

WEAR	
CONTAMINATION	
FLUID CONDITION	NORMAL

Machine Id **139521** Component **Diesel Engine** Fluid **MOBIL DELVAC EXTREME 15W40 (--- GAL)**

Number Sample Number Client Info PPL00058 PPL00058	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Sample Date Citent Info 15 Nov 282 00 = 0 00 Sample Date Citent Info 42864 770 Plear Age mis Citent Info 42864 770 Plear Age mis Citent Info 42864 770 Plear Age mis Citent Info Changed Changed Sample Date Citent Info Changed Changed VEAR Ifter Changed Citent Info 24 25 All component wear rates are normal. Ifter Changed Changed Changed Changed Nicke ppm ASM MSISs >40 0 All component wear rates are normal. Iftinum ppm ASM MSISs >20 17 41 All component wear rates are normal. Iftinum ppm ASM MSISs >20 17 41	Resample at the next service interval to monitor. Please specify the		00101		Ennerton			
component make and model with your next sample. Machine Age Oil Age Will Clean Info 197596 1192								
Oil Age mis Clent Info 42844 770 Filter Age Clent Info 4284 770 Oil Changed Client Info Changed			mls					
Filter Age OI Changed mis Client Info 28264 Changed 770		0						
OI Changed Filer Changed Sample Status Client Info Changed Changed Sample Status Changed Changed NOFMAL		-						
Filter Changed Sample Status Client Info Changed NORMAL		-						
Sample Status NORMAL NORMAL Normation WEAR Iron ppm ASTU0588m >100 24 25.0 All component wear rates are normal. Nickel ppm ASTU0588m >20 2 1.0 Trainium ppm ASTU0588m >30 0 0 Auuminum ppm ASTU0588m >30 1.0 0 Auuminum ppm ASTU0588m >30 0 0 Auuminum ppm ASTU0588m >30 1.0 1.0 Copper ppm ASTU0588m >30 0 0 Tim ppm ASTU0588m 5.0 1.0 1.0 Vieto Metal scalar Yieua NONE NONE NONE NONE Vieto Metal scalar Yieua NONE NONE Vieto Metal scalar <th></th> <th>•</th> <th></th> <th></th> <th></th> <th>•</th> <th>0</th> <th></th>		•				•	0	
All component wear rates are normal. Chromium ppm ASTM Difism >20 2 1							0	
All component wear rates are normal. Chromium ppm ASTM Difism >20 2 1							~=	
All component wear rates are normal. Nickel ppn ASTIL 05156 >40 <1	WEAR							
Nicket pprint ASTM 05185m 24 c1 c1 c1 c1 Silver pprint ASTM 05185m >20 0 0 Aluminum pprint ASTM 05185m >20 17 41 Lead pprint ASTM 05185m >20 17 5 Copper pprint ASTM 05185m >30 5 Vanadium pprint ASTM 05185m S30 -1 1 1 Vanadium pprint ASTM 05185m S30 -1 5 Value Metal scalar Visual NONE NONE NONE Value Metal scalar Visual NONE NONE Stillcon pprint ASTM 0515m -25 8 10 CONTAMINATION Scalar Visual NONE NONE Water W	All component wear rates are normal.							
Silver ppm ASTM D585m >3 0 0 Aluminum ppm ASTM D585m >40 T7 4.1 Lead ppm ASTM D585m >40 5 3.0 Copper ppm ASTM D585m >40 0 Vanadium ppm ASTM D585m 0 0 0 Vanadium ppm ASTM D585m 0.0 0 0 Vanadium ppm ASTM D585m 20 0.0 0 Vanadium ppm ASTM D585m 20 3.7 9 Vanadium ppm ASTM D7855m 20 1.0					>4			
Aluminum ppm ASTM D5165m >20 17 41 Lead ppm ASTM D5165m >30 5 3 Copper ppm ASTM D5165m >30 5 Tin ppm ASTM D5165m >15 1 1 White Metal scalar Visual NONE NONE NONE White Metal scalar Visual NONE NONE NONE There is no indication of any contamination in the oil. Silicon ppm ASTM D5165m 20 37 98 Water WC Method >0.2 NEG NONE Water WC Method >0.2 NEG NEG NONE Solf % %6 'ASTM D7844 >0.6 0.6 0.3 Solf % %6 'ASTM D7844 >0.6 NONE NONE					0			
