

Current

WC0904895

11 Feb 2024

34469

History1

History2

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Limit/Abn

## Machine Id 51505 Component Diesel Engine

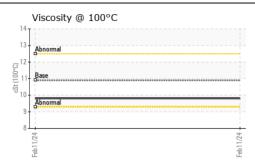
## DIESEL ENGINE OIL SAE 10W30 (--- GAL)

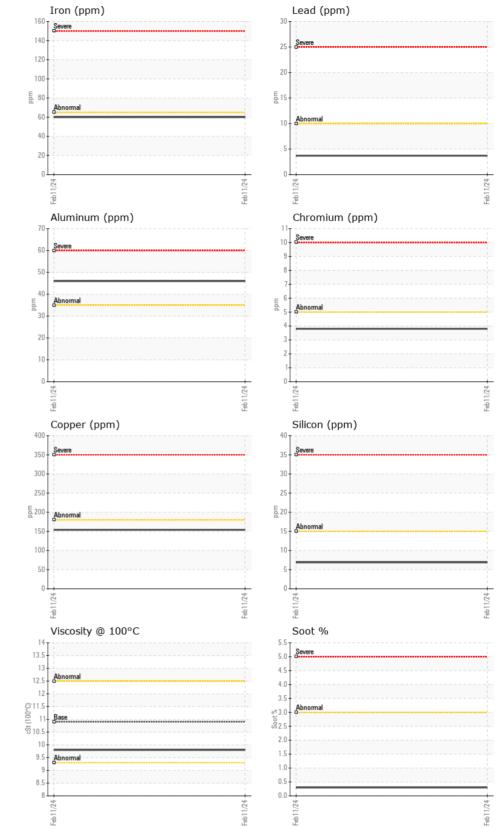
RECOMMENDATION	Test	UOM	Method	L
	Sample Number		Client Info	
Resample at the next service interval to monitor.	Sample Date		Client Info	
	Machine Age	mls	Client Info	
	Oil Age	mls	Client Info	
	Filter Age	mls	Client Info	
	Oil Changed		Client Info	
	Filter Changed		Client Info	
	Sample Status			
VEAR	Iron	ppm	ASTM D5185(m)	>
Aetal levels are typical for a components first oil change.	Chromium	ppm	ASTM D5185(m)	>
	Nickel	ppm	ASTM D5185(m)	>
	Titanium	ppm	ASTM D5185(m)	2
	Silver	ppm	ASTM D5185(m)	>
	Aluminum	ppm	ASTM D5185(m)	2
	Lead	ppm	ASTM D5185(m)	>
	Copper	ppm	ASTM D5185(m)	>
	Tin	ppm	ASTM D5185(m)	>
	Vanadium	ppm	ASTM D5185(m)	
	White Metal	scalar	Visual*	١
	Yellow Metal	scalar	Visual*	1
CONTAMINATION	Ciliaan			
JONTAMINATION	Silicon	ppm	ASTM D5185(m)	>
Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in	Potassium	ppm	ASTM D5185(m)	>
your metals analysis are likely a result of solder flux release into the	Fuel		WC Method	>
ubricant and is common on new equipment/components. There is no	Water		WC Method	2
indication of any contamination in the oil.	Glycol	0/	WC Method	
	Soot %	%	ASTM D7844*	2
	Nitration	Abs/cm	ASTM D7624*	2
	Sulfation	Abs/.1mm	ASTM D7415*	2

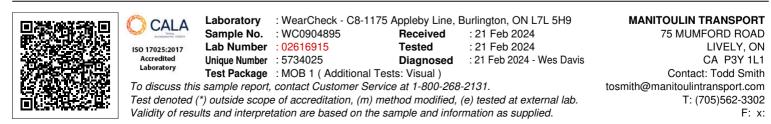
Oil Age         mis         Client Info         34469             Filter Age         mis         Client Info         Changed             Sample Status         Client Info         Changed              Iron         ppm         ASTMD5185/m         >660             Nickel         ppm         ASTMD5185/m         >5         4             Nickel         ppm         ASTMD5185/m         >5         0             Aluminum         ppm         ASTMD5185/m         >5         0             Silver         ppm         ASTMD5185/m         >5         0             Auminum         ppm         ASTMD5185/m         >10         4             Vanadium         ppm         ASTMD5185/m         >80         0             Velow Metal         scalar         Visual*         NONE         NONE             Velow Metal         scalar         Visual*         NONE         NONE <t< th=""><th>indenine / ige</th><th></th><th>0.10110</th><th></th><th>01100</th><th></th></t<>	indenine / ige		0.10110		01100	
Oil ChangedClient InfoChangedFilter ChangedClient InfoChangedSample StatusClient InfoNORMALIronppmASTM D5165(m)>54NickelppmASTM D5165(m)>31NickelppmASTM D5165(m)>50AluminumppmASTM D5165(m)>546AluminumppmASTM D5165(m)>104LeadppmASTM D5165(m)>104CopperppmASTM D5165(m)>104VanadiumppmASTM D5165(m)>104VanadiumppmASTM D5165(m)>104VanadiumppmASTM D5165(m)>10154Vallow MetalscalarVisual*NONENONESiliconppmASTM D5165(m)>157Vallow MetalscalarVisual*NONE121SuliconppmASTM D5165(m)>20121SuliconppmASTM D51647>20121SuliconppmASTM D7624*>209.7SulfationAbs/rmASTM D7624*>209.7SulfationAbs/rmASTM D7624*>209.7SulfationAbs/rmVisual*NORENORE<	Oil Age	mls	Client Info		34469	 
Filter Changed Sample StatusClient InfoChanged NORMALSample StatusvVNORMALIronppmASTM D5185(m)>60NickelppmASTM D5185(m)>31NickelppmASTM D5185(m)>54SilverppmASTM D5185(m)>54AluminumppmASTM D5185(m)>54LeadppmASTM D5185(m)>104CopperppmASTM D5185(m)>104VanadiumppmASTM D5185(m)>167Veltow MetalscalarVisual*NONENONEVeltow MetalscalarVisual*NONENONESiliconppmASTM D5185(m)>157Veltow MetalscalarVisual*NONESiliconppmASTM D5185(m)>20121VaterWC Method>.02NEGSiliconppmASTM D5185(m)>20121SiliconkSt/ImASTM D5185(m)>20126SiliconkSt/ImASTM D5185(m)20126SoligycolWC Method	Filter Age	mls	Client Info		34469	 
