4P Architect-Engineer (4PAE08) Services
Air Force Civil Engineer Center

Site Specific Work Plan for Accelerated Site Closure Activities at the Boiler Blowdown Coal Layer Area Former Roslyn Air National Guard Station Roslyn, NY

March 2013

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USAF CONTRACT NO. FA8903-08-D-8781
TASK ORDER NO. 0179

CDRL NO. A007

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ACRONYMS

°F	Degrees Fahrenheit
AMSL	above Mean Sea Level
ANGS	Air National Guard Station
AOI	Area of Interest
BBD	Boiler Blowdown
bgs	below ground surface
BRAC	Base Realignment and Closure
CAP	Corrective Action Plan
CERCLA	Comprehensive Environmental Response, Compensation, and Liability Act
COC	Chemical of Concern
CUO	Cleanup Objective
DoD	Department of Defense
DPT	Direct Push Technology
DEQPPM	Defense Environmental Quality Program Policy Memorandum
FE	Feasibility Evaluation
FSP	Field Sampling Plan
HASP	Health and Safety Plan
IDW	Investigation-Derived Waste
IRA	Interim Remedial Action
IRP	Installation Restoration Program
LUC	Land Use Control
mg/kg	milligram per kilogram
NCP	National Contingency Plan
NFA	No Further Action
NYSDEC	New York State Department of Conservation
OVM	Organic Vapor Meter
PA/SI	Preliminary Assessment/Site Inspection
POC	Point of Contact

PRG	Preliminary Remediation Goal
QAPP	Quality Assurance Project Plan
QC	Quality Control
RCRA	Resource Conservation and Recovery Act
RI	Remedial Investigation
RFI	RCRA Facility Investigation
RSCO	Remedial Soil Cleanup Objectives
SARA	Superfund Amendments and Reauthorization Act
SGPA	Special Groundwater Protection Area
SI	Site Investigation
SVOC	Semi-Volatile Organic Compound
USAF	U.S. Air Force
USEPA	U.S. Environmental Protection Agency
WP	Work Plan

1.0 INTRODUCTION

This work plan (WP) describes the activities/tasks that will be required to achieve unrestricted accelerated closure of one historical environmental site associated with the former Roslyn Air National Guard Station (ANGS). The former Roslyn ANGS is a Legacy Base Realignment and Closure (BRAC) program installation. The efforts outlined in this WP will assist the United States Air Force (USAF) to comply with the Secretary of the Air Force for Installations, Environment, and Logistics Memoranda *Policy for Refocusing the Air Force Environmental Restoration Program* dated 24 Feb 2011. The memorandum directs the USAF to expedite site closures without land use or engineering restrictions to reduce future environmental liabilities and financial expenditures.

This WP focuses on one site at the former Roslyn ANGS referred to as the DC-004: Boiler Blowdown (BBD) Area, Building 17. Previous investigations identified the presence of 11 Areas of Interest (AOIs) at the Roslyn ANGS. Investigation results provided sufficient information to environmentally close 10 of the 11 AOIs without restrictions on land use. The BBD Area could not be closed without implementation of land use controls (LUCs) and is the focus of this document. Previous results of environmental investigations of the BBD are summarized in this document and a path forward is presented to move the site to closure with no LUCs.

This site-specific WP is a companion document to the Project-Wide Quality Assurance Project Plan (QAPP), the Field Sampling Plan (FSP), and the Health and Safety Plan (HASP).

1.1 The USAF Installation Restoration Program

The objective of the USAF Installation Restoration Program (IRP) is to assess past hazardous waste disposal and spill sites at USAF installations and to develop remedial actions consistent with the National Contingency Plan (NCP) for sites that pose a threat to human health and the environment. This section presents information on the program origins, objectives, and organization.

Executive Order 12580, adopted in 1987, gave various federal agencies, including the Department of Defense (DoD), the responsibility to act as lead agencies for conducting investigations and implementing remediation efforts when DoD is the sole source or a co-contributor to contamination.

To ensure compliance with Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), its regulations, and Executive Order 12580, the DoD developed the IRP, under the Defense Environmental Restoration Program. The purposes of the IRP are to identify potentially contaminated sites, investigate these sites, and evaluate and select remedial actions for potentially contaminated facilities. The DoD issued the Defense Environmental Quality Program Policy Memorandum (DEQPPM) 80-6 regarding the IRP program in June 1980, and implemented the policies outlined in this memorandum in December 1980.

In 1980, the NCP was issued by the United States Environmental Protection Agency (USEPA) to provide guidance on a process by which (1) contaminant release could be reported, (2) contamination could be identified and quantified, and (3) remedial actions could be selected. The NCP describes the responsibility of federal and state governments and those responsible for contaminant releases.

The DoD formally revised and expanded the existing IRP directives and amplified all previous directives and memoranda concerning the IRP through DEQPPM 81-5, dated 11 December 1981. The memorandum was implemented by a USAF message dated 21 January 1982.

The IRP is the DoD's primary mechanism for response actions on USAF installations affected by the provisions of Superfund Amendments and Reauthorization Act (SARA). In November 1986, in response to SARA and other USEPA interim guidance, the USAF modified the IRP to provide for a RCRA Facility Investigation (RFI) program. The IRP was modified so that RFI studies could be conducted as parallel activities rather than serial activities. Over the years, requirements of the IRP have been developed and modified to ensure that DoD compliance with federal laws, such as the Resource Conservation and Recovery Act (RCRA), NCP, CERCLA, and SARA, can be met.

1.1.1 Expedited Site Closure Policy

In 2011, the USAF concluded the selected remedies for addressing residual chemical contamination at too many of its sites prevented unrestricted use of transferred properties and continue the perpetual expenditures associated with remediation system operation and maintenance and land use/institutional controls. As a result of this conclusion, and in an effort to reduce legal and financial liability, the USAF redirected its approach to site cleanup/closure to spend more money on actual groundwater, surface water, sediment, or soil cleanup and less money on overhead and administrative costs. Out of the change in site cleanup approach, the "Accelerated Site Completion" program was developed. The site cleanup program described in this WP for the coal layer located at former Roslyn ANGS is part of the USAF Accelerated Closure program for BRAC Installations.

1.2 History of Past Installation Restoration Program Work

1.2.1 General History of the Former Roslyn Air National Guard Station

The former Roslyn ANGS, shown in Figure 1-1, is located at 209 Harbor Hill Road in the Village of East Hills, Roslyn, New York. The former ANGS, now known as The Park At East Hills, is located on the north shore of eastern Long Island approximately 24 miles from New York City.

The original Station occupied approximately 50.34 acres of land purchased by the federal government in 1953 and was first used by the 1st Fighter Command and then the 26th Air Division, USAF Defense Command. Originally known as the Air Force Station, it was re-designated as the Roslyn ANGS on 1 July 1959. The New York Air National Guard occupied the Station from 1959 up until 30 November 2000 when the Air Force Base Conversion Agency

finalized the property transfer to the Village of East Hills, New York after pending environmental issues had been addressed and the site closed in accordance with BRAC procedures under the direction/review of the New York State Department of Conservation (NYSDEC), Nassau County Department of Health and the local public (USAF 1998).

From 1953 through 1959, the USAF used the property primarily as a radio and communications center. After 1959, the ANGS was occupied by the 213th Engineering Installation Squadron and the 274th Combat Communications Squadron (USAF 1998).

The Roslyn ANGS supported communications equipment maintenance which involved the use of hazardous materials. The types of maintenance operations performed at the Roslyn ANGS included:

- Vehicle painting;
- Vehicle repair and servicing;
- Maintenance of aerospace ground equipment;
- Generator equipment maintenance;
- Dust control for unpaved roads on the installation; and
- Battery acid neutralization.