Lead ppm ASTM D5185m >-40 5 3 Cooper ppm ASTM D5185m >330 <1 5 Tin ppm ASTM D5185m >1 1 1 Vanadium ppm ASTM D5185m NONE N								
Copper ppm ASTM D5185m >330 <1								
Tin pp ASTM D5185n 1 1 1 Vanadium pp ASTM D5185n 0 0 0 White Metal scalar Visual NONE NONE NONE CONTAMINATION Scalar Visual NONE NONE There is no indication of any contamination in the oil. Silicon pp ASTM D5185n -20 37 98 Visual NONE Solicon pote ASTM D5185n -20 37 98 Visual NOM Solicon ycon MSTM D5185n -20 10.0 Water WC Method Sol -1.0 <-1.0 Glycol WC Method Sol.2 NEG NEG Solitation Asitm ND784 >30 0.6 0.3 Solitation Scalar Visual NORE NONE								
Vanadium ppm ASTM D5/85m 0 0 White Metal scalar 'Visual NONE NONE NONE NONE CONTAMINATION Scalar 'Visual NONE NONE NONE NONE There is no indication of any contamination in the oil. Silicon ppm ASTM D5/85m >22 3 Vater WC Method >50 <1.0 < Vater WC Method >50.2 NEG NEG Glycol WC Method >30.0 0.0 Soft % % 4STM D78/4 >3 0.6 0.3 Sulfation Abs/m 7STM D7415 >30 23.9 20.7 Sulfation Abs/m NONE NONE NONE NONE NONE NONE NONE Sand/Dirt scalar Visual NOR NORML NORML NORML <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>								
White Metal Yellow Metal scalar *Visual NONE NONE NONE ···· CONTAMINATION Silicon pp ASTM D5185m >25 8 10 There is no indication of any contamination in the oil. Silicon pp ASTM D5185m >20 37 98 Water WC Method >0.2 NEG NI-C Glycol WC Method >0.2 NEG NI-C Sot % % *ASTM D764 >20 10.7 9.0 Sulfation Abs/Inm 'ASTM D764 >0 0.6 0.3 Sulfation Abs/Inm 'ASTM D764 >0 10.7 9.0 Sulfation Abs/Inm 'ASTM D764 >0 10.7 9.0 Sulfation Abs/Inm 'ASTM D764 >0 10.7 9.0 Sulfation Abs/Inm 'ASTM D764 >0 10.7					>15			
Yellow Metal scalar *Visual NONE NONE					NONE	-	-	
Silicon ppm ASTM D5185m >20 8 10 Potassium ppm ASTM D5185m >20 37 98 Potassium ppm ASTM D5185m >20 37 98 Puel WC Method >5 <1.0 <1.0 Water WC Method >0.2 NEG NEG NEG Glycol WC Method >0.2 NEG NEG Solo % % KSTM D7624 >20 0.6 0.3 Sulfation Abs/rm 'ASTM D7624 >20 10.7 9.0 Sulfation Abs/rm 'ASTM D7624 >20 10.7 9.0 Sulfation Abs/rm 'Nisual NONE NONE NONE Sulfation Abs/rm 'Nisual NONE NONE Sand/Dirt scalar 'Nisual								
Potassium ppm ASTM D5185m >20 37 98		Yellow Metal	scalar	" VISUAI	NONE	NONE	NONE	
Potassium ppm ASTM D5185m >20 37 98	CONTAMINATION	Silicon	ppm	ASTM D5185m	>25	8	10	
There is no indication of any contamination in the oil. Fuel WC Method >5 <1.0 <1.0 <		Potassium		ASTM D5185m	>20	37	98	
Glycol WC Method NEG NEG Soot % % *ASTM D78:4 >3 0.6 0.3 Nitration Abs/cm *ASTM D78:4 >30 0.6 0.3 Nitration Abs/cm *ASTM D78:4 >30 0.6 0.3 Sulfation Abs/tm *ASTM D78:4 >30 0.20 0.0 Sulfation Abs/tm *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NORM NORML NORML Appearance scalar *Visual NORM NORML NORML FLUID CONDITION Nor Nor Nor Nor Nor Boron ppm ASTM D7858 0 0 0 Magnesium pm ASTM D7858 In<		Fuel				<1.0	<1.0	
