

# **OIL ANALYSIS REPORT**

Sample Rating Trend

## NORMAL



## KEMP QUARRIES / MUSKOGEE SAND Machine Id WL039

Component Hydraulic System

MOBIL DELVAC 1300 SUPER15W40 (--- 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 fluid.

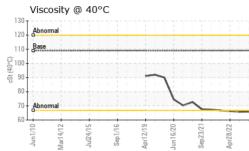
### Fluid Condition

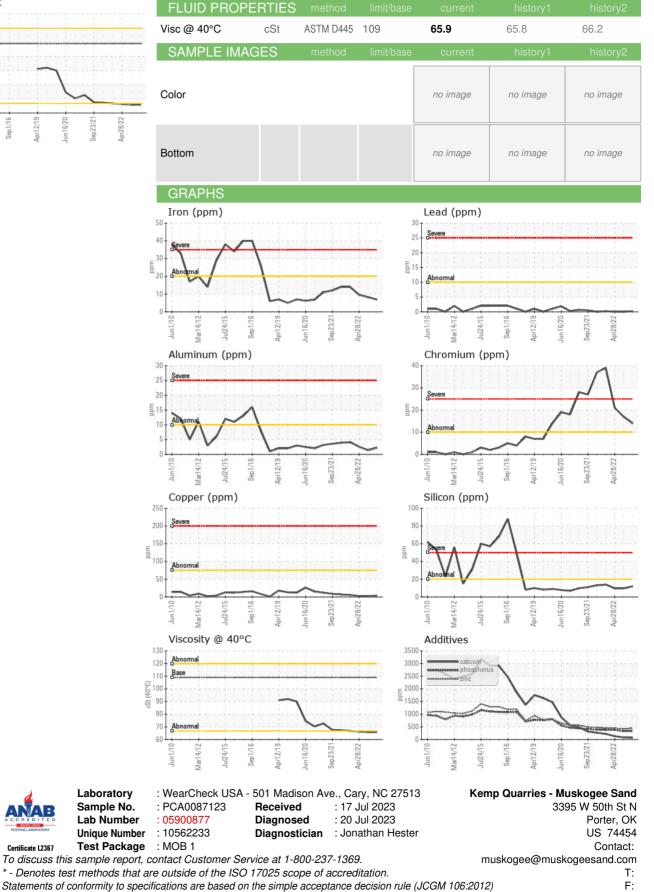
The condition of the fluid is acceptable for the time in service.

