

CONSTRUCTION EQUIPMENT

SPM675414 ALTER ROCK SENNEBOGEN 835ME 835.0.2938 - DIES

**Sample No:** VCP350320

Oil Type: **DIESEL ENGINE OIL SAE 15W40** 

Job No: SPM675414 ALTER ROCK

CAMPLE IN	IFORMATION				
	II OILIIA I IOII	,	_		
Sample Number		VCP350320	VCP433443	VCP400501	VCP399960
Sample Date		27 Feb 2024	16 Nov 2023	10 Aug 2023	03 Apr 2023
Machine Hours		4783	4188	3684	2914
Oil Hours		0	0	0	0
Oil Changed		Changed	Changed	Changed	Changed
Sample Status		ABNORMAL	NORMAL	NORMAL	MARGINAL
OIL CONDI	TION				
OIL CONDI	I IUN		_		
Visc @ 100°C	cSt	<u> </u>	■13.1	■ 13.0	<b>12.3</b>
Base Number (BN)	mg KOH/g	<b>6.0</b>	■8.2	<b>7.5</b>	■ 6.1
Oxidation (PA)	%	76	65	70	73

CONTAMINATION									
Water	%	NEG	NEG	NEG	NEG				
Soot %	%	■0.2	■0.2	□ 0.2	□0.2				
Nitration (PA)	%	68	63	73	68				
Sulfation (PA)	%	60	56	55	56				
Glycol	%	NEG	NEG	NEG	NEG				
Fuel	%	<b>▲</b> 3.3	<1.0	<1.0	▲ 3.8				
Silicon	ppm	<b>■3</b>	<b>□</b> 3	<b>■</b> 3	<b>□</b> 3				
Sodium	ppm	<b>1</b>	<b>4</b>	<b>2</b>	0				
Potassium	ppm	<b>2</b>	< 1	<b>5</b>	<b>□</b> 3				

WEAR	METALS				
Iron	ppm	<b>12</b>	<b>□</b> 12	<b>□</b> 18	<u></u> 18
Copper	ppm	<b>1</b>	1	■10 ■1	□ <1
Lead	ppm	<u> </u>	<b>1</b> 0	■0	<b>1</b> 0
Tin	ppm	■0	<b>0</b>	<b>-</b> <1	<b>-</b> <1
Aluminum	ppm	<b>2</b>	<b>3</b>	<b>3</b>	<b>0</b>
Chromium	ppm	<b>■</b> <1	<b>0</b>	<b>1</b>	<b>-</b> <1
Molybdenum	ppm	<b>54</b>	<b>60</b>	■ 59	<b>5</b> 5
Nickel	ppm	■0	<b>0</b>	<b></b>	<b>0</b>
Titanium	ppm	<b>■&lt;1</b>	□0	<b></b>	<b>0</b>
Silver	ppm	■0	<b>0</b>	<b></b>	■0
Manganese	ppm	■0	<b></b> <1	<b>-</b> <1	<b>-</b> <1
Vanadium	ppm	<1	0	<1	0

ADDIT	IVES					
Calcium	ppm	<b>1075</b>	■1279	■ 1089	<b>1107</b>	
Magnesium	ppm	<b>970</b>	■835	■1002	■853	
Zinc	ppm	<b>1176</b>	<b>1203</b>	<b>1158</b>	<b>1100</b>	
Phosphorus	ppm	<b>1029</b>	<b>1005</b>	■949	913	
Barium	ppm	<b>0</b>	□0	<b>0</b>	<b>2</b>	
Boron	ppm	<b>■</b> 0	<b>1</b> 5	<1	<b>5</b>	



### **ALTA CONSTRUCTION EQUIPMENT**

613 E STEVENSON RD OTTAWA, IL US 61350 Contact: KEVIN SKRTICH KEVIN.SKRTICH@ALTAEQUIPMENT.COM

F:

### Diagnosis

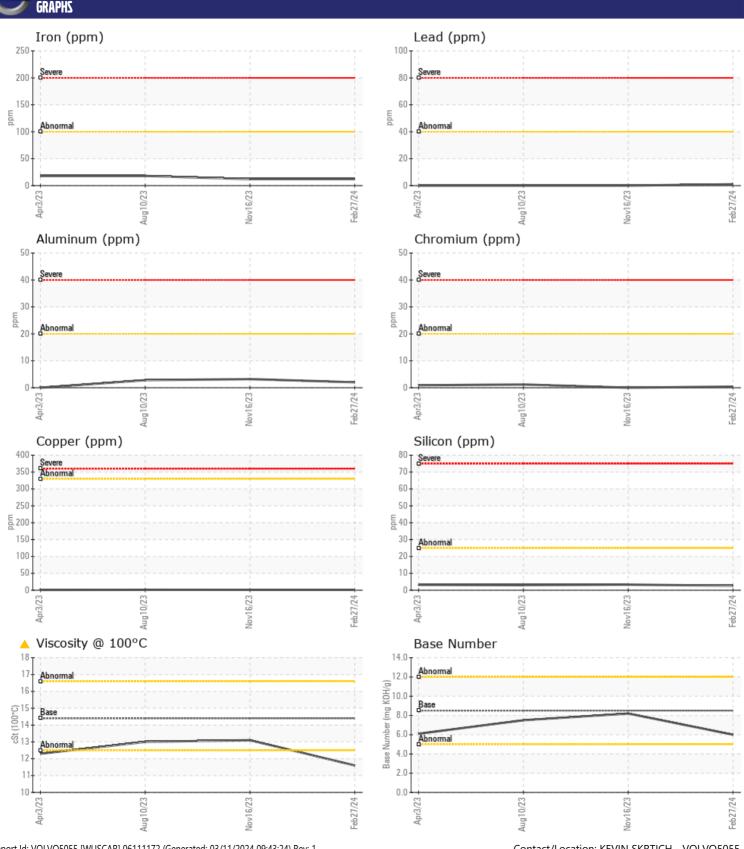
The oil change at the time of sampling has been noted. Resample at the next service interval to monitor.All component wear rates are normal. Light fuel dilution occurring. The BN result indicates that there is suitable alkalinity remaining in the oil. Fuel is present in the oil and is lowering the viscosity. The condition of the oil is suitable for further service.

Depot: VOLVO5055 **Unique No:** 10914669 Signed: Wes Davis Report Date: 11 Mar 2024











CONSTRUCTION EQUIPMENT
SPM675414 ALTER ROCK SENNEBOGEN 835ME 835.0.2938 - HYD

**Sample No:** VCP350321

Oil Type: **AW HYDRAULIC OIL ISO 46** Job No: SPM675414 ALTER ROCK

ZAMPI F	INFORMATION			
	. IIII OMPATION	VCP350321	 	
Sample Number		27 Feb 2024		
Sample Date Machine Hours		4783	 	
Oil Hours		0	 	
Oil Changed		Changed	 	
Sample Status		ABNORMAL	 	
Sample Status		ADNOMINAL		
VOLVO				
OIL CON	DITION			
Visc @ 40°C	cSt	34.6	 	
Acid Number (AN	N) mg KOH/g	■0.92	 	
CONTAN	MINATION			
Water	%	NEG	 	
Particles >4µm	70	▲ 10846	 	
Particles >6µm		1807	 	
Particles > 14µm		<u>57</u>	 	
ISO 4406:1999 (c)	)	21/18/13	 	
Silicon	ppm	<b>■1</b>	 	
Sodium	ppm	<b>2</b>	 	
Potassium	ppm	■0	 	
		_		
WEAR N	AETAL C			
_				
Iron	ppm	<b>9</b>	 	
Copper	ppm	<b>6</b>	 	
Lead	ppm	<b>0</b>	 	
Tin	ppm	<b>0</b>	 	
Aluminum Chromium	ppm	1	 	
	ppm	<b>0</b>	 	
Molybdenum Nickel	ppm	<b>0</b>	 	
Titanium	ppm	0	 	
Silver	ppm	0	 	
Manganese	ppm	<b>■</b> <1	 	
Vanadium	ppm	0	 	
	PPIII			
VOLVO	IEC			
ADDITIV	IE2			
Calcium	ppm	■934	 	
Magnesium	ppm	<b>17</b>	 	
Zinc	ppm	■ 584	 	
Phosphorus	ppm	<b>474</b>	 	



### **ALTA CONSTRUCTION EQUIPMENT**

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F:

### Diagnosis

Oil and filter change at the time of sampling has been noted. No corrective action is recommended at this time. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of silt (particulates < 14 microns in size) present in the oil. Viscosity of sample indicates oil is within ISO 32 range, advise investigate. Confirm oil type. The AN level is acceptable for this fluid.

Depot: VOLVO5055 **Unique No:** 10914861 Signed: Don Baldridge Report Date: 09 Mar 2024

