

Identifier: SOP-5217 (Supersedes SOP-069.0)	Revision: 0	
Effective Date: October 14, 2008	Next Review Date: August 11, 2013	

Environmental Programs Directorate

Standard Operating Procedure

for **INSPECTING, MAINTAINING, AND INSTALLING BMPS**

APPROVAL SIGNATURES:

Process Owner:	Organization	Signature	Date
Steve Veenis	EP-LWSP	Signature on File	8/11/08
Quality Assurance Specialist:	Organization	Signature	Date
Lynn Wallace	QA-IQ	Signature on File	8/28/08
Responsible Line Manager:	Organization	Signature	Date
Paul Huber	EP-LWSP	Signature on File	8/18/08

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1.0 PURPOSE AND SCOPE

This procedure describes the process for conducting Best Management Practice (BMP) routine inspections, performing routine maintenance, and installing controls.

2.0 BACKGROUND AND PRECAUTIONS

2.1 Background

The Federal Facilities Compliance Agreement requires Los Alamos National Laboratory (LANL) to assess the condition of Solid Waste Management Units (SWMUs), Potential Release Sites (PRSs), and Areas of Concern (AOCs) with regard to potential pollutants, presence of erosion, condition of existing BMPs, and evaluation of the need for additional BMPs.

Inspection of BMPs must be done at the following times:

- A rain event at or near the Site registers ≥ 0.5 " of rain
- Exceedence of a Water Screening Action Level (wSAL)

If an inspection identifies a deficient BMP, then the BMP must be repaired or a new BMP(s) may be recommended to reduce erosion potential. Inspection results, maintenance performed on existing BMPs, and installation of new BMPs will be documented in the attachments to this SOP and records will be submitted to LANL as described herein.

A "route lead" may be appointed as the primary person with responsibility for the steps in this procedure. Several route leads may be appointed with responsibility for a subset of locations.

2.2 Precautions

This procedure is used with an approved Integrated Work Document (IWD) if needed and/or other safety documents as required.

3.0 PREREQUISITE TRAINING

Reference the latest LANL Water Stewardship Program training matrices for prerequisite training for field personnel.

4.0 EQUIPMENT

LANL Provides

- Copy of this procedure
- Copy of Integrated Work Document (IWD)
- Excavation Permit
- Storm Water BMP Inspection Form (Attachment 1, Form 5217-1)
- Storm Water BMP Maintenance Form (Attachment 2, Form 5217-2)
- Photo Authorization
- Maps
- Global Positioning System (GPS) unit
- Radio
- Pager
- Necessary keys

Subcontractor Provides

- Digital camera (w/ Photo Authorization Approval form)
- Safety glasses with side shields
- Leather gloves or equivalent work gloves
- Cell Phone (Government cell phone only in cleared areas)
- Shovels / pulasky
- Rock Bar
- Sledge Hammer
- Leatherman type tool
- Spool of "bailing" wire
- Aluminum stakes, one 1 foot and one 4 foot (if installing a bottle sampler)
- Silt dike
- Straw wattles
- Wooden stakes
- Matting
- Wire staples
- Flagging
- Permanent marker
- Ball point pen
- Plastic wire "zip" ties
- White erasable board
- Backpacks (if needed)
- Wire stripper/clamps

5.0 STEP-BY-STEP PROCESS DESCRIPTION

5.1 Obtain Excavation Permits

- | | |
|----------------------------|---|
| Contractor Project Manager | <ol style="list-style-type: none"> 1. In January of each year, initiate the review of all excavation permits for all the sites by going through LANL's excavation permit submittal process. Contact the appropriate Laboratory offices for review and approval.

