

### **OIL ANALYSIS REPORT**

#### Sample Rating Trend



# PHOENIX MIXER 267

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

#### DIAGNOSIS

#### Recommendation

Resample at the next service interval to monitor.

#### Wear

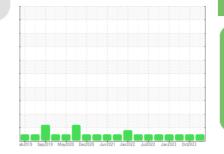
All component wear rates are normal.

#### 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.

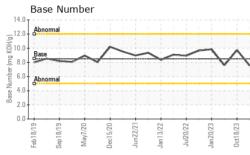


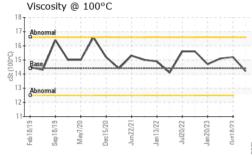


SAMPLE INFORM	MATION	method	limit/base	current	history1	history2
Sample Number		Client Info		PCA0109564	LP0000508	LP0000533
Sample Date		Client Info		22 Jan 2024	18 Oct 2023	24 Jul 2023
Machine Age	hrs	Client Info		11383	10752	10137
Oil Age	hrs	Client Info		500	500	500
Oil Changed		Client Info		Changed	Changed	Changed
Sample Status				NORMAL	NORMAL	NORMAL
CONTAMINAT	ION	method	limit/base	current	history1	history2
Fuel		WC Method	>3.0	<1.0	<1.0	<1.0
Water		WC Method	>0.2	NEG	NEG	NEG
Glycol		WC Method		NEG	NEG	NEG
WEAR METAL	S	method	limit/base	current	history1	history2
Iron	ppm	ASTM D5185m	>90	13	14	15
Chromium	ppm	ASTM D5185m	>20	<1	2	2
Nickel	ppm	ASTM D5185m	>2	0	0	0
Titanium	ppm	ASTM D5185m	>2	0	0	<1
Silver	ppm	ASTM D5185m	>2	0	0	0
Aluminum	ppm	ASTM D5185m	>20	2	1	<1
Lead	ppm	ASTM D5185m	>40	10	15	11
Copper	ppm	ASTM D5185m	>330	1	1	<1
Tin	ppm	ASTM D5185m	>15	<1	0	<1
Vanadium	ppm	ASTM D5185m		0	0	0
Cadmium	ppm	ASTM D5185m		0	0	0
				•	0	0
ADDITIVES		method	limit/base	current	history1	history2
ADDITIVES Boron	ppm	method ASTM D5185m	limit/base 250	-	-	-
				current	history1	history2
Boron	ppm	ASTM D5185m	250	current 22	history1 2	history2 12
Boron Barium	ppm ppm	ASTM D5185m ASTM D5185m	250 10	current 22 0	history1 2 0	history2 12 0
Boron Barium Molybdenum	ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m	250 10	current 22 0 41	history1 2 0 53	history2 12 0 73
Boron Barium Molybdenum Manganese	ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100	current 22 0 41 <1	history1 2 0 53 <1	history2 12 0 73 <1
Boron Barium Molybdenum Manganese Magnesium	ppm ppm ppm ppm ppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150	current           22           0           41           <1           108           2078           950	history1 2 0 53 <1 761 1360 1038	history2 12 0 73 <1 903 1444 1188
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc	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	current           22           0           41           <1           108           2078	history1 2 0 53 <1 761 1360 1038 1278	history2 12 0 73 <1 903 1444 1188 1446
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur	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 1350 4250	current           22           0           41           <1           108           2078           950	history1 2 0 53 <1 761 1360 1038 1278 3165	history2 12 0 73 <1 903 1444 1188 1446 4155
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN	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 1350 4250	current           22           0           41           <1           108           2078           950           1123           3377           current	history1           2           0           53           <1           761           1360           1038           1278           3165           history1	history2 12 0 73 <1 903 1444 1188 1446 4155 history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m <b>method</b>	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25	current           22           0           41           <1           108           2078           950           1123           3377           current           3	history1           2           0           53           <1           761           1360           1038           1278           3165           history1           3	history2           12           0           73           <1           903           1444           1188           1446           4155           history2           3
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium	ppm ppm ppm ppm ppm ppm ppm ppm ppm TS	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 <b>limit/base</b> >25 >216	current           22           0           41           <1           108           2078           950           1123           3377           current           3           1	history1         2         0         53         <1         761         1360         1038         1278         3165         history1         3         0	history2         12         0         73         <1         903         1444         1188         1446         4155         history2         3         <1
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b>	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>limit/base</b> >25 >216 >20	current           22           0           41           <1           108           2078           950           1123           3377           current           3           1           3           1           3	history1           2           0           53           <1           761           1360           1038           1278           3165           history1           3           0           <1	history2         12         0         73         <1         903         1444         1188         1446         4155         history2         3         <1         0
