

## **OIL ANALYSIS REPORT**

### Area **Pillen Family Farms LSTK 68** Component

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

#### DIAGNOSIS

### 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

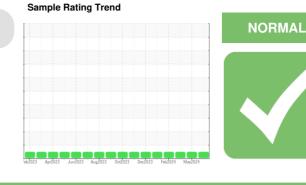
Metal levels are typical for a new component breaking in.

### Contamination

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.



SAMPLE INFORM	<b>IATION</b>	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0006855	SBP0006876	SBP0006808
Sample Date		Client Info		11 Jun 2024	08 May 2024	15 Apr 2024
Machine Age	mls	Client Info		12000	12000	12000
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINATIO	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
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	7	7	8
Chromium	ppm	ASTM D5185m	>20	<1	<1	0
Nickel	ppm	ASTM D5185m	>4	<1	0	0
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	<1	<1	0
Aluminum	ppm	ASTM D5185m	>20	3	<1	0
Lead	ppm	ASTM D5185m	>40	<1	<1	1
Copper	ppm	ASTM D5185m	>330	1	0	0
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		<1	0	0
Cadmium	ppm	ASTM D5185m		<1	0	0
	1-1-				0	0
ADDITIVES	1- 1-	method	limit/base	current	history1	history2
	ppm		limit/base 250		-	-
ADDITIVES		method		current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	250	current <1	history1 0	history2 0
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m ASTM D5185m	250 10	current <1 1	history1 0 0	history2 0 0
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	250 10	current <1 1 60	history1 0 0 61	history2 0 0 62
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	current <1 1 60 <1	history1 0 0 61 <1	history2 0 0 62 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	current <1 1 60 <1 949	history1 0 0 61 <1 1085	history2 0 0 62 0 1070
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	<1           1           60           <1           949           1093	history1 0 0 61 <1 1085 1226	history2 0 0 62 0 1070 1181
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	<1           1           60           <1           949           1093           1137	history1 0 0 61 <1 1085 1226 1154	history2 0 0 62 0 1070 1181 1142
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350	current           <1           1           60           <1           949           1093           1137           1270	history1 0 0 61 <1 1085 1226 1154 1445	history2 0 0 62 0 1070 1181 1142 1412
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250	<1	history1 0 0 61 <1 1085 1226 1154 1445 4002	history2           0           0           62           0           1070           1181           1142           1412           3841           history2           3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS	ppm ppm ppm ppm ppm ppm ppm ppm	method 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 <1 1 60 <1 949 1093 1137 1270 3287 current	history1 0 0 61 <1 1085 1226 1154 1445 4002 history1	history2 0 0 62 0 1070 1181 1142 1412 3841 history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b>	<1         1         60         <1         949         1093         1137         1270         3287         current         4	history1           0           0           61           <1           1085           1226           1154           1445           4002           history1           3	history2           0           0           62           0           1070           1181           1142           1412           3841           history2           3
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216	<1         1         60         <1         949         1093         1137         1270         3287         current         4         1	history1           0           0           61           <1           1085           1226           1154           1445           4002           history1           3           <1	history2           0           0           62           0           1070           1181           1142           1412           3841           history2           3           2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20	<1         1         60         <1         949         1093         1137         1270         3287         current         4         1         3	history1           0           0           61           <1           1085           1226           1154           1445           4002           history1           3           <1           1	history2           0           0           62           0           1070           1181           1142           1412           3841           history2           3           2           <1
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 20 <b>Imit/base</b> >216 >20 <b>Imit/base</b>	<1         1         60         <1         949         1093         1137         1270         3287         current         4         1         3         current	history1         0         0         61         <1         1085         1226         1154         1445         4002         history1         3         <1         <1         history1	history2         0         0         62         0         1070         1181         1142         1412         3841         history2         3         2         <1         history2
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur Sulfur Silicon Sodium Potassium INFRA-RED Soot %	ppm ppm ppm ppm ppm ppm ppm ppm ppm ppm	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b> >3	current         <1         1         60         <1         949         1093         1137         1270         3287         current         4         1         3         current         0.3	history1         0         0         61         <1         1085         1226         1154         1445         4002         history1         3         <1         <1         history1         0         0.4	history2         0         0         62         0         1070         1181         1142         1412         3841         history2         3         2         <1         history2         0         0.3
ADDITIVES 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	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>i</b> mit/base >25 >216 >20 <b>i</b> mit/base >3 >20	current         <1         60         <1         949         1093         1137         1270         3287         current         4         1         3         current         0.3         6.1	history1         0         0         61         <1         1085         1226         1154         1445         4002         history1         3         <1         -1         0         0.4         6.2	history2           0           0           62           0           1070           1181           1142           1412           3841           history2           3           2           <1           history2           0.3           6.5
ADDITIVES 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	method           ASTM D5185m           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >216 >216 >20 <b>Imit/base</b> >3 >20 >30	<1         1         60         <1         949         1093         1137         1270         3287         current         4         1         3         current         0.3         6.1         18.3	history1         0         0         61         <1         1085         1226         1154         1445         4002         history1         3         <1         <1         0.4         6.2         18.6	history2         0         0         62         0         1070         1181         1142         1412         3841         history2         3         2         <1         history2         0.3         6.5         19.0

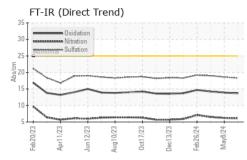


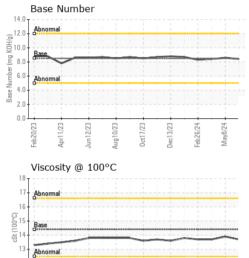
12

eb20/23

Apr11/23

# **OIL ANALYSIS REPORT**





0ct17/23

Jec13/23

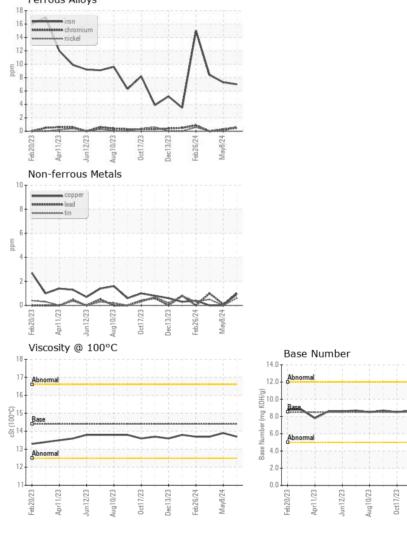
ua10/23

Mav8/24

eb26/24

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	13.7	13.9	13.7
GRAPHS						

Ferrous Alloys



Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Pillen Family Farms - 722828 Sample No. : SBP0006855 Received : 24 Jun 2024 26741 NE-91 Lab Number : 06219225 Tested : 25 Jun 2024 Humphrey, NE US 61357 Unique Number : 11097422 Diagnosed : 25 Jun 2024 - Wes Davis Test Package : FLEET Contact: Troy Runge Certificate 12367 To discuss this sample report, contact Customer Service at 1-800-237-1369. troyfr@pillenfamilyfarms.com T: (308)390-6733 \* - 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) F:

Report Id: PILHUM [WUSCAR] 06219225 (Generated: 06/25/2024 15:36:00) Rev: 1

Submitted By: JUSTIN HANSON

Dec13/23

eb26/24 May8/24

Page 2 of 2