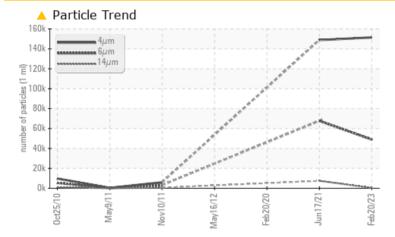


### Machine Id **D-03** Component **Wind Turbine Gearbox** Fluid **ROYAL PURPLE SYNFILM GT 320 (65 GAL)**

### COMPONENT CONDITION SUMMARY



### RECOMMENDATION

Replace filter element and resample at later date. In case already attempted and cleanliness was not improved then proceed to replace oil.

PROBLEMATIC TEST RESULTS							
Sample Status		ABNORMAL	ABNORMAL	ABNORMAL			
Particles >6µm	ASTM D7647 >50	00 🔺 48954	67704				
Oil Cleanliness	ISO 4406 (c) >/	19/16 🔺 <b>24/23/16</b>	▲ 24/23/20				

Customer Id: MITWHI Sample No.: MHI021634 Lab Number: 05819590 Test Package: IND 2



To manage this report scan the QR code

To discuss the diagnosis or test data: Angela Borella +1 800-237-1369 angela.borella@wearcheckusa.com

To change component or sample information: Customer Service +1 1-800-237-1369 customerservice@wearcheck.com

RECOMMENDED ACTIONS							
Action	Status	Date	Done By	Descriptior			
Change Filter			?	Replace filte			
Resample			?	Replace filte			

n

Iter element and resample at later date. In case already attempted iness was not improved then proceed to replace oil.

ter element and resample at later date. In case already attempted ness was not improved then proceed to replace oil.

### **HISTORICAL DIAGNOSIS**



### 17 Jun 2021 Diag: Jonathan Hester

Replace filter element and resample at later date. In case already attempted and cleanliness was not improved then proceed to replace oil.All component wear rates are normal. There is a high amount of particulates present in the oil. The AN level is acceptable for this fluid.



view report

### 20 Feb 2020 Diag: Doug Bogart



Replace filter element and resample at later date. In case already attempted and cleanliness was not improved then proceed to replace oil. We were unable to perform a particle count due to a high concentration of particles present in this sample.All component wear rates are normal. Moderate concentration of visible dirt/debris present in the oil. The AN level is acceptable for this fluid.

### 16 May 2012 Diag: Doug Bogart





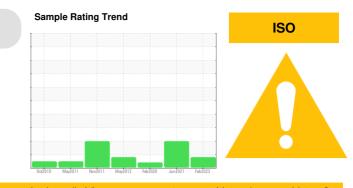
We were unable to perform a particle count due to a high concentration of particles present in this sample. We recommend you service the filters on this component if applicable. Resample at the next service interval to monitor.All component wear rates are normal. There is a high amount of visible silt present in the sample. The condition of oil is suitable for further service.







## **OIL ANALYSIS REPORT**



D-03 Component Wind Turbine Gearbox Fluid ROYAL PURPLE SYNFILM GT 320 (65 GAL)

### DIAGNOSIS

Machine Id

### A Recommendation

Replace filter element and resample at later date. In case already attempted and cleanliness was not improved then proceed to replace oil.

### Wear

All component wear rates are normal.

### Contamination

There is a high amount of particulates present in the oil.

#### Fluid Condition

The AN level is acceptable for this fluid.

