ADDENDUM TO THE FINAL LONG-TERM MONITORING WORK PLAN

COLONIE FUSRAP SITE
COLONIE, NEW YORK

Contract Number W9128F-12-D-0003
Task Order Number 0022

October 2014

U.S. ARMY CORPS OF ENGINEERS
NEW YORK DISTRICT OFFICE

FORMERLY UTILIZED SITES REMEDIAL ACTION PROGRAM

SUBMITTED BY:
CB&I FEDERAL SERVICES LLC

CB&I PROJECT NO. 500304

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CB&I	CB&I Federal Services LLC
cis-1,2-DCE	cis-1,2-dichloroethene
EPA	U.S. Environmental Protection Agency
DO	dissolved oxygen
FUSRAP	Formerly Utilized Site Remedial Action Program
LTM	Long-Term Monitoring
LUC	Land-Use Control
MNA	Monitored Natural Attenuation
NTU	Nephelometric Turbidity Unit
NYSDEC	New York State Department Environmental Conservation
ORP	oxidation reduction potential
PCE	tetrachloroethene
PVC	polyvinyl chloride
QA/QC	quality assurance/quality control
RAO	Remedial Action Objective
ROD	Record of Decision
Shaw	Shaw Environmental, Inc.
Site	Colonie FUSRAP Site
T&D	transport and disposal
TCE	trichloroethene
TCLP	Toxicity Characteristic Leaching Procedure
UFP-QAPP	Uniform Federal Policy-Quality Assurance Project Plan
USACE	U.S. Army Corps of Engineers
VC	vinyl chloride
VOC	volatile organic compound
WP	Work Plan

1.0 INTRODUCTION

This Addendum to the Final Long-Term Monitoring (LTM) Work Plan (WP) (Shaw Environmental, Inc. [Shaw], 2010) presents the approved modifications to the groundwater LTM Program for the Colonie Formerly Utilized Sites Remedial Action Program (FUSRAP) Site (Site) located at 1130 Central Avenue in the Town of Colonie, Albany County, New York.

The Final LTM WP was prepared on behalf of the United States Army Corps of Engineers (USACE) to provide detailed procedures for executing LTM of groundwater in accordance with the requirements in the Record of Decision (ROD) that was issued on April 9, 2010. As presented in the ROD, Monitored Natural Attenuation (MNA) with Land-Use Controls (LUCs) was the selected remedy for groundwater at the Site. Major components of the selected remedy include: 1) a two- to five-year enhanced data collection period to assess the rate of natural attenuation with an assessment of MNA at the end of the data collection period, and 2) temporary LUCs as necessary to limit potential exposure to groundwater contaminants until the target cleanup goals are achieved.

In accordance with the ROD, the groundwater sampling program was implemented to measure the progress of the MNA remedy. Groundwater samples were collected on a quarterly basis over an initial two-year period (2010-2012). At the end of the initial two-year groundwater monitoring period, the report entitled *2011-2012 Annual Report, Long-Term Monitoring, Colonie FUSRAP Site, Colonie, New York* (Shaw, 2012) was prepared to summarize and evaluate the groundwater data. Based on the review of data trends, MNA evidence, and the comparison of analytical results to the remedial action objective (RAO)-based target cleanup goal concentrations in the ROD, the monitoring program was modified as presented in this Addendum to the Final LTM WP.

The modifications to the groundwater LTM program are: 1) a reduction in the number of wells being sampled, 2) a reduction in the number of constituents being analyzed, and 3) changes in the frequency of sampling. This program revision is being implemented in accordance with the modifications presented in the Recommendations Section of the *2011-2012 Annual Report, Long-Term Monitoring, Colonie FUSRAP Site, Colonie, New York* and as approved with modification by the New York State Department of Environmental Conservation (NYSDEC) in correspondence to the USACE on May 5, 2014. The referenced correspondence also provides NYSDEC concurrence with the recommendation to install one additional shallow groundwater monitoring well north of monitoring well MW-32S. A copy of the letter from NYSDEC to the

USACE along with the USACE's responses to NYSDEC comments on the 2011-2012 Annual Report are provided in **Appendix A**.

This Addendum to the Final LTM WP has been prepared by CB&I Federal Services LLC (CB&I) for the USACE under Rapid Response V Contract Number W9128F-12-D-0003, Delivery Order Number 0022 to present the approved modifications to the Long-Term Groundwater Monitoring Program at the Colonie FUSRAP Site.

