

DEPARTMENT OF ENVIRONMENTAL QUALITY  
AIR QUALITY DIVISION  
ACTIVITY REPORT: Self Initiated Inspection

*FY2014 Insp*

U6311038726224

FACILITY: Element Materials Technology		SRN / ID: U63110387
LOCATION: 51229 Century Court, Wixom		DISTRICT: Southeast Michigan
CITY: Wixom		COUNTY: OAKLAND
CONTACT:		ACTIVITY DATE: 07/28/2014
STAFF: Iranna Konanahalli	COMPLIANCE STATUS: Compliance	SOURCE CLASS:
SUBJECT: FY 2014 inspection of Element Materials Technology ("3i-element")		
RESOLVED COMPLAINTS:		

*E-file: U63110387 - SAR - 2014 07 28*

**Element Materials Technology (U-63-11- 0387)**  
**fka STORK Materials Technology Group (U-63-11- 0387)**  
**51229 Century Court**  
**Wixom, Michigan 48393-2074**

**Name change (Jan 2012) due to purchase by 3i: STORK Materials Technology Group (U-63-11- 0387) → Element Materials Technology (U-63-11- 0387)**

**www.element.com**

**Permit-to-Install: Rules 283 exempt process equipment – Testing.**

On July 28, 2014, I conducted a level 2 self-initiated inspection of **Element Materials Technology** ("3i-element"), a global network of laboratories., located at 51229 Century Court, Wixom, Michigan 48393-2074. The inspection was conducted to determine compliance with the Federal Clean Air Act; Article II, Part 55, Air Pollution Control, of the Natural Resources and Environmental Protection Act, 1994 PA 451 and Michigan Department of Environmental Quality, Air Quality Division (MDEQ-AQD) administrative rules.

During the inspection, Ms. Stephanie S. Mroz (Phone: 248-560-4009; Fax: NA; Cell: NA; E-mail: stephanie.mroz@element.com; Web: www.element.com), Metallurgical Engineer (failure analysis expert) and SHE coordinator, assisted me.

About May 2013, Mr. James W. Walsh (Phone: 248-960-4900; Fax: 248-960-5966; Cell: 248-956-2199; E-mail: james.w.walsh@us.stork.com; Web: www.storksmt.com/crs), General Manager, separated from the company.

About January 1, 2012, 3i, a British venture capital (Private Equity) investment company, purchased STORK Materials Technology Group and renamed the company as "element" or "Element Materials Technology, Wixom". Element Materials Technology is global network of laboratories specializing in materials testing, product qualification, failure analysis (such as Wixom facility) for Aerospace, Defense, Oil and Gas, Power Generation, Transportation, etc. industries.

3i-element, Element Materials Technology, a full service metallurgical testing (both destructive and non-destructive) facility, provides metallurgical analysis, engineering, testing and consulting services, viz:

1. Non-destructive metallurgical testing
2. Fatigue testing

3. Positive material identification (PMI)
4. Chemical analysis
5. Mechanical testing
6. Welding engineering (discontinued about Aug 2012)
7. Wind energy industry testing (discontinued about Aug 2012)
8. Hot harness testing
9. Lead testing
10. Abrasion testing
11. Failure analysis
12. Metallurgical analysis
13. Materials testing
14. Corrosion testing

Most testing is for automotive applications with negligible military / defense work. Engineering and metallurgical samples are cut and machined using one CNC Mill, two lathes, one NC lathe, one surface grinder, one Blanchard grinder, two abrasive cut saws, etc.

Also, one Mxiem water jet metal cutting machine is present. High pressure water containing abrasive materials is used to cut metal test samples. Water together with abrasives is recycled and reused.

Heat treating lab with 3 heat treating ovens (electrically heated), mechanical testing lab with one oven (electrically heated) for high temperature testing, fatigue machines (both rotating and tensile), hardness testing lab (Rockwell hardness) are present.

There are many hoods. In chemistry labs, two regular and one perchloric hoods present. perchloric hood is equipped with a water wash scrubber to wash the stack of acid deposits to prevent explosion. In metallography lab, two acid etching (HCl, HNO<sub>3</sub>, etc. process hoods are present.

Because the machines / equipment are used on lab scale, i.e., not production scale, the processes / equipment are exempt from Rule 336.1201 (Permit-to-Install) pursuant to Rule 283. All particulate exhaust, except chemical, is released to in-plant environment.

### Conclusion

Metal cutting, grinding, etc machines are exempt from Rule 336.1201 per Rule 283.

NAME J. Sheenahall

DATE 08/04/2014 SUPERVISOR CJE