



OIL ANALYSIS REPORT

WEAR	NORMAL
CONTAMINATION	NORMAL
FLUID CONDITION	NORMAL

Area  
**SOLD LOCATIONS - LESCAM - CAMBRIDGE**

Machine Id

**1075**

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>LEC0050210</b>	LEC0049237	LEC0047087
Sample Date		Client Info		<b>23 May 2024</b>	16 Apr 2024	04 Mar 2024
Machine Age	hrs	Client Info		<b>17416</b>	16952	16496
Oil Age	hrs	Client Info		<b>400</b>	400	400
Filter Age	hrs	Client Info		<b>400</b>	400	400
Oil Changed		Client Info		<b>Changed</b>	Changed	Changed
Filter Changed		Client Info		<b>Changed</b>	Changed	Changed
Sample Status				<b>NORMAL</b>	NORMAL	ABNORMAL

**WEAR**

All component wear rates are normal.

Iron	ppm	ASTM D5185m	>100	<b>12</b>	15	20
Chromium	ppm	ASTM D5185m	>20	<b>2</b>	2	3
Nickel	ppm	ASTM D5185m	>4	<b>2</b>	0	1
Titanium	ppm	ASTM D5185m		<b>2</b>	1	<1
Silver	ppm	ASTM D5185m	>3	<b>1</b>	0	<1
Aluminum	ppm	ASTM D5185m	>20	<b>4</b>	4	6
Lead	ppm	ASTM D5185m	>40	<b>3</b>	<1	3
Copper	ppm	ASTM D5185m	>330	<b>3</b>	6	17
Tin	ppm	ASTM D5185m	>15	<b>2</b>	1	3
Vanadium	ppm	ASTM D5185m		<b>&lt;1</b>	0	<1
White Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	<b>NONE</b>	NONE	NONE

**CONTAMINATION**

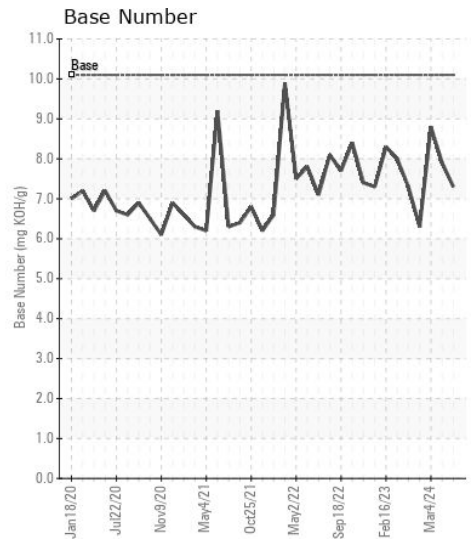
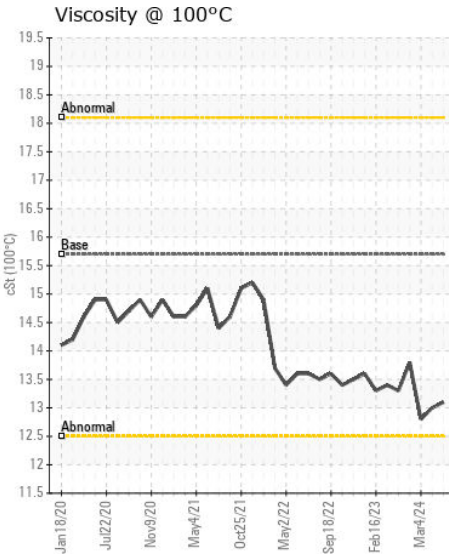
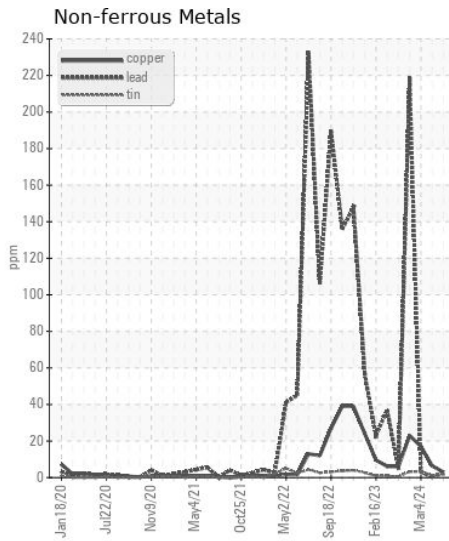
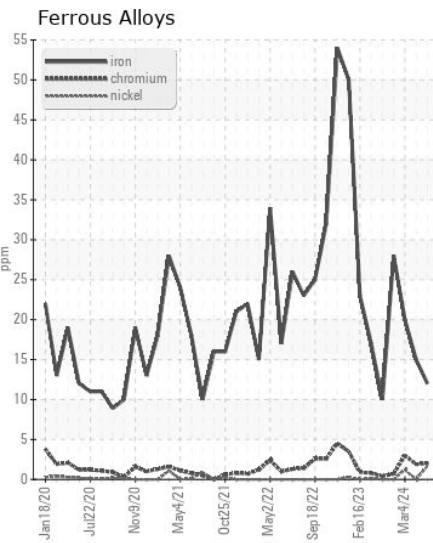
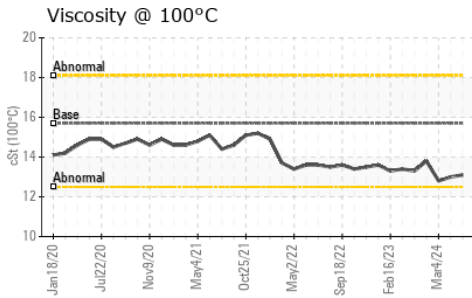
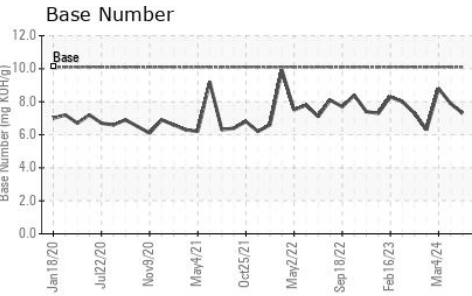
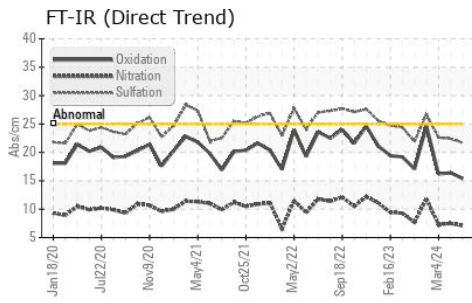
There is no indication of any contamination in the oil.