Sample Status         NORMAL             Iron         ppm         ASTM D5185(m)         >65         60             Chromium         ppm         ASTM D5185(m)         >5         4             Nickel         ppm         ASTM D5185(m)         >3         1             Silver         ppm         ASTM D5185(m)         >2         <1             Aluminum         ppm         ASTM D5185(m)         >25         46             Lead         ppm         ASTM D5185(m)         >10         44             Copper         ppm         ASTM D5185(m)         >180         154             Vanadium         ppm         ASTM D5185(m)         >180         154             Vanadium         ppm         ASTM D5185(m)         >180         154             Vanadium         ppm         ASTM D5185(m)         >20         121             Vanadium         ppm         ASTM D5185(m)         >20         121	Oil Changed		Client Info		Changed	 
Iron         ppm         ASTM D5185(m)         >655         600             Chromium         ppm         ASTM D5185(m)         >50         4             Nickel         ppm         ASTM D5185(m)         >5         0             Silver         ppm         ASTM D5185(m)         >2         <1             Aluminum         ppm         ASTM D5185(m)         >30         46             Lead         ppm         ASTM D5185(m)         >10         4             Vanadium         ppm         ASTM D5185(m)         >10         4             Vanadium         ppm         ASTM D5185(m)         >10              Vanadium         ppm         ASTM D5185(m)         >10              Vanadium         ppm         ASTM D5185(m)         >10             Vanadium         ppm         ASTM D5185(m)         >20         121             Vanadium         ppm         <	Filter Changed		Client Info		Changed	 
Chromium         ppm         ASTM D5185(m)         >3         1            Nickel         ppm         ASTM D5185(m)         >3         1            Silver         ppm         ASTM D5185(m)         >2         <1            Aluminum         ppm         ASTM D5185(m)         >2         <1            Aluminum         ppm         ASTM D5185(m)         >2         <1            Lead         ppm         ASTM D5185(m)         >10         4            Copper         ppm         ASTM D5185(m)         >18         4            Vanadium         ppm         ASTM D5185(m)         >18         4            Vanadium         ppm         ASTM D5185(m)         >15         7            Yellow Metal         scalar         Visual*         NONE         NONE            Yellow Metal         scalar         Visual*         NONE         NONE            Silicon         ppm         ASTM D5185(m)         >20         121             Fuel         WC Method         >3.0         <-1.0	Sample Status				NORMAL	 
Chromium         ppm         ASTM D5185(m)         >3         1            Nickel         ppm         ASTM D5185(m)         >3         1            Silver         ppm         ASTM D5185(m)         >2         <1            Aluminum         ppm         ASTM D5185(m)         >2         <1            Aluminum         ppm         ASTM D5185(m)         >2         <1            Lead         ppm         ASTM D5185(m)         >10         4            Copper         ppm         ASTM D5185(m)         >18         4            Vanadium         ppm         ASTM D5185(m)         >18         4            Vanadium         ppm         ASTM D5185(m)         >15         7            Yellow Metal         scalar         Visual*         NONE         NONE            Yellow Metal         scalar         Visual*         NONE         NONE            Silicon         ppm         ASTM D5185(m)         >20         121             Fuel         WC Method         >3.0         <-1.0						 