Sample NumberClient InfoMHI021343MHI023768MHI04393519Sample DateClient Info0000Machine AgehrsClient Info000Oil AgehrsClient Info000Oil ChangedTClient InfoN/AN/ANot ChangedSample StatusIIm/N/AABNORMALABNORMALABNORMALWEAR METALSmethodImit/basecurrenthistory1history2PQASTM 05165>3212026IronppmASTM 05165>3< <td>10011IronppmASTM 05165&gt;310011SilverppmASTM 05165&gt;3000000SilverppmASTM 05165&gt;551411111100000AuminumppmASTM 05165&gt;55000&lt;</td>	10011IronppmASTM 05165>310011SilverppmASTM 05165>3000000SilverppmASTM 05165>551411111100000AuminumppmASTM 05165>55000<	SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample DateImateClient Info0000Machine AgehrsClient Info0000Oil ChangedhrsClient InfoN/AN/ANot ChangdSample StatusImateClient InfoN/AN/ANot ChangdSample StatusImateImatecurrenthistory1history2PQASTM DB184>200212026IronppmASTM DB186>3010013ChromiumppmASTM DB186>31000ChromiumppmASTM DB186>3000NickelppmASTM DB186>3000SilverppmASTM DB186>30000AuminumppmASTM DB186>30000LeadppmASTM DB186>15000AntimonyppmASTM DB186>500Astm DB186>50000AdadumppmASTM DB1860000Astm DB186>5000Astm DB186ImateCurrentHistory1History2BoronppmASTM DB1860000MaganeseppmASTM DB18601<< <td>&lt;1&lt;</td> 1PosphorusppmASTM DB1860001 </td <th>Sample Number</th> <td></td> <td>Client Info</td> <td></td> <th>MHI021634</th> <td>MHI023768</td> <td>MHI04939519</td>	<1<	Sample Number		Client Info		MHI021634	MHI023768	MHI04939519
Machine AgehrsClient Info000Oil GhangedKrsClient InfoN/AN/ANot ChangedSample StatusCClient InfoN/AN/ANot ChangedSample StatusCTentholImil/baseCurrentHistory1History2PQASTM D8184>200212026IronppmASTM D5185m>30<110<11NickelppmASTM D5185m>30<100<11TitaniumppmASTM D5185m>300<00SilverppmASTM D5185m>300<1111TitaniumppmASTM D5185m>300<110CopperppmASTM D5185m>55-141411TinppmASTM D5185m>55-141411TinppmASTM D5185m>50000ASTM D5185m>5000000CadmiumppmASTM D5185m>10000ASTM D5185m>5000000ASTM D5185m>5011<1<<11TinppmASTM D5185m0000ASTM D5185m01<1<<11ASTM D5185m01<1<<11ASTM D5185m01<1<<11ASTM D5185m			Client Info		20 Feb 2023	17 Jun 2021	20 Feb 2020	
Oil Age         hrs         Client Info         N/A         N/A         Not Changed           Sample Status         I         Image         N/A         ABNORMAL         ABNORMAL         ABNORMAL           WEAR METALS         method         limit/base         current         history1         history2           PQ         ASTM 08184         >200         21         20         26           Iron         ppm         ASTM 05185m         >30         <1		hrs						
Oli Changed Sample StatusClient InfoN/AN/ANot Changd ABNORMALNot Changd ABNORMALWEAR METALSmethodlimit/basecurrenthistory1history2PQASTM D6184>200212026IronppmASTM D61858>201713.013.0ChromiumppmASTM D61858>3410<1	Ū		Client Info					
Sample Statusmethodlimit/basecurrenthistory1history2PQASTM D8184>200212026IronppmASTM D5185m>200171313ChromiumppmASTM D5185m>3<1	<1	0				-	N/A	Not Changd
WEAR METALS         method         limit/base         current         history1         history2           PQ         ASTM D8164         >200         21         20         26           Iron         ppm         ASTM D8165         >200         17         13         13           Chromium         ppm         ASTM D5165         >33         0         <1	-						-	
PQASTM D8184 ASTM D5185m ppm>200212026IronppmASTM D5185m ASTM D5185m>30-10<1NickelppmASTM D5185m ASTM D5185m>300<1<1TitaniumppmASTM D5185m ASTM D5185m>100000AluminumppmASTM D5185m ASTM D5185m>3000000AluminumppmASTM D5185m ASTM D5185m>1000			method	limit/base				
iron         ppm         ASTM D5185m         >200         17         13         13           Chromium         ppm         ASTM D5185m         >3         <1								
Chromium         ppm         ASTM D5185m         >3         <1         0         <1           Nickel         ppm         ASTM D5185m         >3         0         <1		nnm						
Nickel         ppm         ASTM D5185m         >3         0         <1         <1           Titanium         ppm         ASTM D5185m         >10         0         0         0           Silver         ppm         ASTM D5185m         >30         0         0         0           Aluminum         ppm         ASTM D5185m         >30         0         0         0           Lead         ppm         ASTM D5185m         >75         14         14         11           Tin         ppm         ASTM D5185m         >75         14         14         11           Tin         ppm         ASTM D5185m         >5          0         0           Antimony         ppm         ASTM D5185m         >5          0         0           Cadmium         ppm         ASTM D5185m         >0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         1         <1								
TitaniumppmASTM D5185n>10000SilverppmASTM D5185n>30000AluminumppmASTM D5185n>30000LeadppmASTM D5185n>75141411TinppmASTM D5185n>75141411TinppmASTM D5185n>75141411AntimonyppmASTM D5185n>500AntimonyppmASTM D5185n>500CadmiumppmASTM D5185n0000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185n2222MagneseppmASTM D5185n01<1								