Note that this addendum document presents only the specific approved modifications to the groundwater monitoring program and the procedural details for installing one additional monitoring well on the main body of the Site. All other sections of the original Final LTM WP (Shaw, 2010) including the purpose and scope, data needs and objectives, data quality objectives, sampling procedures, data analysis techniques, monitoring endpoints, and the target cleanup goal concentrations for groundwater remain the same and still apply to the project work performed.

2.0 LONG-TERM MONITORING PLAN

2.1 REVISED MONITORING WELL NETWORK

The monitoring well network for the LTM Program has been revised to include the following eight upper groundwater zone monitoring wells: MW-08S, MW-30S, MW-32S, MW-34S, MW-37S, MW-41S, MW-42S and MW-44S. Note that monitoring well MW-44S will be installed as a part of the revised program in this Addendum.

The locations of the monitoring wells in the current network are shown on **Figure 1**. A summary of basic construction information for these monitoring wells is presented in **Table 1**.

2.2 REVISED CHEMICAL ANALYTICAL PROTOCOL AND SAMPLING FREQUENCY

The analytical protocol for the groundwater LTM Program has been revised to include the following chemical analyses for the chosen monitoring wells: volatile organic compounds (VOCs) – tetrachloroethene (PCE), trichloroethene (TCE), cis-1,2-dichloroehene (cis-1,2-DCE), and vinyl chloride (VC) and total and dissolved uranium. VOCs will be analyzed using U.S. Environmental Protection Agency (EPA) Method 8260B and total and dissolved uranium will be analyzed using EPA Method 6020. In addition, the MNA geochemical parameters will now include dissolved oxygen (DO) and oxidation-reduction potential (ORP) only, both via field measurement.

Groundwater sampling of the selected monitoring wells will be conducted on a semi-annual basis for an additional two years. Monitoring wells MW-30S, MW-34S, MW-41S, and MW-42S will be sampled semi-annually for the VOCs listed above and annually for MNA parameters. These wells will not be analyzed for uranium. Monitoring wells MW-32S, MW-37S, and MW-44S (yet to be installed) will be sampled semi-annually for VOCs (listed above) and for uranium (total and dissolved). MNA parameters will be measured on an annual basis for these three wells. Upgradient monitoring well MW-08S will be sampled for the listed VOCs once per year. The analytical protocol and sampling frequency for the groundwater LTM program is presented on a well-by-well basis in **Table 2**.

Sampling details including sample bottle types, sample preservatives, and number and type of quality control/quality assurance (QA/QC) samples are provided in the newly-issued Uniform Federal Policy-Quality Assurance Project Plan (UFP-QAPP).

2.3 MONITORING WELL INSTALLATION PROCEDURE

CB&I will install one new monitoring well with the designation MW-44S, to be located approximately 50 feet upgradient (north-northwest) of the sheet pile wall near monitoring well MW-32S along the southern property line. The proposed location of monitoring well MW-44S is shown on **Figure 1**.

Prior to the start of drilling activities, CB&I will contact the local New York state underground utility markout service (i.e., Dig Safely New York) to perform an underground utility survey to prevent contact with any underground utilities at the drilling location. CB&I safety policy requires that the top 5 feet of a monitoring well boring be dug manually using a hand auger, post hole digger, or air knife at the exact drilling location.

Monitoring well installation and development will be conducted in accordance with NYSDEC regulations (i.e., NYSDEC Regulations Subpart 360-2) and in accordance with the USACE Guideline EM 1110-1-4000 (USACE, 1998) for monitoring well installation and development. The monitoring well will be installed by a licensed drilling subcontractor. The well will constructed with a 2-inch diameter, Schedule 40 PVC riser and a 10-foot length of 0.010-inch slot Schedule 40 PVC wire-wrap well screen (e.g., similar to a Johnson PVC Vee-Wire® Screen) with clean filter pack sand appropriately sized for fine grain aquifers. The well will be set at a depth of approximately 25 feet below ground surface.

CB&I is aware that intrusion into the well by fine formation material (i.e., silt and clay) resulting in high turbidity is a common problem with the monitoring wells at the Site; therefore, extra care will be taken during the installation and development of this well to minimize the intrusion of fines into the well. Upon completion of installation, monitoring well MW-44S will be developed according to the procedures provided in **Section 2.4**. The newly-installed well will be surveyed for top of protective casing, top of riser, and ground surface elevations, and for northing and easting coordinates.

