CONSTRUCTION EQUIPMENT X48024 KOMATSU D51 015764 - DIESEL ENGINE



Sample No: VCP450958

VOLVO

Oil Type:	VOLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3
Job No:	X48024

SAMPLE INFORMATION VCP430958 VCP432707 Sample Number 0 1 May 2024 21 Mar 2024 Machine Hours 1727 1518 Oil Hours 0 0 Sample Status NORMAL NORMAL Oil Chonged Changed Sample Status NORMAL NORMAL NORMAL Oil Chonged Changed 13.3 Sample Status NORMAL NORMAL NORMAL Oxidation (PA) % 61 75 Oxidation (PA) % NEG NEG Stort % % 0.1 0 Stort % % 0.1 0 Stort % % 0.1 0					
Sample Date O1 May 2024 21 Mar 2024 Machine Hours 1727 1518 OI Hours 0 0 OII changed Changed Changed Sample Status NORMAL NORMAL NORMAL OIL CONDITION Visc @ 100°C cfs 113.0 113.3 Sample Status NORMAL NORMAL Visc @ 100°C cfs 113.0 113.3 Sociation (PA) % 61 75 Visc @ 100°C cfs 0 Soldation (PA) % 45 40 Soldation (PA) % 53 60 Soldion ppm 0 13	SAMPLE I	NFORMATION			
Sample Date O1 May 2024 21 Mar 2024 Machine Hours 1727 1518 OI Hours 0 0 OII changed Changed Changed Sample Status NORMAL NORMAL NORMAL OIL CONDITION Visc @ 100°C cfs 113.0 113.3 Sample Status NORMAL NORMAL Visc @ 100°C cfs 113.0 113.3 Sociation (PA) % 61 75 Visc @ 100°C cfs 0 Soldation (PA) % 45 40 Soldation (PA) % 53 60 Soldion ppm 0 13	Sample Number	-	VCP450958	VCP432707	
Machine Hours 1727 1518 Oil Hours 0 0 Sample Status NoRMAL NORMAL NORMAL Visc @ 100°C CS 13.0 13.3 OLCONDITION Visc @ 100°C CS 13.0 13.3 Oxidation (PA) S 61 75 Oxidation (PA) % 61 0 Water % NEG NEG Nitration (PA) % 53 60 Sold % % NEG NEG Sold (PA) % 53 60 Sold (PA) % 1.0 Sold (PA) % 1.0 Sold (PA) <t< td=""><td>Sample Date</td><td></td><td>01 May 2024</td><td>21 Mar 2024</td><td> </td></t<>	Sample Date		01 May 2024	21 Mar 2024	
Oil ChangedChangedChangedSample StatusNORMALNORMALNORMALNORMALNORMALSolut CNDITIONVisc @ 100°C5t13.013.3Base Number (BN)mg KOH/gB8.710.8Oxidation (PA)%6175Visc @ 100°CNIT AMINATIONWater%NEGNEGSoot %%96360Solut %%5360Silcaton ppm588Solutimppm0Solutimppm01Solutimppm0Solutimppm0Solutimppm0Solutimppm0Solutimppm0Solutimppm0Solutimppm0Solutimppm0Solutimppm0Solutimppm0Solutimppm0	Machine Hours		-	1518	
Sample Status NORMAL NORMAL OIL CONDITION Visc @ 100°C CSt 13.0 13.3 Base Number (BN) mg KOH/g 8.7 10.8 Cuidation (PA) % 61 75 Voidation (PA) % 10.1 0 Soot % % 0.1 0 Soot % % 0.1 0 Soot % % 0.1 0 Soot % % NEG NEG Solfation (PA) % S3 60 Solfation (PA) % <1.0	Oil Hours		0	0	
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Base Number (BN) mg KOH/g 8.7 10.8 Oxidation (PA) % 61 75 Oxidation (PA) % 61 75 Oxidation (PA) % 0.1 0 Nitration (PA) % 45 40 Sulfation (PA) % 53 60 Glycol % ×1.0 <1.0	OIL CONDI	TION			
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Oxidation (PA) % 61 75 Water % NEG NEG Water % 0.1 0 Nitration (PA) % 45 40 Sulfation (PA) % 53 60 Sulfation (PA) % 1.0 <1.0		ma KOH/a	8.7	10.8	
