



# OIL ANALYSIS REPORT

WEAR	<b>SEVERE</b>
CONTAMINATION	<b>SEVERE</b>
FLUID CONDITION	<b>ATTENTION</b>

Area  
**EXCAVATION CAROL [BT402980]**

Machine Id  
**VOLVO ECR355EL 314094**

Component  
**Front Right Final Drive**

Fluid  
**GEAR OIL LS 80W90 (--- GAL)**

## RECOMMENDATION

We advise that you check for the source of water entry. We advise that you check all areas where dirt can enter the system. We recommend that you drain the oil from the component if this has not already been done. We advise that you flush the component thoroughly before re-filling with oil. Confirm the source of the lubricant being utilized for top-up/fill. We recommend an early resample to monitor this condition. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) GEAR OIL LS 80W90. Please confirm.

## WEAR

Chromium and iron ppm levels are severe. PQ levels are severe. Aluminum ppm levels are noted. Titanium ppm levels are marginal. Gear wear is indicated. The very high ferrous density (PQ) index indicates that severe wear is occurring.

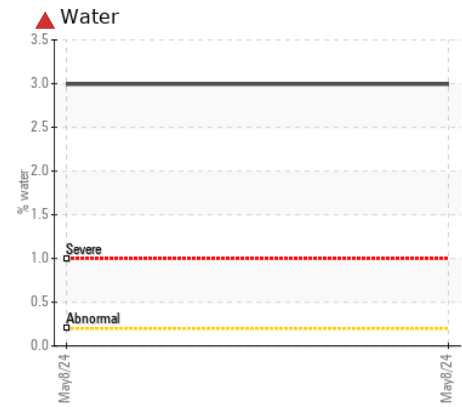
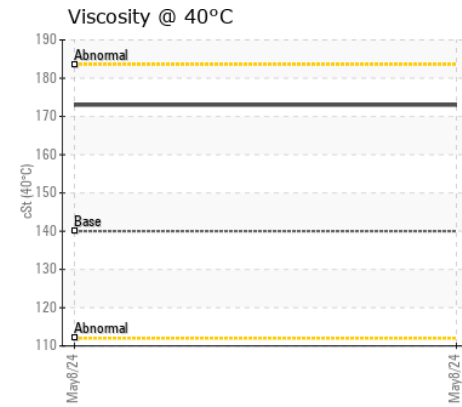
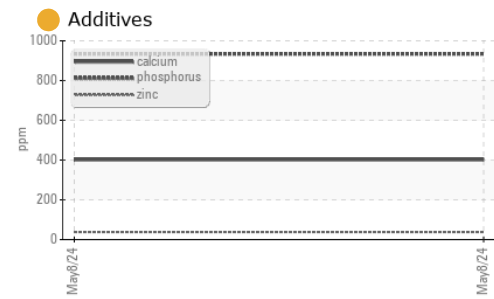
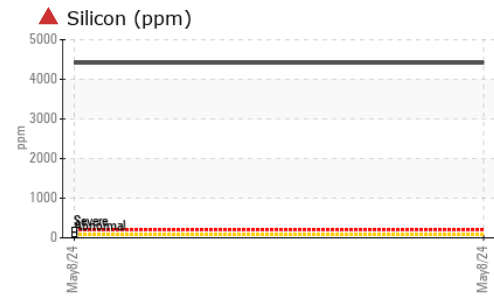
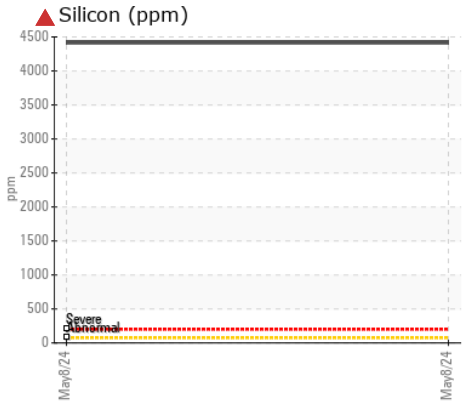
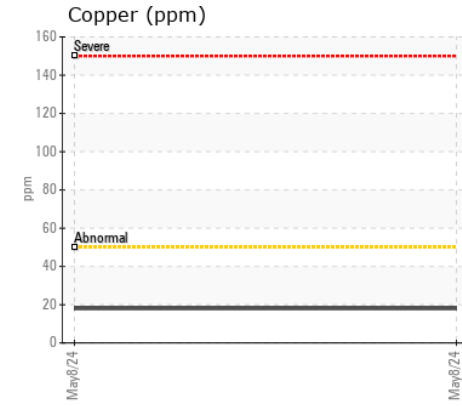
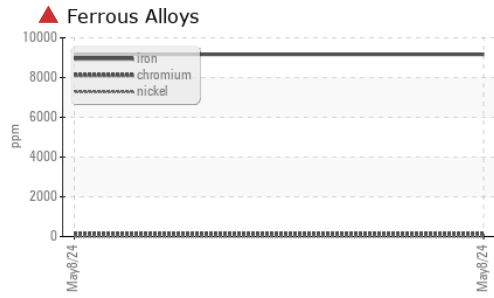
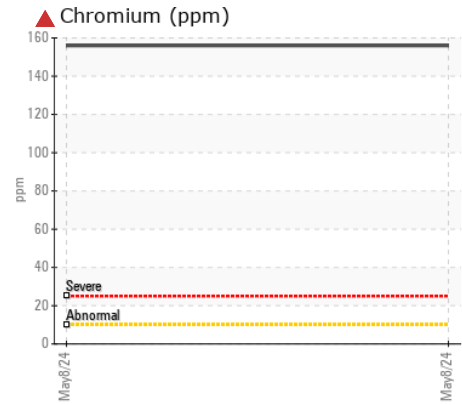
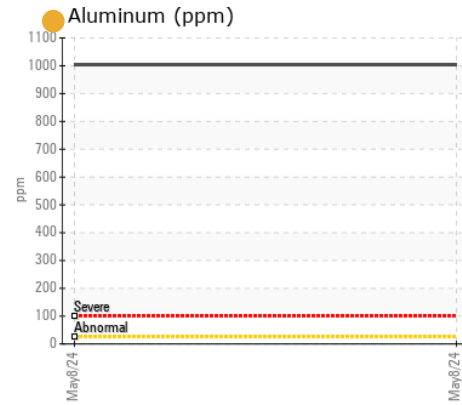
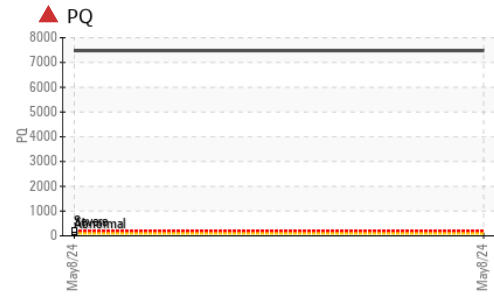
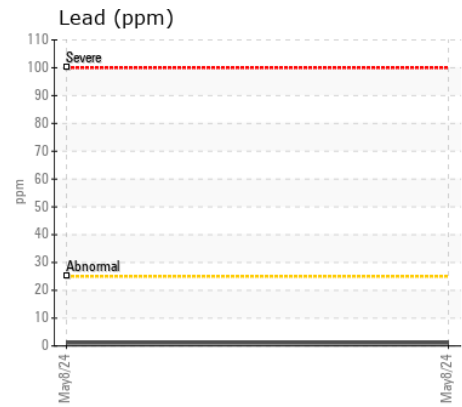
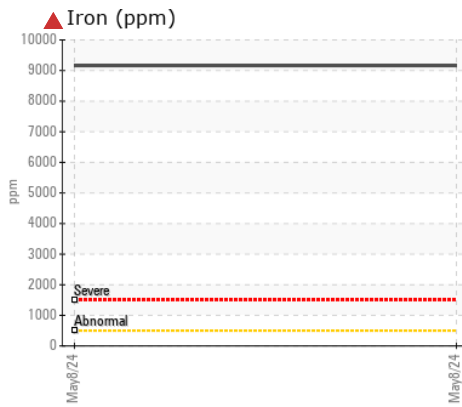
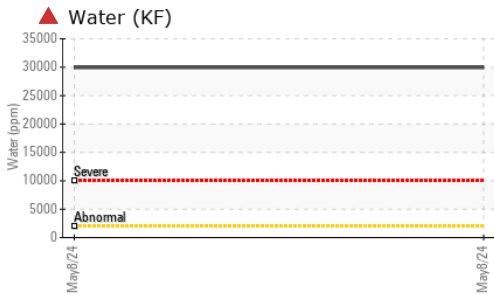
## CONTAMINATION

There is a high concentration of water present in the oil. Elemental levels of silicon (Si) and aluminum (Al) indicate alumina-silicate (coarse dirt) ingress. High amount of ingressed dirt has caused abrasive wear to the component.

