

#### Machine Id 8574013 Component Diesel Engine Fluid MOBIL DELVAC 1300 SUPER 10W30 (--- GAL)

#### RECOMMENDATION

We advise that you check for the source of the coolant leak. Check for low coolant level. We advise that you check the air filter, air induction system, and any areas where dirt may enter the component. Oil and filter change at the time of sampling has been noted. We recommend an early resample to monitor this condition.

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### **WEAR**

Cylinder, crank, or cam shaft wear is indicated.

## CONTAMINATION

Sodium and/or potassium levels are high. There is a high concentration of glycol present in the oil. Elemental levels of silicon (Si) and aluminum (AI) indicate alumina-silicate (coarse dirt) ingress.

Sample Number     Client Info     IRPL0014743     RPL0010152     RPL       Sample Date     Client Info     01 Jun 2024     02 Oct 2023     05 M       Machine Age     mis     Client Info     191600     168814     149       Oil Age     mis     Client Info     22786     19310     225       Filter Age     mis     Client Info     Changed     Cha	Sample Number     Client Info     RPL0014743     RPL0010152     RPL0       Sample Date     Client Info     01 Jun 2024     02 Oct 2023     05 Ma       Machine Age     mls     Client Info     191600     168814     1495	004895 ay 2023
Sample Date     Client Info     01 Jun 2024     02 Oct 2023     05 M       Machine Age     mls     Client Info     191600     168814     149       Oil Age     mls     Client Info     22766     19310     225       Filter Age     mls     Client Info     Changed     Changed </th <th>Sample Date     Client Info     01 Jun 2024     02 Oct 2023     05 Ma       Machine Age     mls     Client Info     191600     168814     1495</th> <th>ay 2023</th>	Sample Date     Client Info     01 Jun 2024     02 Oct 2023     05 Ma       Machine Age     mls     Client Info     191600     168814     1495	ay 2023
Machine Age     mis     Client Info     191600     168814     149       Oil Age     mis     Client Info     22786     19310     225       Oil Changed     Client Info     22786     19310     225       Oil Changed     Client Info     Changed	Machine Age mls Client Info 191600 168814 1495	
Oil Age     mis     Client Info     22786     19310     2255       Filter Age     mis     Client Info     Changed		504
Filter Age     mis     Client Info     22786     19310     225       Oil Changed     Client Info     Changed     C	Dil Age mls Client Info <b>22786</b> 19310 2253	36
Oil Changed     Client Info     Changed	-ilter Age mls Client Info 22786 19310 2253	36
Filter Changed Sample Status     Client Info     Changed SEVERE     Changed SEVERESEV	Dil Changed Client Info Changed Changed Changed	naed
Sample Status     Severe     Severe     Severe     Severe     Normality       Iron     ppm     ASTM D5185m     >100     148     54     88       Chromium     ppm     ASTM D5185m     >20     10     2     33       Nickel     ppm     ASTM D5185m     >20     10     12     13       Silver     ppm     ASTM D5185m     >30     0     0     <       Aluminum     ppm     ASTM D5185m     >20     10     12     1       Lead     ppm     ASTM D5185m     >40     26     10     7       Copper     ppm     ASTM D5185m     >40     26     10     7       Vanadium     ppm     ASTM D5185m     >40     26     10     7       Vanadium     ppm     ASTM D5185m     >40     26     10     7       Vanadium     ppm     ASTM D5185m     >22     <1     1     0       Valex     visual     NONE     NONE     NONE	Filter Changed Client Info Changed Changed Changed	nged