ppm

ppm

**0** 

**0** 

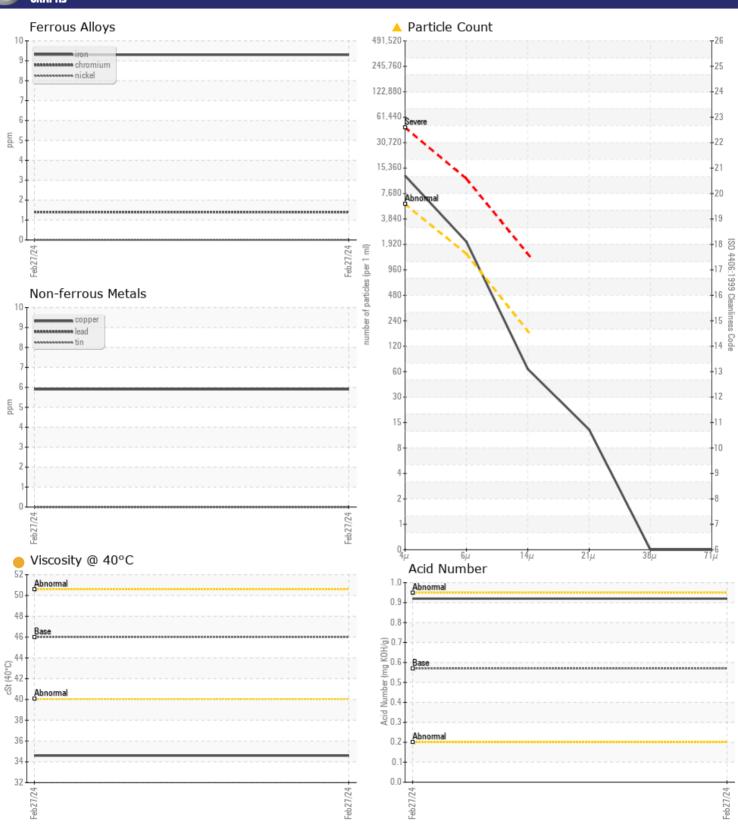
Barium

Boron











# CONSTRUCTION EQUIPMENT SPM675414 ALTER SENNEBOGEN 835ME 835.0.2938 - SWING DI

Sample No: VCP350328 Oil Type: MOBIL SHC 630

Job No: SPM675414 ALTER

SAMPLE	E INFORMATIO	N		
Sample Number	-	VCP350328	VCP350318	 
Sample Date		27 Feb 2024	26 Feb 2024	 
Machine Hours		4783	4783	 
Oil Hours		0	0	 
Oil Changed		Changed	Changed	 
Sample Status		NORMAL	NORMAL	 
OIL CON	DITION			
Visc @ 40°C	cSt	■225	<b>221</b>	 
CONTAIN	MINATION			
Water	%	NEG	NEG	 
Silicon	ppm	<b>1</b> 9	■20	 
Sodium	ppm	<b>-&lt;1</b>	<b>1</b>	 
Potassium	ppm	■0	□0	 

WEAR	METALS			
_				
Iron	ppm	<b>161</b>	■ 252	 
Copper	ppm	<b>20</b>	<b>58</b>	 
Lead	ppm	<b>0</b>	<b>0</b>	 
Tin	ppm	<b>2</b>	<b>5</b>	 
Aluminum	ppm	<b>0</b>	<b>0</b>	 
Chromium	ppm	<b>1</b>	<b>2</b>	 
Molybdenum	ppm	<b>0</b>	<b>0</b>	 
Nickel	ppm	■0	<b>0</b>	 
Titanium	ppm	0	0	 
Silver	ppm	0	0	 
Manganese	ppm	<b>1</b>	<b>2</b>	 
Vanadium	ppm	<1	<1	 

ADDIT	Zavi			
Calcium	ppm	<b>   &lt;1</b>	8	 
Magnesium	ppm	<b>■</b> 0	<b>-</b> <1	 
Zinc	ppm	<b>5</b>	<b>7</b>	 
Phosphorus	ppm	■316	■356	 
Barium	ppm	<b>0</b>	<b>0</b>	 
Boron	mag	<b>0</b>	<b>0</b>	 



### **ALTA CONSTRUCTION EQUIPMENT**

613 E STEVENSON RD OTTAWA, IL US 61350 Contact: ALEX MARCO ALEXANDER.MARCO@ALTG.COM T:

F:

### Diagnosis

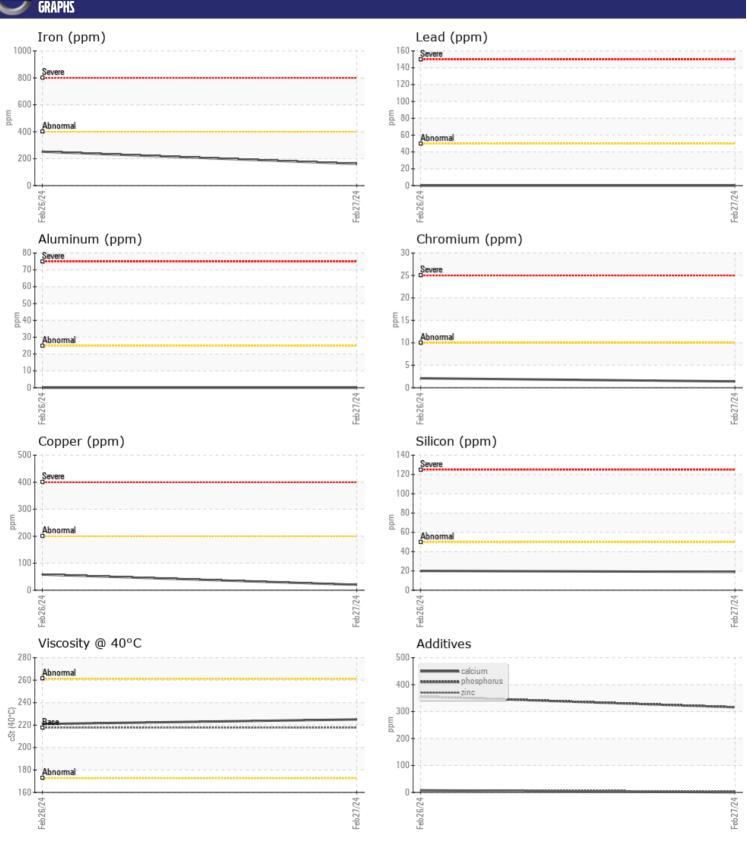
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot: VOLVO5055 **Unique No:** 10915246 Signed: Don Baldridge Report Date: 11 Mar 2024











