



# CONSTRUCTION EQUIPMENT

## 646159 DIPRO CATERPILLAR 982M LLSU02686 - DIESEL ENGINE



**Sample No:** VCP452300  
**Oil Type:** VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3  
**Job No:** 646159 DIPRO



### SAMPLE INFORMATION

Sample Number	<b>VCP452300</b>	VCP401161	VCP411765	VCP382971
Sample Date	<b>28 Dec 2023</b>	14 Sep 2023	11 Jul 2023	19 Jan 2023
Machine Hours	<b>12902</b>	11568	10846	10401
Oil Hours	<b>500</b>	500	0	500
Oil Changed	<b>Changed</b>	Changed	Changed	Changed
Sample Status	<b>NORMAL</b>	ABNORMAL	NORMAL	ATTENTION

**ALTA EQUIPMENT COMPANY - METRO WEST**  
 56195 PONTIAC TRAIL  
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### OIL CONDITION

Visc @ 100°C	cSt	<b>13.3</b>	13.9	14.0	11.7
Base Number (BN)	mg KOH/g	<b>6.6</b>	8.1	9.4	9.3
Oxidation (PA)	%	<b>80</b>	63	63	90

### 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

Water	%	<b>NEG</b>	NEG	NEG	NEG
Soot %	%	<b>1.6</b>	1	0.5	0.9
Nitration (PA)	%	<b>97</b>	73	63	88
Sulfation (PA)	%	<b>67</b>	56	53	63
Glycol	%	<b>NEG</b>	NEG	NEG	NEG
Fuel	%	<b>&lt;1.0</b>	<1.0	<1.0	0.7
Silicon	ppm	<b>11</b>	34	4	6
Sodium	ppm	<b>3</b>	2	1	2
Potassium	ppm	<b>&lt;1</b>	1	1	2



### WEAR METALS

Iron	ppm	<b>32</b>	26	14	26
Copper	ppm	<b>2</b>	2	2	4
Lead	ppm	<b>8</b>	4	1	2
Tin	ppm	<b>&lt;1</b>	<1	<1	<1
Aluminum	ppm	<b>6</b>	4	4	6
Chromium	ppm	<b>1</b>	1	<1	1
Molybdenum	ppm	<b>70</b>	58	53	42
Nickel	ppm	<b>0</b>	<1	0	0
Titanium	ppm	<b>0</b>	0	0	0
Silver	ppm	<b>0</b>	0	<1	0
Manganese	ppm	<b>&lt;1</b>	<1	<1	<1
Vanadium	ppm	<b>&lt;1</b>	0	0	0



### ADDITIVES

Calcium	ppm	<b>1336</b>	1032	1099	1739
Magnesium	ppm	<b>821</b>	911	907	501
Zinc	ppm	<b>1293</b>	1200	1248	1135
Phosphorus	ppm	<b>1040</b>	983	1012	940
Barium	ppm	<b>0</b>	0	0	1
Boron	ppm	<b>6</b>	0	4	25

**Depot:** VOLVO2990  
**Unique No:** 10822414  
**Signed:** Don Baldrige  
**Report Date:** 11 Jan 2024



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## GRAPHS