Iron     ppm     ASTM D5185m     >100     148     54     88       Chromium     ppm     ASTM D5185m     >20     10     2     33       Nickel     ppm     ASTM D5185m     >4     4     0     <       Silver     ppm     ASTM D5185m     >4     4     0     <       Aluminum     ppm     ASTM D5185m     >20     10     12     1       Lead     ppm     ASTM D5185m     >20     10     12     1       Lead     ppm     ASTM D5185m     >330     5     2     4       Tin     ppm     ASTM D5185m     >330     5     2     4       Vanadium     ppm     ASTM D5185m     >22     <1     0     6       Velow Metal     scalar     *Visual     NONE     NONE     NONE     NONE       Silicon     ppm     ASTM D5185m     >22     <50     4     84     1       Potassium     ppm     ASTM D5185m     >22 <t< th=""><th>Sample Status SEVERE NOE</th><th>IGCU IMAI</th></t<>	Sample Status SEVERE NOE	IGCU IMAI
Iron     ppm     ASTM D5185m     >100     ▲ 148     54     88       Chromium     ppm     ASTM D5185m     >20     10     2     33       Nickel     ppm     ASTM D5185m     >4     4     0     <       Titanium     ppm     ASTM D5185m     >3     0     0     <       Aluminum     ppm     ASTM D5185m     >20     10     12     1       Lead     ppm     ASTM D5185m     >20     0     0     <       Copper     ppm     ASTM D5185m     >15     2     <1     1       Vanadium     ppm     ASTM D5185m     >15     2     <1     1       Vanadium     ppm     ASTM D5185m     >20     ▲ 50     ▲ 84     1       Vanadium     ppm     ASTM D5185m     >20     ▲ 50     ▲ 4948     2       Yellow Metal     scalar     *Visual     NONE     NONE     NONE     NONE       Yellow Metal     scalar     *Visual     NONE		
Chromium     ppm     ASTM D5185m     >20     10     2     33       Nickel     ppm     ASTM D5185m     >4     4     0     <       Titanium     ppm     ASTM D5185m     >3     0     0     <       Silver     ppm     ASTM D5185m     >3     0     0     <       Aluminum     ppm     ASTM D5185m     >20     10     12     1       Lead     ppm     ASTM D5185m     >20     10     12     1       Copper     ppm     ASTM D5185m     >20     10     12     1       Vanadium     ppm     ASTM D5185m     >15     2     <1     1       Vanadium     ppm     ASTM D5185m     >15     2     <1     0        Yellow Metal     scalar     *Visual     NONE     NONE     NONE     NONE     NONE       Silicon     ppm     ASTM D5185m     >20     4     244     2       Fuel     WC Method     >0.2 <t< th=""><th>ron ppm ASTM D5185m &gt;100 🔺 148 54 80</th><th>)</th></t<>	ron ppm ASTM D5185m >100 🔺 148 54 80	)
Nickel     ppm     ASTM D5185m     >4     4     0        Titanium     ppm     ASTM D5185m     >3     0     0        Silver     ppm     ASTM D5185m     >20     10     12     1       Lead     ppm     ASTM D5185m     >20     10     12     1       Lead     ppm     ASTM D5185m     >330     5     2     4       Tin     ppm     ASTM D5185m     >330     5     2     1     1       Vanadium     ppm     ASTM D5185m     >15     2     <1     0     <       Vanadium     ppm     ASTM D5185m     >25 <b>4</b> 50     84     1       Vanadium     ppm     ASTM D5185m     >22 <b>4</b> 0.0     <1.0        Yellow Metal     scalar     *Visual     NONE     NON	Chromium ppm ASTM D5185m >20 10 2 3	
