

**Regulated Research Institutional/Industrial Setting Form (1C)**  
**Continued**

Student's Name(s) Matthew Daleo and Evan Lockwood

4. Detail the student's role in conducting the research (e.g. data collection, specific procedures performed). Differentiate what the student observed and what the student actually did.

Matthew and Evan collected the fossil samples. After training - and with supervision by beamline scientists- Evan and Matthew mounted the samples on the collection apparatus, loaded the beamline and drove the beamline for data collection. With supervision and guidance by teachers and beamline scientists, Matthew and Evan performed all steps of sample preparation, experimentation, data collection and data analysis.

5. Did the student(s) work on the project as part of a group? ☒ Yes ☐ No  
If yes, how many individuals were in the group and who were they (e.g. high school students, graduate students, faculty, professional researchers)?

Matthew and Evan are the principal student investigators of this project, working directly with the beamline scientist in charge where experimentation was conducted. This project was part of a Brookhaven National Lab Block Allocation Group including students and teachers from the following school districts: Bay Shore, Carle Place, Huntington, Newfield, Northport, Shelter Island, Shoreham Wading River, Westhampton Beach, West Islip, and William Floyd.

I attest that the student has conducted the work as indicated above and that any required review and approval by institutional regulatory board (IRB/IACUC/IBC) has been obtained. Copies are attached if applicable.  
I further acknowledge that the student will be presenting this work publicly in competition and I have communicated with the student research regarding any requirements for my review and/or restrictions of what is publicized.

Paul Northrup, PhD  
Supervising Adult's Printed Name

Paul Northrup  
Signature

Dr.

Title

Stony Brook University  
Institution

01/06/2020

Date Signed (must be after experimentation) (mm/dd/yy)

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Email/Phone



## Regulated Research Institutional/Industrial Setting Form (1C)

This form must be completed AFTER experimentation by the adult supervising the student research conducted in a regulated research institution, industrial setting or any work site other than home, school or field.

Student's Name(s) Matthew Daleo and Evan Lockwood

Title of Project Elemental Composition of Fossilized Ceratopsidae and Dromaeosauridae Teeth from the Lance Formation, Wyoming, USA

To be completed by the Supervising Adult in the Setting (NOT the Student(s)) after experimentation:

(Responses must be on the form as it is required to be displayed at student's project booth; please do not print double-sided.)

The student(s) conducted research at my work site:

1. Did you or your proxy (e.g. graduate student, postdoc, employee) mentor or provide substantial guidance to the student researcher? ☒ Yes ☐ No
- a. If no, describe your and/or your institution's role with the student researcher and his/her project (e.g. supervised use of equipment on site without ongoing mentorship and sign below.

b. If yes, complete questions 2–5.

2. Is the student's research project a subset of your ongoing research or work? ☐ Yes ☒ No
- Use questions 3, 4 and 5 to detail how the student's project was similar and/or different from ongoing research or work at your site.

3. Describe the independence and creativity with which the student:
- a. developed the hypotheses or engineering goals for the research project

Evan and Matthew devised their hypothesis entirely independently, and it is not related to ongoing research at Brookhaven National Lab. They conducted literature review and wrote a proposal to conduct experimentation at the National Synchrotron Light Source -II. All student work was reviewed and critiqued by teachers and scientist mentors, but this research question is not part of on-going research or work.

- b. designed the methodology for his/her research project

Evan and Matthew determined which fossil samples to analyze and which controls to use. With the guidance of beamline scientists and teachers, the students prepared the samples (either by mounting with tape, or crushing then placing in a capillary tube). Evan and Matt loaded the samples onto the beam line, decided which energies to use (based on elements of interest), and ran the beamline (all with the guidance of beamline scientists.) This methodology is standard for each beamline.

- c. analyzed and interpreted data

After training by beamline scientists on the appropriate software for each experiment, Evan and Matt conducted all data analysis and interpretation independently. This data is not part of an ongoing project.

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