

OIL ANALYSIS REPORT

Sample Rating Trend





Component Diesel Engine Fluid AMERIGUARD 15W40 (--- GAL)

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor. **Wear**

Metal levels are typical for a new component breaking in.

Contamination

Elevated aluminum (AI) and/or lead (Pb) and potassium (K) levels in your metals analysis are likely a result of solder flux release into the lubricant and is common on new equipment/components. There is no indication of any contamination in the oil.

Fluid Condition

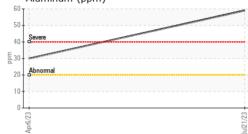
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

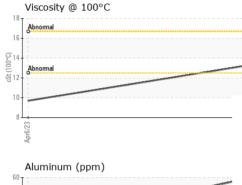
			Apr2023	Jul2023		
SAMPLE INFORM		method	limit/base	current	history1	history2
			mmbasc			
Sample Number		Client Info		SBP0001718	SBP0001651	
Sample Date		Client Info		21 Jul 2023	06 Apr 2023	
Machine Age	mls	Client Info		40205	19417	
Oil Age	mls	Client Info		20788	19417	
Oil Changed		Client Info		Changed	Changed	
Sample Status				NORMAL	NORMAL	
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	0.3	
Glycol		WC Method		NEG	NEG	
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	29	50	
Chromium	ppm	ASTM D5185m	>20	2	2	
Nickel	ppm	ASTM D5185m	>4	<1	<1	
Titanium	ppm	ASTM D5185m		0	0	
Silver	ppm	ASTM D5185m	>3	0	<1	
Aluminum	ppm	ASTM D5185m	>20	59	30	
Lead	ppm	ASTM D5185m	>40	3	0	
Copper	ppm	ASTM D5185m	>330	399	209	
Tin	ppm	ASTM D5185m	>15	1	3	
Vanadium	ppm	ASTM D5185m		<1	0	
Cadmium	ppm	ASTM D5185m		0	0	
ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	method ASTM D5185m	limit/base	current 4	history1 45	history2
	ppm ppm		limit/base			
Boron		ASTM D5185m	limit/base	4	45	
Boron Barium	ppm	ASTM D5185m ASTM D5185m	limit/base	4 0	45 0	
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 61	45 0 45	
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 61 1	45 0 45 4	
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 61 1 997	45 0 45 4 584	
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 61 1 997 1257	45 0 45 4 584 1718	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 61 1 997 1257 1008	45 0 45 4 584 1718 794	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 61 1 997 1257 1008 1209	45 0 45 4 584 1718 794 968	
Boron 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 ASTM D5185m		4 0 61 1 997 1257 1008 1209 2929	45 0 45 4 584 1718 794 968 2844	
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base	4 0 61 1 997 1257 1008 1209 2929 current	45 0 45 4 584 1718 794 968 2844 history1	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base	4 0 61 1 997 1257 1008 1209 2929 current 4	45 0 45 4 584 1718 794 968 2844 history1 7	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m method ASTM D5185m	limit/base	4 0 61 1 997 1257 1008 1209 2929 2929 current 4 4	45 0 45 4 584 1718 794 968 2844 bistory1 7 8	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20	4 0 61 1 997 1257 1008 1209 2929 current 4 4 133	45 0 45 4 584 1718 794 968 2844 history1 7 8 92	 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	4 0 61 1 997 1257 1008 1209 2929 current 4 4 133 current	45 0 45 584 1718 794 968 2844 history1 7 8 92 history1	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3	4 0 61 1 997 1257 1008 1209 2929 current 4 4 133 current 0.4	45 0 45 4 584 1718 794 968 2844 history1 7 8 92 history1 0.3	 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20	4 0 61 1 997 1257 1008 1209 2929 current 4 4 133 current 0.4 8.4	45 0 45 4 584 1718 794 968 2844 history1 7 8 92 history1 0.3 7.9	history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	limit/base >25 >20 limit/base >3 >20 >3 >20	4 0 61 1 997 1257 1008 1209 2929 current 4 4 133 current 0.4 8.4 19.9	45 0 45 4 584 1718 794 968 2844 history1 7 8 92 history1 0.3 7.9 21.3	 history2 history2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D7844 *ASTM D7844	limit/base >25 >20 limit/base >3 >20 >30 >30	4 0 61 1 997 1257 1008 1209 2929 current 4 4 133 current 0.4 8.4 19.9 current	45 0 45 4 584 1718 794 968 2844 history1 7 8 92 history1 0.3 7.9 21.3 history1	 history2 history2 history2 history2

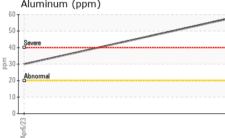


OIL ANALYSIS REPORT

Aluminum (ppm)







VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Precipitate	scalar	*Visual	NONE	NONE	NONE	
Silt	scalar	*Visual	NONE	NONE	NONE	
Debris	scalar	*Visual	NONE	NONE	NONE	
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	
Appearance	scalar	*Visual	NORML	NORML	NORML	
Odor	scalar	*Visual	NORML	NORML	NORML	
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	
Free Water	scalar	*Visual		NEG	NEG	
FLUID PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445		13.2	9.7	
GRAPHS						
Ferrous Alloys						
40						
Apr6/23			Jul21/23			
Non-ferrous Meta	ls		~			
000 copper 150 lead 100 tin						
50						
00						
50-						
00						
50 -						

Jul21/23

Jul21/23 -

Base Number

9.0

8.0

(67.0 6.0 0 Bull 5.0

檀 4.0 3.0 ase 6 2.0

1.0 0.0

Apr6/23



: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sapp Bros. Fleet - Ogallala Location Laboratory Sample No. : SBP0001718 Received : 22 Aug 2023 Lab Number : 05931394 Diagnosed : 23 Aug 2023 Unique Number : 10616665 Diagnostician : Wes Davis Test Package : FLEET Contact: Service Manager Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. * - Denotes test methods that are outside of the ISO 17025 scope of accreditation.

Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

ur6/23

18

17

16

10

8

Apr6/23

Viscosity @ 100°C

Page 2 of 2

US

Jul21/23