Excavation permits are only good for six months at a time. After six months, the excavation permits will need to be extended for another six months and they can only be extended once assuming nothing changes at the sites. <hr/> <ol style="list-style-type: none"> 2. Compile all excavation permits in a master binder and keep it at the main field office location. If necessary make copies for the route leads for field use. |
|----------------------------|---|

5.2 Prepare for Fieldwork

- | | |
|--------------------|--|
| Hydrology Team | <ol style="list-style-type: none"> 1. Following a ≥ 0.5"rain event, prepare a precipitation report. |
| Field Data Manager | <ol style="list-style-type: none"> 2. Prepare a list of Sites at which to inspect BMPs based on a precipitation trigger or a wSAL exceedance. 3. Generate a "Storm Water BMP Inspection Form" (Form 5217-1) for each Site to be inspected. |

Shift
Operations
Manager

4. Generate "BMP Inspection/Maintenance Tracking Log" (Form 5217-3) for all Sites.

5. Provide to Contractor's Project Manager:

- Tracking Log (Form 5217-3).
- Packet of Form 5217-1s for each Site to be inspected.

6. Sign "BMP Inspection/Maintenance Tracking Log" (Form 5217-3) to relinquish packet of Forms

Contractor
Project
Manager

7. Review Form 5217-1s in packet and check boxes on Tracking Log (Form 5217-3) to show receipt. Sign Tracking Log to confirm pick-up of Forms.

8. Distribute appropriate Form 5217-1s.

9. Inform the Shift Operations Manager (e.g., by email) of the schedule for BMP work and BMP locations up to a week before (preferred) but no later than the day before (for minor changes) to be added to the appropriate plan of the day.

10. Two people are required for field work. Work should only be done during daylight hours. Extended work hours, if needed, must be approved by a supervisor. Conduct pre-job briefing with field personnel using the current Integrated Work Document. Obtain worker signatures on new or newly-revised IWDs.

Conduct tailgate safety meetings and obtain all worker signatures on tailgate meeting form.

11. For work at sites operated by Weapons Facility Operations, the appropriate access control should be notified before traveling to those sites. The IWD Part II will address specific requirements and training for these sites.

Route Lead

12. Obtain the necessary additional paperwork before conducting this work, including IWD's, and a map of each Site to be visited.

13. Gather the required equipment for the work to be done.

5.3 Inspect BMPS and Perform Routine Maintenance

Route Lead

1. When you receive Form 5217-1s indicating that BMP inspections have been triggered, initiate inspections at those Sites within 14 days of the trigger event.

If the inspection covers multiple rain events, record Rain Event Date and Rain Amount for each event on Form 5217-1, page 1.

2. Using the Site Field Map, locate and inspect the individual BMPs printed on page 1 of Form 5217-1.

3. Evaluate operation of each BMP and complete Form 5217-1.
4. If maintenance or installation of a new BMP is required, and the work can performed at this time, then perform work and complete the "Storm Water BMP Maintenance Form" (Form 5217-2).
5. Update the field map. Circle any findings on the map and assign a number. On the back of the map, reference the number and annotate with date, comments, and Route Lead's name.
6. If maintenance or installation of a new BMP is required, and the work cannot be performed at this time, then describe maintenance required on page 2 of Form 5217-1.
7. Take digital photos of BMPs when it is necessary to document "before" and "after" conditions. Include a white board in the photo with PRS number, SMA number, date and purpose of the photo.
8. If photos are taken in a secure area, follow the guidance for that particular area regarding the need for Derivative Classifier (DC) review of the photos before the camera leaves the secure area, as requirements may vary.
9. Inspector certifies that the information submitted is "true, accurate, and complete", then signs and dates the certification statement on Form 5217-1.
10. Turn in completed forms to the Task Order Contractor designee at the end of each day.

5.4 Perform Quality Assurance and Follow-up Maintenance

Task Order
Contractor

1. Stamp "date received" on Forms received from the Field Team
2. Fill-in BMP inspection date on the Tracking Log (5217-3).
3. Conduct technical Quality Assurance check on the Forms and resolve any discrepancies with the Route Lead.
4. If maintenance is indicated on the Inspection Form (Form 5217-1), assign a Maintenance Work Order Number (MWO#) to the work and add the number to Form 5217-1 in the "maintenance required" box and on the Tracking Log (5217-3).

Route Lead

5. Complete BMP maintenance at Sites within 14 days of the inspection.
6. Perform needed maintenance of BMPs to minimize discharge of sediment from the Site. Use manufacturer's guidelines for specific materials installed.
If BMPs cannot be repaired easily, document reasons on the Maintenance Form (5217-2).

7. : Take digital photos of the site to document “before” and “after” the repair and the location. Include a white board in the photos with PRS number, SMA number, date and purpose of the photo.

8. : Once all maintenance has been completed, complete Form 5217-2 certify that the information submitted is “true, accurate, and complete”, then sign and date Certification Statement.

9. : If photos are taken in a secure area, follow their guidance regarding the need for Derivative Classifier (DC) review of the photos before the camera leaves the secure area, since requirements vary.

10. Turn in Maintenance Forms (5217-2) to Task Order Contractor.

Task Order Contractor

11. Stamp “date received” on Forms received from the Field Team

12. Conduct Quality Assurance check on the Forms and resolve any discrepancies with the Route Lead.

13. Add date maintenance was completed on Tracking Log. (5217-3).

5.5 Install New BMPs

Project Lead

1. : Determine type and location of new BMP.

Route Lead

2. : Install BMPs according to Project Lead and manufacturer’s specifications.

3. Take digital photos of the site to document the installation and location. Include a white board in the photos with PRS number, SMA number, date, and purpose of photo.

4. If photos are taken in a secure area, follow their guidance regarding the need for Derivative Classifier (DC) review of the photos before the camera leaves the secure area, since requirements vary.

5. Document BMP installation on Maintenance Form 5217-2. Certify that the information submitted is “true, accurate, and complete”, then sign and date Certification Statement.

6. Turn in Maintenance Forms (5217-2) to Task Order Contractor.

Task Order Contractor

7. Stamp “date received” on Forms received from the Field Team

8. Conduct Technical Quality Assurance check on the Forms and resolve any discrepancies with the Route Lead.

9. Add date new install was completed on Tracking Log. (5217-3).

5.6 Data Management and Records

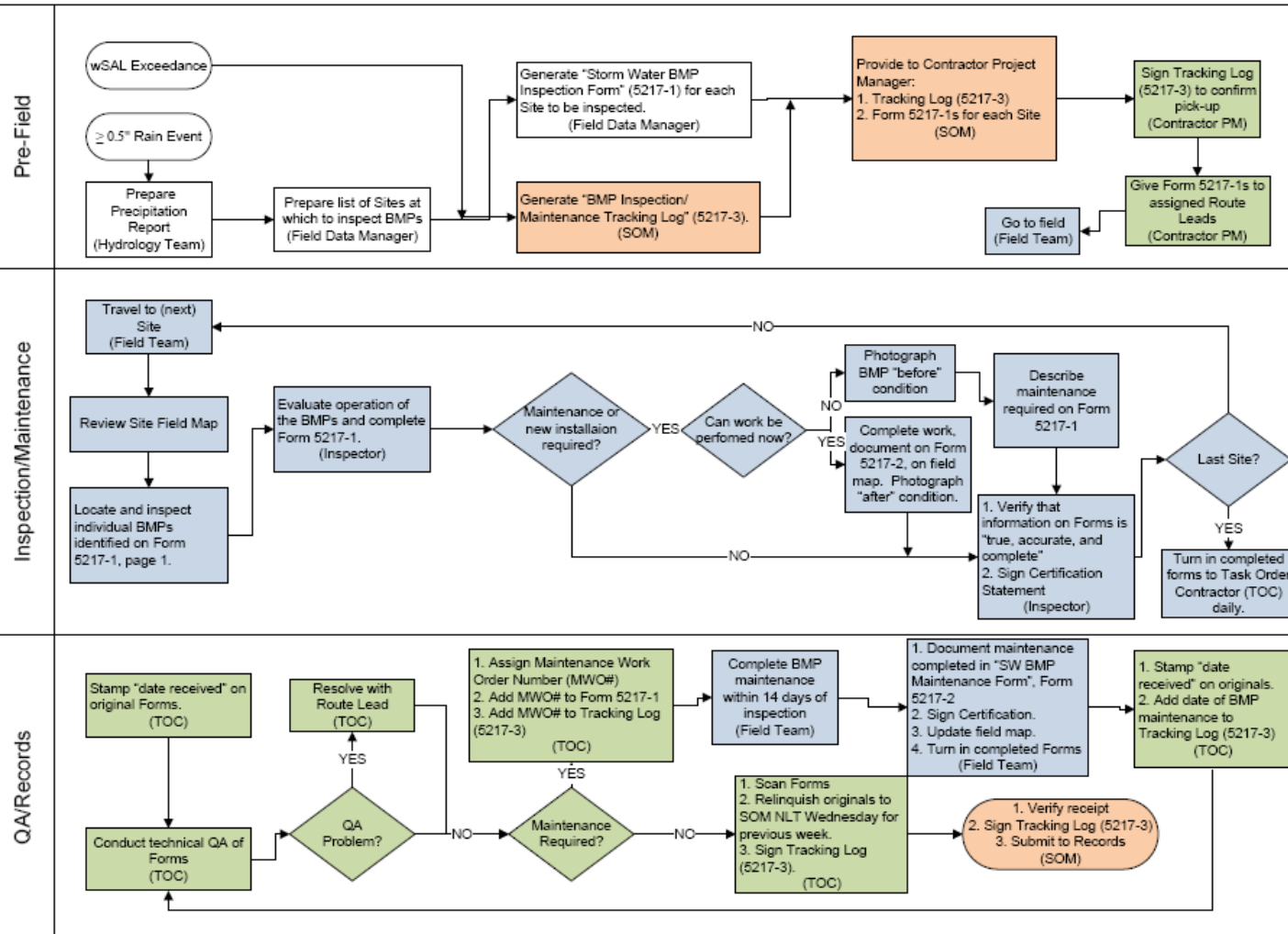
- | | | |
|--------------------------|----|--|
| Route lead | 1. | Download any photo(s) within 2 days of taking them. Label photos electronically with site number, date, and purpose. Print out hard copies for review by Project Leader. . |
| Project Leader | 2. | Select photos that are to be submitted for DC review. |
| Task Order Contractor | 3. | Following DC approval, save photos to a Project designated file on a LANL server or submit to Storm Water Permit Compliance Records Manager by CD. |
| | 4. | Scan original Forms. Attach scanned forms to the BMP electronic data base for LANL retrieval. |
| | 5. | No later than Wednesday of the week after the work was done, relinquish original forms to Shift Operations Manager. Sign Tracking Log (5217-3). Complete a Records Transmittal Form per EP-DIR-SOP-4004, Attachment 3. |
| Shift Operations Manager | 6. | Verify Forms received. Sign Tracking Log (5217-3). |
| | 7. | Review Forms. Submit to Storm Water Records Manager. |

6.0 RESULTING RECORDS

The following records are generated as a result of this procedure and are to be maintained in accordance with the applicable records management procedure:

- 5217-1 Storm Water BMP Inspection Form
- 5217-2 Storm Water BMP Maintenance Form
- 5217-3 BMP Inspection/Maintenance Tracking Log
- EP-4004, Attachment 3, Records Transmittal Form
- Photos (as applicable)
- DC review documentation (as applicable)
- Emails and memos of all decisions and actions related to the BMP program
- Excavation Permits

7.0 Process Flow Chart for Inspection, Maintenance, and Installation of BMPs



7.0 ATTACHMENTS

- Attachment 1: 5217-1 Storm Water BMP Inspection Form (Example)
- Attachment 2: 5217-2 Storm Water BMP Maintenance Form (Example)
- Attachment 3: 5217-3 BMP Inspection/Maintenance Tracking Log (Example)

8.0 REVISION HISTORY

Revision No. <i>[Enter current revision number, beginning with Rev.0]</i>	Effective Date <i>[DCC inserts effective date for revision]</i>	Description of Changes <i>[List specific changes made since the previous revision]</i>	Type of Change <i>[Technical (T) or Editorial (E)]</i>
0	03/06	New document.	T
0	10/14/08	Major revision. Supersedes ENV-WQH-SOP-069.	T

[Using a CRYPTOCard, click here to record "self-study" training to this procedure.](#)

If you do not possess a CRYPTOCard or encounter problems, contact the ERSS training specialist.

ATTACHMENT 1

SOP-5217	Form 5217-1 (7/2008)																
Storm Water BMP Inspection Form Los Alamos National Laboratory NPDES Permit No. NMR05A734																	
Inspection Type: <input type="checkbox"/> Rain Event (> 0.5") <input type="checkbox"/> Sample Event <input type="checkbox"/> wSal Exceedance <input type="checkbox"/> Other Rain Event Date: _____ Rain Gage: _____ Rain Amount: _____ inches																	
Route: _____ Inspector: _____ ZNumber: _____ Date: _____ Time: _____ am pm																	
Site Id: _____ Site Name: _____ SMA Id: _____ Map Number: _____																	
Site Controls Inspection: Verify the presence and locations of site erosion control measures (using SWPPP map). <input type="checkbox"/> Correct as Shown <input type="checkbox"/> Revise Site Controls on the SWPPP map. 																	
<table border="1" style="width: 100%; border-collapse: collapse;"> <thead> <tr> <th style="width: 30%;">Type</th> <th style="width: 20%;">Install Date</th> <th style="width: 20%;">Operational</th> <th style="width: 30%;">Maintenance Required</th> </tr> </thead> <tbody> <tr> <td>No record found.</td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> <tr> <td>_____</td> <td></td> <td style="text-align: center;"><input type="checkbox"/></td> <td style="text-align: center;"><input type="checkbox"/></td> </tr> </tbody> </table>		Type	Install Date	Operational	Maintenance Required	No record found.		<input type="checkbox"/>	<input type="checkbox"/>	_____		<input type="checkbox"/>	<input type="checkbox"/>	_____		<input type="checkbox"/>	<input type="checkbox"/>
Type	Install Date	Operational	Maintenance Required														
No record found.		<input type="checkbox"/>	<input type="checkbox"/>														
_____		<input type="checkbox"/>	<input type="checkbox"/>														
_____		<input type="checkbox"/>	<input type="checkbox"/>														

ATTACHMENT 2

SOP-5217

Form 5217-2 (7/2008)

Page 1 of 1

Storm Water BMP Maintenance Form
Los Alamos National Laboratory NPDES Permit No. NMR05A734

SMA ID:

Site Name:

MAINTENANCE WORK ORDER NUMBER: _____

Date of Inspection: _____

Maintenance Performed: (Required maintenance must be completed within 14 days of inspection date.)

Example

Maintenance completed on: _____
If maintenance not completed within 14 days from inspection date, explain:

Photos taken: _____ If No, explain: _____

Certification Statement

"I certify under penalty of law that this document and all attachments were prepared under my direction or supervision in accordance with a system designed to assure that qualified personnel properly gathered and evaluated the information submitted. Based on my inquiry of the person or persons who manage the system, or those persons directly responsible for gathering the information, the information submitted is, to the best of my knowledge and belief, true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of fine and imprisonment for knowing violations."

Name/Z Number

Signature

Date

Additional Comments: (initial and date)

ATTACHMENT 3

SOP-5217

Form 5217-3 (7/2008)

Date of Rain Event: 8/4/08

BMP Inspection/Maintenance Tracking Log

SMA	Site	Precip Amount	Form Pick-Up?	BMPs Inspected (Date)	Maintenance Work Order Number	Maintenance Completed (Date)	Original Forms to LANL
	48-003	0.97					
	48-007(a)	0.97					
	48-007(b)	0.97					
	48-007(c)	0.97					
	48-007(d)	0.97					
	48-007(f)	0.97					
	48-010	0.97					
W-SMA-13	49-001(a)	3.05					
W-SMA-12	49-001(g)	3.05					
	49-005(a)	3.05					
	50-006(a)	0.97					
	50-006(d)	0.97					
T-SMA-1	50-009	0.97					
	54-014(d)	0.52					
	54-017	0.52					
	54-018	0.52					
	54-020	0.52					
	60-007(b)	0.78					

