**OIL ANALYSIS REPORT** 



## [W07014299] VOLVO EC460CL 110437 Component Hydraulic System

VOLVO SUPER HYDRAULIC OIL 46 (--- GAL)

## RECOMMENDATION

We recommend you service the filters on this component. Resample at the next service interval to monitor. We were unable to perform a particle count due to a high concentration of particles present in this sample.



All component wear rates are normal.

## **CONTAMINATION**

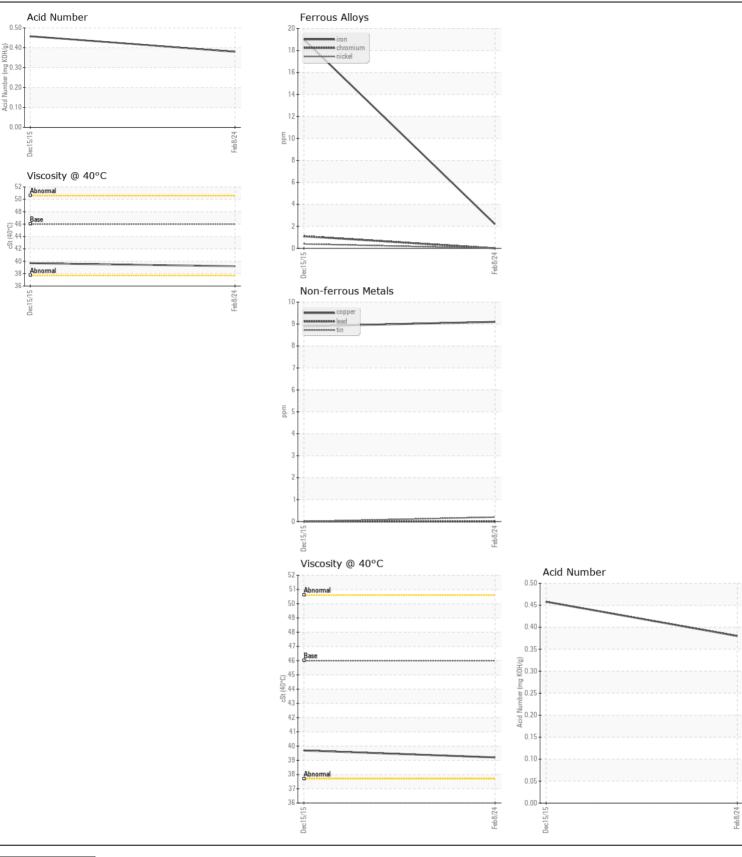
Moderate concentration of visible dirt/debris present in the oil.

