

WEAR NORMAL CONTAMINATION NORMAL FLUID CONDITION NORMAL

Ascendum Machinery Machine Id VOLVO L90H 623682 Component Hydraulic System Fluid AW HYDRAULIC OIL ISO 46 (--- GAL)

RECOMMENDATION

Resample at the next service interval to monitor. The fluid was not specified, however, a fluid match indicates that this fluid is (GENERIC) AW HYDRAULIC OIL ISO 46. Please confirm.

WEAR

All component wear rates are normal.

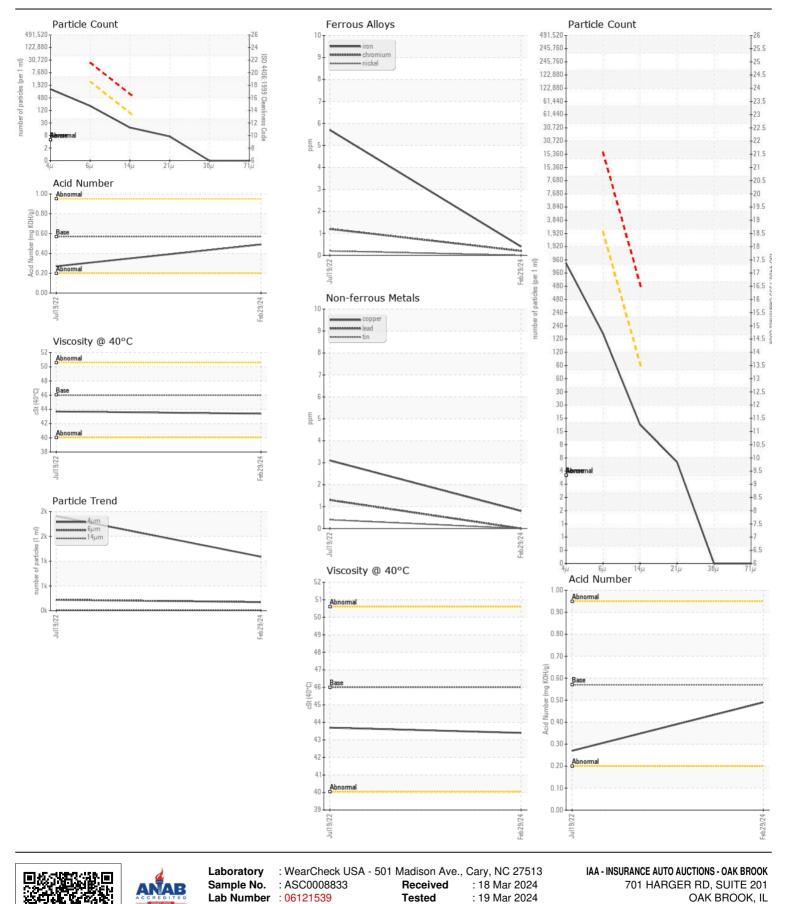
CONTAMINATION

The system cleanliness is acceptable for your target ISO 4406 cleanliness code. The system and fluid cleanliness is acceptable.

FLUID CONDITION

The AN level is acceptable for this fluid. The condition of the oil is suitable for further service.

