APPENDIX J

Interviews

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LIST OF INTERVIEWS

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Interview Documentation
Jim McGee, Vista Sciences Corporation
2010 Phase I Remedial Investigation of
9 Compliance Restoration Sites

August 23, 2010, 10:00 am – 12:00 pm

Attendees:

Jim McGee	Vista Sciences Corporation
Kevin Jago	SAIC*
Corey Pacer	SAIC

* Participated via telephone

Purpose

SAIC conducted an interview with Mr. Jim McGee of Vista Sciences Corporation to discuss the nine Compliance Restoration (CR) sites, which included:

- CC-RVAAP-68: Electric Substations (East, West, and No. 3);
- CC-RVAAP-69: Building 1048 Fire Station;
- CC-RVAAP-70: East Classification Yard;
- CC-RVAAP-72: Facility-Wide Underground Storage Tanks (USTs);
- CC-RVAAP-73: Facility-Wide Coal Storage;
- CC-RVAAP-74: Building 1034 Motor Pool Hydraulic Lift;
- CC-RVAAP-75: George Road Sewage Treatment Plant;
- CC-RVAAP-76: Depot Area; and
- CC-RVAAP-77: Building 1037 Laundry Waste Water Sump.

Mr. McGee is a former employee of the former Ravenna Army Ammunition Plant (RVAAP) dating back to 1964 and currently works as a contractor for Vista Sciences Corporation, supporting maintenance and operations at RVAAP. Mr. McGee held the following positions while at the former RVAAP:

- Maintenance Carpenter from 1964 to 1969;
- Maintenance Supervisor from 1969 to 1984;
- Maintenance Manager from 1984 to 1990;
- Maintenance and Security Manager from 1990 to 1993; and

- Project Manager from 1993 to present (various projects for maintenance and operating contractor).

Mr. McGee discussed his knowledge of the nine areas of concern (AOCs). Below is a summary of his recollections.

CC-RVAAP-68: Electric Substations (East, West, and No. 3)

Mr. McGee noted the following about this CR site:

- At the West substation in approximately the 1994-1996 timeframe, a large transformer was damaged during a salvage operation and leaked approximately 200-300 gallons of polychlorinated biphenyl (PCB) oil.
  - The transformer was a 2000 kVA transformer.
  - Ohio Environmental Protection Agency (Ohio EPA) guidance was followed during the cleanup of the spill.
  - The Ohio EPA and U.S. Army conducted oversight of the cleanup.
  - The initial spill response was performed by a remediation contractor (Mason and Hanger, Inc.).
  - Remediation took approximately 2-3 weeks to complete.
  - Mr. McGee was unsure if a closure letter was provided by Ohio EPA.

- West Substation building has been converted by Ohio Army National Guard (OHARNG) for use as a gas training chamber.

- Mr. McGee had no recollection of any specific issues at the East Substation. The East Substation building is empty and is not currently used for anything.

- Both West and East Substation buildings had restrooms which drained into the sanitary sewer systems.

- Substation No. 3 did not have a building.

- Both the East and West Substation buildings had battery rooms to provide backup power for switch gear.
  - Lead acid batteries were stored in the buildings.
  - Mr. McGee believes these were 6-volt batteries in series to accumulate 120 volt used to throw the switch gear in the event of a power outage.
  - Could have had battery acid spilled in the buildings.

- Transformers, electrical gear, batteries, and switch gear have been removed from all of the stations.

CC-RVAAP-69: Building 1048 Fire Station

Mr. McGee recalled the following regarding this CR site:

- Mr. McGee had heard that carbon tetrachloride was disposed in this area from old fire extinguishers, but had no direct knowledge of this occurring.

- Outside the building on the northwest side was a small storage shed (metal or wood) that was approximately 8 ft by 8 ft or 10 ft by 10 ft, skid mounted, and was used to store carbon tetrachloride.
  - Storage shed was used until 1993 when it was removed.

- Approximately three years ago, the OHARNG demolished the building.
  - The building had siding and window glazing that contained asbestos, which was removed prior to building demolition.

- The south end of the building housed the fire department, but Mr. McGee did not have direct knowledge of the inside activities.

- Restrooms drained to the sanitary sewer system.

- No recollection of any spills or associated regulatory agency notifications.

CC-RVAAP-70: East Classification Yard

Mr. McGee recalled the following regarding this CR site:

- Petroleum products were often used in this area.

- Building 4760 was used to store herbicides. The herbicides were used to control weeds and growth along the railroad tracks.

- There was a tank set on a track (motor) car with approximately 50-75 gallon capacity that was used for weed/growth control. The track car would be placed on the railroad and the herbicide would be pumped along the edges of the railroad to control weeds.

- There were tracks that went inside the building where the track car was housed when not in use.

- There was a wash track where railroad cars were washed.

- There were three, No. 5 fuel oil tanks west of the Classification Yard that were recently removed; the dikes are still in place.

- Mr. McGee had no personnel knowledge of spills in this area.

- The Round House Building still exists in this area:
  - Was a specialized mechanical building.
  - Hydraulic devices in the building and used.
  - A mechanical sump existed within the building.
  - A grease pit was located in the center of the building.

- All of the sanitary was piped to a septic tank/drain field.

CC-RVAAP-72: Facility-Wide USTs

Mr. McGee recalled the following regarding this CR site:

- Near the east side of Building 1026 Telephone Exchange, there is one suspected UST.
  - Mr. McGee did not recall it being removed and there is no definitive information on the removal.