**FLUID CONDITION** 

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

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TestUOMMethodLimi/ACurrentHistory1History2Sample NumberClient InfoML000078VCP181444~~Sample JackClient Info00~~Machine AgehrsClient Info00~~Oil AgehrsClient Info00~~Filter AgehrsClient InfoNot ChangeChanged~~Filter ChangedClient InfoNot ChangeN/A~~Sample StatusClient InfoNot ChangeN/A~~IronppmASTM D5185m>20219~~NickelppmASTM D5185m>1001~~NickelppmASTM D5185m>20<13~~SilverppmASTM D5185m>20<13~~LeadppmASTM D5185m>10<10~~VanadiumppmASTM D5185m>10<10~~~~VanadiumppmASTM D5185m>1010~~~~VanadiumppmASTM D5185m>1010~~~~VanadiumppmASTM D5185m>20010~~VanadiumppmASTM D5185m>201010~~VanadiumppmASTM D5185m>200~~~~VanadiumppmASTM D5185m>200~~~~VanadiumppmASTM D5185m>2							
Sample DateClient Info08 Feb 20215 Dec 2015Machine AgehrsClient Info00Oil AgehrsClient Info00Filler AgehrsClient InfoNot ChangedChangedOil ChangedClient InfoNot ChangedN/ASample StatusClient InfoNot ChangedN/ATronppmASTM D5185m>20ABNORMALNORMALNickelppmASTM D5185m>100TitaniumppmASTM D5185m>100NickelppmASTM D5185m>100AluminumppmASTM D5185m>20-13LeadppmASTM D5185m>20-10VanadiumppmASTM D5185m>10-10VanadiumppmASTM D5185m>10-10VanadiumppmASTM D5185m>10-10VanadiumppmASTM D5185m>5011166VanadiumppmASTM D5185m>20010VanadiumppmASTM D5185m>20010VanadiumppmASTM D5185m>20010VanadiumppmASTM D5185m>20010VanadiumppmASTM D5167>200	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age     hrs     Client Info     0     4194        Oil Age     hrs     Client Info     0     0        Filter Age     hrs     Client Info     Not Changd     Changed        Filter Changed     Client Info     Not Changd     N/A        Sample Status      ABNORMAL     NORMAL        Iron     ppm     ASTM D5185m<>25     2     19        Chromium     ppm     ASTM D5185m     10     0     -1        Silver     ppm     ASTM D5185m     50     0     0        Silver     ppm     ASTM D5185m     >20     0     0        Gopper     ppm     ASTM D5185m     >20     0     0        Vanadium     ppm     ASTM D5185m     >50     1     16        Velow Metal     scalar     *Visual     NONE     NONE     NONE        Velow Metal     scalar <th>Sample Number</th> <th></th> <th>Client Info</th> <th></th> <th>ML0000678</th> <th>VCP181444</th> <th></th>	Sample Number		Client Info		ML0000678	VCP181444	
Oil Age     hrs     Client Info     0     0        Filter Age     hrs     Client Info     Not Changed     Changed        Oil Changed     Client Info     Not Changed     Changed        Sample Status     Client Info     Not Changed     NORMAL        Iron     ppm     ASTM D5185m     >225     2     19        Chromium     ppm     ASTM D5185m     >10     0     1        Nickel     ppm     ASTM D5185m     >10     0     <1        Silver     ppm     ASTM D5185m     >20     <1     3        Aluminum     ppm     ASTM D5185m     >20     0     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >50     1     16        Vanadium     ppm     ASTM D5185m     >50     1     10364	Sample Date		Client Info		08 Feb 2024	15 Dec 2015	
Filter Age     hrs     Client Info     0     0        Oil Changed     Client Info     Not Changd     Changed        Sample Status     Client Info     Not Changd     N/A        Sample Status     ASTM D5185m     >22     19        Iron     ppm     ASTM D5185m     >10     0     1        Chromium     ppm     ASTM D5185m     >10     0     <1        Nickel     ppm     ASTM D5185m     >10     0     <1        Silver     ppm     ASTM D5185m     >20     <1     3        Copper     ppm     ASTM D5185m     >20     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Veltow Metal     scalar     *Visual     NONE     NONE     NONE        Veltow Metal     scalar     *Visual     NONE     10        Veltow Metal	Machine Age	hrs	Client Info		0	4194	
Oil Changed Filter Changed Sample Status     Client Info Client Info     Not Changd Not Changd ABNORMAL     Changed NAA        Iron     ppm     ASTM D5185m     >25     2     19        Iron     ppm     ASTM D5185m     >10     0     1        Nickel     ppm     ASTM D5185m     >10     0     <1        Silver     ppm     ASTM D5185m     >10     0     <1        Aluminum     ppm     ASTM D5185m     >20     0     0        Aluminum     ppm     ASTM D5185m     >20     0     0        Aluminum     ppm     ASTM D5185m     >20     0     0        Aluminum     ppm     ASTM D5185m     >10     <1     0        Aluminum     ppm     ASTM D5185m     >20     0     0        Vanadium     ppm     ASTM D5185m     >50     1     16        Velow Metal     scalar <td< th=""><th>Oil Age</th><th>hrs</th><th>Client Info</th><th></th><th>0</th><th>0</th><th></th></td<>	Oil Age	hrs	Client Info		0	0	
