

# **OIL ANALYSIS REPORT**

Sample Rating Trend



**FES-2 (S/N V0833)** Component

Refrigeration Compressor Fluid USPI 1009-68 SC (--- GAL)

# 0311 1009-00 3C (--- CF

#### DIAGNOSIS

### Recommendation

Resample at the next service interval to monitor.

#### Wear

All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the oil. The amount and size of particulates present in the system are acceptable.

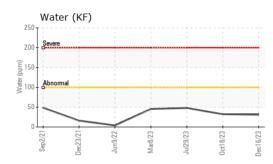
## Fluid Condition

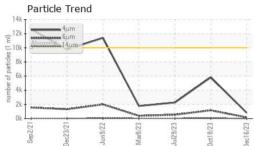
The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

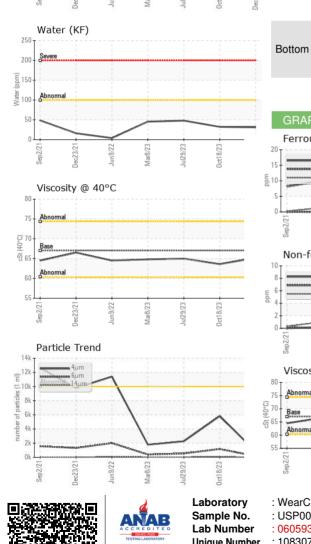
Sample Number     Client Info     USP0003951     USP0003705     USP0003705       Sample Date     Client Info     16 Dec 2023     18 Oct 2023     29 Jul 2023       Machine Age     hrs     Client Info     148514     147329     145573       Oil Age     Client Info     N/A     N/A     N/A     N/A       Sample Status     Client Info     N/A     N/A     N/A     N/A       WEAR METALS     method     imit/base     current     history/     history/2       Iron     ppm     ASTM 05185m     >2     0     0     0       Nickel     ppm     ASTM 05185m     >2     0     0     0       Silver     ppm     ASTM 05185m     >2     0     0     0       Auminum     ppm     ASTM 05185m     >2     0     0     0     0       Copper     ppm     ASTM 05185m     >2     0     0     0     1     1     1       Cadmium     ppm     ASTM 05185m     0     0	SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Date     Client Info     16 Dec 2023     18 Oct 2023     29 Jul 2023       Machine Age     hrs     Client Info     148514     147229     145573       Oil Age     hrs     Client Info     0     0     0     0       Oil Changed     Client Info     N/A     N/A     N/A     N/A       Sample Status     method     Im//sbase     current     history1     history2       Iron     ppm     ASTM 051555     >8     17     19     16       Chromium     ppm     ASTM 051555     >2     0     0     0       Silver     ppm     ASTM 051555     >2     0     0     -1       Lead     ppm     ASTM 051555     >2     0     0     -1       Lead     ppm     ASTM 051555     >2     0     0     -1       Vanadium     ppm     ASTM 051555     0     -1     -1       Vanadium     ppm     ASTM 051555     0     0     -1       Vanadium							
Machine Age     hrs     Client Info     148514     147329     145573       Oil Age     irrs     Client Info     0     0     0       Oil Changed     Client Info     N/A     N/A     N/A       Sample Status     method     Imm/base     current     history1     history2       Iron     ppm     ASTM D5185m     >8     17     19     16       Chromium     ppm     ASTM D5185m     >2     0     0     0       Nickel     ppm     ASTM D5185m     >2     0     0     0       Silver     ppm     ASTM D5185m     >2     0     0     0       Lead     ppm     ASTM D5185m     >2     0     0     0       Cadmium     ppm     ASTM D5185m     >4     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     1     1     1       Nob							
Oil Age     Inrs     Client Info     0     0     0       Oil Changed     Client Info     N/A     N/A     N/A     N/A       Sample Status     Imitable     Imitable     current     History1     History2       Iron     ppm     ASTM D5185m     >8     17     19     16       Chromium     ppm     ASTM D5185m     >2     0     0     0       Nickel     ppm     ASTM D5185m     >2     0     0     0       Silver     ppm     ASTM D5185m     >2     0     0     0       Copper     ppm     ASTM D5185m     >3     0     0     0       Aduminum     ppm     ASTM D5185m     >3     0     0     0       Yanadium     ppm     ASTM D5185m     0     0     0     0       Vanadium     ppm     ASTM D5185m     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0		la va					
Oil Changed Sample Status     Client Info     N/A     N/A     N/A     N/A     N/A       WEAR METALS     method     imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >8     17     19     16       Chromium     ppm     ASTM D5185m     >2     0     0     0       Nickel     ppm     ASTM D5185m     >2     0     0     0       Nickel     ppm     ASTM D5185m     >2     0     0     0       Aluminum     ppm     ASTM D5185m     >2     0     0     0     1       Lead     ppm     ASTM D5185m     >2     0     0     0     1       Vanadium     ppm     ASTM D5185m     S     0     0     1     1       Cadmium     ppm     ASTM D5185m     0     0     0     0       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m	0						
