

# **OIL ANALYSIS REPORT**

#### Sample Rating Trend







Machine Id 813006 Component

Diesel Engine Fluid DIESEL ENGINE OIL SAE 40 (--- GAL)

## 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.

## Fluid Condition

The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

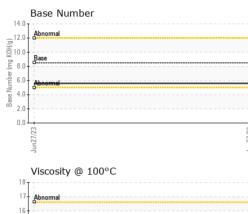
Sample Number       Client Info       27 Jun 2023           Machine Age       hrs       Client Info       1831           Oil Age       hrs       Client Info       1831           Oil Age       hrs       Client Info       NA           Oil Changed       Client Info       NA           CONTAMINATION       method       Imitbase       current       history 1       history 2         Fuel       WC Method       >5       <1.0           WEAR METALS       method       imitbase       current       history 1       history 2         Iron       ppm       ASTM 05185m       >100       38           Mickel       ppm       ASTM 05185m       >4       6           Sliver       ppm       ASTM 05185m       >4       1            Gopper       ppm       ASTM 05185m       >3       <1            Auminum       ppm       ASTM 05185m       >3	SAMPLE INFORI	VIATION	method	limit/base	current	history 1	history 2
Machine Age         hrs         Client Info         1831             Oil Ghanged         Client Info         N/A             Sample Status         Client Info         N/A             CONTAMINATION         method         Imit/base         current         History 1         History 2           Fuel         WC Method         >5         <1.0             Glycol         WC Method         >50         2.1             WEAR METALS         method         Imit/base         current         history 1         history 2           Iron         ppm         ASTM D5185n         >100         38             Mickel         ppm         ASTM D5185n         >20         2             Silver         ppm         ASTM D5185n         >3         <1             Lead         ppm         ASTM D5185n         >40         <1             Copper         ppm         ASTM D5185n         5         3             Mandaine         ppm	Sample Number		Client Info		GFL0083854		
Oil Age         hrs         Client Info         1831             Oil Changed         Client Info         N/A             Sample Status         Client Info         N/A             CONTAMINATION         method         limit/base         current         history 1         history 2           Fuel         WC Method         >5         <1.0	Sample Date		Client Info		27 Jun 2023		
Oil Changed         Client Info         N/A             Sample Status         Image Status	Machine Age	hrs	Client Info		1831		
Sample Status         Imit base         current         history 1         history 2           Fuel         WC Method         >5         <1.0             Glycol         WC Method         >5         <1.0             WEAR METALS         method         limit/base         current         history 1         history 2           Iron         ppm         ASTM D5185m         >100         38             Nickel         ppm         ASTM D5185m         >20         2             Nickel         ppm         ASTM D5185m         >20         2             Silver         ppm         ASTM D5185m         >20         <1             Lead         ppm         ASTM D5185m         >20         <1             Copper         ppm         ASTM D5185m         >30         32             Tin         ppm         ASTM D5185m         >15         3             Cadmin         ppm         ASTM D5185m         >10         0	Oil Age	hrs	Client Info		1831		
CONTAMINATION         method         limit/base         current         history 1         history 2           Fuel         WC Method         >5         <1.0             Qiycol         WC Method         >5         <1.0             WEAR METALS         method         limit/base         current         history 1         history 2           Iron         ppm         ASTM D5185m         >20         2             Nickel         ppm         ASTM D5185m         >4         6             Aluminum         ppm         ASTM D5185m         >4         6             Lead         ppm         ASTM D5185m         >20         <1             Copper         ppm         ASTM D5185m         >30         32             Cadmium         ppm         ASTM D5185m         >40         <1             Admium         ppm         ASTM D5185m         10         0             Admium         ppm         ASTM D5185m         10         0	Oil Changed		Client Info		N/A		
Fuel         WC Method         >5         <1.0	Sample Status				NORMAL		
Glycol         WC Method         NEG             WEAR METALS         method         limit/base         current         history 1         history 2           Iron         ppm         ASTM 05185m         >20         2             Nickel         ppm         ASTM 05185m         >20         2             Nickel         ppm         ASTM 05185m         >3         <1             Aluminum         ppm         ASTM 05185m         >20         <1             Lead         ppm         ASTM 05185m         >20         <1             Lead         ppm         ASTM 05185m         >330         32             Vanadium         ppm         ASTM 05185m         10         0             Vanadium         ppm         ASTM 05185m         10         0             Vanadium         ppm         ASTM 05185m         100         67             ADDIT/VES         method         limit/base         current         history 1 <td< th=""><th>CONTAMINAT</th><th>ION</th><th>method</th><th>limit/base</th><th>current</th><th>history 1</th><th>history 2</th></td<>	CONTAMINAT	ION	method	limit/base	current	history 1	history 2