Filter Changed Sample Status     Client Info     Not Changed ABNORMAL     N/A	Filter Age	hrs	Client Info		0	0	
Sample Status     ABNORMAL     NORMAL        Iron     ppm     ASTM D5185m<>25     2     19        Chromium     ppm     ASTM D5185m<>10     0         Nickel     ppm     ASTM D5185m<>10     0         Silver     ppm     ASTM D5185m     0     0        Aluminum     ppm     ASTM D5185m     20     0     0        Copper     ppm     ASTM D5185m     >20     0     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     0     0        Vellow Metal     scalar     *Visual     NONE     NONE     NONE        Vellow Metal     scalar     *Visual     NONE     NONE         Vellow Metal     scalar     *Visual     NONE     NONE         Particles >4µm	Oil Changed		Client Info		Not Changd	Changed	
Iron     ppm     ASTM D5185m< >25     2     19        Chromium     ppm     ASTM D5185m     >10     0     1        Nickel     ppm     ASTM D5185m     >10     0     <1        Titanium     ppm     ASTM D5185m     0     0     <1        Silver     ppm     ASTM D5185m     >20     <1     3        Aluminum     ppm     ASTM D5185m     >20     0     0        Lead     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >50     1     16        Vanadium     ppm     ASTM D5185m     >50     1     16        Vellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D7647     >1000     -	Filter Changed		Client Info		Not Changd	N/A	
Chromium     ppm     ASTM D5185m     >10     0     1        Nickel     ppm     ASTM D5185m     >10     0     <1        Silver     ppm     ASTM D5185m     0     0     <1        Silver     ppm     ASTM D5185m     >20     <1     3        Aluminum     ppm     ASTM D5185m     >20     <1     3        Copper     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Veltow Metal     scalar     *Visual     NONE     NONE     NONE        Veltow Metal     scalar     *Visual     NONE     NONE     NONE        Valtor     ppm     ASTM D7647     >4000      10364        Particles >4µm     ASTM D7647     >640      19        Particles >4µm     ASTM D7647     >640	Sample Status				ABNORMAL	NORMAL	
Chromium     ppm     ASTM D5185m     >10     0     1        Nickel     ppm     ASTM D5185m     >10     0     <1        Silver     ppm     ASTM D5185m     0     0     <1        Silver     ppm     ASTM D5185m     >20     <1     3        Aluminum     ppm     ASTM D5185m     >20     <1     3        Copper     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     >10     <1     0        Veltow Metal     scalar     *Visual     NONE     NONE     NONE        Veltow Metal     scalar     *Visual     NONE     NONE     NONE        Valtor     ppm     ASTM D7647     >4000      10364        Particles >4µm     ASTM D7647     >640      19        Particles >4µm     ASTM D7647     >640							
Nickel     ppm     ASTM D5185m     >10     0     <1	-						
Tittanium     ppm     ASTM D5185m     0     <1		ppm			-	-	
Silver     ppm     ASTM D5185m     Q     <1				>10	-		
Aluminum     ppm     ASTM D5185m     >20     <1		ppm			-		
Lead     ppm     ASTM D5185m     >20     0     0        Copper     ppm     ASTM D5185m     >150     9     9        Vanadium     ppm     ASTM D5185m     >10     <1				0.5	-		
Copper     ppm     ASTM D5185m     >150     9     9        Tin     ppm     ASTM D5185m     >10     <1     0        Vanadium     ppm     ASTM D5185m     0     0     0        White Metal     scalar     *Visual     NONE     NONE     NONE        Yellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D5185m     >50     1     16        Potassium     ppm     ASTM D5185m     >20     0     10        Particles >4µm     ASTM D7647     >40000      10364        Particles >6µm     ASTM D7647     >200      49        Particles >3µm     ASTM D7647     >400      2        Particles >71µm     ASTM D7647     >40      2        Oil Cleanliness     ISO 4406 (c)     222018      21/1							
Tin     ppm     ASTM D5185m     >10     <1					-		