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED	ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Imit/base</b> >25 >216 >20 <b>Imit/base</b>	current           22           0           41           <1           108           2078           950           1123           3377           current           3           1           3           1           3           current	history1         2         0         53         <1         761         1360         1038         1278         3165         history1         3         0         <1	history2         12         0         73         <1         903         1444         1188         1446         4155         history2         3         <1         0         history2
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 <b>limit/base</b> >25 >216 >20 <b>limit/base</b>	current           22           0           41           <1           108           2078           950           1123           3377           current           3           1           3           1           3           2078	history1         2         0         53         <1         761         1360         1038         1278         3165         history1         3         0         <1         History1         3         0         <1         4.1	history2         12         0         73         <1         903         1444         1188         1446         4155         history2         3         <1         0         history2         2.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 <b>Iimit/base</b> >25 >216 >20 <b>Iimit/base</b> >6 >20	current         22         0         41         <1         108         2078         950         1123         3377         current         3         1         3         1         3         1         2.8         10.2	history1         2         0         53         <1         761         1360         1038         1278         3165         history1         3         0         <1         history1         3         0         <1         history1         4.1         11.2	history2         12         0         73         <1         903         1444         1188         1446         4155         history2         3         <1         0         history2         2.9         9.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN 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 <b>limit/base</b> >25 >216 >20 <b>limit/base</b>	current           22           0           41           <1           108           2078           950           1123           3377           current           3           1           3           1           3           2078	history1         2         0         53         <1         761         1360         1038         1278         3165         history1         3         0         <1         History1         3         0         <1         4.1	history2         12         0         73         <1         903         1444         1188         1446         4155         history2         3         <1         0         history2         2.9
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>Iimit/base</b> >25 >216 >20 <b>Iimit/base</b> >6 >20	current         22         0         41         <1         108         2078         950         1123         3377         current         3         1         3         1         3         1         2.8         10.2	history1         2         0         53         <1         761         1360         1038         1278         3165         history1         3         0         <1         history1         3         0         <1         history1         4.1         11.2	history2         12         0         73         <1         903         1444         1188         1446         4155         history2         3         <1         0         history2         2.9         9.8
Boron Barium Molybdenum Manganese Magnesium Calcium Phosphorus Zinc Sulfur CONTAMINAN Silicon Sodium Potassium INFRA-RED Soot % Nitration Sulfation	ppm ppm ppm ppm ppm ppm ppm ppm ppm <b>TS</b> ppm ppm ppm	ASTM D5185m ASTM D5185m	250 10 100 450 3000 1150 1350 4250 <b>binit/base</b> >25 >216 >20 <b>binit/base</b> >6 >20	current           22           0           41           <1           108           2078           950           1123           3377           current           3           1           3           current           2.8           10.2           24.3	history1         2         0         53         <1         761         1360         1038         1278         3165         history1         3         0         <1         history1         3         0         <1         4.1         11.2         26.1	history2         12         0         73         <1         903         1444         1188         1446         4155         history2         3         <1         0         history2         2.9         9.8         24.3



## **OIL ANALYSIS REPORT**





Certificate L2367

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