Final Engineering Report
ERP Site 15
Hancock Air National Guard Base

Site:

Hancock Air National Guard Base
Syracuse, New York

Prepared for:

NGB/A7OR
Conaway Hall
3500 Fetchet Avenue
Joint Base Andrews, MD 20762-5157

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List of Acronyms and Abbreviations

ANG	Air National Guard
ARAR	Applicable or Relevant and Appropriate Requirements
AGWQS	Ambient Ground Water Quality Standards
BEX	Benzene, Ethylbenzene, Xylenes
bgs	Below Ground Surface
cfm	Cubic feet per minute
COC	Compounds of Concern
DO	Dissolved Oxygen
DOD	Department of Defense
ELAP	Environmental Laboratory Accreditation Program
ERP	Environmental Restoration Program
ERM	Environmental Resources Management
FFS	Focused Feasibility Study
FSP	Field Sampling Plan
ft	Feet
HANGB	Hancock Air National Guard Base
IRM	Interim Remedial Measure
JP	Jet Propulsion
lbs	Pounds
mg/L	Milligram per liter
µg/L	Micrograms per Liter
MNA	Monitored Natural Attenuation
MW	Monitoring Well
mV	Millivolts
NGB	National Guard Bureau
NYS	New York State
NYSDEC	New York State Department of Environmental Conservation
ORP	Oxidation Reduction Potential
PCB	Polychlorinated Biphenyls
pH	Pondus Hydrogenii
PVC	Polyvinyl Chloride
QAPP	Quality Assurance Project Plan
RAO	Remedial Action Objective
RAWP	Remedial Action Work Plan

ROD	Record of Decision
ROI	Radius of Influence
STARS	Spills Technology and Remediation Series
USEPA	United States Environmental Protection Agency
VOC	Volatile Organic Compound

1 Introduction

This Final Engineering Report summarizes the remedial activities implemented to address petroleum hydrocarbon groundwater contamination associated with Environmental Restoration Program (ERP) Site 15 at the 174th Fighter Wing, New York Air National Guard (ANG), Hancock Air National Guard Base (HANGB), Syracuse, New York. A Final Record of Decision (ROD) was issued by the ANG in April 2011 for the remediation of groundwater at Site 15. The remedy selected in the ROD consists of the injection of calcium peroxide to enhance aerobic biodegradation of the dissolved phase petroleum hydrocarbon groundwater plume, coupled with long-term monitoring.

The remedial activities conducted to date at ERP Site 15 under this contract consist of the installation of a biosparging system to address residual contamination in soil in October 2011, and an initial injection of calcium peroxide substrate conducted in October 2012. A baseline groundwater monitoring event was conducted in September 2012 and the first post-injection groundwater monitoring event was conducted in January 2013. This report provides a comparison of pre- and post-injection groundwater conditions at ERP Site 15, as well as groundwater monitoring results from January 2014.

The activities summarized in this report were conducted in accordance with the *Final Remedial Action Work Plan* (WP) submitted to the New York State Department of Environmental Conservation (NYSDEC) in September 2011 and approved by NYSDEC in October 2011. The WP was prepared in accordance with NYSDEC Program Policy, DER-10; Chapter 5, Section 5.3.

1.1 Site Description

HANGB is located in Syracuse, New York and ERP Site 15 comprises approximately 2.5 acres in the southeastern portion of the HANGB. Site 15 was formerly used as a pump house and fuel storage facility where numerous spills of jet propulsion (JP)-4 and JP-8 military aviation fuels and polychlorinated biphenyls (PCBs) occurred during active use. The pump house, tanks, and associated piping and structures have been demolished and the majority of the Site is now a large open field. Site 15 was listed as a Class 2 site on the NYS Inactive Hazardous Waste Disposal Site Registry in 1994 as Site Number 734054. PCBs identified at the site have been successfully remediated. A map illustrating the location of the HANGB and ERP Site 15 is provided as **Figure 1**.

The recurrent releases of JP-4 and JP-8 at ERP Site 15 resulted in contamination of soil and a dissolved-phase plume of petroleum hydrocarbons with maximum historic dimensions of approximately 1,000 feet (ft) along the axis in the north-south direction and a width of approximately 150 ft. The plume is aligned with groundwater flow at Site 15, which is to the south-southeast towards Ley Creek and Onondaga Lake. The source area is located at the northern end of the plume in the vicinity of monitoring well MW-101; the downgradient edge of the plume is at the boundary of the General Electric Property. The contaminants of concern (COCs) within the plume are benzene, ethylbenzene, and xylenes (BEX). The historic maximum detection of BEX occurred at MW-19 in September 2005 at a concentration of 1,500 micrograms per liter (µg/L). During the January 2013 monitoring event, BEX compounds exceeded cleanup criteria in only three (3) of 19 monitoring wells sampled, and in each instance the total BEX concentration was less than 50 µg/L. ERP Site 15 monitoring well locations are depicted in **Figure 2** along with groundwater elevation contours and flow directions. Historic plume dimensions are depicted in **Figure 3**.

1.1.1 Site Geology

The surficial geology at Site 15 consists of glaciofluvial sediments deposited by glacial melt water underlain by poorly sorted till deposited directly by glaciers. The glaciofluvial sediments include clayey silts, sands, and gravels with thickness ranging from 45 to 55 ft. The underlying till consists of gravel, cobbles, and boulders entrained in a clayey silt matrix and ranges in thickness from 30 to 100 ft (Lockheed, 1997).

Bedrock is encountered at depths ranging from 75 to 109 ft below ground surface (bgs), and is part of the Upper Silurian Vernon Formation. This formation consists of thinly bedded soft red shale with thin beds of green shale, gypsum, halite, and dolomite. Competence varies from soft and crumbly to dense and hard. The degree of competence appears to be proportional to the density of the fractures in the shale. The shale is characterized by enlarged fractures, joints and bedding planes (Lockheed, 1997). Significant portions of ERP Site 15 have been re-graded and filled due to previous construction and demolition activities.

1.1.2 Site Hydrogeology

The overburden at Site 15 consists of fine-grained sediments. The subgrade soils are fairly uniform with the upper 10 to 15 ft of the soil characterized by relatively soft, dark yellowish-brown silt and clayey silt. Towards the southeast, the interval thins to approximately 5 ft. Beneath the clayey silt are yellowish brown to dark brown fine to medium-grained sands with silt and trace amounts of clay down to a depth of approximately 20 ft. Underlying these silty sands is a lens of stiff clayey silts (often called glacial till). Till has been encountered as much as 15 ft thick (Lockheed, 1997).

Groundwater is generally encountered at depths of 1.5 to 13 ft bgs and, as previously discussed, flows in a south to southeasterly direction towards Ley Creek and eventually into Onondaga Lake. Groundwater contours based on elevation data gathered during the January 2014 performance monitoring event are depicted in **Figure 2**.

2 Summary of Remedial Actions

Based on an evaluation of the site conditions, the compounds of concern (COC), and an analysis of applicable or relevant and appropriate requirements (ARARs), the following remedial action objectives (RAOs) were developed for groundwater contaminated with BEX at ERP Site 15:

- Prevent exposure to contaminated groundwater containing BEX concentrations above the NYSDEC Ambient Ground Water Quality Standards (AGWQS) and Guidance Values;
- Prevent or minimize further off-site migration of the contaminant plume (plume containment);
- Prevent or minimize further migration of contaminants from source materials to groundwater (source control); and
- Enhance the natural process for the attenuation of BEX compounds on-site and off-site.

Achievement of RAOs will be quantitatively measured by the achievement of NYSDEC AGWQS included in *NYS Division of Water Technical and Operational Guidance Series (1.1.1) 1998.* The AGWQS for BEX are included on **Table 1**.

Environmental studies performed from 1990 to 2009 identified Site 15 and downgradient off-site areas as having soil and groundwater impacted with petroleum hydrocarbons. A Focused Feasibility Study (FFS) recommended excavation and off-site disposal of the source areas (these were completed in 2003 and 2008) and focused enhanced aerobic bioremediation with monitored natural attenuation (MNA). Two vadose zone source area removals have occurred as interim remedial measures (IRMs):

- **Year 2003:** removal of 5,360 tons of petroleum-impacted soil from the vadose zone, steel tanks and associated piping; and
- **Year 2008:** excavation of 2,890 tons of petroleum-impacted soil from the vadose zone source area followed by application of 4,800 pounds of an oxygen-releasing product (calcium peroxide) within the bottom of the excavation areas.

The location of the IRM soil excavations is presented in **Figure 3.** Calcium peroxide was applied directly to the bottom of the 2008 excavations prior to backfilling with crushed concrete. Post excavation confirmation soil sampling and groundwater monitoring results from wells adjacent to the excavations indicated that there was an area of residual soil contamination as well as a lack of oxygen available in this portion of the aquifer, potentially limiting biodegradation in the residual petroleum impacted soil. Biosparging was selected for accelerated biodegradation of the COCs in the source area as the presence of petroleum hydrocarbons adsorbed to soil in the saturated region can act as a continuous source of dissolved phase contamination; limiting the effectiveness of calcium peroxide injections in achieving RAOs in a reasonable timeframe.

A biosparge system was designed and installed in October 2011 to inject air into the saturated zone to stimulate aerobic biodegradation of residual source area smear zone impacts. Fifteen one-inch diameter polyvinyl chloride (PVC) biosparge wells screened from 18 to 20 ft bgs were installed at Site 15 in accordance with the WP. The biosparge well locations are depicted in **Figure 3**. The biosparging system was operated from November 2011 through December 2012, when it was shutdown to monitor for contaminant rebound. During operation, filtered atmospheric air was delivered to each well at a rate of 1 to 2 cubic feet per minute (cfm). The radius of influence (ROI) for sparge wells was estimated at up to 30 feet, based on dissolved oxygen measurements taken at IRP Site 15 monitoring wells. The biosparge system, underground piping, and the associated sparge points were decommissioned in May 2014.

The prescribed remedy from the ROD for remediation of BEX impacted groundwater is enhanced aerobic biodegradation via calcium peroxide injection. The calcium peroxide injection was conducted in October 2012. A total of 2,200 pounds of calcium peroxide were injected at 44 injection locations. Each injection location received

50 pounds of calcium peroxide, which was injected as a 40-percent slurry comprised of 9 gallons of water and 50 pounds of calcium peroxide. Substrate was injected using direct-push technology (DPT) techniques. Substrate was injected using a 'bottom up' approach across a 15-foot injection interval at each location. Injection intervals ranged from 3- to 18-feet bgs to 15- to 30-feet bgs, dependent on the water table elevation in monitoring wells located adjacent to the injection locations. The injection locations are depicted in **Figure 4**.

3 Groundwater Monitoring

3.1 Groundwater Monitoring Program Overview

3.1.1 Rationale

The groundwater monitoring program at ERP Site 15 was developed to provide baseline characterization of the BEX plum by sampling the 30 existing monitoring wells; and for performance monitoring to assess the effectiveness of biosparging and calcium peroxide injection in remediating BEX contamination. Performance monitoring will consist of sampling up to 30 monitoring wells on a quarterly basis for two years after the initial injection event, followed by semi-annual sampling of up to 20 monitoring wells for two additional years. Samples are analyzed for VOCs and geochemical data is also collected to assess the performance of the remedial action.

3.2 Sampling Methodology

3.2.1 Sample Collection

Groundwater samples are collected using low-flow (minimal drawdown) sampling techniques. Wells are gauged with an oil-water interface probe prior to sampling to determine the water level, total well depth and the presence/absence of non-aqueous phase liquids (NAPL). Water level data is utilized to develop potentiometric surface maps. Following gauging, the wells are purged using a peristaltic pump and dedicated tubing. During purging, the depth to water is monitored as well as geochemical and physical parameters including temperature, pH, dissolved oxygen (DO), oxidation-reduction potential (ORP), specific conductivity and turbidity. The geochemical and physical parameters are utilized to determine well stabilization which indicates that the water being purged is from the formation surrounding the well and will provide a representative sample. VOC samples are collected in 40 milliliter (mL) vials preserved with hydrochloric acid provided by the analytical laboratory and shipped on ice to the laboratory for analysis. Geochemical and physical parameter readings are recorded on field sheets; and the geochemical data, particularly DO and ORP, are evaluated as indicators of the favorability of the aquifer for promoting aerobic biodegradation of BEX. In some instances, the hydraulic conductivity at a given well is insufficient to allow for low-flow sampling. In such cases, the well was purged dry, allowed to recharge and sampled with a disposable bailer. Additional information regarding sampling techniques can be found in the *Final Field Sampling Plan* (AECOM, 2011), which is included as an appendix of the WP.

3.2.2 Sample Analysis

Samples are analyzed for BEX using United States Environmental Protection Agency (USEPA) Method 8260. Samples are analyzed at Spectrum Analytical, Inc. laboratories in North Kingstown, Rhode Island; a Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP) certified facility. In addition to environmental samples, quality assurance/quality control (QA/QC) samples are also submitted to the laboratory. These include duplicates, matrix spike and matrix spike duplicate (MS/MSD) samples, trip blanks, and ambient blanks. Additional information on analytical procedures and QA/QC procedures can be found in the Quality Assurance Program Plan (QAPP), which is included as an appendix of the WP.

3.2.3 Sample Locations

Sample locations are chosen from the existing 30 well monitoring network at ERP Site 15. All of the wells were sampled during the September 2012 and January 2013 sampling events. The sampling was reduced to 11 wells in the June 2013 event, and reduced again to six wells for the January 2014 event. The sampling locations and historic plume dimensions are depicted in **Figure 5**.

3.3 Groundwater Monitoring Results

The following sections present groundwater monitoring results from five sampling events. The October 2010 event was conducted by Environmental Resources Management (ERM) and predates the installation of the biosparge system and calcium peroxide injection. The second event, conducted by AECOM, occurred in September 2012, following ten months of biosparging and prior to the initial calcium peroxide injection event. The third event presented in this report occurred in January 2013, approximately three months after the initial calcium peroxide injection event. The fourth event discussed in this report was from a sampling event that occurred in June 2013, eight months after initial calcium peroxide injection, and the final event discussed in this report details the results from the most recent sampling event conducted in January 2014.

3.3.1 October 2010 Groundwater Monitoring Results

Thirty (30) monitoring wells were sampled by ERM in October 2010. COCs were detected in 10 of the 30 wells sampled; with detections at 6 wells exceeding the NYSDEC AGWQS. Benzene was detected in samples from six (6) monitoring wells at concentrations ranging from 0.36J-µg/L to 26-µg/L. Five of the six detections of benzene exceeded the NYSDEC AGWQS of 1-µg/L. The maximum detection of benzene occurred at MW-11. Ethylbenzene was detected in samples from six wells at concentrations ranging from 3.8-µg/L to 100-µg/L. Five of the six detections of ethylbenzene exceeded the NYSDEC AGWQS of 5-µg/L. The maximum detection of ethylbenzene occurred at MW-19. Xylenes were detected in samples from eight wells at concentrations ranging from 0.72J-µg/L to 92-µg/L. Three of the eight detections of xylenes exceeded the NYSDEC AGWQS of 5-µg/L. The maximum detection of xylenes occurred at MW-105. MW-112 was the furthest downgradient monitoring well with detections of COCs in October 2010. Benzene, Ethylbenzene, and xylenes were detected at MW-112 at concentrations of 0.36J-µg/L, 10-µg/L, and 2.7-µg/L, respectively. The detection of ethylbenzene at MW-112 exceeded the NYSDEC AGWQS. Groundwater analytical data is summarized in Table 1 and the extent of the BEX plume during the October 2010 monitoring event is depicted in Figure 5.

Geochemical parameter monitoring conducted during sampling indicated that conditions were generally anaerobic (DO less than 1-mg/L) and reducing (ORP below 0 mV) throughout ERP Site 15. These conditions are typically of sites contaminated with petroleum hydrocarbons that have not undergone chemical or biological amendment. Geochemical data for the October 2010 monitoring event is summarized in Table 2.

3.3.2 September 2012 Groundwater Monitoring Results

Thirty (30) monitoring wells were sampled in September 2012. The intent of this monitoring event was to serve as a baseline for evaluating the effectiveness of the calcium peroxide injections to be conducted in October 2012. The biosparging system had been operational for approximately 10 months at the time of the September 2012 monitoring event. COCs were detected in samples from seven wells during the September 2012 monitoring event. Benzene was detected in samples from three monitoring wells at concentrations ranging from 1.4-µg/L to 5.9-µg/L. All three detections of benzene exceeded the NYSDEC AGWQS of 1-µg/L. The maximum detection of benzene occurred at MW-103. Ethylbenzene was detected in samples from four wells at concentrations ranging from 1.7-µg/L to 53-µg/L. Three detections exceeded the NYSDEC AGWQS of 5-µg/L. The maximum detection of ethylbenzene occurred at MW-112. Xylenes were detected at three monitoring wells at concentrations ranging from 26-µg/L to 67-µg/L; all of which exceeded the NYSDEC AGWQS of 5-µg/L. The maximum detection of xylenes occurred at MW-112. As during the October 2010 event, MW-112 was the furthest downgradient monitoring well with detections of COCs. Ethylbenzene was detected in the sample from MW-112 at 29-µg/L and xylenes were detected at 18-µg/L. Both of these detections exceed their respective NYSDEC AGWQS of 5-µg/L. Groundwater analytical data is summarized in Table 1 and the extent of the BEX plume during the September 2012 monitoring event is depicted in Figure 5.

Geochemical parameter monitoring conducted during sampling indicated that dissolved-oxygen concentrations had increased in many areas since the October 2010 monitoring event, as would be expected following 10 months of biosparging. ORP readings were still within the reducing range throughout the majority of ERP Site 15. Geochemical data for the September 2012 monitoring event is summarized in Table 2.

3.3.3 January 2013 Groundwater Monitoring Results

Thirty (30) monitoring wells were sampled at ERP Site 15 in January 2013 to assess the performance of calcium peroxide injections and biosparging at reducing dissolved-phase BEX contamination. COCs were detected in samples from four monitoring wells, with at least one COC exceeding the NYSDEC AGWQS at three wells. This represents a significant decrease from October 2010, when COCs were detected in ten wells and exceeded the NYSDEC AGWQS at six wells. The frequency of COC detections and exceedances of the NYSDEC AGWQS also decreased from the September 2012 monitoring event. Benzene was detected in samples from two wells at concentrations of 0.78J-µg/L and 4.7-µg/L. The detection of 4.7-µg/L, at MW-11, exceeded the NYSDEC AGWQS of 1-µg/L. Ethylbenzene was detected in samples from three monitoring wells at concentrations of 0.63J-µg/L to 29-µg/L. The detection of ethylbenzene at 29-µg/L, which occurred at MW-112, exceeded the NYSDEC AGWQS of 1-µg/L. Xylenes were detected at MW-112 and MW-101 at concentrations of 18-µg/L and 26-µg/L, respectively. Both detections of xylene exceeded the NYSDEC AGWQS of 1-µg/L. As in the previous monitoring events, MW-112 was the furthest downgradient well with BEX impacts. The data from the January 2013 monitoring indicate that there is no longer a contiguous BEX plume at ERP Site 15 but rather pockets of residual groundwater contamination.

DO and ORP measurements taken while sampling show increases in DO at numerous wells when compared to October 2010 and September 2012 data. While DO concentrations decreased at some wells from September 2012, the values were generally higher than those in October 2010, prior to the implementation of biosparging and calcium peroxide injection. ORP data shows many wells were still in an oxygenated state.

3.3.4 June 2013 Groundwater Monitoring Results

During the June 2013 sampling event, 11 monitoring wells were sampled (MW-14, MW-101, RW-01, MW-11, MW-15, MW-17, MW-19, MW-103, MW-105, MW-106, and MW-112). These wells were selected to be sampled since dissolved phase impacts had been detected in the previous three quarters. This reduced list was reported in the April 2013 Periodic Groundwater Report and was approved by the NYSDEC in an email dated May 20, 2014. Out of the eleven wells, COCs in groundwater were elevated above the applicable standards in only one well, MW-101. These COCs included ethylbenzene (5.7 µg/L) and total xylene (7.2 µg/L), both in exceedance of NYSDEC standards.