Titanium     ppm     ASTM D5185m     <1	<b>Vickel</b> ppm ASTM D5185m >4 <b>4</b> 0 <	1
Silver     ppm     ASTM D5185m     >3     0     0     <	Fitanium ppm ASTM D5185m <1 <1 0	
Aluminum     ppm     ASTM D5185m     >20     10     12     1       Lead     ppm     ASTM D5185m     >20     10     12     1       Copper     ppm     ASTM D5185m     >330     5     2     4       Tin     ppm     ASTM D5185m     >330     5     2     1     1       Vanadium     ppm     ASTM D5185m     >15     2     <1     1       Vanadium     ppm     ASTM D5185m     >15     2     <1     0     <       Yellow Metal     scalar     *Visual     NONE     NONE     NONE     NONE     NONE       Silicon     ppm     ASTM D5185m     >25 <b>4</b> 50 <b>8</b> 4     1       Potassium     ppm     ASTM D5185m     >22 <b>4</b> 0.20     <1.0     <       Water     WC Method     >0.2     NEG     NEG     NEG     NEG       Glycol     %     *ASTM D7844     >3     2     1.1     1     1 <td< th=""><th>Silver ppm ASTM D5185m &gt;3 0 0</th><th>1</th></td<>	Silver ppm ASTM D5185m >3 0 0	1
Lead     ppm     ASTM D5185m     >40     26     10     72       Copper     ppm     ASTM D5185m     >330     5     2     4       Tin     ppm     ASTM D5185m     >15     2     <1     1       Vanadium     ppm     ASTM D5185m     >15     2     <1     1       Vanadium     ppm     ASTM D5185m     >25 <b>4</b> 50 <b>4</b> 84     1       Vanadium     ppm     ASTM D5185m     >25 <b>4</b> 50 <b>4</b> 84     1       Vellow Metal     scalar     *Visual     NONE	Aluminum ppm $ASTM D5185m > 20 - 10 12 10$	)
Locad     ppm     ASTM D5185m     >330     5     2     4       Tin     ppm     ASTM D5185m     >15     2     <1     1       Vanadium     ppm     ASTM D5185m     >15     2     <1     1       Vanadium     ppm     ASTM D5185m     <1     0     <     <       White Metal     scalar     *Visual     NONE     NONE     NONE     NONE     NONE       Yellow Metal     scalar     *Visual     NONE     NONE     NONE     NONE     NONE     NONE       Silicon     ppm     ASTM D5185m     >20     A 2545     4 4948     22       Fuel     WC Method     >5     <1.0     <1.0           0.20     NEG     NEN     NEG     NEG     NEN	ead ppm ASTM D5185m >40 26 10 7	5
Tin     ppm     ASTM D5185m     >15     2     <1	Copper ppm ASTM D5185m >330 5 2 4	
Im     ppm     ASTM D5165m     Z     <1	Fin ppm ASTM D5185m <15 9 -1 1	
ValuationppmASIM DotestinVWhite Metalscalar*VisualNONENONENONEYellow Metalscalar*VisualNONENONENONESiliconppmASTM D5185m>20A 25454 494822FuelWC Method>5<1.0<1.0<WaterWC Method>0.2NEGNEGNGlycol%*ASTM D5185m>20A 25454 948822Soot %%*ASTM D7844>321.11NitrationAbs/cm*ASTM D7624>2017.217.71SulfationAbs/cm*ASTM D7415>3033.723.933Siltscalar*VisualNONENONENONENDebrisscalar*VisualNONENONENONENAppearancescalar*VisualNORMLNORMLNORMLNOdorscalar*VisualNORMLNORMLNORMLNAppearancescalar*VisualNORMLNORMLNNAgreancescalar*VisualNORMLNORMLNNBariumppmASTM D5185m261911BariumppmASTM D5185m265342222ManganeseppmASTM D5185m71666228CalciumppmASTM D5185m77666228CalciumppmAS		1
Writte Metal     Scalar     Visual     NONE     NORML     NORML     NORML     NORML     NORML     NORML     NORML     NO	Anadulin ppin Asimusiosin <1 0 <	
