

April 9, 2008

Mr. Greg Kappers
Prescott Homes, Inc.
10613 NE 38th Place
Kirkland, Washington 98033

**RE: PRE-DEMOLITION SITE INSPECTION
FORMER WALDO HOSPITAL FACILITY AND OUTBUILDING
8511 15TH AVENUE NE
SEATTLE, WASHINGTON**

Dear Mr. Kappers,

At your request, on March 25 and March 26, 2008, Argus Pacific, Inc. (Argus Pacific) performed a site inspection for possible site contaminants including lead-based paints and building materials, residual mercury vapor, sealed mercury sources, metals in incinerator ash, and residual radiation at your property located in Seattle, Washington. We also conducted a visual inspection for signs of moisture intrusion and active mold growth. The purpose of this sampling was to evaluate potential hazards during demolition for nearby residents in the community and the reservoir, and to provide data to support decisions surrounding worker protection and waste disposal during demolition.

BACKGROUND

The existing main building at 8511 15th Avenue NE was constructed in the 1920s to house the Waldo Sanitarium for osteopathic medicine. According to 1945 floor plans, the original facility was comprised of two floors and a basement with an elevator at the north end. The building plan shows patient rooms, x-ray suites, surgical suites, other medical support facilities, and a boiler room. Original building plans could not be located. In 1945, a two-story addition with basement was constructed at the north end of the building, which contained additional patient rooms, a new boiler room, and additional medical and administrative support spaces. There is also a small shed on the north end of the property, date of construction unknown. The shed reportedly held an incinerator at one time, which was used to dispose of waste from the medical facility. The incinerator is no longer in place in the shed, but the chimney remains.

The property was not used as a medical facility after 1968, when the entire property was purchased by Camp Fire USA. Although Prescott Homes purchased the property in 2006, it is currently leased and occupied by Camp Fire USA and its programs.

Prescott Homes plans to demolish the existing structures in support of new construction. An organized neighborhood group is concerned that past activities on the property have resulted in contamination of the

buildings and surrounding environmental media; and that demolition of existing structures will release these contaminants to the neighborhood and adjacent Seattle Public Utilities Maple Leaf Reservoir. This investigation was designed to evaluate contaminants that could possibly have remained in a medical facility operating in the period from the 1920s to the 1960s. Specifically, the neighborhood group was concerned about contamination from radioactive elements and mercury that may have been used in treatments or medical equipment during that period; the presence of lead in building materials on the property; and the potential for significant mold in the building. Our sampling activities were designed to address these specific concerns.

PROPERTY DESCRIPTION

Two structures are located on the property at 8511 15th Avenue. The main building has three levels, including a basement. It is constructed of concrete and plaster. The roof is flat with an elevator/HVAC house. Heat is provided to the original area of the building by a boiler located in the basement level addition. Heat is provided to the addition area of the building by gas. An elevator is located at the north end of the building where the addition meets the original building. The second structure is a small shed located at the north end of the property. The outbuilding is constructed of wood framing with a pitched roof and brick chimney. Currently, it is used for storage.

At the time of the inspection, on March 25 and March 26, 2008, the former Waldo Hospital was partially occupied. Campfire USA staff were in the process of packing and vacating the building.

METHODOLOGY

LEAD-CONTAINING BUILDING MATERIALS

Argus Pacific inspectors used a Niton Model XL-309 X-ray Fluorescence (XRF) spectrum analyzer to screen for the presence of lead-containing paints and building materials in the interior and exterior of the main building and the shed. Prior to and immediately following sampling, the XRF was calibrated to $1.0 \pm 0.1 \text{ mg/m}^3$ and $1.6 \pm 0.2 \text{ mg/m}^3$ standards provided by the manufacturer. The instrument was within acceptable calibration range during pre- and post-calibration.

Argus Pacific inspectors reviewed drawings dated 1968 and 1945 provided by Prescott Homes to identify areas of the building that might have additional lead-containing building materials (for example, lead-lined walls in previous x-ray rooms). These rooms received additional evaluation for the presence of lead, not only by collecting a higher number of XRF readings in these rooms, but by destructive methods to visually inspect for lead sheeting or other X-ray shielding materials.

In addition, two paint chip samples from surfaces with paints that the XRF indicated contained lead were collected for quality control purposes. The samples were analyzed by Flame AA by NVL Laboratories in Seattle, Washington. Results were reported in units of mg/cm^2 to coincide with the units of readings provided by the XRF.

MERCURY VAPOR SAMPLING

Argus Pacific inspectors used a Jerome 431-X Mercury Vapor Analyzer to identify residual mercury sources in the building and shed. The instrument's range is 0.000 to 0.999 mg/m^3 of mercury, and the sensitivity is 0.003 mg/m^3 . Prior to sampling, the instrument's sensor was regenerated and the instrument was zeroed in accordance with the manufacturer's specifications. During the sampling, Argus Pacific inspectors targeted sink drains and wastewater pipes associated with previously removed sinks as likely locations of residual mercury, given the building's historical use as a hospital. Additionally, wherever

appropriate, samples were collected at floor level due to mercury's tendency to settle on floors and in cracks.

SEALED MERCURY SOURCE AND PCB INVENTORY

Argus Pacific inventoried potential sealed mercury sources in the building, including fluorescent light tubes, high intensity discharge (HID) lamps, and thermostats, and potential polychlorinated biphenyl (PCB) sources including fluorescent light ballasts in all accessible areas of the main building and the outbuilding. The purpose of this inventory is to provide an order of magnitude estimate of the quantity of materials that may require special handling and waste disposal prior to demolition.