## FLUID CONDITION

Additive levels indicate the addition of a different brand, or type of oil. The oil is no longer serviceable as a result of the abnormal and/or severe wear.

Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP430114	---	---
Sample Date		Client Info		08 May 2024	---	---
Machine Age	hrs	Client Info		5020	---	---
Oil Age	hrs	Client Info		0	---	---
Filter Age	hrs	Client Info		0	---	---
Oil Changed		Client Info		N/A	---	---
Filter Changed		Client Info		N/A	---	---
Sample Status				SEVERE	---	---
PQ		ASTM D8184*		▲ 7480	---	---
Iron	ppm	ASTM D5185(m)	>500	▲ 9164	---	---
Chromium	ppm	ASTM D5185(m)	>10	▲ 156	---	---
Nickel	ppm	ASTM D5185(m)	>10	9	---	---
Titanium	ppm	ASTM D5185(m)		▲ 70	---	---
Silver	ppm	ASTM D5185(m)		0	---	---
Aluminum	ppm	ASTM D5185(m)	>25	● 1004	---	---
Lead	ppm	ASTM D5185(m)	>25	1	---	---
Copper	ppm	ASTM D5185(m)	>50	18	---	---
Tin	ppm	ASTM D5185(m)	>10	0	---	---
Vanadium	ppm	ASTM D5185(m)		2	---	---
White Metal	scalar	Visual*	NONE	VLITE	---	---
Yellow Metal	scalar	Visual*	NONE	NONE	---	---
Silicon	ppm	ASTM D5185(m)	>75	▲ 4414	---	---
Potassium	ppm	ASTM D5185(m)	>20	321	---	---
Water	%	ASTM D6304*	>0.2	▲ 2.994	---	---
ppm Water	ppm	ASTM D6304*	>2000	▲ 29946	---	---
Silt	scalar	Visual*	NONE	NONE	---	---
Debris	scalar	Visual*	NONE	NONE	---	---
Sand/Dirt	scalar	Visual*	NONE	NONE	---	---
Appearance	scalar	Visual*	NORML	NORML	---	---
Odor	scalar	Visual*	NORML	NORML	---	---
Emulsified Water	scalar	Visual*	>0.2	▲ 1%	---	---
Sodium	ppm	ASTM D5185(m)		274	---	---
Boron	ppm	ASTM D5185(m)	150	161	---	---
Barium	ppm	ASTM D5185(m)		7	---	---
Molybdenum	ppm	ASTM D5185(m)		13	---	---
Manganese	ppm	ASTM D5185(m)		76	---	---
Magnesium	ppm	ASTM D5185(m)	10	● 172	---	---
Calcium	ppm	ASTM D5185(m)	70	● 402	---	---
Phosphorus	ppm	ASTM D5185(m)	2000	934	---	---
Zinc	ppm	ASTM D5185(m)	50	38	---	---
Sulfur	ppm	ASTM D5185(m)	20000	19739	---	---
Visc @ 40°C	cSt	ASTM D7279(m)	140	173	---	---



**Laboratory** : WearCheck - C8-1175 Appleby Line, Burlington, ON L7L 5H9  
**Sample No.** : VCP430114 **Received** : 10 May 2024  
**Lab Number** : 02634728 **Tested** : 13 May 2024  
**Unique Number** : 5775881 **Diagnosed** : 13 May 2024 - Kevin Marson  
**Test Package** : MOB 1 ( Additional Tests: KF, PQ )

**STRONGCO EQUIPMENT**  
 4535 LOUIS B MAYER  
 LAVAL, QC  
 CA H7P 6B5  
 Contact: Marco Castura  
 mcastura@strongco.com

To discuss this sample report, contact Customer Service at 1-800-268-2131.  
 Test denoted (\*) outside scope of accreditation, (m) method modified, (e) tested at external lab.  
 Validity of results and interpretation are based on the sample and information as supplied.

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