Sample NumberSample DateImageMachine AgehrsOil AgehrsOil ChangedSample StatusppmSample StatusPpmppmChromiumppmNickelppmTitaniumppmSilverppmAluminumppmLeadppmTinppmAntimonyppmVanadiumppmCadmiumppmBoronppmBariumppmMalganeseppmMagnesiumppmCalciumppmZincppmSiliconppmSiliconppm	Client Info Client Info Client Info Client Info Client Info Client Info ASTM D5185m ASTM D5185m	>10 >10 >10 >10	PCA0087123 59240 1605 Changed NORMAL Current 7 14 0 0 0 0 2 2 3 14 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0	PCA0070554 10 Jan 2023 58740 1105 Not Changd NORMAL 8 17 0 0 0 0 0 17 0 0 0 1 0 0 2 0 1 0 0 1 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 1 0 0 0 0 0 1 0 0 0 0 0 0 0 0 0 0 0 0 0	PCA0062232 28 Apr 2022 57915 280 Not Changd NORMAL 10 21 0 3 (1 0 3 3 (1 3 3 (1 3 (1) (1) (1) (1) (1) (1) (1) (1) (1) (1)
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IronppmChromiumppmNickelppmNickelppmTitaniumppmSilverppmAluminumppmLeadppmCopperppmTinppmAntimonyppmVanadiumppmCadmiumppmBoronppmBariumppmMolybdenumppmMaganeseppmCalciumppmZincppmZincppmSulfurppmSiliconppm	ASTM D5185m ASTM D5185m	>10 >10 >10 >10 >75 >10 limit/base 0 0	14 0 0 2  0 0 0  0 0 0 2  0 0 0  0 0 0  0 0 0  1	17 0 0 0 1 2 0 2 0 0  0 0 0 0 <b>history1</b> 0 0	10 21 0 <1 0 3 0 3 <1  0 0 0 0 <i>history2</i> 2 0
Nickel         ppm           Titanium         ppm           Silver         ppm           Aluminum         ppm           Lead         ppm           Copper         ppm           Tin         ppm           Antimony         ppm           Vanadium         ppm           Cadmium         ppm           Boron         ppm           Barium         ppm           Malganese         ppm           Magnesium         ppm           Zinc         ppm           Zinc         ppm           Sulfur         ppm           Silicon         ppm	ASTM D5185m ASTM D5185m	>10 >10 >10 >75 >10 limit/base 0 0	0 0 2 <1 4 0  0 0 0 0 0 <i>current</i> 0 0 2 (1	0 0 0 1 0 2 0 0  0 0 0 0 <b>history1</b> 0 0	0 <1 0 3 0 3 <1  0 0 0 <b>history2</b> 2 0
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TitaniumppmSilverppmAluminumppmLeadppmCopperppmTinppmAntimonyppmVanadiumppmCadmiumppmBoronppmBariumppmMolybdenumppmMaganeseppmCalciumppmZincppmZincppmSulfurppmCONTAMINANTSppmSiliconppm	ASTM D5185m ASTM D5185m	>10 >75 >10 limit/base 0 0	0 2 <1 4 0  0 0 0 0  2  0 0 0  2  2  1  1  2  2  2  2  2  3  3  3  3  4  4  5 	0 1 0 2 0  0 0 0 0 <b>history1</b> 0 0	0 3 0 3 <1  0 0 0 <b>bistory2</b> 2 0
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AluminumppmLeadppmLeadppmCopperppmTinppmAntimonyppmVanadiumppmCadmiumppmCadmiumppmBoronppmBariumppmMolybdenumppmMagnesiumppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>10 >75 >10 limit/base 0 0	2 <1 4 0  0 0 0 <u>current</u> 0 0 0 <1	0 2 0  0 0 0 <b>history1</b> 0 0	0 3 <1 0 0 0 history2 2 0
LeadppmCopperppmTinppmAntimonyppmVanadiumppmCadmiumppmCadmiumppmBoronppmBariumppmMolybdenumppmMagnesiumppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>75 >10 limit/base 0 0	4 0  0 0 0 <u>current</u> 0 0 <1	2 0  0 0 0 <u>history1</u> 0 0	0 3 <1 0 0 0 history2 2 0
CopperppmTinppmAntimonyppmVanadiumppmCadmiumppmCadmiumppmBoronppmBariumppmMolybdenumppmMagnesiumppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	>10 limit/base 0 0	0  0 0 0 <u>current</u> 0 0 <1	2 0  0 0 0 <u>history1</u> 0 0	<1  0 0 0 history2 2 0
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AntimonyppmVanadiumppmCadmiumppmCadmiumppmADDITIVESppmBoronppmBariumppmMolybdenumppmMagnesiemppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm	ASTM D5185m ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	limit/base 0 0	 0 0 current 0 0 <1	 0 0 0 history1 0 0	0 0 history2 2 0
VanadiumppmCadmiumppmCadmiumppmADDITIVESBoronppmBariumppmMolybdenumppmMagnesiemppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm	ASTM D5185m ASTM D5185m Method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0	0 0 current 0 0 <1	0 0 history1 0 0	0 0 history2 2 0
CadmiumppmADDITIVESBoronppmBariumppmMolybdenumppmManganeseppmMagnesiumppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm	ASTM D5185m method ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0	0 current 0 0 <1	0 history1 0 0	0 history2 2 0
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BoronppmBariumppmMolybdenumppmManganeseppmMagnesiumppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm	ASTM D5185m ASTM D5185m ASTM D5185m ASTM D5185m	0	0 0 <1	0	2 0
Barium ppm Molybdenum ppm Manganese ppm Magnesium ppm Calcium ppm Calcium ppm Zinc ppm Zinc ppm Sulfur ppm CONTAMINANTS Silicon ppm	ASTM D5185m ASTM D5185m ASTM D5185m	0	0 <1	0	0
Molybdenum ppm Manganese ppm Magnesium ppm Calcium ppm Calcium ppm Zinc ppm Sulfur ppm CONTAMINANTS Silicon ppm	ASTM D5185m ASTM D5185m		<1		
ManganeseppmMagnesiumppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm	ASTM D5185m	0		<1	0
MagnesiumppmCalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm					2
CalciumppmPhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm			0	0	<1
PhosphorusppmZincppmSulfurppmCONTAMINANTSSiliconppm	ASTM D5185m	0	4	8	18
Zinc ppm Sulfur ppm CONTAMINANTS Silicon ppm	ASTM D5185m		68	83	132
Sulfur ppm CONTAMINANTS Silicon ppm	ASTM D5185m		334	330	378
CONTAMINANTS Silicon ppm	ASTM D5185m		439	431	438
Silicon ppm	ASTM D5185m		909	835	832
le le	method	limit/base	current	history1	history2
	ASTM D5185m	>20	12	10	10
Sodium ppm	ASTM D5185m		0	0	<1
Potassium ppm	ASTM D5185m	>20	1	2	0
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	v iouu				
Free Water scalar	*Visual	>0.1	NEG	NEG	NEG



# **OIL ANALYSIS REPORT**





Certificate L2367