



\*Maintaining Oil and Equipment Through Science\*

# Lubricant Analysis Report

North America: +1-877-971-7799

0	1	2	3	4
NORMAL		ABNORMAL		CRITICAL

Overall report severity based on comments.

Account Information		Component Information		Sample Information	
Account Number: JGLUBR-0007-0374 Company Name: DJ'S RV SERVICES Contact: DAVE KUIPER Address: 43316 WAYMARK PLACE BABCOCK RANCH, FL 33982 US Phone Number: 616-836-8500		Component ID: ██████████ Secondary ID: 2019 Tiffin ██████████ Component Type: DIESEL ENGINE Manufacturer: CUMMINS Model: ISL 9 Application: RECREATIONAL VEHICLE Sump Capacity:		Tracking Number: 20230T61533 Lab Number: I-619781 Lab Location: Indianapolis Data Analyst: AC Sampled: 31-Oct-2020 Submitted: 31-Oct-2020 Received: 05-Nov-2020 Completed: 05-Nov-2020	
Filter Information		Miscellaneous Information		Product Information	
Filter Type: <span style="color: blue;">Information Requested</span> Micron Rating: 0				Product Manufacturer: UNKNOWN Product Name: UNKNOWN Viscosity Grade: SAE 15W40	
Comments	Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Tin is at a MINOR LEVEL; TIN may be coming from Piston Flashing, Bearing Overlay, Bronze Alloy (usually in combination with Copper), or from a Babbitt material along with Copper and Lead. Please provide missing LUBRICANT MANUFACTURER to compare data to the correct standards.				

Sample #	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)					Additive Metals (ppm)					
	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	19	0	0	5	8	1	2	0	1	0	11	1	1	1	39	0	1	0	49	513	1742	1	1051	1230

Sample #	Sample Information								Contaminants			Fluid Properties					
	Date Sampled	Date Received	Lube Time	Unit Time	Lube Change	Lube Added	Filter Change	Fuel Dilution	Soot	Water	Viscosity 40°C	Viscosity 100 °C	Acid Number	Base No. D4739	Oxidation	Nitration	
			mi	mi	Lube Change	qt	Filter Change	% Vol	% Vol	% Vol	cSt	cSt	mg KOH/g	mg KOH/g	abs/cm	abs/0.1 mm	
1	31-Oct-2020	05-Nov-2020	12651	12651	Unk	0	Unk	1.1 - GC	<.1	<.1 - FTIR		13.3		5.80	12	8	

Sample #	Particle Count (particles/mL)										Additional Testing	
	ISO Code Based On 4/6/14	> 4 µm	> 6 µm	> 10 µm	> 14 µm	> 21 µm	> 38 µm	> 70 µm	> 100 µm	Test Method		
1	//											

Comments are advisory only and are based on the assumption that the sample and data submitted are valid. Results relate only to the items tested. Missing fluid or component information limits the evaluation. No warranty is expressed or implied. Measurement uncertainty available upon request.

Historical Comments



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Account Information		Component Information				Sample Information			
Account Number: JGLUBR-0007-0374 Company Name: DJ'S RV SERVICES Contact: DAVE KUIPER Address: 43316 WAYMARK PLACE BABCOCK RANCH, FL 33982 US Phone Number: 616-836-8500		Component ID: ██████████ Secondary ID: 2019 Tiffin ██████████ Component Type: COOLANT - CONVENTIONAL EG Manufacturer: ONAN Model: 10000QD Application: RECREATIONAL VEHICLE System Capacity:				Tracking Number: 20083A35816 Lab Number: I-620428 Lab Location: Indianapolis Data Analyst: JAS Sampled: 31-Oct-2020 Submitted: 31-Oct-2020 Received: 05-Nov-2020 Completed: 09-Nov-2020			
		Miscellaneous Information				Product Information			
						Product Manufacturer: UNKNOWN Product Name: UNKNOWN			
Comments		NO ABNORMAL CONDITIONS INDICATED. NO CORRECTIVE ACTION NEEDED. CONTINUE TO USE THIS COOLANT AND RESAMPLE AT NORMAL INTERVAL;							

Sample #	Sample Information				Corrosion Metals (ppm)										Contaminants (ppm)		Corrosion Inhibitors (ppm)				Carrier Salts (ppm/10)		
	Date Sampled	Date Received	Coolant Time	Unit Time	Coolant Change	SCA Added	Filter Change	Iron	Aluminum	Copper	Lead	Tin	Silver	Zinc	Titanium	Calcium	Magnesium	Silicon	Phosphates	Boron	Molybdenum	Sodium	Potassium
1	31-Oct-2020	05-Nov-2020	233	233	Unk	0	Unk	0	0	1	0	0	0	5		1	0	43	1429	121	220	104	184