Sot % % *ASTM D7844 >3 0.6 0.3 Nitration Abs/cm *ASTM D7624 >20 10.7 9.0 Sulfation Abs/tmm *ASTM D7624 >20 10.7 9.0 Sulfation Abs/tmm *ASTM D7645 >30 23.9 20.7 Sulfation Abs/tmm *ASTM D7645 >30 23.9 20.7 Sulfation Abs/tmm *ASTM D7644 >30 NONE NONE Sulfation Abs/tmm *ASTM D7644 NONE NONE NONE Sulfation Abs/tmm *Cisual NONE NONE NONE Sand/Dirt scalar *Visual NORM NORM NORM Appearance scalar *Visual NORM NORM NORM Odor scalar *Visual NORM NORM NORM		Water		WC Method	>0.2	NEG	NEG	
Nitration Abs/cm *ASTM D7624 >20 10.7 9.0 Sulfation Abs/1mm *ASTM D7155 >30 23.9 20.7 Silt scalar *Visual NONE NONE NONE NONE Debris scalar *Visual NONE NONE NONE NONE NONE NONE Sand/Dirt scalar *Visual NOR NONE NONE NONE Appearce scalar *Visual NORML NORML NORML Cdor scalar *Visual NORML NORML NORML Emulsified Wate scalar *Visual NOR NORML NORML The BN result indicates that there is suitable alkalinity remaining in the oil is suitable for further service. Sodium pm ASTM D5185m Q 1 Magnaese pp ASTM D5185m G 0 M		Glycol		WC Method		NEG	NEG	
SulfationAbs/.1mm'ASTM D7415>3023.920.7Siltscalar'VisualNONENONENONENONEDebrisscalar'VisualNONENONENONENONESand/Dirtscalar'VisualNONENONENONENONEAppearancescalar'VisualNORMNORMLNORMLNORMLNORMLOdorscalar'VisualNORMNORMLNORMLNORMLOdorscalar'VisualNORMNORMLNORMLNORMLOdorscalar'VisualNORMNORMLNORMLNORMLDobrisscalar'VisualNORMNORMLNORMLNORMLMorescalar'VisualNORMNORMLNORMLNORMLBariumppmASTM D5185m000BariumppmASTM D5185m000MagnesiumppmASTM D5185m64459MagnesiumppmASTM D5185m16051219PhosphorusppmASTM D5185m16051219PhosphorusppmASTM D5185m9891200SulfurppmASTM D5185m22463134		Soot %	%	*ASTM D7844	>3	0.6	0.3	
Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORLNORMLNORMLNORMLOdorscalar*VisualNORLNORMLNORMLNORMLOdorscalar*VisualNORLNORMLNORMLNORMLOdorscalar*VisualNORLNORMLNORMLNORMLOdorscalar*VisualNORLNORMLNORMLNORMLBoronppmASTM D5185m0197BariumppmASTM D5185m00MolybdenumppmASTM D5185m00ManganeseppmASTM D5185m16051219PhosphorusppmASTM D5185m16051219NanganeseppmASTM D5185m01219PhosphorusppmASTM D5185m16051219SulfurppmASTM D5185m01200SulfurppmASTM D5185m022463134		Nitration	Abs/cm	*ASTM D7624	>20	10.7	9.0	
Debris scalar *Visual NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Emulsified Water scalar *Visual NORML NORML NORML FLUID CONDITION Sodium ppm ASTM D5185m 2 1 Boron ppm ASTM D5185m 19 7 Barium ppm ASTM D5185m 0 0 Molybdenum ppm ASTM D5185m 44 59 Manganese ppm ASTM D5185m 4604 875 Manganesum ppm ASTM D5185m 604 875 Manganesum ppm ASTM D5185m 604 875 Phosphorus ppm ASTM D5185m 604 875		Sulfation	Abs/.1mm	*ASTM D7415	>30	23.9	20.7	
Sand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*VisualNORNORMLNORMLNORMLFLUID CONDITIONSodiumppmASTM D5185m2NEGNEGBoronppmASTM D5185m197BariumppmASTM D5185m00MolybdenumppmASTM D5185m4459ManganeseppmASTM D5185m4459MagnesiumppmASTM D5185m604875PhosphorusppmASTM D5185m16051219PhosphorusppmASTM D5185m9891200SulfurppmASTM D5185m22463134		Silt	scalar	*Visual	NONE	NONE	NONE	