Yeirow Metal     scalar     Visual     NONE     NORML     NORML <th>Anne Mone None None None None N</th> <th></th>	Anne Mone None None None None N	
Silicon   ppm   ASTM D5185m   >25   ▲ 50   ▲ 84   1     Potassium   ppm   ASTM D5185m   >20   ▲ 2545   ▲ 4948   22     Fuel   WC Method   >5   <1.0   <1.0   <     Water   WC Method   >0.2   NEG   NEG   N     Glycol   %   *ASTM D2982   ▲ 0.20   ▲ 0.20   N     Soot %   %   *ASTM D7624   >20   17.2   17.7   1     Nitration   Abs/cm   *ASTM D7614   >30   33.7   23.9   33     Silt   scalar   *Visual   NONE   NONE   NONE   NONE   NONE     Debris   scalar   *Visual   NONE   NONE   NONE   NONE   NONE     Appearance   scalar   *Visual   NORML   NORML   NORML   NORML   NORML   NORML     Odor   scalar   *Visual   NORML   NORML <td< th=""><th>renow Mietal scalar Visual NONE NONE NONE N</th><th>ONE</th></td<>	renow Mietal scalar Visual NONE NONE NONE N	ONE
Potassium   ppm   ASTM D5185m   >20   ▲ 2545   ▲ 4948   22     Fuel   WC Method   >5   <1.0   <1.0   <     Water   WC Method   >0.2   NEG   NEG   NEG     Glycol   %   *ASTM D2982   ▲ 0.20   ▲ 0.20   NEG     Soot %   %   *ASTM D7844   >3   2   1.1   1     Nitration   Abs/.mm< *ASTM D7624   >20   17.2   17.7   1     Sulfation   Abs/.mm< *ASTM D7155   >30   33.7   23.9   3     Silt   scalar   *Visual   NONE   NONE   NONE   NONE     Debris   scalar   *Visual   NONE   NONE   NONE   NONE   NONE     Appearance   scalar   *Visual   NORML   NORML   NORML   NORML   NORML   NORML     Odor   scalar   *Visual   NORML   NORML   NORML   NORML   NORML   NORML     Sodium   ppm   ASTM D5185m   26   19   1   3   00	Silicon ppm ASTM D5185m >25 🔺 50 🔺 84 1	1
Fuel   WC Method   >5   <1.0   <1.0   <     Water   WC Method   >0.2   NEG   NEG   N     Glycol   %   *ASTM D2982   ▲ 0.20   ▲ 0.20   NEG     Soot %   %   *ASTM D7844   >3   2   1.1   1     Nitration   Abs/.mm   *ASTM D7624   >20   17.2   17.7   1     Sulfation   Abs/.imm   *ASTM D71415   >30   33.7   23.9   33     Silt   scalar   *Visual   NONE   NONE   NONE   NONE   NO     Appearance   scalar   *Visual   NORML   NORML   NORML   NO   NO     Goron   scalar	Potassium ppm ASTM D5185m >20   2545   4948 2	1
Water   WC Method   >0.2   NEG   NEG     Glycol   %   *ASTM D2982   ▲ 0.20   ▲ 0.20   NEG   N     Soot %   %   *ASTM D7844   >3   2   1.1   1     Nitration   Abs/cm   *ASTM D7624   >20   17.2   17.7   1     Sulfation   Abs/.1mm   *ASTM D7624   >20   17.2   17.7   1     Sulfation   Abs/.1mm   *ASTM D7615   >30   33.7   23.9   3     Silt   scalar   *Visual   NONE   NONE   NONE   NONE   NONE     Debris   scalar   *Visual   NONE   NONE   NONE   NONE   NONE   NONE     Appearance   scalar   *Visual   NORML   NORML   NORML   NORML   NORML   NORML     Odor   scalar   *Visual   NORML	Fuel WC Method >5 <1.0 <1.0 <	1.0
Glycol   %   *ASTM D2982   ▲ 0.20   ▲ 0.20   N     Soot %   %   *ASTM D2982   ▲ 0.20   ▲ 0.20   N     Nitration   Abs/cm   *ASTM D7844   >3   2   1.1   1     Nitration   Abs/cm   *ASTM D7624   >20   17.2   17.7   1     Sulfation   Abs/.tmm   *ASTM D7615   >30   33.7   23.9   3     Silt   scalar   *Visual   NONE   NONE   NONE   NONE   NONE     Debris   scalar   *Visual   NONE   NONE   NONE   NONE   NONE   NONE     Appearance   scalar   *Visual   NORML   NORML   NORML   NORML   NORML     Odor   scalar   *Visual   NORML   NORML   NORML   NORML   NORML     Emulsified Water   scalar   *Visual   >0.2   NEG   NEG   N     Sodium   ppm   ASTM D5185m   26   19   1   3   0     Magnaese   ppm   ASTM D5185m   265   3422	Nater WC Method >0.2 NEG NEG N	FG