RADIATION SURVEY

Argus Pacific used a Ludlum 192 Micro R Meter to detect residual radiation hot spots in the building. The instrument detects low level beta and gamma radiation, and has a total counting range of 0 – 5,000 microrads per hour ($\mu\text{R}/\text{hour}$.) Argus Pacific measured background radiation levels at two off-site locations, including a residential dwelling and a Seattle office building, to establish baseline data for comparison. Argus Pacific inspectors reviewed drawings dated 1968 and 1945 provided by Prescott Homes to identify areas of the building that might have previously contained radiation sources (for example, former laboratories, exam rooms, or pharmaceutical storage rooms). Argus Pacific inspectors collected measurements in each room of the main building and the shed, with the exception of locked Room 205, the second floor computer room in the new section of the building, and the roofs. Additionally, wherever appropriate, measurements were collected at floor level where radiation sources may have fallen, in drains, or in original built-in cabinetry.

BULK METALS SAMPLING

Argus Pacific inspectors collected two bulk samples from the chimney in the shed to determine the concentration of metals present for demolition controls and waste designation purposes. The shed was reported to previously house an incinerator that was used to dispose of medical waste. The incinerator was no longer on site. The chimney was still in tact. One sample of residual ash was collected from the inside of the chimney. One sample of the ceramic material that lined the inside of the chimney was collected. Samples were hand delivered to NVL Laboratories in Seattle, Washington for analysis by Environmental Protection Agency (EPA) Methods 6010/7471, Resource Conservation Recovery Act (RCRA) 8 Metals by Inductively Coupled Plasma (ICP)/Cold Vapor Atomic Absorption (CVAA).

MOLD AND MOISTURE VISUAL INSPECTION

Argus Pacific inspectors conducted a visual inspection for water intrusion or active mold growth in the main building. The inspection was limited to readily accessible surfaces of building materials. No wall cavities, pipe chases, or sub-surface building materials were inspected.

RESULTS

LEAD-CONTAINING BUILDING MATERIALS

The results of the lead-containing building material inspection are reported in Table 1, which are included as an appendix to this report. There are currently no standards for acceptable concentrations of lead in paint in industrial or commercial buildings. For the purposes of this survey, LBP measurements less than $1 \text{ mg}/\text{cm}^2$ indicate relatively low concentrations of lead. If a building has consistently low measurements, the likelihood of the building failing the Toxicity Characteristic Leaching Procedure (TCLP) for lead at

the time of building debris disposal is very low. Buildings with paint with higher concentrations of lead, or specific building components with high concentrations of lead should be screened for TCLP-Lead for proper disposal in accordance with Washington Administrative Code WAC 173-303.

The results of the XRF screening can be summarized as follows:

- The shed was not found to contain significant concentrations of lead-based paint;
- Exterior painted concrete and stucco surfaces on the old building consistently contained lead in concentrations greater than 1 mg/cm².
- Exterior painted wooden components (doors, door frames, window casings and frames, etc.) on the old building consistently contained lead in concentrations greater than 1 mg/cm², with the exception of newer wooden components like the rear porch structure and flower box.
- Exterior painted concrete and stucco surfaces on the new building were consistently below 1 mg/cm².
- The only painted components on the new building exterior that was consistently above 1 mg/cm² were painted metal window frames. All other decorative components were well below the 1 mg/cm² level.
- Inside the old building, original wooden door and window frames typically contained lead in paint greater than 1 mg/cm².
- Argus Pacific inspectors did not identify any lead-lined walls in rooms with a history of use as x-ray suites. Inspection consisted of numerous XRF measurements taken in each of the two rooms, as well as destructive investigation into the wall cavities in both rooms. We did identify lead-based paint on the walls of the second story former X-ray room, but we did not find lead sheeting or other shielding structures.
- Lead-based paint in concentrations greater than 1 mg/cm² were rare in the addition interior finishes.
- High concentrations of lead were detected in ceramic tile in both the original building and addition.

MERCURY VAPOR SAMPLING RESULTS

The results of the mercury vapor sampling are reported in Table 2, which is included as an appendix to this report. One sample location at the exterior of the North Shed had a concentration of 0.01 mg/m³. All other sampled locations indicated concentrations below the instrument's limit of detection, 0.001 mg/m³. No "hot spots" or elevated concentrations of residual mercury vapor were present in any of the sampled locations.

SEALED MERCURY SOURCE AND PCB INVENTORY

Florescent light fixtures, HID light fixtures, and thermostats were identified during the inspection. All florescent light ballasts lacking appropriate labeling and are assumed to contain PCBs. All fluorescent light tubes, HID fixtures, and thermostats are assumed to contain mercury.

Argus Pacific inspectors identified the following approximate quantities of materials:

- 350 fluorescent light tubes

- 250 fluorescent ballasts, and
- 30 thermostats.

RADIATION SURVEY RESULTS

Argus Pacific inspectors did not identify any relative “hot spots” of gamma radiation above background concentrations of 10 μ R/hour in any of the sampled locations in the main building and shed.

BULK METALS SAMPLING

The results of the bulk metals sampling are reported in Table 3, which is included as an appendix to this report. There are no regulatory criteria for metals in dust or incinerator ash, as is the case in this instance. The detection of metals in incinerator ash does not present a hazard on its own, but demolition practices must be designed to contain the dust.

MOLD AND MOISTURE VISUAL INSPECTION

Argus Pacific inspectors identified one very small area of the main building with visible former water damage, but no visible active mold growth. Room 203, which is located at the extreme south end of the Second Floor, had visible water damage on the wall and ceiling above the doorway. At the time of this inspection, the moisture source appeared inactive and mold growth was not observed

CONCLUSIONS

The following conclusions can be drawn from Argus Pacific’s evaluation.