Appearance Odorscalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGFLUID CONDITIONSodiumppmASTM D5185m21BoronppmASTM D5185mI197BariumppmASTM D5185mI00MolybdenumppmASTM D5185mI1459MaganeseeppmASTM D5185mI11MagnesiumppmASTM D5185mI11PhosphorusppmASTM D5185mI1219ZincppmASTM D5185mI9891200SulfurppmASTM D5185mI22463134		Debris	scalar	*Visual	NONE	NONE	NONE	
Odorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.2NEGNEGNEGNEGNEGNEGNEGBoronppmASTM D5185mI197BariumppmASTM D5185mI00MolybdenumppmASTM D5185mI4459ManganeseppmASTM D5185mI6048750IManganeseppmASTM D5185mI6048750IPhosphorusppmASTM D5185mI16051219IPhosphorusppmASTM D5185mI98891200IZincppmASTM D5185mI98891200ISulfurppmASTM D5185mI924631344I		Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Emulsified Waterscalar*Visual>0.2NEGFLUID CONDITIONSodiumppmASTM D5185m21BoronppmASTM D5185mI197BariumppmASTM D5185m00MolybdenumppmASTM D5185mI4459ManganeseppmASTM D5185mI11MagnesiumppmASTM D5185mI604875IICalciumppmASTM D5185mI16051219PhosphorusppmASTM D5185mI9891200SulfurppmASTM D5185mI22463134		Appearance	scalar	*Visual	NORML	NORML	NORML	
FLUID CONDITIONSodiumppmASTM D5185m21BoronppmASTM D5185m197BariumppmASTM D5185m00BariumppmASTM D5185m4459MolybdenumppmASTM D5185m4459ManganeseppmASTM D5185m604875CalciumppmASTM D5185m16051219PhosphorusppmASTM D5185m798908ZincppmASTM D5185m9891200SulfurppmASTM D5185m22463134		Odor	scalar	*Visual	NORML	NORML	NORML	
BoronppmASTM D5185m197BariumppmASTM D5185m00BariumppmASTM D5185m4459MolybdenumppmASTM D5185m4459ManganeseppmASTM D5185m604875MagnesiumppmASTM D5185m604875CalciumppmASTM D5185m16051219PhosphorusppmASTM D5185m798908ZincppmASTM D5185m9891200SulfurppmASTM D5185m22463134		Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
BoronppmASTM D5185m197BariumppmASTM D5185m00BariumppmASTM D5185m4459MolybdenumppmASTM D5185m4459ManganeseppmASTM D5185m604875MagnesiumppmASTM D5185m604875CalciumppmASTM D5185m16051219PhosphorusppmASTM D5185m798908ZincppmASTM D5185m9891200SulfurppmASTM D5185m22463134		Sodium		AQTM D5195m		o	-1	
BariumppmASTM D5185m00MolybdenumppmASTM D5185m4459ManganeseppmASTM D5185m411MagnesiumppmASTM D5185m604875CalciumppmASTM D5185m16051219PhosphorusppmASTM D5185m798908ZincppmASTM D5185m9891200SulfurppmASTM D5185m22463134	The BN result indicates that there is suitable alkalinity remaining in the						7	
MolybdenumppmASTM D5185m4459ManganeseppmASTM D5185m<11MagnesiumppmASTM D5185m604875MagnesiumppmASTM D5185m16051219CalciumppmASTM D5185m798908PhosphorusppmASTM D5185m9891200ZincppmASTM D5185m22463134							0	
Manganesse ppm ASTM D5185m <1								
Magnesium ppm ASTM D5185m 604 875 Calcium ppm ASTM D5185m 1605 1219 Phosphorus ppm ASTM D5185m 798 908 Zinc ppm ASTM D5185m 989 1200 Sulfur ppm ASTM D5185m 2246 3134		-						
Calcium ppm ASTM D5185m 1605 1219 Phosphorus ppm ASTM D5185m 798 908 Zinc ppm ASTM D5185m 989 1200 Sulfur ppm ASTM D5185m 2246 3134		0						
Phosphorus ppm ASTM D5185m 798 908 Zinc ppm ASTM D5185m 989 1200 Sulfur ppm ASTM D5185m 2246 3134		U U						
Zinc ppm ASTM D5185m 989 1200 Sulfur ppm ASTM D5185m 2246 3134								
Sulfur ppm ASTM D5185m 2246 3134								
					>25			