CONSTRUCTION EQUIPMENT
SPM675414 ALTER SENNEBOGEN 835ME 835.0.2938 - FRONT LE

**Sample No:** VCP350324

Oil Type: **GEAR OIL SAE 80W90** Job No: SPM675414 ALTER

VOLVO				
AMDIE INENDMA	TION			
SAMPLE INFORMA			-	e e e e e e e e e e e e e e e e e e e
Sample Number	VCP350324	VCP350323	VCP400511	
Sample Date	27 Feb 2024	27 Feb 2024	10 Aug 2023	
Machine Hours	4783	4783	3684	
Oil Hours	0	0	0	
Oil Changed	Changed	Changed	N/A	
Sample Status	NORMAL	NORMAL	ABNORMAL	
OIL CONDITION				
		- 100	-110	
Visc @ 40°C cSt	<b>139</b>	<b>138</b>	■ 149	
VOLVO				
CONTAMINATION				
Water %	NEG	NEG	NEG	
Silicon ppm	<b>2</b>	2	2	
Sodium ppm	<b>2</b>	<b>1</b> 2	<b>1</b> 2	
Potassium ppm	<b>0</b>	<b>1</b> 0	0	
		U	0	
VOLVO				
WEAR METALS				
Iron ppm	<b>67</b>	■82	■93	
Copper ppm	<b>■</b> 36	<b>4</b> 7	<b>△</b> 135	
Lead ppm	<b>0</b>	<b>0</b>	<b>0</b>	
Tin ppm	<b>■</b> 0	<b>0</b>	□ 0	
Aluminum ppm	<b>1</b>	<b>2</b>	<b>4</b>	
Chromium ppm	<b>■</b> 0	<b>0</b>	<b>-</b> <1	
Molybdenum ppm	<b>0</b>	<b>0</b>	<b>0</b>	
Nickel ppm	<b>■</b> 0	0	□ 0	
Titanium ppm	<1	<1	0	
Silver ppm	0	0	0	
Manganese ppm	<b>2</b>	<b>□</b> 3	<b>7</b>	
Vanadium ppm	<1	<1	0	
ADDITIVES				
			_	
Calcium ppm	<b>24</b>	<b>2</b> 6	<b>5</b>	
Magnocium	<b>■</b> <1	<b>-</b> <1	<b>2</b>	
Magnesium ppm		- 2.4	m 100	
Zinc ppm	■ 23	■34	■109	
. =	□23 □639 □6	662 662	2093	



### **ALTA CONSTRUCTION EQUIPMENT**

613 E STEVENSON RD OTTAWA, IL US 61350 Contact: KEVIN SKRTICH KEVIN.SKRTICH@ALTAEQUIPMENT.COM

T: F:

### Diagnosis

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot: VOLVO5055 **Unique No:** 10915245 Signed: Wes Davis Report Date: 08 Mar 2024