- Several building components, inside and outside of the building have lead-based paint coatings. Lead was not identified in X-ray suites. Lead-based paint is common on buildings of this age and there was nothing unusual about the concentrations or locations of lead identified. The building can be safely demolished with precautions to protect workers, the surrounding community, and the reservoir.
- Based on a thorough survey of both generations of building area, mercury vapor was not detected. A low detection for mercury vapor was indicated near the location of the former incinerator in the shed, but not in concentrations that would indicate a major source of contamination. With prescribed demolition methods, the shed can be demolished safely. It is the opinion of Argus Pacific that no further investigation or actions need to be taken with regard to potential mercury contamination on site;
- Based on a thorough survey of both generations of building and the shed, radioactivity was not detected at a level that would indicate contamination of the property. It is the opinion of Argus Pacific that no further investigation or actions need to be taken with regard to potential hazards from radioactivity on site.
- Argus Pacific identified fluorescent light tubes, thermostats, and HID lamps that may contain metal vapors; and ballasts likely contain polychlorinated biphenyls. These materials are present in most buildings of this age. They should be removed prior to building demolition for proper handling and disposal.
- Based on a visual survey, Argus Pacific did not identify significant areas of water intrusion or active mold growth. Mold is highly unlikely to present a hazard to workers, the community, or

the reservoir during building demolition. Protections that will be employed to mitigate lead hazards would also help to minimize hazards from mold, should it exist.

- Heavy metals do remain in incinerator ash in some concentrations. Again, demolition methods used to minimize release of lead will be useful in containing metals and prevent their release to protect workers, the surrounding community, and the reservoir.

RECOMMENDATIONS

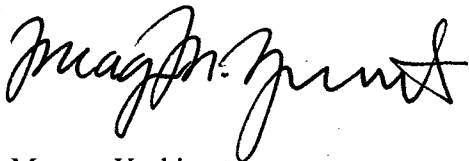
During our sampling activities, we identified a large number of suspect asbestos-containing materials that were not sampled and analyzed during the previous asbestos inspection. Argus Pacific recommends that Prescott Homes have a more thorough asbestos inspection conducted prior to demolition in accordance with the requirements for a "good faith inspection" per WAC 296-65. Argus Pacific recommends that the inspection be conducted when the building becomes vacant to allow for destructive sampling, providing a more complete survey.

Finally, Argus Pacific recommends that prior to demolition Prescott Homes prepare a Demolition Methods and Contingencies Plan to provide to the demolition contractor to address asbestos abatement, specify demolition air quality parameters, control of metal-containing dusts, waste designation, and contingencies for problems that may arise during demolition. Methods of communication with the community regarding potential hazards and progress would also be included in this plan. This plan should be reviewed and approved by the City of Seattle Department of Planning and Development.

It has been a pleasure working with you. If you have any questions regarding this report, or if you require additional services, please contact us at (206) 285-3373.

Sincerely,

Reviewed by:



Meagan Yoshimoto
Industrial Hygienist



Elisabeth Black
Certified Industrial Hygienist

Attachments:

Table 1 - Results of XRF Survey for Lead-Containing Building Materials

Table 2 - Results of Mercury Vapor Inspection

Table 3 - Results of Bulk Metals Inspection in Incinerator Ash

NVL Laboratories, Certificate of Analysis, Batch Number 2803885, April 2, 2008

Table 1 - Results of XRF Survey for Lead-Containing Building Materials
 Former Waldo Hospital Property
 Seattle, Washington

XRF Sample ID	Structure	Location/Area	Component	Substrate	XRF Results (mg/cm ²)
647	Calibration	Calibration	Niton Calibration Standard	Standard 1.0 +/- 0.1	1.00 +/- 0.10
648	Calibration	Calibration	Niton Calibration Standard	Standard 1.6 +/- 0.3	1.60 +/- 0.20
649	Shed - North	Exterior	Wall, East	Wood	0.60 +/- 0.20
650	Shed - North	Exterior	Support, East	Wood	0.18 +/- 0.30
651	Shed - North	Exterior	Door, South	Wood	0.00 +/- 0.12
652	Shed - North	Exterior	Window Frame, South, West Window	Wood	0.01 +/- 0.05
653	Shed - North	Exterior	Support Column, West	Wood	0.20 +/- 0.30
654	Shed - North	Exterior	Roof Beam, East	Wood	0.23 +/- 0.34
655	Shed - East	Exterior	Wall, West	Wood	0.00 +/- 0.09
656	Exterior	East property in front of building	Lamp Post	Metal	25.00 +/- 4.70
657	Original Building	Interior, 2nd Floor, Room 203, Fire Escape	Door Frame	Wood	1.60 +/- 0.50
658	Original Building	Interior, 2nd Floor, Room 203, N Wall	Wall	Plaster	5.60 +/- 1.50
659	Original Building	Interior, 2nd Floor, Room 203, Entry Door	Door	Wood	0.02 +/- 0.30
660	Original Building	Interior, 2nd Floor, Room 203, Inner Room, E window frame	Window Frame	Wood	3.80 +/- 1.00
661	Original Building	Interior, 2nd Floor, Room 203, Inner Room, S wall	Radiator	Metal	0.27 +/- 0.29
662	Original Building	Interior, 2nd Floor, Central Hall, W wall	Wall	Plaster	0.16 +/- 0.66
663	Original Building	Interior, 2nd Floor, Central Hall, E wall	Electrical Panel	Metal	0.20 +/- 0.49
664	Original Building	Interior, 2nd Floor, Room 204, E wall	Window Frame	Wood	6.50 +/- 1.90
665	Original Building	Interior, 2nd Floor, Room 204, N wall	Door Frame - Closet	Wood	2.60 +/- 0.80
666	Original Building	Interior, 2nd Floor, Room 204, E wall	Heat Register	Metal	0.13 +/- 0.23
667	Original Building	Interior, 2nd Floor, Room 202, N wall	Wall	Plaster	0.10 +/- 0.70
668	Original Building	Interior, 2nd Floor, Room 205, baseboard	Baseboard	Wood	0.00 +/- 0.15