The types of hazardous and non-hazardous wastes generated, stored, and managed at the Roslyn ANGS included oils, solvents, paint thinners and fuels. In most cases, waste materials were disposed of through local contractors or the Defense Reutilization and Marketing Office and some of the liquid wastes were disposed of through application onto a dirt access road to suppress dust generation (USAF 1998).

As a result of hazardous materials handling and discharge of liquid wastes onto on-site access roads for dust suppression, a number of AOIs were identified within the boundaries of the former Roslyn ANGS which were investigated and environmentally closed through the IRP, prior to property closure and transfer in 2000. The purpose of this investigation is to re-evaluate the presence of a coal layer identified in early investigations as the dark layer that is located within the AOI known as the BBD Area.

1.2.2 Site Description (BBD; Site DC-004)

The BBD Area consisted of three boiler discharge points located on the south side of the former Building 17 and one small infiltration pool located to the west of Building 17. Building 17 is located near the eastern boundary of the Station as shown in Figures 1-2 and 1-3.

Building 17 housed the steam heating plant for the ANGS. The heating plant and coal-fired boilers were installed in 1951 and coal was stored outside the boiler house (Manning, Phillips and Molnar, 1999 and 2000).

During operation of the facility, chemicals were added to the boiler water to inhibit scale formation and corrosion in the boilers and distribution mains. Based on the composition of the anti-scaling agents and boiler room chemicals, the chemicals of potential concern (COCs) at the site are considered to be metals and semi-volatile organic vapors (SVOCs). The blowdown water was discharged to the ground surface at three points along the south side of Building 17. During periods of peak flow, blowdown water departs the pool and travels approximately 30 feet towards the southwest before completely infiltrating the ground (Manning, Phillips and Molnar, 1999 and 2000).

1.2.3 Past Installation Environmental Investigation Activities

The results, conclusions and recommendations of the November 1999 Final Site Investigation (SI) are summarized below. The SI included four field events: sampling events in 1998 and 1999, an interim remedial action (IRA) in 1999 and a final 1999 field event to evaluate the extent of the coal or dark layer. Sample locations associated with past investigations are shown in Figure 1-4 (Manning, Phillips and Molnar, 1999).

1.2.3.1 1998 Sampling Activities

The purpose of the initial investigation in May 1998 was to obtain soil analytical data to determine if boiler blowdown discharges had contaminated the soil. Surface and subsurface soil samples were collected from the three surface discharge locations and the pool and analyzed for SVOCs and metals. Detected analytes were compared to NYSDEC Remedial Program Soil Cleanup Objectives (RSCO) and literature values for background metals concentrations in soil. One water sample, ROO4SWG01A, was collected from the pool prior to collection of the soil samples (Manning, Phillips and Molnar, 1999).

Analytical results for the water sample were compared to NYSDEC Groundwater Effluent Standards for SVOCs and metals. No exceedances were observed.

Surface and subsurface soil samples were collected at 0 to 0.5 feet below ground surface (bgs) and 1.5 to 2 feet bgs, respectively. A summary of the detected analytes in soil appears in Table 1-1.

The analytical results indicated that a number of SVOCs exceeded the NYSDEC RSCOs in surface and subsurface soil samples and several metals exceeded the RSCOs and background concentrations. The metals listed in Table 1-2 were identified for no further action (NFA).

Table 1-1
May 1998 Sampling Event Detected Analytes in Soil
AOI Site DC-004 - Boiler Blowdown Area, Former Building 17

Sample ID	MDL	NYSDEC RSCO	R004SSG 02A	R004SUG 03A	R004SSG 04A	R004SUG 05A	R004SSG 06A	R004SUG 07A	R004SSG 08A	R004SSG 09A
Sample Interval (ft bgs)	--	--	*0.0 – 0.5*	*1.5 – 2.0*	*0.0 – 0.5*	*1.5 – 2.0*	*0.0 – 0.5*	*1.5 – 2.0*	*0.0 – 0.5*	*1.5 – 2.0*
SVOCs (ppb)										
Acenapthene		50,000	5,300	U	U	U	U	200 F	U	U
Anthracene		50,000	13,000	U	660	U	U	460	U	U
Benzo(a)anthracene	(170)	224 or MDL	U	U	***3,500***	220 F	U	***1,200***	U	U
Benzo(a)pyrene	(160)	61 or MDL	***88,000 J****	U	***3,600***	***210 F***	U	***1,200***	U	U
Benzo(b)fluoranthene	(140)	224 or MDL	***150,000 DL****	U	***6,300***	***380***	U	***1,800***	U	U
Benzo(g,h,i)perylene		50,000	18,000	U	1,200	U	U	310 F	U	U
Benzoic acid		2,700	U	U	U	U	U	U	U	U
2-Chloronaphthalene		--	U	U	U	U	U	U	U	U
Chrysene		400	***120,000****	U	***3,300***	250 F	U	***1,300***	U	U
Dibenz(a,h)anthracene	(1,800)	140 or MDL	***2,700 R***	U	U	U	U	U	U	U
Dibenzofuran		6,200	2,000 R	U	U	U	U	U	U	U
1,2-Dichlorobenzene		7,900	U	U	U	U	U	U	U	U
1,3-Dichlorobenzene		1,600	U	U	U	U	U	U	U	U
Fluoranthene		50,000	***260,000 J DL****	U	6,000	520	U	3,000	U	U
Fluorene		50,000	2,200 R	U	U	U	U	U	U	U
Haxachlorobutadiene		--	U	U	U	U	U	U	U	U
Hexachlorocyclopentadiene		--	U	U	U	U	U	U	U	U
Indeno(1,2,3-cd)pyrene		3,200	44,000**	U	1,600	U	U	430	U	U
Naphthalene		13,000	2,000 R	U	U	U	U	U	U	U
Phenanthrene		50,000	***160,000 J DL****	U	2,500	220 F	U	1,800	U	U
Pyrene		50,000	***200,000 J DL****	U	5,000	400	U	2,300	U	U
1,2,4-Trichlorobenzene		3,400	U	U	U	U	U	U	U	U
Sample ID	**Eastern US Background[1]**	**NYSDEC RSCO**	**R004SSG 02A**	**R004SUG 03A**	**R004SSG 04A**	**R004SUG 05A**	**R004SSG 06A**	**R004SUG 07A**	**R004SSG 08A**	**R004SSG 09A**
Sample Interval (ft bgs)	--	--	*0.0 – 0.5*	*1.5 – 2.0*	*0.0 – 0.5*	*1.5 – 2.0*	*0.0 – 0.5*	*1.5 – 2.0*	*0.0 – 0.5*	*1.5 – 2.0*
METALS (ppb)										
Aluminum	(33,000)	SB	10,000 J	7,540 B	4,680 B	7,080 B	3,900 B	7,240 B	9,270 B	8,630 B
Antimony	Not Available	SB	4.2 F	1.2 F	4.3 F	U	1.1 F	U	1.1 F	1.2 F
Arsenic	(3.0-12.0)	7.5 or SB	1.1 R	3.5 F	0.93 R	2.6 F	2.3 F	5.2 F	7.0 F	5.7 F
Barium	(15-600)	300 or SB	364	61.7	242	45.6	42.6	53	69.3	56.8
Beryllium	(0.0-1.75)	0.16 or SB	1.4	0.7	0.73	0.56	0.36 F	0.66	0.78	0.67
Cadmium	Not Available	10	***12.4 J***	0.76	***10.1***	0.66	0.56	1.2	0.77	0.7
Calcium	(130-35,000)	SB	***36,600 J***	1,440 B	17,000 B	1,580 B	1,170 B	1,430 B	1,510 B	2,280 B
Chromium	Not Available	50	***172 J***	***97.3***	***198***	26	7.7	40.8	***177***	***70.2***
Cobalt	(2.5-60)	30 or SB	11.2 J	5.5	11.1	5.0	2.8	6.4	7.4	6.4
Copper	(1-50)	25 or SB	***1,700 J***	21.3	***2,370***	46.4	22.8	34.5	23.3	16.2
Iron	(2,000-550,000)	2,000 or SB	62,900 J	9,490 J	52,300 J	9,140	8,210 J	11,300 J	10,600 J	11,300 J
Lead	Not Available*	400*	***1,050 J***	30.1	***717***	29.1	25.4	28.3	32.1	32.1
Magnesium	(100-5,000)	SB	***24,700 J***	1,670	***29,000***	1,860	1,320	1,850	2,110	2,010
Manganese	(50-5,000)	SB	1,360 J	283 B	768 B	249 B	131 B	283 B	280 B	264 B
Mercury	Not Available	0.1	***0.24 J***	0.068 F	***0.2***	U	0.044 F	0.051 F	0.054 F	U
Molybdenum	Not Available	--	1.2 F	0.62 F	0.72 F	0.38 F	0.36 F	0.68 F	0.7 F	0.59 F
Nickel	(0.5-25)	13 or SB	***65.6 J***	***30.7***	***68.2***	21.3	7.2	19.3	12.8	11.7
Potassium	(8,500-43,000)	SB	1,540	542	902	632	352	573	726	621
Selenium	(0.1-3.9)	2 or SB	2.2 F	0.81 F	2.3 F	0.69 F	0.72 R	0.76 R	0.79 R	1.0 F
Silver	Not Available	SB		U	U	U	U	U	U	U
Sodium	(6,000-8,000)	SB	3,350 J	636 B	3,300 B	641 B	686 B	962	962	651 B
Vanadium	(1-300)	150 or SB	105 J	48.5	92	39.6	7.8	18.1	18.1	14.5
Zinc	(9-50)	20 or SB	***1,920***	***52.8***	2,240	***93.2***	***78.9***	***507***	37.4	42.5

