

## VOLVO L90H 625046

Component Diesel Engine

VÕLVO ULTRA DIESEL ENGINE OIL 15W40 VDS-3 (--- GAL)

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Test	UOM	Method	Limit/Abn	Current	History1	History2
Sample Number		Client Info		VCP428798	VCP417366	VCP385335
Sample Date		Client Info		08 Feb 2024	12 Jun 2023	16 Sep 2022
Machine Age	hrs	Client Info		3603	3112	2470
Oil Age	hrs	Client Info		0	500	500
Filter Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		Changed	Changed	Changed
Filter Changed		Client Info		Changed	Changed	Not Changd
Sample Status				ABNORMAL	ABNORMAL	ABNORMAL
Iron	maa	ASTM D5185m	>100	32	20	14
Chromium		ASTM D5185m	>10			2
Nickel				<1	0	1
Titanium		ASTM D5185m		<1	0	<1
Silver			>2		0	0
Aluminum						▲ 26
Lead				<1	0	0
				2	2	2
Tin				1	<1	1
Vanadium	ppm	ASTM D5185m		<1	<1	1
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
0:::						4.0
						10
	ppm					6
						<1.0
			>0.1			NEG NEG
	0/		0			
						0.5 8.9
						23.8
						23.0 NONE
						NONE
						NONE
						NORML
				-		NORML
						NEG
		100001				
Sodium	ppm	ASTM D5185m		2	2	3
	ppm	ASTM D5185m	2.5	27	22	23
Barium	ppm			0	0	0
Molybdenum	ppm				39	38
Manganese	ppm			<1	<1	1
Magnesium	ppm				482	509
Calcium	ppm	ASTM D5185m	2057	1794	1585	1681
Phosphorus	ppm	ASTM D5185m		1003	847	941
Phosphorus Zinc	ppm	ASTM D5185m	1223	1157	1039	1125
Phosphorus	ppm ppm		1223 4079			
	Sample Number Sample Date Machine Age Oil Age Filter Age Oil Changed Filter Changed Sample Status Iron Chromium Nickel Titanium Silver Aluminum Lead Copper Tin Vanadium White Metal Yellow Metal Yellow Metal Yellow Metal Yellow Metal Silicon Potassium Fuel Water Glycol Soot % Nitration Sulfation Sulfation Silt Debris Sand/Dirt Appearance Odor Emulsified Water Sodium Boron Barium Molybdenum Manganese Magnesium	Sample NumberSample DateMachine AgehrsOil AgehrsFilter AgehrsOil ChangedFilter ChangedFilter Changedsample StatusIronppmChromiumppmNickelppmTitaniumppmSilverppmLeadppmVanadiumppmVanadiumppmVanadiumppmVanadiumppmFuelscalarSiliconppmFuelyelov MetalSoot %%NitrationAbs/cmSulfationAbs/cmSulfationscalarCoporscalarSoot %%NitrationAbs/cmSulfationscalarSodiumppmSand/DirtscalarAppearancescalarSodiumppmBoronppmMalybdenumppmManganeseppmMagnesiumppm	Sample NumberClient InfoSample DateClient InfoMachine AgehrsClient InfoOil AgehrsClient InfoFilter AgehrsClient InfoOil ChangedClient InfoFilter ChangedClient InfoSample StatusClient InfoSample StatusSilterIronppmASTM D5185mChromiumppmASTM D5185mNickelppmASTM D5185mSilverppmASTM D5185mLeadppmASTM D5185mCopperppmASTM D5185mVanadiumppmASTM D5185mVanadiumppmASTM D5185mVanadiumppmASTM D5185mVanadiumppmASTM D5185mFuelWC MethodSiliconppmASTM D5185mFuelWC MethodSoot %%*ASTM D5185mSiltscalar*VisualSiltscalar*VisualSiltscalar*VisualSulfationAbs/cm*ASTM D7844NitrationAbs/cm*ASTM D7844NitrationAbs/cm*ASTM D5185mGodorscalar*VisualSodiumppmASTM D5185mBoronppmASTM D5185mBariumppmASTM D5185mMalganeseppmASTM D5185mManganeseppmASTM D5185m	Sample NumberClient InfoSample DateClient InfoMachine AgehrsClient InfoOil AgehrsClient InfoFilter AgehrsClient InfoOil ChangedClient InfoFilter ChangedClient InfoSample StatusSample StatusIronppmASTM D5185mNickelppmASTM D5185mSilverppmASTM D5185mSilverppmASTM D5185mSilverppmASTM D5185mSilverppmASTM D5185mSilverppmASTM D5185mSilverppmASTM D5185mSilverppmASTM D5185mSilverppmASTM D5185mVanadiumppmASTM D5185mVanadiumppmASTM D5185mVellow Metalscalar*VisualVellow Metalscalar*VisualSiliconppmASTM D5185mVellow Metalscalar*VisualNONEWC Method>0.1GlycolWC Method>0.1GlycolWC Method>30Siltscalar*VisualNoneScalar*VisualNoneScalar*VisualNone*ASTM D7415>30Siltscalar*VisualAppearancescalar*VisualAppearancescalar*VisualAppearancescalar*VisualAppearancescalar*VisualAppearances	Sample NumberClient InfoVCP428798Sample DateClient Info08 Feb 2024Machine AgehrsClient Info3603Oil AgehrsClient Info0Filter AgehrsClient Info0Oil ChangedClient InfoChangedFilter ChangedClient InfoChangedSample StatusClient Info32IronppmASTM D5185m>100NickelppmASTM D5185m>10SilverppmASTM D5185m>20AluminumppmASTM D5185m>20AluminumppmASTM D5185m>20CopperppmASTM D5185m>10TinppmASTM D5185m>10VanadiumppmASTM D5185m>10VanadiumppmASTM D5185m>10VanadiumppmASTM D5185m>10VanadiumppmASTM D5185m>10Vatarwhite Metalscalar*VisualSiliconppmASTM D5185m>20FuelWC Method>0.1NEGSoot %%*ASTM D7844>3Silitscalar*VisualNONENoneNONENONESolitscalar*VisualNONESoot %%*ASTM D7844>3Silitscalar*VisualNONEAppearancescalar*VisualNONEAppearancescalar*VisualNONE <td< th=""><th>Sample NumberClient InfoVCP428798VCP417366Sample DateClient Info08 Feb 202412 Jun 2023Machine AgehrsClient Info0500Filter AgehrsClient Info00Oil AgehrsClient Info00Oil ChangedClient InfoChangedChangedChangedFilter ChangedClient InfoChangedChangedChangedSample StatusSilverppmASTM D5185m&gt;1003220NickelppmASTM D5185m&gt;10&lt;100SilverppmASTM D5185m&gt;20000AluminumppmASTM D5185m&gt;20&lt;100LeadppmASTM D5185m&gt;10&lt;22211VanadiumppmASTM D5185m&gt;101&lt;10VanadiumppmASTM D5185m&gt;101&lt;10VanadiumppmASTM D5185m&gt;101&lt;10VanadiumppmASTM D5185m&gt;20122TinppmASTM D5185m&gt;20121VanadiumppmASTM D5185m&gt;20121VanadiumppmASTM D5185m&gt;20122TinppmASTM D5185m&gt;20121VanadiumppmASTM D5185m&gt;20122Sili</th></td<>	Sample NumberClient InfoVCP428798VCP417366Sample DateClient Info08 Feb 202412 Jun 2023Machine AgehrsClient Info0500Filter AgehrsClient Info00Oil AgehrsClient Info00Oil ChangedClient InfoChangedChangedChangedFilter ChangedClient InfoChangedChangedChangedSample StatusSilverppmASTM D5185m>1003220NickelppmASTM D5185m>10<100SilverppmASTM D5185m>20000AluminumppmASTM D5185m>20<100LeadppmASTM D5185m>10<22211VanadiumppmASTM D5185m>101<10VanadiumppmASTM D5185m>101<10VanadiumppmASTM D5185m>101<10VanadiumppmASTM D5185m>20122TinppmASTM D5185m>20121VanadiumppmASTM D5185m>20121VanadiumppmASTM D5185m>20122TinppmASTM D5185m>20121VanadiumppmASTM D5185m>20122Sili