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 Former Waldo Hospital Property
 Seattle, Washington

XRF Sample ID	Structure	Location/Area	Component	Substrate	XRF Results (ng/cm ²)
669	Original Building	Interior, 2nd Floor, Room 205, baseboard	Baseboard	Wood	0.00 +/- 0.20
670	Original Building	Interior, 2nd Floor, Room 205, cupboard	Cupboard	Wood	0.14 +/- 0.30
671	Original Building	Interior, 2nd Floor, Small Restroom, Toilet Closet	Door	Wood	0.26 +/- 0.55
672	Original Building	Interior, 2nd Floor, Small Restroom, Toilet Closet	Door	Wood	2.60 +/- 0.90
673	Original Building	Interior, 2nd Floor, Small Restroom, Toilet Closet	Wall	Plaster	0.33 +/- 0.51
674	Original Building	Interior, 2nd Floor, Hall, Closet Door	Door	Wood	1.90 +/- 0.00
675	Original Building	Interior, 2nd Floor, Hall, Chute	Door	Metal	0.03 +/- 0.00
676	Original Building	Interior, 2nd Floor, Room 201	Wall	Plaster	0.00 +/- 0.00
677	Original Building	Interior, 2nd Floor, Room 201, Former Surgical Room	Window Frame, West	Wood	0.04 +/- 0.00
678	Original Building	Interior, 2nd Floor, Room 201, Former Surgical Room	Window Frame, East	Wood	2.20 +/- 0.00
679	Original Building	Interior, 2nd Floor, Room 201, Former X-Ray Room	Wall, West	Plaster	3.20 +/- 0.00
680	Original Building	Interior, 2nd Floor, Room 201, Former X-Ray Room	Window Frame - Viewing	Wood	0.00 +/- 0.00
681	Original Building	Interior, 2nd Floor, Room 201, Former X-Ray Room	Wall, East	Fiberboard	0.30 +/- 0.40
682	Original Building	Interior, 2nd Floor, Room 201, Former X-Ray Room	Wall, South	Plaster	2.70 +/- 0.40
683	Original Building	Interior, 2nd Floor, Room 201, Hall outside Former X-ray Room	Wall	Plaster	0.18 +/- 0.36
684 to 690	Original Building	XRF Measurements on X-ray Room wall materials to investigate the potential for lead sheeting. Value provided is an estimate of the average values obtained.		Wall	3.00 +/- 1.00
691	Original Building	Interior, 2nd Floor, Room 201, Former Sterilization Room	Wall, North	Plaster	0.30 +/- 0.70
692 to 698	Original Building	XRF Measurements on X-ray Room wall materials to investigate the potential for lead sheeting. Value provided is an estimate of the average values obtained.		Wall	3.00 +/- 1.00
699	Original Building	Interior, 2nd Floor, Central Hall, Top of Stairs	Door	Wood	0.40 +/- 0.60
700	Original Building	Interior, 2nd Floor, Room 208	Door Frame	Wood	2.30 +/- 0.90

Table 1 - Results of XRF Survey for Lead-Containing Building Materials
 Former Waldo Hospital Property
 Seattle, Washington

XRF Sample ID	Structure	Location/Area	Component	Substrate	XRF Results (mg/cm ²)
701	Original Building	Interior, 2nd Floor, Dumb Waiter Room	Pantry	Wood	-0.4 +/- 0.90
702	Original Building	Interior, 2nd Floor, Dumb Waiter Room	Pantry	Wood	0.07 +/- 0.34
703	Original Building	Interior, 2nd Floor, Room 208	Window Frame	Wood	5.00 +/- 1.80
704	Original Building / Addition Building	Interior, 2nd Floor, Door separating old and new building sections	Fire Door	Metal	0.03 +/- 0.34
705	Addition Building	Interior, 2nd Floor, Room across from the elevator	Wall	Plaster	0.02 +/- 0.06
706	Addition Building	Interior, 2nd Floor, Restroom near Elevator	Door Frame	Wood	0.01 +/- 0.32
707	Addition Building	Interior, 2nd Floor, Coffee Room	Window Sill	Wood	0.03 +/- 0.36
708	Addition Building	Interior, 2nd Floor, Office next to Coffee Room	Wall	Plaster	0.00 +/- 0.06
709	Addition Building	Interior, 2nd Floor, Office North	Door Frame	Wood	0.00 +/- 0.04
710	Addition Building	Interior, 2nd Floor, Conference Room	Window Frame	Wood	0.10 +/- 0.23
711	Addition Building	Interior, 2nd Floor, Office	Wall	Plaster	0.12 +/- 0.34
712	Addition Building	Interior, 2nd Floor, Office	Wall	Plaster	0.02 +/- 0.02
713	Addition Building	Interior, 2nd Floor, Office	Wall	Plaster	0.01 +/- 0.04
714	Addition Building	Interior, 2nd Floor, Office	Wall	Plaster	0.06 +/- 0.31
715	Addition Building	Interior, 2nd Floor, Restroom near North Stairwell	Wall	Ceramic Tile	14.20 +/- 5.20
716	Addition Building	Interior, North Stairwell	Stair Wall	Wood	7.20 +/- 2.50
717	Addition Building	Interior, North Stairwell	Hand Rail	Wood	0.20 +/- 0.40
718	Original Building	Interior, 1st Floor, Door to Exterior on South End	Door	Wood	0.00 +/- 0.60
719	Original Building	Interior, 1st Floor, Former Solarium, W wall	Wall	Plaster	0.05 +/- 0.28
720	Original Building	Interior, 1st Floor, Former Solarium, W wall	Sill of half wall	Wood	0.00 +/- 0.17
721	Original Building	Interior, 1st Floor, Former Solarium, Former Exterior Wall	Wall	Concrete	0.09 +/- 0.33
722	Original Building	Interior, 1st Floor, First SW Room, W wall	Door Frame	Wood	2.20 +/- 0.70

