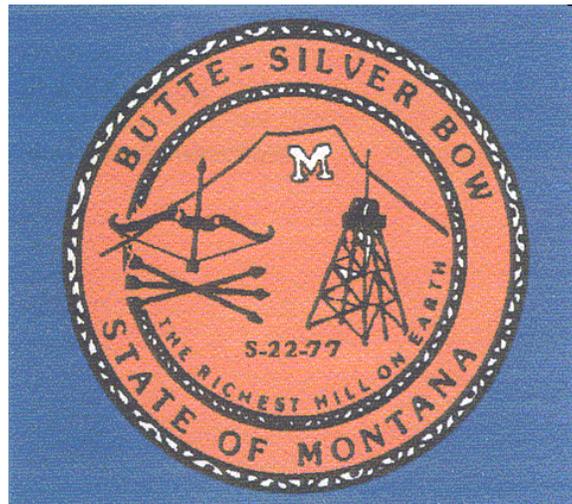


**2013**

# **Construction Completion Report**

January 1<sup>st</sup> 2013 through December 31<sup>st</sup> 2013

## **Butte-Silver Bow Health Department Residential Metals Program**



**Work performed under EPA order  
during the 2013 construction season**

**Butte-Silver Bow Health Department  
Environmental Health Division**

*February, 2014*

## **2013 Construction Completion Report**

### **BUTTE-SILVER BOW RESIDENTIAL METALS PROGRAM**

The Allocation Agreement between Butte-Silver Bow (BSB) County and the Atlantic Richfield Company (ARCO) provides the Butte-Silver Bow Health Department with funds to conduct soil abatements of residential yards located in the Butte Priority Soils Operable Unit, when soil lead concentrations exceed 1200 mg/kg or arsenic concentrations exceed 250 mg/kg. Additionally the Allocation Agreement provides for a multi-pathway program to abate other hazards (attic dust, interior dust and paint) associated with lead, arsenic and mercury. The program also provides biological testing, education and community outreach.

This report describes metals abatement activities performed by the Residential Metals Abatement Program within the Health Department. A description, photo documentation and project costs are provided for work performed on residential yards, basements, attics and homes. Also included are program budgets, a list of properties where environmental assessments were conducted and a comprehensive list of abated properties.

**Note:** Past annual construction completion reports consisted of projects and program activities that were completed during the Butte-Silver Bow County fiscal year. Due to the different fiscal years associated with the PRP's and the agencies involved (BSB July 1<sup>st</sup> – June 30<sup>th</sup>, EPA October 1<sup>st</sup> – September 30<sup>th</sup>) it was determined that the calendar year would be the most comprehensible approach.

During the 2013 calendar year the program completed **113** projects. The 113 projects consisted of **33** soil abatement projects including **one** storm water project, **76** residential attics and **4** interior living space dust abatements. All abatement projects were completed due to lead levels  $\geq 1200$  mg/kg and/or arsenic  $\geq 250$ . Children were living at or frequently visited the majority of the residences where abatement activities occurred

During the 2013 calendar year (January 1, 2012 – December 31, 2012) the program completed **208** environmental assessments. The data obtained from the environmental assessments will be used to develop a list of potential abatement projects for the 2014 construction season.

All interested parties (EPA, ARCO, MDEQ, and BSB) are very involved with the review of the Residential Metals Program's activities. Soil sampling results, including maps, are available to EPA, ARCO, and MDEQ for all samples collected. The Residential Metals Program provides Soil/Dust Specific Removal Plans, in addition to other abatement work plans to the EPA and Atlantic Richfield (AR). Approval of these work plans is requested from EPA, AR representatives and property owners. Prior to finalization of Soil/Dust Specific Removal Plans, a site visit is conducted by BSB, EPA, and AR representatives.

## **BIOMONITORING and EDUCATIONAL/COMMUNITY OUTREACH SUMMARY**

Blood lead screening is available to all residents of Butte-Silver Bow. Testing is conducted by the Butte Women's, Infant's and Children's program (WIC) which is located at the Health Department. Testing is available to walk-in clients, by appointment, or by physician and residential metals program referrals. In addition to blood testing, families are educated about potential exposures to lead, arsenic and mercury hazards in and around their homes. Environmental Assessments are offered to all WIC clients and expedited if potential exposures are identified during the interview process.

Butte's low-income population continues to be targeted through screening of children enrolled in the Butte WIC program. WIC staff routinely performs finger stick capillary collections as a part of their program activities. Elevated results, ( $>5\mu\text{g/dL}$ ), are confirmed by a venous sample before the child is documented as having an elevated blood lead (EBL). Of the **645** blood lead screenings performed between January 1<sup>st</sup> and December 31<sup>st</sup> 2012, there were **four** venous draw confirmations greater than  $5\mu\text{g/dL}$ . Venous collection is available through the WIC Program and local pediatricians.

Local physicians and pediatricians continue to actively screen their patients for lead. The local pediatricians have incorporated screening into their private practices. Other physicians recognize and assume this public health service fulfilled by the BSB Health Department. Both groups actively make referrals to this program when one of their patients is identified with an EBL for education and environmental assessment, as well as Case Management until the child's blood lead level (BLL) is reduced to acceptable levels.

Environmental assessments were encouraged for all residences of those that participated in the bio-monitoring activities performed through WIC. Environmental assessments are performed to identify potential sources of lead, arsenic and mercury exposures. Environmental assessments consist of soil testing, attic dust testing, interior dust testing and X-ray fluorescence (XRF) testing for lead-based paint. The residences where exposures are identified during the environmental assessment process are prioritized for abatement. Contaminated soils are removed and replaced with geotextile fabric, clean fill, topsoil and sod. Interior abatement involves paint stabilization and cleaning using the HEPA vacuum, wet wash and then HEPA vacuum again technique. Attic dust abatement consists of vacuuming out the contaminated dust using an industrial vacuum equipped with HEPA filtration.

Case management activities were offered to the families of the four confirmed EBL cases that were referred to the RMAP. Two of the cases received full environmental assessments and

follow up activities, one of which received a soil abatement and an indoor dust abatement of the property. One case involved a child chewing on a lead-based painted door that was removed from the property and the child moved to a different city. One case involved a child chewing on batteries and the family was educated on the dangers of such activities.

The Case Management portion of the RMAP includes working with the family and/or landlord to assure that the child's environment is not a source of lead contamination and to assure that timely follow-up to EBL's occurs. Case Management is a voluntary part of the Butte Residential Metals Program. Case management includes home visits when appropriate, intensive education for the family, and timely follow-up lab testing. Residential Metals Abatement program staff contact each family of a child with an EBL and arranges for the environmental assessment, confirmatory testing if needed, and provides education on nutrition, cleaning methods, and good hand washing techniques. Parents are encouraged to call with any questions, and written materials are provided. In depth environmental assessments are offered to landlords or parents who have concerns.

To insure that the BSB Health Department provides accurate and appropriate environmental screening and testing for the residents of Butte, the Health Department staff has attained EPA lead risk assessor certification.

## **Community Outreach and Education**

The RMAP provided **458** property owners within the BPSOU information pertaining to program activities and offered environmental assessments to each property owner. Environmental assessments were completed at **208** properties during the 2013 sampling season.

The Center for Disease Control states that education is critical to the success of any metals intervention and abatement program. The Residential Metals Abatement Program (RMAP) provides a range of education components to enhance and maintain the community's awareness of potential sources of and risks to lead, arsenic, and/or mercury in and around homes, as well as approaches residents can take to avoid exposures. The educational components include the distribution of educational materials to local contractors (e.g., electricians, roofers, carpenters), hardware/lumber suppliers, childcare facilities/programs (e.g., Head Start), and housing authorities (e.g., Human Resource Council – Section 8 and LIEAP). Informative presentations are available for real estate agents and landlords. Periodic mailings to property owners and public service announcements aired by the local television station are also designed to provide public awareness.

During the calendar year of 2013 the RMAP distributed program specific posters and brochures to various local businesses and agencies. Program specific informational inserts provided by the EPA were distributed in the local paper and mini-nickel advertiser. The program staff attended the public meeting held in reference to the current Health Study to provide answers to questions or concerns the public had pertaining to program activities. The program staff attended and

conducted a program specific presentation to the local landlords association. Program staff was also available at the CTEC office periodically throughout 2013 to provide program information to the general public. The RMAP also continues to work in conjunction with the medical community, particularly pediatricians and the Women, Infant, and Children (WIC) program to inform the public about risk, health monitoring, nutritional information, the programs' activities, and to ensure clientele are offered environmental assessments.

The education and outreach program materials specifically address portions of homes that pose a risk for potential exposure. Such portions addressed are the attic space, interior living space, and exterior yard areas. The program relies on educational materials and face-to-face consultations to ensure that homeowners, remodeling contractors, home inspectors, electricians, potential buyers, and weatherization workers are aware of the following:

- (1) The potential presence of lead, arsenic, and/or mercury in attics or earthen basements;
- (2) The importance of restricting access to those areas by sensitive populations and taking the appropriate measures to ensure that dust is not tracked into the interior living space when infrequent access occurs; and
- (3) The proper contact information prior to implementing any remodeling project and/or landscaping project to ensure that dust and soil are appropriately handled and disposed of by a responsible entity and/or by approved contractors.

The educational materials shall be provided to all participants of the program at the time an environmental assessment of the home is implemented (whether interior or exterior) as well as when applicable building permits are sought for remodeling projects. Recommendations made to each resident will be based on the results of environmental assessment performed at their homes and specific information collected by program staff about daily habits and activities.

# **PRIORITIZED CRITERIA, YARD REMOVAL PROCEDURES AND ABATEMENT DEFINITIONS**

## **Prioritized Criteria for Yard and House Abatement (highest to lowest):**

On March 2, 1993 the Lead Levels Advisory Committee recommended the implementation of a long term Lead Poisoning Prevention and Abatement Program in Butte-Silver Bow County. The following criteria was prepared by the Committee and presented to the Butte-Silver Bow Health Board.

1. Homes occupied by one or more children with a blood lead (PbB) equal to or greater than 10 µg/dL { which is considered to be an elevated blood lead (EBL)}.
2. Secondary residence or subsequent homes occupied by children with an EBL.
3. Homes previously occupied by children with an EBL, even if no child is currently living at the address.
4. Homes with very young children (e.g. <1 year) and PbB of 5-9 µg/dL.
5. Homes with no children but with one or more sources (paint, water, soil, house dust) with a lead concentration which exceeds the 95<sup>th</sup> percentile as determined by the Butte-Silver Bow Environmental Health Lead Study (1990). Particular attention should be given to homes built prior to 1940.
6. Designated playgrounds maintained by Butte-Silver Bow.
7. Informal play areas frequented by children with or without property owner's permission.

## **General Yard Abatement Procedures:**

Each yard removal was conducted according to the following procedures:

- Soil Sampling Request form signed by the landowner.
- Soil sampling of yards according to approved sampling protocol.
- Back-fill and top soil sampling.
- Yard Specific Removal Plans developed for each removal.
- Access Agreement signed by landowner.
- Yard Specific Removal Plans submitted to EPA for approval.
- EPA, BSB and ARCO site visit.
- Finalize Yard Specific Removal Plan.
- BSB and contractor site visit.
- Photographic and/or video record on each yard to document pre- and post-removal condition of property.
- Yard excavated to a depth of 12 inches and contaminated soil hauled to repository. Yard back-filled as follows:
  - Geotextile fabric
  - Clean soil—10 inches (approx.)
  - Topsoil—2 inches
  - Sod installed

## **General House Abatement Procedures:**

**Replacement** Replace old lead based painted components with new.

**Enclose** Mechanically attached solid surface sealed to prevent dust escape.

**Encapsulate** Application of a liquid material that hardens to the lead painted surface and prevents dust escape. Usually with a thickness of 10 millimeters.

**Paint Stabilization** Occurs when painted surface is capable of holding new paint. Area is wetted with a spray bottle, scraped, primed and re-painted.

## **General Attic Dust Abatement Procedures:**

Each attic abatement was conducted according to the following procedures:

- Sampling Request form signed by the landowner.
- Dust sampling of attics according to approved sampling protocol.
- Dust Specific Removal Plans developed for each removal.
- Access Agreement signed by landowner.
- Dust Specific Removal Plans submitted to EPA for approval.
- EPA, BSB and ARCO site visit.
- Finalize Dust Specific Removal Plan.
- BSB and contractor site visit.
- Photographic and/or video record on each attic to document pre- and post-removal condition of property.
- Containment is set up at the entrance/exit to each attic, insulation and debris is hand bagged when necessary, remaining debris and contaminated dust is removed with a HEPA equipped vacuum system, all materials removed are double bagged and disposed of at the repository.

## **General Interior Dust Abatement Procedures:**

Each interior abatement was conducted according to the following procedure:

- Sampling Request form signed by the landowner.
- Dust sampling of attics according to approved sampling protocol.
- Dust Specific Removal Plans developed for each removal.
- Access Agreement signed by landowner.
- Dust Specific Removal Plans submitted to EPA for approval.
- EPA, BSB and ARCO site visit.
- Finalize Dust Specific Removal Plan.
- Stabilize lead-based paint hazards that may potentially contribute to the lead content in the dust.
- HEPA vacuum, wet wash, HEPA vacuum all horizontal surfaces.

## 2013 ABATEMENTS

### PROJECT DESCRIPTIONS AND ASSOCIATED COSTS

The following pages provide a brief description and photo documentation of **113 abatement projects** (yards, basements, attics, interiors) completed by the Residential Metals Abatement Program (RMAP) during the past calendar year. The RMAP purchases and provides geotextile fabric, fill material and topsoil to ensure that these materials comply with the EPA specifications. The RMAP purchases these materials in bulk and stores them at the Kelley Mine yard. The excavation contractors can easily access this material following excavation activities.

The RMAP purchases all necessary materials and equipment to complete attic dust, interior dust and lead-based paint abatements. Attic dust, interior dust and lead-based paint abatements are conducted by RMAP staff.

### January 1, 2013 – December 31, 2013 Detail of Expenditures

Salaries	\$	358,621.16
Employee Benefits	\$	161,153.30
Payroll / Personnel Expenses	\$	6,082.45
Supplies	\$	144,561.56
Fixed Assets	\$	7,157.48
Postage	\$	608.07
Publicity / Media	\$	1,000.00
Rent	\$	10,718.81
Printing and Duplicating	\$	1,037.00
Utilities	\$	2,597.67
Repair and Maintenance Services	\$	3,786.00
Training	\$	5,135.00
Professional Services	\$	47,852.00
Contract Services	\$	182,336.45
Insurance	\$	6,769.25
Computer Charges	\$	3,690.00
PBX Charges	\$	2,713.56
Machinery and Equipment	\$	111,977.72
<b>TOTAL EXPENSES</b>	<b>\$</b>	<b>1,058,988.18</b>

*“The bitterness of poor quality abatement  
lingers long after  
the sweetness of low price  
has been forgotten”*

**To follow, is a**

**Chronological listing of 113 quality abatements**

**Completed between**

**January 1<sup>st</sup>, 2013 – December 31<sup>st</sup>, 2013**

## Total Properties Remediated 2013

<u>Property Address</u>	<u>Abatement Location</u>
1 1323 Missouri	Attic - Pb 2150
2 799 Hornet	Attic - As 835
3 1148 Woolman	Attic - Pb 1580
4 1025 Hornet	Attic - Pb 2370, As 349
5 533 Franklin	Attic - Pb 3820, As 649
6 3612 Banks	Attic - Pb 5880
7 12 E. Freemont	Attic - Pb 1830
8 1901 Garrison	Attic - Pb 2830, As 261
9 304 N. Washington	Attic - Pb 1500
10 1106 Missouri	Attic - Pb 4690, As 539
11 920 S. Dakota	Attic - Pb 1680, As 718
12 1228 Farrell	Attic - Pb 5850, As 631
13 2025 Arizona	Attic - As 825
14 410 Excelsior	Attic - Pb 12604, As 617
15 314 S. Idaho	Attic - Pb 2110, As 479
16 927 Caledonia	Attic - As 591
17 1926 Argyle	Attic - Pb 1650
18 1043 Porphyry	Attic - Pb 1230, As 378
19 1033 Mercury	Attic - Pb 4300
20 1201 Taft	Attic -Pb 2510, As 1920
21 301 W. Granite	Attic - Pb 1630, As 518
22 921 Lewisohn	Attic - Pb 1630, As 518
23 1919 Idaho	Attic - As 862
24 1133 Sampson	Attic - Pb 18700
25 1108 Nevada	Attic - Pb 1670, As 867
26 522 N. Main	Indoor Dust - Pb 7080
27 3409 Paxson	Attic - Pb 2160, As 862
28 715 8 <sup>th</sup> St.	Attic - Pb 2130
29 1731 Elm	Attic - As 620
30 101 Missoula	Attic - Pb 2470, As 1040
31 2400 Argyle	Attic - Pb 1440, As 834
32 621 S. Idaho	Attic - Pb 1450, As 850
33 522 N. Main	Attic - Pb 1230
34 8 E. Woolman	Attic - Pb 5740, As 533
35 225 Dakota	Basement -Pb 2280
36 1108 Nevada	North Yard - Pb 5747
37 1106 Missouri	East Yard - Pb 1210
38 1035 Placer	West Yard - Pb 1310
39 1228 Farrell	North Yard - As 299
40 709 W. Park	South Yard - Pb 1760
41 61 W. Gold	North Yard, South Yard - Pb 1490

<u>Property Address</u>	<u>Abatement Location</u>
42 63 W. Gold	North Yard, South Yard - Pb 1490
43 65 W. Gold	North Yard, South Yard - Pb 1490
44 67 W. Gold	North Yard, South Yard - Pb 1490
45 1033 W. Mercury	East Yard - Pb 3990
46 807 N. Montana	North Yard, West Yard - Pb 1540
47 1008 Caledonia St.	Attic - Pb 2350, As 550
48 1027 Waukesha	Attic - As 333
49 3434 Quincy	Attic - As 326
50 2217 Colorado	Attic -Pb 2130, As 396
51 843 W. Broadway	Attic - Pb 2130, As 396
52 843 W. Broadway	Indoor Dust - Pb 2130, As 396
53 3010 Farragut	Attic - As 353
54 207 W. Second	Attic - As 347
55 1328 Missouri	Attic - Pb 2040, As 253
56 2552 S. Main	Attic - As 265
57 1101 Lewisohn	Attic - Pb 2030, As 263
58 411 Virginia	North yard - Pb 2800
59 410 Excelsior	West yard - Pb 1660
60 1043 Porphyry	West Yard - Pb 1320, As 539
61 1026 Caledonia	West Yard - Pb 1610
62 1201 Taft	West Yard - Pb 2450
63 419 N. Washington	West Yard- Pb 4850
64 1700 Elm	Attic - Pb 24500, As 1020
65 301 W. Granite	North Yard - Pb 1250
66 207 W. Second	West Yard, North Yard - Pb 2760
67 305 W. Granite	North Yard - Pb 5720, As 599
68 307 W. Granite	North Yard - Pb 3420
69 1223 W. Granite	Attic - Pb 1990, As 308
70 1959 Florence	Attic - Pb 1190, As 641
71 1538 B St.	Attic - Pb 2070, As 359
72 823 W. Diamond	Attic - As 362
73 217 Alabama	Attic - Pb 3320, As 326
74 1010 W. Quartz	Attic - Pb17900
75 2620 Harvard	Attic - Pb 1260
76 305 W. Granite	Attic - As 638
77 1627 Dewey	Attic - As 280
78 3640 White Way	Attic - Pb 7210, As 329
79 2401 Grand Ave.	Attic - As 459
80 508 Jasper	Attic - Pb 4650, As 465
81 616 N. Alaska	Attic - As 356
82 1031 Utah	Attic - Pb 1850, As 582
83 1928 Idaho	South Yard - Pb 1430
84 110 Belle	East Yard - Pb 1250

<u>Property Address</u>	<u>Abatement Location</u>
85 Curtis St. Lot 1	Storm Water Site - Pb 1210
86 Curtis St. Lot 2	Storm Water Site - Pb 2950
87 Curtis St. Lot 3	Storm Water Site - Pb 2590
88 Curtis St. Lot 4	Storm Water Site - Pb 2390
89 Curtis St. Lot 5	Storm Water Site - Pb 4690
90 Curtis St. Lot 6	Storm Water Site - Pb 1550
91 Curtis St. Lot 7	Storm Water Site - Pb 2950
92 356 E. Mercury	South Yard - Pb 2370
93 358 E. Mercury	West Yard, South Yard - Pb 1490
94 836 W. Galena	Attic - Pb 1640, As 528
95 842 W. Galena	Attic - Pb 1640, As 528
96 1039 W. Broadway	Attic - Pb 5730
97 218 S. Crystal	Attic - As 358
98 845 W. Copper	Attic - As 721
99 2328 Grand Ave.	Attic - As 364
100 1128 W. Diamond	Attic - Pb 2600
101 1042 W. Broadway	Attic - Pb 2370, As 471
102 1042 W. Broadway	Indoor Dust - Pb 7030
103 831 W. Granite	Attic - Pb 2030, As 604
104 901 W. Copper	Attic - Pb 8150, As 453
105 939 Arizona	Attic - Pb 1870, As 575
106 109 Pacific	Attic - Pb 1600, As 488
107 611 Transit	Attic - As 254
108 635 W. Copper	Attic - Pb 5730, As 710
109 308 W. Broadway	Attic - Pb 3000, As 843
110 1205 W. Park	Attic - As 280
111 132 W. Woolman	Attic - Pb 2470, As 832
112 65 W. Gold	Indoor Dust - Pb 1490
113 358 E. Mercury	Attic - Pb 8950, As 431

The Residential Metals Abatement Program completed 113 abatement projects during 2013. Of those 113 abatement projects, 76 were attic abatements and 4 were indoor dust abatements. The work plans for both such abatements are typical for each property. The following two pages are examples of the typical Dust Specific Removal Plan for an attic abatement and Indoor Dust Specific Removal Plan for an indoor dust abatement. Property specific copies of these work plans are on file at the Butte-Silver Bow Health Department.

Original work plans and photo documentation for the 33 soil abatement projects follow the Dust Specific Removal Plan and Indoor Dust Specific Removal Plan examples.

**Example**  
**“Dust Specific Removal Plan”**  
**(Address)**  
**(Date)**

**Selection Criteria:** Sample results at or above **250** mg/kg for arsenic, **1200** mg/kg for lead, or **147** mg/kg for mercury

**Attic Sampling Results:** Arsenic-**533** mg/kg and Lead-**5740** mg/kg.

**Rational for Work:** Contaminants exceed local action levels. The property owner has renovation plans that will impact the attic space.

**General Project Description:** Abatement work at the subject property will consist of removing all insulation, HEPA vacuuming loose insulation and dust from ceiling, walls, and floor surfaces in the attic. Contaminated insulation and dust will be disposed of at the Granite Mountain Soil Repository.

**Specific Attic Dust Removal Activities**

- Set up 6-millimeter plastic containment to prevent dust from spreading. Duct tape seams.
- Double bag all contaminated insulation in 6-millimeter plastic bags, duct tape seams and dispose of at Granite Mountain Soil Repository.
- HEPA vacuum loose insulation and dust from the ceiling, walls and floor in the attic space.
- HEPA vacuum dust from joints and cracks in contained area.
- HEPA vacuum and bags will be provided by Health Department.
- Bags will be disposed of at Granite Mountain Soil Repository.
- Attic will be insulated in accordance with construction codes and standards.
- Health Department staff will conduct project over sight in conjunction with EPA representative.

**Example**  
**“Indoor Dust Specific Removal Plan”**  
**(Address)**  
**(Date)**

**Selection Criteria:** Sample results at or above **250** mg/kg for arsenic, **1200** mg/kg for lead, or **147** mg/kg for mercury

**Attic Sampling Results:** Arsenic- **534** mg/kg, lead- **3120** mg/kg.

**Rational for Work:** Contaminants exceed local action levels. The indoor vacuum sample from the third floor came back **3140** mg/kg for lead.

**General Project Description:** Abatement work at the subject property will consist of removing all insulation, HEPA vacuuming loose insulation and dust from ceiling, walls, and floor surfaces in the attic and knee walls. Clean interior living spaces. Contaminated insulation and dust will be disposed of at the Granite Mountain Soil Repository.

**Specific Indoor Dust Removal Activities**

- Remove all tools, plastic, and debris from the attic dust removal project.
- Use a vacuum cleaner equipped with a HEPA exhaust filter. HEPA vacuum all surfaces in the room (ceilings, walls, trim, and floors). Start with the ceiling and work down, moving toward the entry door. Completely clean each room before moving on.
- Wash all horizontal surfaces with a lead-specific detergent, high-phosphate detergent, or other suitable cleaning agent to dislodge any ground-in contamination, then rinse. Change the cleaning solution after every room is cleaned.
- HEPA vacuum all surfaces in the room (ceilings, walls, trim, and floors). Start with the ceiling and work down, moving toward the entry door. Completely clean each room before moving on.

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**1108 Nevada**  
**May 22, 2013**

**Rational for Work:** Yard exceeds 1200mg/kg lead – **5747 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The North Yard is the area to be replaced.
- Excavation of the North yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- The side walk in the north east yard, clothes line posts and one bush will be removed as per the owner’s request.
- Landscape timber will be installed along the hedges.
- The area west of the house is an area to be replaced.
- Excavation of the West yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill.
- The north portion of the west-10 inches of clean fill will be placed on the fabric followed by 2 inches of washed ¾ inch gravel.
- The south portion of the west yard- 10 inches of top soil will be placed on fabric followed by 2 inches of wood chips.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **June 14, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**.

Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



1108 Nevada (Before)



1108 Nevada (Before)



1108 Nevada (During)



1108 Nevada (During)



1108 Nevada (After)



1108 Nevada (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**1106 Missouri**  
**May 22, 2013**

**Rational for Work:** Yard exceeds 250 mg/kg arsenic – **1210 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The East Yard is the area to be replaced.
- Excavation of the East yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- The concrete pad will be removed as per the owner’s request.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **June 14, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



1106 Missouri ( Before)



1106 Missouri ( Before)



1106 Missouri ( During)



1106 Missouri ( During)



1106 Missouri ( After)



1106 Missouri ( After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**1035 Placer**  
**May 22, 2013**

**Rational for Work:** Yard exceeds 250 mg/kg arsenic – **1310 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The West Yard is the area to be replaced.
- Excavation of the West yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- The side walk along the west side of the house will be removed as per the owner’s request.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **June 14, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



1035 Placer (Before)



1035 Placer (During)



1035 Placer (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**1228 Farrell**  
**May 22, 2013**

**Rational for Work:** Yard exceeds 250 mg/kg arsenic – **299 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The North Yard is the area to be replaced.
- Excavation of the North yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- The side walk along the west side of the house will be removed as per the owner’s request.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **June 14, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



1228 Farrell (Before)



1228 Farrell (Before)



1228 Farrell (During)



1228 Farrell (During)



1228 Farrell (After)



1228 Farrell (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**709 W. Park**  
**May 22, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **1760 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The South Yard is the area to be replaced.
- Excavation of the South yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **June 14, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



709 W. Park (Before)



709 W. Park (During)



709 W. Park (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**61-67 W. Gold**  
**May 22, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – North Yard **1490 mg/kg**, South Yard **1300mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The South Yard is the area to be replaced.
- Excavation of the South yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- Fill material must be compacted firm.
- The North Yard is the area to be replaced.
- Excavation of the North yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- The pavers will be removed and replaced with a concrete side walk.
- The area east of the building along the alley will be excavated to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of base course.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **June 14, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



61-67 W. Gold ( Before)



61-67 W. Gold ( Before)



61-67 W. Gold ( During)



61-67 W. Gold ( During)



61-67 W. Gold ( After)



61-67 W. Gold ( After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**1033 Mercury**  
**May 22, 2013**

**Rational for Work:** Yard exceeds 1200mg/kg lead – **3990 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The Southeast Yard is the area to be replaced. This is the area south of the elevated deck to Mercury Street. **The tiered flower be/garden to the south will be left in place.**
- Excavation of the Southeast yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of ¾ inch minus gravel will completed the cap surrounding the tiered garden area. 2 inches of top soil and sod will complete the cap of the remaining area.
- Landscape timber will be installed along gravel perimeters.
- The area 24 inches (flower garden) east of the house is an area to be replaced.
- Excavation of the flower garden will be to a depth to accommodate for the 18 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 18 inches of top soil will complete the cap.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **June 14, 2013.**

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan.** Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



1033 W. Mercury ( Before)



1033 W. Mercury ( Before)



1033 W. Mercury ( During)



1033 W. Mercury ( During)



1033 W. Mercury ( After)



1033 W. Mercury ( After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**807 N. Montana**  
**May 22, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – North Yard **1540 mg/kg**, Northwest Yard **1490mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The Northwest Yard is the area to be replaced. This is the area west of the garage and north of the fence.
- Excavation of the Northwest yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on the fabric followed by 2 inches of topsoil and sod to complete the cap of the area 24 feet west of the west garage wall. 8 inches of clean fill shall be placed on the fabric followed by 4 inches of base course to complete the cap of the remaining area of the northwest yard.
- Fill material must be compacted firm.
- The North Yard is the area to be replaced. This is a 5 foot wide area adjacent to the garage and east to Montana Street.
- Excavation of the North yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **June 14, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



807 N. Montana (Before)



807 N. Montana (During)



807 N. Montana (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**411 Virginia**  
**July 31, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **2800 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The North Yard is the area to be replaced.
- Excavation of the North yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **August 30, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



411 Virginia (Before)



411 Virginia (During)



411 Virginia (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**410 S. Excelsior**  
**July 31, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **1660 mg/kg**

**Selection Criteria:** Home with one or more sources of contamination.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The West Yard is the area to be replaced.
- Excavation of the West yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure. The elevation of the finished cap will match the elevation of the existing sidewalk and retaining wall.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inch X 12inch X12 inch pavers. The pavers shall be brick colored and have a brick pattern.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **August 30, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



410 Excelsior ( Before)



410 Excelsior ( Before)



410 Excelsior ( During)



410 Excelsior ( During)



410 Excelsior ( After)



410 Excelsior ( After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**1043 Porphyry**  
**July 31, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead and 250 mg/kg Arsenic– **1320 mg/kg lead and 539 mg/kg arsenic**

**Selection Criteria:** Home with one or more sources of contamination.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The West Yard is the area to be replaced. The west yard is the area south of the rear wall of the house and west of the front sidewalk.
- Excavation of the West yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure. The elevation of the finished cap will match the elevation of the existing sidewalk and retaining wall.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- An area 2 feet wide and the length of the west wall of the house will be capped with **weed barrier fabric and then 2 inches of natural colored wood chips.**
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **August 30, 2013.**

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan.** Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



1043 Porphyry ( Before)



1043 Porphyry ( Before)



1043 Porphyry ( During)



1043 Porphyry ( During)



1043 Porphyry ( After)



1043 Porphyry ( After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**1026 Caledonia**  
**July 31, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **1610 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The North Yard is the area to be replaced.
- Excavation of the North yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- The flower garden adjacent to the northeast wall will be capped with 12 inches of topsoil.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **August 30, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



1026 Caledonia ( Before)



1026 Caledonia ( Before)



1026 Caledonia ( During)



1026 Caledonia ( During)



1026 Caledonia ( After)



1026 Caledonia ( After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**1201 Taft**  
**July 31, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **2450 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The West Yard is the area to be replaced. The West yard is the area from the west wall of the house to the street.
- Excavation of the West yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **August 30, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



1201 Taft (Before)



1201 Taft (During)



1201 Taft (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**419 N. Washington**  
**July 31, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **4850 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The West Yard is the area to be replaced. The West yard is the area from the west wall of the house to the alley.
- Excavation of the West yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod will complete the area west of the house to the existing fence.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by **weed barrier fabric and 2 inches** of base coarse gravel.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **August 30, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



419 N. Washington (Before)



419 N. Washington (Before)



419 N. Washington (During)



419 N. Washington (During)



419 N. Washington (After)



419 N. Washington (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**301 W. Granite**  
**July 31, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **1250 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The North Yard is the area to be replaced.
- Excavation of the North yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- The wood walk way and deck will be removed before excavation and set back in place after excavation.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- The area west of the house will be capped with 4 inches of washed gravel.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **August 30, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



301 W. Granite ( Before)



301 W. Granite ( Before)



301 W. Granite ( During)



301 W. Granite ( During)



301 W. Granite ( After)



301 W. Granite ( After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**207 W. Second**  
**July 31, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **2760 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The North and West Yards are the areas to be replaced.
- Excavation of the north and west yards will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- Fill material must be compacted firm.
- The area around the pine tree will be capped with 4 inches of washed gravel. Landscape timber will be placed to separate gravel and sod.
- The area adjacent to the north wall of the house will be prepped for a concrete pad as per the owner’s request.
- The south sidewalk will be removed as per the owner’s request.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **August 30, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



207 E. Second (Before)



207 E. Second (Before)



207 E. Second (During)



207 E. Second (During)



207 E. Second (After)



207 E. Second (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**305 W. Granite**  
**July 31, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead and 250 mg/kg Arsenic– **5720 mg/kg lead and 599 mg/kg arsenic**

**Selection Criteria:** Home with one or more sources of contamination.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The North Yard is the area to be replaced.
- Excavation of the North yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure. The elevation of the finished cap will match the elevation of the existing sidewalk and retaining wall.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **August 30, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



305 W. Granite (Before)



305 W. Granite (Before)



305 W. Granite (During)



305 W. Granite (During)



305 W. Granite (After)



305 W. Granite (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**307 W. Granite (Lot)**  
**July 31, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **3420 mg/kg**

**Selection Criteria:** Home with one or more sources of contamination.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The North lot is the area to be replaced.
- Excavation of the North lot will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- Landscaping timbers will be installed between the north and south lots.
- **The south lot will not be excavated but will be lifted to match the grade of the north lot using fill dirt only.**
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **August 30, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



307 W. Granite (Before)



307 W. Granite (During)



307 W. Granite (During)



307 W. Granite (During)



307 W. Granite (After)



307 W. Granite (After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**1928 Idaho**  
**October 1, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **1430 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The whole yard is the area to be replaced.
- Excavation of the yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation of the yard, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **October 11, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



1928 S. Idaho ( Before)



1928 S. Idaho ( During)



1928 S. Idaho ( After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**110 Belle**  
**October 1, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg lead, North Yard – **1250** mg/kg

**Selection Criteria:** Home with one or more sources of lead. Attic abatement completed.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The East Yard is the area to be replaced. This area is located east of the house to the property boundary.
- Excavation of East yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of top soil and sod to complete the cap.
- The rock retaining wall along the east perimeter will be removed and replaced with a stack block retaining wall.
- The stack block retaining wall will be constructed as per the manufacturer’s specifications.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **October 11, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day



110 Belle (Before)



110 Belle (Before)



110 Belle (During)



110 Belle (During)



110 Belle (After)



110 Belle (After)

**Exhibit 2**  
**“Storm Water Site Soil Removal Plan”**  
**North side of the 300 Block of Curtis**  
**September 4, 2013**

**Rational for Work:** Soil exceeds 1200 mg/kg lead – **2950 mg/kg**

**Selection Criteria:** Soil erodes into Curtis Street and the BSB Storm Water System.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and replacement and constructing ditches to direct storm water to existing catch basins.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Site Activities**

- The Curtis Street Storm Water site is the area south of the residential properties on Mercury Street, west of the MAC football field and north of Curtis Street including the area between 344 E. Mercury and 356 E. Mercury.
- Excavation of the site will be to a depth to accommodate for the 18 inch cap unless bedrock is encountered and to direct storm water to the existing asphalt ditch along Curtis Street and to the existing catch basin. Two 6 feet wide and 1 foot deep swales will be constructed to direct storm water. (refer to site map)
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 12 inches of clean fill shall be placed on fabric followed by 6 inches of topsoil and Butte hill seed mix will complete the cap for the majority of the site.(refer to site map)
- An alley will be constructed south of the residential properties. The alley will be 16 feet wide starting at the southern boundary of the residential properties. (refer to site map)
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 12 inches of clean fill shall be placed on fabric followed by 6 inches of road mix.
- Two accesses from Curtis Street to the alley will be constructed. (refer to site map)
- After excavation, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 12 inches of clean fill shall be placed on fabric followed by 6 inches of road mix.
- A Concrete retaining wall will be constructed along the west side of 356 E. Mercury, 4 feet west of the residence. The retaining wall will extend from sidewalk along Mercury Street 90 feet south. The wall will be 8 inches thick with a footing that is 2 feet wide. The wall will be constructed to a height that directs storm water away from the property at 356 E. Mercury.
- Boulders will be placed along the perimeters of the areas that are seeded to prevent vehicle traffic from damaging the site. Boulders will be provided by the RMAP.
- Fill material must be compacted firm
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **October11, 2013**.



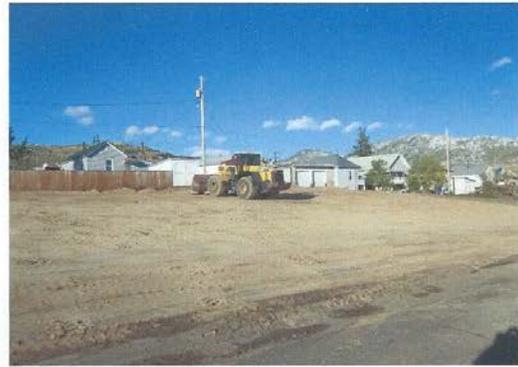
Curtis St. SWS ( Before)



Curtis St. SWS ( During)



Curtis St. SWS ( During)



Curtis St. SWS ( During)



Curtis St. SWS ( During)



Curtis St. SWS ( After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**356 E. Mercury**  
**September 4, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **2370 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The south yard, west perimeter and east perimeter are the areas to be replaced. The south yard is the area from the south wall of the house to the alley.
- Excavation of the south yard will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation of the south yard, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 18 inches of clean fill shall be placed on fabric followed by 4 inches of base course. A 10 foot wide area along the east side will be capped with wood chips. Landscape timbers will be installed to separate the base course and wood chips. The east and west perimeters will be capped with 2 inches of washed gravel.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **October 11, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



356 E. Mercury ( Before)



356 E. Mercury ( During)



356 E. Mercury ( During)



356 E. Mercury ( During)



356 E. Mercury ( During)



356 E. Mercury ( After)

**Exhibit 2**  
**“Yard Specific Removal Plan”**  
**358 E. Mercury**  
**September 4, 2013**

**Rational for Work:** Yard exceeds 1200 mg/kg Lead – **1490 mg/kg**

**Selection Criteria:** Home with one or more sources of lead.

**Project Funding:** B-SB Residential Metals Program

**General Project Description:** Lead Program work will consist of soil removal and yard replacement.

**Reason for Sampling:** B-SB Residential Metals Program request.

**Anticipated Yard Activities**

- The south yard and west yard are the areas to be replaced. The south yard is the area from the south wall of the house to the alley and to the east property boundary. The east yard is the area south of Mercury Street and west of the house.
- Excavation of the south and east yards will be to a depth to accommodate for the 12 inch cap unless bedrock is encountered and to direct water away from the structure.
- After excavation of the south yard, one layer of Geotextile fabric shall be placed as a barrier between existing soil and clean fill. 10 inches of clean fill shall be placed on fabric followed by 2 inches of topsoil and sod.
- Fill material must be compacted firm.
- Geotextile fabric, fill material and top soil will be provided at the Kelley Mine Yard.
- Contaminated soil will be covered and hauled to the Granite Mountain soil repository.
- Contractors shall decontaminate equipment before hauling clean materials.
- Contractor shall purchase and install sod. Sod must be rolled after installation.
- Fences shall be left in place and excavated around.
- Contractors shall repair items they have damaged on or off property. Including roads, sidewalks, retaining walls, fences, sprinkler systems and utilities.

**Completion date:** Activities in this work plan must be completed by **October 11, 2013**.

**Miscellaneous**

Contractor shall provide photo documentation to record the pre-removal, removal and post-removal condition of the property. Contractors will perform work according to a **Site Safety and Health Plan**. Contractors will adhere to time frame for work to be completed and within the terms set forth in the contract agreement with Butte-Silver Bow Health Department. Key elements of the contractors Site Safety and Health Plan should include:

- Equipment in safe operating condition
- Equipment decontamination prior to yard installation
- Traffic barriers and site safety fence erected
- Transportation routes identified and used
- Dust suppression techniques applied
- Worker safety, resident safety, public safety awareness
- Site safety meetings conducted before the start of each day
- Contractors shall adhere to all OSHA requirements



358 E. Mercury ( Before)



358 E. Mercury ( Before)



358 E. Mercury ( During)



358 E. Mercury ( During)



358 E. Mercury ( After)



358 E. Mercury ( After)

**Properties Sampled**  
**(Soil, attic dust, indoor dust, and paint)**  
**January 1, 2013 – December 31, 2013**

<b>1</b>	1306		Adams Ave.
<b>2</b>	1729		Adams Ave.
<b>3</b>	217	N.	Alabama St.
<b>4</b>	1230	W.	Aluminum St.
<b>5</b>	2509		Amherst Ave.
<b>6</b>	1112		Antimony St.
<b>7</b>	1114		Antimony St.
<b>8</b>	1926		Argyle St.
<b>9</b>	2400		Argyle St.
<b>10</b>	2025	S.	Arizona St.
<b>11</b>	1538		B Street
<b>12</b>	1600		B Street
<b>13</b>	11		Buffalo St.
<b>14</b>		E.	Broadway St. (lot)
<b>15</b>	308	W.	Broadway St.
<b>16</b>	309	E.	Broadway St.
<b>17</b>	843	W.	Broadway St.
<b>18</b>	1040	W.	Broadway St.
<b>19</b>	1725		C Street
<b>20</b>	151		Calhoun St.
<b>21</b>	235		Calhoun St.
<b>22</b>	320		Calhoun St.
<b>23</b>	946		Caledonia St.
<b>24</b>	950		Caledonia St.
<b>25</b>	951		Caledonia St.
<b>26</b>	953		Caledonia St.
<b>27</b>	955		Caledonia St.
<b>28</b>	1026		Caledonia St.
<b>29</b>	1101		Caledonia St.
<b>30</b>	1210		Carolina Ave.
<b>31</b>	1212		Carolina Ave.
<b>32</b>	41	W.	Center St.
<b>33</b>	43	W.	Center St.
<b>34</b>	102	E.	Center St.
<b>35</b>	50		Chula Ave.
<b>36</b>	203		Chula Ave.
<b>37</b>	531	S.	Clark St.
<b>38</b>	111		Clear Grit Terr.
<b>39</b>	1000	S.	Colorado St.
<b>40</b>	2312	S.	Colorado St.

**Properties Sampled**  
**(Soil, attic dust, indoor dust, and paint)**  
**January 1, 2013 – December 31, 2013**

<b>41</b>	2224	S.	Colorado St.
<b>42</b>	2336	S.	Colorado St.
<b>43</b>	6	W.	Copper St.
<b>44</b>	10	W.	Copper St.
<b>45</b>	25	W.	Copper St.
<b>46</b>	305	W.	Copper St.
<b>47</b>	10	S.	Crystal St.
<b>48</b>	311	S.	Dakota St.
<b>49</b>	2242	S.	Dakota St.
<b>50</b>	2529	S.	Dakota St.
<b>51</b>		S.	Dakota St. (lot)
<b>52</b>	2601	S.	Dakota St.
<b>53</b>	2615	S.	Dakota St.
<b>54</b>	148	E.	Daly St.
<b>55</b>	158	E.	Daly St.
<b>56</b>	322	W.	Daly St.
<b>57</b>	2902		Dexter St.
<b>58</b>	1128	W.	Diamond St.
<b>59</b>	1617		Dunn Ave.
<b>60</b>	1619		Dunn Ave.
<b>61</b>	2285		East Dr.
<b>62</b>	725		11 <sup>th</sup> Street
<b>63</b>	1700		Elm St.
<b>64</b>	1738		Elm St.
<b>65</b>	2000		Elm St.
<b>66</b>	817		Empire St.
<b>67</b>	1033		Empire St.
<b>68</b>	1308		Evans Ave.
<b>69</b>	3100		Evans Ave.
<b>70</b>	404	S.	Excelsior Ave.
<b>71</b>	410	S.	Excelsior Ave.
<b>72</b>	1720		Farragut Ave.
<b>73</b>	3010		Farragut Ave.
<b>74</b>	1128		Farrell St.
<b>75</b>	1240		Farrell St.
<b>76</b>	1759		Florence Ave.
<b>77</b>		E.	Front St. (lot)
<b>78</b>	2	W.	Front St.
<b>79</b>	834	W.	Galena St.
<b>80</b>	842	W.	Galena St.

**Properties Sampled**  
**(Soil, attic dust, indoor dust, and paint)**  
**January 1, 2013 – December 31, 2013**

<b>81</b>	2128		Gaylord St.
<b>82</b>	61	W.	Gold St.
<b>83</b>	63	W.	Gold St.
<b>84</b>	65	W.	Gold St.
<b>85</b>	67	W.	Gold St.
<b>86</b>	2715		Goodwin St.
<b>87</b>	1712		Grand Ave.
<b>88</b>	2328		Grand Ave.
<b>89</b>	2401		Grand Ave.
<b>90</b>	2625		Grand Ave.
<b>91</b>	219	W.	Granite St.
<b>92</b>	307	W.	Granite St.
<b>93</b>	304	E.	Granite St.
<b>94</b>	318	E.	Granite St.
<b>95</b>	831	W.	Granite St.
<b>96</b>	1223	W.	Granite St.
<b>97</b>	3		Greenwood Ave.
<b>98</b>	202		Greenwood Ave.
<b>99</b>	3303		Hancock St.
<b>100</b>	3036		Hannibal St.
<b>101</b>	2620		Harvard St.
<b>102</b>	2929		Harvard St.
<b>103</b>	735		Hornet St.
<b>104</b>	928		Hornet St.
<b>105</b>	1915	S.	Idaho St.
<b>106</b>	1923	S.	Idaho St.
<b>107</b>	609	S.	Jackson St.
<b>108</b>	1900	S.	Jackson St.
<b>109</b>	1900 ½	S.	Jackson St.
<b>110</b>	508		Jasper St.
<b>111</b>	2021		Johns Ave.
<b>112</b>	1332		Kaw Ave.
<b>113</b>	2900		Kossuth St.
<b>114</b>	30	N.	Lake Dr.
<b>115</b>	45	E.	LaPlatte St.
<b>116</b>	841		Lexington Ave.
<b>117</b>	842		Lexington Ave.
<b>118</b>	843		Lexington Ave.
<b>119</b>	1702		Lowell Ave.
<b>120</b>	1704		Lowell Ave.

**Properties Sampled**  
**(Soil, attic dust, indoor dust, and paint)**  
**January 1, 2013 – December 31, 2013**

<b>121</b>	1909		Lowell Ave.
<b>122</b>	522	N.	Main St.
<b>123</b>	964	N.	Main St.
<b>124</b>	1430	N.	Main St.
<b>125</b>	1600	N.	Main St.
<b>126</b>	2102	N.	Main St.
<b>127</b>	2201	N.	Main St.
<b>128</b>	2217	N.	Main St.
<b>129</b>	2300	S.	Main St.
<b>130</b>	2402	S.	Main St.
<b>131</b>	2437	S.	Main St.
<b>132</b>	2514	S.	Main St.
<b>133</b>	2522	S.	Main St.
<b>134</b>	505	W.	Mercury St.
<b>135</b>	507	W.	Mercury St.
<b>136</b>	523	W.	Mercury St.
<b>137</b>		W.	Mercury St. (lot)
<b>138</b>	37		Missoula Ave.
<b>139</b>	101		Missoula Ave.
<b>140</b>	228	S.	Montana St.
<b>141</b>	230	S.	Montana St.
<b>142</b>	3400	S.	Montana St.
<b>143</b>	2426		Moulton St.
<b>144</b>	2701		Nettie St.
<b>145</b>	940		Nevada Ave.
<b>146</b>	725		9 <sup>th</sup> Street
<b>147</b>	835		9 <sup>th</sup> Street
<b>148</b>	101		O'Neill St.
<b>149</b>	103		O'Neill St.
<b>150</b>	109	W.	Pacific St.
<b>151</b>	113	W.	Pacific St.
<b>152</b>	609	W.	Park St.
<b>153</b>	611	W.	Park St.
<b>154</b>	1050	W.	Park St.
<b>155</b>	1205	W.	Park St.
<b>156</b>	3409		Paxson Ave.
<b>157</b>	1035		Placer St.
<b>158</b>	1037		Placer St.
<b>159</b>	2202		Placer St.
<b>160</b>	2560		Placer St.

**Properties Sampled**  
**(Soil, attic dust, indoor dust, and paint)**  
**January 1, 2013 – December 31, 2013**

<b>161</b>	2665		Placer St.
<b>162</b>	3149		Placer St.
<b>163</b>	3201		Placer St.
<b>164</b>			Placer St. (lot)
<b>165</b>	1012	W.	Platinum St.
<b>166</b>	2307		Princeton St.
<b>167</b>	721	W.	Quartz St.
<b>168</b>	1133		Sampson St.
<b>169</b>	207	W.	Second St.
<b>170</b>	1105	E.	Second St.
<b>171</b>	1115	E.	Second St.
<b>172</b>	835		17 <sup>th</sup> Street
<b>173</b>	517	W.	Silver St.
<b>174</b>	914	W.	Silver St.
<b>175</b>	2114		Silver Bow Blvd.
<b>176</b>	835		6 <sup>th</sup> Street
<b>177</b>	905		6 <sup>th</sup> Street
<b>178</b>	935		6 <sup>th</sup> Street
<b>179</b>	2516		State St.
<b>180</b>	3		Sun View Terr.
<b>181</b>	5		Sun View Terr.
<b>182</b>	1201		Taft St.
<b>183</b>	1430		Texas Ave.
<b>184</b>	825		13 <sup>th</sup> Street
<b>185</b>	506		Transit St.
<b>186</b>	1010	W.	Quartz St.
<b>187</b>	3434		Quincy Ave.
<b>188</b>	850	S.	Washington St.
<b>189</b>	1906	S.	Washington St.
<b>190</b>	1916	S.	Washington St.
<b>191</b>	1923	S.	Washington St.
<b>192</b>	947		Waukesha St.
<b>193</b>	1027		Waukesha St.
<b>194</b>	51		Wells St.
<b>195</b>	55		Wells St.
<b>196</b>	2904		White Blvd.
<b>197</b>	2920		White Blvd.
<b>198</b>	210		Williams St.
<b>199</b>	219		Williams St.
<b>200</b>	223		Williams St.

**Properties Sampled**  
**(Soil, attic dust, indoor dust, and paint)**  
**January 1, 2013 – December 31, 2013**

<b>201</b>	8	E.	Woolman St.
<b>202</b>	8 ½	E.	Woolman St.
<b>203</b>	15	E.	Woolman St.
<b>204</b>	132	W.	Woolman St.
<b>205</b>	1001	W.	Woolman St.
<b>206</b>	1037	W.	Woolman St.
<b>207</b>	1150	W.	Woolman St.
<b>208</b>	3322		Wynne Ave.

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The Residential Metals Abatement Program has completed 720 abatement projects and has sampled 2043\* properties as of December 31, 2013.

\* The number of properties sampled to date is not absolute due to multiple geocodes associated with particular residential properties. The variability of an accurate count of properties sampled is not significant and will be resolved by the RMAP staff in the near future.