Silver         ppm         ASTM D5185m         >30         0         0         0           Aluminum         ppm         ASTM D5185m         >30         0         0         0           Lead         ppm         ASTM D5185m         >15         0         <1								
AluminumppmASTM D5185m>30000LeadppmASTM D5185m>150<1				>10				
Leadpm pmASTM D5185m>150<10CopperppmASTM D5185m>75141411TinppmASTM D5185m>10000AntimonyppmASTM D5185m>500VanadiumppmASTM D5185m500CadmiumppmASTM D5185m0000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0<1				00				
CopperppmASTM D5185m>75141411TinppmASTM D5185m>10000AntimonyppmASTM D5185m>500VanadiumppmASTM D5185m>500CadmiumppmASTM D5185m0000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0<1<1<1BariumppmASTM D5185m0<1<1<1BariumppmASTM D5185m0<1<1<1ManganeseppmASTM D5185m901<1<1ManganesuppmASTM D5185m901<1<1PhosphorusppmASTM D5185m901<1<1JuliappmASTM D5185m901<1<1ZincppmASTM D5185m901<1<1SulfurppmASTM D5185m901<1<1SulfurppmASTM D5185m901<1<1SulfurppmASTM D5185m901<1<1SulfurppmASTM D5185m>1306000SulfurppmASTM D5185m>+30<1228310SulfurppmASTM D5185m>200<10Sulfurppm <t< td=""><th></th><td></td><td></td><td></td><th></th><td></td><td></td></t<>								
Tin         ppm         ASTM D5185m         >10         0         0         0           Antimony         ppm         ASTM D5185m         >5          0         0           Vanadium         ppm         ASTM D5185m         >5          0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         -1         <1					-			
Antimony         ppm         ASTM D5185m         >5          0         0           Vanadium         ppm         ASTM D5185m         0         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         2         2         2         2           Manganese         ppm         ASTM D5185m         90         1         <1								
Vanadium         ppm         ASTM D5185m         0         0         0           Cadmium         ppm         ASTM D5185m         0         0         0           ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         <1         <1           Barium         ppm         ASTM D5185m         0         <1         <1           Barium         ppm         ASTM D5185m         0         0         0         0           Magnaese         ppm         ASTM D5185m         2         2         2         2           Magnesium         ppm         ASTM D5185m         90         1         <1         <1         <1           Phosphorus         ppm         ASTM D5185m         90         1         <1<         <1<         <1<           Sulfur         ppm         ASTM D5185m         90         1         <1         <1<         <1<           Sulfur         ppm         ASTM D5185m         90         0         0         0         0           Sulfur         ppm         ASTM D5185m         20         0         0					-			
CadmiumppmASTM D5185m000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m0<1				>5				
ADDITIVES         method         limit/base         current         history1         history2           Boron         ppm         ASTM D5185m         0         <1		ppm						
Boron         ppm         ASTM D5185m         0         <1         <1           Barium         ppm         ASTM D5185m         0         0         0         0           Molybdenum         ppm         ASTM D5185m         2         2         2         2           Manganese         ppm         ASTM D5185m         90         1         <1		ppm	ASTM D5185m		0	0	0	
Barium         ppm         ASTM D5185m         0         0         0           Molybdenum         ppm         ASTM D5185m         2         2         2           Manganese         ppm         ASTM D5185m         90         1         <1         0           Magnesium         ppm         ASTM D5185m         90         1         <1         <1           Calcium         ppm         ASTM D5185m         90         1         <1         <1           Clacium         ppm         ASTM D5185m         90         1         <1         <1           Phosphorus         ppm         ASTM D5185m         90         1         <1         <1           Zinc         ppm         ASTM D5185m         90         0         0         0           Sulfur         ppm         ASTM D5185m          0         0         0           Solium         ppm         ASTM D5185m         >+30         <1         2         3           Sodium         ppm         ASTM D5185m         >20         0         <1         0           Vater         %         ASTM D5185m         >20         0         <1         0           <	ADDITIVES		method	limit/base	current	history1	history2	
Molybdenum         ppm         ASTM D5185m         2         2         2           Manganese         ppm         ASTM D5185m         90         1         <1	Boron	ppm			0			
Manganese         ppm         ASTM D5185m         <1         0         0           Magnesium         ppm         ASTM D5185m         90         1         <1	Barium	ppm	ASTM D5185m		0	0	0	
Magnesium         ppm         ASTM D5185m         90         1         <1         <1           Calcium         ppm         ASTM D5185m         90         1         <1	Markeda al a sa c		AOTH DEADE		•		0	