Table 1 - Results of XRF Survey for Lead-Containing Building Materials
 Former Waldo Hospital Property
 Seattle, Washington

XRF Sample ID	Structure	Location/Area	Component	Substrate	XRF Results (mg/cm ²)
723	Original Building	Interior, 1st Floor, First SE Room, E wall	Door Frame	Wood	2.90 +/- 1.00
724	Original Building	Interior, 1st Floor, Restroom, S end	Wall	Plaster	0.17 +/- 0.53
725	Original Building	Interior, 1st Floor, Former Autoclave Room	Wall	Plaster	0.14 +/- 0.21
726	Original Building	Interior, 1st Floor, Former Autoclave Room	Door	Wood	2.20 +/- 1.00
727	Original Building	Interior, 1st Floor, Restroom	Wall	Ceramic Tile	23.00 +/- 3.10
728	Original Building	Interior, 1st Floor, Restroom Closet	Wall	Plaster	0.16 +/- 0.29
729	Original Building	Interior, 1st Floor, Central Hall, S End	Baseboard	Wood	0.00 +/- 0.16
730	Original Building	Interior, 1st Floor, Building Entry	Electrical Panel	Metal	0.06 +/- 0.38
731	Original Building	Interior, 1st Floor, Entry Closet	Door Frame	Wood	2.30 +/- 0.80
732	Original Building	Interior, 1st Floor, Entry Front Door	Door	Wood	4.10 +/- 1.30
733	Original Building	Interior, 1st Floor, Entry Front Door	Decorative Door Surround	Wood	0.44 +/- 0.34
734	Original Building	Interior, 1st Floor, Rear Exit Hallway	Radiator	Metal	0.20 +/- 0.37
735	Original Building	Interior, 1st Floor, Rear Exit Hallway	Wall	Plaster	0.20 +/- 0.20
736	Original Building	Interior, 1st Floor, Rear Exit Hallway	Baseboard	Wood	0.00 +/- 0.03
737	Original Building	Interior, 1st Floor, Rear Exit Hallway	Door Frame	Wood	0.00 +/- 0.09
738	Original Building	Interior, 1st Floor, Former Dumbwaiter Room	Wall	Ceramic Tile	11.00 +/- 4.70
739	Original Building	Interior, 1st Floor, Former Dumbwaiter Room	Cabinets	Wood	0.10 +/- 0.44
740	Original Building	Interior, 1st Floor, Office	Door	Wood	3.70 +/- 1.00
741	Original Building	Interior, 1st Floor, Central Hall	Decorative Trim	Wood	0.00 +/- 0.09
742	Original Building	Interior, 1st Floor, Elevator	Elevator Door Casing	Metal	0.04 +/- 0.23
743	Addition Building	Interior, 1st Floor, Former Morgue	Wall	Plaster	0.00 +/- 0.20
744	Addition Building	Interior, 1st Floor, Coffee Room	Wall	Plaster	0.00 +/- 0.13
745	Addition Building	Interior, 1st Floor, NW Office	Wall	Plaster	0.08 +/- 0.35

Table 1 - Results of XRF Survey for Lead-Containing Building Materials
 Former Waldo Hospital Property
 Seattle, Washington

XRF Sample ID	Structure	Location/Area	Component	Substrate	XRF Results (mg/cm ²)
746	Original Building	Interior, Basement, Archive Files, S end of Center Hall	Door	Wood	3.40 +/- 1.20
747	Original Building	Interior, Basement, Former Boiler Room	Flue	Plaster	0.00 +/- 0.10
748	Original Building	Interior, Basement, Former Boiler Room	Window Sill	Wood	0.00 +/- 0.10
749	Original Building	Interior, Basement, Central Hall	Baseboard	Wood	4.30 +/- 1.40
750	Original Building	Interior, Basement, Central Hall, S End, Restroom	Door Frame	Wood	2.40 +/- 0.90
751	Original Building	Interior, Basement, Central Hall, S End, Restroom	Sink	Enamel	0.00 +/- 0.00
752	Original Building	Interior, Basement, Room with chute and transit	Door	Metal	0.19 +/- 0.42
753	Original Building	Interior, Basement, Storage Room, S wall	Wall	Plaster	-0.5 +/- 0.70
754	Original Building	Interior, Basement, Door to exterior to East	Door	Metal	2.80 +/- 0.90
755	Original Building	Interior, Basement, Room under stairs	Wall	Plaster	0.00 +/- 0.09
756	Original Building	Interior, Basement, Former X-ray Room	Wall, South	Plaster	0.23 +/- 0.59
757	Original Building	Interior, Basement, Former Kitchen	Cabinets	Wood	3.40 +/- 1.10
758	Original Building	Interior, Basement, Former Kitchen	Wall	Plaster	0.14 +/- 0.20
759	Original Building	Interior, Basement, Former Kitchen	Cabinets	Wood	3.20 +/- 1.00
760	Original Building	Interior, Basement, Book Room	Wall	Plaster	2.20 +/- 0.80
761	Original Building	Interior, Basement, Museum	Window Frame	Wood	2.30 +/- 1.00
762	Original Building	Interior, Basement, Former X-ray Room	Wall	Plaster	-0.3 +/- 0.70
763	Original Building	Interior, Basement, Former X-ray Room	Wall	Plaster	0.00 +/- 0.01
764	Original Building	Interior, Basement, North Office	Door Frame	Wood	0.13 +/- 0.32
765	Original Building	Interior, Basement, North Office	Window Frame	Wood	0.49 +/- 0.33
770	Original Building	Exterior, W Entry	Sill	Wood	0.00 +/- 0.30
771	Original Building	Exterior, W Entry	Column	Stucco	0.50 +/- 0.70
772	Original Building	Exterior, W Entry	Door	Wood	0.00 +/- 0.12