Site Count = 183

1.	FORM PICK-UP BY FIELD TEAM	Relinquishing Forms (LANL) _____ Signature/Z#/Date	Receiving Forms (Task Order Contractor) _____ Signature/Z#/Date
2.	FORMS RETURNED TO LANL TECHNICAL	Relinquishing Forms (Task Order Contractor) _____ Signature/Z#/Date	Receiving Forms (LANL Technical) _____ Signature/Z#/Date
3.	FORMS SUBMITTED TO LANL RECORDS	Relinquishing Forms (LANL Technical) _____ Signature/Z#/Date	Receiving Forms (LANL Records) _____ Signature/Z#/Date

SAVE

PRINT

Section 16.1 Attachment 3 - Procedure Change Request

Procedure Change Request				
Section #1- Type of Request				
Manual/Procedure No. (if known): <u>EP-WES-SOP-5180 (was SOP-069.0)</u>				Revision: 0
Title: <u>Inspection, Maintenance, and Installation of BMPs</u> <i>Inspecting, Maintaining, and Installing BMPs</i>				
Detailed description of requested change (Attach additional sheets if needed. Number additional sheets): Streamlined, References to SWTS interface and GeoXT removed, reformatted, renumbered.				
Requestor Signature: <i>[Signature]</i>	Print Name: Jeff Waltersheid	Phone: 667-3643	Date: 7/1/08	
Section #2 - Procedure Owner Supervisor Approval For Processing				
<input type="checkbox"/> New Procedure <input checked="" type="checkbox"/> Major Revision <input type="checkbox"/> Minor Revision <input type="checkbox"/> Special Procedure <input type="checkbox"/> IPC <input type="checkbox"/> Deactivation <input type="checkbox"/> Cancellation <input type="checkbox"/> IPC Rollup				
<input checked="" type="checkbox"/> Approved <input type="checkbox"/> Disapproved (Return to originator)			Priority: High	
Procedure Owner Supervisor Signature: <i>[Signature]</i>		Print Name: Paul Huber	Date: 7/1/08	
Section #3 - Review and Concurrence				
IPC # N/A	IPCs Incorporated: N/A		Affected Pages: N/A	
Other affected facilities or N/A: <u>N/A</u> Obtain Concurrence all facilities/organizations affected by this change				
Review and Concurrence: Review organizations (N/A if not required); document additional review organizations, if needed on continuation sheet. CSE approval required for all technical procedures except minor revisions, IPC Rollup, and non-AB related cancellations/deactivations. CSE approval always required for changes affecting safety basis steps.				
Department:	Print Name:	Signature:	Date:	
QA-IQ	Lynn E. Wallace	<i>[Signature]</i>	7/2/08	
CSE USQ Number (as applicable): <u># WR 8/7/08</u>				
ADC: <input checked="" type="checkbox"/> Unclassified <input type="checkbox"/> OOU <input type="checkbox"/> UCNI <input type="checkbox"/> Classified				
Print Name <u>Catherine Smith</u> Signature <i>[Signature]</i>				
Section #4 - Final Approval By Procedure Owner				
Validation Required? <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Document is Authorized to serve as Part I of the IWD <input type="checkbox"/> Yes <input checked="" type="checkbox"/> No		Periodic Review Requirements Satisfied? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Training Required? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No		<input type="checkbox"/> Classroom/Briefing <input type="checkbox"/> On the Job	<input type="checkbox"/> Just-in-Time <input checked="" type="checkbox"/> Required Reading	<input type="checkbox"/> Hold for Completion of Training <input type="checkbox"/> Release Procedure to field
Approval Signature: <i>[Signature]</i>	Print Name: Steven J. Veenis	Z Number: 109949	Date: 7/1/08	Phone: 667-0013

Procedure will require USQ evaluation for nuclear facilities as part of a work package defining work (including hazards, locations, etc) prior to implementation.

Training Review Complete
Consent Assigned 47758

[Signature] 10/8/08