

0	1	2	3	4
NORMAL		ABNORMAL		CRITICAL

066421

Overall report severity based on comments.

Account Information		Component Information		Sample Information	
Company Name: E Address: t		Component ID: 0109 E Secondary ID: 171064-0109E Component Type: DIESEL ENGINE Manufacturer: NAVISTAR Model: Information Requested Application: UNKNOWN Sump Capacity: 30 gal		Tracking Number: Lab Number: Lab Location: Data Analyst: JAS Sampled: 26-Dec-2019 Submitted: 27-Dec-2019 Received: 02-Jan-2020 Completed: 03-Jan-2020	
Filter Information		Miscellaneous Information		Product Information	
Filter Type: Information Requested Micron Rating: 0				Product Manufacturer: CITGO Product Name: CITGARD 700 SYNTHETIC BLEND Viscosity Grade: SAE 15W40	
Comments	Suggest INSPECTING COOLING SYSTEM (head gasket, heads, seals, EGR gaskets, etc.) for leaks. Coolant Indicators (Sodium and/or Potassium) are at a SEVERE LEVEL. Suspect most of the copper may be coming from the lubricant cooler and/or EGR cooler (as applicable). Please provide COMPONENT MODEL number to compare data to the correct standards for this component. Unit hours/miles/kilometers not provided for this sample. Lubricant and filter change acknowledged. Resample at half interval.				

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
8	20	1	0	4	21	6	1	0	0		5	228	1704		150	1			5	850	948	1	889	1055
9	18	0	0	3	34	8	0	0	0		4	253	1867		175	1			4	865	915	1	882	1038
10	18	0	0	4	25	6	0	0	0		3	313	1893		180	1			5	884	951	0	927	1073
11	13	0	0	4	28	4	0	0	0		2	205	1917		128	0			4	832	911	0	906	1073
12	29	0	2	1	89	8	1	0	0	0	7	253	3873	0	132	2	0	0	3	673	819	0	874	972

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
8	19-Apr-2018	07-May-2018	288	14002	Unk	0	Unk	% Vol	0.4 - E2412	<.1 - FTIR	cSt	12.5	mg KOH/g	mg KOH/g	abs/cm	abs/0.1 mm
9	26-Sep-2018	08-Oct-2018	322	14324	Unk	0	Unk	% Vol	0.5 - E2412	<.1 - FTIR		12.9				
10	27-Feb-2019	15-Mar-2019	14671	14718	Unk	0	Unk	% Vol	0.3 - E2412	<.1 - FTIR		12.7				
11	09-Aug-2019	21-Aug-2019	0	14923	Unk	0	Unk	% Vol	0.4 - E2412	<.1 - FTIR		13.0				
12	26-Dec-2019	02-Jan-2020	266	0	Yes	0	Yes	<1 - Estimate	0.1 - E2412	<.1 - FTIR		14.9				

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		
8	//											
9	//											
10	//											
11	//											
12	//											

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

DG6421