Soot %     %     *ASTM D7844     >3     2     1.1     1       Nitration     Abs/cm     *ASTM D7844     >20     17.2     17.7     1       Sulfation     Abs/.tmm     *ASTM D7624     >20     17.2     17.7     1       Sulfation     Abs/.tmm     *ASTM D7615     >30     33.7     23.9     3       Silt     scalar     *Visual     NONE     NONE     NONE     NONE     NONE       Debris     scalar     *Visual     NONE     NONE     NONE     NONE     NONE       Sand/Dirt     scalar     *Visual     NOR     NORML     NORML     NORML     NORML       Appearance     scalar     *Visual     NORML     NORML     NORML     NORML     NORML       Odor     scalar     *Visual     NORML     NORML     NORML     NORML     NORML       Boron     ppm     ASTM D5185m     26     19     1       Barium     ppm     ASTM D5185m     265     342     2	Givcol % *ASTM D2982 ▲ 0.20 N	EG
Nitration     Abs/cm     *ASTM D7624     >20     17.2     17.7     1       Sulfation     Abs/.1mm     *ASTM D7624     >30     33.7     23.9     3       Silt     scalar     *Visual     NONE     NO       Appearance     scalar     *Visual     NORML     NORML     NORML     NORML     NO       Odor     scalar     *Visual     NORML     NORML     NORML     NO       Odor     scalar     *Visual     NORML     NORML     NO     NO<	Soot % % *ASTM D7844 >3 2 1 1 1	9
SulfationAbs/.1mm*ASTM D7415>3033.723.933Siltscalar*VisualNONENONENONENONENONEDebrisscalar*VisualNONENONENONENONENONESand/Dirtscalar*VisualNONENONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*Visual>0.2NEGNEGNEmulsified Waterscalar*Visual>0.2NEGNEGNBoronppmASTM D5185m26191BariumppmASTM D5185m26534222MagneseeppmASTM D5185m26534222MagnesiumppmASTM D5185m71666288CalciumppmASTM D5185m7716987PhosphorusppmASTM D5185m9877849SulfurppmASTM D5185m428830763OxidationAbs/.1mm*ASTM D244>2526.216.122Pase Number (RNNmsKOMASTM D28610.55722.94	Vitration Abs/cm *ASTM D7624 >20 <b>17.2</b> 17.7 13	3.5
Silt   scalar   *Visual   NONE   NONE   NONE   NONE   NONE     Debris   scalar   *Visual   NONE   NORML	Sulfation Abs/.1mm *ASTM D7415 >30 33.7 23.9 33	2.3
Debris   scalar   *Visual   NONE   NONE   NONE   NONE     Sand/Dirt   scalar   *Visual   NONE   NONE   NONE   NONE   NONE   NONE     Appearance   scalar   *Visual   NORML	Silt scalar *Visual NONE NONE N	ONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNEmulsified Waterscalar*Visual>0.2NEGNEGNSodiumppmASTM D5185m▲915▲18174BoronppmASTM D5185m26191BariumppmASTM D5185m26534222ManganeseppmASTM D5185m2<11MagnesiumppmASTM D5185m71666288CalciumppmASTM D5185m7716987PhosphorusppmASTM D5185m9877849ZincppmASTM D5185m428830763OxidationAbs/.1mm*ASTM D7414>2526.216.122Pase Number (RNNms KOM/0ASTM D28610.55722.94	Debris scalar *Visual NONE NONE N	ONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGSodiumppmASTM D5185m26191BoronppmASTM D5185m26191BariumppmASTM D5185m26534222ManganeseppmASTM D5185m2<11MagnesiumppmASTM D5185m71666288CalciumppmASTM D5185m7716987PhosphorusppmASTM D5185m9877849ZincppmASTM D5185m428830763OxidationAbs/.1mm*ASTM D28610.55722.94	Sand/Dirt scalar *Visual NONE <b>NONE</b> NONE N	ONE
Odor     scalar     *Visual     NORML	Appearance scalar *Visual NORML NORML NORML N	ORML
