

CONSTRUCTION EQUIPMENT VOLVO ECR145 316780 - DIESEL ENGINE



Sample No: VCP439885

Oil Type: DIESEL ENGINE OIL SAE 15W40

Job No:

SAMPLE IN	NFORMATION			
Sample Number	-	VCP439885	 	
Sample Date		11 Jun 2024	 	
Machine Hours		516	 	
Oil Hours		0	 	
Oil Changed		Changed	 	
Sample Status		NORMAL	 	
Sample Status		NORWAL		
VOLVO				
OIL CONDI	TION			
Visc @ 100°C	cSt	■12.8	 	
Base Number (BN)	mg KOH/g	6.8	 	
Oxidation (PA)	%	42	 	
CONTAMIN	JATION			
_		NEC		
Water	%	NEG	 	
Soot %	%	■0.1	 	
Nitration (PA)	%	57	 	
Sulfation (PA)	%	48	 	
Glycol	%	NEG	 	
Fuel	%	<1.0	 	
Silicon	ppm	20	 	
Sodium	ppm		 	
Potassium	ppm	□ 3	 	
VOLVO				
WEAR ME	TALS			
Iron	ppm	■31	 	
Copper	ppm	10	 	
Lead	ppm	■<1	 	
Tin	ppm	■ 3	 	
Aluminum	ppm	1 4	 	
Chromium	ppm	2	 	
Molybdenum	ppm	2	 	
Nickel	ppm	■ 9	 	
Titanium	ppm		 	
Silver	ppm	■0	 	
Manganese	ppm	■ 3	 	
Vanadium	ppm	0	 	
ADDITIVES				
Calcium	ppm	■2123	 	
Magnesium	ppm	65	 	
Zinc	ppm	1005	 	
Phosphorus	ppm	792	 	
Barium	ppm	□ 0	 	
Boron	ppm	■8	 	



RIPA AND ASSOCIATES 10149 FISHER AVENUE TAMPA, FL US 33619 Contact: ROBERT TURNER rturner@ripatampa.com 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 BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

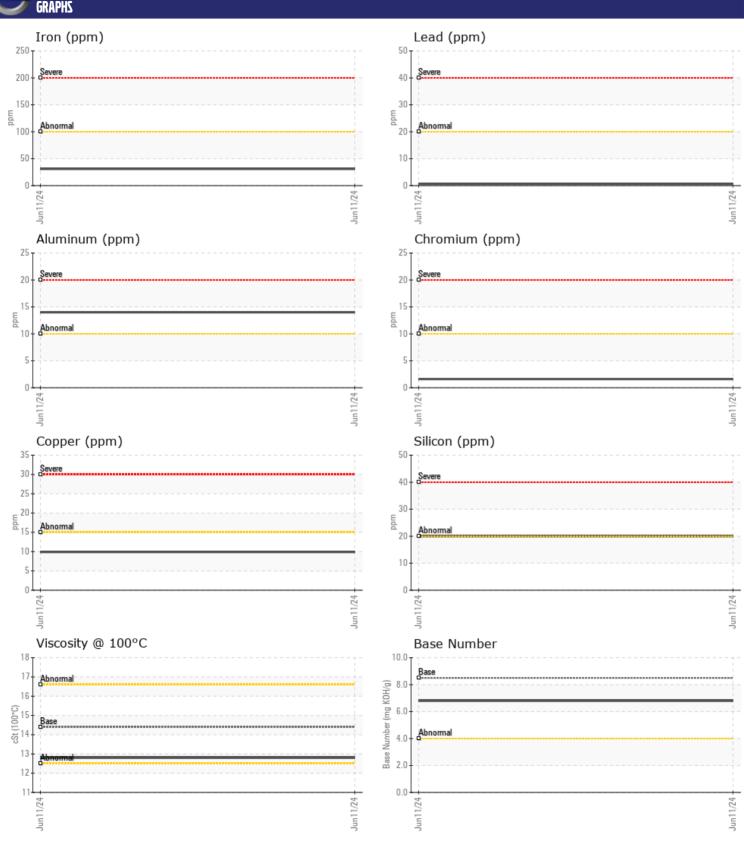
Depot:RIPTAMUnique No:11077128Signed:Don BaldridgeReport Date:17 Jun 2024