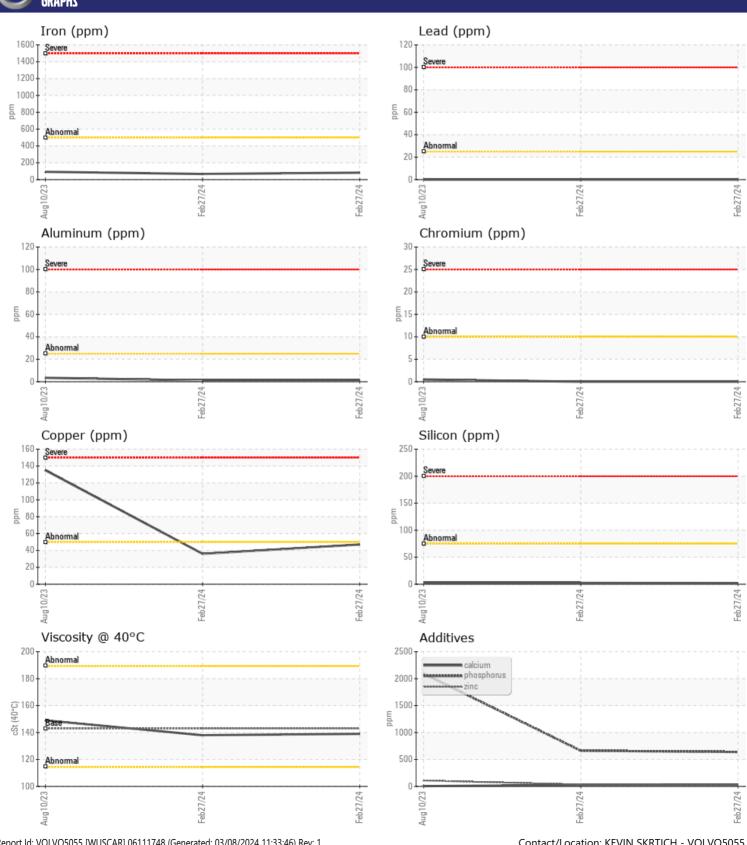
**27** 

Boron











CONSTRUCTION EQUIPMENT
SPM593872 ALTER ROCK SENNEBOGEN 835ME 835.0.2938 - FRO

Sample No: VCP400508

Oil Type: **GEAR OIL SAE 80W90** Job No: SPM593872 ALTER ROCK

VOLVO	INFORMATIO	1		
	INFURMATIU			
Sample Number		VCP400508	 	
Sample Date		10 Aug 2023	 	
Machine Hours		3684	 	
Oil Hours		0	 	
Oil Changed		Changed	 	
Sample Status		NORMAL	 	
VOLVO				
OIL CON	NITION			
Visc @ 40°C		= 147	 	
	cSt	<b>147</b>	 	
VOLVO				
CONTAM	IINATION			
Silicon	ppm	<b>2</b>	 	
Sodium	ppm	■0	 	
Potassium	ppm	<b>■</b> 0	 	
	ρρ			
VOLVO				
WEAR M	ETALS			
Iron	ppm	<b>4</b>	 	
Copper	ppm	<b>■</b> 3	 	
Lead	ppm	<b>0</b>	 	
Tin	ppm	<b>■</b> 0	 	
Aluminum	ppm	<b>0</b>	 	
Chromium	ppm	■0	 	
Molybdenum	ppm	<b>0</b>	 	
Nickel	ppm	<b>■</b> 0	 	
Titanium	ppm	0	 	
Silver	ppm	0	 	
Manganese	ppm	<b>■&lt;1</b>	 	
Vanadium	ppm	0	 	
ADDITIV	77			
	_			
Calcium	ppm	<b>4</b>	 	
Magnesium	ppm	<b>2</b>	 	
Zinc	ppm	<b>7</b>	 	
Phosphorus	ppm	■2096	 	
Barium	ppm	<b>11</b>	 	
Boron	ppm	<b>182</b>	 	



### **ALTA CONSTRUCTION EQUIPMENT**

613 E STEVENSON RD OTTAWA, IL US 61350 Contact: ALEX MARCO ALEXANDER.MARCO@ALTG.COM T:

F:

### Diagnosis

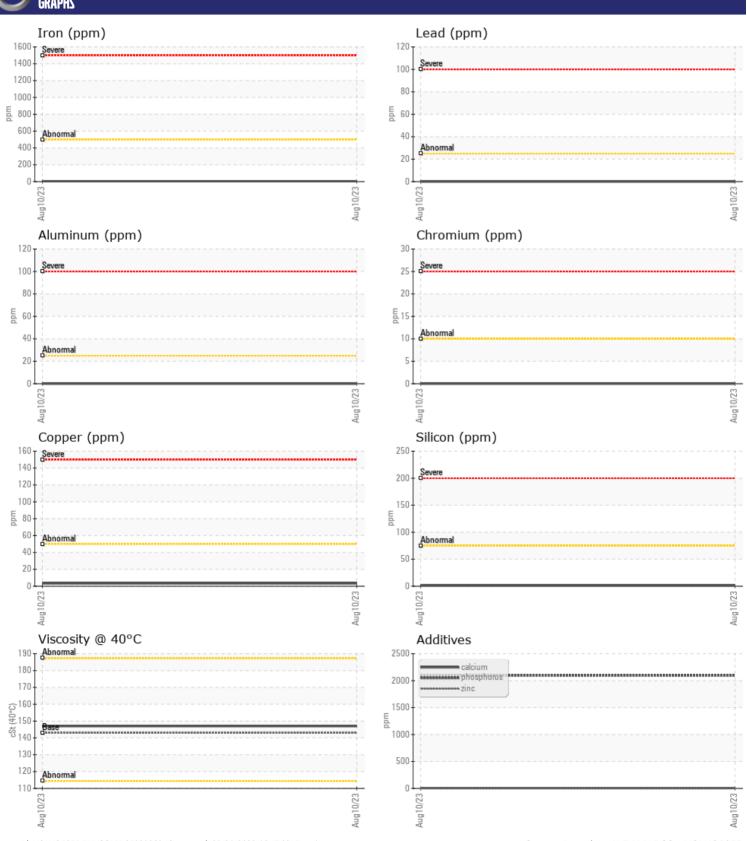
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot: VOLVO5055 **Unique No:** 10609007 Signed: Sean Felton Report Date: 21 Aug 2023











CONSTRUCTION EQUIPMENT

SPM593872 ALTER ROCK SENNEBOGEN 835ME 835.0.2938 - FROM

**Sample No:** VCP400504

Oil Type: **GEAR OIL SAE 80W90** SPM593872 ALTER ROCK Job No:

SAMPLE	INFORMATION			
Sample Number		VCP400504	 	
Sample Date		10 Aug 2023	 	
Machine Hours		3684	 	
Oil Hours		0	 	
Oil Changed		Changed	 	
Sample Status		NORMAL	 	
OIL CON	DITION			
Visc @ 40°C		=140		
Visc @ 40°C	cSt	<b>149</b>	 	
VOLVO				
CONTAN	MINATION			
Silicon	ppm	<b>3</b>	 	
Sodium	ppm	<1	 	
Potassium	ppm	0	 	
WEAR M	AFTALS			
_				
Iron	ppm	<b>43</b>	 	
Copper	ppm	<b>8</b>	 	
Lead	ppm	<b>0</b>	 	
Tin	ppm	<b>0</b>	 	
Aluminum	ppm	0	 	
Chromium	ppm	<b>■</b> <1	 	
Molybdenum	ppm	<b>0</b>	 	
Nickel	ppm	0	 	
Titanium	ppm	0	 	
Silver	ppm	0	 	
Manganese	ppm	1	 	
Vanadium	ppm	0	 	
VOLVO				
ADDITIV	<b>IES</b>			
Calcium	ppm	<b>1</b> 3	 	
Magnesium	ppm	<u> </u>	 	
Zinc	ppm	<b>■</b> 15	 	
Phosphorus	ppm	<b>2005</b>	 	
Barium	ppm	<b>47</b>	 	
Boron	ppm	<b>164</b>	 	



### **ALTA CONSTRUCTION EQUIPMENT**

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### Diagnosis

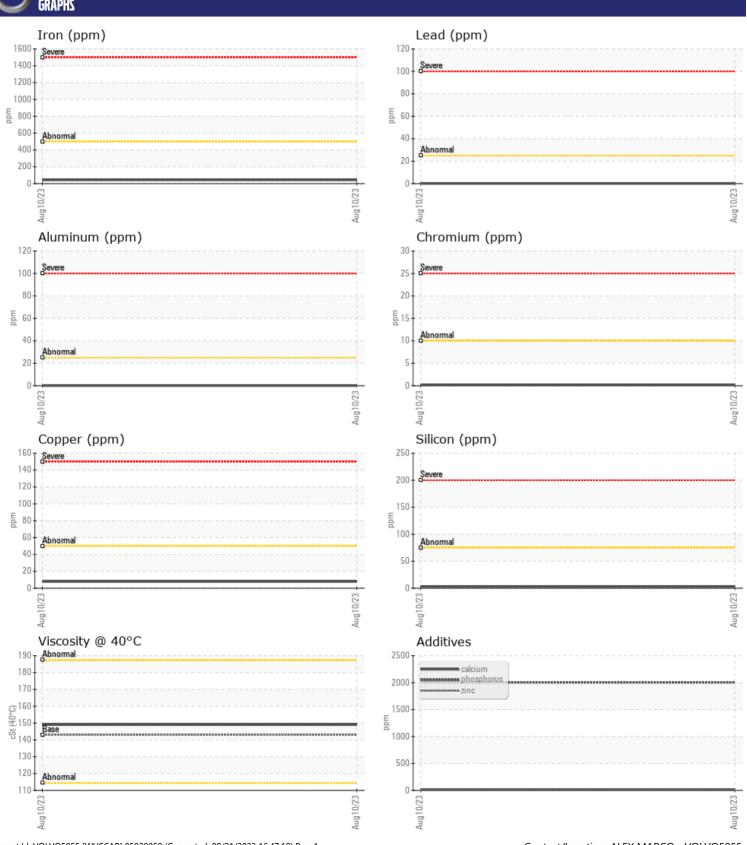
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot: VOLVO5055 **Unique No:** 10609006 Signed: Sean Felton Report Date: 21 Aug 2023











SPM675414 SENNEBOGEN 835ME 835.0.2938 - REAR LEFT FINAL

Sample No: VCP350326

**Oil Type:** GEAR OIL SAE 80W90

**Job No:** SPM675414

VOLVO				
SAMPLE	INFORMATION			
Sample Number	-	VCP350326	VCP400505	 
Sample Date		27 Feb 2024	10 Aug 2023	 
Machine Hours		4783	3684	 
Oil Hours		0	0	 
Oil Changed		Changed	Changed	 
Sample Status		NORMAL	NORMAL	 
OIL CON	DITION			
Visc @ 40°C	cSt	<b>137</b>	■ 147	 
CONTAN	MINATION			
Water	%	NEG	NEG	 
Silicon	ppm	NEG	3	 
Sodium	ppm	<b>1</b>	■<1	 
Potassium	ppm	■0	0	 
	ррпп			
VOLVO	AFTAL C			
WEAR N	NETAL2			
Iron	ppm	■46	<b>4</b> 3	 
Copper	ppm	<b>■</b> 4	<b>7</b>	 
Lead	ppm	<b>0</b>	<b>0</b>	 
Tin	ppm	■0	0	 
Aluminum	ppm	■0	□0	 
Chromium	ppm	■0	<b>-</b> <1	 
Molybdenum	ppm	■0	<b>0</b>	 
Nickel	ppm	■0	0	 
Titanium	ppm	0	0	 
Silver	ppm	0	0	 
Manganese	ppm	<b></b>	<b></b> <1	 
Vanadium	ppm	<1	0	 
VOLVO				 
ADDITIV	<b>JES</b>			
Calcium	ppm	■30	<b>1</b> 3	 
Magnesium	ppm	<b>■&lt;1</b>	<b>1</b>	 
Zinc	ppm	<b>10</b>	<b>1</b> 5	 
Phosphorus	ppm	<b>■</b> 527	<b>1998</b>	 
ъ .			- 17	