Drill cuttings will be containerized, sampled, and sent to an appropriate approved off-site disposal facility. The drill cuttings will be sampled for Toxicity Characteristic Leaching Procedure (TCLP) VOCs using EPA Methods 1331/8260B and TCLP Metals using EPA Methods 1311/6010/7471 for waste disposal determination. Further details regarding sampling requirements for transport and disposal (T&D) of drill cuttings are provided in the UFP-QAPP.

2.4 MONITORING WELL RE-DEVELOPMENT PROCEDURE

Periodic re-development of the Site monitoring wells is necessary to remove buildup of silt in the wells in order to assure that representative groundwater samples are collected. This section provides the procedure for the re-development of Site wells included in the revised monitoring well network listed in **Section 2.1**, as well as for the development of the yet-to-be installed monitoring well MW-44S.

Well development/re-development will be conducted at the eight monitoring wells in the LTM program network in accordance with USACE Standard EM 1110-1-4000 (USACE, 1998), Section 6-3, Mechanical Surging procedures, and specifically according to the recommended techniques as reported following the latest well development efforts at the Site. An alternating surge and pump method was adopted during the course of the well re-development effort in April 2011 because the initial attempt using a bailer and an inertial pump did not achieve sufficient removal of silt from the wells.

Therefore, the basic well development/re-development procedure will involve the following steps:

- Perform well development/re-development using alternating gentle surging and pumping sequences as described here.
- First surge the wells by hand using 3/4-inch or 1-inch polyvinyl chloride (PVC) pipe equipped with a surge block device.
- Pump out the silt-laden groundwater gently using a 2-inch submersible pump.
- Repeat the two-step process as needed to reduce the amount of silt in the well to an acceptable level, checking the total well depth periodically to monitor progress.
- Record the final total depth of the well after a sufficient amount of silt is removed from the well (i.e., reducing silt column in the well to the lowest level as reasonably possible with the goal of silt thickness remaining in the well of less than one percent of the screen length or less than 30 millimeters (0.1 feet), for screens equal to or less than 3 meters (10 feet) long.

In addition to the silt removal requirement, well development/re-development must meet water quality indicator parameter criteria and a minimum volume of groundwater removal requirement as follows:

- Indicator parameters (i.e., pH, conductivity, temperature, ORP, DO, and turbidity) have stabilized. According to USACE criteria, "Generally three successive readings should be

within ±0.2 for pH, ±3 percent for conductivity, ±10 mV for ORP, ±1 degree Celsius for temperature, and ±10 percent for turbidity and DO."

- The well water is clear to the unaided eye and the turbidity of the water removed has noticeably diminished. The goal is that the turbidity be reduced to below 10 Nephelometric Turbidity Units (NTUs). However, this may not be possible, since natural turbidity levels in groundwater commonly exceed 10 NTUs at the Site. Note that during the last two sampling events (May 2012 and August 2012) turbidity ranged from 0.0 to 18.2 NTUs for wells MW-08S, MW-30S, MW-32S, MW-34S, and MW-37S, and ranged from 60 to 203 NTUs for wells MW-41S and MW-42S. It is imperative that turbidity be reduced in the each well such that the groundwater sample is representative of water flowing through that well.
- A minimum of three times the standing water volume in the well (to include the well screen and casing plus saturated annulus) will be removed from the well.

In meeting these criteria, a time limit of 4 hours has also been stipulated as the maximum time to be spent re-developing any given well.

Well development records will be completed for each well. Sampling of the wells can occur between 48 and 96 hours following completion of well re-development. Groundwater analytical results have indicated that Site groundwater at the existing monitoring wells is not hazardous as defined by the Resource Conservation and Recovery Act **(**RCRA). Therefore, water removed from existing monitoring wells during re-development (and during well purging prior to sampling) will be allowed to infiltrate the ground downgradient of each well. In the case of a newly installed monitoring well (i.e., MW-44S) development and purge water will be sampled and temporarily held in a 55-gallon drum(s) until waste characterization results are received and evaluated. If the stored groundwater is characterized as nonhazardous, then the water will be allowed to infiltrate the ground downgradient of the well. Otherwise, the development/purge water will be transported to an appropriate waste facility for disposal.