Test ODM Method Limitable Current History1 History1 History1 Sample Number Client Info ASCOUSSIN VCP378720 Machine Age hrs Client Info 12971 10199 Oil Age hrs Client Info 12971 0 Oil Changed Client Info Not Changed Not Changed Not Changed Filter Age hrs Client Info Not Changed Changed Sample Status Visual Not Changed Not Changed Chromium ppm ASTM D5185m >50 <-1 6 Nickel ppm ASTM D5185m >20 <-1 1 Aluminum ppm ASTM D5185m >20 <-1 3 Aluminum ppm ASTM D5185m >20 <-1 3 Vanaduim ppm ASTM D5185m >20 <th>т</th> <th></th> <th>NA - thel</th> <th>L</th> <th></th> <th>L Bakawai</th> <th>L Bata a O</th>	т		NA - thel	L		L Bakawai	L Bata a O
Sample Date Client Info 19 Jul 2022 Machine Age hrs Client Info 12971 10199 Oil Age hrs Client Info 0 Oil Changed Client Info 0 0 Oil Changed Client Info Not Changd Not Changed Sample Status Volt Changed Client Info Not Changed Iron ppm ASTM 55185m >50 <1 6 Nickel ppm ASTM 55185m >20 <1 1 Nickel ppm ASTM 55185m >20 <1 1 Aluminum ppm ASTM 55185m >20 <1 1 Lead ppm ASTM 55185m >20 0 <1 Vanadium ppm ASTM 55185m >20 0 <1 Vanadium ppm	Test	UOM	Method	Limit/Abn	Current	History1	History2
Machine Age hrs Client Info 12971 10 199 Filter Age hrs Client Info 0 GOI Changed Client Info Not Changd Not Changd Filter Changed Client Info Not Changd Changed Sample Status Not Changd Not Changd Changed Iron ppm ASTM D5185m >50 <1 6 Nickel ppm ASTM D5185m >20 <1 1 Silver ppm ASTM D5185m 20 <1 1 Copper ppm ASTM D5185m >20 0 1 Vanadium ppm ASTM D5185m >20 0 <1 Valead scalar Yusual NONE NONE NONE Valeadium ppm ASTM D5185m >20 1 4							
Oil Age hrs Client Info 12971 0 Filter Age hrs Client Info Not Changd Not Changd Oil Changed Client Info Not Changd Not Changd Sample Status Client Info Not Changd Nor MAL Iron ppm ASTM D5185m >50 <1 6 Chromium ppm ASTM D5185m >10 0 <1 Nickel ppm ASTM D5185m >10 0 <1 Aluminum ppm ASTM D5185m >20 <1 1 Aluminum ppm ASTM D5185m >20 0 <1 Aluminum ppm ASTM D5185m >20 0 <1 Vanadum ppm ASTM D5185m >20 0 <1 Vanadum ppm ASTM D5185m >20 1 4 <		la una					
Filter Age hrs Client Info O O Oil Changed Client Info Not Changed Not Changed Filter Changed Client Info Not Changed Changed Sample Status NORMAL NORMAL NORMAL Iron ppm ASTM D5185m >20 <1 1 Chromium ppm ASTM D5185m >20 <1 1 Nickel ppm ASTM D5185m >20 0 <1 Aluminum ppm ASTM D5185m >20 0 1 Copper ppm ASTM D5185m >20 0 <1 Vanadium ppm ASTM D5185m >20 0 <1 Vanadium ppm ASTM D5185m >20 1 4 Valeadum ppm ASTM D5185m >20 1 0	J	-					
Oil Changed Client Info Not Changd Not Changd Filter Changed Client Info Not Changd Changed Sample Status NORMAL NORMAL NORMAL Iron ppm ASTM D5185m >20 <1 6 Nickel ppm ASTM D5185m >20 <1 1 Nickel ppm ASTM D5185m >20 <1 1 Silver ppm ASTM D5185m >20 <1 1 Aluminum ppm ASTM D5185m >20 <1 1 Vanadium ppm ASTM D5185m >20 0 <1 Vanadium ppm ASTM D5185m >20 0 <1 Vanadium ppm ASTM D5185m >20 1 4 Vanadium ppm ASTM D5185m >20 1 4	0				-	-	