Table 1-1 (Continued)
May 1998 Sampling Event Detected Analytes in Soil
AOI Site DC-004 - Boiler Blowdown Area, Former Building 17

*	The USEPA's Interim Lead Hazard Guidance establishes a residential screening level of 400 ppm
**	Concentration detected in replicate of primary sample
--	Indicates no RSCO (Recommended Soils Cleanup Objective)
1	Eastern US Background concentration reported in a 1984 survey of reference material by E. Carol McGovern, NYSDEC
2	Eastern US Background concentrations were not available for these analytes, therefore, mean SB concentrations were used and were determined from averaging the concentrations of soil samples taken at three different depths at one sampling location (IRP SI Report, Roslyn ANGS, Roslyn, New York, Volume I, November 1996)
B	The analyte was found in an associated blank, as well as in the sample
DL	Detected in dilution of primary sample
F	The analyte was positively identified, but the associated numerical value is below the RL
J	The analyte was positively identified, the quantitation is an estimation
MDL	Method Detection Limit
NA	Not Applicable
U	No Detection
RSCO	Remedial Program Soil Cleanup Objectives
SB	Site Background
Shading indicates a regulatory exceedance	

Table 1-2
Metals Recommended for No Further Investigation
AOI Site DC-004, Boiler Blowdown Area, Former Building 17

Contaminant	Maximum Concentration Of Detected Metals (mg/kg)	NYSDEC RSCO (mg/kg)	USEPA PRGs for Residential Soil[1] (mg/kg)
Calcium	36,600	SB	--
Copper	2,370	25 or SB	2,800
Magnesium	14,300	SB	--
Nickel	68.2	13 or SB	1,500
Zinc	446	20 or SB	23,000

1 Source USEPA Preliminary Remediation Goals (PRG), Region 9, 1996
PRG Preliminary Remedial Goal
SB Site Background
-- Indicates no available guidance value

1.2.3.2 1999 Sampling Event

Additional sampling was performed in March 1999 to evaluate whether soil and sediment from the drainage ditch downstream of the infiltration pool was impacted with the COC chromium. A summary of the analytical results of the additional sampling for the BBD Area are shown in Table 1-3. Chromium concentrations in soil associated with the ditch were below RSCOs and background ranges (Manning, Phillips and Molnar, 1999).

Table 1-3
March 1999 Sampling Event
Detected Analytes in Soil
AOI Site DC-004, Boiler Blowdown Area, Former Building 17

Detected Contaminants	Eastern US Background[1]	NYSDEC RSCO	R004SSG 1001 B	R007SUC 1002 B
Sample Interval (feet bgs)		--	0 - 1'	1' - 2'
Metals (Total Analysis) (ppm)				
Chromium	(15-40)	50	17.5	19.3

[1] Eastern US Background concentration reported in a 1984 survey of reference material by E. Carol McGovern, NYSDEC

1.2.3.3 SI Conclusions and Recommendations

The results of the May 1998 and March 1999 events were presented in the 1999 SI. The SI identified the following soil COCs and extent of impacted soil at the BBD area (Manning, Phillips and Molnar, 1999):

- The SVOC COCs are: benzo(a)anthracene, benzo(a)pyrene, benzo(b)fluoranthene, chrysene, dibenzo(a,h)anthracene, fluoranthene, phenanthrene, and pyrene.
- The extent of SVOC contamination was limited to the south side of Building 17 in the surface interval (0 - 0.5 feet bgs).
- The metal COCs were: cadmium, chromium, lead, and mercury.
- The extent of metals contamination was limited to the south side of Building 17 and the infiltration pool (chromium only).

Based on the investigation results, the recommendations for the BBD were:

- Perform an IRA to remove soil impacted with SVOC and metals contamination.
- Following soil removal, perform confirmation sampling for the COCs.
- Remediate the discharge channel to a depth of approximately 2 feet bgs.

1.2.3.4 1999 IRA

An IRA was performed in June 1999 during which surface soil (0-2 feet bgs) was excavated from the area shown in Figure 1-4. Based upon the analytical results, approximately 35 cubic yards of soil were removed and disposed. The soil was disposed as non-hazardous waste.

Following the soil removal, four composite end point samples were collected at the locations from the bottom of the excavation to a depth of 6 inches. The samples were analyzed for SVOCs and metals and are summarized in Table 1-4 (Manning, Phillips and Molnar, 1999 and 2000).

Table 1-4
Interim Remedial Action
Detected Analytes in End Point Soil Samples
AOI Site DC-004 Boiler Blowdown Area, Former Building 17

Sample ID	NYSDEC RSCO	R004SUC 1102A	R004SUC 1202A	R004SUC 1302A	R004SUC 1402A
Metals (mg/kg)					
Cadmium	10	0.35 F	U	U	0.21F
Chromium	50	**74.5****	20.6	25.3	15.3
Lead	400*	36**	18.9	22.2	31.7
Mercury	0.1	U	U	NA	NA

-Indicates RSCO exceedance

* The USEPA's Interim Lead Hazard Guidance establishes a residential screening level at ppm

** The concentration shown was detected in a duplicate sample, which exceeded the concentration detected in the primary sample

F The analyte was positively identified but the associated numerical value is below the Reporting Limit (RL)

NA Not analyzed

U The analyte was analyzed for, but not detected. The associated numerical value is at or below the MDL

With the exception of chromium in sample 1102A, analytical results did not exceed NYSDEC RSCOs for metals or SVOCs. However, the chromium concentration in 1102A of 74.5 mg/kg was considered a minor exceedance of the NYSDEC RSCO of 50 mg/kg. The chromium result for sample 1102 did not exceed USEPA Region 9 residential PRG for chromium of 210 mg/kg and the exceedence was not believed to pose a threat to human health or the environment (Manning, Phillips and Molnar, 1999 and 2000).

Following collection of the end point samples, the site was restored to its previous condition by backfilling the excavation with clean soil. Several inches of topsoil and grass seed were spread on top of the clean fill.

During the IRA, a layer of dark soil was observed on the south side of the excavation and was called "the dark layer". The layer was approximately three inches thick and located from 15 to 18 inches bgs. The northern boundary and the northeast and northwest corners of the layer were located within the limits of the IRA. Inquiries made to Station personnel indicated that location corresponded to the area of coal storage and was most likely coal residuum or coal dust.

