Sta<u>tion</u> **POWER GENERATION PRODUCTS**

OIL ANALYSIS REPORT

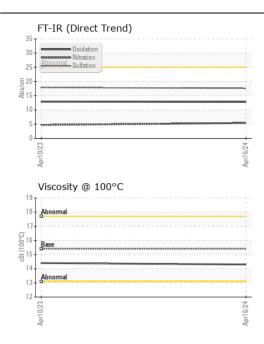
Area [85690]

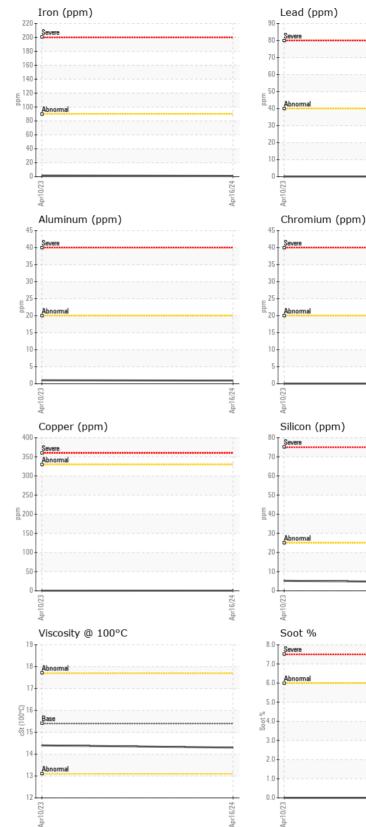
10 TRENCH AVE RICHMOND HILL COMPUTER ROOM SERVICES COMPUTER ROOM SERVICES

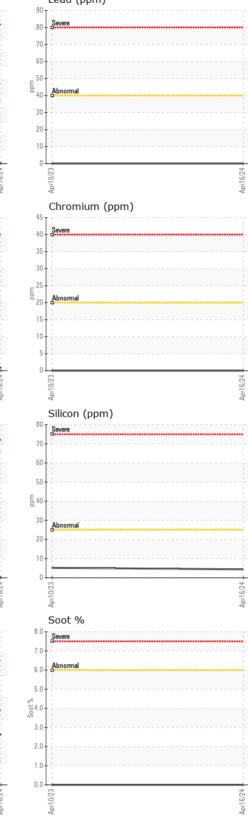
Rear Diesel Engine

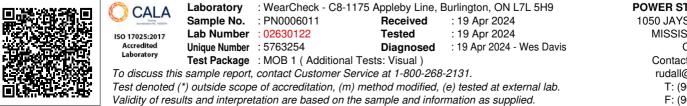
ESSO XD-3 EXTRA 15W40 (100 LTR)