WEAR METALS         method         limit/base         current         history 1         history 2           Iron         ppm         ASTM D5185m         >100         38             Ohromium         ppm         ASTM D5185m         >20         2             Nickel         ppm         ASTM D5185m         >20         2             Silver         ppm         ASTM D5185m         >3         <1             Lead         ppm         ASTM D5185m         >20         <1             Copper         ppm         ASTM D5185m         >20         <1             Lead         ppm         ASTM D5185m         >20         <1             Capper         ppm         ASTM D5185m         >20         <1             Vanadium         ppm         ASTM D5185m         0              Cadmium         ppm         ASTM D5185m         10         0             Marganese         ppm         ASTM D5185m	Fuel		WC Method	>5	<1.0		
Iron         ppm         ASTM 05185m         >100         38             Chromium         ppm         ASTM 05185m         >20         2             Nickel         ppm         ASTM 05185m         >4         6             Silver         ppm         ASTM 05185m         >3         <1             Lead         ppm         ASTM 05185m         >3         <1             Lead         ppm         ASTM 05185m         >3         <1             Lead         ppm         ASTM 05185m         >40         <1             Copper         ppm         ASTM 05185m         >330         32             Cadmium         ppm         ASTM 05185m         15         3             ADDITIVES         method         imit/base         current         history 1         history 2           Boron         ppm         ASTM 05185m         10         67             Magneesium         ppm         ASTM 05185m	Glycol		WC Method		NEG		
Chromium         ppm         ASTM D5185m         >20         2             Nickel         ppm         ASTM D5185m         >4         6             Titanium         ppm         ASTM D5185m         >3         <1             Silver         ppm         ASTM D5185m         >3         <1             Aluminum         ppm         ASTM D5185m         >20         <1             Lead         ppm         ASTM D5185m         >40         <1             Copper         ppm         ASTM D5185m         >40         <1             Cadmium         ppm         ASTM D5185m         >30         32             ADDITIVES         method         limit/base         current         history 1         history 2           Boron         ppm         ASTM D5185m         10         0             Magnesium         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m <th>WEAR METAL</th> <th>S</th> <th>method</th> <th>limit/base</th> <th>current</th> <th>history 1</th> <th>history 2</th>	WEAR METAL	S	method	limit/base	current	history 1	history 2
Chromium         ppm         ASTM D5185m         >20         2             Nickel         ppm         ASTM D5185m         >4         6             Titanium         ppm         ASTM D5185m         >3         <1	Iron	nnm	ASTM D5185m	>100	38		
Nickel         ppm         ASTM D5185m         >4         6             Titanium         ppm         ASTM D5185m         >3         <1							
Titanium         ppm         ASTM D5185m         0             Silver         ppm         ASTM D5185m         >3         <1							
Silver         ppm         ASTM D5185m         >3         <1             Aluminum         ppm         ASTM D5185m         >20         <1				21	-		
Aluminum         ppm         ASTM D5185m         >20         <1             Lead         ppm         ASTM D5185m         >40         <1				>3	-		
Lead         ppm         ASTM D5185m         >40         <1             Copper         ppm         ASTM D5185m         >330         32             Tin         ppm         ASTM D5185m         >15         3             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history 1         history 2           Boron         ppm         ASTM D5185m         250         8             Molybdenum         ppm         ASTM D5185m         10         0             Magnesium         ppm         ASTM D5185m         100         67             Calcium         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         150         862             Calcium         ppm         ASTM D5185m         150         1234 <th></th> <td></td> <td></td> <td></td> <th></th> <td></td> <td></td>							
Copper         ppm         ASTM D5185m         >330         32             Tin         ppm         ASTM D5185m         >15         3             Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history 1         history 2           Boron         ppm         ASTM D5185m         250         8             Molybdenum         ppm         ASTM D5185m         10         0             Magnesium         ppm         ASTM D5185m         10         67             Galcium         ppm         ASTM D5185m         10         67             Magnesium         ppm         ASTM D5185m         100         67             Galcium         ppm         ASTM D5185m         150         862             Sulfur         ppm         ASTM D5185m         150         216							
Tin         ppm         ASTM D5185m         >15         3             Vanadium         ppm         ASTM D5185m         0              Cadmium         ppm         ASTM D5185m         0              ADDITIVES         method         limit/base         current         history 1         history 2           Boron         ppm         ASTM D5185m         250         8             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         100         67             Calcium         ppm         ASTM D5185m         450         862             Sulfar         ppm         ASTM D5185m         1150							