Vanadium     ppm     ASTM D5185m     0     0        White Metal     scalar     *Visual     NONE     NONE     NONE        Yellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D5185m     >20     0     10        Potassium     ppm     ASTM D5185m     >20     0     10        Particles >4µm     ASTM D7647     >40000      861        Particles >6µm     ASTM D7647     >1000      49        Particles >1µm     ASTM D7647     >640      19        Particles >38µm     ASTM D7647     >400      0        Particles >38µm     ASTM D7647     >40      0        Oil Cleanliness     ISO 4406 (c)     >220/18      21/17/13        Silt     scalar     *Visual     NONE     NONE     NONE	••				-		
White Metal Yellow Metalscalar*Visual *VisualNONENONENONESilicon Potassium ppmppmASTM D5185m>50116Potassium Particles >4µmASTM D5185m>20010Particles >4µmASTM D7647>4000010364Particles >4µmASTM D7647>1000049Particles >4µmASTM D7647>250049Particles >14µmASTM D7647>250019Particles >21µmASTM D7647>4000Particles >21µmASTM D7647>4000Particles >21µmASTM D7647>400Particles >38µmASTM D7647>4000Siltscalar*VisualNONENONENONESiltscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLAppearancescalar*VisualNORMNORMLNORMLSodiumppmASTM D5185m1425BoronppmASTM D5185m0.0<14ManganeseppmASTM D5185m0.0<1306-				>10			
Yellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D5185m     >50     1     16        Potassium     ppm     ASTM D5185m     >20     0     10        Particles >4µm     ASTM D7647     >40000      10364        Particles >6µm     ASTM D7647     >1000      861        Particles >6µm     ASTM D7647     >2500      49        Particles >1µm     ASTM D7647     >640      2        Particles >38µm     ASTM D7647     >60      2        Particles >71µm     ASTM D7647     >40      0        Silt     scalar     *Visual     NONE     NONE     NONE        Solt     scalar     *Visual     NONE     NONE     NONE        Appearance     scalar     *Visual     NORH     NORH     NORH <th></th> <th></th> <th></th> <th></th> <th>-</th> <th></th> <th></th>					-		
Silicon     ppm     ASTM D5185m     >50     1     16        Potassium     ppm     ASTM D5185m     >20     0     10        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >40000      861        Particles >6µm     ASTM D7647     >2000      861        Particles >6µm     ASTM D7647     >2000      861        Particles >21µm     ASTM D7647     >6400      19        Particles >71µm     ASTM D7647     >40      2        Particles >71µm     ASTM D7647     >40      2        Oil Cleanliness     ISO 4406 (c)     >220/8      21/17/13        Silt     scalar     *Visual     NONE     NONE     NONE        Sodium     scalar     *Visual     NORM     NORML     NORML					-		
Potassium     ppm     ASTM D5185m     >20     0     10        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >40000      861        Particles >6µm     ASTM D7647     >2500      49        Particles >14µm     ASTM D7647     >640      19        Particles >38µm     ASTM D7647     >640      0        Particles >38µm     ASTM D7647     >40      0        Particles >38µm     ASTM D7647     >40      0        Oil Cleanliness     ISO 4406 (c)     >220/t8      0        Silt     scalar     *Visual     NONE     NONE     NONE        Debris     scalar     *Visual     NORM     NORM     NORML        Appearance     scalar     *Visual     NORM     NORM     NORM	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Potassium     ppm     ASTM D5185m     >20     0     10        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >40000      861        Particles >6µm     ASTM D7647     >2500      49        Particles >14µm     ASTM D7647     >640      19        Particles >38µm     ASTM D7647     >640      0        Particles >38µm     ASTM D7647     >40      0        Particles >38µm     ASTM D7647     >40      0        Oil Cleanliness     ISO 4406 (c)     >220/t8      0        Silt     scalar     *Visual     NONE     NONE     NONE        Debris     scalar     *Visual     NORM     NORM     NORML        Appearance     scalar     *Visual     NORM     NORM     NORM	Silicon	nnm	ASTM D5185m	<u>\50</u>	1	16	
Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >40000      861        Particles >6µm     ASTM D7647     >2500      861        Particles >14µm     ASTM D7647     >2500      49        Particles >21µm     ASTM D7647     >640      19        Particles >38µm     ASTM D7647     >40      0        Particles >38µm     ASTM D7647     >40      0        Particles >71µm     ASTM D7647     >40      0        Oil Cleanliness     ISO 4406 (c)     >22/20/8      0        Silt     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NORM     NORML     NORML        Appearance     scalar     *Visual     NORM     NORML     NORML   <							