Table 1 - Results of XRF Survey for Lead-Containing Building Materials
Former Waldo Hospital Property
Seattle, Washington

XRF Sample ID	Structure	Location/Area	Component	Substrate	XRF Results (mg/cm ²)
773	Original Building	Exterior, W Entry	Soffit Beam	Wood	3.30 +/- 1.00
774	Original Building	Exterior, W Entry	Column	Wood	0.00 +/- 0.13
775	Original Building	Exterior, W Entry	Flower Box	Wood	0.00 +/- 0.09
776	Original Building	Exterior, W Face, 10' N of W Entryway	Window Sill	Concrete	6.30 +/- 2.50
777	Original Building	Exterior, W Face, 10' N of W Entryway	Window Frame	Wood	1.40 +/- 0.70
778	Original Building	Exterior, W Face, 20' N of W Entryway	Wall	Stucco	6.10 +/- 2.50
779	Addition Building	Exterior, W Face	Wall	Stucco	0.10 +/- 0.70
780	Addition Building	Exterior, NW Corner	Window Frame	Metal	0.03 +/- 0.16
781	Addition Building	Exterior, NW Corner	Sill for Thin Horizontal Vent	Wood	0.01 +/- 0.23
782	Addition Building	Exterior, N Face	Stair Railing	Metal	0.01 +/- 0.24
783	Addition Building	Exterior, N Face, Basement Level, Rear Door	Door	Metal	0.20 +/- 0.40
784	Addition Building	Exterior, N Face, Basement Level, Rear Door	Drain Pipe	Metal	0.19 +/- 0.17
785	Addition Building	Exterior, N Face, Basement Level, Rear Door	Window Frame (beige)	Metal	2.20 +/- 0.10
786	Addition Building	Exterior, NE Corner	Wall	Stucco	0.01 +/- 0.09
787	Addition Building	Exterior, NE Corner	Door	Wood	0.01 +/- 0.10
788	Addition Building	Exterior, NE Corner	Window Frame (blue)	Metal	0.03 +/- 0.14
789	Addition Building	Exterior, E Face	Wall	Stucco Paint Patch	0.10 +/- 0.20
790	Addition Building	Exterior, S Face, Basement Level	Window Frame (beige)	Metal	1.50 +/- 0.50
791	Addition Building	Exterior, S Face, Basement Level	Window Frame (blue)	Metal	2.30 +/- 0.60
792	Original Building	Exterior, E Face, N of Main Entry	Drain Pipe	Sheet Metal	-0.4 +/- 0.60
793	Original Building	Exterior, E Face, N of Main Entry	Window Frame	Wood	2.40 +/- 0.80
794	Original Building	Exterior, Main Entry Porch	Column	Wood	0.00 +/- 0.11
795	Original Building	Exterior, Main Entry Porch	Front Door Detail (blue)	Wood	20.00 +/- 2.80

Table 1 - Results of XRF Survey for Lead-Containing Building Materials
Former Waldo Hospital Property
Seattle, Washington

XRF Sample ID	Structure	Location/Area	Component	Substrate	XRF Results (mg/cm ²)
796	Original Building	Exterior, Main Entry Porch	Front Door Column	Wood	1.10 +/- 0.20
797	Original Building	Exterior, E Face, 40' S of Main Entry Porch, 2' High	Wall	Brick Detail	2.00 +/- 0.80
798	Original Building	Exterior, SE Corner	Wall	Stucco	6.30 +/- 2.60
799	Original Building	Exterior, S Entryway	Column	Wood	0.00 +/- 0.05
800	Original Building	Exterior, S Entryway	Door Frame	Wood	0.00 +/- 0.03
801	Original Building	Exterior, SW Corner	Exterior Staircase	Wood	0.01 +/- 0.24
802	Original Building	Exterior, SW Corner	Window Frame	Wood	0.00 +/- 0.03
803	Original Building	Exterior, SW Corner, 2nd Floor, Top of Staircase	Door	Metal with Wood Veneer	0.00 +/- 0.04
804	Original Building	Exterior, W Face, Basement Level, Under W Entryway	Screen Door	Wood	4.40 +/- 1.30
805	Original Building	Exterior, W Face, Basement Level, Under W Entryway	Door	Wood	14.00 +/- 3.10
806	Original Building	Exterior, W Face, Stair Down to Basement	Stair Railing	Metal	0.40 +/- 0.30
807	Original Building	Interior, 1st Floor, Office nearest Rear Exit	Door Frame	Wood	1.70 +/- 0.80
812	Addition Building	Interior, North Stairwell	Hand Rail	Wood	0.22 +/- 0.27
814	Addition Building	Roof	Chimney	Brick	0.05 +/- 0.24
815	Addition Building	Roof, HVAC/Elevator House	Wall	Stucco	1.70 +/- 0.70
816	Addition Building	Roof, HVAC/Elevator House	Door	Metal	0.01 +/- 0.08
817	Original Building	QC Sample: Interior, Basement, Archive Files Room	Door Frame	Wood	2.30 +/- 0.80
819	Calibration	Calibration	Niton Calibration Standard	Standard 1.0 +/- 0.1	1.20 +/- 0.20
820	Calibration	Calibration	Niton Calibration Standard	Standard 1.6 +/- 0.3	1.80 +/- 0.50

For the purposes of this investigation, XRF measurements are considered positive for lead-based paint and indicated in bold if they exceed the EPA criteria for paint in family housing over 1.0 mg/cm².