Nickel         ppm         ASTM D5185(m)         >3         1            Titanium         ppm         ASTM D5185(m)         >2         <1            Silver         ppm         ASTM D5185(m)         >2         <1            Aluminum         ppm         ASTM D5185(m)         >35         46            Copper         ppm         ASTM D5185(m)         >10         4            Copper         ppm         ASTM D5185(m)         >10         4            Vanadium         ppm         ASTM D5185(m)         >10         4            Vanadium         ppm         ASTM D5185(m)         >10             Vanadium         ppm         ASTM D5185(m)         >10             Vanadium         ppm         ASTM D5185(m)         >10             Vanadium         ppm         ASTM D5185(m)         >10         121             Vanadium         ppm         ASTM D5185(m)         >20         121             Vater         VC         MCMethod </th <th>Iron</th> <th>ppm</th> <th>ASTM D5185(m)</th> <th>&gt;65</th> <th>60</th> <th> </th>	Iron	ppm	ASTM D5185(m)	>65	60	 
Titanium         ppm         ASTM D5185(m)         >5         0            Silver         ppm         ASTM D5185(m)         >2         <1            Aluminum         ppm         ASTM D5185(m)         >35         46            Lead         ppm         ASTM D5185(m)         >10         4            Copper         ppm         ASTM D5185(m)         >10         4            Vanadium         ppm         ASTM D5185(m)         >10         4            Vanadium         ppm         ASTM D5185(m)         >180         154            Vanadium         ppm         ASTM D5185(m)         >10             Vanadium         ppm         ASTM D5185(m)         >15         7             Vellow Metal         scalar         Visual*         NONE         NONE             Silicon         ppm         ASTM D5185(m)         >20         121             Glycol         WC Method         >.2         NEG             Soto %         % ASTM D7145 <th>Chromium</th> <th>ppm</th> <th>ASTM D5185(m)</th> <th>&gt;5</th> <th>4</th> <th> </th>	Chromium	ppm	ASTM D5185(m)	>5	4	 
SilverppmASTM D5185(m)>2<1	Nickel	ppm	ASTM D5185(m)	>3	1	 
Aluminum         ppm         ASTM D5185(m)         >35         46             Lead         ppm         ASTM D5185(m)         >10         4             Copper         ppm         ASTM D5185(m)         >180         154             Vanadium         ppm         ASTM D5185(m)         >8         4             Vanadium         ppm         ASTM D5185(m)         >8         4             Vanadium         ppm         ASTM D5185(m)         >8         4             Vanadium         ppm         ASTM D5185(m)         >15         7             Vellow Metal         scalar         Visual*         NONE              Silicon         ppm         ASTM D5185(m)         >20         121             Fuel         WC Method         >.20         NEG             Glycol         WC Method         >.20         9.7             Sulfation         Abs/rm         ASTM D71844	Titanium	ppm	ASTM D5185(m)	>5	0	 