Test UOM Method Uncernent Heitory 2 Heitory 2 Resample at the next service interval to montor. Sample Date Client Info IS Approx 200 IP Approx 201 IP Appppp Approx 201 IP Apppppppppp Appro	ESSU XD-3 EXTRA 15W40 (100 LTR)							
Bis ample barrier Client Iriol PN000E01 PN002400	RECOMMENDATION	Test	UOM	Method	Limit/Abn	Current	History1	History2
Single Gale Cheff Hund Disple Cale Toppe		Sample Number		Client Info				
Oil Age hrs Client Info 11 0		Sample Date		Client Info		16 Apr 2024	10 Apr 2023	
Filter Age Price Client Info 11 0		Machine Age	hrs	Client Info		127	116	
OI Changed Filter Oftanged Cilent Info Changed Changed Cha		Oil Age	hrs	Client Info		11	0	
Filter Changed Sample Status Client Inio Changed NORMAL NorMAL		Filter Age	hrs	Client Info		11	0	
Sample StatusNORMA<		Oil Changed		Client Info		Changed	Changed	
Metal levels are typical for a new component breaking in. fron ppm 45110385m >90 1 2 Metal levels are typical for a new component breaking in. Nickel ppm 45110365m >20 0 0 Nickel ppm 45110365m >20 0 0 Silver ppm 45110365m >20 0 0 Auminum ppm 45110365m >20 0 0 Lead ppm 45110365m >20 0 0 Vanadium ppm 45110365m >30 -1 -1 Vanadium ppm 45110365m >30 -1 0 Vanadium ppm 45110365m >20 -1 Vanadium ppm 45110365m >20 -1 0 Vanadium ppm 45110365m >20 -1 0		Filter Changed		Client Info		Changed	Changed	
Metal levels are typical for a new component breaking in. Chromium point ASTMDSIGN >20 0 0		Sample Status				NORMAL	NORMAL	
Metal levels are typical for a new component breaking in. Chromium point ASTMDSIGN >20 0 0	WEAR	Iron	maa	ASTM D5185(m)	>90	1	2	
Metal levels are typical for a new component breaking in. Nickel ppm ASTM 0518(m) >2 <1				. ,				
Titanium ppm ATM 05185m >2 4 15 Siver ppm ATM 05186m >2 0 0 Siver ppm ATM 05186m >20 0 0 Lead ppm ATM 05186m >30 C1 1 Copper ppm ATM 05186m >30 C1 0 Vanadium ppm ATM 05186m >15 0 0 Vanadium ppm ATM 05186m >30 C1 0 Vanadium ppm ATM 05186m >20 C1 0 Vanadium ppm ATM 05186m >20 C1 0 Valow Metal scalar Visual* NONE NONE CONTAMINATION Silicon ppm ATM 05186m >20 C1 0 Contrastion of any contamination in the oil. Silicon				1				
Silver ppm ATM DB18/m >20 0 0 Aluminum ppm ATM DB18/m >20 -1 1 Aluminum ppm ATM DB18/m >20 -1 1 Copper ppm ATM DB18/m >30 -1 0 0 Tin ppm ATM DB18/m S00 0 -1 Variadium ppm ATM DB18/m S00 ON NONE Variadium ppm ATM DB18/m S00 NONE NONE CONTAMINATION Scalar Visual* NONE Al 5 Silicon ppm ASTM DB18/m Scalar Visual* NONE Al 5 There is no indication of any contamination in the oil. Silicon ppm ASTM DB18/m Scalar Visual* NONE All All <				. ,				
Aluminum ppm ASTM 05165m >20 <1								
Lead ppm ASTM D5185m >-40 0 0 Copper ppm ASTM D5185m >-330 <1 < < Tin ppm ASTM D5185m >-50 0 < < Vanadium ppm ASTM D5185m >-50 < < < Vanadium ppm ASTM D5185m >-25 4 5 There is no indication of any contamination in the oil. Silicon ppm ASTM D5185m >-20 <1 0 Fuel WC Method >-0.0 <1.0 < < Glycol WC Method >-0.2 NEG NEG Soto % % %STM D7184 >-6 0 0 < Soto % % %STM D7184 >-20 5.4 4.7 Soto % % %STM D7184 >-20 5.7 4.7 Soto %<				. ,				
Copper ppm ASTM DS185(m) >330 <1							0	
Tin Vanadium vanadiu				. 7				
Vanadium ppm ASTM D585(m) 0 <1								
White Metal scalar Visual* NONE NONE Initial Initial Yellow Metal scalar Visual* NONE NONE Initial Initial* CONTAMINATION Silicon ppm ASM 05185(m) >25 44 5 Initial* There is no indication of any contamination in the oil. Potassium ppm ASM 05185(m) >20 <1 0.0 Initial* Fuel W CM Method >0.2 NEG NEG Initial* Initial* NORE Initial* Initia* Initia* Initial*								