Excavation of the layer was not practical due to the location of overhead steam lines, utilities, and existing structures (Manning, Phillips and Molnar, 1999 and 2000).

A sample of the darkest portion of the coal layer was collected for field screening and laboratory analysis. The results of the field screening indicated no oily texture, no odors, and no organic vapors were identified. The sample collected for laboratory analysis was tested for SVOCs and RCRA metals based on knowledge of the site's history (Manning, Phillips and Molnar, 1999 and 2000). The laboratory analytical results for detected analytes are shown in Table 1-5 and are consistent with coal residuum .

Table 1-5
Detected Analytes in Dark Layer Soil
AOI Site DC-004 Boiler Blowdown Area, Former Building 17

Sample ID	MDL	NYSDEC RSCO	NYSDEC Groundwater Standards	USEPA Region 9 PRGs	R004 In Situ (Total)	R004 In Situ (TCLP)
SVOCs (ppm)						
Benzo(a)anthracene	(560)	224 or MDL	NA	Not Available	710	NA
Benzo(a)pyrene	(560)	61 or MDL	NA	Not Available	830	NA
Benzo(b)fluoranthene	(560)	224 or MDL	NA	Not Available	1200	NA
Benzo(g,h,i) perylene		50,000	NA	Not Available	490 J	NA
Benzo(k)fluoranthene	(560)	224 or MDL	NA	Not Available	940	NA
Chrysene		400	NA	Not Available	900	NA
Fluoranthene		50,000	NA	Not Available	1,500	NA
Indeno(1,2,3-cd)pyrene		3,200	NA	Not Available	450 J	NA
Phenanthrene		50,000	NA	Not Available	1,000	NA
Pyrene		50,000	NA	Not Available	1,200	NA
Sample ID	**Eastern US Background**	**NYSDEC RSCO**	**NYSDEC Groundwater Standards**	**USEPA Region 9 PRGs**	**R004 In Situ (Total)**	**R004 In Situ (TCLP)**
METALS (Total and TCLP) (ppm)						
Arsenic	(3-12)	7.5 or SB	025	38*	25.3	01
Barium	(15-600)	300 or SB	1.0	5200	312	1.05
Cadmium	Not Available	10	005	37	3.4	.008
Chromium	Not Available	50	05	210	442	01
Lead	Not Available*	400*	025	5500	593	02
Mercury	Not Available	0.1	0007	22	0.37	U
Selenium	(0.1-3.9)	2 or SB	010	Not Available	8.4	U
Silver	(<1.0[2])	SB	050	370	1.7	U

* The USEPA's Interim Lead Hazard Guidance establishes a residential screening level of 400 ppm
** PRG concentration is based on one in one million cancer risk
1 Eastern US Background concentration reported in a 1984 survey of reference material by E. Carol McGovern, NYSDEC
2 Eastern US Background concentrations were not available for these analytes, therefore, mean SB concentrations were used and were determined from averaging the concentrations of soil samples taken at three different depths at one sampling location (IRP SI Report, Roslyn ANGS, Roslyn, New York, Volume I, November 1996)
B The analyte was found in an associated blank, as well as in the sample
F The analyte was positively identified but the associated numerical value is below the RL
J The analyte was positively identified, the quantitation is an estimation
NA Not Analyzed
U No Detection
MDL Method Detection Limit
SB Site Background
☐ Indicates RSCO exceedance

Based on the analytical results of the investigation, the following recommendations were made (Manning, Phillips and Molnar, 1999 and 2000):

- NFA for soils associated with the BBD Area.
- Inclusion of a description of the dark layer (coal residuum) in property transfer documentation.
- Development of a LUC for the dark layer for inclusion in the property transfer documentation.
- In the event future excavation of the dark layer occurs, disposal of the material according to local, state, and federal guidelines.

1.2.3.5 November 1999 Additional Sampling Event

In November 1999, 20 additional samples were collected from soil borings to visually evaluate the vertical and horizontal extent of the dark layer (Manning, Phillips and Molnar 2000). The locations of the borings and the estimated extent of the dark layer are shown in Figure 1-4.

The dark layer was characterized as a mix of black-stained soil, dark brown coal dust and furnace ash with occasional pieces of coal and furnace slag. The coal pieces were typically observed in the upper six inches of soil near the perimeter of the dark layer boundary.

The maximum thickness and depth bgs of the dark layer was observed to be 14 inches and 20 inches, respectively. The northern extent of the dark layer included the former BBD channel, which was excavated during the IRA. The southern, eastern, and western extents are defined by borings 3, 4, 6, 16, 17, 18, and 19. The extent of the dark layer is shown in Figure 1-4 (Manning, Phillips and Molnar 2000).

A land survey was performed that establishes the legal boundaries of the dark layer for inclusion in property transfer documentation. The known contaminants that were left in place within the dark layer are included in Table 4-5A (Attachment B).

1.3 Disposition of the Former Roslyn ANGS

According to the November 30, 2000 Quit Claim Deed and the USAF 2000 Final Suitability for Transfer document, the 50.34-acre Roslyn ANGS was transferred to the Village of East Hills for use as a park, recreation area and the village government and administrative complex.

Current land use is recreational and is known as The Park at East Hills. In addition, the Village of East Hills has administration offices within buildings located in the park.

1.3.1 Scope of the Current Site Closure Activities

The scope of work to evaluate the requirements for unrestricted site closure for Roslyn ANGS and the original scope of work includes:

- Task 1: Preliminary Assessment and Site Inspections (PA/SI);
- Task 2: Development of a Site-Specific WP;
- Task 3: Remedial Investigation (RI);
- Task 4: Feasibility Study or Field Evaluation (FE);
- Task 5: Site Closure Report;
- Task 6: Regulatory Agency Interface; and
- Task 7: Community Involvement.

Based on recent conversations with the USAF, if residual contamination is identified during the RI activities, the pathway to closure may change to excavation (with preliminary excavation plan), post excavation sampling, and development of a site closure package.

1.3.2 Scoping Documents

The documents that describe site closure activities for the dark layer associated with the BBD area include the installation-specific WP with Site-Specific FSPs (2 total), and the Project-Wide WP, QAPP, FSP and HASP.

2.0 SUMMARY OF EXISTING BACKGROUND INFORMATION

2.1 Regional Environmental Setting

2.1.1 Physiography and Topography

Roslyn ANGS is located in the western portion of Long Island, New York as shown in Figure 1-1. It is situated entirely in the Coastal Plain physiographic province, which is characterized by rolling hills and an undulating landscape to the north and a flat plain gently sloping toward the Atlantic Ocean in the south. Roslyn ANGS is located along the southeastern side of Harbor Hill with surface elevations ranging from 273 feet above mean sea level (AMSL) in the northwest to 189 feet AMSL in the southeast corner of the property (Fanning, Phillips and Molnar 1999).

There are no endangered or threatened floral or faunal species within a one-mile radius of the station. No significant habitats have been identified within the area.

2.1.2 Geology and Soils

The geology of Long Island has been greatly influenced by two episodes of glaciation resulting in three distinct areas: the headlands, the Harbor Hill terminal moraine, and the glacial outwash plain. The headlands area is a relatively uniform land surface. The Harbor Hill terminal Moraine, located south of the headlands area, is a series of irregular hills that form a distinct northeast-trending ridge on the crest of Harbor Hill. The glacial outwash plain is located south of the Harbor Hill terminal moraine and extends southeast at a slope of 20 feet per mile. Roslyn ANGS is located on the southeastern side of Harbor Hill. The northwestern half of the Station lies on the terminal moraine and the southeast half lies on the glacial outwash plain. The geology of the area is characterized by unconsolidated, poorly sorted glacial deposits consisting of clay, sand and gravel (Fanning, Phillips and Molnar 1999).