- A possible vent pipe is still on the side of the building.

- The only reason Mr. McGee could think of for having that UST was for use with an auxiliary generator.

CC-RVAAP-73: Facility-Wide Coal Storage

Mr. McGee recalled the following regarding this CR site:

- Mr. McGee did not have knowledge of coal operations.

- Power House No. 6 used coal.
  - There was a coal test building at this location.
  - Power House No. 6 has been demolished.
  - The Power House was the first building located to the north of Building 1037.

- A coal pile was located at the north end of E block or C block.

- Power House No. 8 in the East Classification Yard was also coal-fired at one time.

- Mr. McGee recalled the Power House numbers/labels and their locations:
  - Power House No. 1 – located in Load Line No. 1 (Building CC#1);

- Power House No. 2 – located in Load Line No. 2 (Building DC#1);
- Power House No. 3 – located in Load Line No. 12 (Building FE#17?);
- Power House No. 4 – located on Fuze and Booster Road west of Power House No. 5;
- Power House No. 5 – Located on Fuze and Booster Road (Building 2551);
- Power House No. 6 – Located north of Building 1037;
- Power House No. 7 – Located in Load Line No. 4 (Building G-4?); and
- Power House No. 8 – Located in the East Classification Yard.

- Mr. McGee indicated that there is still residue left on the ground at the North Line Coal Tipple.

CC-RVAAP-74: Building 1034 Motor Pool Hydraulic Lift

Mr. McGee recalled the following regarding this CR site:

- Building 1034 was a motor pool for many years. Over the years, the maintenance workers had to put several hundred gallons of hydraulic oil in the hydraulic lift; the system seemed to leak oil, but no apparent discharge.
  - The hydraulic oil tank underground piping did not leak from the pit.
  - George Road Sewage Treatment Plant operators did not indicate any oil was found in sanitary lines at the plant.

- An aboveground hoist was installed and use of the hydraulic lift stopped.

- The building also had a forklift battery shop.

- An automobile parts degreasing operation occurred in the motor pool. There was a large metal tub that was used to degrease parts.

- The building also housed a car wash that was installed in 1969 or 1970. The car wash was removed in 2009 along with the sump and drain.

CC-RVAAP-75: George Road Sewage Treatment Plant

- Mr. McGee indicated that mercury was recovered from influent to the treatment plant. Mercury used in the facilities (tied to the George Road Sewage Treatment Plant sanitary sewer system) usually ended up at the plant.
  - Approximately 1 pint of mercury was removed every year or two.

- Mr. McGee did not have firsthand knowledge of the mercury spill, but believed there was a machine that did some sort of mixing that caused the spill. Approximately 1 pint of liquid mercury was spilled and went down a floor drain.

- Mr. McGee recommended SAIC contact Mr. Larry Johnson or Mr. Tom Chanda to discuss further details on the spill.

CC-RVAAP-76: Depot Area

- Waste oil tank between Buildings U-4/U-5:
  - Buildings U-4/U-5 were used during World War II era for rail car repairs. During the Vietnam era, the buildings were used for heavy equipment and forklift repairs.
  - Mr. McGee indicated the tank was used with heavy equipment maintenance operations.
  - Mr. McGee was familiar with the tank and heard rumors of a spill, but had no firsthand knowledge.

- Mr. McGee discussed Depot Area operations:
  - Building U-10 had a box shop.
  - Building U-14 made up bulkheads and shipping crates.
  - Bolton Barn was used for in shipment/out shipment.
  - Building U-7 was used for maintenance/heavy equipment repair.
  - Old residences may have been used for training fires.
  - Building U-7 later became a dehumidified storage building.

CC-RVAAP-77: Building 1037 Laundry Waste Water Sump

- Old concrete sump was removed by PIKA International, Inc. approximately three years ago.

- Stainless steel sump replaced the old concrete sump that PIKA, Inc. removed.

- The building was used to wash coveralls.
  - Coveralls were treated with fire retardant.

- The solids from the pit were removed periodically and burned.

- No dry cleaning was conducted at the building.

- Mr. McGee indicated there were no spills that he could recall at the AOC.

- The laundry sump, floor drains, and restrooms were piped to the George Road Sewage Treatment Plant.

Interview Documentation
Mark Patterson, RVAAP
2010 Phase I Remedial Investigation of
9 Compliance Restoration Sites

August 26, 2010, 1:00 pm – 3:00 pm

Attendees:

Mark Patterson	RVAAP
Kevin Jago	SAIC*
Corey Pacer	SAIC

* Participated via telephone

Purpose

SAIC conducted an interview with Mr. Mark Patterson Facility Manager of the Ravenna Army Ammunition Plant (RVAAP) to discuss the nine Compliance Restoration (CR) sites, which included:

- CC-RVAAP-68: Electric Substations (East, West, and No. 3);
- CC-RVAAP-69: Building 1048 Fire Station;
- CC-RVAAP-70: East Classification Yard;
- CC-RVAAP-72: Facility-Wide Underground Storage Tanks (USTs);
- CC-RVAAP-73: Facility-Wide Coal Storage;
- CC-RVAAP-74: Building 1034 Motor Pool Hydraulic Lift;
- CC-RVAAP-75: George Road Sewage Treatment Plant;
- CC-RVAAP-76: Depot Area; and
- CC-RVAAP-77: Building 1037 Laundry Waste Water Sump.