Vanadium         ppm         ASTM D5185m         0             Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history 1         history 2           Boron         ppm         ASTM D5185m         250         8             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         150         862             Magnesium         ppm         ASTM D5185m         150         8120         2134             Calcium         ppm         ASTM D5185m         225         11             Sulfur         ppm         ASTM D5185m         >216							
Cadmium         ppm         ASTM D5185m         0             ADDITIVES         method         limit/base         current         history 1         history 2           Boron         ppm         ASTM D5185m         250         8             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         100         67             Calcium         ppm         ASTM D5185m         100         67             Calcium         ppm         ASTM D5185m         100         67             Calcium         ppm         ASTM D5185m         3000         1200             Sulfur         ppm         ASTM D5185m>25         11				210			
ADDITIVES         method         limit/base         current         history 1         history 2           Boron         ppm         ASTM D5185m         250         8             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         67             Manganese         ppm         ASTM D5185m         1         1             Magnesium         ppm         ASTM D5185m         450         862             Calcium         ppm         ASTM D5185m         150         1200             Phosphorus         ppm         ASTM D5185m         150         1234             Sulfur         ppm         ASTM D5185m         4250         2367             Sodium         ppm         ASTM D5185m         >25         11             Sodium         ppm         ASTM D5185m         >20         2        Notassium         ppm         ASTM D5185m<							
Boron         ppm         ASTM D5185m         250         8             Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         67             Manganese         ppm         ASTM D5185m         100         67             Magnesium         ppm         ASTM D5185m         10         1             Magnesium         ppm         ASTM D5185m         450         862             Calcium         ppm         ASTM D5185m         3000         1200             Phosphorus         ppm         ASTM D5185m         1350         1234             Zinc         ppm         ASTM D5185m         4250         2367             Sulfur         ppm         ASTM D5185m         >25         11             Sodium         ppm         ASTM D5185m         >20         2             Potassium         ppm <t< th=""><th></th><th></th><th>ام م مالح معا</th><th>line it /le e e e</th><th></th><th>latata mu d</th><th>bistom, O</th></t<>			ام م مالح معا	line it /le e e e		latata mu d	bistom, O
Barium         ppm         ASTM D5185m         10         0             Molybdenum         ppm         ASTM D5185m         100         67             Manganese         ppm         ASTM D5185m         1             Magnesium         ppm         ASTM D5185m         450         862             Calcium         ppm         ASTM D5185m         3000         1200             Calcium         ppm         ASTM D5185m         3000         1200             Phosphorus         ppm         ASTM D5185m         350         1234             Sulfur         ppm         ASTM D5185m         4250         2367             Solicon         ppm         ASTM D5185m         >25         11             Solicon         ppm         ASTM D5185m         >20         2             Sodium         ppm         ASTM D5185m         >20         2             NtFRA-RED         method         limit/base	ADDITIVES		method			riistory i	nistory ∠
Molybdenum         ppm         ASTM D5185m         100         67             Manganese         ppm         ASTM D5185m         450         862             Magnesium         ppm         ASTM D5185m         450         862             Calcium         ppm         ASTM D5185m         3000         1200             Phosphorus         ppm         ASTM D5185m         1150         935             Zinc         ppm         ASTM D5185m         1350         1234             Sulfur         ppm         ASTM D5185m         1350         1234             Sulfur         ppm         ASTM D5185m         4250         2367             Solicon         ppm         ASTM D5185m         >25         11             Sodium         ppm         ASTM D5185m         >20         2             NtFRA-RED         method         limit/base         current         history 1         history 2           Soot %         %         *ASTM D7844 <th></th> <th></th> <th></th> <th></th> <th></th> <th></th> <th></th>							
Manganese         ppm         ASTM D5185m         1             Magnesium         ppm         ASTM D5185m         450         862             Calcium         ppm         ASTM D5185m         3000         1200             Phosphorus         ppm         ASTM D5185m         1150         935             Zinc         ppm         ASTM D5185m         1150         935             Sulfur         ppm         ASTM D5185m         1350         1234             Sulfur         ppm         ASTM D5185m         4250         2367             Solicon         ppm         ASTM D5185m         4250         2367             Solium         ppm         ASTM D5185m         >25         11             Sodium         ppm         ASTM D5185m         >20         2             Potassium         ppm         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         cu					-		