Sample Status     NORMAL     NORMAL     NORMAL     NORMAL     NORMAL       WEAR METALS     method     imit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >8     17     19     16       Chromium     ppm     ASTM D5185m     >2     0     0     0       Nickel     ppm     ASTM D5185m     >2     0     0     0       Silver     ppm     ASTM D5185m     >2     0     0     0       Copper     ppm     ASTM D5185m     >2     0     0     0       Copper     ppm     ASTM D5185m     >2     0     0     0       Copper     ppm     ASTM D5185m     8     0     <1     1       Cadmium     ppm     ASTM D5185m     0     0     0     0       Boron     ppm     ASTM D5185m     0     0     0     1       Magnesium     ppm     ASTM D5185m     0     0     1     0 <	0	nrs				÷	
WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM 05185m     >8     17     19     16       Chromium     ppm     ASTM 05185m     >2     0     0     0       Nickel     ppm     ASTM 05185m     2     0     0     0       Silver     ppm     ASTM 05185m     >2     0     0     0       Aluminum     ppm     ASTM 05185m     >2     0     0     0       Lead     ppm     ASTM 05185m     >2     0     0     0     1       Lead     ppm     ASTM 05185m     >2     0     0     0     1       Vanadium     ppm     ASTM 05185m     0     <1     1     1       Cadmium     ppm     ASTM 05185m     0     0     0     0       Manganese     ppm     ASTM 05185m     0     <1     1     1       Maganese     ppm     ASTM 05185m     0     <11	-		Client Info				
Iron     ppm     ASTM D5185m     >8     17     19     16       Chromium     ppm     ASTM D5185m     Q     0     0     0       Nickel     ppm     ASTM D5185m     Q     0     0     0       Titanium     ppm     ASTM D5185m     2     Q     0     0     1       Silver     ppm     ASTM D5185m     >2     Q     0     0     1       Lead     ppm     ASTM D5185m     >2     Q     0     0     1       Lead     ppm     ASTM D5185m     >2     Q     0     0     1       Cadmium     ppm     ASTM D5185m     2     Q     0     0     1       Cadmium     ppm     ASTM D5185m     Q     0     0     0     1       Cadmium     ppm     ASTM D5185m     Q     0     0     1       Cadmium     ppm     ASTM D5185m     Q     0     0     1       Molybdenum     ppm	Sample Status				NORMAL	NORMAL	NORMAL
Chromium     ppm     ASTM D5185m     >2     0     0     0       Nickel     ppm     ASTM D5185m     0     0     0     0       Silver     ppm     ASTM D5185m     >2     0     0     0       Silver     ppm     ASTM D5185m     >2     0     0     0       Aluminum     ppm     ASTM D5185m     >3     0     0     <1       Lead     ppm     ASTM D5185m     >2     0     0     0     <1       Lead     ppm     ASTM D5185m     >4     0     0     <1     <1     1       Vanadium     ppm     ASTM D5185m     0     0     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0     0     0       Astim D5185m     0     0     <1     0     0     <1     0     0     0     1     0     0     0     1     0     0     0     1	WEAR METALS		method	limit/base	current	history1	history2
Nickel     ppm     ASTM D5185m     0     0     0     0       Titanium     ppm     ASTM D5185m     >2     0     0     <1       Silver     ppm     ASTM D5185m     >2     0     0     0       Lead     ppm     ASTM D5185m     >2     0     0     0       Copper     ppm     ASTM D5185m     >8     0     <1     <1       Tin     ppm     ASTM D5185m     >4     0     0     <1       Vanadium     ppm     ASTM D5185m     0     0     <1     <1       Cadmium     ppm     ASTM D5185m     0     0     0     <1       Boron     ppm     ASTM D5185m     0     0     <1     <1       Magnese     ppm     ASTM D5185m     0     <1     <1     <1       Magnesium     ppm     ASTM D5185m     0     <1     0     <1       Phosphorus     ppm     ASTM D5185m     0     <1     0     <1 <th>Iron</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;8</th> <th>17</th> <th>19</th> <th>16</th>	Iron	ppm	ASTM D5185m	>8	17	19	16
Titanium     ppm     ASTM 05185m     0     0     <1	Chromium	ppm	ASTM D5185m	>2	0	0	0