DO measurements from sampled wells ranged from 0.11 mg/L to 0.61 mg/L. However, the site-wide trend of DO is that it has been decreasing since the August 2013 sampling event. This is most likely due to the decreasing effect of the calcium peroxide injections and shut down of the biosparge system in December 2012. ORP values ranged from -35.9 mV to -129.9 with the results showing regionalized areas of reducing conditions

3.3.5 January 2014 Groundwater Monitoring Results

During the January 2014 sampling event, six monitoring wells were sampled including: MW-106, MW-112, MW-103, MW-11, RW-1, and MW-101. These wells were selected to be sampled since dissolved phase impacts had been detected in the previous three quarters. This reduced list was reported in the December 2013 Periodic Groundwater Report and was approved by the NYSDEC during a conference call prior to the start of the sampling. Low levels of ethylbenzene and xylene were detected in the samples from, MW-103, MW-101, and RW-1. The groundwater sample collected from well MW-103 contained 6.9 µg/L ethylbenzene, which is slightly above the AGWQS of 5 µg/L. Groundwater from this monitoring well had not exceeded BEX standards since the October 2010 sampling event. The groundwater sample from MW-101 contained ethylbenzene (3.4 µg/L) and total xylene (4.6 µg/L). These compounds have previously been detected in groundwater collected from this well but remain below NYSDEC Standards since June 2013. Groundwater collected from RW-1 also detected ethylbenzene (4.1 µg/L) and total xylene (2.8 µg/L) below applicable standards.

DO measurements from sampled wells ranged from 0.04 mg/L to1.55 mg/L. However, the site-wide trend of DO is that it has been decreasing since the August 2013 sampling event. This is most likely due to the decreasing effect of the calcium peroxide injections and shut down of the biosparge system in December 2012. ORP values ranged from 179.4 mV to -143.4 with the results showing regionalized areas of reducing conditions.

4 Site Closure

The groundwater monitoring data collected from September 2012 through January 2014 indicates that the addition of oxygen to the saturated zone at ERP Site 15 via biosparging and calcium peroxide injection has remediated the dissolved petroleum impacts within the aquifer, as evidenced by decreases in the frequency and magnitude of BEX detections over time. These groundwater results were presented to the NYSDEC in January 2014 and the NYSDEC concurred that no further action is required at Site 15 as documented in the email from the NYSDEC to the ANG dated 10 February 2014 (**Appendix A**).

As such, site closeout activities were conducted in May 2014 that included:

- Decommissioning the biosparge system including, removal of the system from the site, removal of the below grade system piping, decommissioning the 16 biosparge wells, and removal of the temporary power drop.
- A total of 32 monitoring wells and 16 biosparge wells were abandoned in place following NYSDEC CP-43 guidance procedures. The well abandonment logs are included in **Appendix B**. The flush mount and stick up protective casings were removed, the poly vinyl chloride riser was cut below grade, and Portland cement/bentonite slurry was placed into the remaining well via a tremmie placement method. The surface was restored to match surrounding conditions with topsoil or asphalt depending on the well location.

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Tables

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Table 1
Quarterly Groundwater Sampling Results

Well ID	NYSDEC	MW-112						MW-103						MW-106						RW-1						MW-101					
Sample Date	**Std or GV**	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Jan-14	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Jan-14	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Jan-14	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Jan-14	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Jan-14
VOCs µg/L																															
Benzene	1	0.36 J	ND	ND	ND	ND	ND	ND	5.9	ND	ND	ND	ND	ND	1.4	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
Ethyl Benzene	5	10	53	29	ND	ND	ND	0.24 J	ND	ND	ND	ND	6.9	ND	ND	ND	ND	ND	ND	3.8	13	ND	ND	ND	4.1	3.2	5.2	1.9	5.7	3.1	3.4
Total Xylene	5	2.7	67	18	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND	2.8	27	ND	ND	ND	2.8	2.0	26	26	7.2	1.9	4.6

Well ID	NYSDEC	MW-11						MW-105						MW-15						MW-14						MW-19					
Sample Date	**Std or GV**	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Jan-14	Oct-10	Sep-12	Jan-13	Jun-13	Aug-14	Jan-14	Oct-10	Sep-12	Jan-13	Jun-13	Aug-14	Jan-14	Oct-10	Sep-12	Jan-13	Jun-13	Aug-13	Jan-14	Oct-10	Sep-12	Jan-13	Jun-13	Aug-14	Jan-14
VOCs µg/L																															
Benzene	1	26	3.1	4.7	ND	9.6	ND	5.5	ND	ND	ND	0.95J	0.95 J	5.3	ND	ND	ND	ND	NS	1.7	0.98 J	ND	ND	ND	NS	6.2	ND	ND	ND	ND	NS
Ethyl Benzene	5	7.8	ND	ND	ND	ND	ND	97	1.7	ND	ND	ND	ND	9.8	ND	0.63 J	ND	ND	NS	ND	ND	ND	ND	ND	NS	100	ND	ND	ND	ND	NS
Total Xylene	5	9.5	ND	ND	ND	ND	ND	92	ND	ND	ND	ND	ND	0.72 J	ND	ND	ND	ND	NS	ND	ND	ND	ND	ND	NS	18	ND	ND	ND	ND	NS

Notes:

NYSDEC GV or Std - Results compared to the New York State Department of Environmental Conservations (NYSDEC) Division of Water Technical and Operational Guidance Series (TOGS 1.1.1), 1998, standards (Stnd) and guidance values (GV)

VOCs - Volatile organic compounds determined by United States Environmental Protection Agency (USEPA) Method 8260

µg/L - Micrograms per liter

ND - The compound was not detected at a concentration above the laboratory reporting limit

Shading indicates compounds detected above NYSDEC standards/guidance values

J - The analyte was positively identified, the quantitation is an approximation

NS-Well not sampled durring this sampling event

Table 2
Groundwater Parameters

Date	MW-2		MW-3		MW-4		MW-5		MW-8		MW-9		MW-11		MW-14		MW-15		MW-16		MW-17		MW-18		MW-19		MW-20		MW-22		MW-101		MW-102		MW-103		MW-104		MW-105		MW-106		MW-107		MW-110		MW-111		MW-112		RW-1	
	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L	ORP (mV)	DO (mg/L	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)
Oct-10	0.45	42.1	1.22	83.9	2.93	6.2	3.23	66	0.32	-97.4	0.85	43.8	0.36	-24.9	0.44	23.1	0.42	-7.1	0.84	114.8	0.58	-6.5	3.86	61.7	0.45	-66	0.61	8.9	1.87	-17.7	0.58	-5.5	0.45	30.7	0.51	3.3	1.75	25.9	0.68	2.6	0.68	30.3	2.57	34.2	0.5	25.3	0.69	-35.7	0.82	-106.9	0.46	-145.8
Nov-11	5.31	-318.8	2.32	-218.8	1.5	-210.2	5.83	-277.5	-	-	-	-	-	-	0.7	-268.6	-	-	-	-	-	-	4.86	-277.9	-	-	-	-	3.82	-249.2	-	-	0.14	-334.5	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Sep-12	6.3	-57	0.58	-79.5	0.66	-2.2	-	-	3.9	-88.2	4.34	-69.1	0.72	-122	1.04	-94.5	4.04	-142.9	1.04	214.4	0.38	-111	0.79	-93.6	0.34	-103.5	1.08	-94.2	9.31	9.1	1.23	-128.1	3.37	-89.3	2.75	-66.4	1.66	-38.9	4.09	-139.5	1.9	0.8	3.63	-124.4	-	-	-	-	-	-	0.4	-101.1
Dec-12	5.11	-133.1	7.06	-93.8	2.91	-87.7	4	27.1	4.1	-10.8	4.81	47.2	3.73	-99.4	3.04	-46.5	2.96	-75.7	5.82	-14.2	8.02	-54.6	6.17	67.6	5.23	-67.1	3.4	-78.1	10.69	-24.9	4.13	-71.8	0.68	-52.8	4.1	-70.9	3.77	46.8	3.46	-112.4	2.04	-70.3	11.43	-53.8	-	-	-	-	-	-	3.08	-115.6
Jan-13	1.34	-88	-0.03	-1.3	-	-	-	-	-	-	10.76	-8	4.75	-106.9	0.25	-52.9	2.39	-111.3	-	-	3.11	-96.3	-	-	-0.36	-47.4	-	-	3.88	168.8	2.65	-102	-	-	-0.1	-78.9	5.24	-15.4	0.01	-119.8	1.14	-68.4	5.09	14.8	0.24	70.9	1.78	-1.1	2.47	-146	2.62	6.2
Jun-13	-	-	-	-	-	-	-	-	-	-	-	-	0.23	-72.3	0.42	-9	0.9	-103.6	-	-	0.26	-134	-	-	0.65	-66.2	-	-	-	-	0.4	-172.4	-	-	0.17	-43.6	-	-	0.83	-91.2	1.61	-44.8	-	-	-	-	-	-	0.27	-82.7	0.57	-131.3
Aug-13	-	-	-	-	-	-	-	-	-	-	-	-	0.18	-100	0.19	-43.6	0.31	-101.6	-	-	-	-	-	-	0.2	-80	-	-	-	-	0.13	-129.9	-	-	0.33	-83.8	-	-	0.11	-112.8	0.61	-35.9	-	-	-	-	-	-	0.19	-89.4	0.33	-107.9
Jan-14	-	-	-	-	-	-	-	-	-	-	-	-	0.14	-121.3	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.04	-138.6	-	-	1.55	-61.8	-	-	-	-	0.5	179	-	-	-	-	-	-	0.05	-143.4	0.48	-101.4

Date	MW-11		MW-101		MW-103		MW-106		MW-112		RW-1	
	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L)	ORP (mV)	DO (mg/L	ORP (mV)
Oct-10	0.36	-24.9	0.58	-5.5	0.51	3.3	0.68	30.3	0.82	-107	0.46	-146
Nov-11	-	-	-	-	-	-	-	-	-	-	-	-
Sep-12	0.72	-122	1.23	-128.1	2.75	-66.4	1.9	0.8	-	-	0.4	-101
Dec-12	3.73	-99.4	4.13	-71.8	4.1	-70.9	2.04	-70.3	-	-	3.08	-116
Jan-13	4.75	-106.9	2.65	-102	-0.1	-78.9	1.14	-68.4	2.47	-146	2.62	6.2
Jun-13	0.23	-72.3	0.4	-172.4	0.17	-43.6	1.61	-44.8	0.27	-82.7	0.57	-131
Aug-13	0.18	-100	0.13	-129.9	0.33	-83.8	0.61	-35.9	0.19	-89.4	0.33	-108
Jan-14	0.14	-121.3	0.04	-138.6	1.55	-61.8	0.5	179.4	0.05	-143	0.48	-101

Figures

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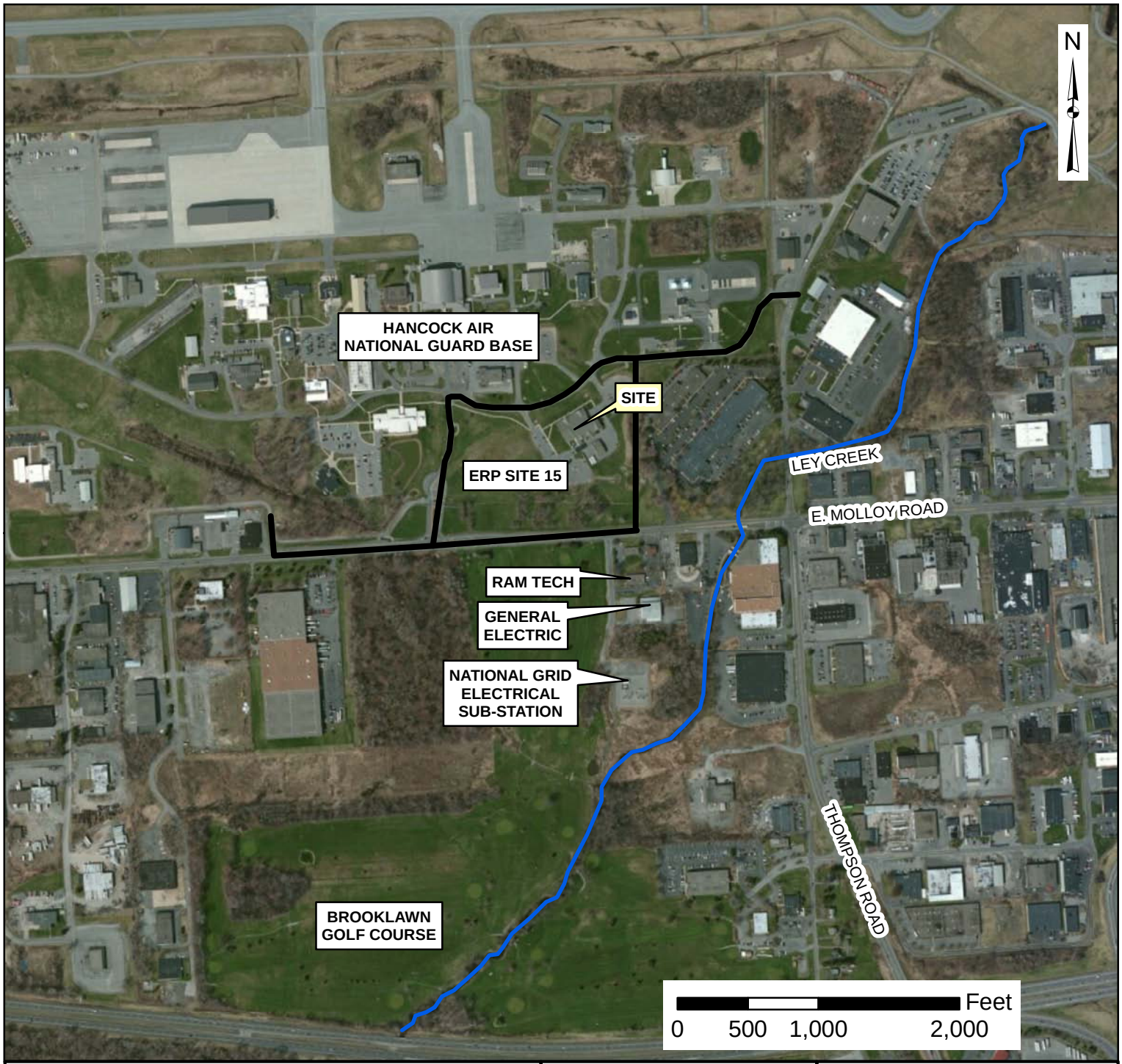

Source: ArcGIS World Imagery

AECOM
40 British American Blvd.
Latham, NY 12110
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F: (518) 951-2300

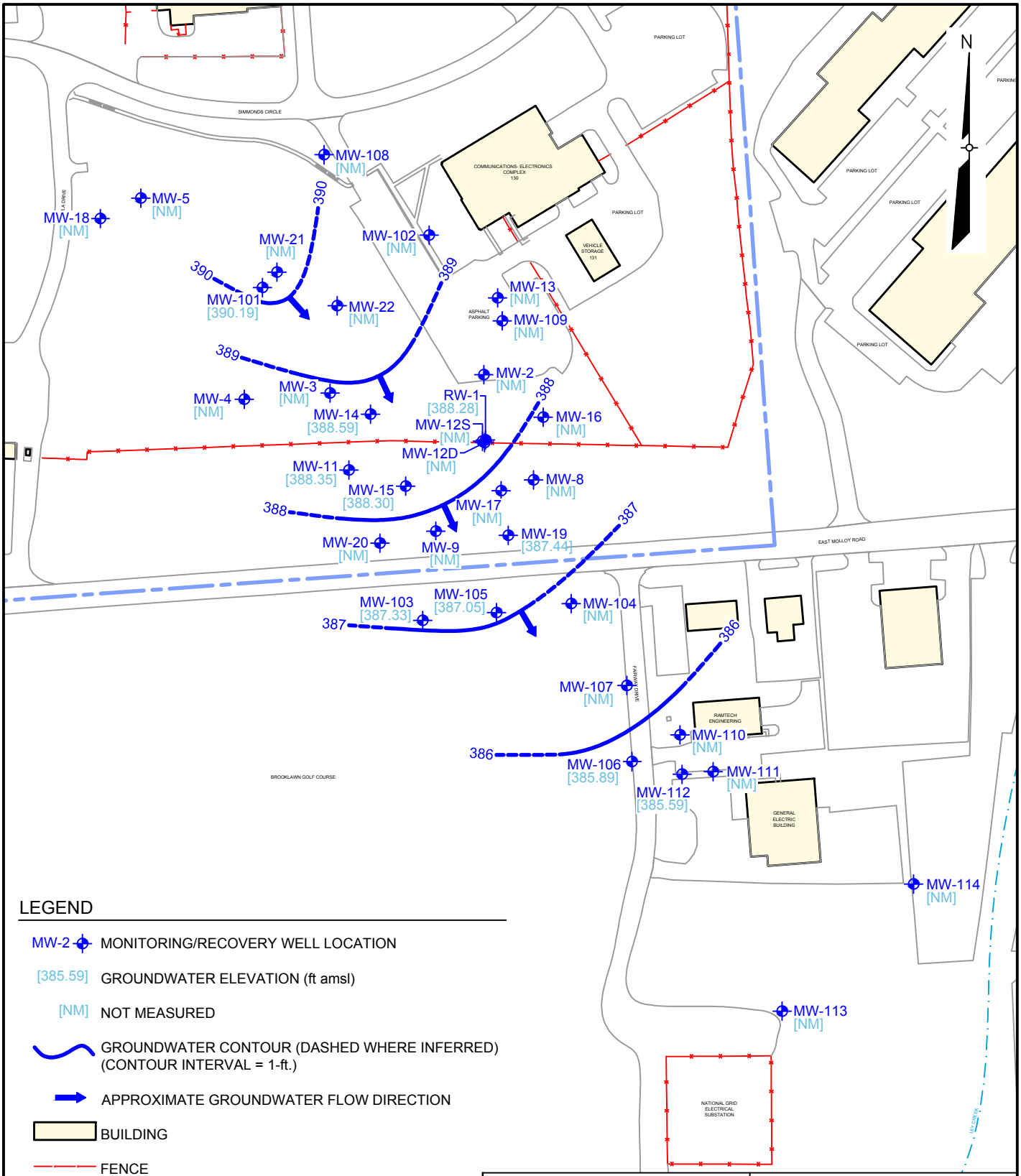
FIGURE 1

SITE LOCATION MAP

HANCOCK AIR NATIONAL GUARD
SYRACUSE, NEW YORK

MARCH 2013

60214697



LEGEND

- MW-2 — MONITORING/RECOVERY WELL LOCATION
- [385.59] — GROUNDWATER ELEVATION (ft amsl)
- [NM] — NOT MEASURED
- GROUNDWATER CONTOUR (DASHED WHERE INFERRED) (CONTOUR INTERVAL = 1-ft.)
- APPROXIMATE GROUNDWATER FLOW DIRECTION
- BUILDING
- FENCE
- BASE BOUNDARY

0 100 200 400

SCALE IN FEET

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FIGURE 2
STATIC GROUNDWATER CONTOUR MAP

HANCOCK AIR NATIONAL GUARD BASE
SYRACUSE, NEW YORK

60214697

L:\Group\earth\Latham NY Work\Hancock\60214697_005 Groundwater Contour Map_Aug2013.dwg, 11/7/2013 6:28:13 PM, Splawnm