The soils underlying Roslyn ANGS are of the Riverhead, Plymouth, and Enfield series. Riverhead sandy loam, the Plymouth-Riverhead complex, and to a lesser extent, the urban derivatives of the Plymouth soils occupy the northwestern half of the property. These are very deep, well-drained soils that form in glacial outwash deposits and occur on moraines and the top of outwash plains. These soils are composed of sandy loam and loamy sand with a gravely sand substratum occurring in each type (Fanning, Phillips and Molnar 1999).

2.1.3 Groundwater

According to the USEPA (1975), there are four water-bearing formations on Long Island. However, the units are hydraulically connected and are regarded as a single hydraulic system. The four formations include (USEPA 1975):

- The Upper Glacial Aquifer underlies Nassau and Suffolk Counties and has a maximum thickness of 700 feet. The aquifer contains large quantities of groundwater in the outwash plain and the morainal deposits. Because of urban development and the presence of septic systems, water quality in the upper aquifer has deteriorated.

- The Jameco Aquifer occurs in deeper glacial deposits which exist locally in the northern and southern parts of Nassau County. The water-bearing zone ranges in thickness from zero to 200 feet and is 100-550 feet bgs. The aquifer is locally contaminated by saltwater intrusion.

- The Magothy Aquifer underlies Nassau and Suffolk Counties. Thickness of the unit ranges from 0 to 1000 feet thick and consists of sand and gravel deposits. Reporting yields from 500 to 1400 gallons per minute, the principal aquifer is the major source of water for the Station area (Fanning, Phillips, and Molnar 1999).

- The deep Lloyd Aquifer overlies bedrock and is 0 to 550 feet thick. The unit consists of fine to coarse sand and gravel.

Groundwater is bounded laterally and underlain locally by salty groundwater hydraulically connected to the ocean. The direction of groundwater flow is to the north and south on either side of a groundwater divide (USEPA 1975). However, at the Roslyn ANGS, the local direction of groundwater flow is westerly. In March 1979, the depth to the water table at the Station was estimated to be 125 to 215 feet below bgs from the southeast to the northwest, respectively (Fanning, Phillips and Molnar 1999).

Five of the Roslyn Water District's eight wells are near Roslyn ANGS property. These wells supply approximately 84 percent of total domestic usage and are critical to the district's present and future needs for a source of high-quality drinking water. As such, the Roslyn ANGS property was deemed to provide a significant opportunity to help protect the area watershed. A petition dated 26 October1994 was presented to the NYSDEC by the New York State Legislative Commission on Water Resource Needs of Long Island, the Village of East Hills, the Long Island Regional Planning Board, and the Roslyn Water District in order to designate the Station property a Special Groundwater Protection Area (SGPA). The petition was accepted 2 January 1996, subject to completion of various conditions. As a result, reuse of Roslyn ANGS property must comply with the Nassau County Public Health Ordinance, Article X-Groundwater Protection-Regulation of Sewage and Industrial Wastewater that controls the amount and types of wastewater being discharged to SPGAs in order to preserve the quality of these (USAF 1998).

2.1.4 Surface Water

Surface water drainage at the Station can be divided into three basic drainage areas: the western half, the northeastern quarter, and the southeastern quarter. Each area drains independently of the others, and surface runoff drains to separate destinations.

The western half of the Station drains to the south and east, down the slope of Harbor Hill via natural drainage pathways. Overland runoff that occurs to the east and southeast is collected in an open ditch that parallels the main north-south street. The ditch transports surface water to the southwest before emptying into a catch basin west of the main entrance to the station. Overland runoff from the western part of this area is routed by open ditch transport at the base of Harbor Hill to the catch basin. This catch basin collects and transports all surface runoff underground to

the south approximately 0.35 mile to the Nassau County No. 72 surface water retention basin, where the water percolates into the groundwater system (Fanning, Phillips and Molnar 1999 and USAF 1998).

The northeastern area of the Station is drained primarily by overland runoff Surface water from the northern and western portions of this area collects in an open ditch paralleling the main north-south road, flowing south and east to a point just below Building 36, where it empties onto the ground. Runoff continues to the east from this point and ultimately collects in two catch basins located near the southwestern corner of Building 36. The two basins also collect surface runoff from the southern and eastern parts of the northeastern area. The collected surface water flows from the catch basins to the north and empties into two dry wells northeast of Building 36, where it enters the groundwater system through natural seepage (Fanning, Phillips and Molnar 1999 and USAF 1998).

The southeastern area drains via overland runoff and underground storm sewers. Overland runoff flows to the south, where it percolates into the groundwater system in the area of the sewage leach field and through a leach pit that exists along the southern boundary of the station. Two catch basins located along the west side of Building 37 collect surface runoff, directing it south, underground, to the southern boundary leach pit. The western part of this area also is drained by a leach pit that is located along the west side of Building 3. Surface water in the vicinity of Buildings 2 and 3 is collected in two catch basins and transported north to the leach pit. The leach pit also receives overland runoff from the north in the vicinity of Building 14. Surface runoff from the southeastern area does not leave the station property but is introduced into the groundwater system through the leach pit and natural seepage (Fanning, Phillips and Molnar 1999 and USAF 1998).

2.1.5 Biology

According to current records maintained by the NYSDEC, no endangered or threatened floral or faunal species have been officially identified within a one-mile radius of BBD Area. No significant habitats have been identified within this area (USAF 1998).

2.1.6 Climatology/Meteorology

Humid, relatively cold winters and mild summers characterize the climate in the area of Roslyn ANGS. The mean total precipitation is 42 inches; rain occurs throughout the year and ranges from an average monthly high of 4.44 inches in March to an average monthly low of 2,93 inches in June. The heaviest rainfall of 8.2 inches occurred on 12 August 1955 at Mineola, about 5 miles southwest of the station. Snowfall averages 27 inches a year, and approximately 15 days each winter there is at least one inch of snow on the ground. The average daily temperature is 52.9 degrees Fahrenheit (°F) and ranges from an average daily high of 74.6 °F in July to an average daily low of 31.4 °F in January. Prevailing winds are from the west-northwest and highest in the spring, with a year-round average wind speed of 14 miles per hour (USAF 1998).

3.0 PROJECT TASKS FOR INSTALLATION SITE(S)

3.1 Preliminary Assessment and Five-Year Review and Inspection

3.1.1 Preliminary Assessment/Site Inspection

Tetra Tech will review available historic documents concerning the BBD Area at the former Roslyn Air Force Base. After review of the historical information, a site inspection will be performed to confirm current site physical and environmental conditions at the site.

The objectives of the PA/SI process and Five-Year Review and Inspection are to:

- Identify site environmental conditions;
- Perform a record search to obtain historical information and data associated with the site;
- Evaluate the assembled environmental data;
- Perform a site reconnaissance to identify site conditions that may impact sample collection and site inspection. The site reconnaissance was performed on January 29, 2013;
- Interview site Point of Contact (POC) regarding site conditions, schedule for field activities and evidence of contamination; and
- Tentatively identify soil boring locations.

3.1.2 Reporting

At the conclusion of the PA/SI process at the former Roslyn ANGS, a report will be prepared documenting findings associated with the site. The report will be incorporated into a closure package. The report will evaluate the effectiveness of the LUCs and the need for further action to protect human health and the environment. A FE and Corrective Action Plan (CAP), discussed in Section 3.2.3, will be prepared if additional remedial action is warranted.

3.2 RI Tasks

Soil samples will be collected at the BBD area to confirm the presence or absence of contamination as a result of the former presence of a coal layer south of Building 17 during operation of the former Roslyn ANGS. The results of the sampling will support decisions concerning the need for remedial action at the site.

3.2.1 Sampling and Analysis Activities

RI activities will include the collection of surface and near surface soil samples using direct push technology (DPT) procedures. If access to any boring is limited by fencing, soil samples will be collected with a hand auger.