Silver     ppm     ASTM D5185m     >2     0     0     0       Aluminum     ppm     ASTM D5185m     >3     0     0     <1       Lead     ppm     ASTM D5185m     >2     0     0     0       Copper     ppm     ASTM D5185m     >2     0     0     <1       Vanadium     ppm     ASTM D5185m     >4     0     0     <1       Vanadium     ppm     ASTM D5185m     0     0     <1     <1       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0     0     0       Magnesium     ppm     ASTM D5185m     0     0     1     0       Galcium     ppm     ASTM D5185m     0     0     26     0       Contadium     ppm     ASTM D5185m     0     26     0     1 </th <th>Nickel</th> <th>ppm</th> <th>ASTM D5185m</th> <th></th> <th>0</th> <th>0</th> <th>0</th>	Nickel	ppm	ASTM D5185m		0	0	0
Aluminum     ppm     ASTM D5185m     >3     0     0     <1	Titanium	ppm	ASTM D5185m		0	0	<1
Lead     ppm     ASTM D5185m     >2     0     0     0       Copper     ppm     ASTM D5185m     >8     0     <1     <1       Tin     ppm     ASTM D5185m     >4     0     0     <1       Vanadium     ppm     ASTM D5185m     >4     0     0     <1       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0     0     <1       Malganese     ppm     ASTM D5185m     0     0     <1     <1       Magnesium     ppm     ASTM D5185m     0     0     <1     0       Calcium     ppm     ASTM D5185m     0     0     <1     0       Sulfur     ppm     ASTM D5185m     0     0     <1     1       Phosphorus     ppm     ASTM D5185m     0     0     <1     1 </th <th>Silver</th> <th>ppm</th> <th>ASTM D5185m</th> <th>&gt;2</th> <th>0</th> <th>0</th> <th>0</th>	Silver	ppm	ASTM D5185m	>2	0	0	0
Copper     ppm     ASTM D5185m     >8     0     <1	Aluminum	ppm	ASTM D5185m	>3	0	0	<1
Copper     ppm     ASTM D5185m     >8     0     <1	Lead		ASTM D5185m	>2	0	0	0
Tin     ppm     ASTM D5185m     >4     0     0     <1	Copper		ASTM D5185m	>8		<1	<1
Vanadium     ppm     ASTM D5185m     0     <1							
Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0     0     0       Barium     ppm     ASTM D5185m     0     0     0     0       Molybdenum     ppm     ASTM D5185m     0     0     0     0       Magnesium     ppm     ASTM D5185m     0     <1	Vanadium						
Boron     ppm     ASTM D5185m     0     0     0       Barium     ppm     ASTM D5185m     0     0     <1       Molybdenum     ppm     ASTM D5185m     0     0     0       Manganese     ppm     ASTM D5185m     0     <11     <1       Magnesium     ppm     ASTM D5185m     0     <11     0       Calcium     ppm     ASTM D5185m     0     0     <11     0       Phosphorus     ppm     ASTM D5185m     0     0     0     0       Zinc     ppm     ASTM D5185m     50     0     26     0       Sulfur     ppm     ASTM D5185m     50     0     <11     1       Sodium     ppm     ASTM D5185m     50     0     <11     1       Potassium     ppm     ASTM D5185m     >15     1     2     1       Water     %     ASTM D504     >0.01     0.003     0.003     0.004       pm Water     pm <td< th=""><th></th><th></th><th></th><th></th><th></th><th></th><th></th></td<>							
Boron     ppm     ASTM D5185m     0     0     0       Barium     ppm     ASTM D5185m     0     0     <1       Molybdenum     ppm     ASTM D5185m     0     0     0       Manganese     ppm     ASTM D5185m     0     <11     <1       Magnesium     ppm     ASTM D5185m     0     <11     0       Calcium     ppm     ASTM D5185m     0     0     <11     0       Phosphorus     ppm     ASTM D5185m     0     0     0     0       Zinc     ppm     ASTM D5185m     50     0     26     0       Sulfur     ppm     ASTM D5185m     50     0     <11     1       Sodium     ppm     ASTM D5185m     50     0     <11     1       Potassium     ppm     ASTM D5185m     >15     1     2     1       Water     %     ASTM D504     >0.01     0.003     0.003     0.004       pm Water     pm <td< th=""><th>ADDITIVES</th><th></th><th>method</th><th>limit/base</th><th>current</th><th>history1</th><th>history2</th></td<>	ADDITIVES		method	limit/base	current	history1	history2
Molybdenum     ppm     ASTM D5185m     0     0     0       Manganese     ppm     ASTM D5185m     0     <1     <1       Magnesium     ppm     ASTM D5185m     0     <10     0       Calcium     ppm     ASTM D5185m     0     0     <1     0       Calcium     ppm     ASTM D5185m     0     0     0     <1       Phosphorus     ppm     ASTM D5185m     0     0     0     0       Zinc     ppm     ASTM D5185m     1     6     0     0       Sulfur     ppm     ASTM D5185m     50     0     26     0       CONTAMINANTS     method     imit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     0     <1     1       Potassium     ppm     ASTM D5185m     0     <1     1       Vater     %     ASTM D6304     >0.01     0.003     0.003     0.004       pm Water     ppm	Boron	ppm	ASTM D5185m		0		