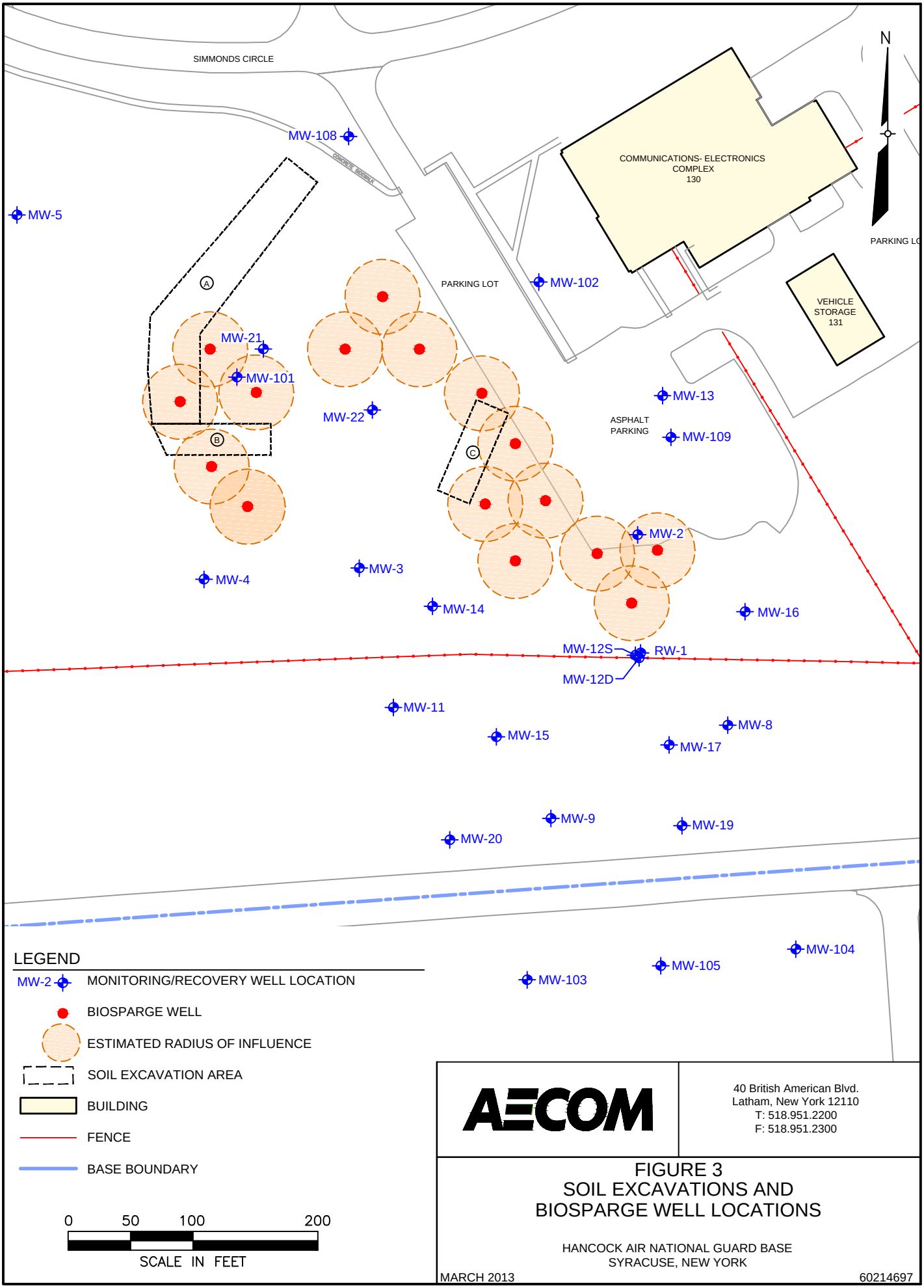

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FIGURE 3
SOIL EXCAVATIONS AND BIOSPARGE WELL LOCATIONS

HANCOCK AIR NATIONAL GUARD BASE
SYRACUSE, NEW YORK

MARCH 2013

60214697

L:\Group\earth\Latham NY Work\Hancock\60214697_004 Soil Excavations and Biosparge Well Locs.dwg, 3/12/2013 9:33:16 AM, Splawnm

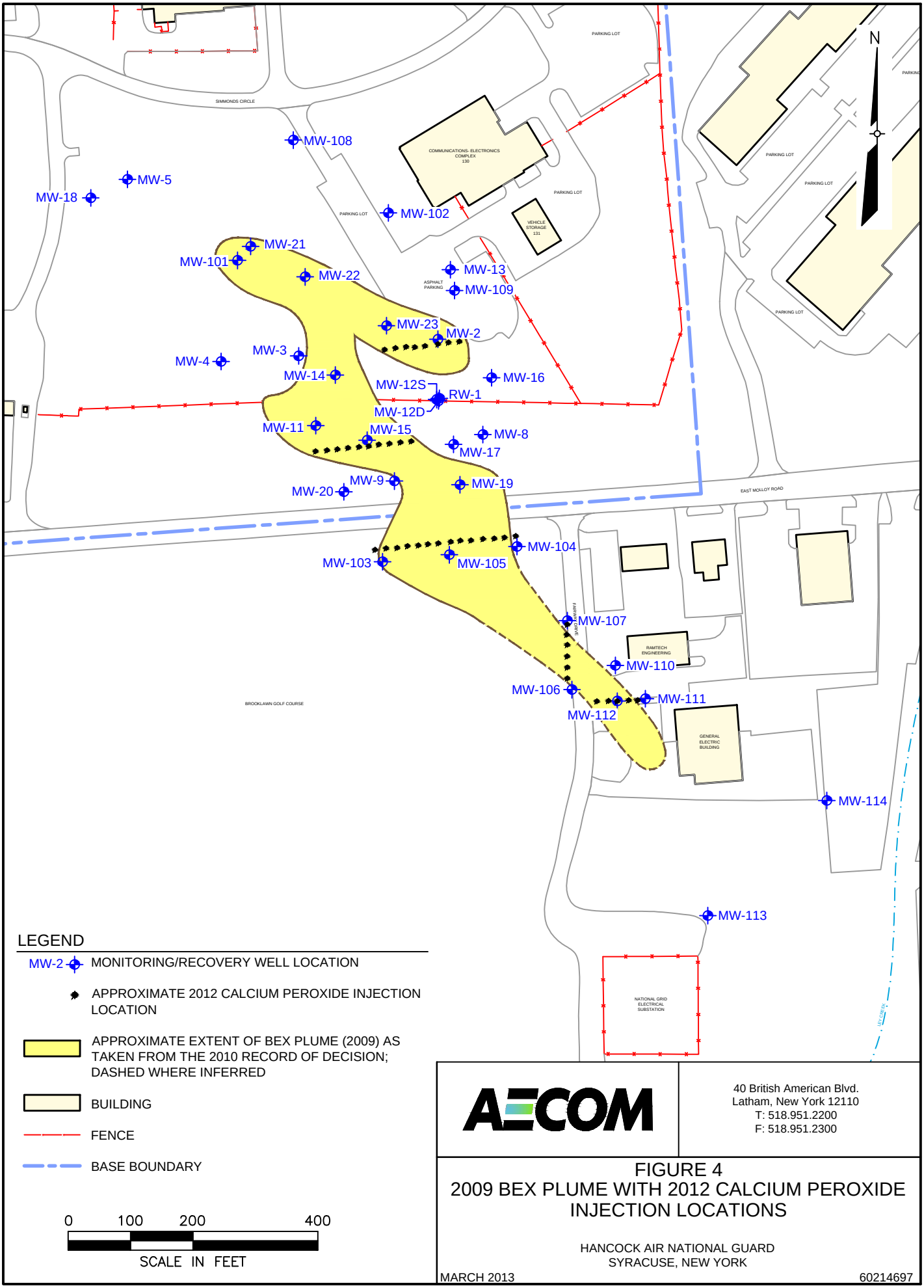

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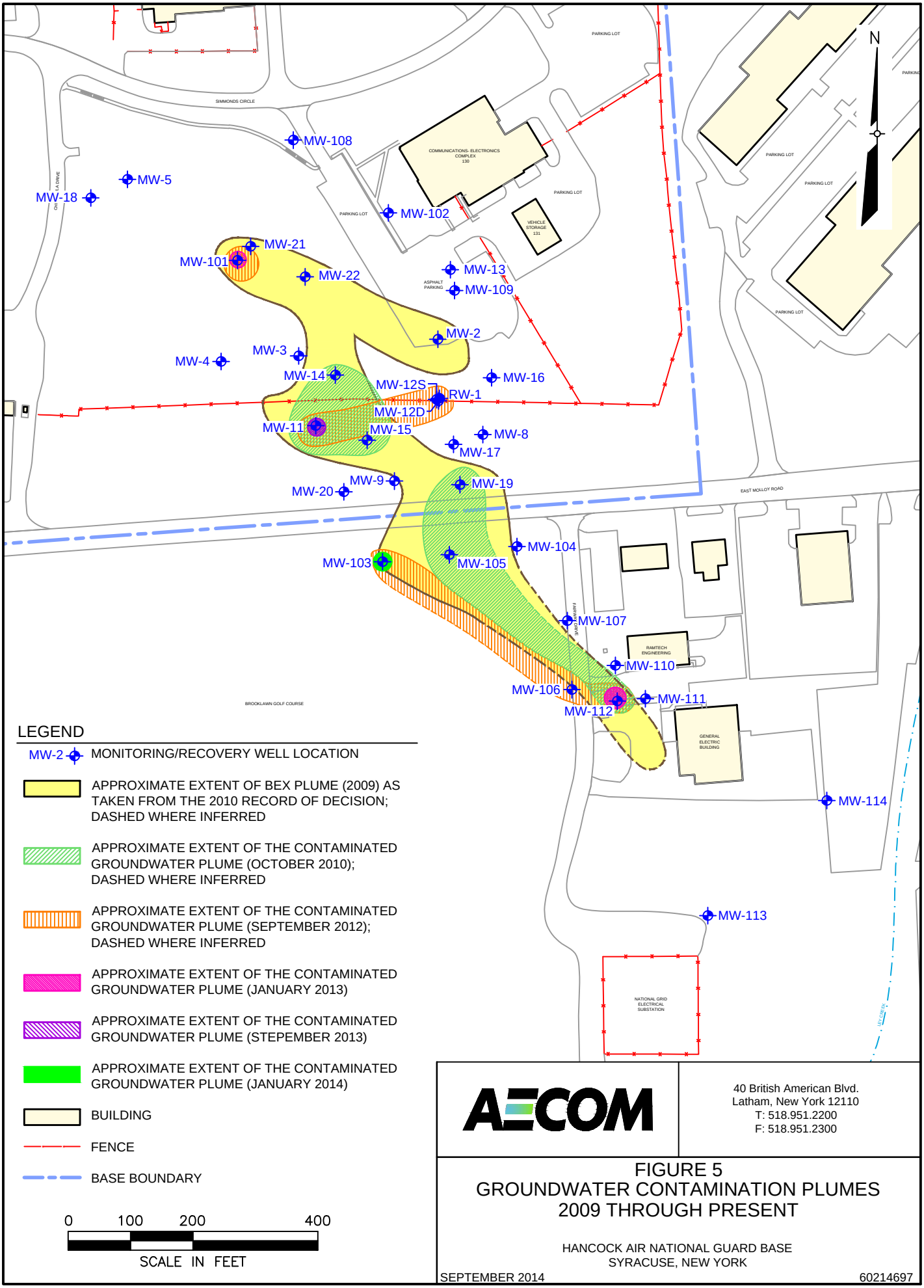
FIGURE 4
2009 BEX PLUME WITH 2012 CALCIUM PEROXIDE INJECTION LOCATIONS

HANCOCK AIR NATIONAL GUARD
SYRACUSE, NEW YORK

MARCH 2013 60214697

L:\Group\earth\Latham NY Work\Hancock\60214697_003 2009 BEX Plume w 2012 Calcium Peroxide Injection Locs.dwg, 3/6/2013 4:45:02 PM, Splawnm



AECOM
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FIGURE 5
GROUNDWATER CONTAMINATION PLUMES 2009 THROUGH PRESENT

HANCOCK AIR NATIONAL GUARD BASE
SYRACUSE, NEW YORK

SEPTEMBER 2014 60214697

L:\Group\earth\Latham NY Work\Hancock\60214697_002 GW Contamination Plumes 2009_Present.dwg, 9/24/2014 9:40:59 AM, splawnm

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Appendix A
Closure Document from the NYSDEC

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New York State Department of Environmental Conservation
Division of Environmental Remediation
Remedial ureau A, 12th Floor
625 Broadway, Albany, New York 12233 7015
Phone: (518) 402 9625 • **Fax:** (518) 402 9627
Website: www.dec.ny.gov

FEB 1 0 2014

Joe Martens
Commissioner

Ms. Jody Murata
Program Manager
NGB/A7OR
Shepperd Hall
3501 Fetchet Ave.
Joint Base Andrews MD 20762 5157

RE: Site 15 Remedial Action Complete
Hancock Field Air National Guard Base
Syracuse, NY
DEC Site No. 734054

Dear Ms. Murata:

In response to our January 30, 2014 conference call with the Air National Guard (ANG) and its consultant AECOM, The New York State Department of Environmental Conservation (Department) concurs that the elements of the selected remedy outlined in the April 2011 Record of Decision (ROD) have been successfully implemented, and remedial action objectives at Hancock Field ANG Base Site 15 have been achieved.

Repeated periodic sampling data from the monitoring well network indicate that the benzene, ethylbenzene and xylene (BEX) groundwater plume, associated with the former petroleum, oil and lubricants (POL) area known as "Site 15," has been adequately remediated. Groundwater has been at or below NYS Class GA groundwater standards for several consecutive quarterly sampling events, and BEX levels have shown a marked downward trend since groundwater injections of calcium peroxide (CaO_2) were begun in 2009.

Additional remedial action undertaken by the ANG in 2011, i.e. installation and operation of a biosparge well network in the source area plume, has accelerated the breakdown of contamination and the achievement of groundwater standards.

The Department agrees that the remedial action at Site 15 is complete and that all associated monitoring wells, air sparge wells and peripheral equipment may be decommissioned at your earliest convenience. Commissioner Policy # 43, providing guidance on NYS requirements for monitoring well closure, is available to the public at

http://www.dec.ny.gov/docs/remediation_hudson_pdf/cp43mwdecomm.pdf

Furthermore, the Department will begin the process of delisting Site 15 from the Registry of Inactive Hazardous Waste Sites. Congratulations on a job well done.

Should you have any further questions or comments, please feel free to contact me.

Sincerely,

Robert Corcoran, P.E.
Project Manager

Ec: John Swartwout
Dick Jones, NYSDOH
Aklile Gessesse, AECOM

Appendix B
Well Decommissioning Logs

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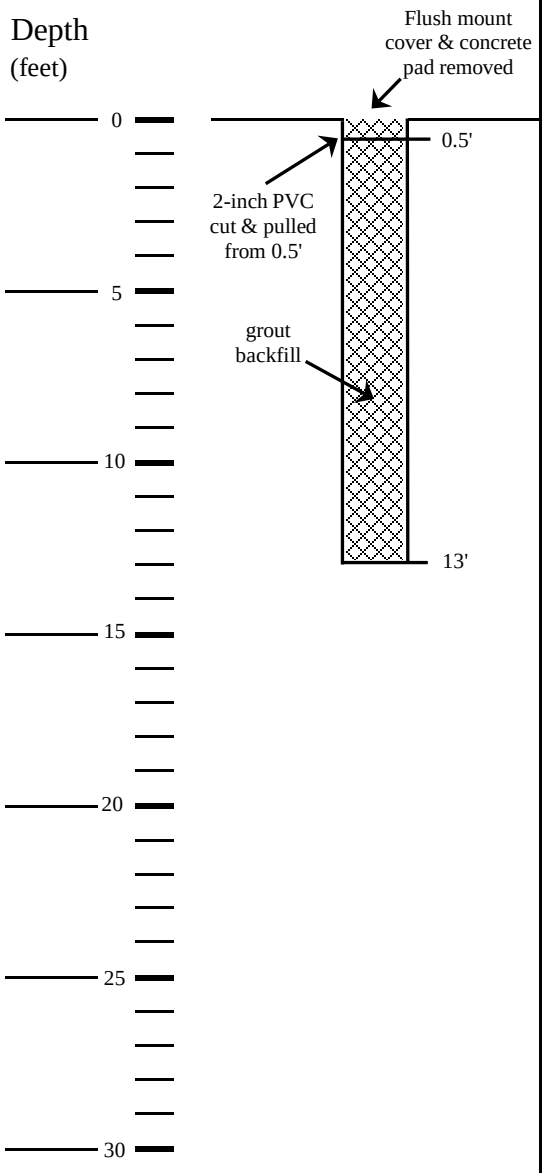
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-2**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 13'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	3
Quantity of cement used (lbs.)	38
Cement type	Portland
Quantity of bentonite used (lbs.)	1.5
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	4
Volume of grout used (gal.)	4

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

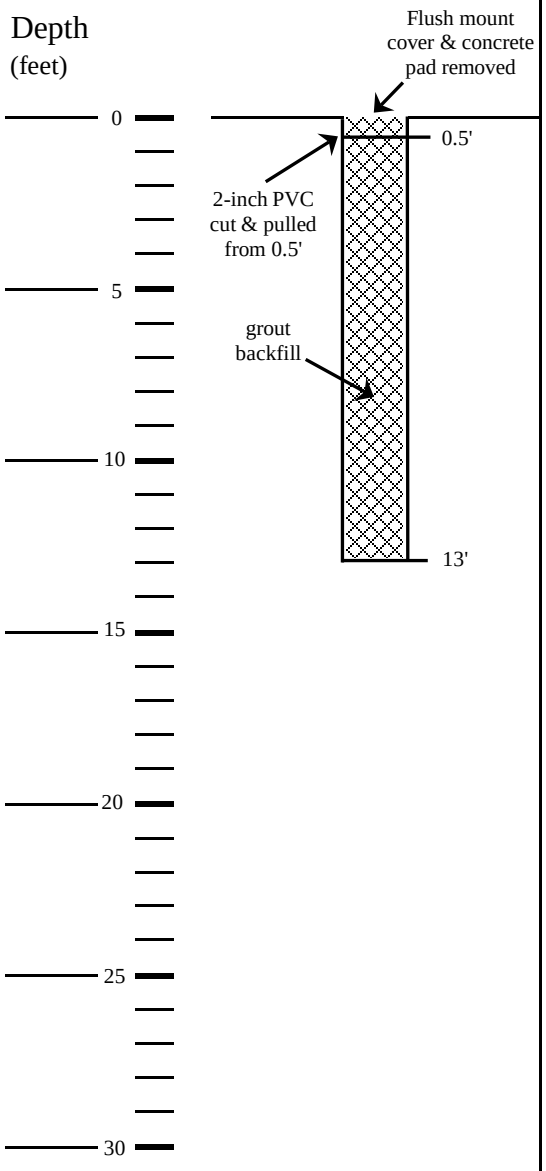
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-3**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 13'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4.5
Quantity of cement used (lbs.)	56
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	6
Volume of grout used (gal.)	6