Emulsified Water   scalar   *Visual   >0.2   NEG   NEG   NEG     Sodium   ppm   ASTM D5185m   ▲ 915   ▲ 1817   4     Boron   ppm   ASTM D5185m   26   19   1     Barium   ppm   ASTM D5185m   26   342   2     Manganese   ppm   ASTM D5185m   265   3422   2     Manganese   ppm   ASTM D5185m   2   <1   1     Magnesium   ppm   ASTM D5185m   26   342   2     Calcium   ppm   ASTM D5185m   26   342   2     Phosphorus   ppm   ASTM D5185m   716   662   8     Calcium   ppm   ASTM D5185m   1683   1273   1     Phosphorus   ppm   ASTM D5185m   771   698   7     Zinc   ppm   ASTM D5185m   987   784   9     Sulfur   ppm   ASTM D5185m   4288   3076   3     Oxidation   Abs/.1mm *ASTM D2866   10.5   5   7   22.9	Door scalar *Visual NORML NORML NORML N	ORML
Sodium     ppm     ASTM D5185m     ▲ 915     ▲ 1817     4       Boron     ppm     ASTM D5185m     26     19     1       Barium     ppm     ASTM D5185m     1     3     0       Molybdenum     ppm     ASTM D5185m     265     342     2       Manganese     ppm     ASTM D5185m     2     <1     1       Magnesium     ppm     ASTM D5185m     2     <1     1       Magnesium     ppm     ASTM D5185m     2     <1     1       Phosphorus     ppm     ASTM D5185m     716     6622     8       Calcium     ppm     ASTM D5185m     1683     1273     1       Phosphorus     ppm     ASTM D5185m     771     698     7       Zinc     ppm     ASTM D5185m     987     784     9       Sulfur     ppm     ASTM D5185m     4288     3076     3       Oxidation     Abs/.1mm *ASTM D2886     10.5     5     7     22.9     4 </th <th>mulsified Water scalar *Visual &gt;0.2 NEG NEG N</th> <th>EG</th>	mulsified Water scalar *Visual >0.2 NEG NEG N	EG
Sodium   ppm   ASTM D5185m   ▲ 915   ▲ 1817   4     Boron   ppm   ASTM D5185m   26   19   1     Barium   ppm   ASTM D5185m   1   3   0     Barium   ppm   ASTM D5185m   265   342   22     Maganese   ppm   ASTM D5185m   2   <1		
Boron     ppm     ASTM D5185m     26     19     1       Barium     ppm     ASTM D5185m     1     3     00       Molybdenum     ppm     ASTM D5185m     265     342     22       Manganese     ppm     ASTM D5185m     2     <1     1       Magnesium     ppm     ASTM D5185m     2     <1     1       Magnesium     ppm     ASTM D5185m     716     662     88       Calcium     ppm     ASTM D5185m     1683     1273     1       Phosphorus     ppm     ASTM D5185m     771     698     7       Zinc     ppm     ASTM D5185m     987     784     9       Sulfur     ppm     ASTM D5185m     4288     3076     3       Oxidation     Abs/.1mm<*ASTM D7414<>25     26.2     16.1     22	Sodium ppm ASTM D5185m 🔺 915 🔺 1817 4	
Barium     ppm     ASTM D5185m     1     3     00       Molybdenum     ppm     ASTM D5185m     265     342     22       Manganese     ppm     ASTM D5185m     2     <1     1       Magnesium     ppm     ASTM D5185m     2     <1     1       Magnesium     ppm     ASTM D5185m     716     662     88       Calcium     ppm     ASTM D5185m     716     662     8       Calcium     ppm     ASTM D5185m     1683     1273     1       Phosphorus     ppm     ASTM D5185m     987     784     9       Zinc     ppm     ASTM D5185m     987     784     9       Sulfur     ppm     ASTM D5185m     4288     3076     3       Oxidation     Abs/.1mm     *ASTM D7414     >25     26.2     16.1     22	<b>Boron</b> ppm ASTM D5185m <b>26</b> 19 14	4
