

Rapport de validation ou Qualification Procédé Spécial	A-TM0010111	Version A
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Renouvellement qualification PAEX Spectro Oil AG RQPS

Langue principale / *Principal language* : Français

Langue secondaire / *Secondary language* :

LIENS / *Links*

Documents de description / *Description documents* :

Référence / <i>Doc Number</i>	Désignation / <i>Designation</i>	Type / <i>Type</i>	Version / <i>Version</i>
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Documents de référence / *Reference documents* :

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Documents CAO / *CAD documents* :

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Ref: A-TM0010111

Ind:

Nom du Laboratoire <i>Laboratory name</i>	Spectro Oil AG	
Adresse <i>Address</i>	Landstrasse 23 CH-4303 Kaiseraugst Switzerland	
Contact <i>Contact</i>	Nom : <i>Name:</i> Alison Potere	Fonction : <i>Title:</i> Continuous Improvement Manager
	Adresse mail : alisonpotere@jetcare.com <i>E-mail address:</i>	
	Qualification initiale <i>Initial approval</i> <input type="checkbox"/>	Renouvellement de qualification <i>Renewal qualification</i> <input checked="" type="checkbox"/>
	Si Autre préciser : <i> If other, please detail:</i>	

Technique analytique <i>Analytical technique</i>	Référentiel Technique <i>Technical specifications</i>	Installation	Décision <i>Decision</i>	Restriction techniques
SEM Microanalysis	022765 Qualification requirements for Particle Analysis	SEM JEOL JSM-5500 s/nMP17800068 Microanalysis Oxford Instruments 51-XX0032 s/n 50990	Qualifié/Qualified	N/A

Représentants Safran <i>Safran representative</i>	
Rédacteur/Editor	Auditeur SAFRAN MTL/ Auditor SAFRAN MTL
Nom / <i>Name</i> : Martine Jimenez	Nom / <i>Name</i> : Martine Jimenez
Date : 27/01/2023 Visa : 	Date : 27/01/2023 Visa : 

Spécifications de la qualification/ Qualification Specifications	
Référentiels techniques Safran Safran technical specifications	022765 Qualification requirements for Particle Analysis
Autres référentiels Other specifications	

Produits audités Products audited
Samples SafranHE A-TM0009084-2.

Motivation de la décision Roots of the decision
<p>Spectro Oil AG meets the Qualification requirements described in document 022765. Cross over tests; The results provided by the laboratory are in line with those expected.</p> <p>Spectro Oil AG is qualified for the particles analysis by SEM-EDS. This qualification reported in the AQL AA264428 is valid until January 2026.</p> <p><i>This agreement is garanted according to the conditions mentioned in this report (equipment, method, staff in charge of analyzes). In the event of a change of one of these conditions (equipment, technical intervention on the device, people in charge of analyses ...) which could modify the results, the laboratory must initiate a process of renewal of correlation with Safran HE (DT/MPE).</i></p> <p>Concerning analysis for SAFRAN HE engines, you will have to send the particles results by email to the following recipients :</p> <ul style="list-style-type: none"> • the customer for action (PDF files) • the DT/MPE of SAFRAN HE for information : oilssystem-analysis.fr.she@safrangroup.com (PDF files + Excel file according to the given model).

Eléments analysés Items reviewed			
1	Report AV4174	6	Qualification request dated December 9th 2022
2	Report AV4175	7	
3	Report AV4176	8	
4	Report AV4177	9	
5	Report AV4178	10	

1) Contexte / Context

This qualification concerns the realization of quantitative analyses of metal particles by SEM-EDS.

The qualification process consists in checking that the laboratory :

- Has the necessary equipment (SEM and EDS microanalysis system) and the relevant qualified technicians required to conduct these measurements.
- Is able to carry out the quantitative measurements in order to differentiate the various material grades found on our samples.

2) Résultats de la reconnaissance d'aptitude / Results of the capability recognition survey

3.1) Examen des moyens / Survey of the facility

The laboratory has the necessary equipment (SEM + EDS)

Technique	Manufacturer	Model	Serial number	Installation date
SEM	JEOL	JSM-5500	MP17800068	July 2001
Microanalysis	Oxford Instruments	51-XXM0032	50990	June 2009

3.2) Examen documentaire / Survey of the documentation

N/A

3.3) Examen de la qualification des opérateurs / Survey of the qualification of the personnel

STAFF QUALIFIED TO CONDUCT THESE TESTS

Surname	First name	Training	Position	Experience in the position
Mathys	Andi	ICP and SEM	Laboratory Manager	>10 years with company
Gümüstas	Atila	ICP	Senior Laboratory Technician	>5 years
Gousset	Ineta	ICP	Laboratory Technician	1 year
Feng-Li	Sophie	ICP and SEM	Senior Laboratory Technician	>10 years
Elks	John	ICP	Laboratory Supervisor	>10 years with company
Zhang	Ling	ICP and SEM	Senior Laboratory Technician	>10 years

3.4) Examen de la mise en œuvre du procédé / Survey of the implementation of the process

The implementation of the means was verified by a cross-correlation test on metal particles between the Spectro Oil AG laboratory and the one of Safran HE (DT/MPE).

3.5) Examen des essais croisés/ Survey of the cross tests

	SAFRAN HE	Spectro AG
Echantillon n°1	100C6	100C6
	XC18	100MCV4
	15CDV6	15CDV6
Echantillon n°2	AU4G1	AU4G1
	Z12CNDV12	Z12CNDV12
	16NCD13	16NCD13
	35CD4	100MCV4
Echantillon n°3	25CD4	25CD4 ou 30CD4 ou 35CD4
	Z10CNT18-10	Z6CN18-8/Z2CN18-10/ Z12CN18-10
	35NCD16	35NCD16
		100MCV4
Echantillon n°4	16NCD13	16NCD13
	35NCD16	35NCD16
		100MCV4
Echantillon n°5	100C6	100C6
	16NCD13	16NCD13
	Z12CNDV12	Z12CNDV12
	15CDV6	100MCV4

All the materials present in the different samples were identified by Spectro Oil with the exception for

sample 1 et 2; The laboratory identified 100 MCV4 instead of XC18 or 35CD4

Given the composition of the kit, these low-alloy alloys are difficult to differentiate. Moreover, these materials are not "critical" for carrying out maintenance actions

sample 5; The laboratory identified 100 MCV4 instead of 15CDV6

The success rate for this material is identical to that of the SHE inter-operator tests

These results make it possible to pronounce the renewal of the qualification of the laboratory