

## **OIL ANALYSIS REPORT**

## KEMP QUARRIES / RIVER VALLEY ARKOMA Machine Id OHT102

Component Hydraulic System

DIAGNOSIS

Contamination

Fluid Condition

Wear

oil.

MOBIL DELVAC 1300 SUPER15W40 (--- GAL)

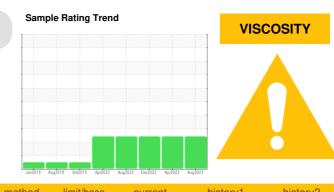
Resample at the next service interval to monitor.

There is no indication of any contamination in the

The oil viscosity is lower than normal. This plus the additive levels indicates the addition of a different

All component wear rates are normal.

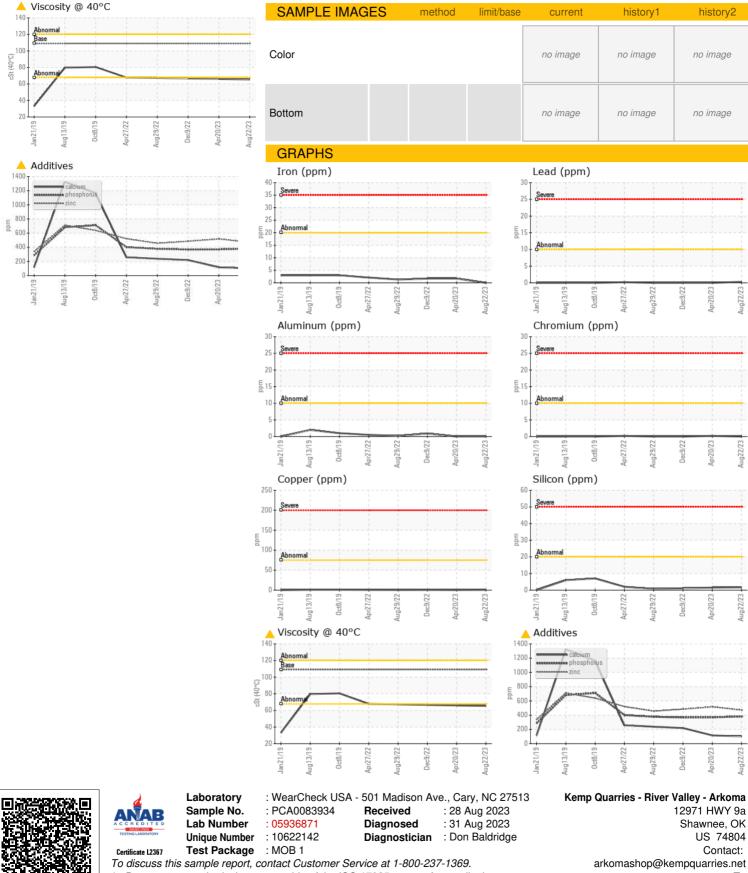
brand, or type of oil. Confirm oil type.