Lead         pm         ASTM D5185(m)         >10         4            Copper         ppm         ASTM D5185(m)         >180         154            Tin         ppm         ASTM D5185(m)         >8         4            Vanadium         ppm         ASTM D5185(m)         >8         4            Vanadium         ppm         ASTM D5185(m)         >8         4            White Metal         scalar         Visual*         NONE             Yellow Metal         scalar         Visual*         >20         121             Soliton         ppm         ASTM D5185(m)         >20         121             Water         WC Method         >0.2         NEG             Soltycol         %         ASTM	Silver	ppm	ASTM D5185(m)	>2	<1	 
Copper         ppm         ASTM D5185(m)         >180         154             Tin         ppm         ASTM D5185(m)         >8         4             Vanadium         ppm         ASTM D5185(m)         NONE         0             White Metal         scalar         Visual*         NONE         NONE             Yellow Metal         scalar         Visual*         NONE         NONE             Yellow Metal         scalar         Visual*         NONE         7             Yellow Metal         scalar         Visual*         NONE         121             Solicon         ppm         ASTM D5185(m)         >20         121             Fuel         WC Method         >0.2         NEG              Water         WC Method         >0.2         NEG              Soli %         %         ASTM D7844*         >3         0.3             Sulfation         Abs/I	Aluminum	ppm	ASTM D5185(m)	>35	46	 
Tin         ppm         ASTM D5185(m)         >8         4            Vanadium         ppm         ASTM D5185(m)         0             White Metal         scalar         Visual*         NONE         NONE             Yellow Metal         scalar         Visual*         NONE         NONE             Silicon         ppm         ASTM D5185(m)         >15         7             Potassium         ppm         ASTM D5185(m)         >20         121             Fuel         WC Method         >3.0         <1.0              Water         WC Method         >0.2         NEG              Glycol         WC Method         >0.2         NEG              Soot %         %         ASTM D744*         >30         0.3             Sulfation         Abs/tm         ASTM D7415*         >30         23.0             Sodiuf         scalar         Visual* <td< th=""><th>Lead</th><th>ppm</th><th>ASTM D5185(m)</th><th>&gt;10</th><th>4</th><th> </th></td<>	Lead	ppm	ASTM D5185(m)	>10	4	 
VanadiumppmASTM D5185(m)0White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONESiliconppmASTM D5185(m)>20121PotassiumppmASTM D5185(m)>20121FuelWC Method>3.0<1.0WaterWC Method>0.2NEGGlycolWC Method>0.2NEGSoot %%ASTM D7844'>30.3SulfationAbs/rmASTM D7624'>209.7SulfationAbs/rmASTM D7624'>3023.0SulfationAbs/rmASTM D7624'>3023.0SulfationAbs/rmASTM D7624'>3023.0SulfationscalarVisual*NONENONESulfationscalarVisual*NONENONESulfationscalarVisual*NORENORESulfationscalarVisual*NORENORESulfationscalarVisual*NORENORE <th>Copper</th> <th>ppm</th> <th>ASTM D5185(m)</th> <th>&gt;180</th> <th>154</th> <th> </th>	Copper	ppm	ASTM D5185(m)	>180	154	 
White MetalscalarVisual*NONENONEYellow MetalscalarVisual*NONENONESiliconppmASTM D5185(m)>157PotassiumppmASTM D5185(m)>20121FuelWC Method>3.0<1.0WaterWC Method>0.2NEGGlycolWC Method>0.2NEGSoot %%ASTM D784*>30.3SulfationAbs/cmASTM D7624*>209.7SulfationAbs/cmASTM D7624*>209.7SulfationAbs/cmASTM D7624*>209.7SulfationAbs/cmASTM D715*>3023.0SulfationAbs/cmASTM D715*>3023.0SulfationScalarVisual*NONENONESulfationscalarVisual*NONENONESulfationscalarVisual*NORENORESulfatinescalarVisual*NORENORMLSulfatinescalarVisual*NORMLNORMLAppearancescalarVisual*NORMLNORML	Tin	ppm	ASTM D5185(m)	>8	4	 