3.0 REPORTING

Reports will be prepared following each well re-development, semi-annual sampling event, and annual sampling event as follows:

- Well Re-development Summary Report – A brief summary report of the well re-development effort will be prepared. The report will include a summary of the re-development method employed and results (i.e., silt thickness determination, water quality parameter stabilization summary, and volume of water removed) for each well. Field records documenting the well re-development data (i.e., well depths, water quality parameters, etc.) will be included in the report.

- Semi-Annual Data Summary Report – Following data validation, a brief written summary of the semi-annual event will be prepared. The Semi-Annual Data Summary Report will briefly describe the sampling event, identify any deviations from the work plan, present the field and laboratory data in table format, highlight results that exceed remedial action objectives, and plot trend graphs incorporating historical data.

- Annual MNA Monitoring Report – Upon completion of the second semi-annual sampling round, an Annual MNA Monitoring Report will be prepared. The Annual MNA Report will provide a summary of the sampling events, present analytical results, and evaluate those results against regulatory acceptance levels, and use graphical and statistical methods to evaluate natural attenuation. The Annual MNA Report will evaluate the behavior of the VOC mass, verify that the VOC natural attenuation daughter products such as cis-1,2-DCE and VC do not pose additional risks, determine actual attenuation rates, and use those rates to predict/refine the time frame when site-specific objectives will be attained.

  The data collected will be combined with historical data in order to create a database that will be used to evaluate if statistically significant stabilization and/or loss of contaminant mass is occurring over time. Objectives of the Annual MNA Report will include, but are not limited to the following: 1) defining the trends in VOC, radionuclide, and natural attenuation parameter concentrations over time, 2) determining the rate of VOC attenuation and how that rate is changing over time, and 3) predicting the remediation time-frame for VOCs.

  Some combination of graphical and statistical tests will be used to evaluate the VOC mass stability. Graphical techniques may include: 1) maps of VOC concentrations over time, 2) plots of VOC and natural attenuation parameters versus time for individual monitoring wells, and 3) plots of VOC concentrations versus distance downgradient for wells along the groundwater flow path over several sampling events.

The following statistical approaches will be used to accomplish the project objectives: 1) the Mann-Kendall test applied to data for VOCs at each monitoring well in the LTM program, 2) linear regression trend analysis applied to data for VOCs at each monitoring well in the LTM program, and 3) spatial moment analysis to evaluate the overall stability of VOC mass based on changes in mass and spatial distribution.

4.0 REFERENCES

Shaw Environmental, Inc., 2010, Final Long-Term Monitoring Work Plan, Groundwater Sampling for Natural Attenuation, Colonie FUSRAP Site, prepared for the U.S. Army Corps of Engineers, New York District, Formerly Utilized Sites Remedial Action Program, August.

Shaw Environmental, Inc., 2012, Final 2011-2012 Annual Long Term Monitoring Report, Colonie FUSRAP Site, Colonie, New York, prepared for the U.S. Army Corps of Engineers, New York District, May.

USACE, 1998, Engineering and Design - Monitoring Well Design, Installation, and Documentation at Hazardous Toxic, and Radioactive Waste Sites, EM 1110-1-4000.

TABLES

Table 1
Summary of Monitoring Well Information
Addendum to the Long-Term Monitoring Work Plan
Colonie FUSRAP Site
Colonie, New York

Well ID	Date Installed	Well Diameter	Top of Casing elevation (ft msl)	Top of Riser elevation (ft msl)	Ground Surface elevation (ft msl)	Top of Screen		Bottom of Screen		Total Depth	
						depth (ft bgs)	elevation (ft msl)	depth (ft bgs)	elevation (ft msl)	depth (ft bgs)	elevation (ft msl)
MW-08S*	11/7/1984	2"	231.4	230.9	228.9	6.0	222.9	11.0	217.9	13.0	215.9
MW-30S	8/2/2000	2"	227.02	226.74	225.24	4.5	222.24	14.5	212.24	14.5	210.74
MW-32S	12/11/2001	2"	224.4	224.1	222.2	9	213.2	19	203.2	19	203.2
MW-34S	12/20/2001	2"	220.53	219.84	218.33	8.5	209.8	18.5	199.8	18.5	199.83
MW-37S	2/27/2002	2"	220.26	219.96	218.05	11	207.1	21	197.1	21	197.05
MW-41S	12/11/2006	2"	224.97	224.82	223.15	10	213.2	20	203.2	22	201.15
MW-42S	12/12/2006	2"	226.03	225.77	224.23	10	214.2	20	204.2	23	201.23
MW-44S	To be installed										

Key:

ft msl denotes feet above mean sea level.

ft bgs denotes feet below ground surface.

* indicates that the monitoring well is upgradient

Table 2
Revised Groundwater Sampling Program
Long-Term Monitoring
Colonie FUSRAP Site
Colonie, New York

Well ID	VOCs[1]	Radionuclides[2]	MNA Parameters[3]
MW-08S	Annual	No Sample	No Sample
MW-30S	Semi-Annual	No Sample	Annual
MW-32S	Semi-Annual	Semi-Annual	Annual
MW-34S	Semi-Annual	No Sample	Annual
MW-37S	Semi-Annual	Semi-Annual	Annual
MW-41S	Semi-Annual	No Sample	Annual
MW-42S	Semi-Annual	No Sample	Annual
MW-44S[4]	Semi-Annual	Semi-Annual	Annual

Notes:

[1]VOCs include PCE, TCE, cis-1,2-DCE, and VC.

[2]Radionuclides include Total and Dissolved Uranium only.

[3]MNA parameters include ORP and DO only.

[4]Monitoring Well MW-44S to be installed.

Number and type of QA/QC samples provided in UFP-QAPP.

FIGURES


(99' RIGHT OF WAY)
MW-08S
MW-44S
STEEL
SHEET
PILE
MW-32S
MW-41S
MW-42S
MW-37S
MW-30S
MW-34S
NIAGARA MOHAWK SUBSTATION
MURPHY'S OVERHEAD DOOR
APPLETINI'S CAFE
MONROE MUFFLER
TOWN OF COLONIE
CITY OF ALBANY
DENSE TREES
DENSE TREES & BRUSH GROUND OBSCURED
GRAVEL ACCESS ROAD
YARDBORO AVENUE
(40' RIGHT OF WAY)
I-90 TO ROUTE 85 RAMP
RAILROAD AVENUE
(80' RIGHT OF WAY)
CLUSTER "H"
LEGEND:
PROPERTY OUTLINE
GENERAL DIRECTION OF GROUNDWATER FLOW
MONITORING WELL TO BE INSTALLED
MONITORING WELL REMAINING
CATCH BASIN
GUY WIRE
IRON ROD FOUND
SANITARY MANHOLE
SQUARE CONCRETE MONUMENT
STORMWATER MANHOLE
TELEPHONE MANHOLE
TRAFFIC SIGNAL BOX
UTILITY POLE
WATER METER
WATER SHUT-OFF
YELLOW CAPPED IRON ROD FOUND
OVERHEAD ELECTRIC
UNDERGROUND PIPE
FENCE LINE
HIGH DENSITY POLYETHYLENE PIPE
REINFORCED CONCRETE PIPE
RAILWAY (CSX)
BAR SCALE
1 inch = 60 ft.

REV	DESCRIPTION / ISSUE	DATE	APPROVED
	DRAFT		

U.S. ARMY CORPS OF ENGINEERS
FORMERLY UTILIZED SITES
REMEDIAL ACTION PROGRAM

FIGURE 1
SITE PLAN WITH
MONITORING WELL LOCATIONS

COLONIE FUSRAP SITE
1130 CENTRAL AVENUE
ALBANY, NY 12205

DESIGNED BY:	--
DRAWN BY:	E. Carpio
CHECKED BY:	M. Hardner
APPROVED BY:	--
DATE:	10/15/2014
SCALE:	AS SHOWN
DRAWING NO.	500304-D1
SHEET NO.	-

OFFICE Pittsburgh, PA
DRAWING NUMBER 500304D1

VERIFY SCALE

Xref Image: CBI_Logo-Color.jpg
Lower Zone.tif
ou-show.jpg
Upper Zone.tif

File: I:\CAD SUPPORT PITTSBURGH\Colonie_FUSRAP\500304D1.dwg
Plot Date/Time: Oct 28, 2014 - 3:27pm
Plotted By: zeke.carpio

