



SCANNED

CB&I Environmental & Infrastructure, Inc.
150 Royall Street
Canton, MA 02021
617-589-5111
FAX: 617-589-5495
www.CBI.com

May 11, 2015

Project #: 152780/06

Massachusetts Department of Environmental Protection
Northeast Regional Office
205B Lowell Street
Wilmington, Massachusetts 01887

Subject: Phase V Remedy Operation Status - Inspection & Monitoring Report
October 1, 2014 through March 31, 2015
Former Varian Facility Site
Beverly, Massachusetts
MADEP # 3-0485

To Whom It May Concern:

For your files, attached please find the eDEP receipt for the Phase V Remedy Operation Status - Inspection & Monitoring Report for the former Varian Facility Site in Beverly, Massachusetts submitted on May 6, 2015.

If you have any questions regarding the report, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read 'Raymond J. Cadorette', is written over a light-colored background.

Raymond J. Cadorette
Project Manager
CB&I Environmental and Infrastructure, Inc.

Phone: 617-589-6102
Email Address: Raymond.cadorette@CBI.com

Enclosure: Receipt from eDEP Transaction

RECEIVED

MAY 13 2015

**DEP
NORTHEAST REGIONAL OFFICE**

From: eDEPConfirmation@massmail.state.ma.us
To: [Kemper, Tim X \(CFS\)](#)
Cc: [Cadorette, Raymond](#)
Subject: eDEP Submittal Confirmation for DEP Transaction ID: 731787
Date: Thursday, May 07, 2015 2:14:49 PM

Thank you for using eDEP Online Filing from the Massachusetts Department of Environmental Protection. Your transaction is complete and has been submitted to MassDEP.

This email is your receipt for the eDEP Online Filing transaction described below. Please review it and keep a copy for your records.

Please do NOT reply to this message, this email address will not receive messages. For assistance with eDEP Online Filing, please email the EEA Help Desk at <mailto:helpdesk.eea@massmail.state.ma.us> or call 617-626-1111.

MassDEP is interested in how we can serve you better. To help us make improvements to eDEP, please take a minute to complete our eDEP Online Filing Survey at <http://www.mass.gov/eea/agencies/massdep/service/online/edep-contacts-and-feedback.html>.

To contact MassDEP Programs, please see <http://mass.gov/dep/about/contacts.htm>.

DEP Transaction ID: 731787

Date and Time Submitted: 05/06/2015 05:37:47

Form Name: BWSC108 Comp. Res. Action Transmittal Form & Phase I

RTN: 3-485
Location: VARIAN-MICROWAVE DIV
Address: 150 SOHIER RD
BEVERLY
019150000
Person Making Submittal
VARIAN MEDICAL SYSTEMS INC
JOHN R
BUCHANAN
3120 HANSEN WAY M/S G-100
PALO ALTO
CA
943041030
LSP
LSP #: 9070
LSP Name: TIMOTHY W
KEMPER
Person Making Certification
VARIAN MEDICAL SYSTEMS INC
John R Buchanan
Additional Forms Submitted
BWSCRMRA Remedial Monitoring Report()
BWSCRMRA Remedial Monitoring Report()
BWSCRMRA Remedial Monitoring Report()
Ancillary Document Uploaded/Mailed :
BWSC-108 Ques.B18 - ROS Status Report - By Mail

BWSC-108 Ques.F1 - Statement of Provisions - Uploaded (Attachment to BWSC 108.pdf)
RMR-A G5 Additional Supporting Information - By Mail

EMAIL ID OF THE USER: tim.kemper@cbifederaleservices.com

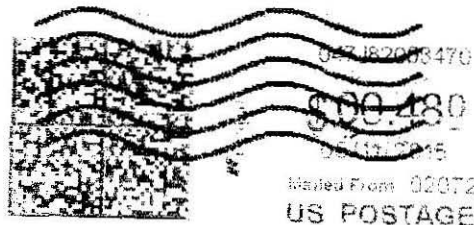
EMAIL ID OF THE OTHER USERS: raymond.cadorette@cbi.com



CB&I
150 Royall Street
Canton, MA 02021
US

BROCKTON MA 023

11 MAY 2015 PM 4 T



Massachusetts DEP
205B Lowell Street
Wilmington, MA 01887

01687\$2941





CB&I Environmental & Infrastructure, Inc.
150 Royall Street
Canton, MA 02021
617-589-5111
FAX: 617-589-5495
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May 6, 2015

Project #: 152780/06

Massachusetts Department of Environmental Protection
Northeast Regional Office
205B Lowell Street
Wilmington, Massachusetts 01887

Subject: Phase V Remedy Operation Status - Inspection & Monitoring Report
October 1, 2014 through March 31, 2015
Former Varian Facility Site
Beverly, Massachusetts
MADEP # 3-0485

To Whom It May Concern:

On behalf of Varian Medical Systems, Inc., CB&I Environmental and Infrastructure, Inc. has prepared the enclosed Phase V Remedy Operation Status - Inspection & Monitoring Report summarizing the activities conducted from October 1, 2014 through March 31, 2015 for the former Varian Facility Site in Beverly, Massachusetts. A copy of this report has also been provided to the Varian Public Involvement Plan (PIP) repository at the Beverly City Library, the City of Beverly Board of Health, and the Beverly Conservation Commission. An e-copy of this report will shortly be posted on the web site maintained for the former Varian Facility Site (<http://www.beverlycleanup.varian.com>). A notice of availability for this document has also been issued to the PIP mailing list established for this Site.

If you have any questions regarding the report, please do not hesitate to contact me.

Sincerely,

A handwritten signature in black ink, appearing to read "Raymond J. Cadorette", written in a cursive style.

Raymond J. Cadorette
Project Manager
CB&I Environmental and Infrastructure, Inc.

Phone: 617-589-6102
Email Address: Raymond.cadorette@CBI.com

Enclosure: BWSC-125
Receipt from eDEP Transaction
ROS Report (electronic copy on CD)

cc: See attached distribution list

DISTRIBUTION

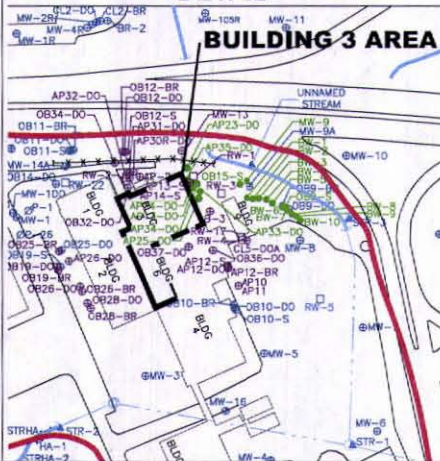
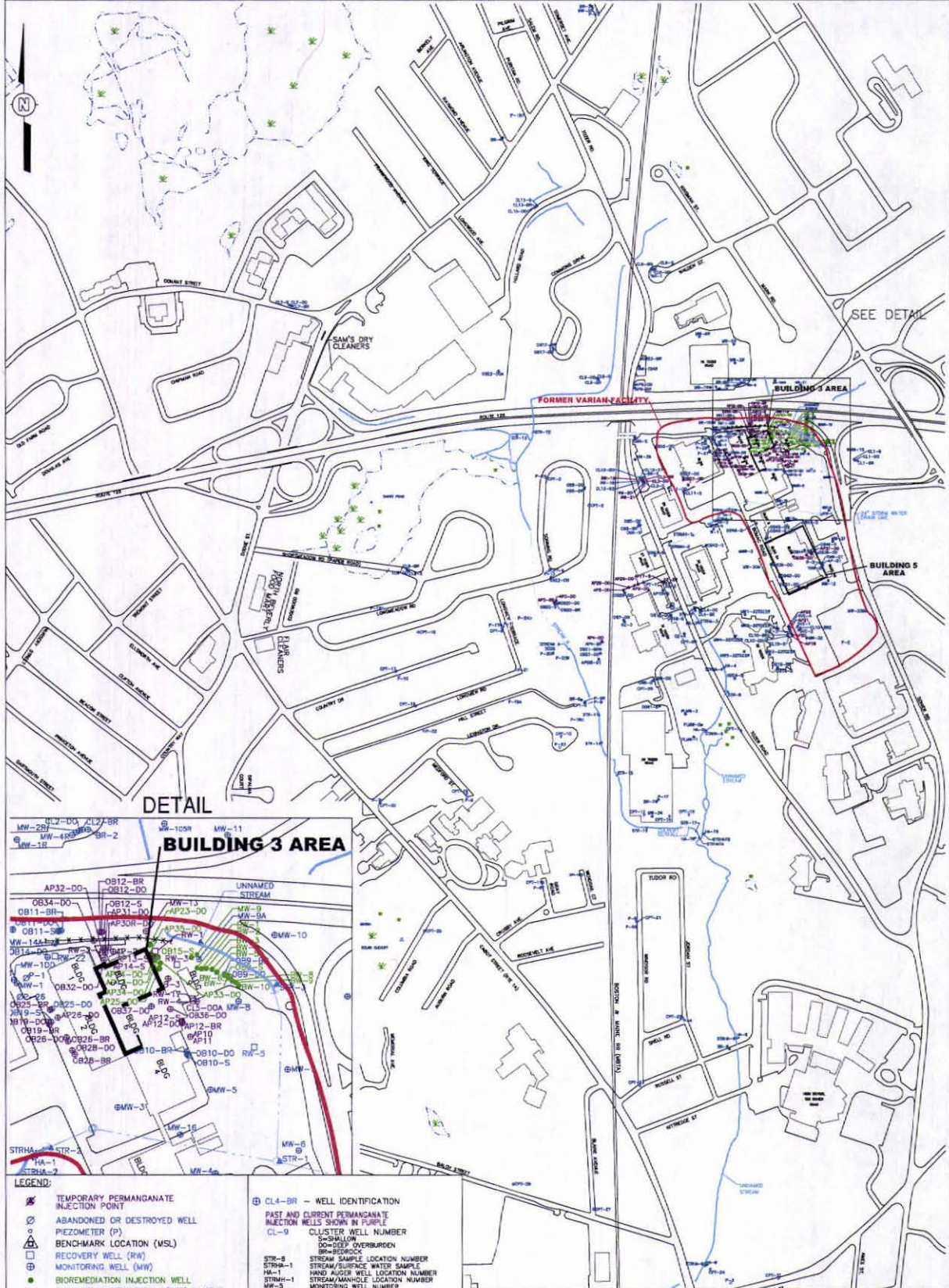
Hardcopy

Ms. Suzanne Nichelson, Varian PIP Repository, Beverly MA (report only)
Paul Beattie, Esquire, Fafard Real Estate & Development Corporation (report only)

Electronic Copy— report only on CD

Mr. John Buchanan, Varian Medical Systems, Inc. (all enclosures)
Mr. Frank Carbone, Beverly Board of Health
Ms. Debbie Hurlburt, Beverly Conservation Commission
Mr. Paul Miedzioski, Communications & Powers, Inc.
Mr. Grove Bryant, Signal Technology Corporation
District Four Environmental Engineer, Massachusetts Highway Department
Ms. Bobbi Whiting, Shore Country Day School
Mr. Peter Muto, Cell Signaling Technology, 32 Tozer Road
Mr. Andrew Irwin, IRWIN Engineers, Inc.
Ms. Charlotte Parrish, U.S. Postal Service
1943 LLC, c/o John Drislane
Mr. Manuel Barros, 31 Tozer Road LLC
Mr. Richard High, John N. Corcoran & Co.
Richard Gallogly, Esquire, Rackemann, Sawyer & Brewster
Mr. David Doyle, Arro Engineering Corporation
Seth Jaffe, Esquire, Foley Hoag LLP
Daniel J. Bailey, Esquire, Rackemann, Sawyer & Brewster
Mr. Jonathan D. Penni, Cervinia LLC

DRAWN BY	CD	CHECKED BY	RC	04/01/15	DRAWING NAME
	04/01/15	APPROVED BY	RC	04/01/15	SITE_PLAN22b



LEGEND:

	TEMPORARY PERMANGANATE INJECTION POINT		CL4-BR - WELL IDENTIFICATION
	ABANDONED OR DESTROYED WELL		PAST AND CURRENT PERMANGANATE INJECTION WELLS SHOWN IN PURPLE
	PIEZOMETER (P)		CL-9 CLUSTER WELL NUMBER
	BENCHMARK LOCATION (MSL)		STR-B STREAM SAMPLE LOCATION NUMBER
	RECOVERY WELL (RW)		SW-1 STREAM/SURFACE WATER SAMPLE
	MONITORING WELL (MW)		HA-1 HAND AUGER WELL LOCATION NUMBER
	BIOREMEDIATION INJECTION WELL		SM-1 STREAM/MANHOLE LOCATION NUMBER
	SURFACE WATER STREAM (STR) SAMPLE LOCATION		MW-5 MONITORING WELL NUMBER
	CONE PENETROMETER TESTPOINT (CPT)		MW-3 MONITORING WELL NUMBER
	HAND AUGER SAMPLE LOCATION (HA) ADJACENT TO A STREAM (STRHA)		STRMA-1 MANHOLE ACCESS TO THE STREAM LOCATED WITHIN A CULVERT
	APPROXIMATE BUILDING LOCATION		APPROXIMATE DRAIN MANHOLE LOCATION
	APPROXIMATE LOCATION OF STREAM IN CULVERT		APPROXIMATE STREAM LOCATION
	WATER AND MARSH AREA		

BEDROCK WELLS BR-1 THROUGH BR-8 AND CL-4-BR HAVE MULTILEVEL GROUNDWATER MONITORING SYSTEMS PRESENT WITHIN THE BEDROCK. ZONE 1 REFERS TO THE DEEPEST SAMPLING ZONE, ZONE 2 REFERS TO THE MIDDLE SAMPLING INTERVAL, AND ZONE 3 CORRESPONDS TO THE GROUND SURFACE.

THIS MAP HAS BEEN COMPILED FROM SURVEY DATA COLLECTED IN JULY 1994, MARCH 1995, OCTOBER 1995, SEPTEMBER 1996, MARCH 1997, DECEMBER 1997, SEPTEMBER 1998, JANUARY 2000, FEBRUARY 2001, JUNE 2002, SEPTEMBER 2002, JULY 2003, FEBRUARY 2004, OCTOBER 2004, 2005, JULY 2012, MAY 2014. FIELD NOTES, EXISTING PLANS, AND OBSERVATIONS MADE IN THE FIELD BY CBI ENVIRONMENTAL & INFRASTRUCTURE, INC.

FIGURE 2
EXPANDED SITE PLAN
FORMER VARIAN FACILITY SITE - BEVERLY, MA.

PREPARED FOR: VARIAN MEDICAL FACILITY, INC. PALO ALTO, CALIFORNIA	
SCALE 0 100 200 FEET	DRAFTED BY: CD
DATE: 1 APRIL 2015	PROJECT NO.: 152780
PREPARED BY:	CBI ENVIRONMENTAL & INFRASTRUCTURE, INC.



**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT**

Release Tracking Number

3 - 485

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

A. SITE LOCATION:

1. Site Name: VARIAN-MICROWAVE DIV

2. Street Address: 150 SOHIER RD

3. City/Town: BEVERLY 4. ZIP Code: 019150000

5. Check here if the disposal site that is the source of the release is Tier Classified. Check the current Tier Classification Category:

a. Tier I b. Tier ID c. Tier II

B. THIS FORM IS BEING USED TO: (check all that apply)

- 1. Submit a **Phase I Completion Statement**, pursuant to 310 CMR 40.0484.
- 2. Submit a **Revised Phase I Completion Statement**, pursuant to 310 CMR 40.0484.
- 3. Submit a **Phase II Scope of Work**, pursuant to 310 CMR 40.0834.
- 4. Submit an **interim Phase II Report**. This report does not satisfy the response action deadline requirements in 310 CMR 40.0500.
- 5. Submit a **final Phase II Report and Completion Statement**, pursuant to 310 CMR 40.0836.
- 6. Submit a **Revised Phase II Report and Completion Statement**, pursuant to 310 CMR 40.0836.
- 7. Submit a **Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862.
- 8. Submit a **Revised Phase III Remedial Action Plan and Completion Statement**, pursuant to 310 CMR 40.0862.
- 9. Submit a **Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874.
- 10. Submit a **Modified Phase IV Remedy Implementation Plan**, pursuant to 310 CMR 40.0874.
- 11. Submit an **As-Built Construction Report**, pursuant to 310 CMR 40.0875.
- 12. Submit a **Phase IV Status Report**, pursuant to 310 CMR 40.0877.
- 13. Submit a **Phase IV Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879.

Specify the outcome of Phase IV activities: (check one)

- a. Phase V Operation, Maintenance or Monitoring of the Comprehensive Remedial Action is necessary to achieve a Permanent or Temporary Solution.
- b. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.
- c. The requirements of a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.



**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT**

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number

3 - 485

B. THIS FORM IS BEING USED TO (cont.): (check all that apply)

14. Submit a **Revised Phase IV Completion Statement**, pursuant to 310 CMR 40.0878 and 40.0879.

15. Submit a **Phase V Status Report**, pursuant to 310 CMR 40.0892.

16. Submit a **Remedial Monitoring Report**. (This report can only be submitted through eDEP.)

a. Type of Report: (check one) i. Initial Report ii. Interim Report iii. Final Report

b. Frequency of Submittal: (check all that apply)

i. A Remedial Monitoring Report(s) submitted monthly to address an Imminent Hazard.

ii. A Remedial Monitoring Report(s) submitted monthly to address a Condition of Substantial Release Migration.

iii. A Remedial Monitoring Report(s) submitted every six months, concurrent with a Status Report.

iv. A Remedial Monitoring Report(s) submitted annually, concurrent with a Status Report.

c. Status of Site: (check one) i. Phase IV ii. Phase V iii. Remedy Operation Status iv. Temporary Solution

d. Number of Remedial Systems and/or Monitoring Programs: 3

A separate BWSC108A, CRA Remedial Monitoring Report, must be filled out for each Remedial System and/or Monitoring Program addressed by this transmittal form.

17. Submit a **Remedy Operation Status**, pursuant to 310 CMR 40.0893.

18. Submit a **Status Report to maintain a Remedy Operation Status**, pursuant to 310 CMR 40.0893(2).

19. Submit a **Transfer and/or a Modification of Persons Maintaining a Remedy Operation Status (ROS)**, pursuant to 310 CMR 40.0893(5) (check one, or both, if applicable).

a. Submit a Transfer of Persons Maintaining an ROS (the transferee should be the person listed in Section D, "Person Undertaking Response Actions").

b. Submit a Modification of Persons Maintaining an ROS (the primary representative should be the person listed in Section D, "Person Undertaking Response Actions").

c. Number of Persons Maintaining an ROS not including the primary representative: _____

20. Submit a **Termination of a Remedy Operation Status**, pursuant to 310 CMR 40.0893(6).(check one)

a. Submit a notice indicating ROS performance standards have not been met. A plan and timetable pursuant to 310 CMR 40.0893(6) (b) for resuming the ROS are attached.

b. Submit a notice of Termination of ROS.

21. Submit a **Phase V Completion Statement**, pursuant to 310 CMR 40.0894.

Specify the outcome of Phase V activities: (check one)

a. The requirements of a Permanent Solution have been met. A completed Permanent Solution Statement and Report (BWSC104) will be submitted to DEP.

b. The requirements for a Temporary Solution have been met. A completed Temporary Solution Statement and Report (BWSC104) will be submitted to DEP.

22. Submit a **Revised Phase V Completion Statement**, pursuant to 310 CMR 40.0894.

23. Submit a **Temporary Solution Status Report**, pursuant to 310 CMR 40.0898.

24. Submit a **Plan for the Application of Remedial Additives** near a sensitive receptor, pursuant to 310 CMR 40.0046(3).

a. Status of Site: (check one)

i. Phase IV

ii. Phase V

iii. Remedy Operation Status

iv. Temporary Solution



**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT**

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number

3 - 485

C. LSP SIGNATURE AND STAMP:

I attest under the pains and penalties of perjury that I have personally examined and am familiar with this transmittal form, including any and all documents accompanying this submittal. In my professional opinion and judgment based upon application of (i) the standard of care in 309 CMR 4.02(1), (ii) the applicable provisions of 309 CMR 4.02(2) and (3), and 309 CMR 4.03(2), and (iii) the provisions of 309 CMR 4.03(3), to the best of my knowledge, information and belief,

> if Section B indicates that a *Phase I, Phase II, Phase III, Phase IV or Phase V Completion Statement and/or a Termination of a Remedy Operation Status* is being submitted, the response action(s) that is (are) the subject of this submittal (i) has (have) been developed and implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B indicates that a *Phase II Scope of Work or a Phase IV Remedy Implementation Plan* is being submitted, the response action (s) that is (are) the subject of this submittal (i) has (have) been developed in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal;

> if Section B indicates that an *As-Built Construction Report, a Remedy Operation Status, a Phase IV, Phase V or Temporary Solution Status Report, a Status Report to Maintain a Remedy Operation Status, a Transfer or Modification of Persons Maintaining a Remedy Operation Status and/or a Remedial Monitoring Report* is being submitted, the response action(s) that is (are) the subject of this submittal (i) is (are) being implemented in accordance with the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, (ii) is (are) appropriate and reasonable to accomplish the purposes of such response action(s) as set forth in the applicable provisions of M.G.L. c. 21E and 310 CMR 40.0000, and (iii) comply(ies) with the identified provisions of all orders, permits, and approvals identified in this submittal.

I am aware that significant penalties may result, including, but not limited to, possible fines and imprisonment, if I submit information which I know to be false, inaccurate or materially incomplete.

1. LSP#: 9070

2. First Name: TIMOTHY W 3. Last Name: KEMPER

4. Telephone: 617-515-3004 5. Ext.: _____ 6. Email: _____

7. Signature: TIMOTHY W KEMPER

8. Date: 5/6/2015 9. LSP Stamp: _____
(mm/dd/yyyy)





**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT**

Release Tracking Number

3 - 485

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

D. PERSON UNDERTAKING RESPONSE ACTIONS:

1. Check all that apply: a. change in contact name b. change of address c. change in the person undertaking response actions

2. Name of Organization: VARIAN MEDICAL SYSTEMS INC

3. Contact First Name: JOHN R

4. Last Name: BUCHANAN

5. Street: 3120 HANSEN WAY M/S G-100

6. Title: ENVIRONMENTAL AFFAIRS MANAGER

7. City/Town: PALO ALTO

8. State: CA

9. ZIP Code: 943041030

10. Telephone: 650-424-6103

11. Ext: _____

12. Email: john.buchanan@varian.com

E. RELATIONSHIP TO SITE OF PERSON UNDERTAKING RESPONSE ACTIONS: Check here to change relationship

1. RP or PRP a. Owner b. Operator c. Generator d. Transporter
 e. Other RP or PRP Specify: OTHER PRPS

2. Fiduciary, Secured Lender or Municipality with Exempt Status (as defined by M.G.L. c. 21E, s. 2)

3. Agency or Public Utility on a Right of Way (as defined by M.G.L. c. 21E, s. 5(j))

4. Any Other Person Undertaking Response Actions Specify Relationship: _____

F. REQUIRED ATTACHMENT AND SUBMITTALS:

- 1. Check here if the Response Action(s) on which this opinion is based, if any, are (were) subject to any order(s), permit(s) and/or approval(s) issued by DEP or EPA. If the box is checked, you MUST attach a statement identifying the applicable provisions thereof.
- 2. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the submittal of any Phase Reports to DEP.
- 3. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase III Remedial Action Plan.
- 4. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of the availability of a Phase IV Remedy Implementation Plan.
- 5. Check here to certify that the Chief Municipal Officer and the Local Board of Health have been notified of any field work involving the implementation of a Phase IV Remedial Action.
- 6. If submitting a Transfer of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for the person making this submittal (transferee) is attached.
- 7. If submitting a Modification of a Remedy Operation Status (as per 310 CMR 40.0893(5)), check here to certify that a statement detailing the compliance history for each new person making this submittal is attached.
- 8. Check here if any non-updatable information provided on this form is incorrect, e.g. Release Address/Location Aid. Send corrections to: BWSC.eDEP@state.ma.us.
- 9. Check here to certify that the LSP Opinion containing the material facts, data, and other information is attached.



**COMPREHENSIVE RESPONSE ACTION TRANSMITTAL
FORM & PHASE I COMPLETION STATEMENT**

Pursuant to 310 CMR 40.0484 (Subpart D) and 40.0800 (Subpart H)

Release Tracking Number

3 - 485

G. CERTIFICATION OF PERSON UNDERTAKING RESPONSE ACTIONS:

I, JOHN R BUCHANAN, attest under the pains and penalties of perjury (i) that I have personally examined and am familiar with the information contained in this submittal, including any and all documents accompanying this transmittal form, (ii) that, based on my inquiry of those individuals immediately responsible for obtaining the information, the material information contained in this submittal is, to the best of my knowledge and belief, true, accurate and complete, and (iii) that I am fully authorized to make this attestation on behalf of the entity legally responsible for this submittal. I/the person or entity on whose behalf this submittal is made am/is aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate, or incomplete information.

>if Section B indicates that this is a **Modification of a Remedy Operation Status (ROS)**, I attest under the pains and penalties of perjury that I am fully authorized to act on behalf of all persons performing response actions under the ROS as stated in 310 CMR 40.0893(5)(d) to receive oral and written correspondence from MassDEP with respect to performance of response actions under the ROS, and to receive a statement of fee amount as per 4.03(3).

I understand that any material received by the Primary Representative from MassDEP shall be deemed received by all the persons performing response actions under the ROS, and I am aware that there are significant penalties, including, but not limited to, possible fines and imprisonment, for willfully submitting false, inaccurate or incomplete information.

2. By: JOHN R BUCHANAN 3. Title: ENVIRONMENTAL AFFAIRS MANAGER

Signature

4. For: VARIAN MEDICAL SYSTEMS INC 5. Date: 5/6/2015

(Name of person or entity recorded in Section D)

(mm/dd/yyyy)

6. Check here if the address of the person providing certification is different from address recorded in Section D.

7. Street: _____

8. City/Town: _____ 9. State: _____ 10. ZIP Code: _____

11. Telephone: _____ 12. Ext.: _____ 13. Email: _____

YOU ARE SUBJECT TO AN ANNUAL COMPLIANCE ASSURANCE FEE OF UP TO \$10,000 PER BILLABLE YEAR FOR THIS DISPOSAL SITE. YOU MUST LEGIBLY COMPLETE ALL RELEVANT SECTIONS OF THIS FORM OR DEP MAY RETURN THE DOCUMENT AS INCOMPLETE. IF YOU SUBMIT AN INCOMPLETE FORM, YOU MAY BE PENALIZED FOR MISSING A REQUIRED DEADLINE.

Date Stamp (DEP USE ONLY:)

Received by DEP on 5/6/2015 5:37:47 PM



Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Release Tracking Number

Remedial System or Monitoring Program: 2 of 3

3 - 485

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

[x] a. Active Remedial System: (check all that apply)

- [] i. NAPL Recovery [] ii. Soil Vapor Extraction/Bioventing [] iii. Vapor-phase Carbon Adsorption
[] iv. Groundwater Recovery [] v. Dual/Multi-phase Extraction [] vi. Aqueous-phase Carbon Adsorption
[] vii. Air Stripping [] viii. Sparging/Biosparging [] ix. Cat/Thermal Oxidation
[x] x. Other Describe: BLDG3 SUB-SLAB SVE SYSTEM

[x] b. Active Exposure Pathway Elimination Measure

Active Exposure Pathway Mitigation System to address (check one): [x] i. Indoor Air [] ii. Drinking Water

[] c. Application of Remedial Additives: (check all that apply)

- [] i. To the Subsurface [] ii. To Groundwater (Injection) [] iii. To the Surface

[] d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)

- [] i. Reactive Wall [] ii. Natural Attenuation [] iii. Other Describe:

2. Mode of Operation: (check one)

- [x] a. Continuous [] b. Intermittent [] c. Pulsed [] d. One-time Event Only [] e. Other:

3. System Effluent/Discharge: (check all that apply)

- [] a. Sanitary Sewer/POTW
[] b. Groundwater Re-infiltration/Re-injection: (check one) [] i. Downgradient [] ii. Upgradient
[x] c. Vapor-phase Discharge to Ambient Air: (check one) [x] i. Off-gas Controls [] ii. No Off-gas Controls
[] d. Drinking Water Supply
[] e. Surface Water (including Storm Drains)
[] f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal:

From: 10/1/2014 To: 3/31/2015
(mm/dd/yyyy) (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

- [] a. System Startup: (if applicable)
[] i. Days 1, 3, 6, and then weekly thereafter, for the first month.
[] ii. Other Describe:
[x] b. Post-system Startup (after first month) or Monitoring Program:
[] i. Monthly
[] ii. Quarterly
[] iii. Annually
[x] iv. Other Describe: BI-WEEKLY

[x] 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

- [] 1. NPDES: (check one) [] a. Remediation General Permit [] b. Individual Permit
[] c. Emergency Exclusion Effective Date of Permit:
(mm/dd/yyyy)

[x] 2. MCP Performance Standard MCP Citations(s): MADEP POLICY #WSC94-150

[] 3. DEP Approval Letter Date of Letter:
(mm/dd/yyyy)

[] 4. Other Describe:



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
 Pursuant to 310 CMR 40.0800 (SUBPART H)
 Remedial System or Monitoring Program: 2 of: 3

BWSC108 -A

Release Tracking Number

3 - 485

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
 a. Name: _____ b. Grade: _____
 c. License No: _____ d. License Exp. Date: _____
 (mm/dd/yyyy)
2. Not Required
3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

1. The Active Remedial System was functional one or more days during the Reporting Period.
 a. Days System was Fully Functional: 173 b. GW Recovered (gals): _____
 c. NAPL Recovered (gals): _____ d. GW Discharged (gals): _____
 e. Avg. Soil Gas Recovery Rate (scfm): 171 f. Avg. Sparging Rate (scfm): _____
2. Remedial Additives: (check all that apply)
- a. No Remedial Additives applied during the Reporting Period.
- b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

i. Nitrogen/Phosphorus:

Name of Additive	Date	Quantity	Units

ii. Peroxides:

Name of Additive	Date	Quantity	Units

iii. Microorganisms:

Name of Additive	Date	Quantity	Units

iv. Other:

Name of Additive	Date	Quantity	Units

c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

i. Permanganates:

Name of Additive	Date	Quantity	Units

ii. Peroxides:

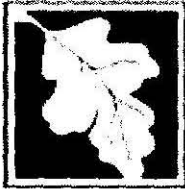
Name of Additive	Date	Quantity	Units

iii. Persulfates:

Name of Additive	Date	Quantity	Units

iv. Other:

Name of Additive	Date	Quantity	Units



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 2 of: 3

BWSC108 -A

Release Tracking Number
3 - 485

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: 10 b. Total Number of Days of Unscheduled Shutdowns: 9
c. Reason(s) for Unscheduled Shutdowns: LOW VACUUM DUE TO ICE AND WATER BUILD UP

2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____
c. Reason(s) for Scheduled Shutdowns: _____

3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____
(mm/dd/yyyy)

b. No Further Effluent Discharges.

c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

d. No Further Submittals Planned.

e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.



Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Release Tracking Number

Remedial System or Monitoring Program: 3 of 3

3 - 485

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

- a. Active Remedial System: (check all that apply)
i. NAPL Recovery
ii. Soil Vapor Extraction/Bioventing
iii. Vapor-phase Carbon Adsorption
iv. Groundwater Recovery
v. Dual/Multi-phase Extraction
vi. Aqueous-phase Carbon Adsorption
vii. Air Stripping
viii. Sparging/Biosparging
ix. Ca/Thermal Oxidation
x. Other Describe: BUILDING 5 SUB-SLAB SVE SYSTEM
b. Active Exposure Pathway Elimination Measure
Active Exposure Pathway Mitigation System to address (check one): i. Indoor Air ii. Drinking Water
c. Application of Remedial Additives: (check all that apply)
i. To the Subsurface
ii. To Groundwater (Injection)
iii. To the Surface
d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)
i. Reactive Wall
ii. Natural Attenuation
iii. Other Describe:

2. Mode of Operation: (check one)

- a. Continuous
b. Intermittent
c. Pulsed
d. One-time Event Only
e. Other:

3. System Effluent/Discharge: (check all that apply)

- a. Sanitary Sewer/POTW
b. Groundwater Re-infiltration/Re-injection: (check one)
i. Downgradient
ii. Upgradient
c. Vapor-phase Discharge to Ambient Air: (check one)
i. Off-gas Controls
ii. No Off-gas Controls
d. Drinking Water Supply
e. Surface Water (including Storm Drains)
f. Other Describe:

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal: From: 10/1/2014 To: 3/31/2015
(mm/dd/yyyy) (mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