Sample Number     Client Info     PCA0083934     PCA0070467     PCA0070467       Sample Date     Client Info     22 Aug 2023     20 Apr 2023     09 Dec 2022       Machine Age     Client Info     29115     28531     27510       Oil Age     Client Info     29115     28531     27510       Oil Changed     Client Info     ATTENTION     ATTENTION     ATTENTION       WEAR METALS     method     Imit/base     current     history1     history1       Iron     ppm     ASTM 05185m     >20     0     <1     0       Iron     ppm     ASTM 05185m     >10     0     0     1       Iron     ppm     ASTM 05185m     >10     0     0     1       Auminum     ppm     ASTM 05185m     >10     0     0     0       Cadmium     ppm     ASTM 05185m     >10     0     0     0       Cadmium     ppm     ASTM 05185m     0     <1     1     2       Barium     ppm     ASTM	SAMPLE INFORI	MATION	method	limit/base	current	history1	history2
Machine Age     Client Info     29115     28531     27503       Oil Age     Client Info     Not Changd     Changed     Not Changd       Sample Status     Client Info     Not Changd     Changed     Not Changd       Sample Status     Imutbase     current     Nistory1     Nistory2       Iron     ppm     ASTM 05185m     >10     0     <1     0       Nickel     ppm     ASTM 05185m     >10     0     <1     0       Silver     ppm     ASTM 05185m     >10     0     0     <1     0       Copper     ppm     ASTM 05185m     >10     0     0     0     0       Cadmium     ppm     ASTM 05185m     >10     0     0     0     0       Cadmium     ppm     ASTM 05185m     0     0     <1     4     3     277       Barium     ppm     ASTM 05185m     0     <1     0     0     0     1     1     2     2     10     1	Sample Number		Client Info		PCA0083934	PCA0070406	PCA0070467
Oil Age     Client Info     29115     28531     27510       Oil Changed     Client Info     Not Changed     ATTENTION     ATTENTION       WEAR METALS     method     Imitbase     current     history1     history2       Iron     ppm     ASTM 05185m     >20     0     2     2       Chromium     ppm     ASTM 05185m     >10     0     <1	Sample Date		Client Info		22 Aug 2023	20 Apr 2023	09 Dec 2022
Oil Changed Sample Status     Client Info     Not Changd ATTENTION     Changed ATTENTION     Not Changed ATTENTION     Not Changed ATTENTION       WEAR METALS     method     limit/base     current     history1     ATTENTION       Iron     ppm     ASTM D5185n     >20     0     21     22       Chromium     ppm     ASTM D5185n     >10     0     <11     0       Nickel     ppm     ASTM D5185n     >10     0     <1     0       Ikikel     ppm     ASTM D5185n     >10     0     <1     0       Ikikel     ppm     ASTM D5185n     >10     0     0     <1       Lead     ppm     ASTM D5185n     >10     0     0     0     0       Vanadium     ppm     ASTM D5185n     0     0     <1     1     2       Vanadium     ppm     ASTM D5185n     0     <1     1     2       Manages     ppm     ASTM D5185n     0     <1     1     2       Managanese	Machine Age		Client Info		29115	28531	27903
Sample Status     ATTENTION     ATTENTION     ATTENTION     ATTENTION       WEAR METALS     method     limit/base     current     history1     history2       Iron     ppm     ASTM D5185m     >20     0     2     2       Chromium     ppm     ASTM D5185m     >10     0     <1	Oil Age		Client Info		29115	28531	27510
Sample Status     Method     Imit/base     Current     history1     history2       Iron     ppm     ASTM D5185n     >20     0     2     2       Chromium     ppm     ASTM D5185n     >10     0     <1	Oil Changed		Client Info		Not Changd	Changed	Not Changd
Iron     ppm     ASTM D5185m     >20     0     2     2       Chromium     ppm     ASTM D5185m     >10     0     <1	•						
Chromium     ppm     ASTM D5185m     >10     0     <1	WEAR METAL	S	method	limit/base	current	history1	history2
Chromium     ppm     ASTM D5185m     >10     0     <1     0       Nickel     ppm     ASTM D5185m     >10     0     <1	Iron	ppm	ASTM D5185m	>20	0	2	2
Nickel     ppm     ASTM D5185m     >10     0     <1     0       Titanium     ppm     ASTM D5185m     0     0     1       Aluminum     ppm     ASTM D5185m     >10     0     0     <1	Chromium	ppm	ASTM D5185m	>10	0	<1	0
Titanium     ppm     ASTM D5185m     <1     0     0       Silver     ppm     ASTM D5185m     0     0     1       Aluminum     ppm     ASTM D5185m     >10     0     0     <1	Nickel		ASTM D5185m	>10	0	<1	0
Silver     ppm     ASTM D5185m     0     0     1       Aluminum     ppm     ASTM D5185m     >10     0     0     <1	Titanium		ASTM D5185m		<1	0	0
Atuminum     ppm     ASTM D5185m     >10     0     0     <1       Lead     ppm     ASTM D5185m     >10     <1					0		1
Lead     ppm     ASTM D5185m     >10     <1     0     0       Copper     ppm     ASTM D5185m     >75     <1				>10			
Copper     ppm     ASTM D5185m     >75     <1     <1     <1     <1       Tin     ppm     ASTM D5185m     >10     0     0     0       Vanadium     ppm     ASTM D5185m     >10     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0     <1					-		
Tin     ppm     ASTM D5185m     >10     0     0     0       Vanadium     ppm     ASTM D5185m     0     0     0       Cadmium     ppm     ASTM D5185m     0     0     0       ADDITIVES     method     limit/base     current     history1     history2       Boron     ppm     ASTM D5185m     0     0     0     0       Manganese     ppm     ASTM D5185m     0     <1							
Vanadium   ppm   ASTM D5185m   Image: Astm D5185m   O   O   O     Cadmium   ppm   ASTM D5185m   O   O   O   O     ADDITIVES   method   limit/base   current   history1   history2     Boron   ppm   ASTM D5185m   O   O   <1							