Mr. Patterson discussed his knowledge of the nine areas of concern (AOCs). Below is a summary of his recollections.

CC-RVAAP-68: Electric Substations (East, West, and No. 3)

- Polychlorinated Biphenyls (PCBs) and semi-volatile organic compounds (SVOCs) are his biggest concern.

- Substation 3 and East Substation had the largest number of transformers when Mr. Patterson began work at RVAAP in 1997.

- Substation No. 3 – outside pad had the highest number of transformers.
- West Substation – had a couple of large transformers.

- East and West Substations had buildings; no buildings at Substation No. 3.

- West substation converted to training building (gas house) by Ohio Army National Guard (OHARNG).

- Apparent stains in soil and gravel at all substations. Soil staining around buildings/pads/on gravel and aggregate.

- PDG hired a subcontractor to salvage the transformers. When picking up one of the transformers, one or more of the cooling fins cracked when the crane tipped and swung into the building.
  - Approximately 500 gallons of PCB oil was spilled.
  - Ohio Environmental Protection Agency (Ohio EPA) was contacted and a voluntary clean up was conducted.
  - EQ, Inc. was hired to perform the remediation, which included excavation and off-site disposal.
  - The remaining oil in the transformer was tested and was < 50 ppm PCBs.
  - The spill and clean up was documented in a report.

- 12-volt battery banks were located in the East and West substation buildings.
  - Staining was present underneath the batteries.
  - There should be wipe samples and results available for Building 25-27 and possibly other buildings.

CC-RVAAP-69: Building 1048 Fire Station

- Did not have direct knowledge of the reports of discharging carbon tetrachloride from old fire extinguishers.

- Reportedly, fire extinguishers were discharged onto the ground between the building and the chain link fence.

- OHARNG brought in clean soil fill material last year for the demolished Building 1048 footprint, but did not place fill in the area where fire extinguishers were reportedly discharged.

- For buildings in the Administration Area, need to note the presence of active utilities. Active utilities are located very close to the AOC.

CC-RVAAP-70: East Classification Yard

- Round House:
  - Mr. Patterson noted in a site walk that there was a thick viscous tar-type material on the floor. Also noted staining on the floor.
  - Above grade fuel oil tanks adjacent to the building were removed. Work was conducted in accordance with rules and regulations. Samples were collected.

- Pesticide Building:
  - Storage building was still present in 1997, but later demolished by OHARNG.
  - Tank rail car (approximately 200-250 gallon) was stored at the building.
  - Rotenone was applied as an herbicide.
  - Mostly herbicides stored at the facility.
  - Used oil and diesel had been sprayed around the tracks and buildings to control vegetation.
  - Staining and residue were noted on the floor.

CC-RVAAP-72: Facility-Wide USTs

- Originally thought that all USTs were removed.

- Firestone is suspected to have installed a UST without OHARNG's knowledge or consent. (See Mr. Tim Morgan interview notes).

- There are two USTs that may still exist:
  - Building 1026 Telephone Exchange building on the east side (possible vent pipe observed).
  - Depot Area near the old gas station.

- Small buildings had heating oil tanks; due diligence is needed for these so they are not overlooked:
  - Tanks near Buildings F15/F16 may have been missed.

CC-RVAAP-73: Facility-Wide Coal Storage

- Did not have direct knowledge of coal storage operations at RVAAP.
- Indicated that coal in some areas was stored on pads, while coal in others areas was not.
- Some of the boiler houses may have used coal.
- Recommended contacting Mark Nichter, USACE Louisville District, for more information.

CC-RVAAP-74: Building 1034 Motor Pool Hydraulic Lift

- Did not have direct knowledge of the activities at this AOC.

- Mr. Patterson's understanding is that maintenance workers had to add hydraulic oil to the lift.

- There were plans to add another lift in the northwest part of Building 1034, but has no direct knowledge of this lift.

- Recommended contacting Jim McGee (Vista Sciences, Inc.) or Frank Jackson (Vista Sciences subcontractor) for more information.

CC-RVAAP-75: George Road Sewage Treatment Plant

- Mercury bearings:
  - Would collect free liquid in a pint jar.
  - Someone dropped the jar of mercury and it went down the drain.
- Imhoff tanks are still present at the AOC.
- Discharge point is a small drainage swale.

CC-RVAAP-76: Depot Area

- Records documenting demilitarization activities in this area were found; these should be appended to the Historical Records Review Report.

- USACE conducted sampling around Building U-10 to expedite transfer of the building to OHARNG.

- An incinerator was located in the area, which was used for office/solid waste.

- Tank (Sherman) repair activities were conducted in the area.

- Small boiler houses were present in the area that may fall under facility-wide coal storage. Buildings U-4 or U-9 may have one that is still intact.

CC-RVAAP-77: Building 1037 Laundry Waste Water Sump

- PIKA International conducted a removal of the old concrete sump.
- Report available from PIKA documenting the remedial work.

