



# CONSTRUCTION EQUIPMENT

## VOLVO L90G 3218 - DIESEL ENGINE



**Sample No:** VCP412446  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:**



### SAMPLE INFORMATION

Sample Number	<b>VCP412446</b>	VCP343358	VCP250306	VCE142536
Sample Date	<b>24 Aug 2023</b>	28 Oct 2021	15 Apr 2021	25 Nov 2020
Machine Hours	<b>15598</b>	13198	12781	12429
Oil Hours	<b>2000</b>	500	500	0
Oil Changed	<b>Changed</b>	Changed	Changed	N/A
Sample Status	<b>ABNORMAL</b>	ABNORMAL	SEVERE	NORMAL

IAA - INSURANCE AUTO AUCTIONS - TIDEWATER  
 211 PRODUCTION DR  
 YORKTOWN, VA  
 US 23693  
 Contact: Service Manager

### OIL CONDITION

Visc @ 100°C	cSt	<b>14.7</b>	10.6	13.3	13.2
Base Number (BN)	mg KOH/g	<b>6.8</b>	---	---	---
Oxidation (PA)	%	<b>98</b>	89	82	74

T:  
F:

### CONTAMINATION

Soot %	%	<b>3.2</b>	0.7	0.5	0.2
Nitration (PA)	%	<b>130</b>	87	76	50
Sulfation (PA)	%	<b>79</b>	65	64	61
Glycol	%	<b>NEG</b>	NEG	NEG	0.0
Fuel	%	<b>0.8</b>	8.6	<1.0	<1.0
Silicon	ppm	<b>14</b>	28	81	5
Sodium	ppm	<b>7</b>	8	27	6
Potassium	ppm	<b>0</b>	11	4	1

### 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. The aluminum level is abnormal. All other component wear rates are normal. Fuel content negligible. There is an abnormal amount of solids and carbon present in the oil. 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.

### WEAR METALS

Iron	ppm	<b>85</b>	66	127	9
Copper	ppm	<b>4</b>	12	33	<1
Lead	ppm	<b>&lt;1</b>	4	3	<1
Tin	ppm	<b>1</b>	<1	10	<1
Aluminum	ppm	<b>21</b>	20	54	4
Chromium	ppm	<b>2</b>	4	10	<1
Molybdenum	ppm	<b>42</b>	39	32	33
Nickel	ppm	<b>&lt;1</b>	<1	3	<1
Titanium	ppm	<b>0</b>	<1	2	<1
Silver	ppm	<b>0</b>	0	0	<1
Manganese	ppm	<b>1</b>	1	2	<1
Vanadium	ppm	<b>0</b>	0	0	0

### ADDITIVES

Calcium	ppm	<b>1490</b>	1830	1770	1557
Magnesium	ppm	<b>593</b>	548	617	519
Zinc	ppm	<b>1102</b>	1031	993	958
Phosphorus	ppm	<b>895</b>	887	842	859
Barium	ppm	<b>0</b>	0	0	0
Boron	ppm	<b>10</b>	28	38	64

**Depot:** IAATID  
**Unique No:** 10714125  
**Signed:** Don Baldrige  
**Report Date:** 31 Oct 2023



# CONSTRUCTION EQUIPMENT



## GRAPHS