Table 2 - Results of Mercury Vapor Inspection
 Former Waldo Hospital Property
 Seattle, Washington

Original Building	Interior	Basement, Central Hall, S End, crawlspace hatch on wall, 5' high	<0.001
Original Building	Interior	Basement, Archive Files, Wall, in cut pipe, 3' high	<0.001
Original Building	Interior	Basement, Restroom, ceramic sink drain	<0.001
Original Building	Interior	Basement, Central Hall, Rolling cart with fluorescent light bulbs	<0.001
Original Building	Interior	Basement, Central Hall, Next to old dining room, at floor/baseboard interface	<0.001
Original Building	Interior	Basement, Chute Room, Center of South wall on floor	<0.001
Original Building	Interior	Basement, Chute Room, Chute opening in ceiling	<0.001
Original Building	Interior	Basement, Chute Room, Corner next to door, on floor	<0.001
Original Building	Interior	Basement, Old Kitchen, Mop sink drain	<0.001
Original Building	Interior	Basement, Old Kitchen, Fluorescent tube box	<0.001
Original Building	Interior	Basement, Museum, Closet on tile floor	<0.001
Original Building	Interior	Basement, Kitchenette/Bathroom, Kitchen Stainless Steel Sink Drain	<0.001
Original Building	Interior	Basement, Kitchenette/Bathroom, Bathroom Ceramic Sink Drain	<0.001
Addition Building	Interior	Basement, Former Morgue, on floor below thermostat	<0.001
Addition Building	Interior	Basement, Fire Sprinkler Room, Floor Drain	<0.001
Addition Building	Interior	Basement, Storage next to New Boiler Room, On floor	<0.001
Addition Building	Interior	Basement, Office/Storage, Box of fluorescent Light Bulbs	<0.001
Addition Building	Interior	Basement, Restroom, Ceramic Sink Drain	<0.001
Addition Building	Interior	Basement, Boiler Room, At floor penetration for previous boiler equipment	<0.001
Addition Building	Interior	1st Floor, Bathroom at E end of Building, Ceramic Sink Drain	<0.001
Addition Building	Interior	1st Floor, Kitchenette, Stainless Steel Sink Drain	<0.001
Addition Building	Interior	1st Floor, Side-by-side bathrooms at W end, Ceramic Sink Drains	<0.001
Original Building	Interior	1st Floor, Copy Room under counter where sink was previously. Pipes cut and capped in concrete wall.	<0.001
Original Building	Interior	1st Floor, Kitchenette/Bathroom Kitchen stainless steel sink drain	<0.001

Table 2 - Results of Mercury Vapor Inspection
 Former Waldo Hospital Property
 Seattle, Washington

Location	Area	Findings	Results
Original Building	Interior	1st Floor, Kitchenette/Bathroom ceramic sink drain	<0.001
Original Building	Interior	1st Floor, Former Autoclave Room on ground at cement baseboard	<0.001
Original Building	Interior	1st Floor, Former Autoclave Room on ground where it is believed autoclave was.	<0.001
Original Building	Interior	2nd Floor, Former Surgical Suite, glass medicine cabinet	<0.001
Original Building	Interior	2nd Floor, Sterilization Room, where floor pipes were cut	<0.001
Original Building	Interior	2nd Floor, Kitchen near Sun Room, Ceramic Sink Drain	<0.001
Original Building	Interior	2nd Floor, Bathroom, Ceramic Sink Drain	<0.001
Addition Building	Interior	2nd Floor, Storage, Galvanized pipes cut in wall	<0.001
Addition Building	Interior	2nd Floor, Bathroom across Elevator, ceramic sink drain	<0.001
Addition Building	Interior	2nd Floor, Bathroom in NW corner, ceramic sink drain	<0.001
Addition Building	Interior	2nd Floor, Kitchen off Conference Room, stainless steel sink drain	<0.001
Addition Building	Interior	2nd Floor, Lounge across from Conference Room, pipes cut from previous sink	<0.001
Addition Building	Interior	2nd Floor, Bathroom at E end, ceramic sink drain	<0.001
Shed - North	Exterior	SE Corner Exterior, on ground	0.01
Shed - North	Exterior	SW Corner Exterior, on ground	<0.001
Shed - North	Exterior	NW Corner Exterior, on ground	<0.001
Shed - North	Exterior	NE Corner Exterior, on ground	<0.001

Note: The Washington State Division of Occupational Safety and Health (DOSH) permissible exposure limit (PEL) for inorganic mercury is 0.1 mg/m³.

Table 3 - Results of Bulk Metals Inspection in Incinerator Ash
 Former Waldo Hospital Property
 Seattle, Washington

Metal	Chimney Ash (in ppm)	Chimney Ceramic (in ppm)
Arsenic	69.0	< 16.0
Barium	230.0	53.0
Cadmium	55.0	< 7.9
Chromium	30.0	< 7.9
Lead	1600.0	240.0
Mercury	32.3	< 0.8
Selenium	< 13.0	< 16.0
Silver	25.0	< 7.9

ppm = parts per million

< = Less than laboratory limit of detection

NVL Laboratories, Inc.

4708 Aurora Ave. N., Seattle, WA 98103
Tel: 206.547.0100, Fax: 206.634.1936
www.nvllabs.com

Analysis Report

AIHA - IH # 101861
WA - DOE # C1765



Total Metals

Client: Argus Pacific, Inc.