Base Number (BN) mg KOH/g ASTM D2896 10

ASTM D445 15.0

Visc @ 100°C cSt

9.5

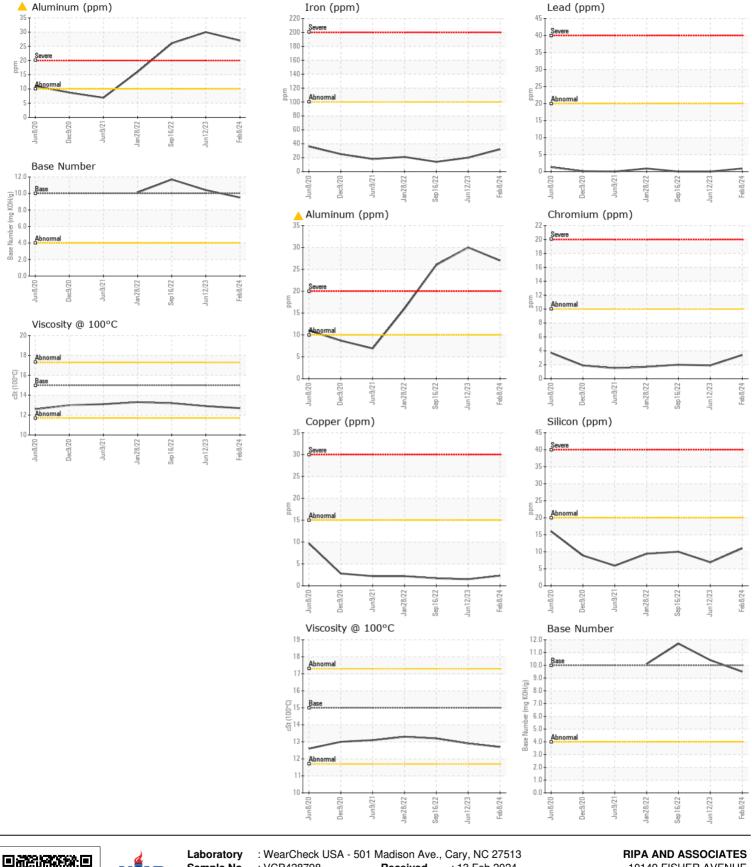
12.7

10.4

12.9

11.7

13.2



: VCP428798 Received 10149 FISHER AVENUE Sample No. : 13 Feb 2024 Lab Number : 06086927 : 13 Feb 2024 TAMPA, FL Tested Unique Number : 10874372 : 14 Feb 2024 - Sean Felton US 33619 Diagnosed Test Package : MOB 1 (Additional Tests: TBN) **Contact: PM Services** Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. PMServices@ripaconstruction.com \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. Т: F: Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: PM Services ? - RIPTAM

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