Magnesium         ppm         ASTM D5185m         450         862             Calcium         ppm         ASTM D5185m         3000         1200             Phosphorus         ppm         ASTM D5185m         1150         935             Zinc         ppm         ASTM D5185m         1350         1234             Sulfur         ppm         ASTM D5185m         4250         2367             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         11             Sodium         ppm         ASTM D5185m         >216         5             Potassium         ppm         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         current         history 1         history 2           Soot %         %         *ASTM D7844         >3         0.9             Nitration         Abs/.m         *ASTM D7414<	Barium		ASTM D5185m	10	0		
Calcium         ppm         ASTM D5185m         3000         1200             Phosphorus         ppm         ASTM D5185m         1150         935             Zinc         ppm         ASTM D5185m         1350         1234             Sulfur         ppm         ASTM D5185m         4250         2367             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         11             Sodium         ppm         ASTM D5185m         >216         5             Potassium         ppm         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         current         history 1         history 2           Soot %         %         *ASTM D7844         >3         0.9             Nitration         Abs/.mm         *ASTM D7624         >20         11.0             Sulfation         Abs/.1mm         *ASTM	Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m	10	0 67		
Phosphorus         ppm         ASTM D5185m         1150         935             Zinc         ppm         ASTM D5185m         1350         1234             Sulfur         ppm         ASTM D5185m         4250         2367             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         11             Sodium         ppm         ASTM D5185m         >216         5             Potassium         ppm         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         current         history 1         history 2           Soot %         %         *ASTM D7844         >3         0.9             Nitration         Abs/cm         *ASTM D7624         >20         11.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.4        FLUID DEGRADATION         method         lim	Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	10 100	0 67 1		
Zinc         ppm         ASTM D5185m         1350         1234             Sulfur         ppm         ASTM D5185m         4250         2367             CONTAMINANTS         method         limit/base         current         history 1         history 2           Silicon         ppm         ASTM D5185m         >25         11             Sodium         ppm         ASTM D5185m         >216         5             Sodium         ppm         ASTM D5185m         >216         5             Potassium         ppm         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         current         history 1         history 2           Soot %         %         *ASTM D7844         >3         0.9             Nitration         Abs/cm         *ASTM D7624         >20         11.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.4             FLUID DEGRADATION         Method <th>Barium Molybdenum Manganese Magnesium</th> <td>ppm ppm ppm ppm</td> <td>ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m</td> <td>10 100 450</td> <th>0 67 1 862</th> <td></td> <td> </td>	Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	10 100 450	0 67 1 862		 
SulfurppmASTM D5185m42502367CONTAMINANTSmethodlimit/basecurrenthistory 1history 2SiliconppmASTM D5185m>2511SodiumppmASTM D5185m>2165PotassiumppmASTM D5185m>202INFRA-REDmethodlimit/basecurrenthistory 1history 2Soot %%*ASTM D7844>30.9NitrationAbs/cm*ASTM D7624>2011.0SulfationAbs/lim*ASTM D7415>3023.4FLUID DEGRADATIONmethodlimit/basecurrenthistory 1history 2OxidationAbs/.imm*ASTM D7414>2521.2	Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	10 100 450 3000	0 67 1 862 1200		  
CONTAMINANTSmethodlimit/basecurrenthistory 1history 2SiliconppmASTM D5185m>2511SodiumppmASTM D5185m>2165PotassiumppmASTM D5185m>202INFRA-REDmethodlimit/basecurrenthistory 1history 2Soot %%*ASTM D7844>30.9NitrationAbs/cm*ASTM D7624>2011.0SulfationAbs/.imm*ASTM D7415>3023.4FLUID DEGRADATIONmethodlimit/basecurrenthistory 1history 2OxidationAbs/.imm*ASTM D7414>2521.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	10 100 450 3000 1150	0 67 1 862 1200 935	  	
Silicon         ppm         ASTM D5185m         >25         11             Sodium         ppm         ASTM D5185m         >216         5             Potassium         ppm         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         current         history 1         history 2           Soot %         %         *ASTM D7844         >3         0.9             Nitration         Abs/cm         *ASTM D7624         >20         11.0             Sulfation         Abs/.im         *ASTM D7415         >30         23.4             FLUID DEGRADATION         method         limit/base         current         history 1         history 2           Oxidation         Abs/.im         *ASTM D7414         >25         21.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	10 100 450 3000 1150 1350	0 67 1 862 1200 935 1234	   	   