Filter Changed Sample Status Client Info Not Changed NORMAL Iron ppm ASTM D5185m >50 <1 6 Iron ppm ASTM D5185m >20 <1 1 Nickel ppm ASTM D5185m >20 <1 1 Nickel ppm ASTM D5185m 0 0 Aluminum ppm ASTM D5185m >20 0 1 Aluminum ppm ASTM D5185m >20 0 <1 Vanadium ppm ASTM D5185m >20 0 <1 Vanadium ppm ASTM D5185m >20 0 <1 Vanadium ppm ASTM D5185m >20 1 4 Vanadium ppm ASTM D5185m >20 1 4 Vanadium ppm ASTM D5185m >20 1	Ũ	nrs			-	•	
Sample Status NORMAL NORMAL NORMAL Iron ppm ASTM D5185m >50 <1 6 Chromium ppm ASTM D5185m >10 0 <1 1 Nickel ppm ASTM D5185m >10 0 <1 1 Silver ppm ASTM D5185m >20 0 1 Lead ppm ASTM D5185m >20 0 1 Qopper ppm ASTM D5185m >20 0 <1 Vanadium ppm ASTM D5185m >20 0 <1 Vanadium ppm ASTM D5185m >20 0 0 Vanadium ppm ASTM D5185m >20 1 4 Vellow Metal scalar *Visual NONE NONE NONE Silicon ppm ASTM D7647 >20 <th></th> <th></th> <th></th> <th></th> <th>v</th> <th>0</th> <th></th>					v	0	
Iron ppm ASTM D5185m >50 <1	J		Client Info		-	0	
Chromium ppm ASTM D5185m >20 <1	Sample Status					NORIVIAL	
Chromium ppm ASTM D5185m >20 <1	Iron	maa	ASTM D5185m	>50	<1	6	
Nickel ppm ASTM D5185m >10 0 <1	-						
Titanium ppm ASTM D5185m 0 0				>10		<1	
Silver ppm ASTM D5185m 0 0	Titanium				0	0	
Aluminum ppm ASTM D5185m >20 <1	Silver		ASTM D5185m		0	0	
Lead ppm ASTM D5185m >20 0 1 Copper ppm ASTM D5185m >150 <1	Aluminum		ASTM D5185m	>20	<1	1	
Copper ppm ASTM D5185m >150 <1	Lead		ASTM D5185m	>20		1	
Tin ppm ASTM D5185m >20 0 <1	Copper		ASTM D5185m	>150	<1	3	
Vanadium ppm ASTM D5185m 0 0			ASTM D5185m	>20	0	<1	
Yellow Metal scalar *Visual NONE NONE NONE Silicon ppm ASTM D5185m >20 <1 0 Potassium ppm ASTM D5185m >20 <1 0 Water WC Method >0.1 NEG NEG Particles >4µm ASTM D7647 2500 173 220 Particles >6µm ASTM D7647 >20 6 5 Particles >14µm ASTM D7647 >20 6 5 Particles >38µm ASTM D7647 >20 6 5 Particles >38µm ASTM D7647 >20 6 5 Particles >71µm ASTM D7647 3 0 0 Solit scalar *Visual NONE NONE Debris scalar *Visual NONE NORML NORML Appearance	Vanadium	ppm	ASTM D5185m		0		
Silicon ppm ASTM D5185m >20 1 4 Potassium ppm ASTM D5185m >20 <1 0 Water WC Method >0.1 NEG NEG Particles >4µm ASTM D7647 2500 173 220 Particles >6µm ASTM D7647 >20 6 5 Particles >6µm ASTM D7647 >20 6 5 Particles >14µm ASTM D7647 >20 6 5 Particles >38µm ASTM D7647 >4 0 0 Particles >38µm ASTM D7647 >4 0 0 Particles >71µm ASTM D7647 >3 0 0 Solit scalar *Visual NONE NONE Debris scalar *Visual NONE NORML NORML Appearance scalar	White Metal	scalar	*Visual	NONE	NONE	NONE	
Potassium ppm ASTM D5185m >20 <1	Yellow Metal	scalar	*Visual	NONE	NONE	NONE	
Potassium ppm ASTM D5185m >20 <1							
