## **OIL ANALYSIS REPORT**

### SICKENBERGER 460-237 CUMMINS/ONAN H220131871 - GENSET

Sample No:VPA058381Oil Type:NOT GIVEN

#### SAMPLE INFORMATION

Sample Date         20 Nov 2023              Machine Hours         343               Oll Hours         0               Oil Changed         N/A               Sample Status         MARGINAL               OIL Control                OIL Control                OUL Control                OUL Control                OUL Control         %         68               Control         %         71               Sold %         NEG                Sold %         NEG	SAMPLE INFURMA	IUN			
Machine Hours         343              Oil Hours         0              Sample Status         MARGINAL              OIL CONDITION               Visc @ 100°C         cSt         12.0              DAIL CONDITION                Correct         Status         0.0               Contation (PA)         %         68               Contation (PA)         %         71               Solf atom (PA)         %         71               NeEG                 Solf atom (PA)         %         71               Solf atom (PA)         MEG            <	Sample Number		VPA058381	 	
Oil Hours         O              Oil Changed         N/A              Sample Status         MARGINAL              OIL CONDITION               USIC @ 100°C         cSt         12.0              Dil CONDITION                Disc @ 100°C         cSt         12.0               Sample Status         mg CH/g         9.1               Oxidation (PA)         %         68               Soot %         %         10.1               Solution (PA)         %         53               Solution         ppm         22               Solution         ppm         18	Sample Date		20 Nov 2023	 	
Oil Changed       N/A            Sample Status       MARGINAL            OIL CONDITION       Visc @ 100°C       CSt       12.0            Base Number (BN)       mg KOH/g       9.1             Contamination (PA)       %       68             Contamination (PA)       %       0.1             Solt %       %       0.1             Sulfation (PA)       %       71             Sulfation (PA)       %       S3             Sulfation (PA)       %       2.7              Sulfation (PA)       %       2.7	Machine Hours		343	 	
Sample Status         MARGINAL              OIL CONDITION               Base Number (BN)         mg KOH/g         9.1              Coldation (PA)         %         68              CONTAMINATION               Water         %         NEG              Soot %         %         0.1              Soot %         %         53              Glycol         %         NEG              Solfation (PA)         %         53              Solfation (PA)         %         53              Solfation (PA)         %         53              Solfation (PA)         Ppm         12              Solfation (PA)         ppm         3	Oil Hours		0	 	
Sample Status         MARGINAL              OIL CONDITION               Base Number (BN)         mg KOH/g         9.1              Coldation (PA)         %         68              CONTAMINATION               Water         %         NEG              Soot %         %         0.1              Soot %         %         53              Glycol         %         NEG              Solfation (PA)         %         53              Solfation (PA)         %         53              Solfation (PA)         %         53              Solfation (PA)         Ppm         12              Solfation (PA)         ppm         3	Oil Changed		N/A	 	
Nice @ 100°C         CSt         12.0              Dase Number (BN)         mg KOH/g         9.1              Oxidation (PA)         %         68              CONTAMINATION         %         NEG              Water         %         NEG              Soot %         %         0.1              Soot %         %         0.1              Soot %         %         0.1              Soot %         %         71              Glycol         %         NEG              Soldition (PA)         %         2.7              Soldium         ppm         2.2              Soldium         ppm         2.1              Copper         ppm         1.1 <td></td> <td></td> <td></td> <td> </td> <td></td>				 	
Visc @ 100°C         cSt         12.0              Base Number (BN)         mg KOH/g         9.1              Oxidation (PA)         %         68              COTTAMINATION         ****               Soot %         %         0.1              Soot %         %         0.1              Soot %         %         0.1              Soot %         %         71              Sulfation (PA)         %         73              Glycol         %         NE6              Sulfation (PA)         %         2.7              Fuel         %         2.7               Sodium         pm         2.2               Potassium					
Base Number (BN)         mg KOH/g         9.1              Oxidation (PA)         %         68              CONTAMINATION         Water         %         NEG              Soot %         %         0.1               Soot %         %         71               Sulfation (PA)         %         53               Sulfation (PA)         %         A2.7               Fuel         %         A2.7               Sodium         ppm         22               Potassium         ppm         3               Iron         ppm         18               Lead         ppm         5               Molybdenum <td></td> <td><b>a</b>.</td> <td>- 10 0</td> <td></td> <td></td>		<b>a</b> .	- 10 0		
Oxidation (PA)         %         68              CONTAMINATION           Water         %         NEG              Solf %         ©         0.1              Nitration (PA)         %         71              Sulfation (PA)         %         53              Glycol         %         NEG              Sulfation (PA)         %         2.7              Soldium         ppm         22              Soldium         ppm         3              Verssium         ppm         20              Soldium         ppm         20              Werssium         ppm         21              Noted         ppm         63              Aluminum         ppm			_	 	
CONTAMINATION           Water         %         NEG              Soot %         %         0.1              Sitration (PA)         %         71              Sulfation (PA)         %         53              Glycol         %         NEG              Silfation (PA)         %         2.7              Silicon         ppm         22              Sodium         ppm         22              Potassium         ppm         23              WEAR METALS               Lead         ppm         18              Aluminum         ppm         63              Aluminum         ppm         63              Silver         ppm         3	. ,			 	