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

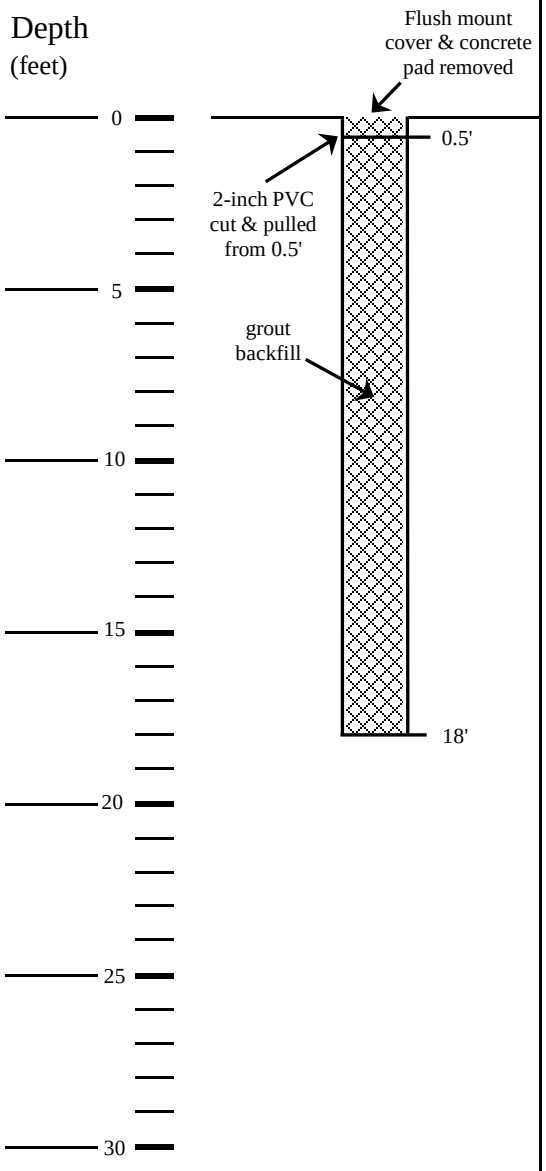
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-4**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 18'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	5.5
Quantity of cement used (lbs.)	66
Cement type	Portland
Quantity of bentonite used (lbs.)	3
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	7
Volume of grout used (gal.)	7

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

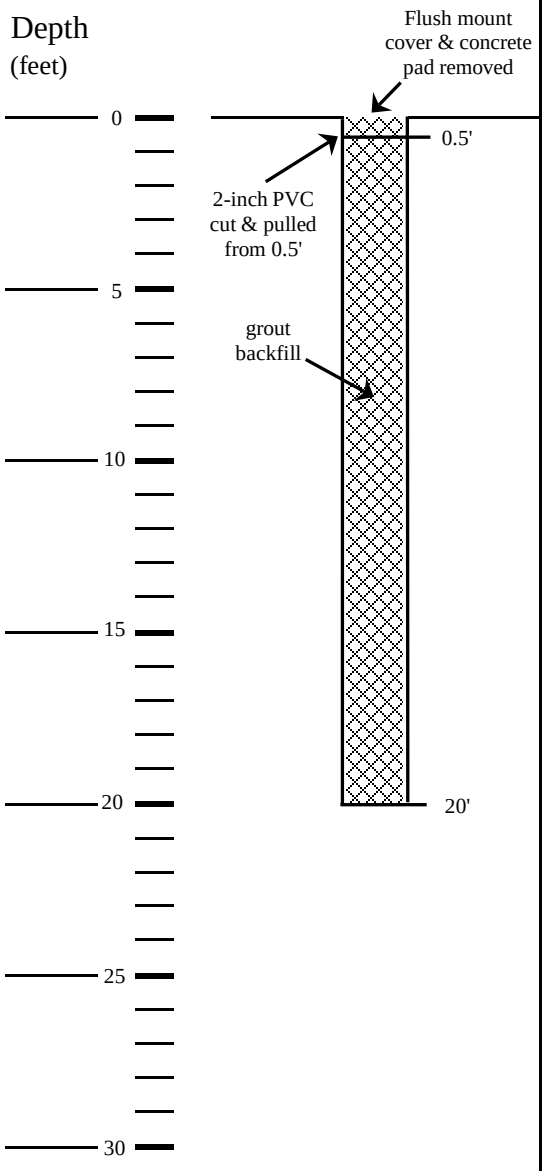
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-5R**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	5.5
Quantity of cement used (lbs.)	66
Cement type	Portland
Quantity of bentonite used (lbs.)	3
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	7
Volume of grout used (gal.)	7

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

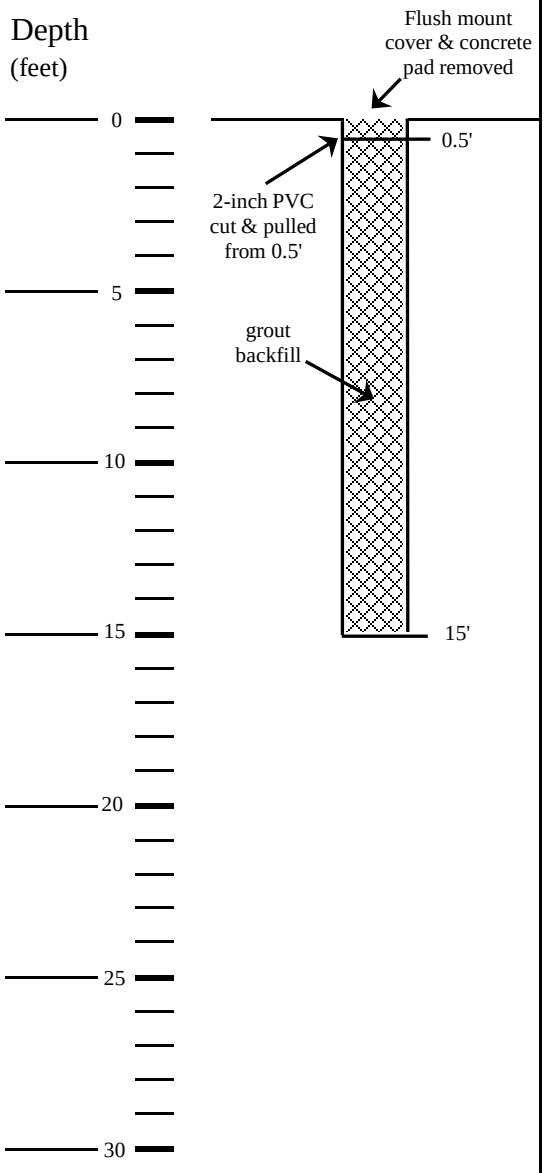
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-8**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/15/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 15'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4.5
Quantity of cement used (lbs.)	56
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	6
Volume of grout used (gal.)	6

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

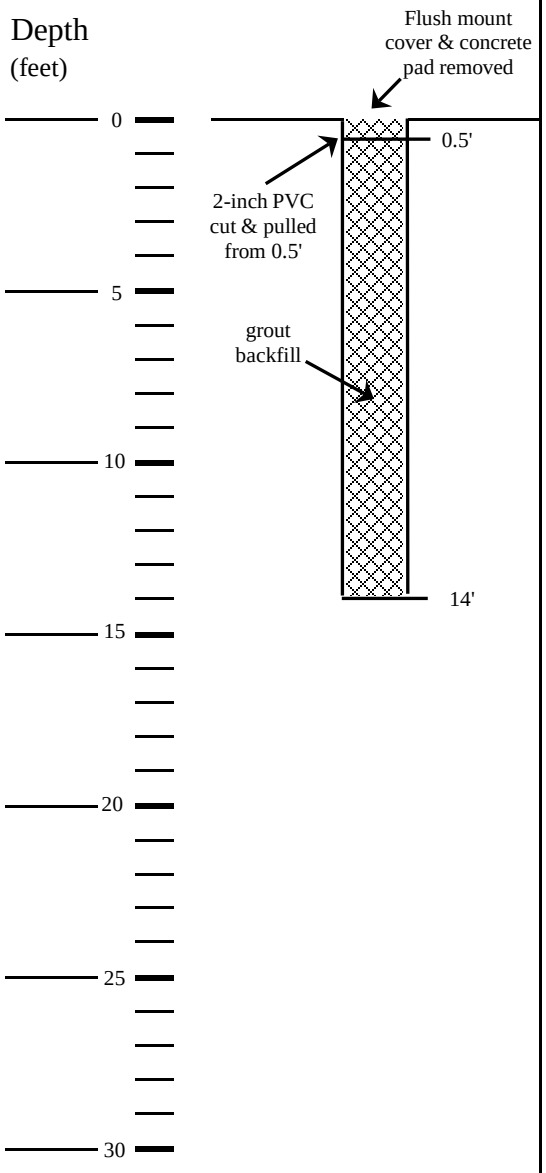
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-9**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 14'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4.5
Quantity of cement used (lbs.)	56
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	6
Volume of grout used (gal.)	6

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

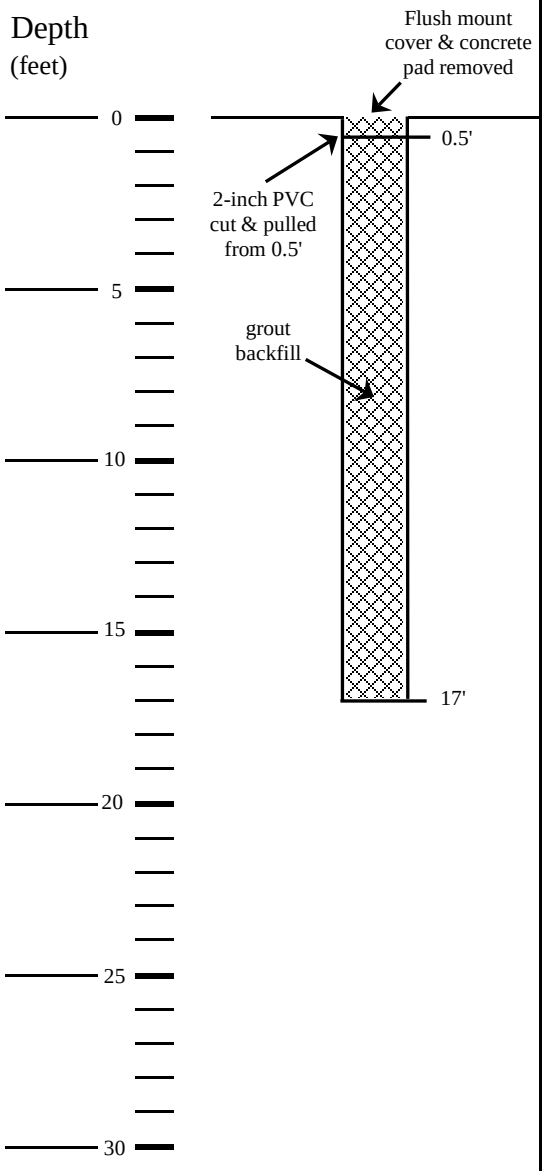
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-11**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/15/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 17'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	5.5
Quantity of cement used (lbs.)	66
Cement type	Portland
Quantity of bentonite used (lbs.)	3
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	7
Volume of grout used (gal.)	7

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

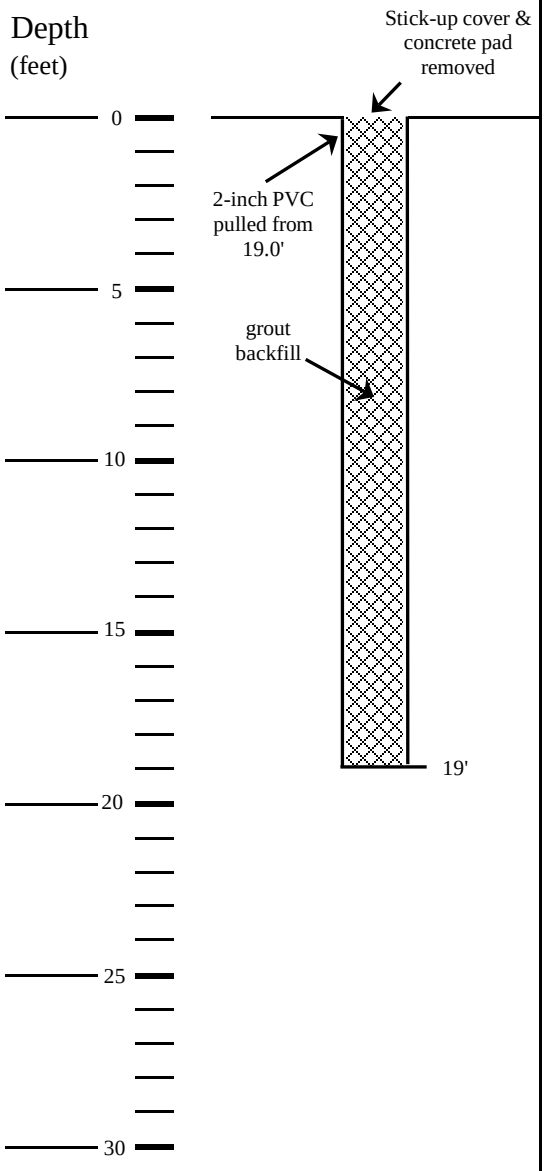
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-12S**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	pull
Casing retrieved (feet)	19.0'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 19'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4.5
Quantity of cement used (lbs.)	56
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	6
Volume of grout used (gal.)	6

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

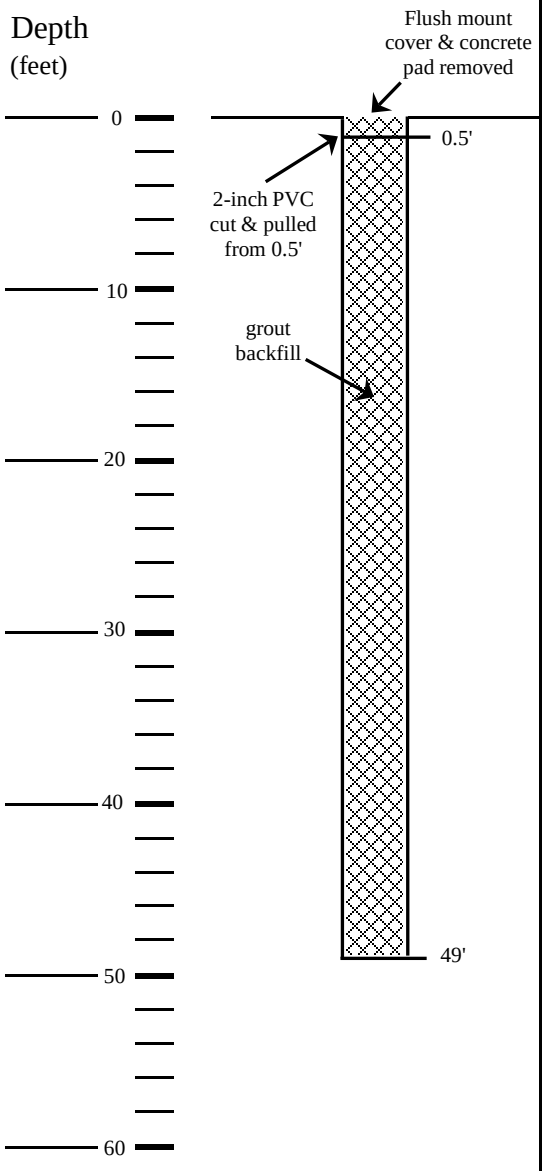
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-12D**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 49'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	12
Quantity of cement used (lbs.)	140
Cement type	Portland
Quantity of bentonite used (lbs.)	6
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	15
Volume of grout used (gal.)	15

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

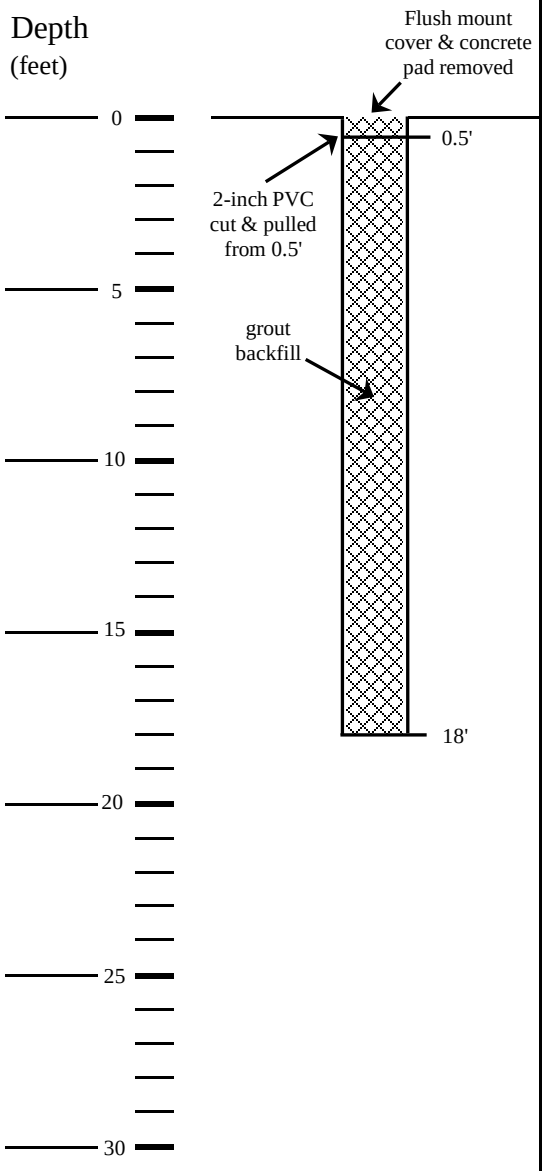
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-13**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/15/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 18'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	5.5
Quantity of cement used (lbs.)	66
Cement type	Portland
Quantity of bentonite used (lbs.)	3
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	7
Volume of grout used (gal.)	7

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

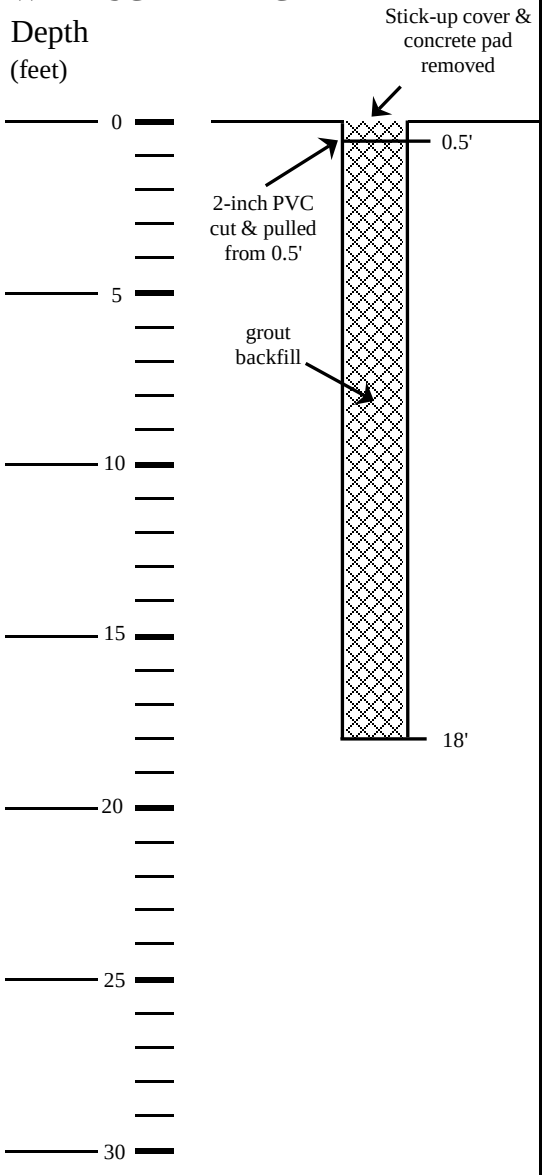
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-14**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 18'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4
Quantity of cement used (lbs.)	47
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	5
Volume of grout used (gal.)	5

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

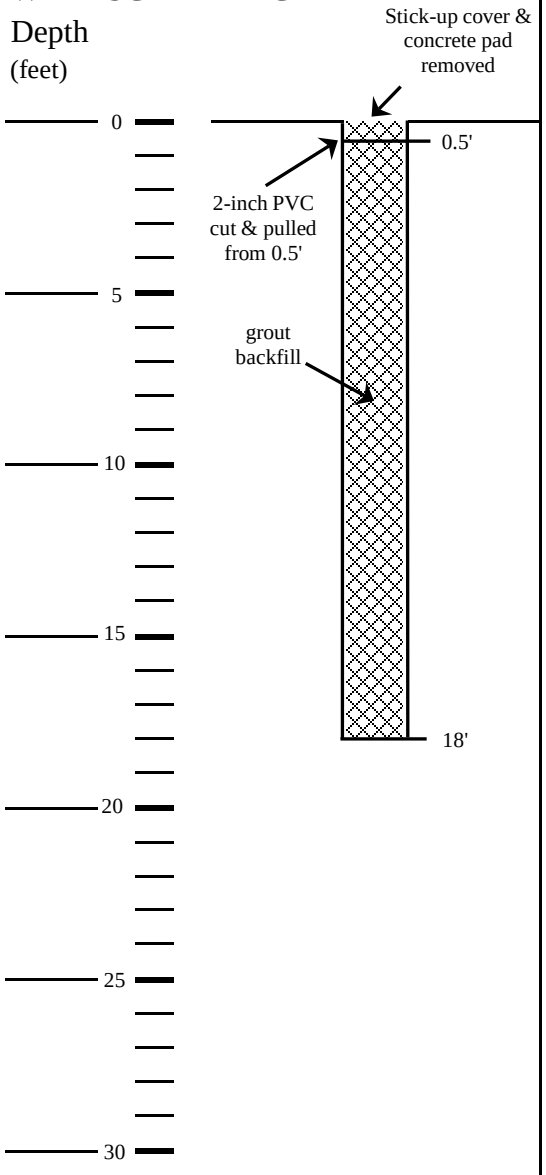
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-15**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 18'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4.5
Quantity of cement used (lbs.)	56
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	6
Volume of grout used (gal.)	6

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

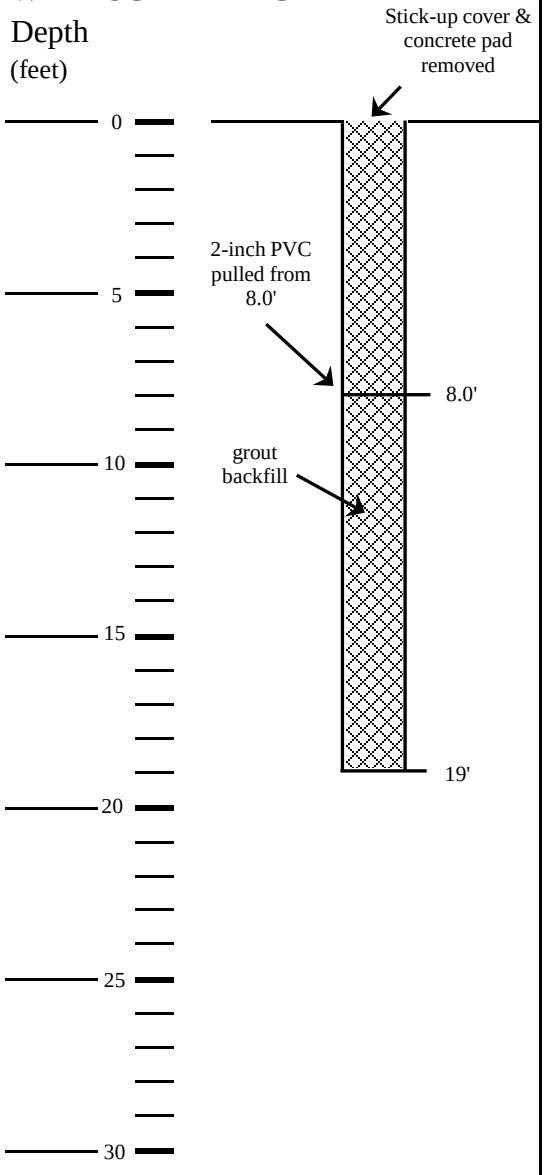
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-16**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	pull
Casing retrieved (feet)	8.0'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 19'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4
Quantity of cement used (lbs.)	47
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	5
Volume of grout used (gal.)	5

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

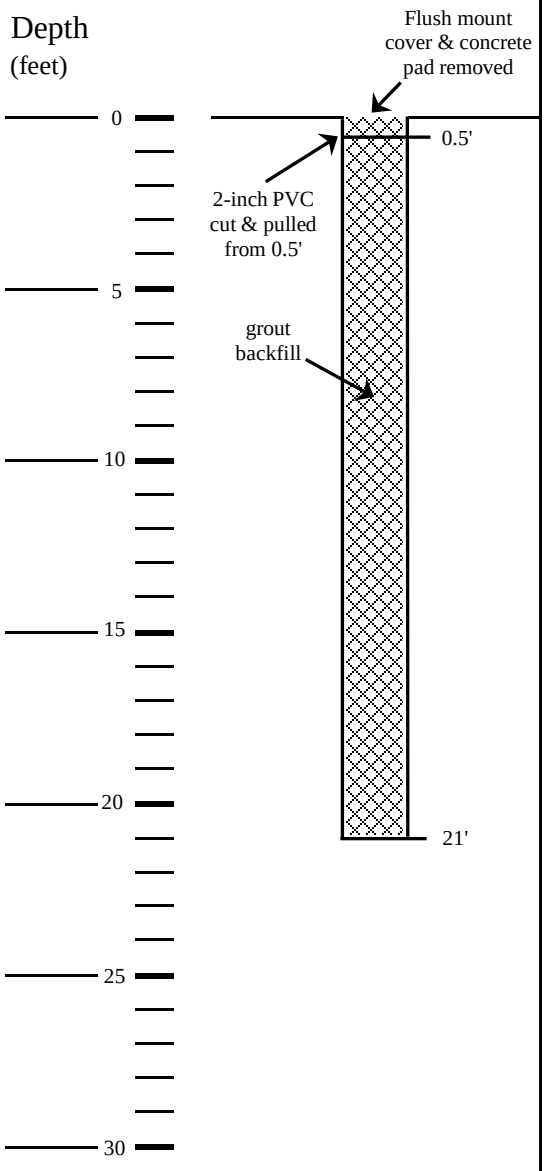
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-17**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/15/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 21'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	6
Quantity of cement used (lbs.)	75
Cement type	Portland
Quantity of bentonite used (lbs.)	3
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	8
Volume of grout used (gal.)	8

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

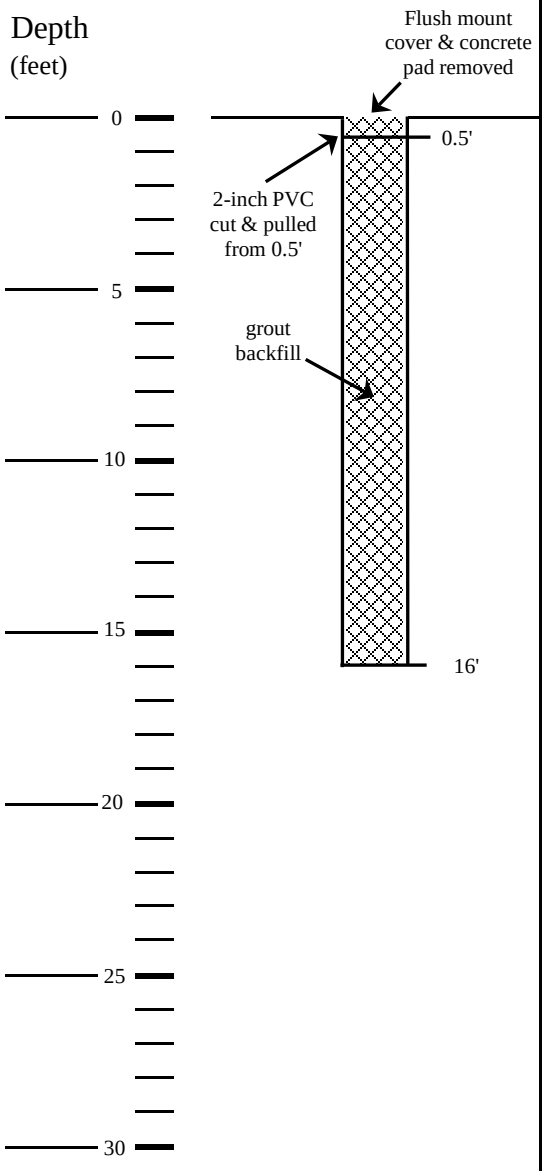
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-18**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 16'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4
Quantity of cement used (lbs.)	47
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	5
Volume of grout used (gal.)	5

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

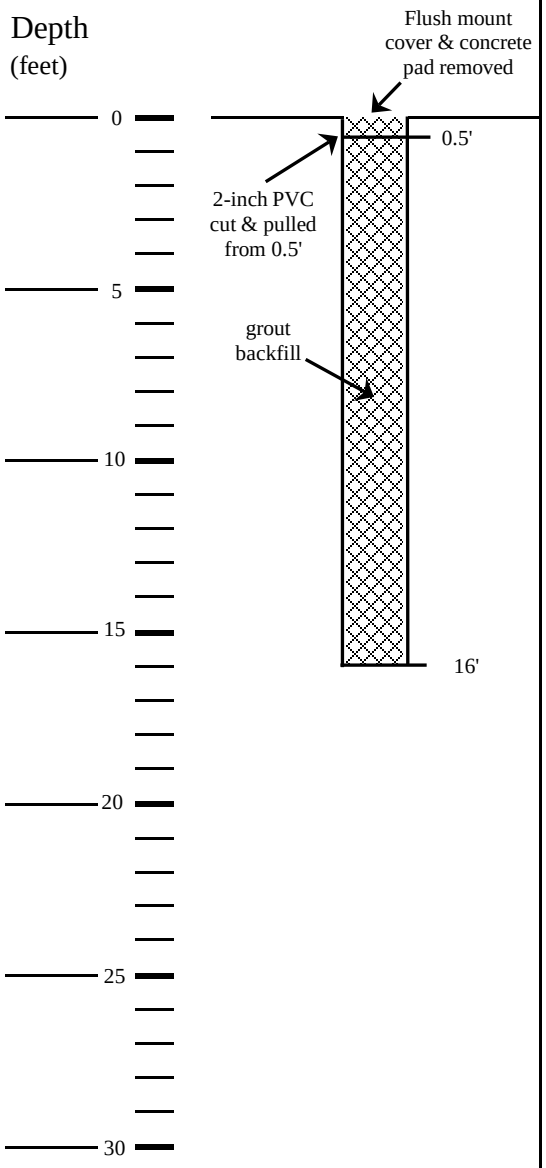
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-19**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 16'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4.5
Quantity of cement used (lbs.)	56
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	6
Volume of grout used (gal.)	6

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

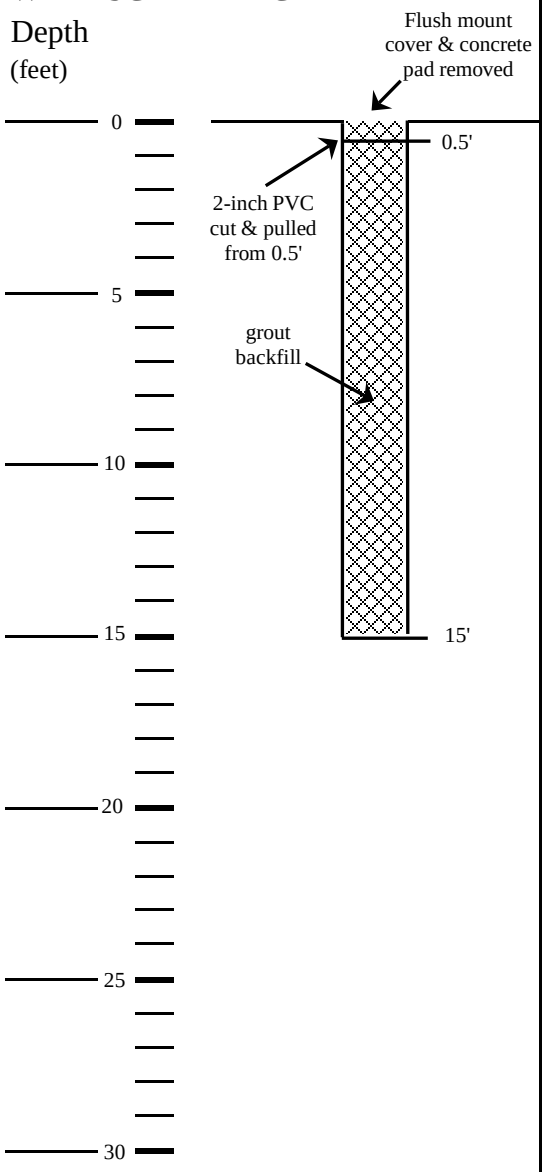
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-20**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 15'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4.5
Quantity of cement used (lbs.)	56
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	6
Volume of grout used (gal.)	6

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

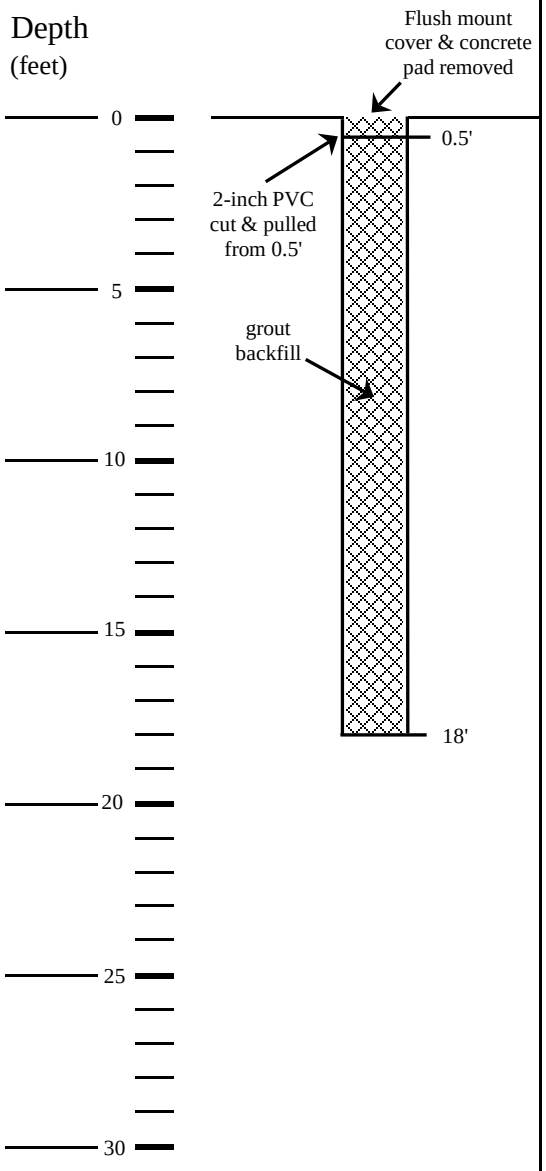
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-22**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 18'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4
Quantity of cement used (lbs.)	47
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	5
Volume of grout used (gal.)	5

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

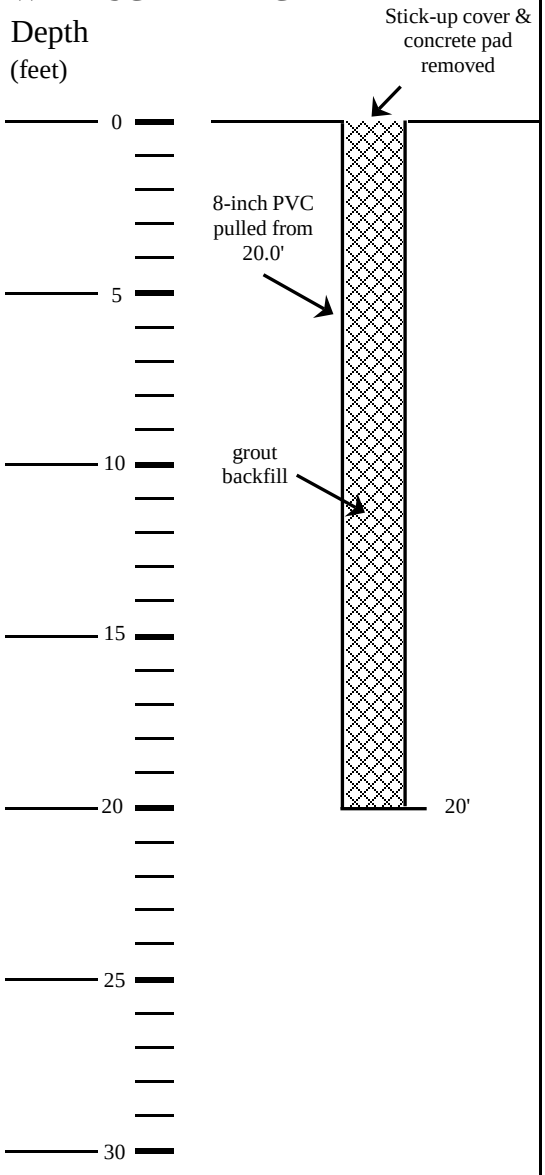
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **RW-1**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	pull
Casing retrieved (feet)	23.0'
Casing type/dia. (in)	PVC / 8"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	2
For each batch record:	
Quantity of water used (gal.)	28
Quantity of cement used (lbs.)	376
Cement type	Portland
Quantity of bentonite used (lbs.)	20
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	80
Volume of grout used (gal.)	80

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

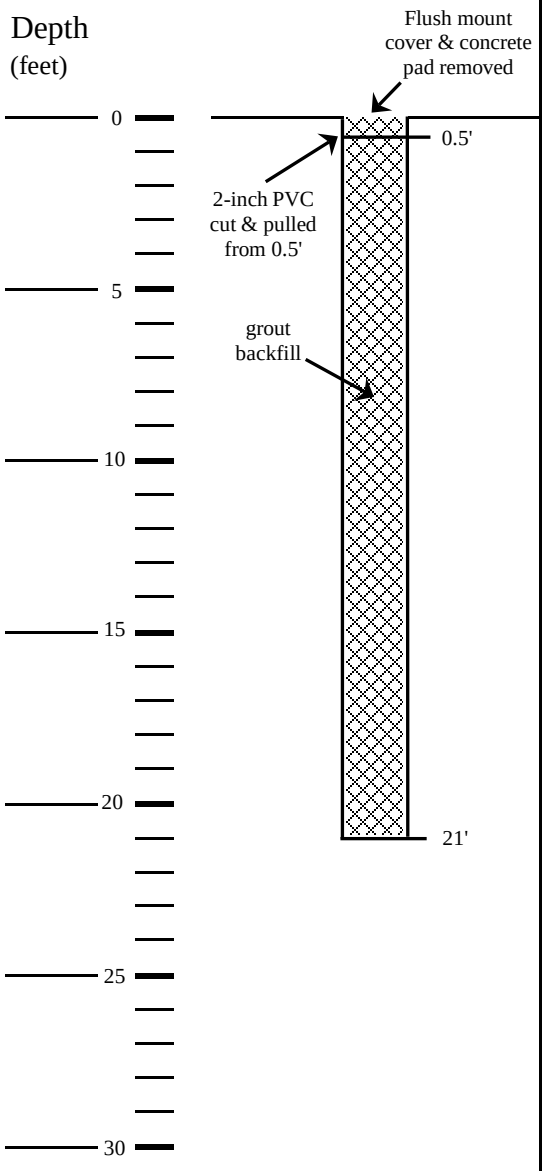
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-101**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 21'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	7
Quantity of cement used (lbs.)	85
Cement type	Portland
Quantity of bentonite used (lbs.)	3.5
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	9
Volume of grout used (gal.)	9

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

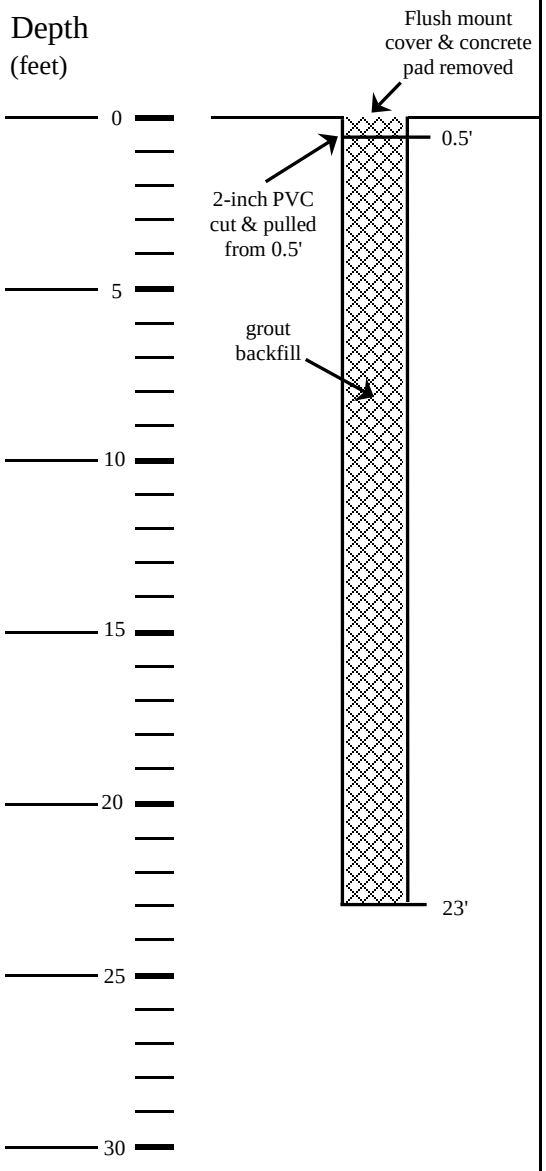
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-102**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 23'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	6
Quantity of cement used (lbs.)	75
Cement type	Portland
Quantity of bentonite used (lbs.)	3
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	8
Volume of grout used (gal.)	8

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

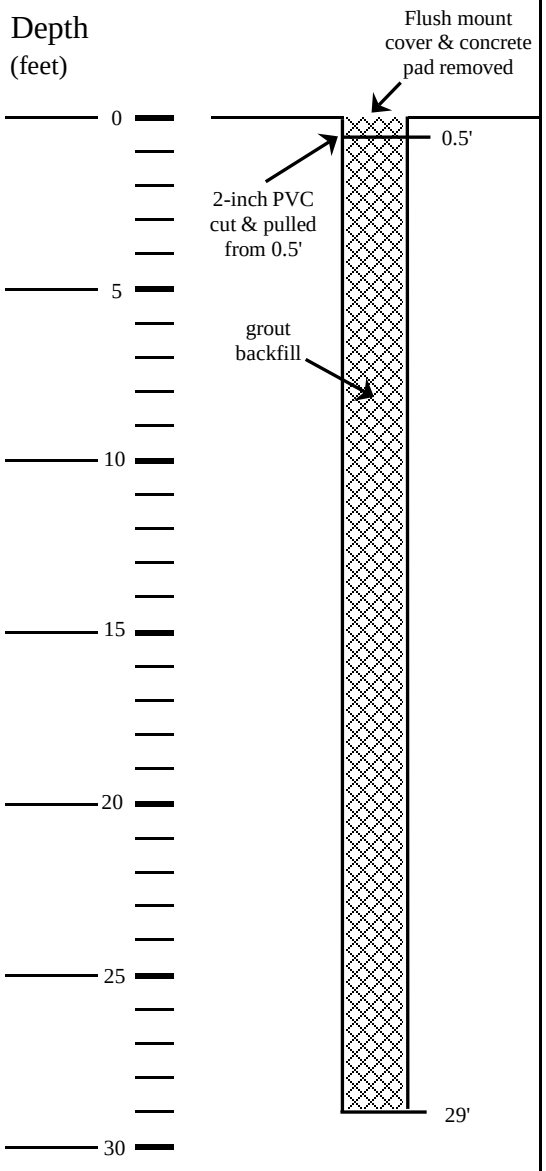
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-103**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 29'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	8
Quantity of cement used (lbs.)	94
Cement type	Portland
Quantity of bentonite used (lbs.)	4
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	10
Volume of grout used (gal.)	10

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

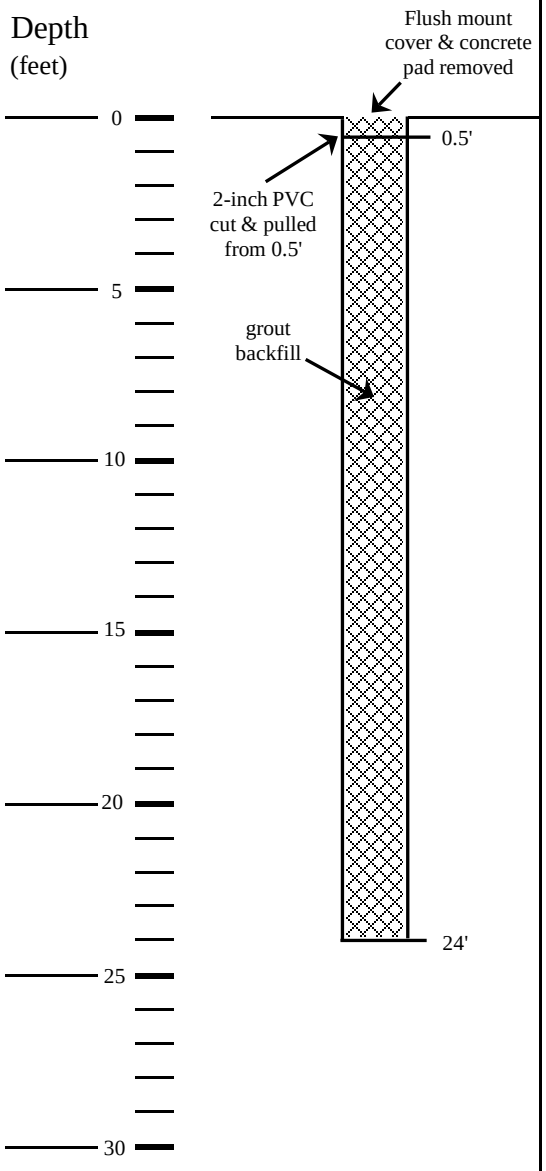
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-104**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 24'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	6
Quantity of cement used (lbs.)	75
Cement type	Portland
Quantity of bentonite used (lbs.)	3
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	8
Volume of grout used (gal.)	8

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

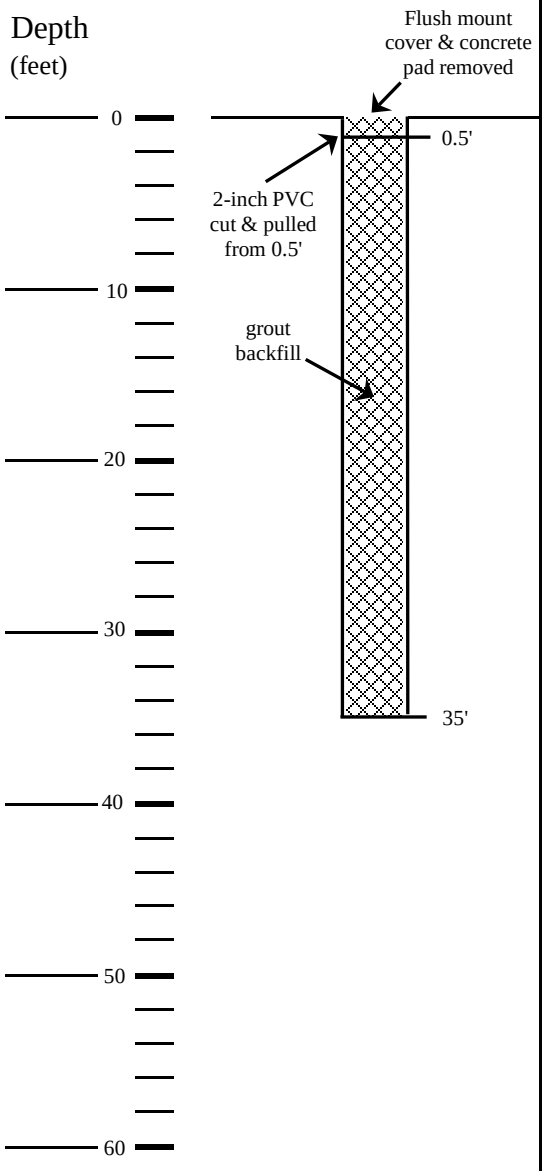
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-105**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 35'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	10
Quantity of cement used (lbs.)	113
Cement type	Portland
Quantity of bentonite used (lbs.)	5
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	12
Volume of grout used (gal.)	12

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

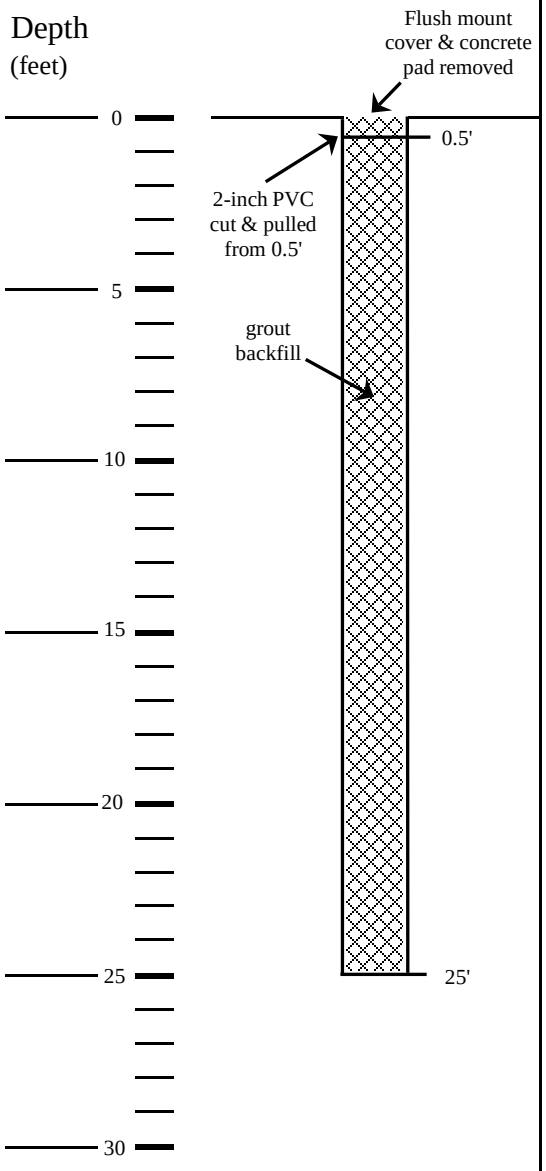
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-106**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 25'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	6
Quantity of cement used (lbs.)	75
Cement type	Portland
Quantity of bentonite used (lbs.)	3
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	8
Volume of grout used (gal.)	8

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

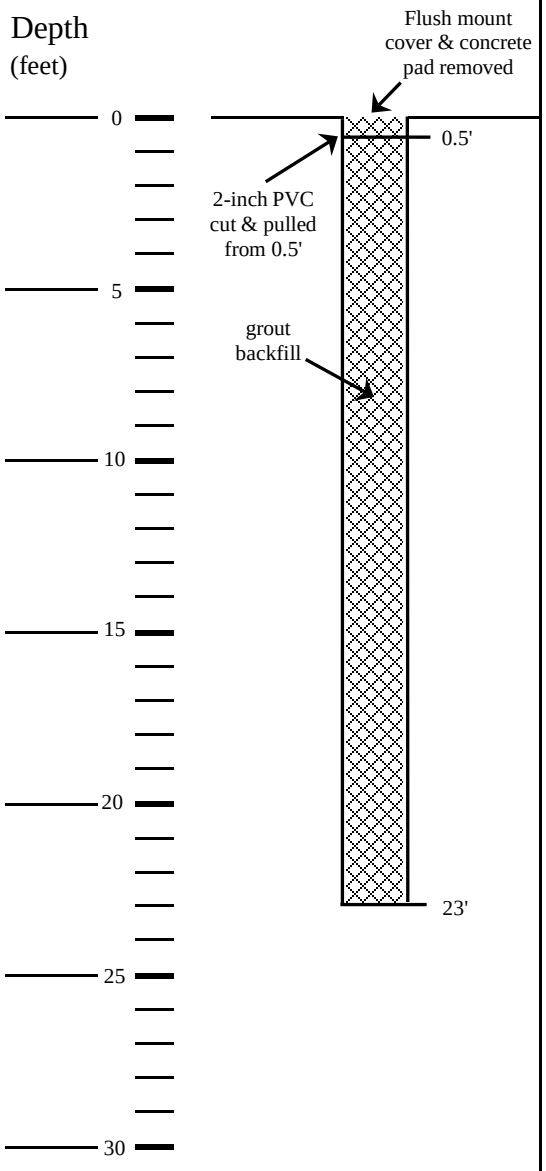
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-107**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 2"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 23'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	6
Quantity of cement used (lbs.)	75
Cement type	Portland
Quantity of bentonite used (lbs.)	3
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	8
Volume of grout used (gal.)	8

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

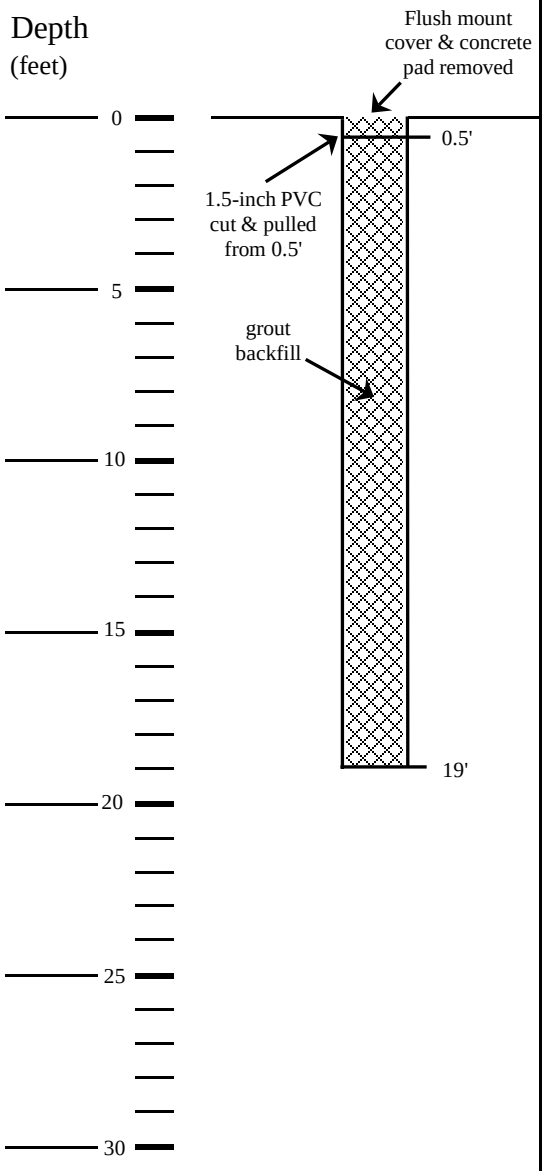
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-108**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1.5"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 19'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	6
Quantity of cement used (lbs.)	75
Cement type	Portland
Quantity of bentonite used (lbs.)	3
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	8
Volume of grout used (gal.)	8

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

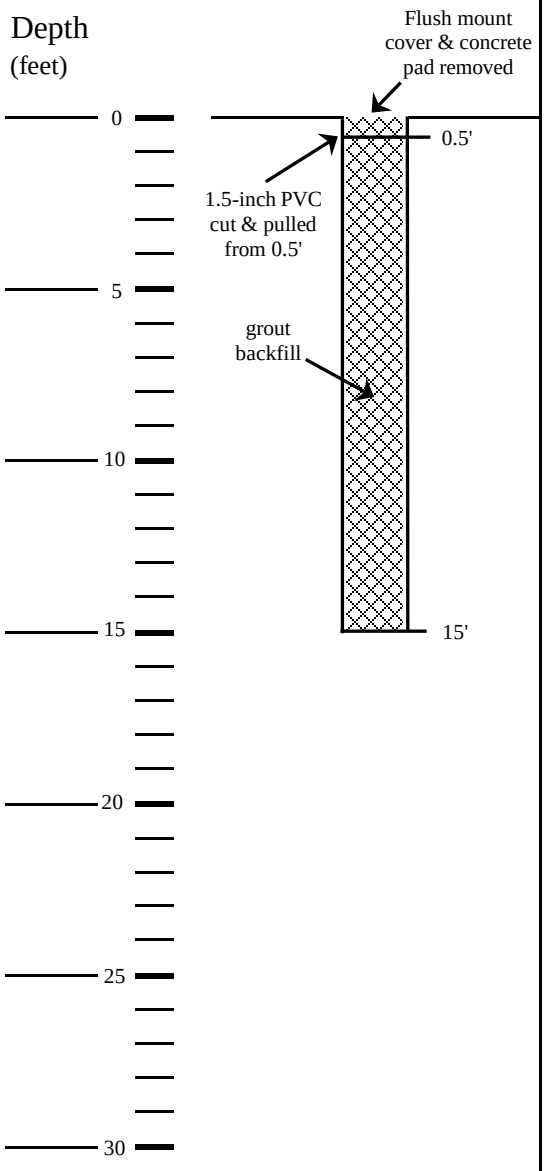
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-109**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/13/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1.5"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 19'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4
Quantity of cement used (lbs.)	47
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	5
Volume of grout used (gal.)	5

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

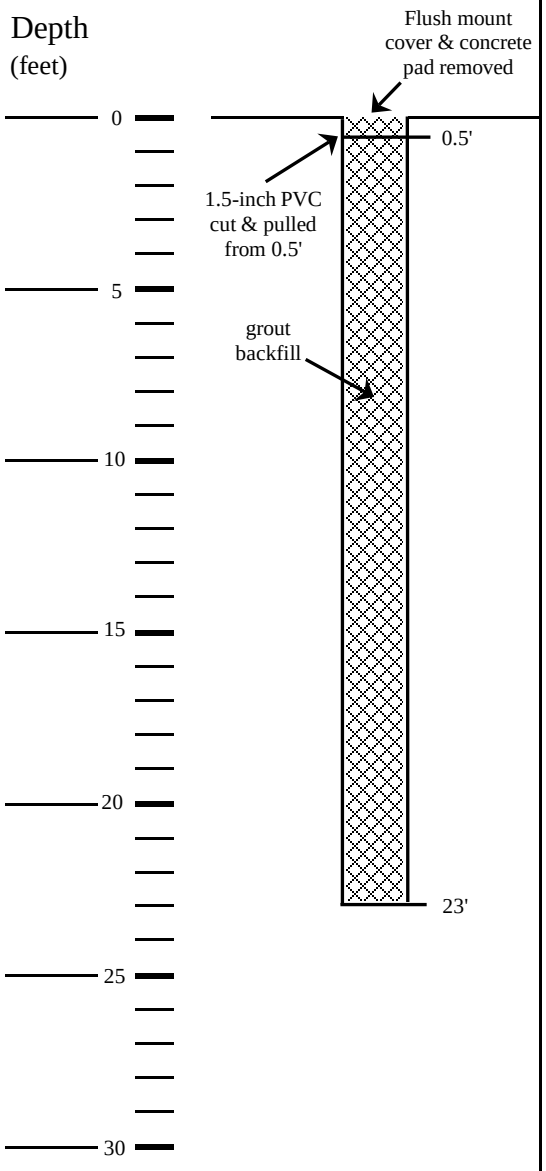
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-110**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1.5"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 23'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4.5
Quantity of cement used (lbs.)	56
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	6
Volume of grout used (gal.)	6

