

## **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. 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

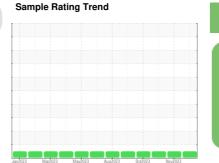
All component wear rates are normal.

#### Contamination

There is no indication of any contamination in the 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.



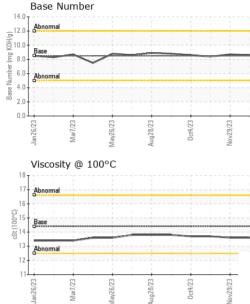


NORMAL

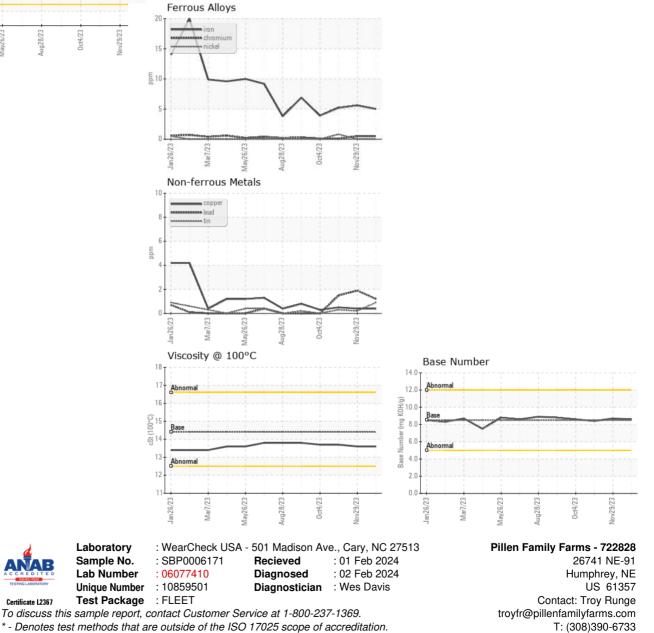
SAMPLE INFORM	ΛΑΤΙΟΝ	method	limit/base	current	history1	history2
Sample Number		Client Info		SBP0006171	SBP0006264	SBP0006217
Sample Date		Client Info		12 Jan 2024	29 Nov 2023	02 Nov 2023
Machine Age	mls	Client Info		12000	0	0
Oil Age	mls	Client Info		12000	0	0
Oil Changed		Client Info		Not Changd	N/A	N/A
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	5	6	5
Chromium	ppm	ASTM D5185m		<1	<1	<1
Nickel	ppm	ASTM D5185m	>4	0	0	<1
Titanium	ppm	ASTM D5185m		<1	0	0
Silver	ppm	ASTM D5185m	>3	0	0	<1
Aluminum	ppm	ASTM D5185m	>20	4	3	3
Lead	ppm	ASTM D5185m	>40	1	2	2
Copper	ppm	ASTM D5185m	>330	<1	<1	<1
Tin	ppm	ASTM D5185m	>15	<1	<1	<1
Vanadium	ppm	ASTM D5185m		0	<1	<1
Cadmium	ppm	ASTM D5185m		0	0	0
oddinidani	ppin	AO INI DO IODIII		0	0	0
ADDITIVES	ppin	method	limit/base	current	history1	history2
	ppm		limit/base 250	-		
ADDITIVES		method		current	history1	history2
ADDITIVES Boron Barium	ppm ppm	method ASTM D5185m	250 10	current 0	history1 <1	history2 1
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm	method ASTM D5185m ASTM D5185m	250	current 0 0	history1 <1 0	history2 1 6
ADDITIVES Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m	250 10	current 0 0 61	history1 <1 0 60	history2 1 6 52
ADDITIVES Boron Barium Molybdenum	ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	current           0           0           61           <1	history1 <1 0 60 0	history2 1 6 52 0
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450	Current 0 0 61 <1 923 1012	history1 <1 0 60 0 980 1055	history2 1 6 52 0 1066 784
ADDITIVES Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	Current 0 0 61 <1 923 1012 1019	history1           <1           0           60           0           980           1055           981	history2 1 6 52 0 1066 784 893
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus	ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000	Current 0 0 61 <1 923 1012	history1 <1 0 60 0 980 1055	history2 1 6 52 0 1066 784
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	ppm ppm ppm ppm ppm ppm ppm ppm ppm	method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350	current           0           0           61           <1           923           1012           1019           1182	history1         <1         0         60         0         980         1055         981         1281	history2 1 6 52 0 1066 784 893 1186
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 0 0 61 <1 923 1012 1019 1182 2903	history1 <1 0 60 0 980 1055 981 1281 3112	history2 1 6 52 0 1066 784 893 1186 2690
ADDITIVES Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINANTS Silicon	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 ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	current           0           0           61           <1           923           1012           1019           1182           2903           current           3	history1         <1         0         60         0         980         1055         981         1281         3112         history1	history2         1         6         52         0         1066         784         893         1186         2690         history2         4
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	current           0           0           61           <1           923           1012           1019           1182           2903           current           3           2	<1         0         60         0         980         1055         981         1281         3112         history1         5         1	history2         1         6         52         0         1066         784         893         1186         2690         history2         4         <1
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	current           0           0           61           <1           923           1012           1019           1182           2903           current           3           2           <1	<1         0         60         0         980         1055         981         1281         3112         history1         5         1         2	history2         1         6         52         0         1066         784         893         1186         2690         history2         4         <1         16
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 <b>Imit/base</b> >25 >216 >20 <b>Imit/base</b>	current           0           0           61           <1           923           1012           1019           1182           2903           current           3           2           <1	<1         0         60         0         980         1055         981         1281         3112         history1         5         1         2         history1	history2         1         6         52         0         1066         784         893         1186         2690         history2         4         <1         16         history2
ADDITIVES 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	method           ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20 <b>limit/base</b> >3	current           0           0           61           <1           923           1012           1019           1182           2903           current           3           2           <1           current           0           0.6	<1         0         60         0         980         1055         981         1281         3112         history1         5         1         2         history1         0.5	history2         1         6         52         0         1066         784         893         1186         2690         history2         4         <1         16         history2         0.5
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           0           0           61           <1           923           1012           1019           1182           2903           current           3           2           <1           ourrent           3           2           <1           ourrent           0.6           6.4	history1         <1         0         60         0         980         1055         981         1281         3112         history1         5         1         2         history1         0.5         6.3	history2         1         6         52         0         1066         784         893         1186         2690         history2         4         <1         16         history2         0.5         6.4
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	current           0           0           61           <1           923           1012           1019           1182           2903           current           3           2           <1           current           0           0.6	<1         0         60         0         980         1055         981         1281         3112         history1         5         1         2         history1         0.5	history2         1         6         52         0         1066         784         893         1186         2690         history2         4         <1         16         history2         0.5         6.4         19.0
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           0           0           61           <1           923           1012           1019           1182           2903           current           3           2           <1           current           0.6           6.4           19.2           current	<1         0         60         0         980         1055         981         1281         3112         history1         5         1         2         history1         0.5         6.3         19.0         history1	history2         1         6         52         0         1066         784         893         1186         2690         history2         4         <1         16         history2         0.5         6.4         19.0         history2
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	current           0           0           61           <1           923           1012           1019           1182           2903           current           3           2           <1           current           0.6           6.4           19.2	<1         0         60         0         980         1055         981         1281         3112         history1         5         1         2         history1         0.5         6.3         19.0	history2         1         6         52         0         1066         784         893         1186         2690         history2         4         <1         16         history2         0.5         6.4         19.0



# **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	ΓIES	method	limit/base	current	history1	history2
Visc @ 100°C	cSt	ASTM D445	14.4	13.6	13.6	13.7
СРАРИС						



Statements of conformity to specifications are based on the simple acceptance decision rule (JCGM 106:2012)

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