Marganese     ppm     ASTM D5185m     0     <1	Barium	ppm	ASTM D5185m		0	0	<1
Manganese     ppm     ASTM D5185m     0     <1	Molybdenum	ppm	ASTM D5185m		0	0	0
Magnesium     ppm     ASTM D5185m     0     <1	•					<1	<1
Calcium     ppm     ASTM D5185m     0     0     <1	•						
Phosphorus     ppm     ASTM D5185m     0     0     0       Zinc     ppm     ASTM D5185m     1     6     0       Sulfur     ppm     ASTM D5185m     50     0     26     0       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >15     1     2     1       Sodium     ppm     ASTM D5185m     >15     1     2     1       Potassium     ppm     ASTM D5185m     >20     0     <1	-					0	<1
Zinc     ppm     ASTM D5185m     1     6     0       Sulfur     ppm     ASTM D5185m     50     0     26     0       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >15     1     2     1       Sodium     ppm     ASTM D5185m     >15     1     2     1       Potassium     ppm     ASTM D5185m     >20     0     <1     1       Water     %     ASTM D5185m     >20     0     <1     <1       Water     %     ASTM D6304     >0.01     0.003     0.003     0.004       ppm Water     ppm     ASTM D7647     >1000     31     32.3     48.0       FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >10000     813     5817     2269       Particles >14µm     ASTM D7647     >200     13     65							
Sulfur     ppm     ASTM D5185m     50     0     26     0       CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m     >15     1     2     1       Sodium     ppm     ASTM D5185m     >15     0     <1     1       Potassium     ppm     ASTM D5185m     >20     0     <1     <1       Water     %     ASTM D6304     >0.01     0.003     0.003     0.004       ppm Water     ppm     ASTM D6304     >100     31     32.3     48.0       FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >10000     813     5817     2269       Particles >6µm     ASTM D7647     >2500     161     1168     538       Particles >14µm     ASTM D7647     >320     13     65     35       Particles >21µm     ASTM D7647     20     0     0							
CONTAMINANTS     method     limit/base     current     history1     history2       Silicon     ppm     ASTM D5185m<>15     1     2     1       Sodium     ppm     ASTM D5185m     >10     <1     1       Potassium     ppm     ASTM D5185m     >20     0     <1     1       Water     %     ASTM D6304     >0.01     0.003     0.003     0.004       ppm Water     ppm     ASTM D6304     >100     31     32.3     48.0       FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >10000     813     5817     2269       Particles >6µm     ASTM D7647     >2500     161     1168     538       Particles >4µm     ASTM D7647     >320     13     65     35       Particles >1µm     ASTM D7647     >20     0     0     0       Particles >38µm     ASTM D7647     >20     0     0     0     0	-			50			
Silicon   ppm   ASTM D5185m   >15   1   2   1     Sodium   ppm   ASTM D5185m   0   <1							-
Sodium     ppm     ASTM D5185m     0     <1							
Potassium     ppm     ASTM D5185m     >20     0     <1				>10			
Water     %     ASTM D6304     >0.01     0.003     0.003     0.004       ppm Water     ppm     ASTM D6304     >100     31     32.3     48.0       FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >10000     813     5817     2269       Particles >6µm     ASTM D7647     >2500     161     1168     538       Particles >6µm     ASTM D7647     >320     13     65     35       Particles >14µm     ASTM D7647     >80     5     11     5       Particles >38µm     ASTM D7647     >20     0     0     0       Particles >71µm     ASTM D7647     >4     0     0     0       Oli Cleanliness     ISO 4406 (c)     >20/18/15     17/15/11     20/17/13     18/16/12       FLUID DEGRADATION     method     limit/base     current     history1     history2				> 20			