Yellow Metal scalar Visual* NONE NONE CONTAMINATION Silicon pm ASTM D518/m >-25 4 5.5 There is no indication of any contamination in the oil. Fuel WC Method >3.0 <1.0 < Water WC Method >3.0 <1.0 < Glycol WC Method >3.0 <1.0 < Solt % % ASTM D518/m >-6 0 0 Solt % % ASTM D784* >6 0 0 Solt % % ASTM D784* >6 0 0 Sulfation Asis MSTM D518/m >0 17.6 17.0 Sulfation Asis MSTM D718* >30 17.6 17.0 Sulfation Asis Scalar Visual* NORE NORE				. ,	NONE			
Silicon ppm ASTM D5185(m) >25 4 5 Potassium ppm ASTM D5185(m) >20 <1 0 Fuel WC Method >3.0 <1.0 < Water WC Method >0.2 NEG NEG Glycol WC Method >0.2 NEG NEG Soft % % MSTM D5185(m) 20 5.4 4.7 Soft % % MSTM D7624' >20 5.4 4.7 Sulfation Abs/cm ASTM D7824' >30 17.6 17.9 Sulfation Abs/cm ASTM D7824' >00 NONE Sulfation Abs/cm ASTM D7824' >00 NONE Sulfation Abs/cm ASTM D5185(m) NONE NONE Cobr scalar Visual* NORM NORM </th <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>								
Potassium ppm ASTM D5185m >20 <1								
There is no indication of any contamination in the oil. Fuel WC Method >3.0 <1.0 <1.0 Water I WC Method >0.2 NEG NEG Glycol WC Method >0.2 NEG NEG Slot %C MSTM 0784+ >6 0 0 Nitration Abs/tm ASTM 0784+ >30 17.6 17.9 Sulfation Abs/tm ASTM 0784+ >30 17.6 17.9 Sulfation Abs/tm ASTM 0784+ >30 17.6 17.9 Sulfation Abs/tm ASTM 0784+ NONE NONE Sand/Dirt scalar Visual* NONE NONE Appearance scalar Visual* NONE NORM Appearance scalar Visual* NORM NORM Mappearance scalar Visual* NORM NORM	CONTAMINATION							
Fuel Water Work Method >3.0 <21.0	There is no indication of any contamination in the oil.		ppm					
Glycol WC Method NEG 0.0 0 Soot % % ASTM D784* >6 0 0 Nitration Abs(m ASTM D7824* >20 5.4 4.7 Sitta scalar Visual* NONE 17.6 17.9 Sitt scalar Visual* NONE NONE Debris scalar Visual* NONE NONE Sand/Dirt scalar Visual* NONE NONE Sand/Dirt scalar Visual* NORE NONE Appearance scalar Visual* NORE NORE Cdor scalar Visual* NORE NORE Boron ppm ASTM D5185/m >10 0 Molybdenum ppm ASTM D5185/m NO								
Soot % % ASTM D7844* >6 0 0 Nitration Abs/cm ASTM D7824* >20 5.4 4.7 Sulfation Abs/lm ASTM D7163* >30 17.6 17.9 Sulfation Abs/lm ASTM D7163* >30 17.6 17.9 Silf scalar Visual* NONE NONE Debris scalar Visual* NONE NONE Sand/Dirt scalar Visual* NOR NORE Appearance scalar Visual* NOR NORM Appearance scalar Visual* NOR NORM Gdor scalar Visual* NORM NORM Motor scalar Visual* NORM NORM Barium ppm <t< th=""><th></th><th></th><th></th><th>>0.2</th><th></th><th></th><th></th></t<>					>0.2			
Nitration Abs/cm ASTM D7624 >20 5.4 4.7 Sulfation Abs/tm ASTM D7624 >30 17.6 17.9 Sulfation Abs/tm ASTM D7415* >30 17.6 17.9 Silt scalar Visual* NONE NONE NONE Debris scalar Visual* NONE NONE Appearance scalar Visual* NORM NORM Odor scalar Visual* NORM NORM Odor scalar Visual* NORM NORM NORM FLUID CONDITION scalar Visual* NORM NORM NORM Boron ppm ASTM D5185m -10 0 Malybenum pm ASTM D5185m I 0 Malybe								
SulfationAbs/.imASTM D745'>3017.617.9SiltscalarVisual*NONENONEDebrisscalarVisual*NONENONESand/DirtscalarVisual*NONENONEAppearancescalarVisual*NONENONEOdorscalarVisual*NORMNORMLNORMLNORMLOdorscalarVisual*NORMNORMLNORMLNORMLOdorscalarVisual*NORMNORMLNORMLNORMLEmulsifiedWatescalarVisual*NORMNORMLNORMLBoronppmASTM D5185(m>19211BariumppmASTM D5185(m1000ManganeseppmASTM D5185(m100338488ManganeseppmASTM D5185(m37814251205NagesiumppmASTM D5185(m37814251205ManganeseppmASTM D5185(m378014251205PhosphorusppmASTM D5185(m378014251205ManganeseppmASTM D5185(m378014251205PhosphorusppmASTM D5185(m378014251205ManganeseppmASTM D5185								
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Sand/DirtscalarVisual*NONENONEAppearancescalarVisual*NORMNORMLNORMLNORMLOdorscalarVisual*NORMNORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2NEGNEGNEcononppmASTM D5185(m)>19211BoronppmASTM D5185(m)>100BariumppmASTM D5185(m)-3327MolybdenumppmASTM D5185(m)-300MagnesceppmASTM D5185(m)-607839MagnesiumppmASTM D5185(m)378014251205PhosphorusppmASTM D5185(m)378014251205SulfurppmASTM D5185(m)150011171141SulfurppmASTM D5185(m)36027972786SulfurppmASTM D5185(m)36027972786								