APPENDIX A
NYSDEC and USACE CORRESPONDENCE

PROJECT: "Draft Final 2011-2012 Long Term Monitoring Report" for the Colonie FUSRAP Site Groundwater Sampling for Natural Attenuation			
REVIEW COMENTS REVIEWER: Kent Johnson, Remedial Section B, Bureau E			
ITEM	DRAWING NO OR REFERENCE	COMMENT	ACTION
1.	General	Although the USACE has selected a target cleanup goal for Cis-1,2-Dichloroethene of 1,800 ppb, the NYS Class GA standard is 5 ppb (To the USACE's credit, they do acknowledge it). That noted, it is useful to note that monitoring well MW-37s displays an increasing trend of cis-1,2 DCE while the monitoring well upgradient of it (MW-32s) displays an increasing trend of its parent contaminants. To me that indicates that MNA is occurring.	Comment noted. No action required.
2.	General	Overall, the concentrations of Chlorinated solvents are slowly decreasing and levels are (slowly) approaching the "target cleanup levels"	Comment noted. No action required.
3a.	Section 4.8 – Recommendations	The proposed sampling plan (wells, parameters, frequency) are acceptable for both flow zones.	Comment noted. No action required.
3b.	Section 4.8 – Recommendations	MNA parameters need not continue to be measured beyond ORP and DO	Section 4.8 - Recommendations will be revised to reflect monitoring of only ORP and DO in the Upper Groundwater Zone.

3c.	Section 4.8 – Recommendations	Wells which are no longer part of the long term monitoring program should not be abandoned at this time. (it is much less expensive to resample a well than reinstalling a well).	While installing a new well is expensive, keeping spare wells open is potentially hazardous. The New York State Department of Environmental Conservation's CP-43: Groundwater Monitoring Well Decommissioning Policy dated November 3, 2009 recognizes monitoring wells as "an environmental liability because of the potential to act as a conduit for pollution to reach the groundwater". The USACE believes that it is prudent to close those wells no longer being sampled. As long as these wells remain open, they pose a risk to the safety of the groundwater. Surface casings may accidentally become damaged. Because these wells are no longer part of the monitoring program, long periods may go by before the damage is detected. By that time, significant harm may already be done. Additionally, given the silt accumulation history in wells at the site, the USACE anticipates that significant work would be required to rehabilitate dormant wells prior to them being acceptable for sampling. It is the Corps's recommendation to formally abandon these wells to limit environmental risk. Although it's not anticipated to occur, if monitoring of remaining wells in the LTM program suggest re-sampling of groundwater is necessary in any areas not covered by the remaining LTM wells, the USACE recognizes and accepts their responsibility to install new wells as necessary.
3d.	Section 4.8 – Recommendations	Well MW-32S should not be replaced. Only one sampling event indicated PCE concentrations above the long term concentrations in the well. The case made in the report does not justify the expense and I don't see the benefit of a new well.	If the NYSDEC prefers that MW-32S be maintained in the LTM program, the USACE will concur with that recommendation; however, the USACE would also like to install a well approximately 50 feet upgradient of the sheet pile wall as presented in the report, as it believes that position will provide results that are more representative of both COC and radionuclide concentrations in the area.

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Joe Martens
Commissioner

May 5, 2014

Mr. James Moore
U.S. Army Corps of Engineers, New York District
Jacob K. Jarvits Federal Building
26 Federal Plaza
New York, NY 10278-0090

Re: DEC's Comments to USACE's Response to the original DEC Comments on the "Draft Final 2011-2012 Annual Groundwater Long Term Monitoring Report", Colonie FUSRAP Site, Colonie, NY

Dear Mr. Moore:

The New York State Department of Environmental Conservation (DEC) has reviewed USACE's response to our original comments of September 10, 2013 on the "Draft Final 2011-2012 Annual Groundwater Long Term Monitoring Report" dated May 2013.

Below are DEC's comments:

(1) DEC concurs with USACE's responses to comments 1, 2, 3a & 3b.
If the USACE wishes to decommission monitoring wells no longer part of the long term monitoring program as stated in USACE's Comment 3c, a work plan should be submitted to DEC for review. DEC will prefer that the well be over-cored to remove casing materials followed by pressure grouting to seal the open bore hole.

(2) If the USACE wishes to install an additional monitoring well to assist in the characterization of groundwater in the vicinity of well MW-32S as stated in USACE Comment 3d, DEC concurs. However, well MW-32S should remain in the long term monitoring program.

Thank you for the opportunity to respond to your comments. DEC hopes that these responses will assist USACE to produce the necessary work plan to handle the Long Term Monitoring issues at the Colonie FUSRAP site. If you have any questions, please contact John Abunaw of the Radiological Sites Section at 518-402-8776.

Sincerely,

James B. Harrington P.E.
Director, Remedial Bureau A

cc: T. Rice
K. Johnson
J. Abunaw
P. Giardina, USEPA, Reg.2
S. Gavitt, NYSDOH