Particles >4μm     ASTM D7647     >40000      10364        Particles >6μm     ASTM D7647     >10000      861        Particles >14μm     ASTM D7647     >2500      49        Particles >14μm     ASTM D7647     >640      19        Particles >38µm     ASTM D7647     >100      2        Particles >71µm     ASTM D7647     >40      0        Oil Cleanliness     ISO 4406 (c)     >220/8      21/17/13        Silt     scalar     *Visual     NONE     NONE     NONE        Debris     scalar     *Visual     NONE     NONE     NONE        Appearance     scalar     *Visual     NORM     NORM     NORML        Godor     scalar     *Visual     NORM     NORML     NORML        Boron     ppm     ASTM D5185m     14     2     5    <		ррпп			-		
Particles >6µmASTM D7647>10000861Particles >14µmASTM D7647>2500499Particles >21µmASTM D7647>64019Particles >38µmIASTM D7647>402Particles >71µmASTM D7647>400Oil CleanlinessISO 4406 (o>222/18ISO 4406 (c)221/17/13Siltscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMNORMLNORMLSodiumppmASTM D5185m1425BoronppmASTM D5185m0.0<13.0ManganeseppmASTM D5185m0.0<13.0ManganeseppmASTM D5185m0.0<13.06PhosphorusppmASTM D5185m331306AgnesiumppmASTM D5185m371920322860ManganeseppmASTM D5185m371920322860Acid Number (AN)mpmASTM D5185m371920322860AddressppmASTM D5185m371920322860 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Particles >14µm     ASTM D7647     >2500      49        Particles >21µm     ASTM D7647     >640      19        Particles >38µm     ASTM D7647     >40      2        Particles >71µm     ASTM D7647     >40      0        Oil Cleanliness     ISO 4406 (c)     >220/18      21/17/13        Silt     scalar     *Visual     NONE     NONE     NONE        Debris     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NOR     NORM     NORML        Appearance     scalar     *Visual     NOR     NORML     NORML        Gdor     scalar     *Visual     NOR     NORML     NORML        Sodium     ppm     ASTM D5185m     14     2     5        Boron     ppm     ASTM D5185m     0.0     <1							
Particles >21µmASTM D7647>64019Particles >38µmASTM D7647>1602Particles >71µmASTM D7647>400Oil CleanlinessISO 4406 (c) >2220/1821/17/13Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONEMODERNONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMNORMLNORMLSodiumppmASTM D5185m1425BoronppmASTM D5185m0.0<10ManganeseppmASTM D5185m0.0<13.0ManganeseppmASTM D5185m2.62216MangesiumppmASTM D5185m331306PhosphorusppmASTM D5185m354331306ZincppmASTM D5185m371920322860Acid Number (AN)mg KOHgASTM D5185m371930380.458							
Particles >38µm     ASTM D7647     >160      2        Particles >71µm     ASTM D7647     >40      0        Oil Cleanliness     ISO 4406 (c)     >220/18      21/17/13        Silt     scalar     *Visual     NONE     NONE     NONE        Debris     scalar     *Visual     NONE     MODER     NONE        Sand/Dirt     scalar     *Visual     NONE     NONE     NONE        Appearance     scalar     *Visual     NORM     NORML     NORML        Odor     scalar     *Visual     NORM     NORML     NORML        Odor     scalar     *Visual     NORM     NORML     NORML        Boron     ppm     ASTM D5185m     14     2     5        Barium     ppm     ASTM D5185m     0.0     <1     3        Manganese     ppm     ASTM D5185m     0.0							
Particles >71µmASTM D7647>400Oil CleanlinessISO 4406 (c) >22/20/1821/17/13Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONEMODERNONESand/Dirtscalar*VisualNONEMODERNONEAppearancescalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMNORMLNORMLSodiumppmASTM D5185m1425BoronppmASTM D5185m1425BariumppmASTM D5185m0.0<13MagneseppmASTM D5185m0.0<13ManganeseppmASTM D5185m2.62216PhosphorusppmASTM D5185m331306ZincppmASTM D5185m354331306ZincppmASTM D5185m371920322860Acid Number (AN)mg KOHgASTM D80450.380.458							
Oil CleanlinessISO 4406 (c)>22/20/821/17/13Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONEMODERNONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m1425BoronppmASTM D5185m1425BariumppmASTM D5185m0.0<13MaganeseppmASTM D5185m0.0<13MagnesiumppmASTM D5185m491082.37PhosphorusppmASTM D5185m331306ZincppmASTM D5185m371920322860Acid Number (AN)mg KOHgASTM D5185m37190.380.458							
