

OIL ANALYSIS REPORT

Area Pillen Family Farms Machine Id LSTK63 Component

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

DIAGNOSIS

Recommendation

Resample at the next service interval to monitor.

Wear

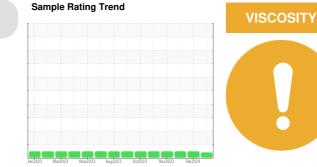
All component wear rates are normal.

Contamination

Tests indicate that there is no fuel present in the oil. There is no indication of any contamination in the oil.

Fluid Condition

The oil viscosity is lower than normal. The BN result indicates that there is suitable alkalinity remaining in the oil. Confirm oil type.

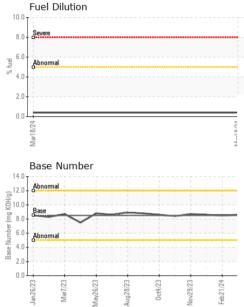


SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0006813	SBP0005336	SBP0006171
Sample Date		Client Info		18 Mar 2024	21 Feb 2024	12 Jan 2024
Machine Age	mls	Client Info		12000	12000	12000
Oil Age	mls	Client Info		0	0	12000
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				ATTENTION	NORMAL	NORMAL
CONTAMINATIO	N	method	limit/base	current	history1	history2
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	8	17	5
Chromium	ppm	ASTM D5185m	>20	<1	1	<1
Nickel	ppm	ASTM D5185m	>4	0	<1	0
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	3	6	4
Lead	ppm	ASTM D5185m	>40	0	<1	1
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	0	<1	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
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ADDITIVES		method	limit/base	current	history1	history2
Boron	ppm	ASTM D5185m	250	0	nistory i 1	0
	ppm ppm					
Boron		ASTM D5185m	250	0	1	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	0 0	1 0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	0 0 55	1 0 65	0 0 61
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	0 0 55 0	1 0 65 0	0 0 61 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	0 0 55 0 964	1 0 65 0 1028	0 0 61 <1 923
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	0 0 55 0 964 1049	1 0 65 0 1028 1112	0 0 61 <1 923 1012
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	250 10 100 450 3000 1150	0 0 55 0 964 1049 900	1 0 65 0 1028 1112 1115	0 0 61 <1 923 1012 1019
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	250 10 100 450 3000 1150 1350	0 0 55 0 964 1049 900 1194	1 0 65 0 1028 1112 1115 1343	0 0 61 <1 923 1012 1019 1182
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	250 10 100 450 3000 1150 1350 4250	0 0 55 0 964 1049 900 1194 3342	1 0 65 0 1028 1112 1115 1343 3490	0 0 61 <1 923 1012 1019 1182 2903
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	250 10 100 450 3000 1150 1350 4250 limit/base >25	0 0 55 0 964 1049 900 1194 3342 current	1 0 65 0 1028 1112 1115 1343 3490 history1	0 0 61 <1 923 1012 1019 1182 2903 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	250 10 100 450 3000 1150 1350 4250 limit/base >25	0 0 55 0 964 1049 900 1194 3342 current 2	1 0 65 0 1028 1112 1115 1343 3490 history1 5	0 0 61 <1 923 1012 1019 1182 2903 history2 3
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	0 0 55 0 964 1049 900 1194 3342 <u>current</u> 2 2	1 0 65 0 1028 1112 1115 1343 3490 history1 5 3	0 0 61 <1 923 1012 1019 1182 2903 history2 3 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	0 0 555 0 964 1049 900 1194 3342 <u>current</u> 2 2 2 0 0 0.4	1 0 65 0 1028 1112 1115 1343 3490 history1 5 3 2	0 0 61 <1 923 1012 1019 1182 2903 history2 3 2 <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 >5	0 0 55 0 964 1049 900 1194 3342 <u>current</u> 2 2 0 0 0.4	1 0 65 0 1028 1112 1115 1343 3490 history1 5 3 2 2 <1.0	0 0 61 <1 923 1012 1019 1182 2903 history2 3 2 <1 <1.0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 20 >25 >216 >20 >5 20 >5 216 >20 >23	0 0 55 0 964 1049 900 1194 3342 <u>current</u> 2 2 2 0 0 0.4 <u>current</u>	1 0 65 0 1028 1112 1115 1343 3490 history1 5 3 2 <1.0 history1 0.6	0 0 61 <1 923 1012 1019 1182 2903 history2 3 2 2 <1 <1.0 history2 0.6
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 method *ASTM D7844	250 10 100 450 3000 1150 1350 4250 20 >25 >216 >20 >5 20 >5 216 >20 >23	0 0 55 0 964 1049 900 1194 3342 <u>current</u> 2 2 0 0 0.4	1 0 65 0 1028 1112 1115 1343 3490 history1 5 3 2 <1.0 history1	0 0 61 <1 923 1012 1019 1182 2903 history2 3 2 <1 <1.0 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D3524 method *ASTM D7844	250 10 100 450 3000 1150 1350 4250 20 >25 >216 >20 >5 20 imit/base >3 >20	0 0 55 0 964 1049 900 1194 3342 current 2 2 2 0 0.4 0.4 current	1 0 65 0 1028 1112 1115 1343 3490 history1 5 3 2 <1.0 history1 0.6 6.8	0 0 61 <1 923 1012 1019 1182 2903 history2 3 2 <1 <1.0 history2 0.6 6.4
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5244 *ASTM D7844 *ASTM D7624 *ASTM D7415	250 10 100 450 3000 1150 1350 4250 imit/base >25 >216 >20 >5 imit/base >3 >20 >30 >30	0 0 555 0 964 1049 900 1194 3342 Current 2 2 2 0 0 0.4 0.4 0.6 6.5 19.2 current	1 0 65 0 1028 1112 1115 1343 3490 history1 5 3 2 <1.0 history1 0.6 6.8 19.3 history1	0 0 61 <1 923 1012 1019 1182 2903 history2 3 2 <1 <1.0 history2 0.6 6.4 19.2 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Fuel INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25 >216 >216 >20 >5 3 3 20 >3 30 >30 imit/base >3 >30	0 0 55 0 964 1049 900 1194 3342 <u>current</u> 2 2 2 0 0 0.4 <u>current</u> 0.6 6.5 19.2	1 0 65 0 1028 1112 1115 1343 3490 history1 5 3 2 <1.0 history1 0.6 6.8 19.3	0 0 61 <1 923 1012 1019 1182 2903 history2 3 2 <1 <1.0 history2 0.6 6.4 19.2