Water WC Method >0.1 NEG Particles >4µm ASTM D7647 1089 1909 Particles >6µm ASTM D7647 >2500 173 220 Particles >14µm ASTM D7647 >20 6 5 Particles >21µm ASTM D7647 >4 0 0 Particles >38µm ASTM D7647 >4 0 0 Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >-/18/13 17/15/11 18/15/11 Silt scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NORL NORML NORML Appearance scalar *Visual NORM NORML NORML Sodium ppm ASTM D5185m 5 0 3 Boron ppm					-		
Particles >4μm ASTM D7647 1089 1909 Particles >6μm ASTM D7647 >2500 173 220 Particles >14μm ASTM D7647 >80 16 16 Particles >21μm ASTM D7647 >20 6 5 Particles >38μm ASTM D7647 >4 0 0 Particles >71μm ASTM D7647 >3 0 0 Particles >71μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >-/18/13 17/15/11 18/15/11 Silt scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NORML NORML NORML Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORM NORML NORML		ppm				-	
Particles >6μm ASTM D7647 >2500 173 220 Particles >14μm ASTM D7647 >80 16 16 Particles >21μm ASTM D7647 >20 6 5 Particles >38μm ASTM D7647 >4 0 0 Particles >71μm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >-/18/13 17/15/11 18/15/11 Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Appearance scalar *Visual NORM NORML NORML Odor scalar *Visual NORM NORML NORML Goron scalar *Visual NORML NORML NORML Boron ppm ASTM D5185m 5 0 3 </th <th></th> <th></th> <th></th> <th>>0.1</th> <th></th> <th></th> <th></th>				>0.1			
Particles >14µm ASTM D7647 >80 16 16 Particles >21µm ASTM D7647 >20 6 5 Particles >38µm ASTM D7647 >4 0 0 Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >-/18/13 17/15/11 18/15/11 Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Sodium ppm ASTM D5185m 5 0 3 Boron ppm ASTM D5185m 5 0 <							
Particles >21µm ASTM D7647 >20 6 5 Particles >38µm ASTM D7647 >4 0 0 Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >-/18/13 17/15/11 18/15/11 Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NORML Appearance scalar *Visual NORML NORML NORML Appearance scalar *Visual NORML NORML NORML Gdor scalar *Visual NORML NORML Mappearance scalar *Visual >0.1 NEG NEG Molybdenum ppm ASTM D5185m 5 </th <th></th> <th></th> <th></th> <th></th> <th>-</th> <th></th> <th></th>					-		
Particles >38µm ASTM D7647 >4 0 0 Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >-/18/13 17/15/11 18/15/11 Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Godor scalar *Visual >0.1 NEG NEG Sodium ppm ASTM D5185m 5 0 3 Boron ppm ASTM D5185m 5 0 <-1 Malganese ppm ASTM D5185m 5					-		
Particles >71µm ASTM D7647 >3 0 0 Oil Cleanliness ISO 4406 (c) >/18/13 17/15/11 18/15/11 Silt scalar *Visual NONE NONE NONE Debris scalar *Visual NONE NONE NONE Sand/Dirt scalar *Visual NONE NONE NONE Appearance scalar *Visual NORML NORML NORML Odor scalar *Visual NORML NORML NORML Godor scalar *Visual NORML NORML NORML Godor scalar *Visual >0.1 NEG NEG Sodium ppm ASTM D5185m 5 0 3 Boron ppm ASTM D5185m 5 0 <-1 Malganese ppm ASTM D5185m					-		