Yellow Metal         scalar         Visual*         NONE         NONE             Silicon         ppm         ASTM D5185(m)         >15         7             Potassium         ppm         ASTM D5185(m)         >20         121             Fuel         WC Method         >3.0         <1.0             Water         WC Method         >0.2         NEG             Glycol         WC Method         >0.3         0.3             Soot %         %         ASTM D7844*         >3         0.3             Sulfation         Abs/cm         ASTM D7624*         >20         9.7             Sulfation         Abs/cm         ASTM D7624*         >20         9.7             Sulfation         Abs/cm         ASTM D7624*         >30         23.0             Sulfation         Abs/rm         ASTM D7162*         NONE         NORE             Debris         scalar         Visual*         NORE	Vanadium	ppm	ASTM D5185(m)		0	 
Silicon         ppm         ASTM D5185(m)         >15         7             Potassium         ppm         ASTM D5185(m)         >20         121             Fuel         WC Method         >3.0         <1.0             Water         WC Method         >0.2         NEG             Glycol         WC Method         >0.2         NEG             Soot %         %         ASTM D7844'         >3         0.3             Soot %         %         ASTM D7624'         >20         9.7             Sulfation         Abs/.mm         ASTM D7115'         >30         23.0             Sulfation         Abs/.mm         ASTM D7115'         >30         23.0             Sulfation         scalar         Visual*         NONE              Sulfation         scalar         Visual*         NORM         NORME             Sodium         ppm         ASTM D5185(m         NORML	White Metal	scalar	Visual*	NONE	NONE	 
PotassiumppmASTM D5186(m)>20121FuelWC Method>3.0<1.0WaterWC Method>0.2NEGGlycolWC Method>0.2NEGSoot %%ASTM D7844'>30.3Soot %%ASTM D7844'>300.3Soot %%ASTM D7844'>3023.0SulfationAbs/mASTM D715'>3023.0SiltscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMNORMLOdorscalarVisual*NORMNORMLSodiumppmASTM D5185(m)25039BoronppmASTM D5185(m)10039ManganeseppmASTM D5185(m)30001744ManganeseppmASTM D5185(m)30001744PhosphorusppmASTM D5185(m)1150710SulfurppmASTM D5185(m)1350847SulfurppmASTM D5185(m)1350847Sulfurp	Yellow Metal	scalar	Visual*	NONE	NONE	 
PotassiumppmASTM D5186(m)>20121FuelWC Method>3.0<1.0WaterWC Method>0.2NEGGlycolWC Method>0.2NEGSoot %%ASTM D7844'>30.3Soot %%ASTM D7844'>300.3Soot %%ASTM D7844'>3023.0SulfationAbs/mASTM D715'>3023.0SiltscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMNORMLOdorscalarVisual*NORMNORMLSodiumppmASTM D5185(m)25039BoronppmASTM D5185(m)10039ManganeseppmASTM D5185(m)30001744ManganeseppmASTM D5185(m)30001744PhosphorusppmASTM D5185(m)1150710SulfurppmASTM D5185(m)1350847SulfurppmASTM D5185(m)1350847Sulfurp						 
Fuel         WC Method         >3.0         <1.0	Silicon	ppm	ASTM D5185(m)	>15	7	 
Water         WC Method         >0.2         NEG            Glycol         WC Method         NEG             Soot %         %         ASTM D7844*         >3         0.3             Soot %         %         ASTM D7844*         >3         0.3             Sulfation         Abs/tm         ASTM D7624*         >20         9.7             Sulfation         Abs/tm         ASTM D7624*         >20         9.7             Sulfation         Abs/tm         ASTM D7415*         >30         23.0             Sulfation         scalar         Visual*         NONE         NONE             Sand/Dirt         scalar         Visual*         NONE         NONE             Appearance         scalar         Visual*         NORML         NORML             Odor         scalar         Visual*         NORML         NORML             Sodium         ppm         ASTM D5185(m         100         39 <t< th=""><th>Potassium</th><th>ppm</th><th>ASTM D5185(m)</th><th>&gt;20</th><th>121</th><th> </th></t<>	Potassium	ppm	ASTM D5185(m)	>20	121	 