Sodium         ppm         ASTM D5185m         >216         5             Potassium         ppm         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         current         history 1         history 2           Soot %         %         *ASTM D7844         >3         0.9             Nitration         Abs/rm         *ASTM D7624         >20         11.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.4             FLUID DEGRADATION         method         limit/base         current         history 1         history 2           Oxidation         Abs/.1mm         *ASTM D7414         >25         21.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	10 100 450 3000 1150 1350	0 67 1 862 1200 935 1234	   	   
Potassium         ppm         ASTM D5185m         >20         2             INFRA-RED         method         limit/base         current         history 1         history 2           Soot %         %         *ASTM D7844         >3         0.9             Nitration         Abs/cm         *ASTM D7624         >20         11.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.4             FLUID DEGRADATION         method         limit/base         current         history 1         history 2           Oxidation         Abs/.1mm         *ASTM D7414         >25         21.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	10 100 450 3000 1150 1350 4250	0 67 1 862 1200 935 1234 2367		
INFRA-REDmethodlimit/basecurrenthistory 1history 2Soot %%*ASTM D7844>30.9NitrationAbs/cm*ASTM D7624>2011.0SulfationAbs/.1mm*ASTM D7415>3023.4FLUID DEGRADATIONmethodlimit/basecurrenthistory 1history 2OxidationAbs/.1mm*ASTM D7414>2521.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	0 67 1 862 1200 935 1234 2367 current		
Soot %         %         *ASTM D7844         >3         0.9             Nitration         Abs/cm         *ASTM D7624         >20         11.0             Sulfation         Abs/.1mm         *ASTM D7415         >30         23.4             FLUID DEGRADATION         method         limit/base         current         history 1         history 2           Oxidation         Abs/.1mm         *ASTM D7414         >25         21.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	0 67 1 862 1200 935 1234 2367 current 11		
Nitration         Abs/cm         *ASTM D7624         >20         11.0             Sulfation         Abs/.1mm         *ASTM D7624         >30         23.4             FLUID DEGRADATION         method         limit/base         current         history 1         history 2           Oxidation         Abs/.1mm         *ASTM D7414         >25         21.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b> ASTM D5185m	10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216	0 67 1 862 1200 935 1234 2367 current 11 5		
Sulfation         Abs/.1mm         *ASTM D7415         >30         23.4             FLUID DEGRADATION         method         limit/base         current         history 1         history 2           Oxidation         Abs/.1mm         *ASTM D7414         >25         21.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20	0 67 1 862 1200 935 1234 2367 current 11 5 2	     history 1  	     history 2  
FLUID DEGRADATION     method     limit/base     current     history 1     history 2       Oxidation     Abs/.1mm     *ASTM D7414     >25     21.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm TS	ASTM D5185m ASTM D5185m	10 100 450 3000 1150 1350 4250 <i>limit/base</i> >25 >216 >20 <i>limit/base</i>	0 67 1 862 1200 935 1234 2367 current 11 5 2 2	    history 1   history 1	     history 2   history 2
Oxidation Abs/.1mm *ASTM D7414 >25 21.2	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm	ASTM D5185m ASTM D5185m	10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b> >3	0 67 1 862 1200 935 1234 2367 current 11 5 2 2 current 0.9	     history 1   history 1 	    history 2   history 2 
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm	ASTM D5185m ASTM D5185m	10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b> >3 >20	0 67 1 862 1200 935 1234 2367 <u>current</u> 11 5 2 2 <u>current</u> 0.9 11.0	      history 1  history 1  history 1	     history 2  history 2  history 2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	10 100 450 3000 1150 1350 4250 imit/base >25 >216 >20 imit/base >3 >20 >30	0 67 1 862 1200 935 1234 2367 current 11 5 2 2 current 0.9 11.0 23.4	     history 1   history 1  history 1	      history 2  history 2  history 2
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAD	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7624 *ASTM D7615	10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b> >3 >20 >30	0 67 1 862 1200 935 1234 2367 current 11 5 2 2 current 0.9 11.0 23.4 current	<ul> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li>history 1</li> <li></li> <li></li> <li>history 1</li> <li></li> <li></li> <li>history 1</li> <li></li> <li>history 1</li> </ul>	<ul> <li></li> <li></li> <li></li> <li></li> <li></li> <li>history 2</li> <li></li> <li></li> <li>history 2</li> <li></li> <li></li> <li>history 2</li> <li></li> <li>history 2</li> </ul>
	Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation FLUID DEGRAM	ppm ppm ppm ppm ppm ppm ppm ppm TS ppm ppm ppm ppm ppm ppm ppm ppm ppm pp	ASTM D5185m ASTM D7844 *ASTM D7844 *ASTM D7624 *ASTM D7415	10 100 450 3000 1150 1350 4250 <b>imit/base</b> >25 >216 >20 <b>imit/base</b> >3 >20 >30 <b>imit/base</b>	0 67 1 862 1200 935 1234 2367 current 11 5 2 current 0.9 11.0 23.4 current 21.2	<ul> <li></li> <li></li> <li></li> <li></li> <li></li> <li></li> <li>history 1</li> <li></li> <li></li> <li>history 1</li> <li></li> <li></li> <li>history 1</li> <li></li> <li>history 1</li> </ul>	     history 2  history 2   history 2  