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OdorscalarVisual*NORMLNORMLNORMLNORMLEmulsified WaterscalarVisual*>0.2NEGNEGFLUID CONDITIONSodiumppmASTM D5185(m)>19211BoronppmASTM D5185(m)>1923327BariumppmASTM D5185(m)I00MolybdenumppmASTM D5185(m)I00MaganeseppmASTM D5185(m)I0<MagnesiumppmASTM D5185(m)I607839CalciumppmASTM D5185(m)I14251205PhosphorusppmASTM D5185(m)13709751070ZincppmASTM D5185(m)150011171141SulfurppmASTM D5185(m)380027972786OxidationAbs/:tmASTM D5185(m)380027972786								
Emulsified WaterscalarVisual*>0.2NEGNEGFLUID CONDITIONSodiumppmASTM D5185(m)>19211BoronppmASTM D5185(m)>10033327BariumppmASTM D5185(m)I000MolybdenumppmASTM D5185(m)I38488ManganeseppmASTM D5185(m)I6078390IMagnesiumppmASTM D5185(m)I6078390ICalciumppmASTM D5185(m)378014251205IPhosphorusppmASTM D5185(m)150011171141ISulfurppmASTM D5185(m)150011171141ISulfurppmASTM D51485(m)380027972786IOxidationAbs/1mASTM D71414*>2512.812.9I								
Sodium ppm ASTM D5185(m) >192 1 1 Boron ppm ASTM D5185(m) >192 33 27 Barium ppm ASTM D5185(m) 0 0 Molybdenum ppm ASTM D5185(m) 0 0 Manganese ppm ASTM D5185(m) 0 <1 Magnesium ppm ASTM D5185(m) 0 <1 Calcium ppm ASTM D5185(m) 607 839 Phosphorus ppm ASTM D5185(m) 1425 1205 Zinc ppm ASTM D5185(m) 1370 975 1070 Sulfur ppm ASTM D5185(m) 3800 2797 2786 Oxidation Abs/:1mm ASTM D5185(m) 3800 2797 2786								
BoronppmASTM D5185(m)Image: Simple service.BariumppmASTM D5185(m)Image: Simple service.Image: Simple service.Im		Emuisified water	scalar	visuai"	>0.2	NEG	NEG	
BoronppmASTM D5185(m)Image: Simple service.BariumppmASTM D5185(m)Image: Simple service.Image: Simple service.Im	FLUID CONDITION	Sodium	ppm	ASTM D5185(m)	>192	1	1	
Barlum ppm ASIM D5186(m) 0 0 Molybdenum ppm ASTM D5185(m) Image 388 48 Image 388 Manganese ppm ASTM D5185(m) Image 300 Image 318 Image 318 <th rowspan="11"></th> <th></th> <th></th> <th></th> <th></th> <th>33</th> <th>27</th> <th></th>						33	27	
Manganese ppm ASTM D5185(m) Image: Comparison of the compariso		Barium	ppm	ASTM D5185(m)		0	0	
Magnesium ppm ASTM D5185(m) 607 839 Calcium ppm ASTM D5185(m) 3780 1425 1205 Phosphorus ppm ASTM D5185(m) 1370 975 1070 Zinc ppm ASTM D5185(m) 1500 1117 1141 Sulfur ppm ASTM D5185(m) 3800 2797 2786 Oxidation Abs/.1mm ASTM D7414* >25 12.8 12.9		Molybdenum	ppm	ASTM D5185(m)		38	48	
Magnesium ppm ASTM D5185(m) 607 839 Calcium ppm ASTM D5185(m) 3780 1425 1205 Phosphorus ppm ASTM D5185(m) 1370 975 1070 Zinc ppm ASTM D5185(m) 1500 1117 1141 Sulfur ppm ASTM D5185(m) 3800 2797 2786 Oxidation Abs/.1mm ASTM D7414* >25 12.8 12.9								
Calcium ppm ASTM D5185(m) 3780 1425 1205 Phosphorus ppm ASTM D5185(m) 1370 975 1070 Zinc ppm ASTM D5185(m) 1500 1117 1141 Sulfur ppm ASTM D5185(m) 3800 2797 2786 Oxidation Abs/.1mm ASTM D7414* >25 12.8 12.9		-				607	839	
Phosphorus ppm ASTM D5185(m) 1370 975 1070 Zinc ppm ASTM D5185(m) 1500 1117 1141 Sulfur ppm ASTM D5185(m) 3800 2797 2786 Oxidation Abs/.1mm ASTM D7414* >25 12.8 12.9		-	ppm		3780	1425	1205	
Zinc ppm ASTM D5185(m) 1500 1117 1141 Sulfur ppm ASTM D5185(m) 3800 2797 2786 Oxidation Abs/.1mm ASTM D7414* >25 12.8 12.9						975	1070	
Sulfur ppm ASTM D5185(m) 3800 2797 2786 Oxidation Abs/.1mm ASTM D7414* >25 12.8 12.9		Zinc	ppm	ASTM D5185(m)	1500			
Oxidation Abs/.1mm ASTM D7414* >25 12.8 12.9				ASTM D5185(m)	3800	2797	2786	
Visc @ 100°C cSt ASTM D7279(m) 15.4 14.3 14.4		Oxidation	Abs/.1mm	ASTM D7414*	>25	12.8	12.9	
		Visc @ 100°C	cSt	ASTM D7279(m)	15.4	14.3	14.4	









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Contact/Location: Ryan Udall - POWMIS Page 2 of 2