Silicon	ppm	ASTM D5185m	>120	<b>9</b>	12	▲ 28
Potassium	ppm	ASTM D5185m	>20	<b>3</b>	<1	4
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>0.2</b>	0.2	0.2
Nitration	Abs/cm	*ASTM D7624	>20	<b>7.1</b>	7.5	7.3
Sulfation	Abs/.1mm	*ASTM D7415	>30	<b>21.7</b>	22.4	22.6
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 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		<b>2</b>	1	4
Boron	ppm	ASTM D5185m	316	<b>382</b>	321	260
Barium	ppm	ASTM D5185m	0.0	<b>0</b>	1	14
Molybdenum	ppm	ASTM D5185m	1.2	<b>92</b>	97	108
Manganese	ppm	ASTM D5185m		<b>1</b>	2	6
Magnesium	ppm	ASTM D5185m	24	<b>493</b>	576	577
Calcium	ppm	ASTM D5185m	2292	<b>1505</b>	1576	1873
Phosphorus	ppm	ASTM D5185m	1064	<b>1003</b>	877	770
Zinc	ppm	ASTM D5185m	1160	<b>1200</b>	1094	938
Sulfur	ppm	ASTM D5185m	4996	<b>3804</b>	3275	2751
Oxidation	Abs/.1mm	*ASTM D7414	>25	<b>15.4</b>	16.4	16.2
Base Number (BN)	mg KOH/g	ASTM D2896	10.1	<b>7.3</b>	7.9	8.8
Visc @ 100°C	cSt	ASTM D445	15.7	<b>13.1</b>	13.0	12.8



Certificate L2367

**Laboratory** : WearCheck USA - 501 Madison Ave., Cary, NC 27513  
**Sample No.** : LEC0050210 **Received** : 29 May 2024  
**Lab Number** : 06193636 **Tested** : 30 May 2024  
**Unique Number** : 11050388 **Diagnosed** : 30 May 2024 - Sean Felton  
**Test Package** : CONST ( Additional Tests: TBN )

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

Contact: CHRIS PETROVICH  
 chrispetrovich@halldrilling.com  
 T: (304)869-3404  
 F: (304)869-3408

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)