CadmiumppmASTM D5185m0000ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m00<1				210	-		
ADDITIVESmethodlimit/basecurrenthistory1history2BoronppmASTM D5185m000<1							
BoronppmASTM D5185m00<14BariumppmASTM D5185m0000MolybdenumppmASTM D5185m0<1		ррп		limit/baco	-	-	-
BariumppmASTM D5185m00000MolybdenumppmASTM D5185m0<1							
MolybdenumppmASTM D5185m0<112ManganeseppmASTM D5185m0<1							
ManganeseppmASTM D5185m<10<1MagnesiumppmASTM D5185m021327CalciumppmASTM D5185m0103116219PhosphorusppmASTM D5185m381370368ZincppmASTM D5185m471517484SulfurppmASTM D5185m110511921192CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20221SodiumppmASTM D5185m>2020<1							
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SulfurppmASTM D5185m110511921192CONTAMINANTSmethodlimit/basecurrenthistory1history2SiliconppmASTM D5185m>20221SodiumppmASTM D5185m>20221PotassiumppmASTM D5185m>2020<1							
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SiliconppmASTM D5185m>20221SodiumppmASTM D5185m1<1							
SodiumppmASTM D5185m1<10PotassiumppmASTM D5185m>2020<1							
PotassiumppmASTM D5185m>2020<1VISUALmethodlimit/basecurrenthistory1history2White Metalscalar*VisualNONENONENONENONEYellow Metalscalar*VisualNONENONENONENONEPrecipitatescalar*VisualNONENONENONENONESiltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGNEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2				>20		2	
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Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONELIGHTNONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGFree Waterscalar*VisualNEGNEGNEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2	VISUAL White Metal	ppm	ASTM D5185m method *Visual	limit/base NONE	2 current NONE	0 history1 NONE	<1 history2 NONE
Debrisscalar*VisualNONELIGHTNONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGFree Waterscalar*VisualNEGNEGNEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2	VISUAL White Metal	ppm scalar	ASTM D5185m method *Visual	limit/base NONE	2 current NONE NONE	0 history1 NONE	<1 history2 NONE
Sand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLDdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGFree Waterscalar*VisualNEGNEGNEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2	VISUAL White Metal Yellow Metal	ppm scalar scalar	ASTM D5185m method *Visual *Visual	limit/base NONE NONE	2 current NONE NONE	0 history1 NONE NONE	<1 history2 NONE NONE
Appearancescalar*VisualNORMLNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGNEGFree Waterscalar*VisualNEGNEGNEGNEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2	VISUAL White Metal Yellow Metal Precipitate	ppm scalar scalar scalar	ASTM D5185m method *Visual *Visual *Visual	limit/base NONE NONE NONE	2 current NONE NONE NONE	0 history1 NONE NONE NONE	<1 history2 NONE NONE NONE
Odorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGNEGFree Waterscalar*VisualNEGNEGNEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2	VISUAL White Metal Yellow Metal Precipitate Silt	ppm scalar scalar scalar scalar	ASTM D5185m method *Visual *Visual *Visual *Visual	limit/base NONE NONE NONE NONE	2 current NONE NONE NONE NONE	0 history1 NONE NONE NONE NONE	<1 NONE NONE NONE NONE
Emulsified Waterscalar*Visual>0.1NEGNEGNEGFree Waterscalar*VisualNEGNEGNEGFLUID PROPERTIESmethodlimit/basecurrenthistory1history2	VISUAL White Metal Yellow Metal Precipitate Silt Debris	ppm scalar scalar scalar scalar scalar	ASTM D5185m method *Visual *Visual *Visual *Visual *Visual	limit/base NONE NONE NONE NONE	2 current NONE NONE NONE LIGHT	0 history1 NONE NONE NONE NONE NONE	<1 NONE NONE NONE NONE NONE NONE
Free Water scalar *Visual NEG NEG   FLUID PROPERTIES method limit/base current history1 history2	VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt	ppm scalar scalar scalar scalar scalar scalar	ASTM D5185m method *Visual *Visual *Visual *Visual *Visual *Visual	limit/base NONE NONE NONE NONE NONE	2 Current NONE NONE NONE LIGHT NONE	0 history1 NONE NONE NONE NONE NONE	<1 NONE NONE NONE NONE NONE NONE
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	VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor	ppm scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m method *Visual *Visual *Visual *Visual *Visual *Visual *Visual	limit/base NONE NONE NONE NONE NONE NORML NORML	2 Current NONE NONE NONE LIGHT NONE NORML NORML	0 history1 NONE NONE NONE NONE NORE NORML NORML	<1 history2 NONE NONE NONE NONE NONE NONE NORML NORML
Visc @ 40°C cSt ASTM D445 109 🔺 65.4 🔺 65.9 🔺 66.6	VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water	ppm scalar scalar scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m method *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	limit/base NONE NONE NONE NONE NONE NORML NORML	2 Current NONE NONE NONE LIGHT NONE NORML NORML NEG	0 history1 NONE NONE NONE NONE NORML NORML NEG	<1 history2 NONE NONE NONE NONE NONE NONE NORML NORML NEG
	VISUAL White Metal Yellow Metal Precipitate Silt Debris Sand/Dirt Appearance Odor Emulsified Water Free Water	ppm scalar scalar scalar scalar scalar scalar scalar scalar scalar scalar	ASTM D5185m method *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual *Visual	limit/base NONE NONE NONE NONE NONE NORML >0.1	2 Current NONE NONE NONE LIGHT NONE NORML NORML NEG NEG	0 history1 NONE NONE NONE NONE NORML NORML NEG NEG	<1 history2 NONE NONE NONE NONE NONE NORML NORML NEG NEG



## **OIL ANALYSIS REPORT**



\* - 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)

Contact:

Т:

F:

ua22/23

history2