

# CONSTRUCTION EQUIPMENT VOLVO L220H 3204 - DIESEL ENGINE



### Sample No: VCP449994

Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3

Job No:

VOLVO					
	NFORMATION				the second second
Sample Number		VCP449994	VCP425274	VCP406160	
Sample Date		05 Jun 2024	26 Jun 2023	27 Feb 2022	 FIVE STONES MINE
Machine Hours		4274	3766	3281	 MORNING STAR FARM RD
Oil Hours		0	0	0	 CANAL POINT, FL
Oil Changed		Changed	Changed	Changed	 US 33430
Sample Status		NORMAL	NORMAL	NORMAL	 Contact: Service Manager
OIL CONDI	TION				T:
Visc @ 100°C	cSt	12.0	12.8	12.7	 F:
Base Number (BN)		8.8	9.8	8.9	
Oxidation (PA)	%	79	82	59	 Diagnosis
Oxidation (FA)	70	15	02	55	Resample at the next service interva
VOLVO					to monitor.All component wear rate
CONTAMII	NATION				are normal. There is no indication of
Water	%	NEG	NEG	NEG	 any contamination in the oil. The BN
Soot %	%	0.2	0.2	0.2	 result indicates that there is suitable
Nitration (PA)	%	61	66	64	 alkalinity remaining in the oil. The
Sulfation (PA)	%	59	63	53	 condition of the oil is suitable for
Glycol	%	NEG	NEG	NEG	 further service.
Fuel	%	<1.0	<1.0	<1.0	
Silicon	ppm	4	4	6	
Sodium	ppm	3	4	2	
Potassium	ppm	3	3	4	
	TALC				
VEAR ME	TALS	<u>.</u>	<u>.</u>		
Iron	ppm	6	7	11	
Copper	ppm	<b>4</b>	12	4	
Lead	ppm	<b></b> <1	0	<b></b> <1	
Tin	ppm	<b>□</b> <1	0	<b></b> <1	
Aluminum	ppm	2	<b></b> < 1	3	
Chromium	ppm	0	0	□ <1	
Molybdenum	ppm	<b>41</b>	46	60	
Nickel	ppm	<b>■</b> <1	0	0	
Titanium	ppm	0	0	<1	
Silver	ppm	0	0	0	
Manganese	ppm	<b>  </b> <1	<□<1	<1	
Vanadium	ppm	0	0	0	
	S				
Calcium	ppm	1573	1723	1150	 
Magnesium	ppm	502	583	894	
Zinc	ppm	1096	1172	1209	
Phosphorus	ppm	964	967	1012	
Barium	ppm		0	1	 Depot: FIVCAN
Boron	ppm	<b>47</b>	39	0	 Unique No: 11063231
	PP	<u> </u>			<b>Unque NO.</b> 11003231

Report Date: 07 Jun 2024

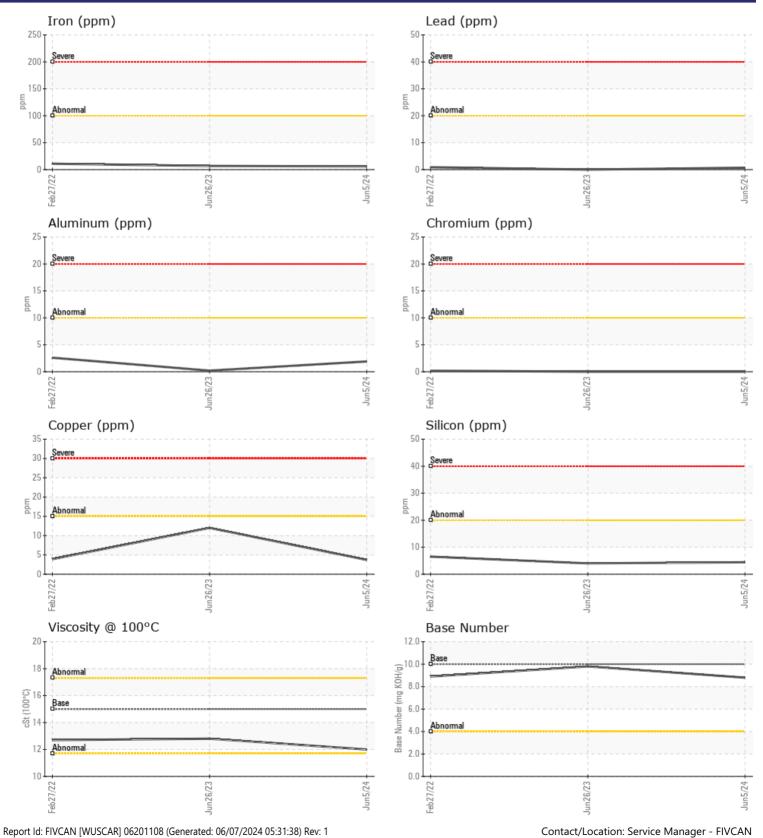
Signed:

Wes Davis



GRAPHS

VOLVO



Page 2 of 2

CONSTRUCTION EQUIPMENT 567794 VOLVO L220H 3204 - TRANSMISSION (AUTO)



### **Sample No:** VCP415612

TOTATO

Oil Type: VOLVO AUTOMATIC TRANSMISSION FLUID AT102

Job No:

567794

Sample Number	-	VCP415612	VCP407360	VCP279777	
Sample Date		26 Jun 2023	27 Feb 2022	24 Jul 2020	
Machine Hours		3766	3281	512	
Oil Hours		0	0	0	
Oil Changed		Not Changd	Not Changd	Not Changd	
Sample Status		NORMAL	NORMAL	NORMAL	
OIL CON	DITION				
Visc @ 40°C	cSt	26.3	26.0	28.4	
CONTAN	MINATION				
Silicon	ppm	<b>11</b>	11	9	
Sodium	ppm	2	5	4	
Potassium	ppm	2	2	0	
WEAR N	METALS				
Iron	ppm	<b>150</b>	151	42	
Copper	ppm	9	9	5	
Lead	ppm	0	<b></b> < 1	<b></b> < 1	
Tin	ppm	<b>■</b> <1	<b></b> <1	0	
Aluminum	ppm	∎1	3	<b></b> <1	
Chromium	ppm	∎1	1	<b></b> <1	
Molybdenum	ppm	0	<b></b> <1	<1	
Nickel	ppm	<b>■</b> <1	<b></b> <1	1	
Titanium	ppm	0	0	0	
Silver	ppm	0	0	0	
Manganese	ppm	8	9	5	
Vanadium	ppm	0	0	0	

- ADDITIO	<b>L</b> -2				
Calcium	ppm	93	107	103	
Magnesium	ppm	2	4	4	
Zinc	ppm	29	47	20	
Phosphorus	ppm	<b>150</b>	205	166	
Barium	ppm	3	0	4	
Boron	ppm	<b>45</b>	53	60	



**FIVE STONES MINE** 

MORNING STAR FARM RD CANAL POINT, FL US 33430 Contact: Service Manager

### Diagnosis

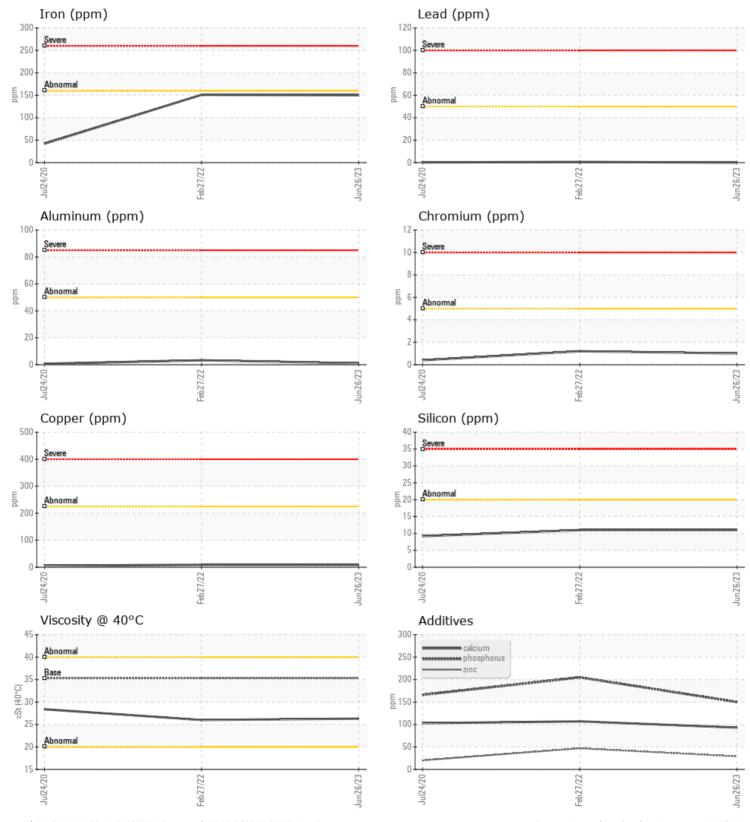
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the fluid. The condition of the fluid is acceptable for the time in service.

