

OIL ANALYSIS REPORT

Area **Pillen Family Farms LSTK 72** 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

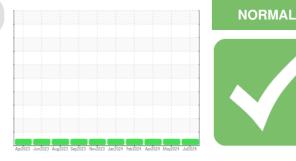
Metal levels are typical for a new component breaking in.

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.



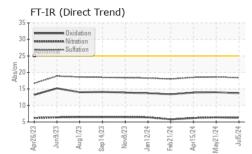
SAMPLE INFORM	IATION	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0005396	SBP0006845	SBP0006809
Sample Date		Client Info		05 Jul 2024	21 May 2024	15 Apr 2024
Machine Age	mls	Client Info		12000	12000	12000
Oil Age	mls	Client Info		0	0	0
Oil Changed		Client Info		Not Changd	Not Changd	Not Changd
Sample Status				NORMAL	NORMAL	NORMAL
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
Glycol		WC Method		NEG	NEG	NEG
WEAR METALS		method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>100	5	7	6
Chromium	ppm	ASTM D5185m	>20	0	<1	0
Nickel	ppm	ASTM D5185m	>4	0	0	0
Titanium	ppm	ASTM D5185m		0	0	0
Silver	ppm	ASTM D5185m	>3	0	<1	0
Aluminum	ppm	ASTM D5185m	>20	2	1	<1
Lead	ppm	ASTM D5185m	>40	0	<1	<1
Copper	ppm	ASTM D5185m	>330	<1	0	0
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	current 4	history1 0	history2 0
	ppm ppm					
Boron		ASTM D5185m	250	4	0	0
Boron Barium	ppm	ASTM D5185m ASTM D5185m	250 10	4 0	0	0
Boron Barium Molybdenum	ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	4 0 56	0 0 62	0 0 63
Boron Barium Molybdenum Manganese	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	4 0 56 0	0 0 62 <1	0 0 63 0
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	4 0 56 0 950	0 0 62 <1 1118	0 0 63 0 1081
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	4 0 56 0 950 1061	0 0 62 <1 1118 1251	0 0 63 0 1081 1177
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	250 10 100 450 3000 1150	4 0 56 0 950 1061 1031	0 0 62 <1 1118 1251 1194	0 0 63 0 1081 1177 1151
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	4 0 56 0 950 1061 1031 1259	0 0 62 <1 1118 1251 1194 1497	0 0 63 0 1081 1177 1151 1411
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	250 10 100 450 3000 1150 1350 4250	4 0 56 0 950 1061 1031 1259 3564	0 0 62 <1 1118 1251 1194 1497 4163	0 0 63 0 1081 1177 1151 1411 3974
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	250 10 100 450 3000 1150 1350 4250	4 0 56 0 950 1061 1031 1259 3564 current	0 0 62 <1 1118 1251 1194 1497 4163 history1	0 0 63 0 1081 1177 1151 1411 3974 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 imit/base >25	4 0 56 0 950 1061 1031 1259 3564 <i>current</i> 4	0 0 62 <1 1118 1251 1194 1497 4163 history1 3	0 0 63 0 1081 1177 1151 1411 3974 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 ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216	4 0 56 0 950 1061 1031 1259 3564 <u>current</u> 4 2	0 0 62 <1 1118 1251 1194 1497 4163 history1 3 1	0 0 63 0 1081 1177 1151 1411 3974 history2 3 2
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	250 10 100 450 3000 1150 1350 4250 limit/base >25 >216 >20	4 0 56 0 950 1061 1031 1259 3564 current 4 2 5	0 0 62 <1 1118 1251 1194 1497 4163 history1 3 1 3 1 3	0 0 63 0 1081 1177 1151 1411 3974 history2 3 2 2
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	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >216 >216 >20 Iimit/base	4 0 56 0 950 1061 1031 1259 3564 <i>current</i> 4 2 5 <i>current</i>	0 0 62 <1 1118 1251 1194 1497 4163 history1 3 1 3 1 3 history1	0 0 63 0 1081 1177 1151 1411 3974 history2 3 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 Iimit/base >25 >216 >216 >20 Iimit/base	4 0 56 0 950 1061 1031 1259 3564 <i>current</i> 4 2 5 <i>current</i> 0.3	0 0 62 <1 1118 1251 1194 1497 4163 history1 3 1 3 1 3 history1 0.3	0 0 63 0 1081 1177 1151 1411 3974 history2 3 2 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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 i mit/base >25 >216 >20 i mit/base >3 >20	4 0 56 0 950 1061 1031 1259 3564 <i>current</i> 4 2 5 <i>current</i> 0.3 6.3	0 0 62 <1 1118 1251 1194 1497 4163 history1 3 1 3 1 3 history1 0.3 6.4	0 0 63 0 1081 1177 1151 1411 3974 history2 3 2 2 history2 0.3 6.2
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	250 10 100 450 3000 1150 1350 4250 Imit/base >216 >216 >20 Imit/base >3 >20 >30	4 0 56 0 950 1061 1031 1259 3564 <i>current</i> 4 2 5 <i>current</i> 0.3 6.3 18.4	0 0 62 <1 1118 1251 1194 1497 4163 history1 3 1 3 history1 0.3 6.4 18.6	0 0 63 0 1081 1177 1151 1411 3974 history2 3 2 2 history2 0.3 6.2 18.5
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 *ASTM D7844	250 10 100 450 3000 1150 1350 4250 20 216 >216 >20 >20 imit/base >3 >20 >30	4 0 56 0 950 1061 1031 1259 3564 <i>current</i> 4 2 5 <i>current</i> 0.3 6.3 18.4 <i>current</i>	0 0 62 <1 1118 1251 1194 1497 4163 history1 3 1 3 history1 0.3 6.4 18.6 history1	0 0 63 0 1081 1177 1151 1411 3974 history2 3 2 2 history2 0.3 6.2 18.5 history2

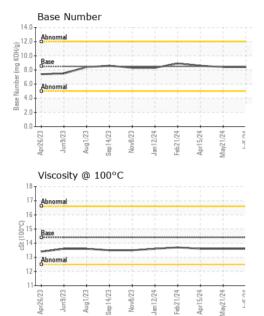
Sample Rating Trend



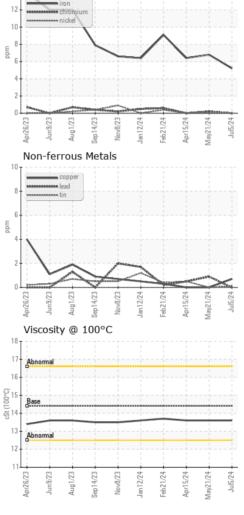
OIL ANALYSIS REPORT

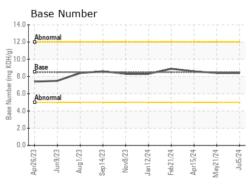
Ferrous Alloys





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 PROPER	TIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.6	13.6	13.6





Laboratory : WearCheck USA - 501 Madison Ave., Cary, NC 27513 Pillen Family Farms - 722828 : SBP0005396 Sample No. Received : 17 Jul 2024 26741 NE-91 Lab Number : 06239786 Tested : 18 Jul 2024 Humphrey, NE US 61357 Unique Number : 11128620 Diagnosed : 18 Jul 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 * - 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) F:

Report Id: PILHUM [WUSCAR] 06239786 (Generated: 07/18/2024 14:35:09) Rev: 1

Submitted By: JUSTIN HANSON

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