- a. System Startup: (if applicable)
i. Days 1, 3, 6, and then weekly thereafter, for the first month.
ii. Other Describe:
b. Post-system Startup (after first month) or Monitoring Program:
i. Monthly
ii. Quarterly
iii. Annually
iv. Other Describe: BI-WEEKLY

3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

- 1. NPDES: (check one)
a. Remediation General Permit
b. Individual Permit
c. Emergency Exclusion
Effective Date of Permit: (mm/dd/yyyy)
2. MCP Performance Standard MCP Citations(s): MADEP POLICY #WSC94-150
3. DEP Approval Letter Date of Letter: (mm/dd/yyyy)
4. Other Describe:



Massachusetts Department of Environmental Protection

Bureau of Waste Site Cleanup

CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Remedial System or Monitoring Program: 3 of 3

BWSC108 -A

Release Tracking Number

3 - 485

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

- 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
a. Name: b. Grade:
c. License No: d. License Exp. Date: (mm/dd/yyyy)
2. Not Required
3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

- 1. The Active Remedial System was functional one or more days during the Reporting Period.
a. Days System was Fully Functional: 180 b. GW Recovered (gals):
c. NAPL Recovered (gals): d. GW Discharged (gals):
e. Avg. Soil Gas Recovery Rate (scfm): 151 f. Avg. Sparging Rate (scfm):

2. Remedial Additives: (check all that apply)

- a. No Remedial Additives applied during the Reporting Period.
b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

i. Nitrogen/Phosphorus:

Table with 4 columns: Name of Additive, Date, Quantity, Units

ii. Peroxides:

Table with 4 columns: Name of Additive, Date, Quantity, Units

iii. Microorganisms:

Table with 4 columns: Name of Additive, Date, Quantity, Units

iv. Other:

Table with 4 columns: Name of Additive, Date, Quantity, Units

c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

i. Permanganates:

Table with 4 columns: Name of Additive, Date, Quantity, Units

ii. Peroxides:

Table with 4 columns: Name of Additive, Date, Quantity, Units

iii. Persulfates:

Table with 4 columns: Name of Additive, Date, Quantity, Units

iv. Other:

Table with 4 columns: Name of Additive, Date, Quantity, Units



Massachusetts Department of Environmental Protection
Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT
Pursuant to 310 CMR 40.0800 (SUBPART H)
Remedial System or Monitoring Program: 3 of: 3

BWSC108 -A

Release Tracking Number

3 - 485

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

d. Other additives applied: (total quantity applied at the site for the current reporting period)

Name of Additive	Date	Quantity	Units

Name of Additive	Date	Quantity	Units

e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: 1 b. Total Number of Days of Unscheduled Shutdowns: 2

c. Reason(s) for Unscheduled Shutdowns: LOW VACUUM DUE TO ICE AND WATER BUILD UP

2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: _____ b. Total Number of Days of Scheduled Shutdowns: _____

c. Reason(s) for Scheduled Shutdowns: _____

3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: _____
(mm/dd/yyyy)

b. No Further Effluent Discharges.

c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

d. No Further Submittals Planned.

e. Other: Describe: _____

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

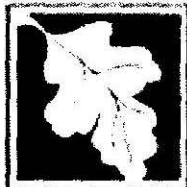
1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.



Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Release Tracking Number

Remedial System or Monitoring Program: 1 of 3

3 - 485

A. DESCRIPTION OF ACTIVE OPERATION AND MAINTENANCE ACTIVITY:

1. Type of Active Operation and Maintenance Activity: (check all that apply)

[] a. Active Remedial System: (check all that apply)

[] i. NAPL Recovery

[] ii. Soil Vapor Extraction/Bioventing

[] iii. Vapor-phase Carbon Adsorption

[] iv. Groundwater Recovery

[] v. Dual/Multi-phase Extraction

[] vi. Aqueous-phase Carbon Adsorption

[] vii. Air Stripping

[] viii. Sparging/Biosparging

[] ix. Cal/Thermal Oxidation

[] x. Other Describe:

[] b. Active Exposure Pathway Elimination Measure

Active Exposure Pathway Mitigation System to address (check one): [] i. Indoor Air [] ii. Drinking Water

[x] c. Application of Remedial Additives: (check all that apply)

[] i. To the Subsurface

[x] ii. To Groundwater (Injection)

[] iii. To the Surface

[] d. Active Remedial Monitoring Program Without the Application of Remedial Additives: (check all that apply; Sections C, D and E are not required; attach supporting information, data, maps and/or sketches needed by checking Section G5)

[] i. Reactive Wall

[] ii. Natural Attenuation

[] iii. Other Describe:

2. Mode of Operation: (check one)

[] a. Continuous

[x] b. Intermittent

[] c. Pulsed

[] d. One-time Event Only

[] e. Other:

3. System Effluent/Discharge: (check all that apply)

[] a. Sanitary Sewer/POTW

[] b. Groundwater Re-infiltration/Re-injection: (check one)

[] i. Downgradient

[] ii. Upgradient

[] c. Vapor-phase Discharge to Ambient Air: (check one)

[] i. Off-gas Controls

[] ii. No Off-gas Controls

[] d. Drinking Water Supply

[] e. Surface Water (including Storm Drains)

[x] f. Other Describe: NA

B. MONITORING FREQUENCY:

1. Reporting period that is the subject of this submittal:

From: 10/1/2014

To: 3/31/2015

(mm/dd/yyyy)

(mm/dd/yyyy)

2. Number of monitoring events during the reporting period: (check one)

[] a. System Startup: (if applicable)

[] i. Days 1, 3, 6, and then weekly thereafter, for the first month.