Depot:	FIVCAN
Unique No:	10537498
Signed:	Wes Davis
Report Date:	02 Jul 2023



GRAPHS

VOLVO



Report Id: FIVCAN [WUSCAR] 05887015 (Generated: 07/02/2023 11:00:22) Rev: 1

Contact/Location: Service Manager - FIVCAN

# VOLVO 1220H 3204 - HYDRAULIC SYSTEM

Sample No: VCP449990

**Oil Type: VOLVO SUPER HYDRAULIC OIL 46** 

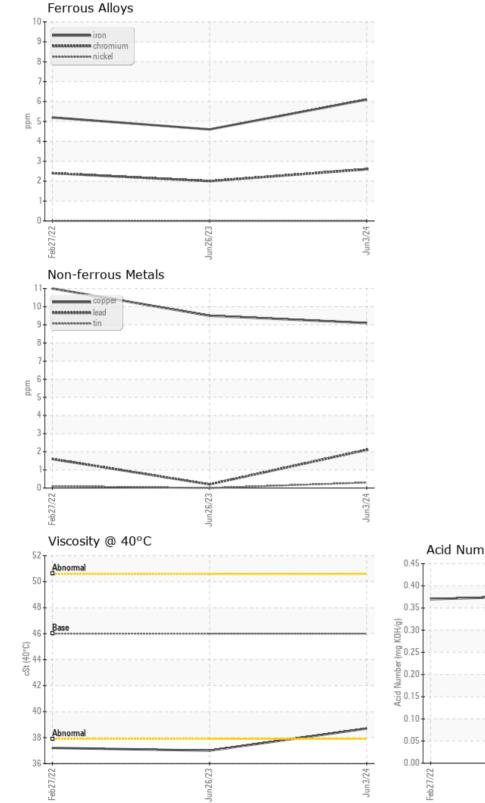
#### SAMPLE INFORMATION VCP449990 VCP425455 VCP406166 Sample Number **FIVE STONES MINE** 03 Jun 2024 Sample Date 26 Jun 2023 27 Feb 2022 MORNING STAR FARM RD Machine Hours 4274 3766 3281 CANAL POINT, FL Oil Hours 0 0 0 US 33430 Oil Changed Changed Not Changd Not Changd Contact: Service Manager Sample Status ABNORMAL ABNORMAL ABNORMAL Τ· **OIL CONDITION** F: Visc @ 40°C cSt 38.7 ▲ 37.0 ▲ 37.21 Diagnosis 0.38 Acid Number (AN) mg KOH/g 0.41 0.37 Oil and filter change at the time of CONTAMINATION sampling has been noted. No corrective action is recommended at Water % NEG NEG NEG this time. Resample at the next service interval to monitor. We were Particles >4µm 7198 21878 --unable to perform a particle count 1844 Particles >6µm 3704 --due to a high concentration of ---Particles >14µm 144 68 particles present in this sample.All ISO 4406:1999 (c) 20/18/14 22/19/13 component wear rates are normal. Moderate concentration of visible Silicon ppm 3 1 2 dirt/debris present in the oil. The AN Sodium 2 ppm 2 2 level is acceptable for this fluid. The Potassium ppm 1 < 1 0 condition of the oil is acceptable for the time in service. WEAR METALS Iron 5 ppm 6 5 Copper ppm 9 10 11 Lead ppm 2 < 1 2 0 Tin ■ <1 ■ <1 ppm Aluminum 1 <1 ppm < 1 Chromium 3 2 2 ppm Molybdenum ppm 0 0 0 Nickel 0 0 0 ppm Titanium 0 0 0 ppm Silver 0 0 0 ppm Manganese 0 ppm 0 0 0 Vanadium ppm 0 0 ADDITIVES Calcium 159 40 47 ppm Magnesium ppm 1 4 0 Zinc 574 409 ppm 407 Phosphorus **441** 324 ppm 331 Depot: FIVCAN Barium 0 Unique No: 11061187 ppm 0 0 Signed: Don Baldridge 0 Boron 0 0 ppm