ppm Water     ppm     ASTM D6304     >100     31     32.3     48.0       FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >10000     813     5817     2269       Particles >6µm     ASTM D7647     >2500     161     1168     538       Particles >6µm     ASTM D7647     >320     13     65     35       Particles >14µm     ASTM D7647     >80     5     11     5       Particles >21µm     ASTM D7647     >20     0     0     0       Particles >38µm     ASTM D7647     >4     0     0     0       Particles >71µm     ASTM D7647     >4     0     0     0       Oil Cleanliness     ISO 4406 (c)     >20/18/15     17/15/11     20/17/13     18/16/12       FLUID DEGRADATION     method     limit/base     current     history1     history2					-		
FLUID CLEANLINESS     method     limit/base     current     history1     history2       Particles >4µm     ASTM D7647     >10000     813     5817     2269       Particles >6µm     ASTM D7647     >2500     161     1168     538       Particles >6µm     ASTM D7647     >2200     13     65     35       Particles >14µm     ASTM D7647     >320     13     65     35       Particles >21µm     ASTM D7647     >80     5     11     5       Particles >38µm     ASTM D7647     >20     0     0     0       Particles >71µm     ASTM D7647     >4     0     0     0       Oil Cleanliness     ISO 4406 (c)     >20/18/15     17/15/11     20/17/13     18/16/12       FLUID DEGRADATION     method     limit/base     current     history1     history2							
Particles >4μm     ASTM D7647     >10000     813     5817     2269       Particles >6μm     ASTM D7647     >2500     161     1168     538       Particles >14μm     ASTM D7647     >320     13     65     35       Particles >21μm     ASTM D7647     >80     5     11     5       Particles >21μm     ASTM D7647     >20     0     0     0       Particles >38μm     ASTM D7647     >20     0     0     0       Particles >71μm     ASTM D7647     >4     0     0     0       Oll Cleanliness     ISO 4406 (c)     >20/18/15     17/15/11     20/17/13     18/16/12       FLUID DEGRADATION     method     limit/base     current     history1     history2							
Particles >6μm     ASTM D7647     >2500     161     1168     538       Particles >14μm     ASTM D7647     >320     13     65     35       Particles >21μm     ASTM D7647     >80     5     11     5       Particles >21μm     ASTM D7647     >20     0     0     0       Particles >38μm     ASTM D7647     >20     0     0     0       Particles >71μm     ASTM D7647     >4     0     0     0       Oil Cleanliness     ISO 4406 (c)     >20/18/15     17/15/11     20/17/13     18/16/12       FLUID DEGRADATION     method     limit/base     current     history1     history2		ESS					
Particles >14μm     ASTM D7647     >320     13     65     35       Particles >21μm     ASTM D7647     >80     5     11     5       Particles >28μm     ASTM D7647     >20     0     0     0       Particles >38μm     ASTM D7647     >20     0     0     0       Particles >71μm     ASTM D7647     >4     0     0     0       Oil Cleanliness     ISO 4406 (c)     >20/18/15     17/15/11     20/17/13     18/16/12       FLUID DEGRADATION     method     limit/base     current     history1     history2							
Particles >21μm     ASTM D7647     >80     5     11     5       Particles >38μm     ASTM D7647     >20     0     0     0       Particles >37μm     ASTM D7647     >20     0     0     0       Particles >71μm     ASTM D7647     >4     0     0     0       Oil Cleanliness     ISO 4406 (c)     >20/18/15     17/15/11     20/17/13     18/16/12       FLUID DEGRADATION     method     limit/base     current     history1     history2							
Particles >38μm     ASTM D7647     >20     0     0     0       Particles >71μm     ASTM D7647     >4     0     0     0       Oil Cleanliness     ISO 4406 (c)     >20/18/15     17/15/11     20/17/13     18/16/12       FLUID DEGRADATION     method     limit/base     current     history1     history2							
Particles >71μm     ASTM D7647     >4     0     0     0       Oil Cleanliness     ISO 4406 (c)     >20/18/15     17/15/11     20/17/13     18/16/12       FLUID DEGRADATION     method     limit/base     current     history1     history2							
Oil Cleanliness     ISO 4406 (c)     >20/18/15     17/15/11     20/17/13     18/16/12       FLUID DEGRADATION     method     limit/base     current     history1     history2	•						
FLUID DEGRADATION method limit/base current history1 history2	-						
	Oil Cleanliness		ISO 4406 (c)	>20/18/15	17/15/11	20/17/13	18/16/12
Acid Number (AN)     mg KOH/g     ASTM D974     0.005     0.015     0.027     0.013	FLUID DEGRADA	TION	method	limit/base	current	history1	history2
	Acid Number (AN)	mg KOH/g	ASTM D974	0.005	0.015	0.027	0.013