GlycolWC MethodNEGSoot %%ASTM D7844*>30.3NitrationAbs/cmASTM D7624*>209.7SulfationAbs/.1mmASTM D7415*>3023.0SulfationAbs/.1mmASTM D7415*>3023.0SulfationscalarVisual*NONEDebrisscalarVisual*NONESand/DirtscalarVisual*NONEAppearancescalarVisual*NORMLMORMLOdorscalarVisual*NORMLMORMLSodiumppmASTM D5185(mNORMLBoronppmASTM D5185(m10039MalganeseppmASTM D5185(m10039MagnesiumppmASTM D5185(m30001744PhosphorusppmASTM D5185(m1350847SulfurppmASTM D5185(m1350847MagnesiumppmASTM D5185(m1350847SulfurppmASTM D5185(m1350847MalganesiumppmASTM D5185(m1350847<	Fuel		WC Method	>3.0	<1.0	 
Soot %%ASTM D7844*>30.3NitrationAbs/cmASTM D7624*>209.7SulfationAbs/lmASTM D7415*>3023.0SiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLSodiumppmASTM D5185(m)Sa39BoronppmASTM D5185(m)10<1MalganeseppmASTM D5185(m)1039ManganeseppmASTM D5185(m)44PhosphorusppmASTM D5185(m)1150710ZincppmASTM D5185(m)1350847SulfurppmASTM D5185(m)1350847SulfurppmASTM D5185(m)135034.5MagnesiumppmASTM D5185(m)1350847SulfurppmASTM D5185(m)135034.5ManganeseppmASTM D5185(m)135034.7	Water		WC Method	>0.2	NEG	 
NitrationAbs/cmASTM D7624*>209.7SulfationAbs/.1mmASTM D7415*>3023.0SiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMNORMLOdorscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLSodiumppmASTM D5185(m)50.2NEGBoronppmASTM D5185(m)10<11MalganeseppmASTM D5185(m)10<14MagnesiumppmASTM D5185(m)450446PhosphorusppmASTM D5185(m)1150710ZincppmASTM D5185(m)1350847SulfurppmASTM D5185(m)1350847SulfurppmASTM D5185(m)13505847MagnesiumppmASTM D5185(m)1350847SulfurppmASTM D5185(m)13505847SulfurppmASTM D5185(m)1350<	Glycol		WC Method		NEG	 
SulfationAbs/.1mmASTM D7415*>3023.0SiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NORMNONEAppearancescalarVisual*NORMNORMLOdorscalarVisual*NORMNORMLOdorscalarVisual*NORMNORMLSodiumppmASTM D5185(m)>8BoronppmASTM D5185(m)10<1MalganeseppmASTM D5185(m)1039MagnesiumppmASTM D5185(m)30001744PhosphorusppmASTM D5185(m)1350847ZincppmASTM D5185(m)1350847SulfurppmASTM D5185(m)135032.5	Soot %	%	ASTM D7844*	>3	0.3	 
SiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)-8BoronppmASTM D5185(m)10<1MolybdenumppmASTM D5185(m)1039MaganeseppmASTM D5185(m)44MagnesiumppmASTM D5185(m)30001744PhosphorusppmASTM D5185(m)1150710ZincppmASTM D5185(m)1350847SulfurppmASTM D5185(m)42501768OxidationAbs/.1mmASTM D744'>2523.5	Nitration	Abs/cm	ASTM D7624*	>20	9.7	 
DebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLCodorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)25039BariumppmASTM D5185(m)10<1MolybdenumppmASTM D5185(m)10039MaganeseppmASTM D5185(m)30001744PhosphorusppmASTM D5185(m)1150710ZincppmASTM D5185(m)1350847SulfurppmASTM D5185(m)42501768OxidationAbs/.1mmASTM D7414*>2523.5	Sulfation	Abs/.1mm	ASTM D7415*	>30	23.0	 
Sand/DirtscalarVisual*NONENOREAppearancescalarVisual*NORMLNORMLOdorscalarVisual*NORMLNORMLEmulsified WaterscalarVisual*>0.2NEGSodiumppmASTM D5185(m)25039BoronppmASTM D5185(m)10<1MolybdenumppmASTM D5185(m)10039MaganeseppmASTM D5185(m)10039MagnesiumppmASTM D5185(m)30001744PhosphorusppmASTM D5185(m)1150710ZincppmASTM D5185(m)13508477SulfurppmASTM D5185(m)25523.5	Silt	scalar	Visual*	NONE	NONE	 