Base Number (BN) mg KOH/g ASTM D2896 10.3

ASTM D445 14.3

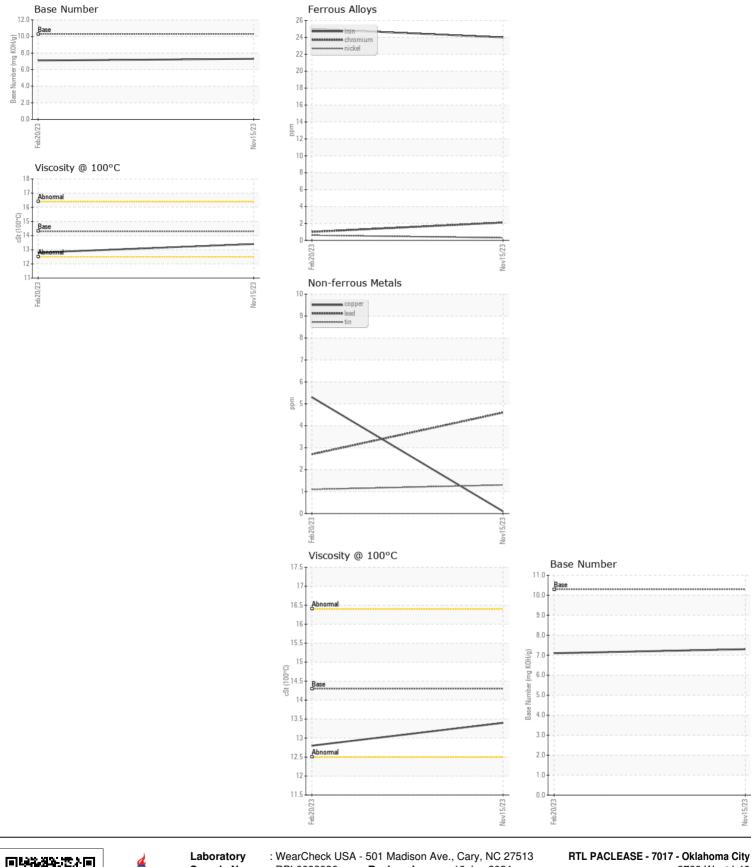
Visc @ 100°C cSt

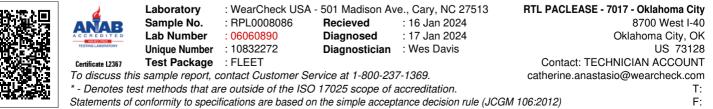
7.3

13.4

7.1

12.8





Submitted By: TECHNICIAN ACCOUNT