Veter % NEG NEG Soot % % 0.1 0 Nitration (PA) % 45 40 Solt % % 53 60 Soly (PA) % 53 60 Soly (PA) % NEG NEG Soly (PA) % 1.0 <1.0					
CONTAMINATION Water % NEG NEG Soot % % 0.1 0 Nitration (PA) % 45 40 Soot % % NEG 0 Solt % % A5 40 Solt % % A5 60 Glycol % NEG NEG Soltation (PA) % <1.0					
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Soot % % 0.1 0 Nitration (PA) % 45 40 Sulfation (PA) % 53 60 Glycol % NEG NEG Fuel % <1.0		VATION			
Nitration (PA) % 45 40 Sulfation (PA) % 53 60 Glycol % NEG NEG Fuel % <1.0	Water				
Sulfation (PA) % 53 60 Glycol % NEG NEG Fuel % <1.0					
Glycol % NEG NEG Fuel % <1.0 <1.0 Stilicon ppm 5 8 Sodium ppm 0 3 Potassium ppm 0 1 WEAR METALS Verage ppm 2 1 Copper ppm 2 1 Lead ppm 0 <1 Aluminum ppm 1 3 Molybdenum ppm 62 42 Silver ppm 0 0 Silver ppm 0 <1 Silver ppm 0 <1 Calcium ppm 1791 1620					
Fuel % <1.0 Silicon ppm 5 8 Sodium ppm 0 3 Potassium ppm 0 1 Verasium ppm 0 1 Verasium ppm 2 1 Verasium ppm <1					
Silicon ppm 5 8 Sodium ppm 0 3 Potassium ppm 0 1 WEAR METALS Iron ppm 2 1 Copper ppm 4 2 Lead ppm 0 <1					
Sodium ppm 0 3 Potassium ppm 0 1 Potassium ppm 0 1 WEAR METALS Iron ppm <1		%			
Potassium ppm 0 1 WEAR METALS Iron ppm 2 1 Copper ppm <1 2 Lead ppm <1 2 Aluminum ppm <1 3 Aluminum ppm <1 3 Aluminum ppm 62 42 Molybdenum ppm 0 0 Nickel ppm 0 <1 Silver ppm 0 <1 Manganese ppm 0 <1 Kanadium ppm 1791 1620 Kanadium ppm 1791 1620		ppm			
WEAR METALS Iron ppm 2 1 Copper ppm <1	Sodium	ppm	0		
WEAR METALS Iron ppm 2 1 Copper ppm <1	Potassium	ppm	0	1	
WEAR METALS Iron ppm 2 1 Copper ppm <1					
Copper ppm <1 2 Lead ppm 0 <1	WEAR ME	TALS			
Lead ppm 0 <1	Iron	ppm	2	1	
Tin ppm <1	Copper	ppm		2	
Aluminum ppm 1 3 Chromium ppm <1	Lead	ppm	0	< 1	
Chromium ppm <1 Molybdenum ppm 62 42 Nickel ppm 0 0 Titanium ppm 0 <1	Tin	ppm	□ <1	 <1	
Chromium ppm <1 <1 Molybdenum ppm 62 42 Nickel ppm 0 0 Titanium ppm 0 <1	Aluminum	ppm	1	3	
Molybdenum ppm 62 42 Nickel ppm 0 0 Titanium ppm 0 <1	Chromium			□ <1	
Nickel ppm 0 Titanium ppm 0 <1	Molybdenum				
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Manganese ppm <1 Vanadium ppm 0 <1 ADDITIVES Calcium ppm 1791 1620 Magnesium ppm 418 462 Zinc ppm 1198 1030 Phosphorus ppm 1052 867 Barium ppm <1 <1	Silver	ppm	0	0	
Vanadium ppm 0 <1 ADDITIVES Calcium ppm 1791 1620 Magnesium ppm 418 462 Zinc ppm 1198 1030 Phosphorus ppm 1052 867 Barium ppm <1 <1	Manganese	ppm	■ <1	 < 1	
ADDITIVES Calcium ppm 1791 1620 Magnesium ppm 418 462 Zinc ppm 1198 1030 Phosphorus ppm 1052 867 Barium ppm <10	Vanadium		0	<1	
ADDITIVES Calcium ppm 1791 1620 Magnesium ppm 418 462 Zinc ppm 1198 1030 Phosphorus ppm 1052 867 Barium ppm <10					
Magnesium ppm 418 462 Zinc ppm 1198 1030 Phosphorus ppm 1052 867 Barium ppm <11		S			
Magnesium ppm 418 462 Zinc ppm 1198 1030 Phosphorus ppm 1052 867 Barium ppm <11	Calcium	ppm	1791	1620	
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Phosphorus ppm 1052 867 Barium ppm <1					
Barium ppm 1 <1					
	Barium				
	Boron	ppm	151	75	