Water         %         NEG             Soot %         %         0.1              Nitration (PA)         %         71              Sulfation (PA)         %         53              Glycol         %         NEG              Fuel         %         2.7              Soldium         ppm         22              Soldium         ppm         3              VEAR METALS               Iron         ppm         20              Copper         ppm         18              Lead         ppm         5              Aluminum         ppm         63              Nickel         ppm         63 <t< td=""><td>Oxidation (PA)</td><td>%</td><td>68</td><td> </td><td></td></t<>	Oxidation (PA)	%	68	 	
Soot %       %       0.1            Nitration (PA)       %       71            Sulfation (PA)       %       53            Glycol       %       NEG            Fuel       %       A 2.7            Soldium       ppm       22            Sodium       ppm       2            Sodium       ppm       2            Sodium       ppm       3            Sodium       ppm       3            Sodium       ppm       3            Sodium       ppm       18            Lead       ppm       <1	CONTAMINATION				
Nitration (PA)       %       71            Sulfation (PA)       %       53            Glycol       %       NEG            Fuel       %       A 2,7            Solicon       ppm       22            Sodium       ppm       2            Sodium       ppm       2            Sodium       ppm       3             Notessium       ppm       3             VEAR METALS	Water	%	NEG	 	
Sulfation (PA)         %         53              Glycol         %         NEG              Fuel         %         2.7              Silicon         ppm         22              Sodium         ppm         22              Potassium         ppm         2              VEAR METALS                Veage         ppm         18              Copper         ppm         1              Aluminum         ppm         5              Aluminum         ppm         63              Molybdenum         ppm         63              Molybdenum         ppm         3              Maganese         ppm         0 </td <td>Soot %</td> <td>%</td> <td>0.1</td> <td> </td> <td></td>	Soot %	%	0.1	 	
Glycol       %       NEG            Fuel       %       2.7            Silicon       ppm       22            Sodium       ppm       2            Potassium       ppm       3            WEAR METALS              Copper       ppm       20             Lead       ppm       <18	Nitration (PA)	%	71	 	
Fuel       %       2.7             Silicon       ppm       22             Sodium       ppm       2             Potassium       ppm       3             WEAR METALS       Veran Metals              Iron       ppm       20             Copper       ppm       18            Lead       ppm       <1	Sulfation (PA)	%	53	 	
Fuel         %         ▲ 2.7              Silicon         ppm         22              Sodium         ppm         2              Potassium         ppm         3              WEAR METALS               Iron         ppm         20              Copper         ppm         18              Lead         ppm         <1	Glycol	%	NEG	 	
Silicon         ppm         22              Sodium         ppm         2              Potassium         ppm         3              WEAR METALS                Verage         ppm         20               Copper         ppm         18               Lead         ppm         <1		%	<b>A</b> 2.7	 	
Sodium         ppm         2              Potassium         ppm         3              WEAR METALS               Iron         ppm         20              Copper         ppm         18              Lead         ppm         <1	Silicon	ppm	22	 	
Potassium         ppm         3              WEAR METALS               Iron         ppm         20              Copper         ppm         18              Lead         ppm         <1			2	 	
WEAR METALS           Iron         ppm         20              Copper         ppm         18              Lead         ppm         <1				 	
Copper         ppm         18             Lead         ppm         <1		ppm	20	 	
Lead       ppm       <1			_	 	
Tin       ppm       <1			—		
Aluminum       ppm       5            Chromium       ppm       1            Molybdenum       ppm       63            Nickel       ppm       <1					
Chromium         ppm         1             Molybdenum         ppm         63              Nickel         ppm         <1					
Molybdenum         ppm         63             Nickel         ppm         <1					
Nickel         ppm         <1              Titanium         ppm         <1					
Titanium       ppm       <1            Silver       ppm       0            Manganese       ppm       3            Vanadium       ppm       0            ADDITIVES             Kagnesium       ppm       1709            Magnesium       ppm       635            Phosphorus       ppm       773            Barium       ppm       6	-				
Silver         ppm         0              Manganese         ppm         3              Vanadium         ppm         0              ADDITIVES               Calcium         ppm         1709             Magnesium         ppm         635             Zinc         ppm         934             Phosphorus         ppm         6             Barium         ppm         6					
Manganese         ppm         3             Vanadium         ppm         0              ADDITIVES                Calcium         ppm         1709              Magnesium         ppm         635              Zinc         ppm         934              Phosphorus         ppm         773              Barium         ppm         6					
Vanadium         ppm         0              ADDITIVES                Calcium         ppm         1709               Magnesium         ppm         635               Zinc         ppm         934               Phosphorus         ppm         773               Barium         ppm         6					
ADDITIVES           Calcium         ppm         1709              Magnesium         ppm         635              Zinc         ppm         934              Phosphorus         ppm         773              Barium         ppm         6	-				
Calcium         ppm         1709              Magnesium         ppm         635              Zinc         ppm         934              Phosphorus         ppm         773              Barium         ppm         6		ррш	U	 	
Magnesium         ppm         635             Zinc         ppm         934              Phosphorus         ppm         773              Barium         ppm         6	ADDITIVES				
Zinc         ppm         934              Phosphorus         ppm         773              Barium         ppm         6	Calcium	ppm		 	
Phosphorus         ppm         773              Barium         ppm         6	Magnesium	ppm	635	 	
Barium ppm <b>6</b>	Zinc	ppm	934	 	
	Phosphorus	ppm	773	 	
Boron ppm <b>45</b>	Barium	ppm	6	 	
	Boron	ppm	45	 	