Oil CleanlinessISO 4406 (c)>/18/1317/15/1118/15/11Siltscalar*VisualNONENONENONEDebrisscalar*VisualNONENONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGSodiumppmASTM D5185m503BoronppmASTM D5185m503MalganeseppmASTM D5185m50<MagnesiumppmASTM D5185m2082118PhosphorusppmASTM D5185m300399409ZincppmASTM D5185m370545462SulfurppmASTM D5185m250016192699Acid Number (AN)mg KOHgASTM D5185m25000.490.27					-	-	
Siltscalar*VisualNONENONENONENONEDebrisscalar*VisualNONENONENONENONESand/Dirtscalar*VisualNONENONENONENONEAppearancescalar*VisualNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*VisualNORMLNORMLNORMLSodiumppmASTM D5185m503BoronppmASTM D5185m500MolybdenumppmASTM D5185m50<ManganeseppmASTM D5185m20sc15MagnesiumppmASTM D5185m20082118PhosphorusppmASTM D5185m370545462SulfurppmASTM D5185m250016192699Acid Number (AN)mg KOHgASTM D50450.570.490.27					-	_	
Debrisscalar*VisualNONENONESand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m22BoronppmASTM D5185m503BariumppmASTM D5185m50<MolybdenumppmASTM D5185m50<MagnesiumppmASTM D5185m25<15CalciumppmASTM D5185m20082118PhosphorusppmASTM D5185m300399409ZincppmASTM D5185m370545462SulfurppmASTM D5185m250016192699Acid Number (AN)mg KOHgASTM D50450.570.490.27		a a a la v					
Sand/Dirtscalar*VisualNONENONENONEAppearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m503BoronppmASTM D5185m500BariumppmASTM D5185m50<MolybdenumppmASTM D5185m50<ManganeseppmASTM D5185m25<10MagnesiumppmASTM D5185m20082118PhosphorusppmASTM D5185m370545462SulfurppmASTM D5185m250016192699Acid Number (AN)mg KOH/gASTM D80450.570.490.27					-		
Appearancescalar*VisualNORMLNORMLNORMLNORMLOdorscalar*VisualNORMLNORMLNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m22BoronppmASTM D5185m503BariumppmASTM D5185m50<MolybdenumppmASTM D5185m50<MagnesiemppmASTM D5185m25<10MagnesiumppmASTM D5185m20082118PhosphorusppmASTM D5185m370545462ZincppmASTM D5185m250016192699SulfurppmASTM D5185m250016192699Acid Number (AN)mg KOH/gASTM D80450.570.490.27					_		
Odorscalar*VisualNORMLNORMLNORMLEmulsified Waterscalar*Visual>0.1NEGNEGSodiumppmASTM D5185m22BoronppmASTM D5185m503BariumppmASTM D5185m500MolybdenumppmASTM D5185m50<MagneseppmASTM D5185m50<MagnesiumppmASTM D5185m25<15CalciumppmASTM D5185m20082118PhosphorusppmASTM D5185m370545462SulfurppmASTM D5185m250016192699Acid Number (AN)mg KOH/gASTM D80450.570.490.27							
Emulsified Water scalar *Visual >0.1 NEG NEG Sodium ppm ASTM D5185m 2 2 Boron ppm ASTM D5185m 5 0 3 Barium ppm ASTM D5185m 5 0 0 Molybdenum ppm ASTM D5185m 5 0 <1 Magnese ppm ASTM D5185m 5 0 <1 Magnesium ppm ASTM D5185m 25 <1 5 Calcium ppm ASTM D5185m 200 82 118 Phosphorus ppm ASTM D5185m 300 399 409 Zinc ppm ASTM D5185m 370 545 462 Sulfur ppm ASTM D5185m 2500 1619 2699 Acid Number (AN) mg KOHg ASTM D8045 0.57 <th></th> <th></th> <th></th> <th></th> <th>-</th> <th></th> <th></th>					-		