**47** 

**166** 



### **ALTA CONSTRUCTION EQUIPMENT**

613 E STEVENSON RD
OTTAWA, IL
US 61350
Contact: KEVIN SKRTICH
KEVIN.SKRTICH@ALTAEQUIPMENT.COM

T: F:

### Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot:VOLVO5055Unique No:10915244Signed:Wes DavisReport Date:08 Mar 2024

**4** 

**14** 

ppm

ppm

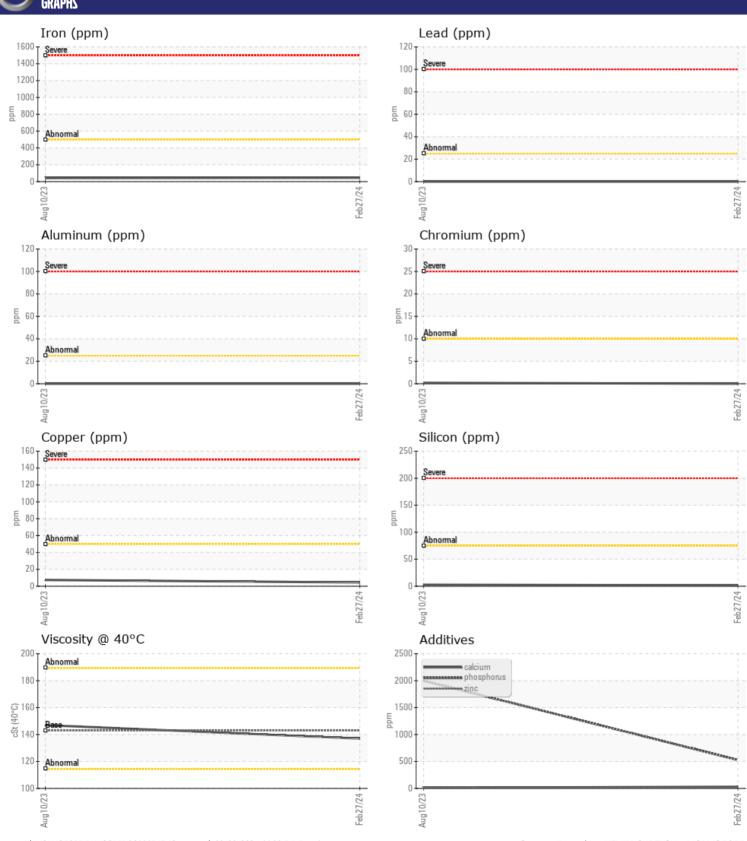
Barium

Boron











CONSTRUCTION EQUIPMENT
SPM593872 ALTER ROCK SENNEBOGEN 835ME 835.0.2938 - REA

Sample No: VCP400509

Oil Type: **GEAR OIL SAE 80W90** Job No: SPM593872 ALTER ROCK

VOLVO	INFORMATION									
	INFORMATION									
Sample Number		VCP400509								
Sample Date		10 Aug 2023								
Machine Hours		3684								
Oil Hours		0								
Oil Changed		Changed								
Sample Status		NORMAL								
OIL CONDITION										
Visc @ 40°C	cSt	<b>149</b>								
VOLVO										
CONTAM	INATION									
Silicon	ppm	<b>2</b>								
Sodium	ppm	<u> </u>								
Potassium	ppm	■0								
Otassiani	ppiii									
VOLVO										
WEAR M	ETALS									
Iron	ppm	<b>43</b>								
Copper	ppm	<b>■8</b>								
Lead	ppm	<b>0</b>								
Tin	ppm	<b>■</b> 0								
Aluminum	ppm	<b>0</b>								
Chromium	ppm	<b>■&lt;1</b>								
Molybdenum	ppm	<b>0</b>								
Nickel	ppm	<b>■</b> 0								
Titanium	ppm	0								
Silver	ppm	0								
Manganese	ppm	<b>1</b>								
Vanadium	ppm	0								
ADDITIV	77									
	-									
Calcium	ppm	<b>14</b>								
Magnesium	ppm	<b>2</b>								
Zinc	ppm	<b>16</b>								
Phosphorus	ppm	■2070								
Barium	ppm	<b>48</b>								
Boron	ppm	<b>169</b>								



### **ALTA CONSTRUCTION EQUIPMENT**

613 E STEVENSON RD OTTAWA, IL US 61350 Contact: ALEX MARCO ALEXANDER.MARCO@ALTG.COM T:

F:

### Diagnosis

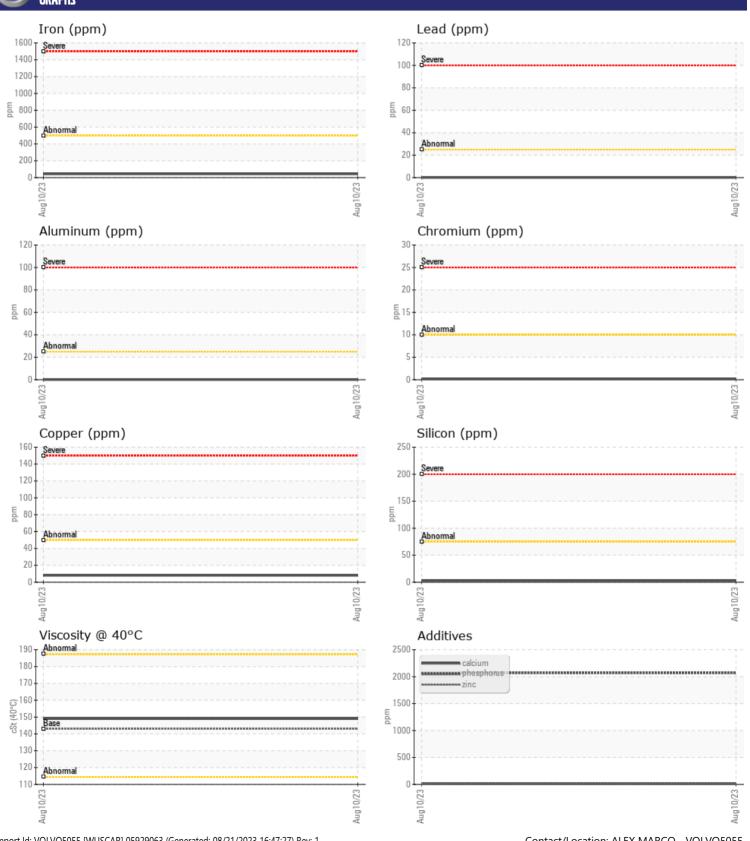
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot: VOLVO5055 **Unique No:** 10609010 Signed: Sean Felton Report Date: 21 Aug 2023











CONSTRUCTION EQUIPMENT
SPM675414 ALTER SENNEBOGEN 835ME 835.0.2938 - REAR RIGHT

Sample No: VCP350322

Oil Type: **GEAR OIL SAE 80W90** Job No: SPM675414 ALTER

ZAMPI F	INFORMATION				
Sample Number		VCP350322	VCP350318	VCP400503	
· ·		27 Feb 2024	27 Feb 2024		
Sample Date				10 Aug 2023	
Machine Hours		4783	4783	3684	
Oil Hours		0	0	0	
Oil Changed		Changed	Changed	Changed	
Sample Status		NORMAL		ABNORMAL	
VOLVO					
OIL CON	DITION				
Visc @ 40°C	cSt	<b>137</b>	<u>^</u> 221	<b>1</b> 46	
VISC @ 40 C	CSC			<u> </u>	
VOLVO					
CONTAM	IINATION				
Water	%	NEG	NEG	NEG	
Silicon	ppm	■3	<b>2</b> 0	<b>2</b>	
Sodium	ppm	<b>1</b>	<b>1</b>	<b>2</b>	
Potassium	ppm	<b>■</b> 0	<b>0</b>	□0	
		_			
VOLVO	IETAL C				
WEAR M	IF I ALS				
Iron	ppm	■ 50	■252	<b>77</b>	
Copper	ppm	<b>5</b>	<u>▲</u> 58	<b>△</b> 138	
Lead	ppm	■ 0	0	<b>0</b>	
Tin	ppm	■0	<u>^</u> 5	<b>0</b>	
Aluminum	ppm	<b>0</b>	□0	<b>4</b>	
Chromium	ppm	■0	<b>2</b>	<b></b>	
Molybdenum	ppm	<b>0</b>	<b>0</b>	<b>0</b>	
Nickel	ppm	■0	0	□0	
Titanium	ppm	0	0	0	
Silver	ppm	0	0	0	
Manganese	ppm	<b>■&lt;1</b>	<b>2</b>	<b>6</b>	
Vanadium	ppm	<1	<1	0	
ADDITIV	71				
Calcium	ppm	■31	8	<b>5</b>	
Magnesium	ppm	<b>0</b>	<b>-</b> <1	<b>1</b>	
Zinc	ppm	■11	<b>7</b>	■ 109	
Phosphorus	ppm	■ 537	■356	■ 2008	
Barium	ppm	■4	0	■35	
Boron	ppm	<b>13</b>	<u> </u>	<b>159</b>	



### **ALTA CONSTRUCTION EQUIPMENT**

613 E STEVENSON RD OTTAWA, IL US 61350 Contact: ALEX MARCO ALEXANDER.MARCO@ALTG.COM T:

F:

### Diagnosis

Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot: VOLVO5055 **Unique No:** 10915242 Signed: Wes Davis Report Date: 08 Mar 2024







