

# **OIL ANALYSIS REPORT**

# Pillen Family Farms LSTK 68

Component **Diesel Engine** 

**DIESEL ENGINE OIL SAE 40 (--- GAL)** 

Sample Rating Trend



### Recommendation

Resample at the next service interval to monitor. Please specify the component make and model with your next sample. Please specify the brand, type, and viscosity of the oil on your next sample.

### Wear

All component wear rates are normal.

### Contamination

There is no indication of any contamination in the

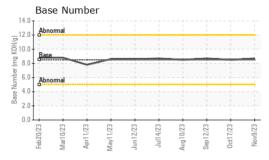
### **Fluid Condition**

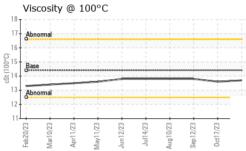
The BN result indicates that there is suitable alkalinity remaining in the oil. The condition of the oil is suitable for further service.

SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0006183	SBP0006227	SBP0001005
Sample Date		Client Info		09 Nov 2023	17 Oct 2023	12 Sep 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	V	method	limit/base	current	history1	history2
Fuel		WC Method	>5	<1.0	<1.0	<1.0
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	4	8	6
Chromium	ppm	ASTM D5185m	>20	<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	<1	<1	0
Titanium	ppm	ASTM D5185m		0	<1	0
Silver	ppm	ASTM D5185m	>3	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	2	<1
Lead	ppm	ASTM D5185m	>40	<1	<1	0
Copper	ppm	ASTM D5185m	>330	<1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	0
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		0	<1	0
				•	~ 1	o .
ADDITIVES		method	limit/base		history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base			
				current	history1	history2
Boron	ppm	ASTM D5185m	250	current 2	history1	history2 <1
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	250 10	current 2 0	history1 2 3	history2 <1 0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	current 2 0 51	history1 2 3 63	history2 <1 0 56
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	current 2 0 51 0	history1 2 3 63	history2 <1 0 56 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	current 2 0 51 0 954	history1 2 3 63 0 941	history2 <1 0 56 <1 974
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	current 2 0 51 0 954 1042	history1 2 3 63 0 941 1116	history2 <1 0 56 <1 974 1054
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	current 2 0 51 0 954 1042 969	history1  2  3  63  0  941  1116  1026	history2 <1 0 56 <1 974 1054 1031
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	250 10 100 450 3000 1150	current 2 0 51 0 954 1042 969 1227	history1  2  3  63  0  941  1116  1026  1256	history2 <1 0 56 <1 974 1054 1031 1274
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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	250 10 100 450 3000 1150 1350 4250	current 2 0 51 0 954 1042 969 1227 2600	history1  2  3  63  0  941  1116  1026  1256  3173	history2 <1 0 56 <1 974 1054 1031 1274 3119
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	current  2  0  51  0  954  1042  969  1227  2600  current	history1  2  3  63  0  941  1116  1026  1256  3173  history1	history2  <1 0 56 <1 974 1054 1031 1274 3119 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25	current  2  0  51  0  954  1042  969  1227  2600  current  4	history1  2  3  63  0  941  1116  1026  1256  3173  history1  4	history2  <1 0 56 <1 974 1054 1031 1274 3119 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	current  2  0  51  0  954  1042  969  1227  2600  current  4	history1  2  3 63 0 941 1116 1026 1256 3173 history1  4 0	history2  <1 0 56 <1 974 1054 1031 1274 3119 history2 4
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 >216 >20	current  2  0  51  0  954  1042  969  1227  2600  current  4  2  3	history1  2  3  63  0  941  1116  1026  1256  3173  history1  4  0  6	history2 <1 0 56 <1 974 1054 1031 1274 3119 history2 4 2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	current  2  0 51  0 954  1042 969 1227 2600  current  4  2 3  current	history1  2  3 63 0 941 1116 1026 1256 3173 history1  4 0 6	history2 <1 0 56 <1 974 1054 1031 1274 3119 history2 4 2 2 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  Method  *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 >216 >20 limit/base	current  2 0 51 0 954 1042 969 1227 2600 current 4 2 3 current	history1  2  3  63  0  941  1116  1026  1256  3173  history1  4  0  6  history1  0.3	history2 <1 0 56 <1 974 1054 1031 1274 3119 history2 4 2 2 history2 0.3
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  METHOD  *ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m  METHOD	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20 limit/base	current  2  0  51  0  954  1042  969  1227  2600  current  4  2  3  current  0.2  5.7	history1  2  3 63 0 941 1116 1026 1256 3173 history1 4 0 6 history1 0.3 6.3	history2 <1 0 56 <1 974 1054 1031 1274 3119 history2 4 2 2 history2 0.3 6.4
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  Method  *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	current  2 0 51 0 954 1042 969 1227 2600 current 4 2 3 current 0.2 5.7 18.2	history1  2  3  63  0  941  1116  1026  1256  3173  history1  4  0  6  history1  0.3  6.3  18.7	history2 <1 0 56 <1 974 1054 1031 1274 3119 history2 4 2 2 history2 0.3 6.4 18.6



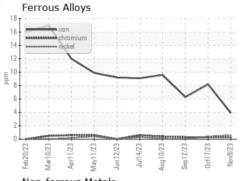
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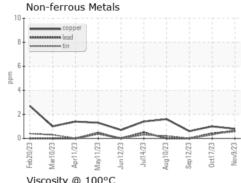


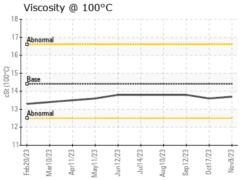


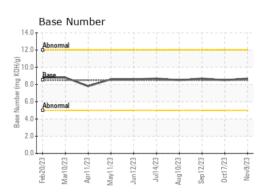
VISUAL		method	limit/base	current	history1	history2
White Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Yellow Metal	scalar	*Visual	NONE	NONE	NONE	NONE
Precipitate	scalar	*Visual	NONE	NONE	NONE	NONE
Silt	scalar	*Visual	NONE	NONE	NONE	NONE
Debris	scalar	*Visual	NONE	NONE	NONE	NONE
Sand/Dirt	scalar	*Visual	NONE	NONE	NONE	NONE
Appearance	scalar	*Visual	NORML	NORML	NORML	NORML
Odor	scalar	*Visual	NORML	NORML	NORML	NORML
<b>Emulsified Water</b>	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	13.7	13.6	13.8













Certificate L2367

Laboratory Sample No.

Lab Number

Unique Number : 10776839 Test Package : FLEET

: SBP0006183 : 06027048

: WearCheck USA - 501 Madison Ave., Cary, NC 27513 Received : 06 Dec 2023 Diagnosed Diagnostician : Wes Davis

: 07 Dec 2023

26741 NE-91 Humphrey, NE US 61357 Contact: Troy Runge troyfr@pillenfamilyfarms.com T: (308)390-6733

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