Calcium         ppm         ASTM D5185m         0         0         <1           Phosphorus         ppm         ASTM D5185m         197         228         217           Zinc         ppm         ASTM D5185m         0         0         0         0           Sulfur         ppm         ASTM D5185m         0         0         0         0           Sulfur         ppm         ASTM D5185m         7331         5740         3904           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >+30         <1	wolybdenum	ppm	ASTM D5185m		Z			
Phosphorus         ppm         ASTM D5185m         197         228         217           Zinc         ppm         ASTM D5185m         0         0         0         0           Sulfur         ppm         ASTM D5185m         7331         5740         3904           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >+30         <1         2         3           Sodium         ppm         ASTM D5185m         >+30         <1         2         3           Sodium         ppm         ASTM D5185m         >+30         <1         2         3           Sodium         ppm         ASTM D5185m         >20         0         <1         0         0           Potassium         ppm         ASTM D6304         >0.1         0.012         0.005         0.006           ppm Water         ppm         ASTM D6304         >1000         122.6         51.0         60.1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000         48954					_			
Zinc         ppm         ASTM D5185m         0         0         0           Sulfur         ppm         ASTM D5185m         7331         5740         3904           CONTAMINANTS         method         limit/base         current         history1         history2           Silicon         ppm         ASTM D5185m         >+30         <1	Manganese	ppm	ASTM D5185m	90	- <1 1	0 <1	0	
SulfurppmASTM D5185m733157403904CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>+30<1	Manganese Magnesium	ppm ppm	ASTM D5185m ASTM D5185m	90	- <1 1	0 <1	0 <1	
CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>+30<1	Manganese Magnesium Calcium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	90	<1 1 0	0 <1 0	0 <1 <1	
Silicon       ppm       ASTM D5185m       >+30       <1	Manganese Magnesium Calcium Phosphorus	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	90	<1 1 0 197	0 <1 0 228	0 <1 <1 217	
Sodium         ppm         ASTM D5185m         0         0         0           Potassium         ppm         ASTM D5185m         >20         0         <1         0           Water         %         ASTM D6304         >0.1         0.012         0.005         0.006           ppm Water         ppm         ASTM D6304         >1000         122.6         51.0         60.1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000         ▲ 48954         ▲ 67704            Particles >6µm         ASTM D7647         >640         386         7444            Particles >21µm         ASTM D7647         >160         47         1188            Particles >38µm         ASTM D7647         >40         0         78	Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	90	<1 1 0 197 0	0 <1 0 228 0	0 <1 <1 217 0	
Potassium         ppm         ASTM D5185m         >20         0         <1         0           Water         %         ASTM D6304         >0.1         0.012         0.005         0.006           ppm Water         ppm         ASTM D6304         >1000         122.6         51.0         60.1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000         48954         67704            Particles >6µm         ASTM D7647         >640         386         7444            Particles >21µm         ASTM D7647         >160         47         1188            Particles >38µm         ASTM D7647         >40         0         78	Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m		<1 1 0 197 0 7331	0 <1 0 228 0 5740	0 <1 <1 217 0 3904	
Water         %         ASTM D6304         >0.1         0.012         0.005         0.006           ppm Water         ppm         ASTM D6304         >1000         122.6         51.0         60.1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000         ▲ 48954         ▲ 67704            Particles >6µm         ASTM D7647         >640         386         ▲ 7444            Particles >21µm         ASTM D7647         >160         47         ▲ 1188            Particles >38µm         ASTM D7647         >40         0         ▲ 78	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method	limit/base	<1 1 0 197 0 7331 current	0 <1 0 228 0 5740 history1	0 <1 217 0 3904 history2	
Water         %         ASTM D6304         >0.1         0.012         0.005         0.006           ppm Water         ppm         ASTM D6304         >1000         122.6         51.0         60.1           FLUID CLEANLINESS         method         limit/base         current         history1         history2           Particles >4µm         ASTM D7647         >5000         ▲ 48954         ▲ 67704            Particles >6µm         ASTM D7647         >640         386         ▲ 7444            Particles >21µm         ASTM D7647         >160         47         ▲ 1188            Particles >38µm         ASTM D7647         >40         0         ▲ 78	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	limit/base	<1 1 0 197 0 7331 current <1	0 <1 0 228 0 5740 history1 2	0 <1 <1 217 0 3904 history2 3	
