



CONSTRUCTION EQUIPMENT

SW-23551-2 MANHEIM VOLVO L90F 68702 - DIESEL ENGINE



Sample No: VCP412991
Oil Type: VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No: SW-23551-2 MANHEIM



SAMPLE INFORMATION

Sample Number	VCP412991	VCP405842	VCP395571	VCP337583
Sample Date	08 Sep 2023	28 Apr 2023	13 Jan 2023	09 Sep 2022
Machine Hours	16602	16049	15556	15153
Oil Hours	500	500	500	250
Oil Changed	Changed	Changed	Changed	Changed
Sample Status	NORMAL	NORMAL	NORMAL	NORMAL

ARNOLD MACHINERY COMPANY
 2975 WEST 2100 SOUTH
 SALT LAKE CITY, UT
 US 84119
 Contact: TONY PAYAN
 tpayan@arnoldmachinery.com
 T: (801)972-4000
 F: (801)975-9434



OIL CONDITION

Visc @ 100°C	cSt	13.4	13.4	13.1	13.4
Base Number (BN)	mg KOH/g	9.4	8.8	10.4	11.1
Oxidation (PA)	%	56	55	70	63

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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is acceptable for the time in service.



CONTAMINATION

Soot %	%	0.2	0.2	0.3	0.2
Nitration (PA)	%	50	48	52	50
Sulfation (PA)	%	52	48	57	57
Glycol	%	NEG	NEG	NEG	NEG
Fuel	%	<1.0	<1.0	<1.0	<1.0
Silicon	ppm	3	3	3	1
Sodium	ppm	2	<1	0	3
Potassium	ppm	0	<1	0	4



WEAR METALS

Iron	ppm	3	4	0	2
Copper	ppm	<1	<1	0	<1
Lead	ppm	0	<1	0	1
Tin	ppm	<1	<1	0	<1
Aluminum	ppm	2	<1	0	0
Chromium	ppm	0	<1	0	<1
Molybdenum	ppm	60	62	45	51
Nickel	ppm	0	0	0	<1
Titanium	ppm	<1	<1	0	0
Silver	ppm	0	0	0	0
Manganese	ppm	<1	<1	<1	<1
Vanadium	ppm	0	0	0	<1



ADDITIVES

Calcium	ppm	1144	1235	1343	1006
Magnesium	ppm	966	974	641	819
Zinc	ppm	1217	1205	930	1136
Phosphorus	ppm	1034	1033	780	894
Barium	ppm	0	0	0	0
Boron	ppm	8	17	29	10

Depot: VOLVO8770
Unique No: 10648376
Signed: Sean Felton
Report Date: 19 Sep 2023



CONSTRUCTION EQUIPMENT



VOLVO GRAPHS

