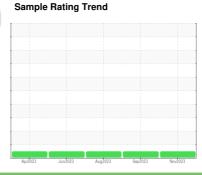


OIL ANALYSIS REPORT

Pillen Family Farms **LSTK 72**

Component **Diesel Engine**

DIESEL ENGINE OIL SAE 40 (--- GAL)





Recommendation

Resample at the next service interval to monitor.

All component wear rates are normal.

Contamination

There is no indication of any contamination in the

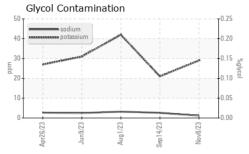
Fluid Condition

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

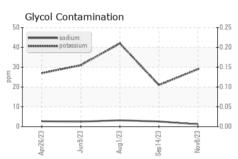
SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0006191	SBP0001007	SBP0002386
Sample Date		Client Info		08 Nov 2023	14 Sep 2023	01 Aug 2023
Machine Age	hrs	Client Info		0	0	0
Oil Age	hrs	Client Info		0	0	0
Oil Changed		Client Info		N/A	N/A	N/A
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATION	N	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	8	12
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	<1
Titanium	ppm	ASTM D5185m		0	0	<1
Silver	ppm	ASTM D5185m	>3	0	<1	<1
Aluminum	ppm	ASTM D5185m	>20	4	6	10
Lead	ppm	ASTM D5185m	>40	2	0	1
Copper	ppm	ASTM D5185m	>330	<1	<1	2
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		<1	0	<1
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	250	current 2	3	0
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	250 10	2 0	3	0
Boron Barium Molybdenum	ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250	2 0 48	3 0 65	0 0 59
Boron Barium Molybdenum Manganese	ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	2 0 48 0	3 0 65 <1	0 0 59 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	2 0 48 0 984	3 0 65 <1 1057	0 0 59 <1 998
Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	2 0 48 0 984 839	3 0 65 <1 1057 1156	0 0 59 <1 998 1093
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	2 0 48 0 984 839 903	3 0 65 <1 1057 1156 1206	0 0 59 <1 998 1093 1009
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	2 0 48 0 984 839 903 1154	3 0 65 <1 1057 1156 1206 1442	0 0 59 <1 998 1093 1009
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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250	2 0 48 0 984 839 903	3 0 65 <1 1057 1156 1206 1442 3584	0 0 59 <1 998 1093 1009 1262 3552
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base	2 0 48 0 984 839 903 1154 2726	3 0 65 <1 1057 1156 1206 1442 3584 history1	0 0 59 <1 998 1093 1009 1262 3552 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	2 0 48 0 984 839 903 1154 2726 current	3 0 65 <1 1057 1156 1206 1442 3584 history1	0 0 59 <1 998 1093 1009 1262 3552 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216	2 0 48 0 984 839 903 1154 2726 current 4	3 0 65 <1 1057 1156 1206 1442 3584 history1 6 3	0 0 59 <1 998 1093 1009 1262 3552 history2 7
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	2 0 48 0 984 839 903 1154 2726 current 4 1	3 0 65 <1 1057 1156 1206 1442 3584 history1 6 3	0 0 59 <1 998 1093 1009 1262 3552 history2 7 3 42
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	2 0 48 0 984 839 903 1154 2726 current 4 1 29 NEG	3 0 65 <1 1057 1156 1206 1442 3584 history1 6 3 21 NEG	0 0 59 <1 998 1093 1009 1262 3552 history2 7 3 42 NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *ASTM D2982 *Method	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216	2 0 48 0 984 839 903 1154 2726 current 4 1 29 NEG	3 0 65 <1 1057 1156 1206 1442 3584 history1 6 3 21 NEG	0 0 59 <1 998 1093 1009 1262 3552 history2 7 3 42 NEG
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *ASTM D2982 *Method *ASTM D7844	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	2 0 48 0 984 839 903 1154 2726 current 4 1 29 NEG current 0.3	3 0 65 <1 1057 1156 1206 1442 3584 history1 6 3 21 NEG history1	0 0 59 <1 998 1093 1009 1262 3552 history2 7 3 42 NEG history2 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm 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 *ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	2 0 48 0 984 839 903 1154 2726 current 4 1 29 NEG current 0.3 6.5	3 0 65 <1 1057 1156 1206 1442 3584 history1 6 3 21 NEG history1 0.3 6.5	0 0 59 <1 998 1093 1009 1262 3552 history2 7 3 42 NEG history2 0.3 6.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *ASTM D2982 *Method *ASTM D7844	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	2 0 48 0 984 839 903 1154 2726 current 4 1 29 NEG current 0.3	3 0 65 <1 1057 1156 1206 1442 3584 history1 6 3 21 NEG history1	0 0 59 <1 998 1093 1009 1262 3552 history2 7 3 42 NEG history2 0.3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration	ppm ppm ppm 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 *ASTM D7844 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	2 0 48 0 984 839 903 1154 2726 current 4 1 29 NEG current 0.3 6.5	3 0 65 <1 1057 1156 1206 1442 3584 history1 6 3 21 NEG history1 0.3 6.5	0 0 59 <1 998 1093 1009 1262 3552 history2 7 3 42 NEG history2 0.3 6.5
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium Glycol INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m *ASTM D7844 *ASTM D7624 *ASTM D76145	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base >3 >20 >30	2 0 48 0 984 839 903 1154 2726 current 4 1 29 NEG current 0.3 6.5 18.4	3 0 65 <1 1057 1156 1206 1442 3584 history1 6 3 21 NEG history1 0.3 6.5 18.5	0 0 59 <1 998 1093 1009 1262 3552 history2 7 3 42 NEG history2 0.3 6.5 18.6



OIL ANALYSIS REPORT



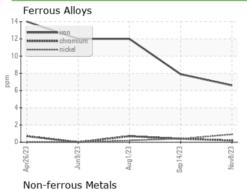
7		
Abnormal	 	
i + i		
Base	 	
Abnormal		

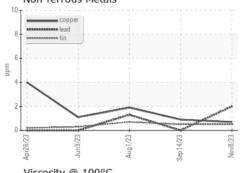


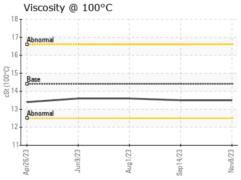
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	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

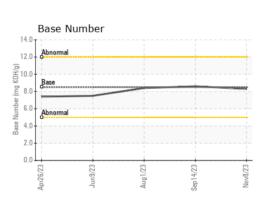
FLUID PROPERTIES		method				history2	
Visc @ 100°C	cSt	ASTM D445	14.4	13.5	13.5	13.6	

GRAPHS













Laboratory Sample No. Lab Number Unique Number : 10776845

: 06027054

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 : SBP0006191

Received Diagnosed

: 06 Dec 2023 : 08 Dec 2023 Diagnostician : Don Baldridge

Test Package : FLEET (Additional Tests: Glycol) 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)

Pillen Family Farms - 722828

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troyfr@pillenfamilyfarms.com T: (308)390-6733