Interview Documentation
Tom Chanda, Mark Nichter, Joan Cullen, USACE LRL
2010 Phase I Remedial Investigation of
9 Compliance Restoration Sites

September 1, 2010, 2:00 pm – 4:00 pm

Attendees:

Tom Chanda	USACE LRL
Mark Nichter	USACE LRL
Joan Cullen	USACE LRL
Kevin Jago	SAIC*
Corey Pacer	SAIC

* Participated via telephone

Purpose

SAIC conducted an interview with Mr. Tom Chanda, Mr. Mark Nichter, and Ms. Joan Cullen of the United States Army Corps of Engineers (USACE) Louisville District to discuss the nine Compliance Restoration (CR) sites, which included:

- CC-RVAAP-68: Electric Substations (East, West, and No. 3);
- CC-RVAAP-69: Building 1048 Fire Station;
- CC-RVAAP-70: East Classification Yard;
- CC-RVAAP-72: Facility-Wide Underground Storage Tanks (USTs);
- CC-RVAAP-73: Facility-Wide Coal Storage;
- CC-RVAAP-74: Building 1034 Motor Pool Hydraulic Lift;
- CC-RVAAP-75: George Road Sewage Treatment Plant;
- CC-RVAAP-76: Depot Area; and
- CC-RVAAP-77: Building 1037 Laundry Waste Water Sump.

Mr. Chanda is a former employee (Environmental Manager) of the former Ravenna Army Ammunition (RVAAP) plant dating from 1979 to 1993, and currently works as a biologist for USACE Louisville District.

Mr. Chanda discussed his knowledge of the nine areas of concern (AOCs). Below is a summary of his recollections. Mr. Nichter and Ms. Cullen also participated in the interview as they had conducted preliminary research during the development of the statement of work for the project.

CC-RVAAP-68: Electric Substations (East, West, and No. 3)

Mr. Chanda noted the following about this CR site:

- Transformer inventory for the entire AOC should be in the RVAAP archives, broken out by substation.

- RVAAP maintained over 700 transformers in storage. About 40 transformers were dedicated to substation replacement.

- Transformers at the substations were pole-mounted, mounted on elevated pads, and placed on ground-level pads.

- Substations – very little problems historically with transformers:
  - With advent of the Toxic Control Substances Act (TSCA), did extensive amount of sampling.
  - Suspect transformers included:
    - West Substation
      - Leak occurred on one of the transformers that sat on an elevated pad (estimated 100-150 gallons).
      - Leak was cleaned up; soil was tested. Remediated soil was incinerated; lots of gravel.
      - Transformer was from 1940 vintage and began to leak in the early 1980's, probably due to old seals.
    - East Substation
      - 3000-gallon transformer was thought to have leaked, but sampling below 50 ppm polychlorinated biphenyls (PCBs), although ground was stained.

- Annual PCB inventories that encompass all the transformer stations should be in RVAAP archives.

- Small sections of buildings were used for the storage of back-up power supply batteries.

- Jim McGee indicated both East and West Substation buildings had battery storage rooms.

- West Substation building is not part of the AOC.

- During salvaging operations at the West Substation, a transformer was damaged and a leak occurred which had to be cleaned up.

- East Substation and Substation No. 3 had large capacitor banks, approximately 80 capacitors that contained PCBs.

- Buildings:

- Buildings may have PCB-containing paint.
- Wiring in buildings may have asbestos-containing insulation.
- Buildings contained fluorescent lights which may have PCB-containing ballasts.
- Per Mark Nichter, the leak at the West Substation was documented at 500 gallons.

- On an annual or semiannual basis, lineman would go out and inspect all transformers including those in storage.

CC-RVAAP-69: Building 1048 Fire Station

Mr. Chanda recalled the following regarding this CR site:

- Periodic discharge of carbon tetrachloride from fire extinguishers. Primary discharge area was off the southwest corner of the building (where ambulance was stored). All maintenance of fire equipment was performed at Building 1034 unless it was something technical in nature. For technical maintenance, equipment was taken to the manufacturer.

- Building was demolished and ground surface disturbed.

- OHARNG asked to designate the AOC as the ground surface west or southwest of the former building pad. AOC is not the concrete pad.

- Small storage shed approximately 8 ft by 8 ft was used for storage of carbon tetrachloride.
  - Used until 1993.
  - Potential for storage of gun solvents for cleaning/maintenance of weapons.

- Building 1048 was used to store small arms for the police force, small arms ammunition, and small quantities of gun cleaning solvents.

- A key shop was also located in the building.

CC-RVAAP-70: East Classification Yard

Mr. Chanda recalled the following regarding this CR site:

- Round House:
  - There was a mechanic's pit for servicing the railroad engines.
  - Transformers in the train engines had high concentrations of PCBs (>30,000 ppm).

- Common Operations Report – recommended review for engines and railroad maintenance and repair activities to find what types of chemicals/products were used for engine maintenance.
-

- Reference Folder #19, Box 18A for PCB testing data for transformers in locomotives.

- Used petroleum/oil-based products.

- A crane shovel that was track mounted was stored at the East Classification Yard.

- Herbicide storage shed – a track car-mounted spray tank was stored in the shed and mixing operations were performed at the AOC.
  - Stored herbicide in Building 4760.
  - Stored less than 20 gallons of herbicides.
  - Rotenone was a spray historically used; others may have included 2,4-TP and 2,4,6-TP.

- Three fuel oil above-grade tanks were located just to the west of the East Classification Yard.
  - #5 and #6 fuel oil stored in the tanks.
  - Tanks have been removed.
  - Major leak occurred with loss of approximately 10,000 to 20,000 gallons.
  - Pumped all leaked fuel oil out of diked containment structure and took contaminated soil mixed with sand and disposed of at the Ramsdell Quarry, which was permitted at the time.
  - Reference Folder #12, Box 38/39 in RVAAP cold storage which contains the spill report.