Outstanding Marine PO Box 274 GALENA, MD US 21635 Contact: Ronda Bolinger rlwb@verizon.net T:

#### Diagnosis

No corrective action is recommended at this time. Resample at the next service interval to monitor. Please specify the brand, type, and viscosity of the oil on your next sample.All component wear rates are normal. Light fuel dilution occurring. The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

 Depot:
 VP153685

 Unique No:
 10764037

 Signed:
 Jonathan Hester

 Report Date:
 06 Dec 2023

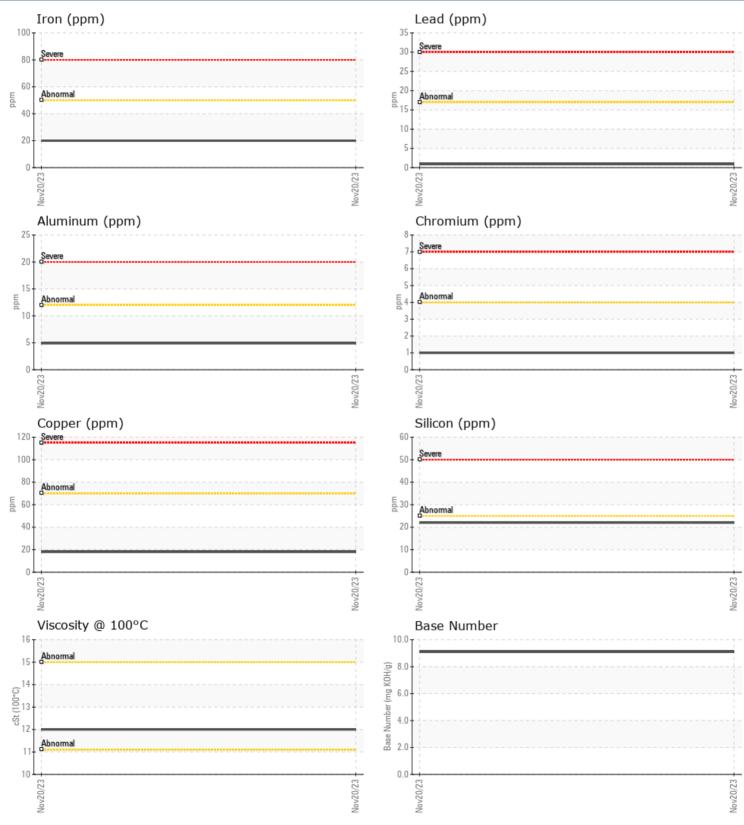
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Contact/Location: Ronda Bolinger - VP153685

# **OIL ANALYSIS REPORT**



#### GRAPHS



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Contact/Location: Ronda Bolinger - VP153685