[] ii. Other Describe:

[x] b. Post-system Startup (after first month) or Monitoring Program:

[x] i. Monthly

[] ii. Quarterly

[] iii. Annually

[] iv. Other Describe:

[x] 3. Check here to certify that the number of required monitoring events were conducted during the reporting period.

C. EFFLUENT/DISCHARGE REGULATION: (check one to indicate how the effluent/discharge limits were established)

[] 1. NPDES: (check one)

[] a. Remediation General Permit

[] b. Individual Permit

[] c. Emergency Exclusion

Effective Date of Permit:

(mm/dd/yyyy)

[] 2. MCP Performance Standard MCP Citations(s):

[] 3. DEP Approval Letter Date of Letter:

(mm/dd/yyyy)

[] 4. Other Describe:



Massachusetts Department of Environmental Protection

Bureau of Waste Site Cleanup

CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Remedial System or Monitoring Program: 1 of 3

BWSC108 -A

Release Tracking Number

3 - 485

D. WASTEWATER TREATMENT PLANT OPERATOR: (check one)

- 1. Required due to Remedial Wastewater Treatment Plant in place for more than 30 days.
a. Name: b. Grade:
c. License No: d. License Exp. Date: (mm/dd/yyyy)
2. Not Required
3. Not Applicable

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (check all that apply)

- 1. The Active Remedial System was functional one or more days during the Reporting Period.
a. Days System was Fully Functional: b. GW Recovered (gals):
c. NAPL Recovered (gals): d. GW Discharged (gals):
e. Avg. Soil Gas Recovery Rate (scfm): f. Avg. Sparging Rate (scfm):
2. Remedial Additives: (check all that apply)
a. No Remedial Additives applied during the Reporting Period.
b. Enhanced Bioremediation Additives applied: (total quantity applied at the site for the current reporting period)

Table with 4 columns: Name of Additive, Date, Quantity, Units. Section: i. Nitrogen/Phosphorus.

Table with 4 columns: Name of Additive, Date, Quantity, Units. Section: ii. Peroxides.

Table with 4 columns: Name of Additive, Date, Quantity, Units. Section: iii. Microorganisms. Includes entry: DEHALOCOIDES CUI, 11/5/2014, 500, ML.

Table with 4 columns: Name of Additive, Date, Quantity, Units. Section: iv. Other. Includes entry: EMULSIFIED VEGET, 11/5/2014, 3759, GAL.

- c. Chemical oxidation/reduction additives applied: (total quantity applied at the site for the current reporting period)

Table with 4 columns: Name of Additive, Date, Quantity, Units. Section: i. Permanganates. Includes entry: SODIUM PERMANGA, 1/26/2015, 683, GAL.

Table with 4 columns: Name of Additive, Date, Quantity, Units. Section: ii. Peroxides.

Table with 4 columns: Name of Additive, Date, Quantity, Units. Section: iii. Persulfates.

Table with 4 columns: Name of Additive, Date, Quantity, Units. Section: iv. Other.



Bureau of Waste Site Cleanup
CRA REMEDIAL MONITORING REPORT

Pursuant to 310 CMR 40.0800 (SUBPART H)

Release Tracking Number

Remedial System or Monitoring Program: 1 of 3

3 - 485

E. STATUS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM DURING REPORTING PERIOD: (cont.)

d. Other additives applied: (total quantity applied at the site for the current reporting period)

Table with 4 columns: Name of Additive, Date, Quantity, Units

Table with 4 columns: Name of Additive, Date, Quantity, Units

e. Check here if any additional Remedial Additives were applied. Attach list of additional additives and include Name of Additive, Date Applied, Quantity Applied and Units (in gals. or lbs.)

F. SHUTDOWNS OF ACTIVE REMEDIAL SYSTEM OR ACTIVE REMEDIAL MONITORING PROGRAM: (check all that apply)

1. The Active Remedial System had unscheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Unscheduled Shutdowns: b. Total Number of Days of Unscheduled Shutdowns:
c. Reason(s) for Unscheduled Shutdowns:

2. The Active Remedial System had scheduled shutdowns on one or more occasions during the Reporting Period.

a. Number of Scheduled Shutdowns: b. Total Number of Days of Scheduled Shutdowns:
c. Reason(s) for Scheduled Shutdowns:

3. The Active Remedial System or Active Remedial Monitoring Program was permanently shutdown/discontinued during the Reporting Period.

a. Date of Final System or Monitoring Program Shutdown: (mm/dd/yyyy)

b. No Further Effluent Discharges.

c. No Further Application of Remedial Additives planned; sufficient monitoring completed to demonstrate compliance with 310 CMR 40.0046.

d. No Further Submittals Planned.

e. Other: Describe:

G. SUMMARY STATEMENTS: (check all that apply for the current reporting period)

1. All Active Remedial System checks and effluent analyses required by the approved plan and/or permit were performed when applicable.

2. There were no significant problems or prolonged (>25% of reporting period) unscheduled shutdowns of the Active Remedial System.

3. The Active Remedial System or Active Remedial Monitoring Program operated in conformance with the MCP, and all applicable approval conditions and/or permits.

4. Indicate any Operational Problems or Notes:

Empty rectangular box for operational problems or notes.

5. Check here if additional/supporting Information, data, maps, and/or sketches are attached to the form.

MASSACHUSETTS CONTINGENCY PLAN
PHASE V REMEDY OPERATION STATUS
INSPECTION & MONITORING REPORT
October 1, 2014 through March 31, 2015

FORMER VARIAN FACILITY SITE
150 SOHIER ROAD
BEVERLY, MASSACHUSETTS 01915



RECEIVED

May 6, 2015
MAY 06 2015

DEP
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