Six soil samples and one duplicate sample will be collected from six shallow boring locations (one per boring). The maximum depth of each boring, four feet bgs, was based on as-built

drawings of the Roslyn ANGS before and after construction of the community pool and recreation center. The original ground surface elevation in the vicinity of the coal layer was 202 feet AMSL and the estimated depth to the top of the 18-inch coal layer was two feet bgs or 200 feet AMSL. The current elevation of the area (pool deck) after the pool was constructed is 200 feet AMSL (Ward Associates, 2005). The current landscaping slopes towards the west from 204 feet AMSL at the pool area parking lot to 200 feet AMSL at the pool deck.

The soil samples collected will be analyzed for the parameters most closely associated with the coal layer (dark layer) and are identified in Section 3.2.1.3.

DPT, hand auger and logging procedures, described in Section 3.2.1.5 will conform to New York State and local regulations and will be supervised by a licensed geologist.

3.2.1.1 Preparation and Site Reconnaissance

Prior to mobilizing DPT equipment to the site, a dig permit/clearance will be procured for the proposed drilling locations by contacting New York 811 (1-800-272-4480 or 811) to mark underground utilities two to ten days prior to the start of field activities. The presence of utilities near boring locations will be verified using a hand-held magnetometer or a utility probe. Probing/drilling will not take place within five feet of a subsurface anomaly. Vehicle access routes to sampling locations will be determined prior to any field activity. If any sampling location requires closure of a roadway, proper notification will be given at least 24 hours in advance.

Even though the project kick-off meeting was held during the site inspection in January 2013, during site reconnaissance activities, Tetra Tech will confirm remedial investigation objectives and procedures with the Roslyn (Village of East Hills) POC.

After the DPT unit is on-site, the unit will be inspected by the Field Safety Officer for compliance with the HASP.

Prior to initiating field or construction activities, a brief project meeting will be held between Tetra Tech, Zebra Environmental (DPT contractor), the Roslyn (Village of East Hills) POC and others identified by the POC to discuss:

- Planned activities,
- Schedule,
- Hazards,
- Location of potable water source,
- Safety precautions to be followed,
- Storage location for soil cuttings generated during the field activities, if needed;
- Equipment storage issues, and
- Restrictions concerning the handling, storage, and disposal of soil.

Small decontamination areas for sampling, hand auger and DPT equipment will be set up in close proximity to the sample locations. Equipment will include logging tools and DPT MacroCore sampler and rods. Decontamination equipment will include 5-gallon buckets for decontamination, trash bags and plastic as needed.

Each work site or sampling location will be returned to its original condition when activities are completed. Trash, equipment, and other waste generated during field activities will be removed. Soil cuttings will be sampled, transported and disposed by Zebra Environmental.

3.2.1.2 Soil Boring Locations

Soil boring locations are summarized in Table 3-1 and are shown in Figure 3-1. Each probing/drilling site will be inspected and approved as safe for drilling by the on-site Tetra Tech Site Safety Coordinator. Boring locations may be moved in the field based on field conditions, the presence of subsurface or overhead utilities or obstructions such as trees, bushes or other landscaping features.

3.2.1.3 Analytical Parameters, Methods and Quality Control (QC) Samples

Analytical parameters were based the known presence of the layer of coal (dark layer) at the site and the results of previous investigations. Coal and coal residuum typically contain SVOCs and metals. Analytical methods associated with SVOCs and metals are listed below and in Tables 3-2 and the total number of proposed samples is also summarized in Table 3-2.

- SVOCs - USEPA Method 8270C, and
- RCRA metals (arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver) – USEPA Methods 6010C and 7471B (mercury).

Waste Characterization Parameters – One composite sample will be collected from the soil cuttings. The samples will be analyzed for the parameters identified in Table 3-3. Results will be used to characterize the soil and groundwater for disposal.

Quality Control (QC) Samples - One duplicate sample will be collected. The duplicate sample will be collected in the same manner as the field samples and will be assigned a unique sample number. The number of duplicate and field samples is summarized in Tables 3-1 and 3-2.

Laboratory duplicates, matrix spike, matrix spike duplicates, blanks and laboratory control samples will be analyzed in accordance with each laboratory method. Sufficient sample volume will be collected in the field to insure sufficient sample is available to analyze the required laboratory QC samples.

3.2.1.4 Soil Classification and Organic Vapor Screening

DPT and hand auger activities will be performed and documented in accordance with NYSDEC's guidelines. Each borehole will be continuously logged, screened for organic vapors using an organic vapor meter (OVM), and visually classified using the Unified Soil Classification System. Classification and screening information will be recorded on Tetra Tech's

soil boring log and field notes. OVM readings will be recorded on the boring log approximately every 2 to 2.5 feet.

3.2.1.5 Soil Sampling Procedures

After the grass, concrete, or asphalt plug is removed, the DPT operator will drive a Macro-Core sampler with a disposable liner using a van or truck-mounted percussion-probing machine. The soil sample within the disposable liner will be handed to the Tetra Tech on-site geologist or scientist for sample extraction and classification. The liner will be sliced open and checked for organic vapors according to Section 3.2.1.4.

If a hand auger is used (grassy areas only), the grass plug will be removed and a clean bucket auger will be inserted into the ground and soil withdrawn in six-inch intervals for screening for organic vapors and soil classification. After screening, the soil sample will be extracted from the disposable liner or hand auger and will be immediately placed in a disposable zip-lock bag until the sampling depth is determined. The subsurface lithology, sampling information, and the conditions that may affect chemical analysis will be recorded on the Field Boring Log. Some examples are: (1) asphalt chunks that may have been shattered by mowers, thus spreading small fragments of asphalt over the sampling area; (2) distance to roadways, aircraft runways, or taxiways; (3) obvious deposition of contaminated or clean soil at the site; (4) evidence of dumping or spillage of chemicals; (5) soil discoloration; or (6) unusual condition of growing plants.

Soil sampling depth will be based on evidence of contamination such as staining, odors, coal particles or presence of OVM readings. The sample, once selected, homogenized in the Ziplock bag and placed into laboratory-supplied sample containers. The samples will be placed in an ice-filled cooler, documented on a chain-of-custody form and transported or shipped to the laboratory using an overnight carrier. Plant parts and debris will be excluded from the sample. Additional information associated with anticipated field sampling activities are presented in the project FSP.

3.2.1.6 Investigation-Derived Waste (IDW)

IDW generated during RI activities will include soil cuttings and miscellaneous field wastes.

Soil Cuttings - Soil cuttings will be containerized in a 5-gallon bucket for characterization and disposal. Sampling and disposal will be performed in accordance with Section 3.2.1.3

Miscellaneous Field Waste - Miscellaneous field wastes that have had limited contact with potentially contaminated materials, including protective clothing and plastic sheeting, will be disposed as non-hazardous solid waste

3.2.2 RI Report

At the completion of the DPT activities at a site, collected soil samples will be submitted to Test America for the required analysis. Upon completion of analysis, summary tables will be

prepared that compare the analytical results compared to NYSDEC cleanup criteria to identify the COCs and evaluate whether further investigation or remedial action is warranted.

3.2.3 *Feasibility Evaluation/Removal Action*

If analytical results indicate a removal action is warranted (results exceed NYSDEC residential clean up objectives (CUOs)), a FE and removal action will be performed. The purpose of the FE is to identify candidate corrective action alternatives that reduce concentrations of COCs to levels that allow unrestricted land use (concentrations below residential cleanup criteria). The FE will include a summary of analytical results, identify COCs, potential and corrective action alternatives.

If results suggest COCs remain at the site above acceptable concentrations and can be removed in a cost-effective manner, a CAP will be prepared that identifies the proposed removal action, the size of the area, confirmation samples, disposal options, the plan for site restoration and the schedule for the proposed action.

Tetra Tech will perform the removal action and collect confirmation samples to verify removal of the unacceptable levels of the COCs. After analytical results for confirmation samples show contaminant concentrations are below the respective remedial goals, the site will be restored in accordance with the CAP.

If the FE concludes the site cannot be closed in a cost-effective manner without LUCs, a CAP will be prepared that describes potential LUCs protective of human health and the environment and associated implementation protocols.

3.3 Site Closure Package

If RI sampling or post removal action confirmation sampling shows that any residual contamination is below residential CUOs, the site closure package will be prepared which will summarize the following information:

- Site information;
- Analytical data;
- Justification for the actions undertaken;
- Results and findings from PA/SI;
- RI Report;
- Summary of any interim corrective actions performed to remove residual soil concentrations above soil CUOs;

- Metes and bounds survey data for closure. A licensed surveyor in the State of New York will perform the metes and bounds survey data (if ICs are no longer required for this site after the implementation of closure activities, a metes and bound survey many not be required); and
- Cover letter requesting closure of the site and either NFA or the LUCs required for the site.

4.0 REGULATORY AND COMMUNITY COORDINATION

Environmental activities performed at the former Roslyn ANGS will be performed in a manner to that is protective of human health and the environment. Tetra Tech will perform all activities in accordance with the Project-Wide HASP, FSP and WP.

Installation work activities will be coordinated with the following entities as appropriate:

- USAF personnel assigned to the former Roslyn installation;
- NYSDEC regulator(s) assigned to the Roslyn site;
- Nassau County Department of Health, Environmental Division regulator(s) assigned to the Roslyn site;
- Village of East Hills Representatives (Police, Fire Department, Safety officials, Public Works Engineers, City Planning Department, etc.);
- Park representatives (facility management personnel);
- Park tenants as appropriate; and
- Utilities Clearance personnel (Village of East Hills, New York 811 (1-800-272-4480 or 811).

5.0 PROJECT SCHEDULE

Project Schedule for the former Roslyn ANGS site (DC-004) is presented in Section 4.0 of the Project Quality Program Plan.

6.0 REFERENCES

Fanning, Phillips and Molnar, November 1999. Final Site Investigation of the Roslyn Air National Guard Station, NY.

Fanning, Phillips and Molnar, September 200. Final Site Closure Report, Roslyn Air National Guard Station, NY.

USAF, 1998. Environmental Assessment, Disposal and Reuse of Roslyn Air National Guard Stations, NY.

USAF, November 29, 2000, Final Suitability for Transfer, Roslyn Air National Guard Station, Roslyn, NY.

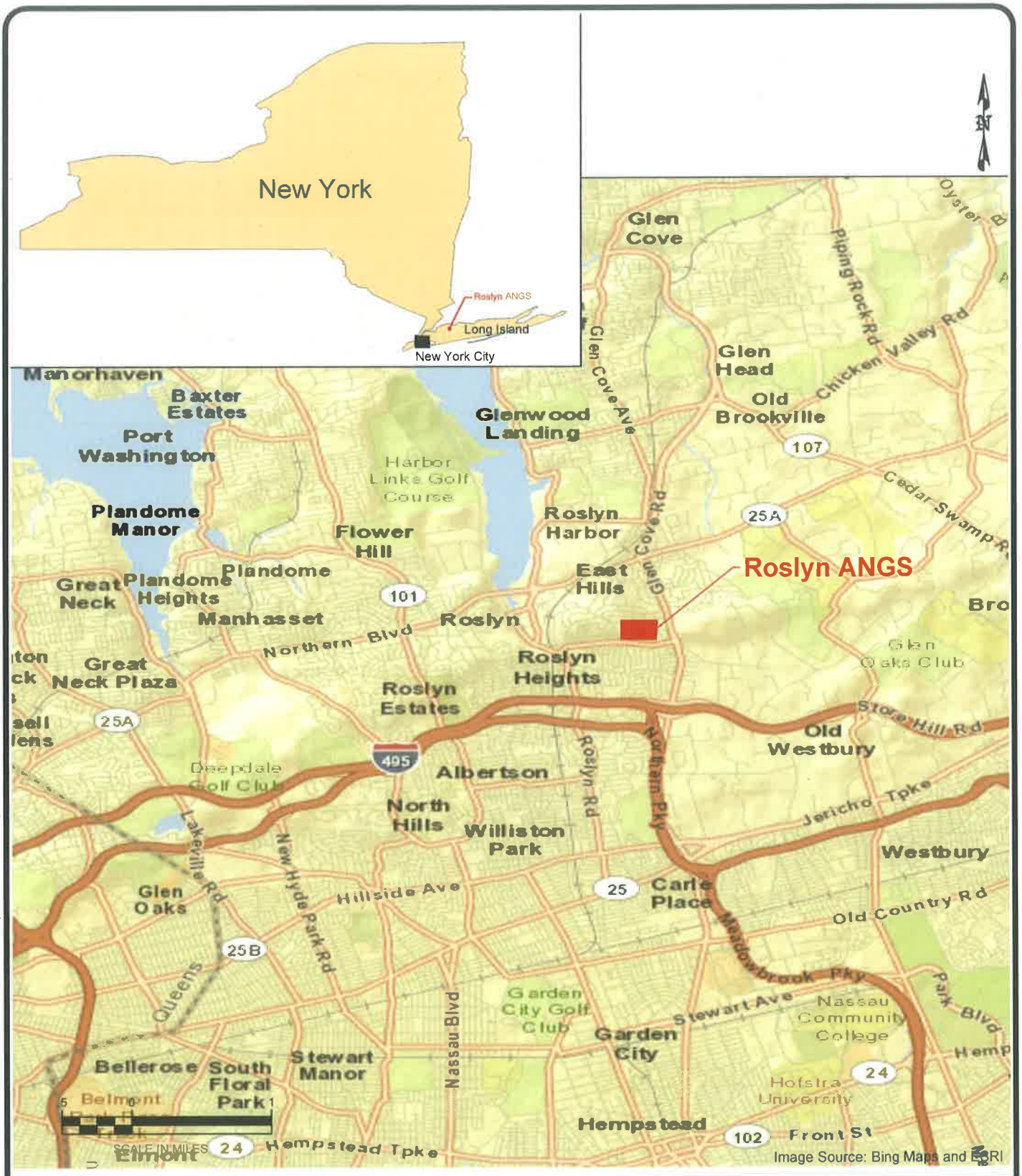
USAF, November 30, 2000, Quit Claim Deed between the USAF and the Incorporated Village of East Hills, NY for the Property known as the Roslyn Air National Guard Station, Roslyn, NY.

USEPA, Region 2, May 1975. Nassau-Suffolk Aquifer System on Long Island, NY.

Ward Associates, January 5, 2005. As-Built Drawing C3 of 34, .Existing Conditions and Demolition Plan, South Section.

Ward Associates, January 5, 2005. As-Build Drawing C13 of 34, Grading and Drainage, Southeast Section

Figures



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TETRA TECH
www.tetratech.com
1634 Eastport Drive
Collinsville, IL 62234
PHONE: 618-345-0669 FAX: 618-345-1281

Drawing Description

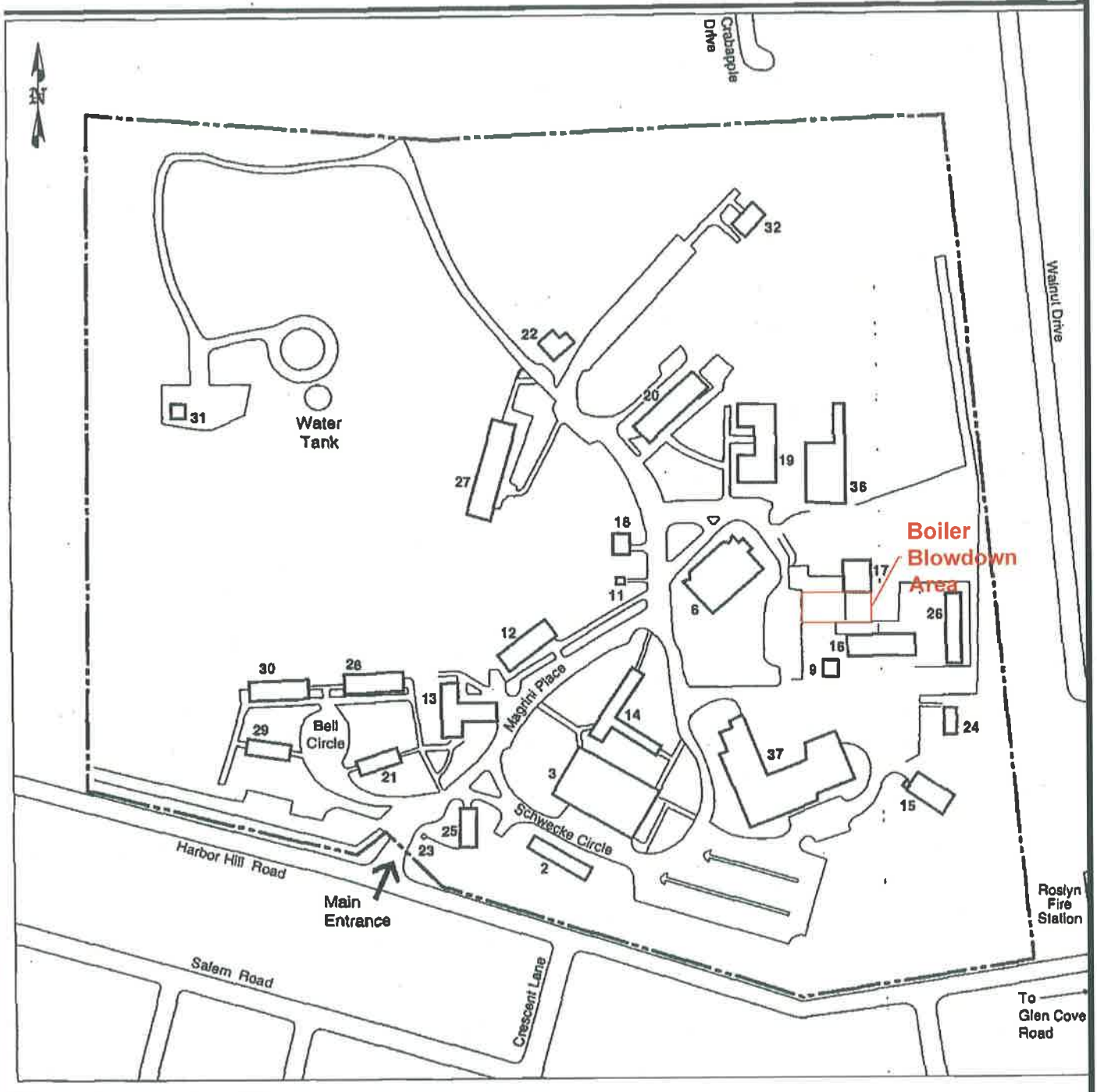
Location of Former Roslyn ANGS

Former Roslyn ANGS, New York

Project No.:	100-SAT-T98781
Date:	January 2013
Drawn By:	REB

Figure Number

1-1



TETRA TECH

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Drawing Description

Location of Boiler Blowdown Area

Former Roslyn ANGS, New York

Project No.:	100-SAT-T98781
Date:	January 2013
Drawn By:	REB

Figure Number

1-2

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Image Source: Bing Maps

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SCALE IN FEET

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Former Roslyn ANGS

TETRA TECH www.tetratech.com 1634 Eastport Drive Collinsville, IL 62234 PHONE: 618-345-0669 FAX: 618-345-1281	Drawing Description Current Aerial Photograph of Former Roslyn ANGS Former Roslyn ANGS, New York	Project No.: 100-SAT-T98781 Date: January 2013 Drawn By: REB Figure Number 1-3

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Soil Boring

Overhead Steam Utility

Approx. Extent of Dark Layer

Extent of Asphalt Surface

Soil Excavation Area (Composite)
(to a depth of 2 ft BGS)

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Drawing Description

Past Sampling Locations

Former Roslyn ANGS, New York

Project No.:	100-SAT-T98781
Date:	January 2013
Drawn By:	REB

Figure Number

1-4

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Historic Soil Boring

2013 Soil Boring Locations

Approx. Extent of Dark Layer

Extent of Asphalt Surface

Soil Excavation Area (Composite)
(to a depth of 2 ft BGS)

TETRA TECH
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Collinsville, IL 62234
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Drawing Description

Past and Proposed Sampling Locations

Former Roslyn ANGS, New York

Project No.:	100-SAT-T98781
Date:	January 2013
Drawn By:	REB

Figure Number

3-1

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Tables

Table 3-1
Sample Designations, Locations and Analytical Parameters
Remedial Investigation of the Boiler Blowdown Area at the
Former Roslyn ANGS, Roslyn, New York

Sample Number	QA/QC Sample*	Parameters and Methods		Boring Location (See Figure 3-1)
		Metals 6010C	SVOCs 8270C	
Soil - Plume 1 Excavation Area				
RSL-13BBD-XX100-ZZ		X	X	Boring SB100 - In the grassy area near the pool, inside the fence, in the north central portion of the former location of the coal residue storage area (dark layer)
RSL-13BBD-XX101-ZZ		X	X	Boring SB101 - In the grassy area near the pool, inside the fence and southeast of SB100 but in the central portion of the former location of the coal residue storage area (dark layer)
RSL-13BBD-XX102-ZZ	DUP	X	X	Boring SB102 - Located on the sidewalk outside the fence, in the northeastern corner of the former coal storage area (dark layer)
RSL-13BBD-XX103-ZZ		X	X	Boring SB103 - Located on the grassy area outside the fence, in the east-central half of the former coal storage area (dark layer)
RSL-13BBD-XX104-ZZ		X	X	Boring SB104 - In the grassy area near the pool, inside the fence and south of SB100 and SB101 but in the south-central portion of the former location of the coal residue storage area (dark layer)
RSL-13BBD-XX105-ZZ		X	X	Boring SB105 - Located on the the sidewalk outside the fence, in the southeastern corner of the former coal storage area (dark layer)

Dup = Duplicate
QA/QC = Quality Assurance/Quality Control
XX = SS if sample is a surface sample (0-1 feet) and SB if sample is a subsurface sample.
ZZ = Bottom of the sampling interval in feet. Depth of sample collection will be based on evidence of contamination or coal particles.

Chemical Lab:
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TABLE 3-2
Samples, Parameters, and Methods
Remedial Investigation at
Former Roslyn ANG, Roslyn, NY

Parameter	Method	Soil	
		Field	QC
SVOC	USEPA SW846 Method 8270C	6	1
Metals	USEPA SW846 Method 6010C/7471B	6	1

SVOC = Semivolatile Organic Compounds

Metals = arsenic, barium, cadmium, chromium, lead, mercury, selenium and silver

TABLE 3-3
Waste Characterization Samples
Boiler Blowdown Area
Former Roslyn ANGS, Roslyn, NY

Parameter	Method	Soil
TCLP Metals	1311/6010C/7470A	1
TCLP VOCs	1311/8260B	1
TCLP SVOCs	1311/8270D	1
TCLP Pesticides	1311/8081B	1
TCLP Herbicides	1311/8151A	1
Flash Point (Closed Cup)	1010A	1
Corrosivity (pH)	9045D	1
Paint Filter	9095B	1
Total Cyanide	9012B	1
Total Sulfide	9034	NA

ANGS = Army National Guard Station
TCLP = Toxicity Characteristic Leaching Procedure
VOCs = Volatile Organic Compounds
SVOCs = Semi-volatile Organic Compounds