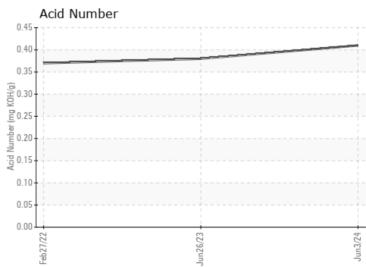
Report Id: FIVCAN [WUSCAR] 06199064 (Generated: 06/07/2024 15:46:49) Rev: 1

Report Date: 06 Jun 2024

Contact/Location: Service Manager - FIVCAN

## GRAPHS





Report Id: FIVCAN [WUSCAR] 06199064 (Generated: 06/07/2024 15:46:51) Rev: 1

Contact/Location: Service Manager - FIVCAN Page 2 of 2 CONSTRUCTION EQUIPMENT 567794 VOLVO L220H 3204 - FRONT AXLE



 Sample No:
 VCP393577

 Oil Type:
 VOLVO WB 102

 Job No:
 567794

VOLVO

### SAMPLE INFORMATION

	AF UNMA HUN			
Sample Number	-	VCP393577	VCP406164	 
Sample Date		26 Jun 2023	27 Feb 2022	 
Machine Hours		3766	3281	 
Oil Hours		0	0	 
Oil Changed		Not Changd	Not Changd	 
Sample Status		NORMAL	NORMAL	 
OIL CONDI	TION			
Visc @ 40°C	cSt	42.7	42.6	 
CONTAMI	NATION			
Silicon	ppm	<b>14</b>	13	 
Sodium	ppm	3	5	 
Potassium	ppm	2	1	 
WEAR ME	TALS			
Iron	ppm	127	93	 
Commen	10.10.100	= 20	<b>—</b> 24	

lion	ppin			
Copper	ppm	39	34	 
Lead	ppm	□<1	2	 
Tin	ppm	0	<b></b> <1	 
Aluminum	ppm	0	1	 
Chromium	ppm	3	3	 
Molybdenum	ppm	□<1	3	 
Nickel	ppm	<b>1</b>	1	 
Titanium	ppm	0	<1	 
Silver	ppm	0	0	 
Manganese	ppm	<b>4</b>	3	 
Vanadium	ppm	0	0	 

**ADDITIVES** 3703 Calcium 4038 ppm Magnesium ppm **17** 23 Zinc 1532 1697 ppm Phosphorus 1222 1302 ppm Barium 0 0 ppm Boron ppm 129 134



#### **FIVE STONES MINE**

MORNING STAR FARM RD CANAL POINT, FL US 33430 Contact: Service Manager

T: F:

### Diagnosis

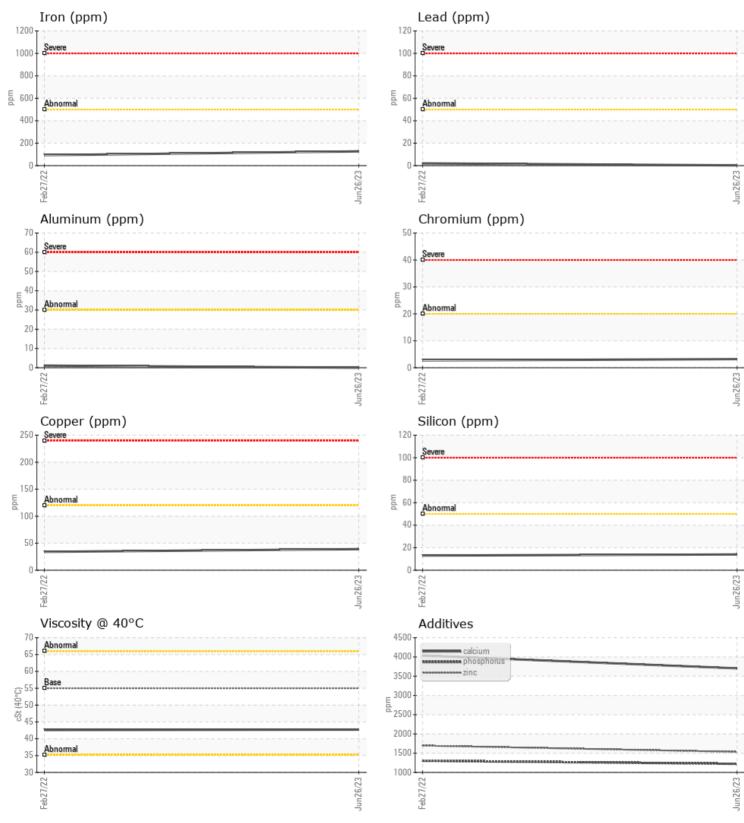
Resample at the next service interval to monitor.All component wear rates are normal. There is no indication of any contamination in the oil. The condition of the oil is acceptable for the time in service.