Contact/Location: ROBERT TURNER - RIPTAM











CONSTRUCTION EQUIPMENT VOLVO ECR145 316780 - HYDRAULIC SYSTEM



Sample No: VCP439887

Oil Type: AW HYDRAULIC OIL ISO 46

Job No:

VOLVO SAMDI FIL	NFORMATION			
	NI ORMATION	VCP439887	 	
Sample Number		11 Jun 2024	 	
Sample Date Machine Hours		516	 	
Oil Hours		0	 	
Oil Changed		Not Changd	 	
Sample Status		NORMAL	 	
Sample Status		NORWAL	 	
VOLVO				
OIL CONDI	TION			
Visc @ 40°C	cSt	43.7	 	
Acid Number (AN)	mg KOH/g	■ 0.55	 	
CONTAMIN	NATION			
		NEC		
Water	%	NEG	 	
Particles >4µm Particles >6µm		□ 3340 □ 904	 	
		_		
Particles > 14µm		■ 83 19/17/14	 	
ISO 4406:1999 (c) Silicon	nnm	19/1//14 11 5	 	
Sodium	ppm	■ < 1	 	
Potassium	ppm	■<1 ■<1	 	
rotassium	ррш			
VOLVO				
WEAR ME	TALS			
Iron	ppm	1	 	
Copper	ppm	17	 	
Lead	ppm	0	 	
Tin	ppm	■ 0	 	
Aluminum	ppm	■ 0	 	
Chromium	ppm	■ 0	 	
Molybdenum	ppm	■0	 	
Nickel	ppm	■ 0	 	
Titanium	ppm	0	 	
Silver	ppm	0	 	
Manganese	ppm	■0	 	
Vanadium	ppm	<1	 	
VOLVO			 	
ADDITIVE:				
Calcium	ppm	109	 	
Magnesium	ppm	0	 	
Zinc	ppm	■ 619	 	
Phosphorus	ppm	439	 	
Barium	ppm	■0	 	



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Diagnosis

Resample at the next service interval to monitor. All component wear rates are normal. The amount and size of particulates present in the system are acceptable. There is no indication of any contamination in the oil. The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Depot:RIPTAMUnique No:11082871Signed:Don BaldridgeReport Date:17 Jun 2024

ppm

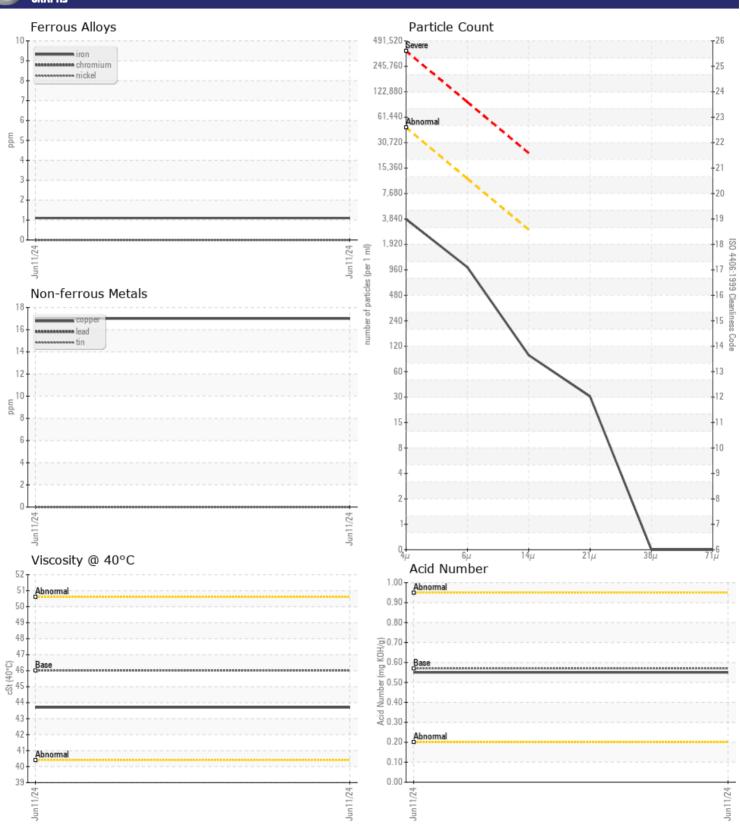
Boron







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CONSTRUCTION EQUIPMENT VOLVO ECR145 316780 - SWING DRIVE



Sample No: VCP443017

Oil Type: GEAR OIL SAE 85W140

Job No:

ZAMPI F	INFORMATION			
Sample Number	INI ONIMATION	VCP443017	 	
Sample Date		11 Jun 2024	 	
Machine Hours		516	 	
Oil Hours		0	 	
Oil Changed		Changed	 	
Sample Status		NORMAL	 	
VOLVO				
OIL CON	DITION			
Visc @ 40°C	cSt	173	 	
VOLVO			 	
CONTAM	INATION			
Water	%	NEG	 	
Silicon	ppm	■18	 	
Sodium	ppm	-<1	 	
Potassium	ppm	1	 	
VOLVO	ETALC			
WEAR M	C14F2			
Iron	ppm	■ 59	 	
Copper	ppm	■28	 	
Lead	ppm	■ <1	 	
Tin	ppm	■<1	 	
Aluminum	ppm	1	 	
Chromium	ppm	■<1	 	
Molybdenum	ppm	■<1	 	
Nickel	ppm	■<1	 	
Titanium	ppm	<1	 	
Silver	ppm	0	 	
Manganese	ppm	2	 	
Vanadium	ppm	0	 	
ADDITIV	FC			
_	C			
Calcium	ppm	71	 	
Magnesium	ppm	1	 	
Zinc	ppm	■ 50	 	
Phosphorus	ppm	■313	 	
Barium	ppm	2	 	
Boron	ppm	■ 3	 	



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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.

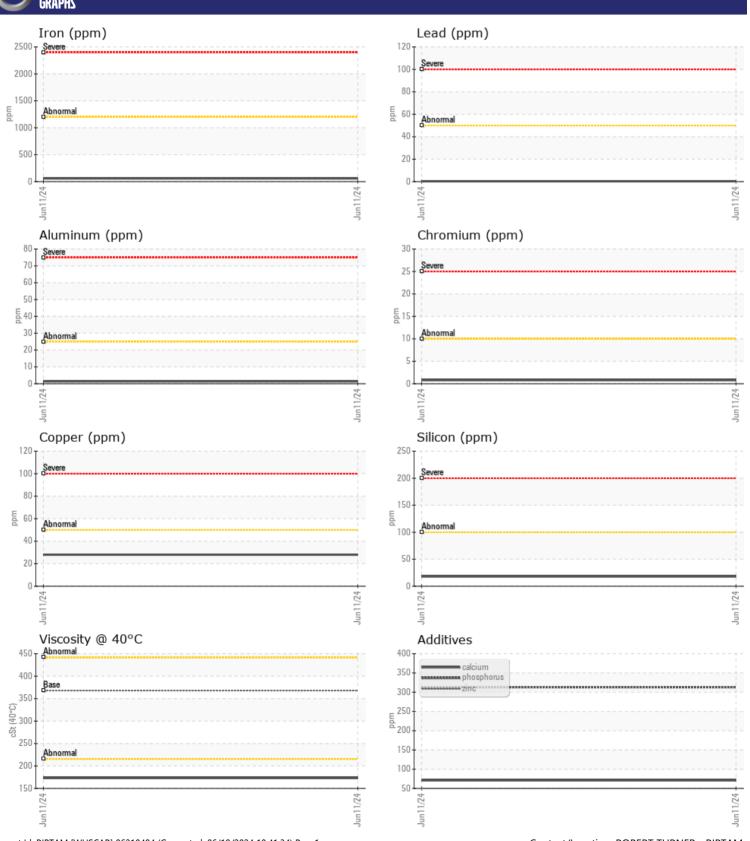
Depot:RIPTAMUnique No:11083348Signed:Sean FeltonReport Date:18 Jun 2024

Contact/Location: ROBERT TURNER - RIPTAM











CONSTRUCTION EQUIPMENT VOLVO ECR 145 3 16780 - REAR LEFT FINAL DRIVE



Sample No: VCP439886

Oil Type: GEAR OIL SAE 85W140

Job No:

SAMPLE	INFORMATION			
Sample Number		VCP439886	 	
Sample Date		11 Jun 2024	 	
Machine Hours		516	 	
Oil Hours		0	 	
Oil Changed		Changed	 	
Sample Status		ABNORMAL	 	
		7121101111111		
VOLVO	DITION			
OIL CON	JIIIUN			
Visc @ 40°C	cSt	137	 	
VOLVO				
CUNTAN	INATION			
_				
Water	%	NEG	 	
Silicon	ppm	16	 	
Sodium	ppm	4	 	
Potassium	ppm	1	 	
VOLVO				
WEAR M	IETALS			
Iron	ppm	□ 317	 	
Copper	ppm	□<1	 	
Lead	ppm	1 <1	 	
Tin	ppm	<u>▲</u> 23	 	
Aluminum	ppm	<u> </u>	 	
Chromium	ppm	6	 	
Molybdenum	ppm	1 <1	 	
Nickel	ppm	- <1	 	
Titanium	ppm	<1	 	
Silver	ppm	0	 	
Manganese	ppm	4	 	
Vanadium	ppm	0	 	
	- F	-		
VOLVO	re			
ADDITIV	F2			
Calcium	ppm	6	 	
Magnesium	ppm	1	 	
Zinc	ppm	■ 31	 	
Phosphorus	ppm	252	 	
Barium	ppm	□ <1	 	
Boron	ppm	□ 0	 	



RIPA AND ASSOCIATES 10149 FISHER AVENUE TAMPA, FL US 33619 Contact: PM Services PMServices@ripaconstruction.com

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Diagnosis

The oil 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 tin level is abnormal. All other 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:RIPTAMUnique No:11083351Signed:Sean FeltonReport Date:18 Jun 2024

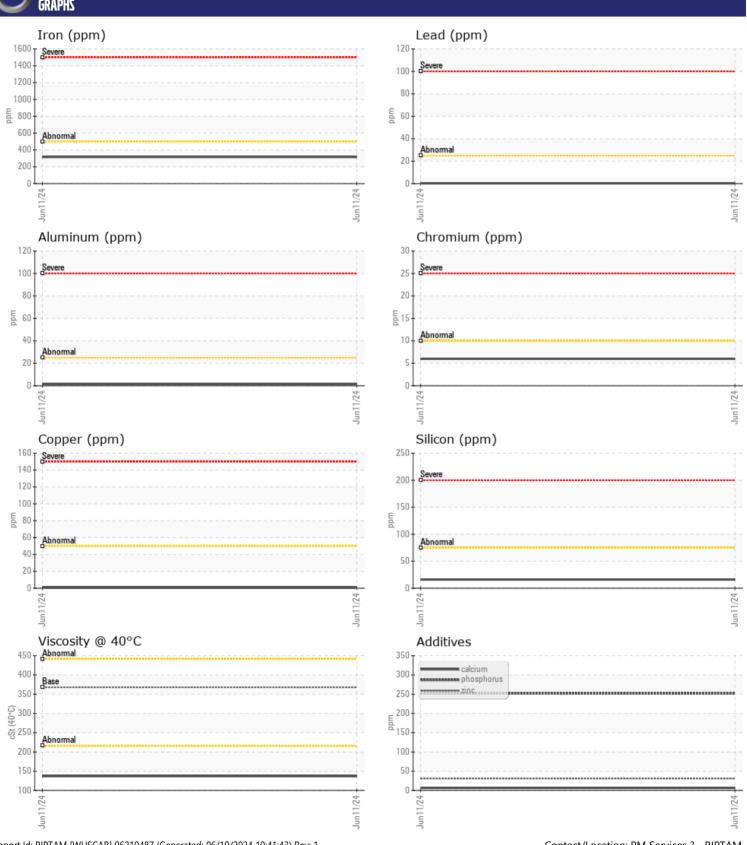
Contact/Location: PM Services ? - RIPTAM







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CONSTRUCTION EQUIPMENT VOLVO ECR 145 3 16780 - REAR RIGHT FINAL DRIVE



Sample No: VCP439653

Oil Type: GEAR OIL SAE 85W140

Job No:

Sample Number					
Sample Number Sample Date 11 Jun 2024 Machine Hours 516 O Oil Hours O Oil Changed Changed Sample Status ABNORMAL CONTAMINATION Water NEG Silicon ppm 18 Sodium ppm 22 Potassium ppm 11 Copper ppm 11 Lead ppm 13 Aluminum ppm 13 Aluminum ppm 14 Chromium ppm 15 Nolyddenum ppm 11 Chromium ppm 11 Chromium ppm 11 Chromium ppm 11 Chromium ppm 11 Chromium ppm 11 Chromium ppm 11 Chromium ppm 11 Chromium ppm 11 ADDITIVES Calcium ppm 13 ADDITIVES Calcium ppm 13				INFORMATION	VOLVO CAMDIF
Sample Date 11 Jun 2024		_		INFORMATION	
Machine Hours 0		 			•
Oil Hours Oil Changed Changed Sample Status ABNORMAL OIL CONDITION Visc @ 40°C		 			•
Changed Chan		 			Machine Hours
Sample Status		 			
OIL CONDITION Visc @ 40°C		 	Changed		
OIL CONDITION Visc @ 40°C CSt 137		 	ABNORMAL		Sample Status
OIL CONDITION Visc @ 40°C					VOLVO
CONTAMINATION Water				DITION	OIL COND
Value	 	 	137	cSt	Visc @ 40°C
CONTAMINATION			_		
NEG				UNIA TION	VOLVO
Solition				INATIUN	LUNTAM
Sodium ppm 2	 -	 	NEG	%	Water
Potassium ppm 1 WEAR METALS Iron ppm 281 Copper ppm <1	 -	 	18	ppm	Silicon
WEAR METALS Iron	 -	 	2	ppm	Sodium
WEAR METALS Iron ppm 281 Copper ppm <1		 	1	ppm	Potassium
WEAR METALS Iron ppm 281 Copper ppm <1					
Copper				ETALC	MEVD M
Copper				E14F2	_
Lead ppm <1	 -	 	_		
Tin ppm 13 Aluminum ppm 11	 -	 	_	ppm	• •
Aluminum ppm 1	 -	 		ppm	
Chromium ppm 5 Molybdenum ppm <1	 -	 	_	ppm	
Molybdenum ppm Nickel ppm Titanium ppm <1	 -	 	1	ppm	Aluminum
Nickel ppm Image: square squa		 	■ 5	ppm	Chromium
Titanium ppm <1	 -	 	■ <1	ppm	Molybdenum
Silver ppm 0 Manganese ppm 4 Vanadium ppm 0 ADDITIVES Calcium ppm 3	 -	 	■<1	ppm	Nickel
Manganese ppm 4 Vanadium ppm 0 ADDITIVES Calcium ppm 3	 -	 	<1	ppm	Titanium
Vanadium ppm 0 ADDITIVES Calcium ppm 3	 _	 	0	ppm	Silver
ADDITIVES Calcium ppm 3	 -	 	4	ppm	Manganese
ADDITIVES Calcium ppm 3	 -	 	0	ppm	Vanadium
ADDITIVES Calcium ppm 3	 	 			
Calcium ppm 3				ES	ADDITIVI
	 -	 	3	<u> </u>	_
	 -	 	<u> </u>	ppm	Magnesium
Zinc ppm 18	 -	 			_
Phosphorus ppm 213	 _	 			
Barium ppm 	 -	 			
Boron ppm		 			Boron



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Diagnosis

The oil 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 tin level is abnormal. All other 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:RIPTAMUnique No:11083349Signed:Sean FeltonReport Date:18 Jun 2024







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