FLUID CLEANLINESS       method       limit/base       current       history1       history2         Particles >4µm       ASTM D7647       151463       148867          Particles >6µm       ASTM D7647       >5000       48954       67704          Particles >14µm       ASTM D7647       >640       386       7444          Particles >21µm       ASTM D7647       >160       47       1188          Particles >38µm       ASTM D7647       >40       0       78	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m ASTM D5185m	limit/base >+30	<1 1 0 197 0 7331 current <1 0	0 <1 0 228 0 5740 history1 2 0	0 <1 217 0 3904 history2 3	
Particles >4μm       ASTM D7647       151463       148867          Particles >6μm       ASTM D7647       >5000       ▲ 48954       ▲ 67704          Particles >14μm       ASTM D7647       >640       386       ▲ 7444          Particles >21μm       ASTM D7647       >160       47       ▲ 1188          Particles >38μm       ASTM D7647       >40       0       ▲ 78	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >+30 >20	<1 1 0 197 0 7331 current <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 <1 0 228 0 5740 history1 2 0 <1	0 <1 <1 217 0 3904 <u>history2</u> 3 0 0	
Particles >6μm         ASTM D7647         >5000         ▲ 48954         ▲ 67704            Particles >14μm         ASTM D7647         >640         386         7444            Particles >21μm         ASTM D7647         >160         47         1188            Particles >38μm         ASTM D7647         >40         0         78	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base >+30 >20 >0.1	<1 1 0 197 0 7331 current <1 0 0 0 0 0.012	0 <1 0 228 0 5740 history1 2 0 <1 0.005	0 <1 <1 217 0 3904 history2 3 0 0 0 0.006	
Particles >14μm         ASTM D7647         >640 <b>386</b> ▲ 7444            Particles >21μm         ASTM D7647         >160 <b>47</b> ▲ 1188            Particles >38μm         ASTM D7647         >40 <b>0</b> ▲ 78	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   %	ASTM D5185m ASTM D6304	limit/base >+30 >20 >0.1 >1000	<1 1 0 197 0 7331 current <1 0 0 0 0.012 122.6	0 <1 0 228 0 5740 history1 2 0 <1 0.005 51.0	0 <1 <1 217 0 3904 history2 3 0 0 0 0.006 60.1	
Particles >21μm         ASTM D7647         >160         47         ▲ 1188            Particles >38μm         ASTM D7647         >40         0         ▲ 78	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 MEthod	limit/base >+30 >20 >0.1 >1000	<1 1 0 197 0 7331 current <1 0 0 0 0.012 122.6 current	0 <1 0 228 0 5740 history1 2 0 <1 0.005 51.0 history1	0 <1 <1 217 0 3904 history2 3 0 0 0 0.006 60.1 history2	
Particles >38μm         ASTM D7647         >40         0         478	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D6304	limit/base >+30 >20 >0.1 >1000 limit/base	<1 1 0 197 0 7331 current <1 0 0 0 0.012 122.6 current 151463	0 <1 0 228 0 5740 history1 2 0 <1 0.005 51.0 history1 148867	0 <1 <1 217 0 3904 history2 3 0 0 0 0.006 60.1 history2 	
	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647	limit/base >+30 >20 >0.1 >1000 limit/base >5000	<1 1 0 197 0 7331 current <1 0 0 0 0 0 0.012 122.6 current 151463	0 <1 0 228 0 5740 history1 2 0 <1 0.005 51.0 history1 148867 ▲ 67704	0 <1 <1 217 0 3904 history2 3 0 0 0 0.006 60.1 history2 	
Particles >71μm ASTM D7647 >10 0 ▲ 11	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Vater ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   %	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >+30 >20 >0.1 >1000 limit/base >5000 >640	<1 1 0 197 0 7331 current <1 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 <1 0 228 0 5740 bistory1 2 0 <1 0.005 51.0 bistory1 148867 148867 148867 ▲ 67704	0 <1 <1 217 0 3904 history2 3 0 0 0.006 60.1 history2  	
	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Water ppm Water FLUID CLEANLIN Particles >4µm Particles >14µm Particles >21µm	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   %	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >+30 >20 >0.1 >1000 limit/base >5000 >640 >160	<1 1 0 197 0 7331 current <1 0 0 0 0 0.012 122.6 current 151463 ▲ 48954 386 47	0 <1 0 228 0 5740 bistory1 2 0 <1 0.005 51.0 bistory1 148867 148867 148867 4 67704 ▲ 7444 ▲ 1188	0 <1 <1 217 0 3904 history2 3 0 0 0.006 60.1 history2  	
Oil Cleanliness ISO 4406 (c) >/19/16 ▲ 24/23/16 ▲ 24/23/20	Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Vater ppm Water FLUID CLEANLIN Particles >4µm Particles >6µm Particles >21µm Particles >38µm	ppm   ppm   ppm   ppm   ppm   ppm   ppm   ppm   %	ASTM D5185m ASTM D6304 ASTM D6304 ASTM D6304 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647 ASTM D7647	limit/base >+30 >20 >0.1 >1000 limit/base >5000 >640 >160 >40	<1 1 0 197 0 7331 current <1 0 0 0 0 0 0.012 122.6 current 151463 ▲8954 386 47 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	0 <1 0 228 0 5740 history1 2 0 <1 0.005 51.0 history1 148867 ▲ 67704 ▲ 7444 ▲ 1188 ▲ 78	0 <1 <1 217 0 3904 history2 3 0 0 0.006 60.1 history2  	