Address: 1900 W. Nickerson St., Suite 315
Seattle, WA 98119

Attention: Ms. Elisabeth Black

Project Location: Walclo Hospital

Batch #: 2803885.00

Matrix: Bulk

Method: EPA 6010 / 7471 (Hg)

Client Project #: 4863-08 Task 2

Date Received: 03/27/2008

Samples Received: 2

Samples Analyzed: 2

Lab ID	Client Sample #	Elements	Sample wt (g)	RL mg / kg	Results in mg / kg	Results in ppm
28022560	CHIMNEY ASH	Silver (Ag)	0.3090	6.5	25.0	25.0
		Arsenic (As)	0.3090	13.0	69.0	69.0
		Barium (Ba)	0.3090	6.5	230.0	230.0
		Cadmium (Cd)	0.3090	6.5	55.0	55.0
		Chromium (Cr)	0.3090	6.5	30.0	30.0
		Mercury (Hg)	0.3090	0.7	32.3	32.3
		Lead (Pb)	0.3090	13.0	1600.0	1600.0
		Selenium (Se)	0.3090	13.0	< 13.0	< 13.0
28022561	CHIMNEY CERAMIC	Silver (Ag)	0.2524	7.9	< 7.9	< 7.9
		Arsenic (As)	0.2524	16.0	< 16.0	< 16.0
		Barium (Ba)	0.2524	7.9	53.0	53.0
		Cadmium (Cd)	0.2524	7.9	< 7.9	< 7.9
		Chromium (Cr)	0.2524	7.9	< 7.9	< 7.9
		Mercury (Hg)	0.2524	0.8	< 0.8	< 0.8
		Lead (Pb)	0.2524	16.0	240.0	240.0
		Selenium (Se)	0.2524	16.0	< 16.0	< 16.0

Sampled by: Client

Analyzed by: Michael Dougherty

Date Analyzed: 04/02/2008

DRAFT

mg/ kg = Milligrams per kilogram

ppm = Parts per million

RL = Reporting Limit

'<' = Below the reporting Limit

Note: Method QC results are acceptable unless stated otherwise.

Unless otherwise indicated, the condition of all samples was acceptable at time of receipt.

NVL Laboratories, Inc.

4708 Aurora Ave N, Seattle, WA 98103

Tel: 206.547.0100 Emerg. Pager: 206.344.1878

Fax: 206.634.1936 1.888.NVL.LABS (685.5227)

**CHAIN of CUSTODY
SAMPLE LOG**

BATCH ID
2803885.00

Client ARGUS PACIFIC

NVL Batch Number _____

Street 1900 W. NICKERSON ST #315
Seattle, WA 98119

Client Job Number 4863-08 TASK 2

Total Samples 2

Project Manager Elizabeth Black

Turn Around Time 1-Hr 24-Hrs 4 Days
 2-Hrs 2 Days 5 Days
 4-Hrs 3 Days 6 to 10 Days

Project Location Waldo Hospital

Please call for TAT less than 24 Hrs

Email address elizabeth@arguspacific.com

Phone: 206-285-3373 Fax: 206-285-3927

<input type="checkbox"/> Asbestos Air	<input type="checkbox"/> PCM (NIOSH 7400)	<input type="checkbox"/> TEM (NIOSH 7402)	<input type="checkbox"/> TEM (AHERA)	<input type="checkbox"/> TEM (EPA Level II)	<input type="checkbox"/> Other _____
<input type="checkbox"/> Asbestos Bulk	<input type="checkbox"/> PLM (EPA/600/R-93/116)	<input type="checkbox"/> PLM (EPA Point Count)	<input type="checkbox"/> PLM (EPA Gravimetry)	<input type="checkbox"/> TEM Bulk	
<input type="checkbox"/> Mold/Fungus	<input type="checkbox"/> Mold Air	<input type="checkbox"/> Mold Bulk	<input type="checkbox"/> Rotometer Calibration		
METALS	Inst./Det Limit	Matrix	RCRA Metals	<input checked="" type="checkbox"/> All 8	Other Metals
<input checked="" type="checkbox"/> Total Metals	<input type="checkbox"/> FAA (ppm)	<input type="checkbox"/> Air Filter	<input type="checkbox"/> Arsenic (As)	<input type="checkbox"/> Mercury (Hg)	<input type="checkbox"/> All 3
<input type="checkbox"/> TCLP	<input type="checkbox"/> ICP (ppm)	<input type="checkbox"/> Drinking water	<input type="checkbox"/> Barium (Ba)	<input type="checkbox"/> Selenium (Se)	<input type="checkbox"/> Copper (Cu)
	<input type="checkbox"/> GFAA (ppb)	<input type="checkbox"/> Dust/wipe (Area)	<input type="checkbox"/> Cadmium (Cd)	<input type="checkbox"/> Silver (Ag)	<input type="checkbox"/> Nickel (Ni)
		<input type="checkbox"/> Soil	<input type="checkbox"/> Chromium (Cr)		<input type="checkbox"/> Zinc (Zn)
		<input type="checkbox"/> Paint Chips in %	<input type="checkbox"/> Lead (Pb)		
<input type="checkbox"/> Other Types of Analysis	<input type="checkbox"/> Fiberglass	<input type="checkbox"/> Nuisance Dust	<input type="checkbox"/> Other (Specify) _____		
	<input type="checkbox"/> Silica	<input type="checkbox"/> Respirable Dust			

Condition of Package: Good Damaged (no spillage) Severe damage (spillage)

Seq. #	Lab ID	Client Sample Number	Comments (e.g Sample area, Sample Volume, etc)	A/R
1		CHIMNEY ASTH	Please call Elizabeth for instructions	
2		CHIMNEY CERAMIC	before analysis.	
3				
4				
5				
6				
7				
8				
9				
10				
11				
12				
13				
14				
15				

	Print Below	Sign Below	Company	Date	Time
Sampled by	MEAGHAN YOSHIMOTO		ARGUS PACIFIC	3/26/08	6:15 P
Relinquished by					
Received by	K. Aultrie		NVL	3/26/08	8:00 AM PRB
Analyzed by	M. Dougherty		NVL	4/12/08	15:50
Results Called by					
Results Faxed by	M. Dougherty		NVL	4/12/08	16:30

Special Instructions: Unless requested in writing, all samples will be disposed of two (2) weeks after analysis.