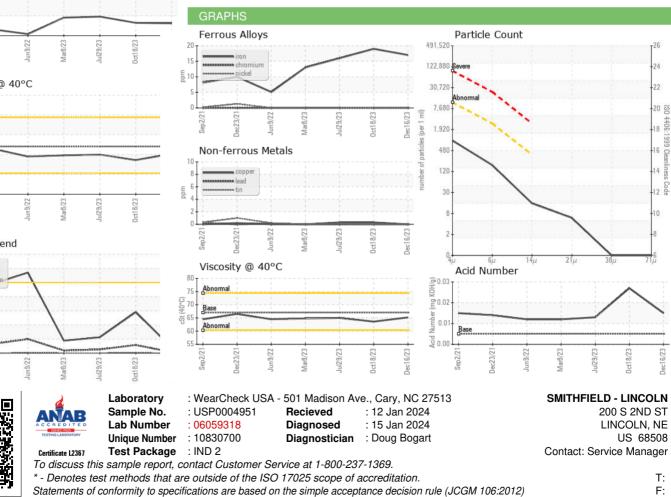
# **OIL ANALYSIS REPORT**







VISUAL		method	limit/base	current	history1	history2
VIOUNE		method				
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	LIGHT
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.01	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 40°C	cSt	ASTM D445	67	65.2	63.6	65.0
SAMPLE IMAGES		method	limit/base	current	history1	history2
Color				A - Ref. Ref. Ref. Ref. Ref. Ref. Ref. Ref.		
				17	All and	



Contact/Location: Service Manager - SMILIN