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

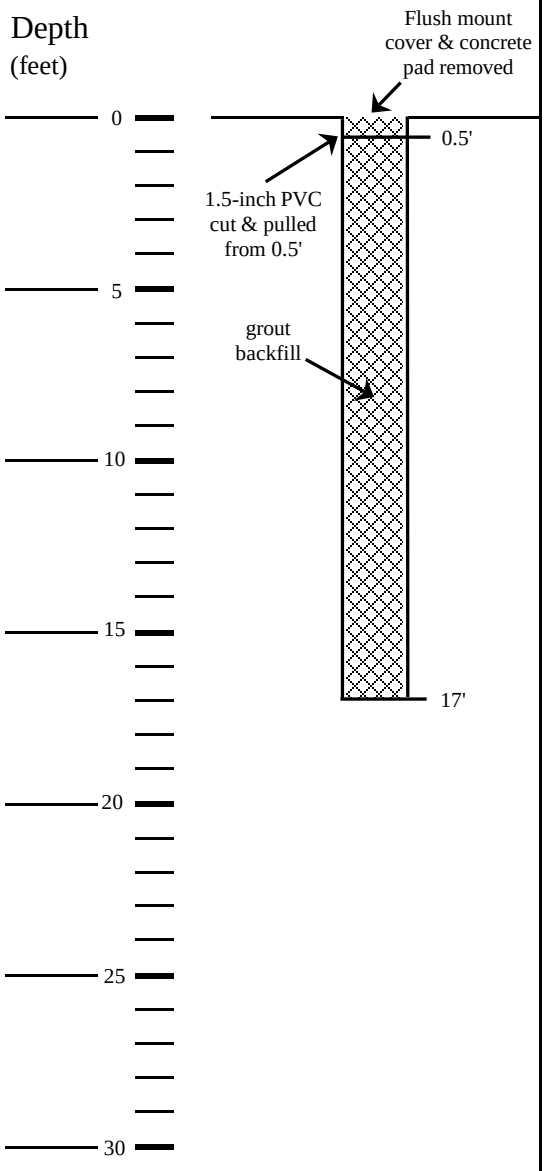
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-111**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1.5"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 17'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4
Quantity of cement used (lbs.)	47
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	5
Volume of grout used (gal.)	5

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

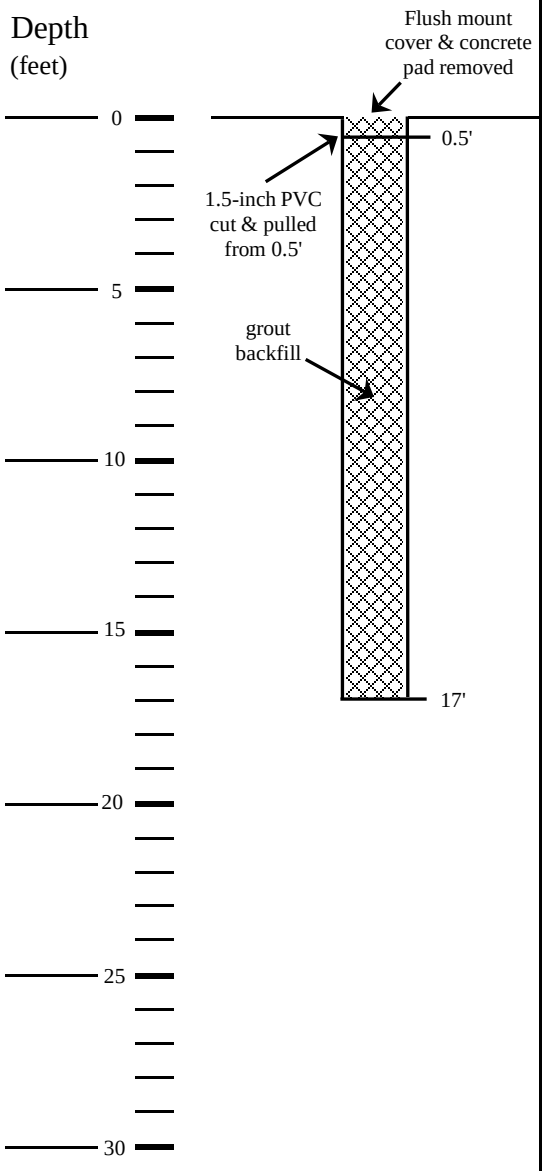
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-112**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1.5"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 17'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4
Quantity of cement used (lbs.)	47
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	5
Volume of grout used (gal.)	5

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

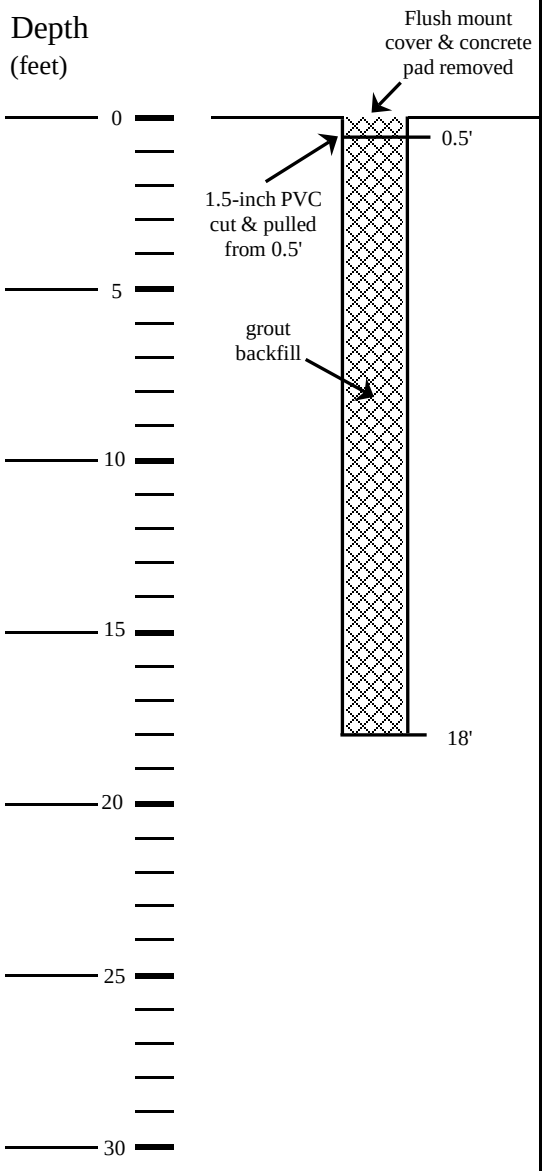
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **MW-114**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/14/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1.5"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 18'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	4
Quantity of cement used (lbs.)	47
Cement type	Portland
Quantity of bentonite used (lbs.)	2
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	5
Volume of grout used (gal.)	5

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

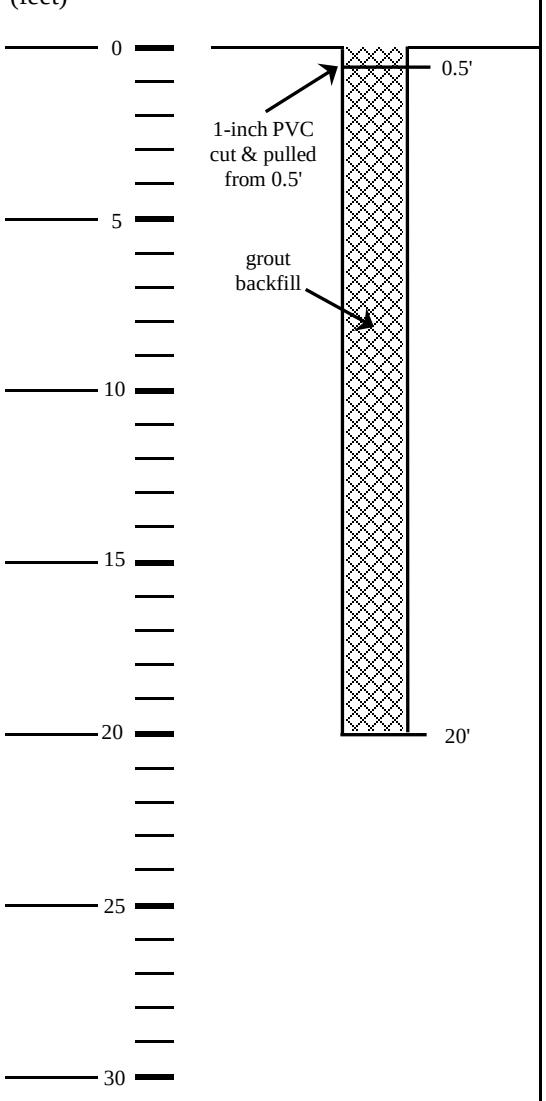
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-1**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

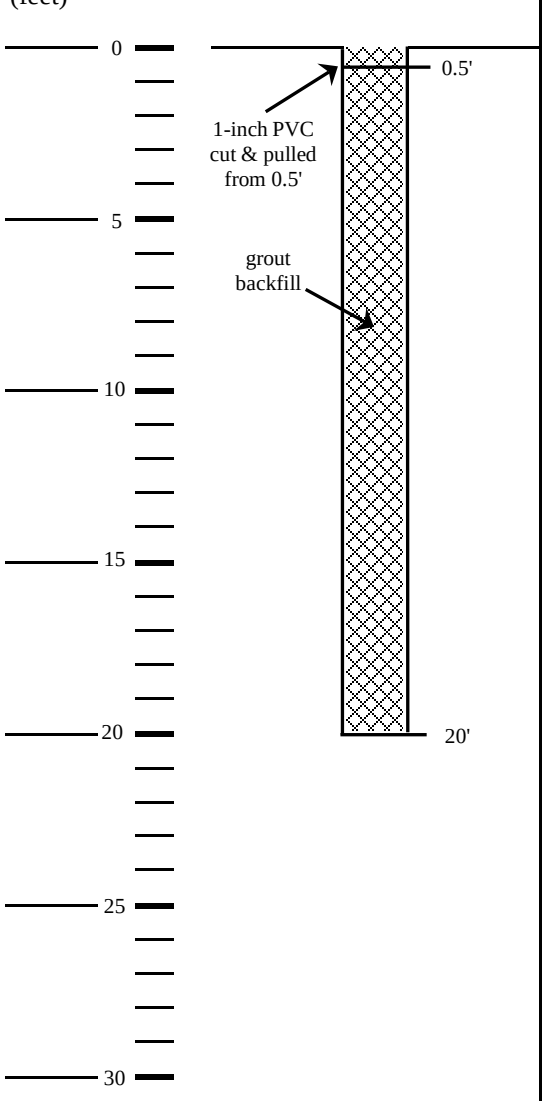
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-2**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

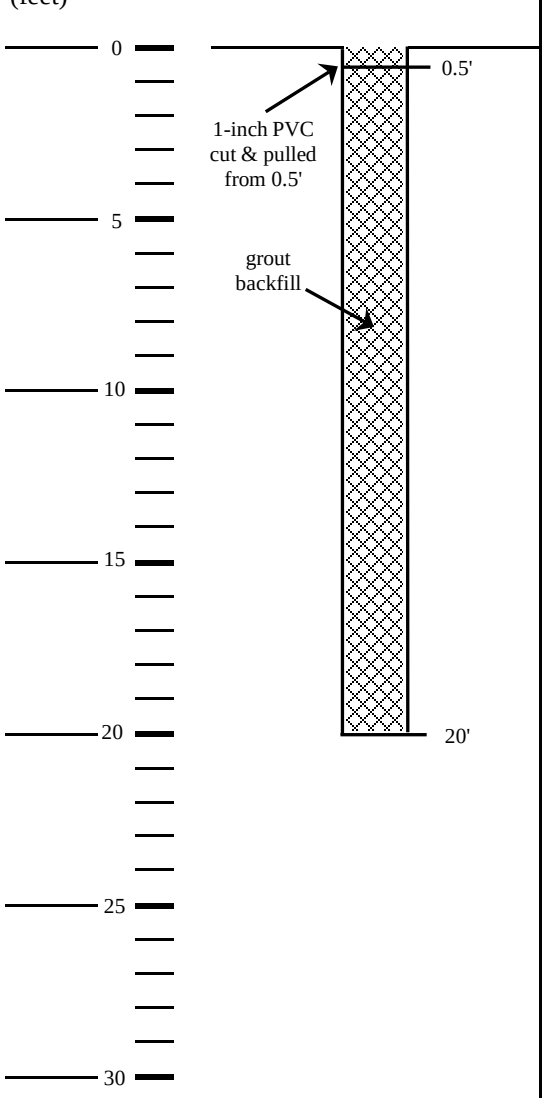
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-3**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

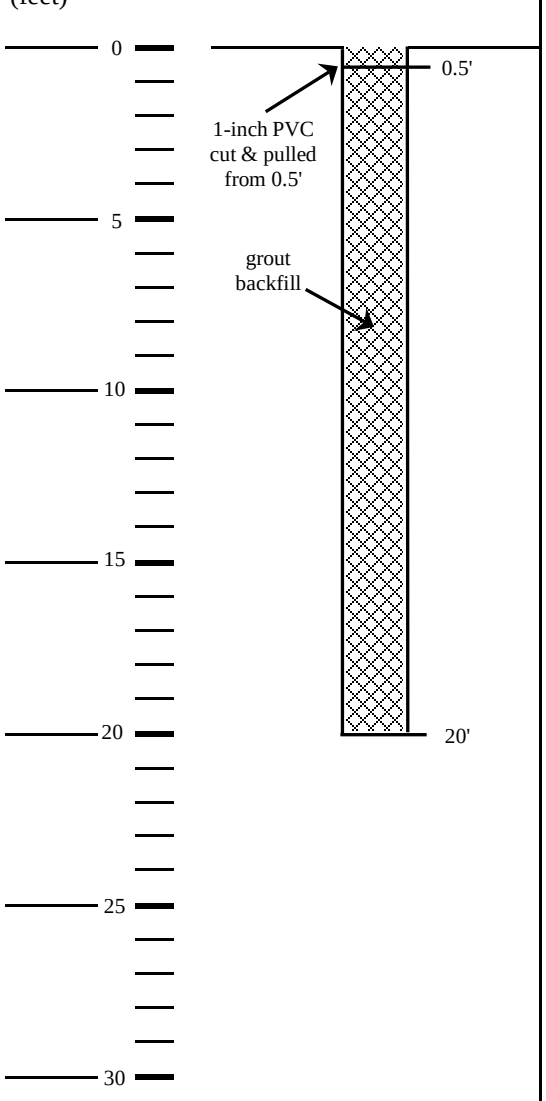
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-4**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

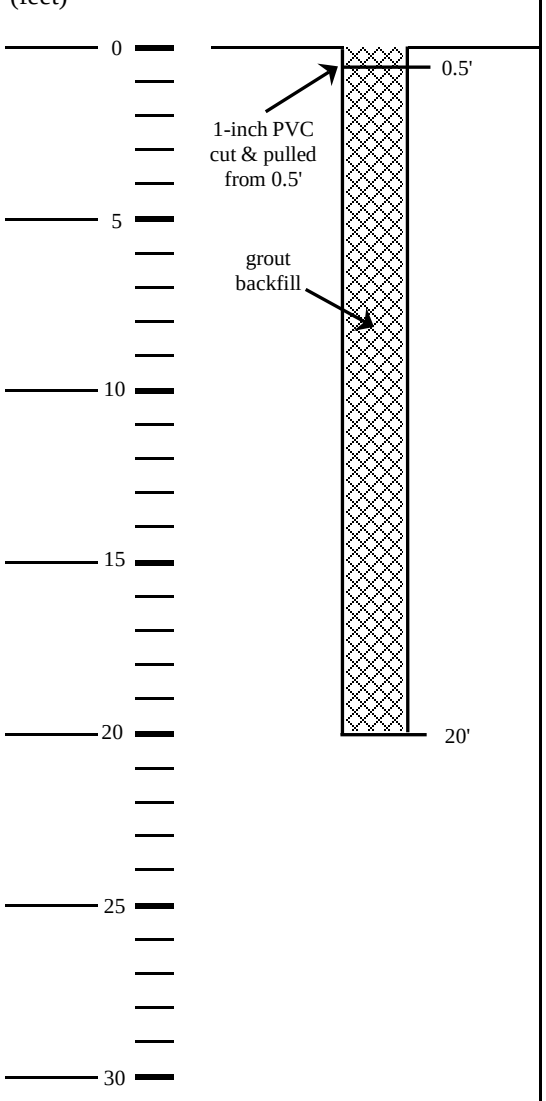
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-5**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

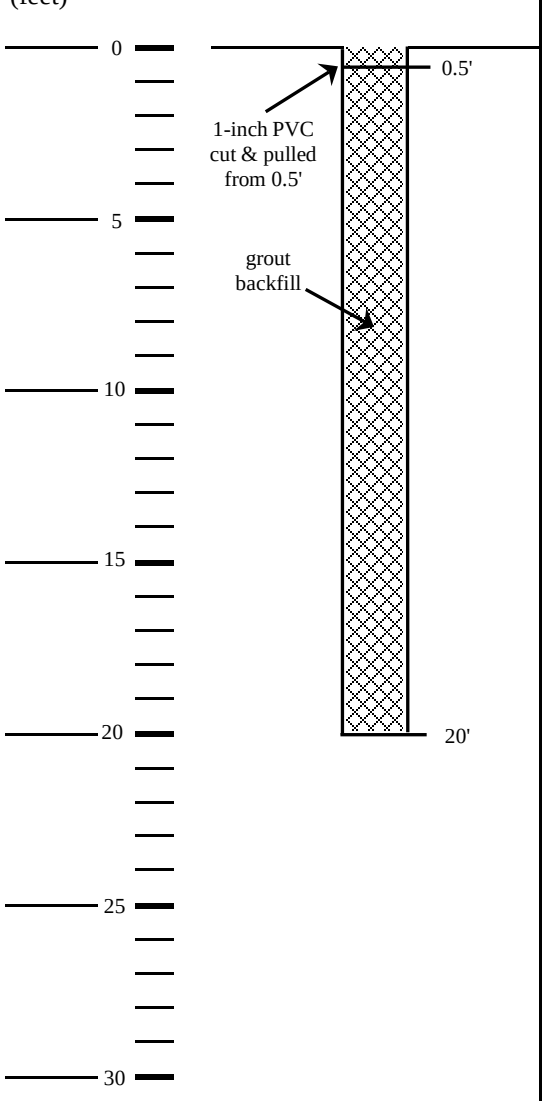
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-6**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

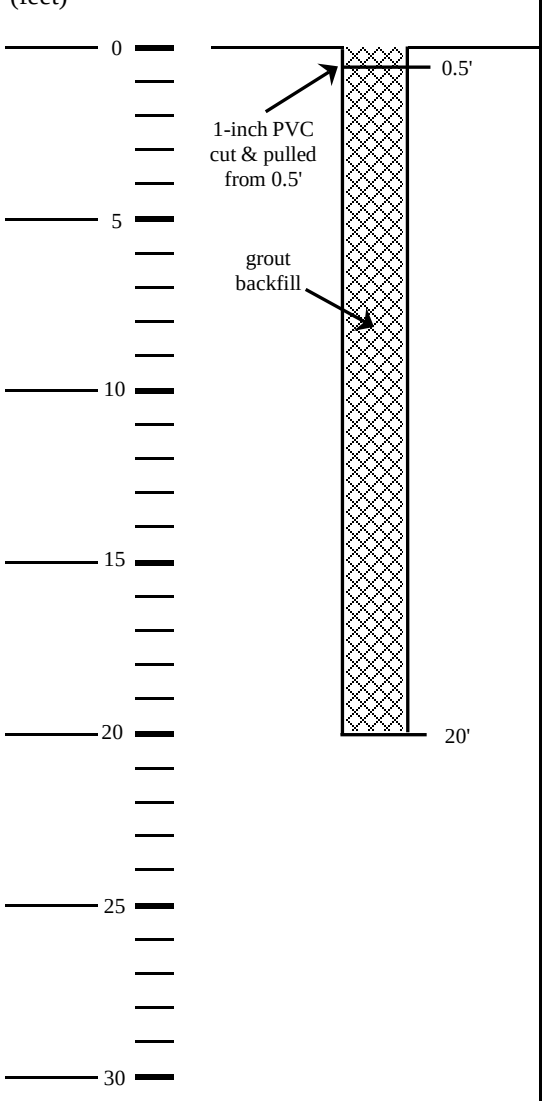
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-7**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