- Wash track was located at the southern end of the East Classification Yard.
  - Any wash water was not collected.
  - Probably used for washing out box cars that carried explosives and for washing down the engines.
  - A production well (well house) supplied water to the wash rack, which was located off Kisler Road and was called Well House No. 2.
  - Wash water probably went into a drainage ditch and probably went into the same direction as Load Line 1 ditches.

- One of the coal storage areas was located in this area.

- Area was on its own septic system/self-contained. The septic tank was never removed to Mr. Chanda's knowledge.

CC-RVAAP-72: Facility-Wide USTs

Mr. Chanda recalled the following regarding this CR site:

- There appears to be a vent pipe at Building 1026 in the Administration Area.

- There may be another UST present in the Depot Area near the former gas station.
  - Observed a possible vent pipe still in position on the side of Building U-3(?).
  - Mr. Chanda believes the UST was removed.

- There were three to four tanks in the Depot Area, which were filled with potassium dichromate.
  - Were removed and soil was tested.
    - No benzene, toluene, ethylbenzene, and xylenes (BTEX) detections.
    - May have been one high detection of chromate.
    - Galvanized tanks with aluminum paint.

- Most of the tanks in the ground contained #2 fuel oil. Standard RVAAP practice was to keep a 30-day supply of fuel oil on hand.

- Load Line 12 had USTs.

- There was a fire pump down by Buildings F-15/F-16.
  - Diesel fueled equipment located at this AOC.
  - Underground vault with a 3,000 or 5,000 gallon diesel tank used for a fire suppression system.
  - Check engineering drawings of these buildings for details.

CC-RVAAP-73: Facility-Wide Coal Storage

Mr. Chanda recalled the following regarding this CR site:

- All large power houses had coal storage at one time.

- Reference Atlas Scrap Yard drawings for locations of former boiler houses.

- Power House No. 3 contained two Westinghouse Recoiled Boilers.

- Any of the "smoke houses" outside the igloos had coal storage for pot belly stoves.
  - Small 8-10 ton coal piles.
  - Used to keep the "smoke houses" warm for workers.

- North Line Road Coal Tipple has residual coal on the ground surface.

- Coal residue is also located behind Power House No. 1, where a coal storage location existed and also a large pile of "cinders" mixed with salt, which was used on roads during winter.

CC-RVAAP-74: Building 1034 Motor Pool Hydraulic Lift

- There was a newer addition to the motor pool and an older portion. The older portion of the building was demolished.

- Mr. Chanda did not have knowledge about the AOC.

- Plan drawings or as-built drawings showing the tank and floor lift system are available (Mark Patterson's office).

- There was a 30-40 ft deep oil/water separator in the east side of the building.
  - Would get cleaned out periodically.
  - Any oil would be placed in the waste oil storage tank located behind the building.
  - Separator was tied into the George Road sewer system.

- SAIC noted that Jim McGee and Mark Patterson referenced two lift systems during their interviews.

- Mr. Chanda recalled a twin post lift system, but did not see it operate.

- Old car wash installed in 1969 or 1970 was removed in 2009. There was a sump drain for wash water, but unclear if it was tied to the deep oil/water separator.

- Maintenance work on heavy equipment (e.g., cranes, bulldozers) occurred because of the high bay.

- SAIC noted a battery shop was mentioned in previous interviews. Mr. Chanda recalled large batteries for equipment like the tow motors would be stored in the building.

CC-RVAAP-75: George Road Sewage Treatment Plant

- Mr. Chanda did not have direct knowledge of the mercury spill incident at the AOC.

- The old Bailey meters had mercury inside and there was a crock of liquid mercury which was used to fill the venturi meters.

- The crock was accidentally knocked off a cabinet and mercury went directly down the floor drain and into the Imhoff tanks.

- Imhoff tanks were not removed, but were filled in. During operations, Imhoff tanks were emptied once every 2-3 years due to the solids accumulation.

- There is an access manhole in the flow meter room (northeast corner of office building) which led to the pipe gallery and may be accessible for sampling pipes/P-traps for mercury.

- Lower tier sediment tank below the Imhoff tanks were potentially sludge drying beds.

- Mr. Chanda did not recall routine mercury recovery at the treatment plant.

- Silver recovery was done at the treatment plant. Silver was recovered from photographic solutions used in radiography operations. Load Lines 6 and 7 used silver solutions for film development. Recovery was done using a cation exchange medium. Approximately 5 gallons of solution was processed every two years.

CC-RVAAP-76: Depot Area

- SAIC noted that Jim McGee mentioned a rail car repair facility near U-4 and also a heavy equipment repair and forklift repair facility.

- Until 1954, Depot Area was owned and operated by the U.S. Army and operations were unknown.

- Buffalo Tank – sideways tank:
  - Recalled spill of waste oil from the tank when it was overfilled.
  - Spill occurred when the cover was left off the tank and it rained, causing an overflow onto the ground and along a ditch.
  - Spill was reported the next day and cleaned up.
  - The tank was put in a cage and a weather cover built over it to prevent a similar incident.

- Maintenance occurred inside the buildings with floor drains that probably led to the sewer system.
  - Potential petroleum products in the floor drain system.

- Other buildings in Depot Area have done very short-term demilitarization work disassembling or stenciling. There is a list of demilitarization operations conducted in the Depot Area in the RVAAP files.

- There was an incinerator for solid waste on the property.