OIL ANALYSIS REPORT





VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
Emulsified Water	scalar	*Visual	>0.2	NEG	NEG	NEG
Free Water	scalar	*Visual		NEG	NEG	NEG
FLUID PROPERT	IES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	<mark> </mark> 11.8	13.7	13.6
GRAPHS						

Ferrous Alloys 20 15 He 10 -eb21/24 Jan 26/23 Mar7/23 ug28/23 Det4/73 CUSCINE Non-ferrous Metals 10 ead 2 eh21/24 an 76/ /ar Viscosity @ 100°C Base Number 14.0 12.0 16 (mg KOH/g) 10.0 (100°C) (100°C) (100°C) (100°C) (100°C) (100°C) (15°C) (15°C) (15°C) (15°C) (15°C) (15°C) (15°C) (15°C) (16°C) (16 Ba 8. umber 6.0 Abnorm Base | 4 (12 2.0 10 0.0 Feb21/24. Jan26/23 0ct4/23 Mar7/23 0ct4/23 Mar7/23 Mav26/23 Aug28/23 Vov29/23 an26/23 Mav26/23 Aug28/23 Vov29/23 Feb21/24 Pillen Family Farms - 722828 Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Sample No. : SBP0006813 Received : 28 Mar 2024 26741 NE-91 Lab Number : 06132697 Tested : 02 Apr 2024 Humphrey, NE Unique Number : 10952162 Diagnosed : 02 Apr 2024 - Sean Felton US 61357



Test Package : FLEET (Additional Tests: FuelDilution, PercentFuel) Contact: Troy Runge Certificate L2367 troyfr@pillenfamilyfarms.com 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. T: (308)390-6733 Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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