Molybdenum     ppm     ASTM D5185m     265     342     22       Manganese     ppm     ASTM D5185m     2     <1     1       Magnesium     ppm     ASTM D5185m     716     662     88       Calcium     ppm     ASTM D5185m     716     662     88       Calcium     ppm     ASTM D5185m     1683     1273     1       Phosphorus     ppm     ASTM D5185m     771     698     7       Zinc     ppm     ASTM D5185m     987     784     9       Sulfur     ppm     ASTM D5185m     4288     3076     3       Oxidation     Abs/.1mm<*ASTM D7414<>25     26.2     16.1     2	Barium     ppm     ASTM D5185m     1     3     0	
Manganese     ppm     ASTM D5185m     2     <1	Molybdenum     ppm     ASTM D5185m     265     342     20	6
Magnesium     ppm     ASTM D5185m     716     662     88       Calcium     ppm     ASTM D5185m     1683     1273     11       Phosphorus     ppm     ASTM D5185m     771     698     7       Zinc     ppm     ASTM D5185m     987     784     9       Sulfur     ppm     ASTM D5185m     4288     3076     33       Oxidation     Abs/.1mm<*ASTM D7414     >25     26.2     16.1     22       Base Number (RN)     mg KOH/0     ASTM D2886     10.5     5.7     22.9     4	Manganese     ppm     ASTM D5185m     2     <1	
Calcium     ppm     ASTM D5185m     1683     1273     1       Phosphorus     ppm     ASTM D5185m     771     698     7       Zinc     ppm     ASTM D5185m     987     784     9       Sulfur     ppm     ASTM D5185m     4288     3076     33       Oxidation     Abs/.1mm     *ASTM D7414     >25     26.2     16.1     22       Base Number (BN)     mg KOH/g     ASTM D2896     10.5     57     22.9     44	Magnesium     ppm     ASTM D5185m     716     662     82	28
Phosphorus     ppm     ASTM D5185m     771     698     7       Zinc     ppm     ASTM D5185m     987     784     9       Sulfur     ppm     ASTM D5185m     4288     3076     3       Oxidation     Abs/.1mm     *ASTM D7414     >25     26.2     16.1     22       Base Number (RN)     mg KOH/g     ASTM D2896     10.5     5.7     22.9     4	Calcium ppm ASTM D5185m 1683 1273 15	575
Zinc     ppm     ASTM D5185m     987     784     9       Sulfur     ppm     ASTM D5185m     4288     3076     3       Oxidation     Abs/.1mm     *ASTM D7414     >25     26.2     16.1     22       Base Number (RN)     mg KOH/g     ASTM D2896     10.5     57     22.9     44	Phosphorus ppm ASTM D5185m 771 698 74	39
Sulfur     ppm     ASTM D5185m     4288     3076     3       Oxidation     Abs/.1mm     *ASTM D7414     >25     26.2     16.1     22       Base Number (RN)     mg KOH/n     ASTM D2886     10.5     5     7     22.9     4	Zinc ppm ASTM D5185m 987 784 91	75
Oxidation     Abs/.1mm     *ASTM D7414     >25     26.2     16.1     22       Base Number (RN)     mg KOH/g     ASTM D2896     10.5     5.7     22.9     4	Sulfur ppm ASTM D5185m 4288 3076 30	675
Race Number (RN) ma KOH/a ASTM D2896 10.5 5.7 22.9 4	Dxidation Abs/.1mm *ASTM D7414 >25 26.2 16.1 2	7.1
Dase Nulliber (DN) highong Astri D2000 10.0 J.	Base Number (BN) mg KOH/g ASTM D2896 10.5 5.7 22.9 4.	8
Vice @ 100°C ost ASTM D445 11.9 11.5 12.3 1	/isc @ 100°C cSt ASTM D445 11.9 11.5 12.3 12	2.4

# FLUID CONDITION

The BN result indicates that there is suitable alkalinity remaining in the oil. The oil is no longer serviceable due to the presence of contaminants.





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