- USACE finished a soil sampling investigation around the pad at Building U-10. Collected surface soil samples. In November 2010, there will be another sampling event to collect samples beneath the waste oil tank. USACE requests that data from sampling be included as part of the Preliminary Assessment report.

- Old Bolton Barn housed tank maintenance operations (Sherman tank).

- Small boiler houses scattered throughout the Depot Area.
  - The old Milk House (Telephone House) used to be a boiler house.
  - Building U-4/U-5 used electric heat.
  - Building U-9/U-10 may have had a boiler house in it.
  - Building A-9 had a boiler house.
  - Building U-7 had a boiler house.

- Possible UST vent pipe has been observed on north side of Building U-3.

- Coal pile was located south of Building U-15.

CC-RVAAP-77: Building 1037 Laundry Waste Water Sump

- Removed by PIKA in 2009.

- Report available on Ravenna Environmental Information Management System (REIMS).

- Mr. Chanda's understanding was that there were no confirmation samples taken in the excavation.

- Laundry effluent was treated using a sawdust filtration unit.

- Water then flowed into the sewer connected to the George Road Sewage Treatment Plant.

- Laundry washed once a week and operators tested the effluent water every 2-3 hours.

- No testing was done for fire retardants. Type of fire retardants used is unknown.

Interview Documentation
Tim Morgan, OHARNG
2010 Phase I Remedial Investigation of
9 Compliance Restoration Sites

September 8, 2010, 10:00 am – 12:00 pm

Attendees:

Tim Morgan	OHARNG
Kevin Jago	SAIC*
Corey Pacer	SAIC

* Participated via telephone

Purpose

SAIC conducted an interview with Mr. Tim Morgan of Ohio Army National Guard (OHARNG) to discuss the nine Compliance Restoration (CR) sites, which included:

- CC-RVAAP-68: Electric Substations (East, West, and No. 3);
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- CC-RVAAP-77: Building 1037 Laundry Waste Water Sump.

Mr. Morgan is currently the Environmental Supervisor for environmental programs at Camp Ravenna for OHARNG. Mr. Morgan has worked at the Ravenna Army Ammunition Plant (RVAAP) since 1988. Mr. Morgan discussed his knowledge of the nine areas of concern (AOCs). Below is a summary of his recollections.

CC-RVAAP-68: Electric Substations (East, West, and No. 3)

Mr. Morgan noted the following about this CR site:

- Large spill at the West Substation around 1995 or 1996.

- Approximately 1,000 - 1,500 gallons.
- Contained within the gravel pad where the transformers were.
- Polychlorinated biphenyls (PCBs) were below 50 ppm.
- Spill occurred when a subcontractor was removing a transformer for scrapping.

- Old transformers had PCBs, but were swapped.

- Unaware of any spills at the other substations.

- Buildings have window caulk, window glaze, door caulking; generally contains asbestos-containing material (ACM).

- Not sure if the buildings were heated. Possibly had steam lines running into the building.

- Lead acid batteries were stored in the East Substation.

- PCBs were stored in a separate area.

- Building contents and equipment were scrapped.

CC-RVAAP-69: Building 1048 Fire Station

Mr. Morgan recalled the following regarding this CR site:

- Building was demolished approximately two years ago by OHARNG.

- Used to be Fire and Security building.

- ACM inside/outside the building removed by OHARNG prior to demolition:
  - Transite panels on the exterior.
  - Some of the wall board on the inside was ACM
  - Caulking/window glaze was removed prior to demolition.
  - Reportedly there was discharged carbon tetrachloride in the back of the building, but Mr. Morgan had no direct knowledge of the incident.

- Remembered the storage shed but was not sure what was stored within the shed.
  - Building used until 1993.
  - Material inside the building was removed prior to demolition.

- Utilities were abandoned in place.

- Small arms ammunition storage and potential gun cleaning activities inside the building.

- There was a key shop at the very northern portion of the AOC, which may have involved use of minor amounts of solvents or cutting oils.

CC-RVAAP-70: East Classification Yard

Mr. Morgan recalled the following regarding this CR site:

- Not sure if herbicides were ever stored, but there was a track sprayer used to control weeds along the tracks:
  - 1988 – All herbicides were stored at the main pesticide shop.
  - Not sure how much herbicide was applied.
  - Herbicides used were industry standard broad leaf vegetation control herbicides (Diuron, Imazapyr, 2,4-D, and Triclopyr). Probably used 2,4,5-T before it was banned.

- Tool shed had transite panels that needed to be abated prior to demolition.

- Herbicide mixing activities were probably performed at the storage shed for the track sprayer.

- Fuel oil tanks – Base Realignment and Closure (BRAC) removed the tanks and Mr. Morgan had no other knowledge of them.

- Lead was present in one of the site buildings.

- Three buildings in the south had a "gummy" material on the floor that a contractor was hired to clean up. OHARNG demolished the buildings.

CC-RVAAP-72: Facility-Wide USTs

Mr. Morgan recalled the following regarding this CR site:

- OHARNG does not have any current USTs at RVAAP. All USTs under OHARNG have been pulled and closed in accordance with Bureau of Underground Storage Tank Regulations (BUSTR) requirements.

- Before 1992/1993, there was a big push to remove all the USTs at the AOC.
  - At Depot Area by the old gas station (U3) there appears to be a vent pipe still in place.
  - At Building 1026 there is also a vent pipe.
  - USTs at Unit Training Equipment Site (RVAAP-23):
    - OHANRG removed a fuel oil UST and a used oil UST. A closure report was not initially done. The fuel oil UST was replaced with two above ground storage tanks.