(0.001) 14 Base

13 Abnormal 12. 11 Jun27/23

# **OIL ANALYSIS REPORT**



	VISUAL		method	limit/base	current	history 1	history 2
	White Metal	scalar	*Visual	NONE	NONE		
	Yellow Metal	scalar	*Visual	NONE	NONE		
	Precipitate	scalar	*Visual	NONE	NONE		
	Silt	scalar	*Visual	NONE	NONE		
	Debris	scalar	*Visual	NONE	NONE		
	Sand/Dirt	scalar	*Visual	NONE	NONE		
Jun27/23	Appearance	scalar	*Visual	NORML	NORML		
Jun2	Odor	scalar	*Visual	NORML	NORML		
°C	Emulsified Water	scalar	*Visual	>0.2	NEG		
	Free Water	scalar	*Visual		NEG		
	FLUID PROPE	RTIES	method	limit/base	current	history 1	history 2
	Visc @ 100°C	cSt	ASTM D445	14.4	13.3		
	GRAPHS						
	Ferrous Alloys						
	40 iron						
	and a chromium						
	30						
Ē							
	15						
	10						
	5 -						
	0						
	Jun27/23			Jun27/23			
	Jun2			շոու			
	Non-ferrous Metals	5					
:	35 copper						
:	30 - management lead						
	25						
und d	20-						
dd .	15-						
	10-						
	5						
	0			23 -			
	Jun27/23			Jun27/			
	Viscosity @ 100°C			*	Daaa Nuurahau		
	18			14.0 T	Base Number		
	Abnormal			12.0	Abnormal		
	16 -			( <sup>B</sup> /H) 10.0	Basa		
(C) 00-00	15 Base			ي ق 8.0	Base		
est (100~c)	14 -			(B)H0.0 - (B)H0.0 - (B)H0.	Abnormal		
	13 Abnormal			₽ % 4.0+			
	Abnormal			2.0	1		
	11			0.0			
	7/23				7/23		7/23.
	Jun27/23			Jun27/23	Jun27/23		Jun27/23
Sample No. Lab Number Unique Number	: 05887263	Received Diagnose Diagnost	l : 29 J ed : 03 J ician : Jon	Jun 2023 Jul 2023 athan Hester	Conta	Frede	Houser Drive ericksburg, VA US 22408 AN ACCOUNT
* - Denotes test methods that are					CallierIII	e.anastasio@w	T:
Statements of conformity to specific					CGM 106:2012)		F:

Submitted By: TECHNICIAN ACCOUNT