Visual Testing							
#	Foam	Color	Oil	Fuel	Magnetic Precipitate	Non-Magnetic Precipitation	Odor
1	None	Clear Green / Blue	None	None	None	Minor Flake	None

Basic Testing									
#	Freeze Point (°F)	Boil Point (°F)	Antifreeze Percent (%)	pH Waters (pH)	Total Hardness (ppm)	Nitrite (ppm)	Specific Conductance (µS)	SCA Number	Carboxylic Acid (Pass / Fail)
1	-33	225	50	8.8	4	1300 - Strip	2219	2.0	

Additional Testing	
Sample #	Total Dissolved Solids (ppm)
1	1176

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Account Information	Component Information	Sample Information
Account Number: JGLUBR-0007-0374 Company Name: DJ'S RV SERVICES Contact: DAVE KUIPER Address: 43316 WAYMARK PLACE BABCOCK RANCH, FL 33982 US Phone Number: 616-836-8500	Component ID: ██████████ Secondary ID: 2019 Tiffin ██████████ Component Type: DIESEL ENGINE Manufacturer: ONAN Model: 10000QD Application: RECREATIONAL VEHICLE Sump Capacity:	Tracking Number: 20230T61534 Lab Number: I-619782 Lab Location: Indianapolis Data Analyst: AC Sampled: 31-Oct-2020 Submitted: 31-Oct-2020 Received: 05-Nov-2020 Completed: 05-Nov-2020
Filter Information	Miscellaneous Information	Product Information
Filter Type: <a href="#">Information Requested</a> Micron Rating: 0		Product Manufacturer: UNKNOWN Product Name: UNKNOWN Viscosity Grade: SAE 15W40
<b>Comments</b> Please provide missing LUBRICANT MANUFACTURER to compare data to the correct standards.		

Sample #	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)					Additive Metals (ppm)					
	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	4	0	0	0	1	0	0	0	0	0	5	1	4	0	5	0	0	1	185	69	2219	0	992	1152

Sample #	Sample Information							Contaminants			Fluid Properties					
	Date Sampled	Date Received	Lube Time	Unit Time	Lube Change	Lube Added	Filter Change	Fuel Dilution	Soot	Water	Viscosity 40°C	Viscosity 100 °C	Acid Number	Base No. D4739	Oxidation	Nitration
			h	h		qt		% Vol	% Vol	% Vol	cSt	cSt	mg KOH/g	mg KOH/g	abs/cm	abs/0.1 mm
1	31-Oct-2020	05-Nov-2020	233	233	Unk	0	Unk	<1 - Estimate	<.1	<.1 - FTIR		13.7		7.13	13	7

Sample #	Particle Count (particles/mL)										Additional Testing	
	ISO Code	> 4 μm	> 6 μm	> 10 μm	> 14 μm	> 21 μm	> 38 μm	> 70 μm	> 100 μm	Test Method		
1	//											

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Account Information	Component Information	Sample Information
Account Number: JGLUBR-0007-0374 Company Name: DJ'S RV SERVICES Contact: DAVE KUIPER Address: 43316 WAYMARK PLACE BABCOCK RANCH, FL 33982 US Phone Number: 616-836-8500	Component ID: ██████████ Secondary ID: 2019 Tiffin ██████████ Component Type: AUTO/POWERSHIFT TRANSMISSION Manufacturer: ALLISON Model: 3000 6 SPEED Application: RECREATIONAL VEHICLE Sump Capacity:	Tracking Number: 20230T61535 Lab Number: I-619918 Lab Location: Indianapolis Data Analyst: RMF Sampled: 31-Oct-2020 Submitted: 31-Oct-2020 Received: 05-Nov-2020 Completed: 06-Nov-2020
Filter Information	Miscellaneous Information	Product Information
Filter Type: <span style="color: blue;">Information Requested</span> Micron Rating: 0		Product Manufacturer: UNKNOWN Product Name: UNKNOWN Viscosity Grade: CUSTOM GRADE
Comments	Flagged data does not indicate an immediate need for maintenance action. Continue to observe the trend and monitor equipment and fluid conditions. Acid Number is MODERATELY HIGH, which may be due to oxidation, contamination with an acidic product, extended drain interval, or lubricant mixing. Please provide missing LUBRICANT MANUFACTURER to compare data to the correct standards.	

Sample #	Wear Metals (ppm)										Contaminant Metals (ppm)			Multi-Source Metals (ppm)					Additive Metals (ppm)					
	Iron	Chromium	Nickel	Aluminum	Copper	Lead	Tin	Cadmium	Silver	Vanadium	Silicon	Sodium	Potassium	Titanium	Molybdenum	Antimony	Manganese	Lithium	Boron	Magnesium	Calcium	Barium	Phosphorus	Zinc
1	42	0	1	4	6	8	0	0	0	0	5	11	2	0	1	0	2	0	150	9	184	0	399	43

Sample #	Sample Information							Contaminants			Fluid Properties					
	Date Sampled	Date Received	Lube Time	Unit Time	Lube Change	Lube Added	Filter Change	Fuel Dilution	Soot	Water	Viscosity 40°C	Viscosity 100 °C	Acid Number	Base No. D4739	Oxidation	Nitration
			mi	mi		qt		% Vol	% Vol	% Vol	cSt	cSt	mg KOH/g	mg KOH/g	abs/cm	abs/0.1 mm
1	31-Oct-2020	05-Nov-2020	12651	12651	Unk	0	Unk			<.1 - FTIR		7.1	1.58		67	4

Sample #	Particle Count (particles/mL)										Additional Testing
	ISO Code	> 4 µm	> 6 µm	> 10 µm	> 14 µm	> 21 µm	> 38 µm	> 70 µm	> 100 µm	Test Method	
1	//										

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Account Information		Component Information		Sample Information	
Account Number: JGLUBR-0007-0374 Company Name: DJ'S RV SERVICES Contact: DAVE KUIPER Address: 43316 WAYMARK PLACE BABCOCK RANCH, FL 33982 US Phone Number: 616-836-8500		Component ID: ██████████ Secondary ID: 2019 Tiffin ██████████ Component Type: COOLANT - CONVENTIONAL EG Manufacturer: CUMMINS Model: ISL 9 Application: RECREATIONAL VEHICLE System Capacity:		Tracking Number: 20083A35817 Lab Number: I-620409 Lab Location: Indianapolis Data Analyst: JAS Sampled: 31-Oct-2020 Submitted: 31-Oct-2020 Received: 05-Nov-2020 Completed: 09-Nov-2020	
		Miscellaneous Information		Product Information	
				Product Manufacturer: UNKNOWN Product Name: UNKNOWN	
Comments	Coolant change is suggested if not done at sampling time. Consult Owner's Manual or engine OEM for correct coolant type when installing new coolant. The nitrite level is low. We are unable to evaluate the condition of the coolant corrosion inhibitors due to missing or unknown coolant manufacturer and/or product (fluid) name information. The pH level is slightly low. This may indicate inadequate buffers, an air leak, localized overheating, mixing of coolant formulations, or over extending coolant. Total Hardness is at a MINOR LEVEL; Hardness may be due to source water that does not meet specifications, a water softener not functioning properly, or outside contaminants entering the system. Is unit type specified correctly? Please advise; Resample at normal interval;				

Sample #	Sample Information				Corrosion Metals (ppm)							Contaminants (ppm)		Corrosion Inhibitors (ppm)			Carrier Salts (ppm/10)						
	Date Sampled	Date Received	Coolant Time	Unit Time	Coolant Change	SCA Added	Filter Change	Iron	Aluminum	Copper	Lead	Tin	Silver	Zinc	Titanium	Calcium	Magnesium	Silicon	Phosphates	Boron	Molybdenum	Sodium	Potassium
1	31-Oct-2020	05-Nov-2020	12651	12651	Unk	0	Unk	0	1	1	0	0	0	1		19	2	15	45	8	191	355	394

Visual Testing							
#	Foam	Color	Oil	Fuel	Magnetic Precipitate	Non-Magnetic Precipitation	Odor
1	None	Clear Dark Pink	None	None	None	None	None

Basic Testing									
#	Freeze Point (°F)	Boil Point (°F)	Antifreeze Percent (%)	pH Waters (pH)	Total Hardness (ppm)	Nitrite (ppm)	Specific Conductance (µS)	SCA Number	Carboxylic Acid (Pass / Fail)
1	-50	227	56	7.9	53	5 - Strip	4700	0.0	

Additional Testing	
Sample #	Total Dissolved Solids (ppm)
1	2491

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