AppearancescalarVisual*NORMLNORML $$ $$ OdorscalarVisual*NORMLNORML $$ $$ Emulsified WaterscalarVisual*>0.2NEG $$ $$ SodiumppmASTM D5185(m)ZSO39 $$ $$ BoronppmASTM D5185(m)10<1 $$ $$ BariumppmASTM D5185(m)10<1 $$ $$ MolybdenumppmASTM D5185(m)10039 $$ $$ MaganeseppmASTM D5185(m)44 $$ $$ PhosphorusppmASTM D5185(m)1150710 $$ ZincppmASTM D5185(m)1350847 $$ SulfurppmASTM D5185(m)42501768 $$ OxidationAbs/.1mmASTM D7414*>2523.5 $$	Debris	scalar	Visual*	NONE	NONE	 
Odor         scalar         Visual*         NORML         NORML             Emulsified Water         scalar         Visual*         >0.2         NEG             Sodium         ppm         ASTM D5185(m)         >0.2         NEG             Boron         ppm         ASTM D5185(m)         250         39             Barium         ppm         ASTM D5185(m)         10         <1             Molybdenum         ppm         ASTM D5185(m)         100         39             Manganese         ppm         ASTM D5185(m)         100         39             Magnesium         ppm         ASTM D5185(m)         100         39             Phosphorus         ppm         ASTM D5185(m)         44             Calcium         ppm         ASTM D5185(m)         3000         1744             Phosphorus         ppm         ASTM D5185(m)         1350         847        Sulfur         ppm         ASTM D5185(m) <th>Sand/Dirt</th> <th>scalar</th> <th>Visual*</th> <th>NONE</th> <th>NONE</th> <th> </th>	Sand/Dirt	scalar	Visual*	NONE	NONE	 
Emulsified Water         scalar         Visual*         >0.2         NEG             Sodium         ppm         ASTM D5185(m)         8              Boron         ppm         ASTM D5185(m)         250         39             Barium         ppm         ASTM D5185(m)         10         <1             Molybdenum         ppm         ASTM D5185(m)         100         39             Manganese         ppm         ASTM D5185(m)         44             Magnesium         ppm         ASTM D5185(m)         3000         1744             Phosphorus         ppm         ASTM D5185(m)         1350         847             Zinc         ppm         ASTM D5185(m)         1350         847             Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5 <th>Appearance</th> <th>scalar</th> <th>Visual*</th> <th>NORML</th> <th>NORML</th> <th> </th>	Appearance	scalar	Visual*	NORML	NORML	 
Sodium         ppm         ASTM D5185(m)         8             Boron         ppm         ASTM D5185(m)         250         39             Barium         ppm         ASTM D5185(m)         10         <1             Molybdenum         ppm         ASTM D5185(m)         100         39             Manganese         ppm         ASTM D5185(m)         100         39             Magnesium         ppm         ASTM D5185(m)         100         39             Calcium         ppm         ASTM D5185(m)         450         4866             Phosphorus         ppm         ASTM D5185(m)         3000         1744             Zinc         ppm         ASTM D5185(m)         1350         847             Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414'         >25         23.5		scalar		NORML	NORML	 
Boron         ppm         ASTM D5185(m)         250         39             Barium         ppm         ASTM D5185(m)         10         <1             Molybdenum         ppm         ASTM D5185(m)         100         39             Manganese         ppm         ASTM D5185(m)         100         39             Magnesium         ppm         ASTM D5185(m)         4             Calcium         ppm         ASTM D5185(m)         450         4866             Phosphorus         ppm         ASTM D5185(m)         3000         1744             Zinc         ppm         ASTM D5185(m)         1350         847             Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5	Emulsified Water	scalar	Visual*	>0.2	NEG	 
