1560	3120
Phosphorus	ppm	ASTM D5185m	1064	<b>996</b>	944	910
Zinc	ppm	ASTM D5185m	1160	<b>1217</b>	1142	1095
Sulfur	ppm	ASTM D5185m	4996	<b>3142</b>	3418	3771
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.4</b>	14.6	9.3
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>7.2</b>	7.6	9.5
Visc @ 100°C	cSt	ASTM D445	15.7	<b>13.4</b>	13.4	13.4



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0050897  
**Lab Number** : 06239913  
**Unique Number** : 11128747  
**Test Package** : CONST ( Additional Tests: TBN )

**Received** : 18 Jul 2024  
**Tested** : 18 Jul 2024  
**Diagnosed** : 19 Jul 2024 - Don Baldridge

**HALL DRILLING LLC**  
 PO BOX 249  
 ELLENBORO, WV  
 US 26346

Contact: CHRIS PETROVICH  
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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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