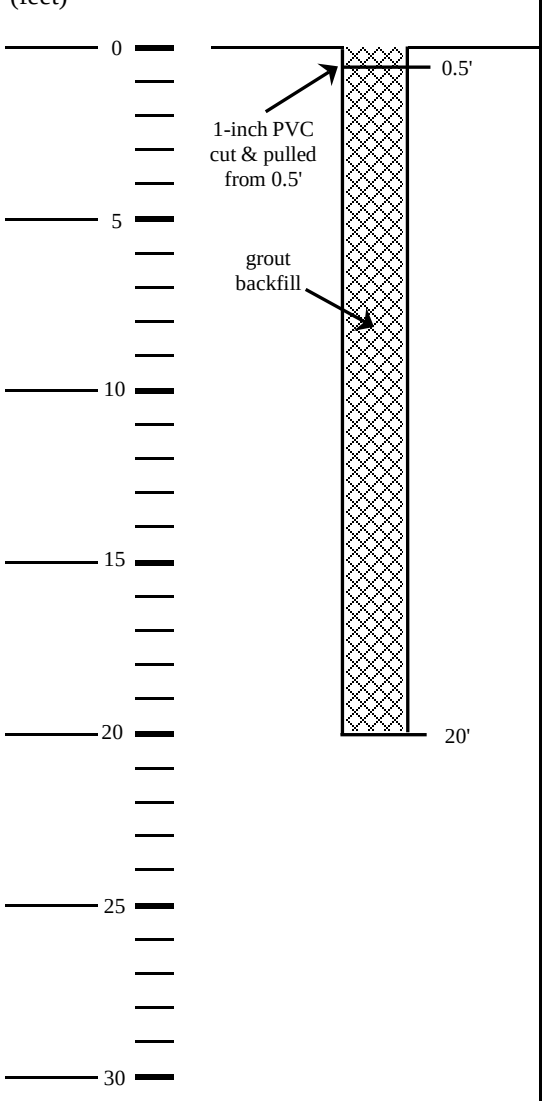
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-8**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

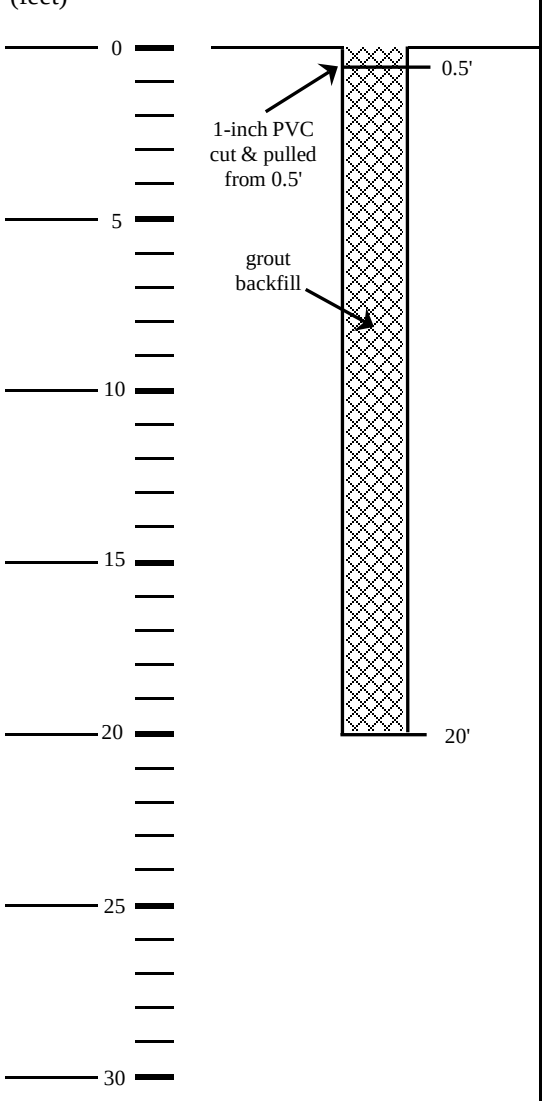
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-9**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

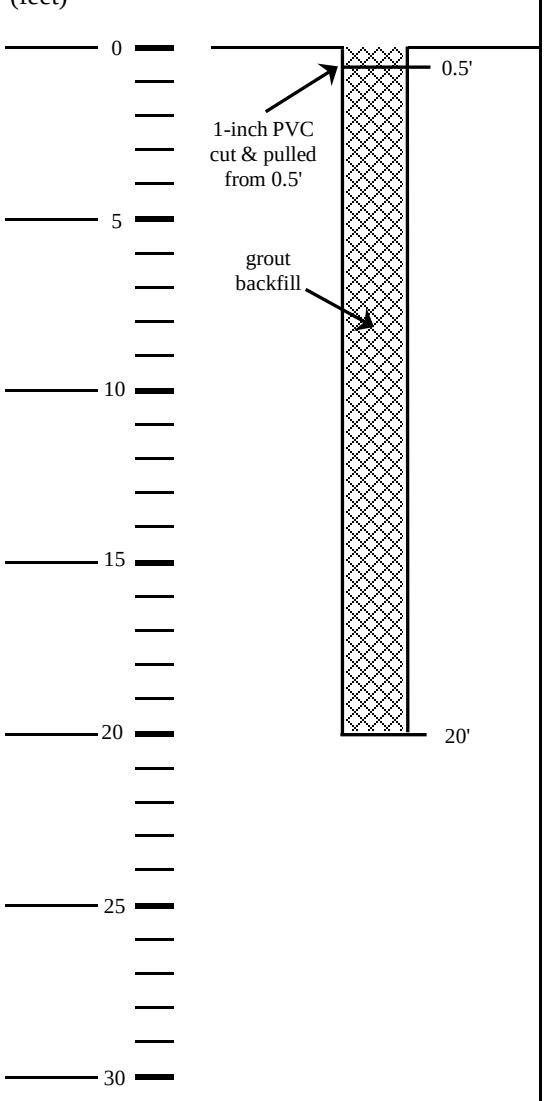
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-10**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

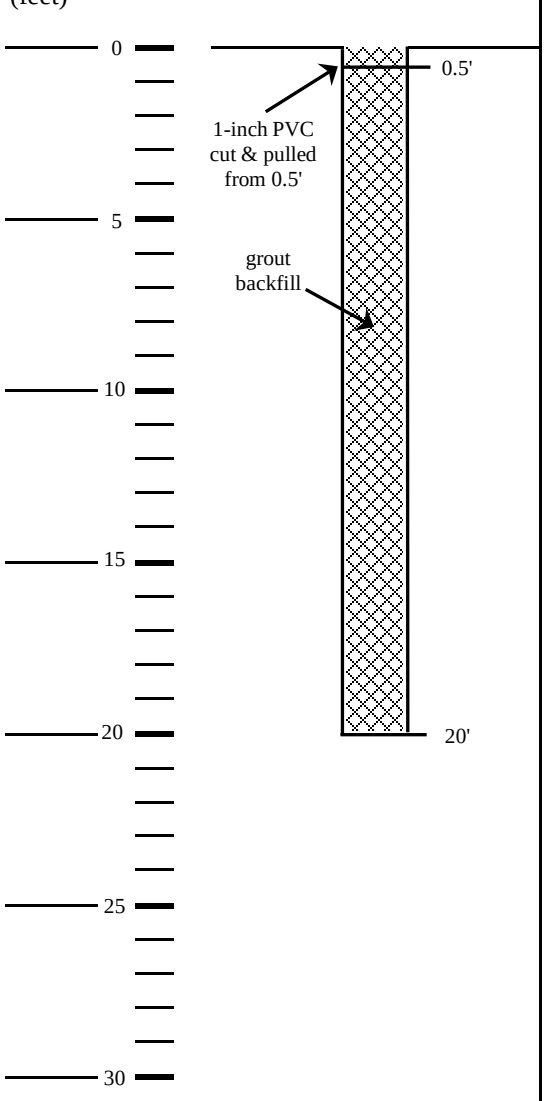
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-11**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

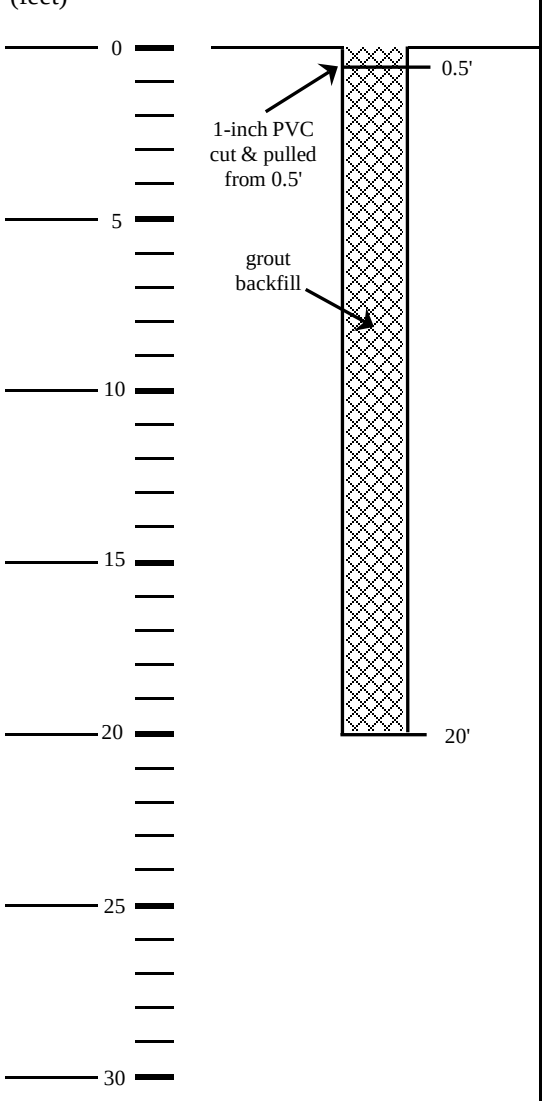
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-12**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

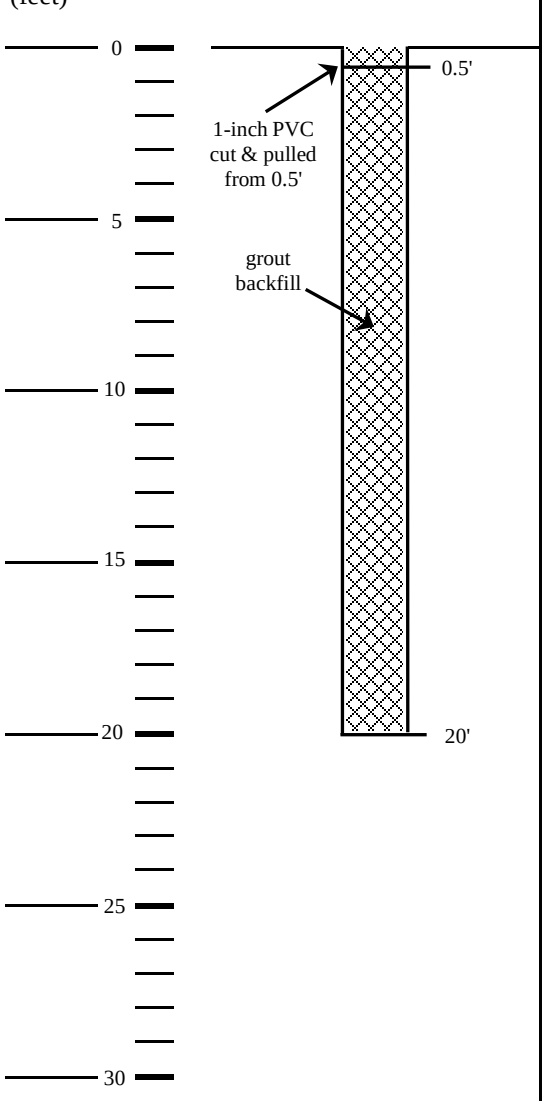
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-13**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

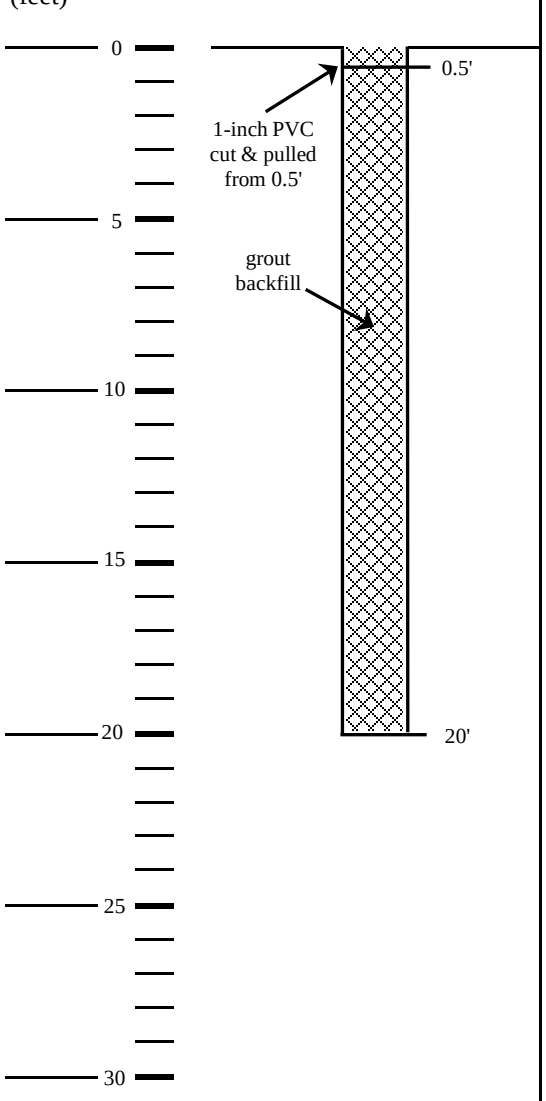
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-14**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

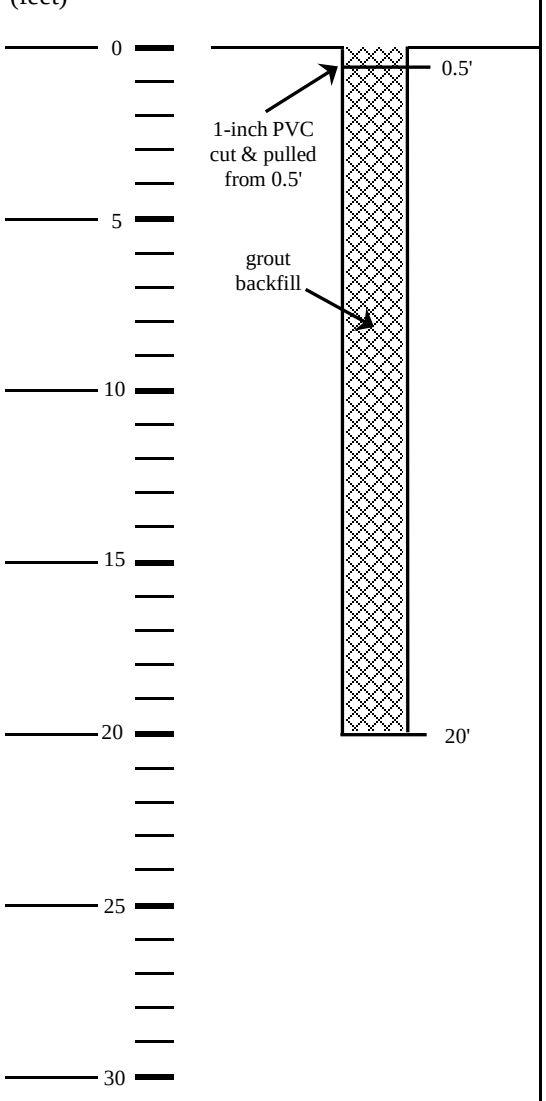
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-15**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative

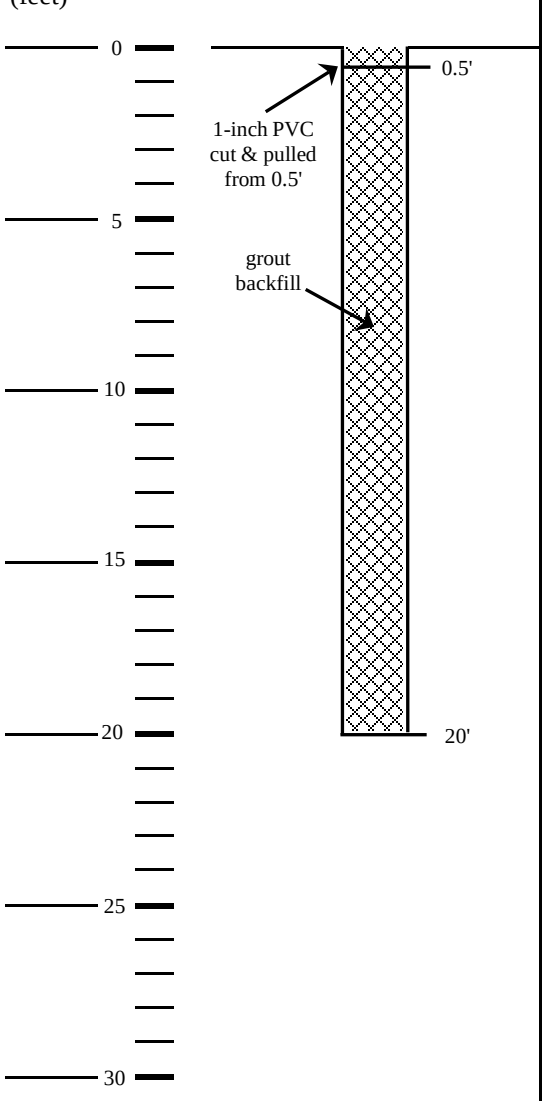
FIGURE 3
WELL DECOMMISSIONING RECORD

Site Name: **Hancock Air National Guard Base**	Well I.D.: **BS-16**
Site Location: **Syracuse, New York**	Driller: **Glenn Lansing**
Drilling Co.: **Parratt-Wolff, Inc.**	Inspector:
	Date: **5/12/14**

DECOMISSIONING DATA
(Fill in all that apply)

OVERDRILLING	
Interval Drilled	NA
Drilling Method(s)	NA
Borehole Dia. (in.)	NA
Temporary Casing Installed? (y/n)	N
Depth temporary casing installed	NA
Casing type/dia. (in.)	NA
Method of installing	NA
CASING PULLING	
Method employed	cut & pull
Casing retrieved (feet)	0.5'
Casing type/dia. (in)	PVC / 1"
CASING PERFORATING	
Equipment used	NA
Number of perforations/foot	NA
Size of perforations	NA
Interval perforated	NA
GROUTING	
Interval grouted (FBLS)	0 - 20'
# of batches prepared	1
For each batch record:	
Quantity of water used (gal.)	1.5
Quantity of cement used (lbs.)	19
Cement type	Portland
Quantity of bentonite used (lbs.)	0.75
Quantity of calcium chloride used (lbs.)	NA
Volume of grout prepared (gal.)	2
Volume of grout used (gal.)	2

WELL SCHEMATIC*



COMMENTS:

* Sketch in all relevant decommissioning data, including: interval overdrilled, interval grouted, casing left in hole, well stickup, etc.

Drilling Contractor

Department Representative