Boron         ppm         ASTM D5185(m)         250         39             Barium         ppm         ASTM D5185(m)         10         <1             Molybdenum         ppm         ASTM D5185(m)         100         39             Manganese         ppm         ASTM D5185(m)         100         39             Magnesium         ppm         ASTM D5185(m)         4             Calcium         ppm         ASTM D5185(m)         450         4866             Phosphorus         ppm         ASTM D5185(m)         3000         1744             Zinc         ppm         ASTM D5185(m)         1350         847             Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5						 
Barium         ppm         ASTM D5185(m)         10         <1	Sodium	ppm	ASTM D5185(m)		8	 
Molybdenum         ppm         ASTM D5185(m)         100         39             Manganese         ppm         ASTM D5185(m)         4             Magnesium         ppm         ASTM D5185(m)         450         486             Calcium         ppm         ASTM D5185(m)         3000         1744             Phosphorus         ppm         ASTM D5185(m)         1150         710             Zinc         ppm         ASTM D5185(m)         1350         847             Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5	Boron	ppm	ASTM D5185(m)	250	39	 
Manganese         ppm         ASTM D5185(m)         4             Magnesium         ppm         ASTM D5185(m)         450         486             Calcium         ppm         ASTM D5185(m)         3000         1744             Phosphorus         ppm         ASTM D5185(m)         1150         710             Zinc         ppm         ASTM D5185(m)         1350         847             Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5	Barium	ppm	( )	10	<1	 
Magnesium         ppm         ASTM D5185(m)         450         486             Calcium         ppm         ASTM D5185(m)         3000         1744             Phosphorus         ppm         ASTM D5185(m)         1150         710             Zinc         ppm         ASTM D5185(m)         1350         847             Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5	Molybdenum	ppm		100	39	 
Calcium         ppm         ASTM D5185(m)         3000         1744             Phosphorus         ppm         ASTM D5185(m)         1150         710             Zinc         ppm         ASTM D5185(m)         1350         847             Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5	Manganese	ppm	ASTM D5185(m)		4	 
Phosphorus         ppm         ASTM D5185(m)         1150         710             Zinc         ppm         ASTM D5185(m)         1350         847             Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5	Magnesium	ppm	ASTM D5185(m)	450	486	 
Zinc         ppm         ASTM D5185(m)         1350         847             Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5	Calcium	ppm	ASTM D5185(m)	3000	1744	 
Sulfur         ppm         ASTM D5185(m)         4250         1768             Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5	Phosphorus	ppm	ASTM D5185(m)	1150	710	 
Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5	Zinc	ppm	ASTM D5185(m)	1350	847	 
Oxidation         Abs/.1mm         ASTM D7414*         >25         23.5	Sulfur	ppm	ASTM D5185(m)	4250	1768	 
	Oxidation		ASTM D7414*	>25		 
	Visc @ 100°C	cSt	ASTM D7279(m)			 
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## FLUID CONDITION

The condition of the oil is acceptable for the time in service.







Contact/Location: Todd Smith - MANLIV