C & D LANDFILL

3516 CENTRAL PIKE HERMITAGE, TX US 37076 Contact: KELLI PHILLIPS kelli.phillips@wasteconnections.com T:

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 suitable for further service.

 Depot:
 CDLHER

 Unique No:
 11019453

 Signed:
 Wes Davis

 Report Date:
 10 May 2024

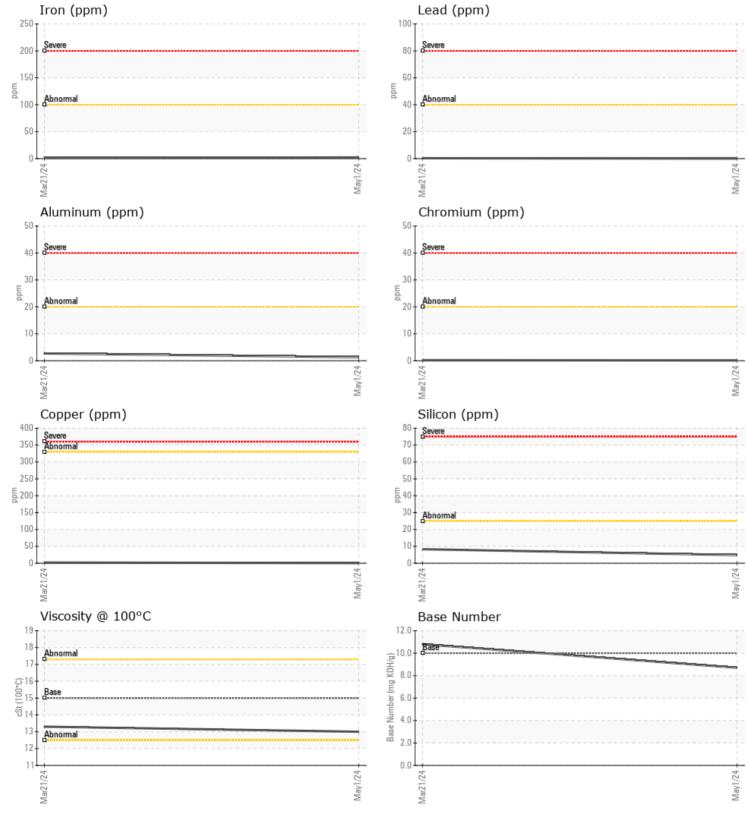
Contact/Location: KELLI PHILLIPS - CDLHER

CONSTRUCTION EQUIPMENT



GRAPHS

VOLVO



Report Id: CDLHER [WUSCAR] 06173400 (Generated: 05/10/2024 08:54:08) Rev: 1

Contact/Location: KELLI PHILLIPS - CDLHER