160k 1404

120k <u>ន</u>៍ 100

12000

10000

800 (maa)

6000 Water 4000

문200

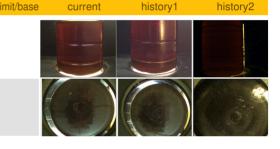
Abnorm

r of partic 80

# **OIL ANALYSIS REPORT**

Particle Trend						
			FLUID DEGRADA	ATION	method	limit/base
4μm 6μm 14μm			Acid Number (AN)	mg KOH/g	ASTM D8045	0.25
		***	VISUAL		method	limit/base
	*****	and the second s	White Metal	scalar	*Visual	NONE
	And	19 19 19 19 19 19 19 19 19 19 19 19 19 1	Yellow Metal	scalar	*Visual	NONE
	a a a a a a a a a a a a a a a a a a a		Precipitate	scalar	*Visual	NONE
9/11.	6/12	0/20 - 7/21 -	Silt	scalar	*Visual	NONE
May9/11	May16/12	Feb20/20 Jun17/21 Feb20/23	Debris	scalar	*Visual	NONE
(145)			Sand/Dirt	scalar	*Visual	NONE
ter (KF)			Appearance	scalar	*Visual	NORML
			Odor	scalar	*Visual	NORML
			Emulsified Water	scalar	*Visual	>0.1
			Free Water	scalar	*Visual	
			FLUID PROPERT	TIES	method	limit/base
mal			Visc @ 40°C	cSt	ASTM D445	320
May9/11.	May16/12	Feb20/20 Jun17/21	SAMPLE IMAGES	S	method	limit/base
N N	Ma	Ju Ju				
Q			Color			
vere	1					

Bottom



history1

history1

LIGHT

NONE

NONE

NONE

LIGHT

NONE

NORML

NORML

history1

NEG

NEG

331

0.77

current

current

0.73

NONE

NONE

NONE

NONE

NONE

NONE

NORML

NORML

current

NEG

NEG

328

history2

history2

0.871

NONE

NONE

NONE

NONE

NONE

NORML

NORML

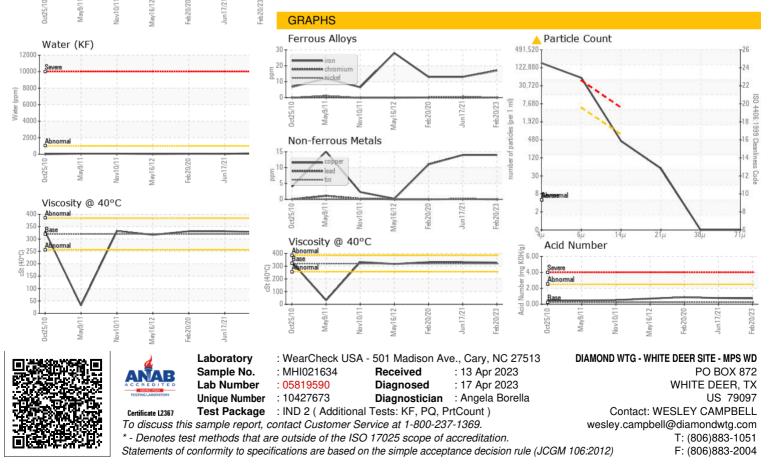
history2

NEG

NEG

331

MODER



Contact/Location: WESLEY CAMPBELL - MITWHI