Depot:	FIVCAN
Unique No:	10537451
Signed:	Wes Davis
Report Date:	02 Jul 2023



GRAPHS

VOLVO



Report Id: FIVCAN [WUSCAR] 05886968 (Generated: 07/02/2023 11:00:07) Rev: 1

Contact/Location: Service Manager - FIVCAN



# CONSTRUCTION EQUIPMENT VOLVO L220H 3204 - REAR AXLE



 Sample No:
 VCP449993

 Oil Type:
 VOLVO WB 102

#### Job No:

MATION VCP449993 05 Jun 2024 4274 0 Changed NORMAL 42.3	VCP449989 03 Jun 2024 4274 0 Changed NORMAL	VCP425453 26 Jun 2023 3766 0 Not Changd NORMAL	VCP406161 27 Feb 2022 3281 0 Not Changd NORMAL
05 Jun 2024 4274 0 Changed NORMAL 42.3	03 Jun 2024 4274 0 Changed NORMAL	26 Jun 2023 3766 0 Not Changd NORMAL	27 Feb 2022 3281 0 Not Changd NORMAL
4274 0 Changed NORMAL 42.3	4274 0 Changed NORMAL	3766 0 Not Changd NORMAL	3281 0 Not Changd NORMAL
0 Changed NORMAL	0 Changed NORMAL	0 Not Changd NORMAL	0 Not Changd NORMAL
Changed NORMAL 42.3	Changed NORMAL	Not Changd	Not Changd
NORMAL 42.3	NORMAL	NORMAL	NORMAL
42.3			
42.3	39.7	39.8	39.7
	39.7	39.8	39.7
M			
NEG	NEG	NEG	NEG
m 🔲 15	6	13	12
m <b>6</b>	5	1	4
m 🔲 <b>1</b>	0	3	2
n <b>122</b>	68	83	65
m <b>43</b>	57		47
n <b>0</b>	0	<b></b> <1	2
n <b>∎&lt;1</b>	0	0	<1
n <b>∎&lt;1</b>	0	0	<1
m <b>2</b>	2	3	3
m <b>2</b>	2	1	3
m 🔲 <b>0</b>	0	1	1
m <b>O</b>	0	<1	< 1
m <b>O</b>	0	0	0
m <b>4</b>	3	5	4
m <b>0</b>	0	0	0
T T T T T T T T T T	1 122 43 0 	1       0         122       68         43       57         0       0         <1	1       0       3         122       68       83         43       57       53         0       0       <1

### FIVE STONES MINE

MORNING STAR FARM RD CANAL POINT, FL US 33430 Contact: Service Manager

### Diagnosis

T: F:

> 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.

ADDITIVES						
Calcium	ppm	3581	3624	3781	4057	
Magnesium	ppm	<b>18</b>	8	9	14	
Zinc	ppm	1492	1500	1601	1739	
Phosphorus	ppm	<b>1296</b>	1330	1291	1353	
Barium	ppm	0	0	0	0	
Boron	ppm	<b>147</b>	136	136	135	

Depot:FIVCANUnique No:11069341Signed:Wes DavisReport Date:07 Jun 2024Contact/Location: Service Manager - FIVCAN



GRAPHS

VOLVO