- OHARNG hired a contractor to subsequently write a closure report and BUSTR signed off on the closure.
- Ohio Environmental Protection Agency (Ohio EPA) did not concur with BUSTR on accepting the closure of the UST.
- Mr. Morgan thinks the fuel oil and used oil USTs were two of the three tanks in SAIC's list. The third tank may have been a wash rack tank.

- OHARNG found an unidentified 250-gallon fuel oil UST during the demolition of Building F-1. The UST was 80-90% full and had a rupture. Likely installed by Firestone, who used the building for tire wear testing.

CC-RVAAP-73: Facility-Wide Coal Storage

Mr. Morgan did not have any specific knowledge of areas that may have been used to store coal.

CC-RVAAP-74: Building 1034 Motor Pool Hydraulic Lift

- Mr. Morgan did not have direct knowledge of the AOC other than having heard that the maintenance staff had to periodically add hydraulic oil to the lift.

- An old fuel station was located off the northwest corner of Building 1034 (Building 1035 or 1045?).
  - UST removed.
  - Small brick building (still exists).

- A car wash existed near Building 1034.

- There was a second lift system in the building.

- Oil/water separator was located in the building and piped to George Road Sewage Treatment Plant.
  - Mainly captured floor drains inside the building.
  - Does not have any knowledge of whether or not the oil/water separator was ever cleaned out.

CC-RVAAP-75: George Road Sewage Treatment Plant

- Last of sludge material was taken and land-applied at another location on RVAAP around 1993.

- Greenhouses were sold in mid-1990s.

- Imhoff tanks were filled during closure. There were voids and OHARNG supported RVAAP by placing additional fill material to fill voids.

- Was aware of the mercury spill, but could provide no specifics.

- Mr. Morgan's understanding was that the Imhoff tanks were flushed out, but was not certain it happened as he was not involved in the closure.

- Trickling filters used to have mercury seals.

CC-RVAAP-76: Depot Area

- Depot Area used to be the Bolton Farm prior to RVAAP.

- Old Milk House was a pre-World War II building, converted to a telephone exchange building. A boiler house was added to it in the back.

- A former gas station was located in the area.

- Demilitarization operations were conducted in some buildings, but did not have knowledge of specifics.

- A small round house was used for locomotive maintenance. There were other tank and equipment repair facilities in the area.

- Army reserve used old locomotive shop as a maintenance building.

- Coast Guard had boats stored in IWs 1 and 2.

- National Guard used Building A-9 for equipment storage.

- Medical units conducted training on gravel pads (M.A.S.H. type training).

- Dunnage was stored in open sheds – cleaned out igloos and had spacer dunnage for spacing boxes. In addition, straw was stored.

- U-14 used to be a carpenter shop.

- The former Bolton Barn was used as an old administration building. Also housed mounted police force.

- Former sewage treatment plant was located in the area. Plant building may have been used by Army Reserve as a maintenance building.

- Burning furnace (incinerator) located in the area – unsure of what was burned.

- A box shop was located in U-10, possible painting of boxes.

- Gail Harris found a list of demilitarization activities in the Depot Area.

- An old heating oil tank was removed from the Old Bolton mansion in 1992 or 1993.

CC-RVAAP-77: Building 1037 Laundry Waste Water Sump

Mr. Morgan did not have any direct knowledge of the sump removal but was familiar with the history of the laundry sump.

Interview Documentation
Mr. Gary Wolfgang, Former RVAAP Employee
2010 Phase I Remedial Investigation of
9 Compliance Restoration Sites

October 4, 2010, 1:30 pm –2:30 pm

Attendees:

Gary Wolfgang	Former RVAAP Employee
Kevin Jago	SAIC*
Corey Pacer	SAIC

* Participated via telephone

Purpose

SAIC conducted an interview with Mr. Gary Wolfgang to discuss the nine Compliance Restoration (CR) sites, which included:

- CC-RVAAP-68: Electric Substations (East, West, and No. 3);
- CC-RVAAP-69: Building 1048 Fire Station;
- CC-RVAAP-70: East Classification Yard;
- CC-RVAAP-72: Facility-Wide Underground Storage Tanks (USTs);
- CC-RVAAP-73: Facility-Wide Coal Storage;
- CC-RVAAP-74: Building 1034 Motor Pool Hydraulic Lift;
- CC-RVAAP-75: George Road Sewage Treatment Plant;
- CC-RVAAP-76: Depot Area; and
- CC-RVAAP-77: Building 1037 Laundry Waste Water Sump.

Mr. Wolfgang is a former employee of the former Ravenna Army Ammunition Plant (RVAAP) and worked at the installation from 1968 to 1993 in different positions ranging from safety inspector to safety director. He discussed his knowledge of the nine CR Sites. Below is a summary of his recollections.

CC-RVAAP-68: Electric Substations (East, West, and No. 3)

Mr. Wolfgang did not have direct knowledge of the substations.

CC-RVAAP-69: Building 1048 Fire Station

Mr. Wolfgang recalled the following regarding this CR site:

- RVAAP used carbon tetrachloride extinguishers exclusively in the early days.

- Noted a building/shed off the northwest corner and a second shed on the east side of Building 1048.
  - Shed was used to store and exchange extinguishers.

- Small arms and munitions were stored in a safe inside Building 1048 for use and training purposes. There was no bulk black powder storage for firearms. Did not recall any issues with gun oils or cleaning solvents.