Sodium ppm ASTM D5185m 2 2 Boron ppm ASTM D5185m 5 0 3 Barium ppm ASTM D5185m 5 0 0 Barium ppm ASTM D5185m 5 0 0 Molybdenum ppm ASTM D5185m 5 0 <1 Maganese ppm ASTM D5185m 25 <1 0 Magnesium ppm ASTM D5185m 25 <1 5 Calcium ppm ASTM D5185m 200 82 118 Phosphorus ppm ASTM D5185m 300 399 409 Zinc ppm ASTM D5185m 370 545 462 Sulfur ppm ASTM D5185m 2500 1619 2699 Acid Number (AN) mg KOH/g ASTM D8045 0.57 <t< th=""><th></th><th></th><th></th><th></th><th>-</th><th></th><th></th></t<>					-		
Boron ppm ASTM D5185m 5 0 3 Barium ppm ASTM D5185m 5 0 0 Molybdenum ppm ASTM D5185m 5 0 <1 Manganese ppm ASTM D5185m 25 <1 0 Magnesium ppm ASTM D5185m 20 <1 5 Calcium ppm ASTM D5185m 200 <1 5 Phosphorus ppm ASTM D5185m 200 Zinc ppm ASTM D5185m 300 Sulfur ppm ASTM D5185m 370 Acid Number (AN) mg KOHg ASTM D5185m 0.57		Jouran	violat	20.1		NEG	
Boron ppm ASTM D5185m 5 0 3 Barium ppm ASTM D5185m 5 0 0 Molybdenum ppm ASTM D5185m 5 0 <1 Manganese ppm ASTM D5185m 25 <1 0 Magnesium ppm ASTM D5185m 20 <1 5 Calcium ppm ASTM D5185m 200 <1 5 Phosphorus ppm ASTM D5185m 200 Zinc ppm ASTM D5185m 300 Sulfur ppm ASTM D5185m 370 Acid Number (AN) mg KOHg ASTM D5185m 0.57	Sodium	ppm	ASTM D5185m		2	2	
Barium ppm ASTM D5185m 5 0 0 Molybdenum ppm ASTM D5185m 5 0 <1	Boron		ASTM D5185m	5	0	3	
Maganese ppm ASTM D5185m <1	Barium	ppm	ASTM D5185m	5	0	0	
Magnesium ppm ASTM D5185m 25 <1	Molybdenum	ppm	ASTM D5185m	5	0	<1	
Calcium ppm ASTM D5185m 200 82 118 Phosphorus ppm ASTM D5185m 300 399 409 Zinc ppm ASTM D5185m 370 545 462 Sulfur ppm ASTM D5185m 2500 1619 2699 Acid Number (AN) mg KOH/g ASTM D8045 0.57 0.49 0.27	Manganese	ppm	ASTM D5185m		<1	0	
Phosphorus ppm ASTM D5185m 300 399 409 Zinc ppm ASTM D5185m 370 545 462 Sulfur ppm ASTM D5185m 2500 1619 2699 Acid Number (AN) mg KOH/g ASTM D8045 0.57 0.49 0.27	0	ppm	ASTM D5185m	25	<1	5	
Zinc ppm ASTM D5185m 370 545 462 Sulfur ppm ASTM D5185m 2500 1619 2699 Acid Number (AN) mg KOH/g ASTM D8045 0.57 0.49 0.27	Calcium	ppm	ASTM D5185m	200	82	118	
Sulfur ppm ASTM D5185m 2500 1619 2699 Acid Number (AN) mg KOH/g ASTM D8045 0.57 0.49 0.27	Phosphorus	ppm	ASTM D5185m	300	399	409	
Acid Number (AN) mg KOH/g ASTM D8045 0.57 0.49 0.27	Zinc	ppm	ASTM D5185m	370	545	462	
	Sulfur	ppm	ASTM D5185m	2500	1619	2699	
Visc @ 40°C cSt ASTM D445 46 43.4 43.7		mg KOH/g	ASTM D8045	0.57	0.49	0.27	
	Visc @ 40°C	cSt	ASTM D445	46	43.4	43.7	



: 19 Mar 2024 - Wes Davis Unique Number : 10930372 Diagnosed Test Package : CONST Contact: Service Manager Certificate L2367 To discuss this sample report, contact Customer Service at 1-800-237-1369. * - 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)

Report Id: IAAOAK [WUSCAR] 06121539 (Generated: 03/19/2024 15:41:44) Rev: 1

Submitted By: RYAN ZEBALLOS

US 60523

T:

F: