

# WEAR NORMAL CONTAMINATION ABNORMAL FLUID CONDITION NORMAL



#### [717257] Machine Id VOLVO EC380 315097

Hydraulic System

VOLVO SUPER HYDRAULIC OIL 46 (--- GAL)

## RECOMMENDATION

No corrective action is recommended at this time. The filter change at the time of sampling has been noted. Resample at the next service interval to monitor.



All component wear rates are normal.

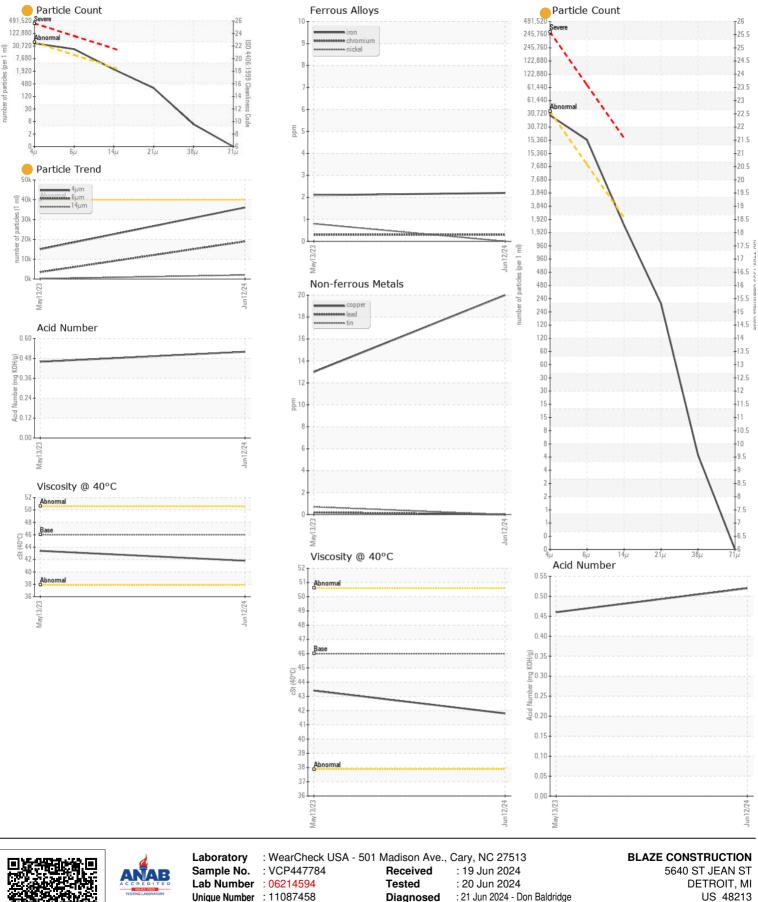
## CONTAMINATION

There is a moderate amount of silt (particulates < 14 microns in size) present in the oil. There is a moderate amount of visible silt present in the sample.

### FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is acceptable for the time in service.

Test     UOM     Method     LimitAb     Current     History1     History1       Sample Dume     Client Info     I2 Jun 2024     13 May 2023        Machine Age     hrs     Client Info     II Jun 2024     13 May 2023        Machine Age     hrs     Client Info     III Sold     III Sold        Oil Age     hrs     Client Info     III Sold     Not Changed        Filter Changed     Client Info     III Sold     Not Changed        Sample Status      ABNORMAL     NORMAL        Iron     ppm     ASTM D5185m     >20     C        Iron     ppm     ASTM D5185m     >20     I        Isiker     ppm     ASTM D5185m     >20     I        Aluminum     ppm     ASTM D5185m     >20     I        Aluminum     ppm     ASTM D5185m     S0     3     2        Vanadium     ppm     ASTM D5185m							
Sample Date     Client Info     12 Jun 2024     13 May 2023        Machine Age     hrss     Client Info     2866     1256        Oil Age     hrss     Client Info     0     0        Oil Changed     Client Info     Not Changed      Changed        Sample Status     Client Info     Changed      Changed        Iron     ppm     ASTM D5185m<>-25     2     2        Nickel     ppm     ASTM D5185m<>10     0     -1        Nickel     ppm     ASTM D5185m     20     2        Aluminum     ppm     ASTM D5185m<>20     0         Lead     ppm     ASTM D5185m<>150     20     13        Vanadum     ppm     ASTM D5185m<>20     0         Vanadum     ppm     ASTM D5185m<>20     1     1        Vanadum     ppm     ASTM D5185m<>20     3	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age Cil Age     hrs     Client Info     2866     1256        Filter Age     hrs     Client Info     0     0        Filter Age     hrs     Client Info     Not Changd     Not Changd        Goli Age     Client Info     Not Changd     Not Changd      Changed        Sample Status     Client Info     Not Changd     NorMAL      ABNORMAL        Iron     ppm     ASTM D5185m<>25     2     2         Nickel     ppm     ASTM D5185m<>10     0     <-1         Silver     ppm     ASTM D5185m<>20     2     <1         Lead     ppm     ASTM D5185m<>20     0     <-1         Vanadum     ppm     ASTM D5185m<>50     20     1     1        Veltow Metal     scalar     *Visual     NONE     NONE     NONE        Veltow Metal     scalar	Sample Number		Client Info		VCP447784	VCP402970	
Oil AgehrsClient Info8660Filter AgeNrsClient InfoNot ChangedOil ChangedClient InfoNot ChangedFilter ChangedClient InfoNot ChangedSample StatusASTM DS185m>222IronppmASTM DS185m>10NickelppmASTM DS185m>100NickelppmASTM DS185m>1000AluminumppmASTM DS185m>200AluminumppmASTM DS185m>202CopperppmASTM DS185m>200VanadumppmASTM DS185m>100VanadumppmASTM DS185m>100ValtervisualNONENONENONENONESiliconppmASTM DS185m>011VaterWC Method>0.1NEGNNONEParticles >4µmASTM D7647>4000036101115020Particles >1µmASTM D7647>400000Particles >1µmASTM D7647>640263222Particles >1µmASTM D7647>64000Particles >1µmASTM D7647>10000 <t< th=""><th></th><th></th><th>Client Info</th><th></th><th>12 Jun 2024</th><th>13 May 2023</th><th></th></t<>			Client Info		12 Jun 2024	13 May 2023	
Filter Åge     hrs     Client Info     0     0        Oil Changed     Client Info     Not Changed     Changed        Sample Status     Client Info     Changed     Changed        Sample Status     ASTM D5185m     >25     2        Chromium     ppm     ASTM D5185m     >10     <1     <       Nickel     ppm     ASTM D5185m     >10     <1     <       Nickel     ppm     ASTM D5185m     >10     0     <       Aluminum     ppm     ASTM D5185m     >20     2     <       Copper     ppm     ASTM D5185m     >20     0     <1        Vanadium     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >10     0     0        Vanadium     ppm     ASTM D5185m     >0     3     2        Silicon     ppm     ASTM D5185m     >20     1		hrs	Client Info		2866	1256	
Oil ChangedClient InfoNot ChangedNot ChangedFilter ChangedClient InfoChangedChangedSample StatusASTM D5185m>222IronppmASTM D5185m>10<1<1NickelppmASTM D5185m>100<1NickelppmASTM D5185m>100<1SilverppmASTM D5185m>202<1LeadppmASTM D5185m>2020<1CopperppmASTM D5185m>100<1VanadiumppmASTM D5185m>100<1VanadiumppmASTM D5185m>100<1VanadiumppmASTM D5185m>100<1VanadiumppmASTM D5185m>10NONEVanadiumppmASTM D5185m>011Vandedscalar*VisualNONENONENONESiliconppmASTM D7647>40003610115020Particles >6µmASTM D7647>40003610115020Particles >6µmASTM D7647>4000167160Particles >71µmASTM D7647>4000Particles >71µmASTM D7647>4000	Oil Age	hrs	Client Info		866	0	
Filter Changed Sample Status     Client Info     Changed ABNORMAL     Changed NORMAL        Iron     ppm     ASTM D5185m     >25     2     2        Iron     ppm     ASTM D5185m     >10     <1        Nickel     ppm     ASTM D5185m     >10     0     <1        Nickel     ppm     ASTM D5185m     >10     0     0        Aluminum     ppm     ASTM D5185m     >20     0     <1        Lead     ppm     ASTM D5185m     >20     0     <1        Vanadium     ppm     ASTM D5185m     >10     0     <1        Vanadium     ppm     ASTM D5185m     >10     0     <1        Vanadium     ppm     ASTM D5185m     >10     0     <11     1        Vanadium     ppm     ASTM D5185m     >20     1     1        Vellow Metal     scalar     'visual     NONE	Filter Age	hrs	Client Info		0	-	
Sample StatusABNORMANORMALIronppmASTM D5185m>2022ChromiumppmASTM D5185m100<1NickelppmASTM D5185m10000SilverppmASTM D5185m>2000SilverppmASTM D5185m>202<1LeadppmASTM D5185m>202<1CopperppmASTM D5185m>200<1VanadiumppmASTM D5185m>100<VanadiumppmASTM D5185m>100<VanadiumppmASTM D5185m>100VanadiumppmASTM D5185m>100VanadiumppmASTM D5185m>2011VanadiumppmASTM D5185m>2011VanadiumppmASTM D5185m>2011VanadiumppmASTM D5185m>2011VanadiumppmASTM D5185m>2011Particles >4µmASTM D7647>4003610150Particles >4µmASTM D7647>4000Particles >14µmASTM D7647>4000Particles >14µmAS	Oil Changed		Client Info		Not Changd	Not Changd	
Iron     ppm     ASTM D5185m<>25     2     2        Chromium     ppm     ASTM D5185m     >10     <1     <1     <1       Nickel     ppm     ASTM D5185m     >10     0     <1     <       Titanium     ppm     ASTM D5185m     >20     2     <1     <       Aluminum     ppm     ASTM D5185m     >20     2     <1     <       Lead     ppm     ASTM D5185m     >20     0     <1     <       Copper     ppm     ASTM D5185m     >10     0     <1     <       Vanadum     ppm     ASTM D5185m     >10     0     <1     <       Vanadum     ppm     ASTM D5185m     >10     0     <1     <       Vanadum     ppm     ASTM D5185m     >50     3     2     <       Vellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D7647     >4000     3610	Filter Changed		Client Info		Changed	Changed	
Chromium     ppm     ASTM D5185m     >10     <1	Sample Status				ABNORMAL	NORMAL	
Chromium     ppm     ASTM D5185m     >10     <1							
Nickel     ppm     ASTM D5185m     >10     0     <1							
Titanium     ppm     ASTM D5185m     0     0							
Silver     ppm     ASTM D5185m     >20     2     <1				>10	-		
Aluminum     ppm     ASTM D5185m     >20     2     <1					-		
Lead     ppm     ASTM D5185m     >20     0     <1				00	-		
Copper     ppm     ASTM D5185m     >150     20     13        Tin     ppm     ASTM D5185m     >10     0     <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     >50     3     2        Potassium     ppm     ASTM D5185m     >20     1     1        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >40000     36101     15020        Particles >1µm     ASTM D7647     >640     263     22        Particles >21µm     ASTM D7647     >400     0        OIl Cleanliness     ISO 4406 (c)     >22018     22/21/18     21/19/15							
Tin     ppm     ASTM D5185m     >10     0     <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     1     1        Potassium     ppm     ASTM D5185m     >20     1     1        Water     WC Method     >0.1     NEG         Particles >4µm     ASTM D7647     >40000     36101     15020        Particles >6µm     ASTM D7647     >160     5     0        Particles >6µm     ASTM D7647     >160     5     0        Particles >38µm     ASTM D7647     >400     0        OI Cleanliness     ISO 4406 (c)     >22018     21/19/15        Silt     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt	• •				-		
White Metalscalar*VisualNONENONENONEYellow Metalscalar*VisualNONENONENONESiliconppmASTM D5185m>5032PotassiumppmASTM D5185m>2011WaterWC Method>0.1NEGParticles >4µmASTM D7647>400003610115020Particles >6µmASTM D7647>25002045167Particles >14µmASTM D7647>6400263222Particles >21µmASTM D7647>4000Particles >21µmASTM D7647>4000Oil CleanlinessISO 4406 (c)>2201822/21/1821/19/15Siltscalar*VisualNONENONEAppearancescalar*VisualNONENONEAppearancescalar*VisualNORMNORMLNORMLOdorscalar*VisualNORMNORMLNORMLBoronppmASTM D5185m000ManganeseppmASTM D5185m0.00ManganeseppmASTM D5185m2.6<12ManganeseppmASTM D5185m2.6<12ManganeseppmASTM D5185m371910321300				>10	-		
Yellow Metal     scalar     *Visual     NONE     NONE     NONE        Silicon     ppm     ASTM D5185m     >50     3     2        Potassium     ppm     ASTM D5185m     >20     1     1        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >40000     36101     15020        Particles >6µm     ASTM D7647     >2500     2045     167        Particles >3µm     ASTM D7647     >640     263     22        Particles >71µm     ASTM D7647     >40     0     0        Particles >71µm     ASTM D7647     >40     0     0        Silt     scalar     *Visual     NONE     NONE     NONE        Debris     scalar     *Visual     NOR     NORM     NORML     NORML        Appearance     scalar     *Visual     NOR     NORM     NO					-		
Silicon     ppm     ASTM D5185m     >50     3     2        Potassium     ppm     ASTM D5185m     >20     1     1        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >40000     36101     15020        Particles >6µm     ASTM D7647     >2000     18988     3485        Particles >6µm     ASTM D7647     >640     263     22        Particles >21µm     ASTM D7647     >60     0        Particles >38µm     ASTM D7647     >60     0        Particles >71µm     ASTM D7647     >40     0     0        Oil Cleanliness     ISO 4406 (> 22018     21/19/15         Silt     scalar     *Visual     NONE     NONE        Jobris     scalar     *Visual     NORH     NORML     NORML        Appearance     scalar     *Visual<					-		
Potassium     ppm     ASTM D5185m     >20     1     1        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >40000     36101     15020        Particles >6µm     ASTM D7647     >2500     2045     167        Particles >14µm     ASTM D7647     >640     263     222        Particles >38µm     ASTM D7647     >160     5     0        Particles >71µm     ASTM D7647     >40     0     0        Oil Cleanliness     ISO 4406 (c)     >22/21/18     21/19/15        Silt     scalar     *Visual     NONE     NONE        Debris     scalar     *Visual     NONE     NONE        Appearance     scalar     *Visual     NORM     NORML        Odor     scalar     *Visual     NORM     NORML        Boron     ppm     ASTM D5185m	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Potassium     ppm     ASTM D5185m     >20     1     1        Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >40000     36101     15020        Particles >6µm     ASTM D7647     >2500     2045     167        Particles >14µm     ASTM D7647     >640     263     222        Particles >38µm     ASTM D7647     >160     5     0        Particles >71µm     ASTM D7647     >40     0     0        Oil Cleanliness     ISO 4406 (c)     >22/21/18     21/19/15        Silt     scalar     *Visual     NONE     NONE        Debris     scalar     *Visual     NONE     NONE        Appearance     scalar     *Visual     NORM     NORML        Odor     scalar     *Visual     NORM     NORML        Boron     ppm     ASTM D5185m	Silicon	nom	ASTM D5185m	>50	3	2	
Water     WC Method     >0.1     NEG     NEG        Particles >4µm     ASTM D7647     >40000     36101     15020        Particles >6µm     ASTM D7647     >10000     18988     3485        Particles >14µm     ASTM D7647     >2500     2045     167        Particles >21µm     ASTM D7647     >640     263     22        Particles >21µm     ASTM D7647     >400     0     0        Particles >38µm     ASTM D7647     >40     0     0        Particles >71µm     ASTM D7647     >40     0     0        Oil Cleanliness     ISO 4406 (c)     \$22/21/18     21/19/15        Silt     scalar     *Visual     NONE     NONE        Sand/Dirt     scalar     *Visual     NORM     NORML     NORML        Appearance     scalar     *Visual     NORM     NORML     NORML        Boron     pp							
Particles >4µm     ASTM D7647     >40000     36101     15020        Particles >6µm     ASTM D7647     >10000     ● 18988     3485        Particles >14µm     ASTM D7647     >2004     167        Particles >21µm     ASTM D7647     >6400     2633     222        Particles >38µm     ASTM D7647     >400     0     0        Particles >71µm     ASTM D7647     >400     0     0        Particles >71µm     ASTM D7647     >400     0     0        Oil Cleanliness     ISO 4406 (c)     \$22/21/18     21/19/15        Silt     scalar     *Visual     NONE     NONE        Sand/Dirt     scalar     *Visual     NORH     NORM     NORM        Appearance     scalar     *Visual     NORH     NORM     NORM        Sodium     ppm     ASTM D5185m     0.0     0         Boron <td< th=""><th></th><th>ppiii</th><th></th><th></th><th>-</th><th></th><th></th></td<>		ppiii			-		
Particles >6µm     ASTM D7647     >10000     ■ 18988     3485        Particles >14µm     ASTM D7647     >2500     2045     167        Particles >21µm     ASTM D7647     >640     263     22        Particles >38µm     ASTM D7647     >160     5     0        Particles >71µm     ASTM D7647     >40     0     0        Oil Cleanliness     ISO 4406 (c)     >22/21/18     21/19/15        Silt     scalar     *Visual     NONE     MODER     NONE        Sad/Dirt     scalar     *Visual     NONE     NONE     NONE        Appearance     scalar     *Visual     NORM     NORML     NORML        Gor     scalar     *Visual     NORM     NORML     NORML        Boron     ppm     ASTM D5185m     14     0     0        Barium     ppm     ASTM D5185m     0.0     0   <							
Particles >14µm     ASTM D7647     >2500     2045     167        Particles >21µm     ASTM D7647     >640     263     22        Particles >38µm     ASTM D7647     >160     5     0        Particles >38µm     ASTM D7647     >40     0     0        Particles >71µm     ASTM D7647     >40     0     0        Oil Cleanliness     ISO 4406 (c)     >22/21/18     21/19/15        Silt     scalar     *Visual     NONE     MODER     NONE        Debris     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NORM     NORML     NORML        Appearance     scalar     *Visual     NORM     NORML     NORML        Gdor     scalar     *Visual     NORM     NORML     NORML        Barium     ppm     ASTM D5185m     0.0     0							
Particles >21µm   ASTM D7647   >640   263   22      Particles >38µm   ASTM D7647   >160   5   0      Particles >71µm   ASTM D7647   >40   0   0      Oil Cleanliness   ISO 4406 (c)   >22/21/18   21/19/15      Silt   scalar   *Visual   NONE   MODER   NONE      Debris   scalar   *Visual   NONE   NONE   NONE      Sand/Dirt   scalar   *Visual   NONE   NONE   NORML      Appearance   scalar   *Visual   NORML   NORML   NORML      Odor   scalar   *Visual   NORML   NORML   NORML      Boron   ppm   ASTM D5185m   14   0   0      Barium   ppm   ASTM D5185m   0.0   0       Magnesium   ppm   ASTM D5185m   0.0   0       Magnesium   ppm   ASTM D5185m   0.0   <							
Particles >38µm     ASTM D7647     >160     5     0        Particles >71µm     ASTM D7647     >40     0     0        Oil Cleanliness     ISO 4406 (c)     >22/2018     22/21/18     21/19/15        Silt     scalar     *Visual     NONE     MODER     NONE        Debris     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NORK     NORM     NORE        Appearance     scalar     *Visual     NORM     NORML     NORML        Odor     scalar     *Visual     NORM     NORML     NORML        Modref     scalar     *Visual     NORM     NORML     NORML        Odor     scalar     *Visual     NORM     NORML     NORML        Boron     ppm     ASTM D5185m     0.0     0         Molybdenum     ppm     ASTM D5185m							
Particles >71µm     ASTM D7647     >40     0     0        Oil Cleanliness     ISO 4406 (c)     >22/20/18     21/19/15        Silt     scalar     *Visual     NONE     MODER     NONE        Debris     scalar     *Visual     NONE     NONE     NONE        Sand/Dirt     scalar     *Visual     NONE     NONE     NONE        Appearance     scalar     *Visual     NORML     NORML     NORML        Odor     scalar     *Visual     NORML     NORML     NORML        Godor     scalar     *Visual     NORML     NORML     NORML        Modyodrem     scalar     *Visual     NORML     NORML         Sodium     ppm     ASTM D5185m     0.0     0         Boron     ppm     ASTM D5185m     0.0     0         Molybdenum     ppm     ASTM D5185m							
Oil CleanlinessISO 4406 (c)\$22/20/18• 22/21/1821/19/15Siltscalar*VisualNONEMODERNONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORLNORMLNORMLOdorscalar*VisualNORLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGSodiumppmASTM D5185m1400BoronppmASTM D5185m0.000MalganeseppmASTM D5185m0.000MagnesiumppmASTM D5185m2.6<12PhosphorusppmASTM D5185m354403431ZincppmASTM D5185m371910321300Acid Number (AN)mg KOHgASTM D5185m37190.520.46					-		
Siltscalar*VisualNONEMODERNONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORLNORMLNORMLOdorscalar*VisualNORLNORMLNORMLEmulsified Waterscalar*VisualNORLNORMLNORMLBoronppmASTM D5185m1400BariumppmASTM D5185m0.000MalganeseppmASTM D5185m0.000MagnesiumppmASTM D5185m2.6<12PhosphorusppmASTM D5185m354403431ZincppmASTM D5185m371910321300Acid Number (AN)mg KOHgASTM D5185m37190.520.46					-		
Debrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMNORMLNORMLNORMLOdorscalar*VisualNORMNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m00<1BoronppmASTM D5185m1400BariumppmASTM D5185m0.000MolybdenumppmASTM D5185m0.000MagneseppmASTM D5185m0.00MagnesiumppmASTM D5185m2.6<12PhosphorusppmASTM D5185m354403431ZincppmASTM D5185m371910321300SulfurppmASTM D5185m37190.559Acid Number (AN)mg KOHgASTM D5185m371910320.46		scalar	. ,				
Sand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m0BoronppmASTM D5185m1400BariumppmASTM D5185m0.000MolybdenumppmASTM D5185m0.000MagneseppmASTM D5185m0.00MagnesiumppmASTM D5185m2.6<12PhosphorusppmASTM D5185m354403431ZincppmASTM D5185m371910321300SulfurppmASTM D5185m371910320.46					-		
Appearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m0BoronppmASTM D5185m1400BariumppmASTM D5185m0.000MolybdenumppmASTM D5185m0.000MagneseppmASTM D5185m0.00MagnesiumppmASTM D5185m2.6<12CalciumppmASTM D5185m354403431PhosphorusppmASTM D5185m354403431ZincppmASTM D5185m371910321300Acid Number (AN)mg KOH/gASTM D80450.520.46							
Odorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m0<1BoronppmASTM D5185m1400BariumppmASTM D5185m0.000MolybdenumppmASTM D5185m0.000MagneseppmASTM D5185m0.00<1MagnesiumppmASTM D5185m2.6<12PhosphorusppmASTM D5185m354403431ZincppmASTM D5185m354403559SulfurppmASTM D5185m3719103213000Acid Number (AN)mg KOHgASTM D5045<0.520.46					-		
Emulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m0<1BoronppmASTM D5185m1400BariumppmASTM D5185m0.000MolybdenumppmASTM D5185m0.000MagneseppmASTM D5185m0.00<1MagnesiumppmASTM D5185m2.6<12CalciumppmASTM D5185m354403431PhosphorusppmASTM D5185m354403431ZincppmASTM D5185m3719103213000SulfurppmASTM D5185m37190.46	• •						
Sodium     ppm     ASTM D5185m     0     <1							
Boron     ppm     ASTM D5185m     14     0     0        Barium     ppm     ASTM D5185m     0.0     0     0        Molybdenum     ppm     ASTM D5185m     0.0     0     0        Manganese     ppm     ASTM D5185m     0.0     0     <1        Magnesium     ppm     ASTM D5185m     2.6     <1     2        Calcium     ppm     ASTM D5185m     2.6     <1     2        Phosphorus     ppm     ASTM D5185m     49     75     79        Phosphorus     ppm     ASTM D5185m     354     403     431        Zinc     ppm     ASTM D5185m     314     503     559        Sulfur     ppm     ASTM D5185m     3719     1032     1300        Acid Number (AN)     mg KOH/g     ASTM D8045     0.52     0.46							
Barium     ppm     ASTM D5185m     0.0     0        Molybdenum     ppm     ASTM D5185m     0.0     0     0        Manganese     ppm     ASTM D5185m     0.0     0     <1        Magnesium     ppm     ASTM D5185m     2.6     <1     2        Calcium     ppm     ASTM D5185m     49     75     79        Phosphorus     ppm     ASTM D5185m     354     403     431        Zinc     ppm     ASTM D5185m     419     503     559        Sulfur     ppm     ASTM D5185m     3719     1032     1300        Acid Number (AN)     mg KOH/g     ASTM D8045     0.52     0.46		ppm					
Molybdenum     ppm     ASTM D5185m     0.0     0     0        Manganese     ppm     ASTM D5185m     0.0     0     <1        Magnesium     ppm     ASTM D5185m     2.6     <1     2        Calcium     ppm     ASTM D5185m     49     75     79        Phosphorus     ppm     ASTM D5185m     354     403     431        Zinc     ppm     ASTM D5185m     419     503     559        Sulfur     ppm     ASTM D5185m     3719     1032     1300        Acid Number (AN)     mg KOH/g     ASTM D8045     0.52     0.46	Boron	ppm	ASTM D5185m	14	0	0	
Manganese     ppm     ASTM D5185m     0.0     0     <1		ppm					
Magnesium     ppm     ASTM D5185m     2.6     <1		ppm	ASTM D5185m	0.0			
Calcium     ppm     ASTM D5185m     49     75     79        Phosphorus     ppm     ASTM D5185m     354     403     431        Zinc     ppm     ASTM D5185m     419     503     559        Sulfur     ppm     ASTM D5185m     3719     1032     1300        Acid Number (AN)     mg KOH/g     ASTM D8045     0.52     0.46		ppm					
Phosphorus     ppm     ASTM D5185m     354     403     431        Zinc     ppm     ASTM D5185m     419     503     559        Sulfur     ppm     ASTM D5185m     3719     1032     1300        Acid Number (AN)     mg KOH/g     ASTM D8045     0.52     0.46	-	ppm	ASTM D5185m	2.6	<1		
Zinc     ppm     ASTM D5185m     419     503     559        Sulfur     ppm     ASTM D5185m     3719     1032     1300        Acid Number (AN)     mg KOH/g     ASTM D8045     0.52     0.46	Calcium	ppm	ASTM D5185m	49			
Sulfur     ppm     ASTM D5185m     3719     1032     1300        Acid Number (AN)     mg KOH/g     ASTM D8045     0.52     0.46	Phosphorus	ppm	ASTM D5185m	354	403	431	
Acid Number (AN)     mg KOH/g     ASTM D8045     0.52     0.46	-	ppm		419	503		
		ppm	ASTM D5185m	3719	1032	1300	
Visc @ 40°C cSt ASTM D445 46 41.8 43.4		· ·					
	Visc @ 40°C	cSt	ASTM D445	46	41.8	43.4	



Certificate L2367

Diagnosed Test Package : MOB 2 Contact: DAVE WARD To discuss this sample report, contact Customer Service at 1-800-237-1369. dward@blazecontracting.net \* - Denotes test methods that are outside of the ISO 17025 scope of accreditation. T: (248)632-2317 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

Contact/Location: DAVE WARD - BLADET Page 2 of 2

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