- Had a firing range on-site.

- Did not recall any issues with the area of concern (AOC). Did not recall any spills. Had to conduct monthly safety inspections of the building. Did not recall evidence of spillage.

CC-RVAAP-70: East Classification Yard

Mr. Wolfgang recalled the following regarding this CR site:

- The locomotive roundhouse contained a large mechanics sump. Confirmed there was a wash rack at the AOC which was used for rail car cleaning.

- There used to be a strategic storage area in the vicinity of the East Classification Yard for storage of chromite.

- Other Defense Logistics Agency storage sites were located in other portions of RVAAP that Mr. Wolfgang used to inspect (e.g., dry storage tanks used for various materials, including asbestos). Materials were removed and the dry storage tanks were dismantled.

- Recalled the storage/use of herbicides in a shed and a railcar-mounted tank and sprayer unit. The railcar and tank were stored in the open.

- There were five fuel oil above-ground storage tanks in the area. All were diked. May have been some minor spillage during fuel oil transfers. Transfers were conducted under "drip protocol" using drums to catch any drips during line connects and disconnects. There were no major spills to his recollection.

CC-RVAAP-72: Facility-Wide USTs

Mr. Wolfgang was asked if he recalled if any of the USTs at the AOC are still present. His responses are below:

- On power houses that were operating and active, RVAAP would periodically clean the tanks and remove the hardened residuals at the bottom of the tanks.

- Suggested checking files for "Decontamination Modules" as a search parameter:
  - Programs for all decontamination work to document what occurred (beginning in the late 1970s/early 1980s) for soil removals and explosives-contaminated soil;
  - Safety Bulletin 5-52;
  - Any explosive-contaminated soil would have been removed and taken to Winklepeck Burning Grounds to burn off the residual contamination;
    - Down to 5 ppm explosives via laboratory analysis.

CC-RVAAP-73: Facility-Wide Coal Storage

Mr. Wolfgang did not have direct knowledge of coal storage piles at the AOCs other than the Northline Road Coal Storage pile.

CC-RVAAP-74: Building 1034 Motor Pool Hydraulic Lift

Mr. Wolfgang did not have any direct knowledge of spills at the AOC.

- No major leaks of any petroleum products or leaks of battery acid from battery storage.

- Recalled the former car wash on the south side of the garage, which was a typical power wash/brush type car wash in a cement block structure. Effluent from the car wash would have contained typical soap/detergent, salt (depending on the time of year), oil, and grease.

- Could not attest to the oil/water separator noted to be 30-40 feet bgs.

- Could not attest to the presence of a second lift inside the building.

- Facility was demolished in 2009.

CC-RVAAP-75: George Road Sewage Treatment Plant

Mr. Wolfgang did not have direct knowledge of the mercury incident at the AOC.

CC-RVAAP-76: Depot Area

- Several gas stations or service stations were located in the Depot Area.

- Depot Area contained a forklift repair shop.

- Wash rack was located in the Depot area where equipment lifts were washed and batteries cleaned out. This wash rack was a walled-off area with a drain.

- Unfamiliar with demilitarization activities.

- Take soil contamination to a level that would not react with Webster's reagent.

- There was an ammunition box manufacturing facility in the area where pallets and boxes were constructed. Wood was treated or coated with copper naphthenate or polychlorinated biphenyls (PCBs) for preservation.

CC-RVAAP-77: Building 1037 Laundry Waste Water Sump

- Mr. Wolfgang discussed the filtration system (saw dust) used at the laundry sump for treating of laundry effluent.

- Later switched from saw dust filtration to granulated carbon (activated charcoal) filtration.

- When "breakthrough" occurred in filtrate (> 5 ppm explosives), the filter material was changed out and taken to the open burning area and burned.

Interview Documentation
Mr. Larry Johnson, Former RVAAP Employee
2010 Phase I Remedial Investigation of
9 Compliance Restoration Sites

November 17, 2010, 2:30 pm –2:45 pm

Attendees:

Larry Johnson	Former RVAAP Employee
Corey Pacer	SAIC

* Participated via telephone

Purpose

SAIC conducted an interview with Mr. Larry Johnson to discuss the nine Compliance Restoration (CR) sites, which included CC-RVAAP-75: George Road Sewage Treatment Plant.

Mr. Johnson worked at the Ravenna Army Ammunition Plant (RVAAP) from 1965 to 1999, with 13 years (1980-1993) at the waste water department. He discussed his knowledge of the George Road Sewage Treatment Plant and below is a summary of his recollections.

CC-RVAAP-75: George Road Sewage Treatment Plant

- The trickling filters used to have mercury seals which were periodically removed from the under drains of the trickling filters.
- Bottle of mercury was knocked off a file cabinet and went down the floor drain.
- Trickling filters still had mercury seals in them when the area of concern (AOC) was closed and everything was covered over with soil.
- The old venture system used to monitor flow had mercury in the instruments. An instrument repair man periodically would add or subtract mercury from the meter to calibrate.
- Was unsure of whether or not the floor drain was connected to the sanitary system.
- Most floor drains have a trap.

- Under drains for trickling filters went into a collection box. Mr. Johnson would periodically remove an eye dropper or more of mercury after heavy flows from the collection box.

- Mason and Hanger, Inc. (maintenance and operating contractor) hired a company to fill the Imhoff tanks and trickling filters during site closure and simply plowed soil into the Imhoff tanks and tricking filters.