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Debrisscalar*VisualNONE▲ MODERNONESand/Dirtscalar*VisualNORENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m1425BoronppmASTM D5185m0.0<10MalganeseppmASTM D5185m0.0<13MagnesiumppmASTM D5185m2.62216CalciumppmASTM D5185m331306PhosphorusppmASTM D5185m419415349ZincppmASTM D5185m371920322860Acid Number (AN)mg KOHgASTM D80450.380.458		scalar	( )				
Sand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m1425BoronppmASTM D5185m0.0<10BariumppmASTM D5185m0.0<13MolybdenumppmASTM D5185m0.0<13MagnesiumppmASTM D5185m2.62216CalciumppmASTM D5185m354331306PhosphorusppmASTM D5185m349349ZincppmASTM D5185m371920322860Acid Number (AN)mg KOHgASTM D80450.380.458					-		
Appearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m1425BoronppmASTM D5185m0.0<10MolybdenumppmASTM D5185m0.0<13MagnesiumppmASTM D5185m2.62216MagnesiumppmASTM D5185m354331306PhosphorusppmASTM D5185m354331306ZincppmASTM D5185m371920322860Acid Number (AN)mg KOHgASTM D80450.380.458							
Odorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m<					-		
Emulsified Water     scalar     *Visual     >0.1     NEG     NEG        Sodium     ppm     ASTM D5185m      <1     4        Boron     ppm     ASTM D5185m     14     2     5        Barium     ppm     ASTM D5185m     0.0     <1     0        Molybdenum     ppm     ASTM D5185m     0.0     <1     3        Magnesium     ppm     ASTM D5185m     0.0     <1     3        Calcium     ppm     ASTM D5185m     0.0     <1     3        Phosphorus     ppm     ASTM D5185m     2.6     22     16        Phosphorus     ppm     ASTM D5185m     49     108     2.37        Phosphorus     ppm     ASTM D5185m     354     331     306        Zinc     ppm     ASTM D5185m     319     349         Sulfur     ppm     ASTM D5185m					-		
Sodium     ppm     ASTM D5185m     <1							
Boron     ppm     ASTM D5185m     14     2     5        Barium     ppm     ASTM D5185m     0.0     <1     0        Molybdenum     ppm     ASTM D5185m     0.0     <1     3        Manganese     ppm     ASTM D5185m     0.0     <1     3        Magnesium     ppm     ASTM D5185m     0.0     <1     <1        Calcium     ppm     ASTM D5185m     2.6     22     16        Phosphorus     ppm     ASTM D5185m     49     108     237        Phosphorus     ppm     ASTM D5185m     354     331     306        Zinc     ppm     ASTM D5185m     419     415     349        Sulfur     ppm     ASTM D5185m     3719     2032     2860        Acid Number (AN)     mg KOH/g     ASTM D8045     0.38     0.458							
Barium     ppm     ASTM D5185m     0.0     <1	Sodium	ppm	ASTM D5185m		<1	4	
Molybdenum     ppm     ASTM D5185m     0.0     <1	Boron	ppm	ASTM D5185m	14	2	5	
Manganese     ppm     ASTM D5185m     0.0     <1		ppm	ASTM D5185m	0.0			
Magnesium     ppm     ASTM D5185m     2.6     22     16        Calcium     ppm     ASTM D5185m     49     108     237        Phosphorus     ppm     ASTM D5185m     354     331     306        Zinc     ppm     ASTM D5185m     419     415     349        Sulfur     ppm     ASTM D5185m     3719     2032     2860        Acid Number (AN)     mg KOH/g     ASTM D8045     0.38     0.458	-	ppm	ASTM D5185m	0.0		3	
Calcium     ppm     ASTM D5185m     49     108     237        Phosphorus     ppm     ASTM D5185m     354     331     306        Zinc     ppm     ASTM D5185m     419     415     349        Sulfur     ppm     ASTM D5185m     3719     2032     28600        Acid Number (AN)     mg KOHg     ASTM D8045     0.38     0.458	-	ppm					
Phosphorus     ppm     ASTM D5185m     354     331     306        Zinc     ppm     ASTM D5185m     419     415     349        Sulfur     ppm     ASTM D5185m     3719     2032     2860        Acid Number (AN)     mg KOH/g     ASTM D8045     0.38     0.458	Magnesium	ppm	ASTM D5185m	2.6	22		
Zinc     ppm     ASTM D5185m     419     415     349        Sulfur     ppm     ASTM D5185m     3719     2032     2860        Acid Number (AN)     mg KOH/g     ASTM D8045     0.38     0.458	Calcium	ppm	ASTM D5185m	49		237	
Sulfur     ppm     ASTM D5185m     3719     2032     2860        Acid Number (AN)     mg KOH/g     ASTM D8045     0.38     0.458	Phosphorus	ppm	ASTM D5185m	354		306	
Acid Number (AN)     mg KOH/g     ASTM D8045     0.38     0.458	Zinc	ppm		419	415	349	
	Sulfur	ppm	ASTM D5185m	3719	2032	2860	
Visc @ 40°C cSt ASTM D445 46 39.2 39.69		mg KOH/g	ASTM D8045		0.38	0.458	
	Visc @ 40°C	cSt	ASTM D445	46	39.2	39.69	



Contact/Location: KYLE RATLIFFE - VOLVO8882