Draft Voluntary Remediation Workplan

Former Timber Treatment Products Facility

Santa, Idaho

August 19, 2013

Timber Treat Products CCA Site Remedial Plan

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Timber Treat Products CCA Site Remedial Plan

1.0 Introduction

The Timber Treat Products site is located near Santa Idaho. After first reported to DEQ during summer 2009 the site was preliminary assessed in summer 2009 and a full site investigation was completed in late spring-early summer 2012. The site owner the Broadfoot Trust enrolled in the Voluntary Cleanup Program in fall 2010. The Preliminary Assessment and the Site Investigation attached as appendices provide sufficient information to assess, the horizontal and vertical extent of the CCA contaminants and the risk these contaminant pose to human health and the environment. Based on this information which is provided in synopsis form, sufficient information is available to create a remedial plan that adequately addresses the contaminants.

2.0 Physical Site Information

The Timber Treat Products site is located just south of Santa, Idaho off of State Highway 3 (Figure 1). The site encompasses 0.6 acres (Figure 2). The site is industrial formerly housing a CCA wood treatment site, however wood treatment has not been practiced on the site for nearly twenty years. All the equipment for wood treatment has been removed as scrap metal. Current use of the site is storage and anticipated use is likely storage in support of the adjacent Mallory Cedar Mill. No surface water is located on the site. Groundwater located on the site during the site investigation appears to be a localized small area of perched groundwater. Any regional groundwater is located in the basalt bedrock well below the site.

The site is bounded on the north and east by vacant land owned by the Broadfoot Trust. This separate parcel abuts Highway 3. On the south is the Mallory Brothers Cedar Mill and on the west by the St. Maries Railroad. The St. Maries River is at its closest proximity 150 yards from the site. The nearest residence is one-quarter mile distant. Given the level of economic activity in and around the Santa – Fernwood Area of the St. Maries River Valley, uses of these adjacent properties are not expected to change significantly for many years.

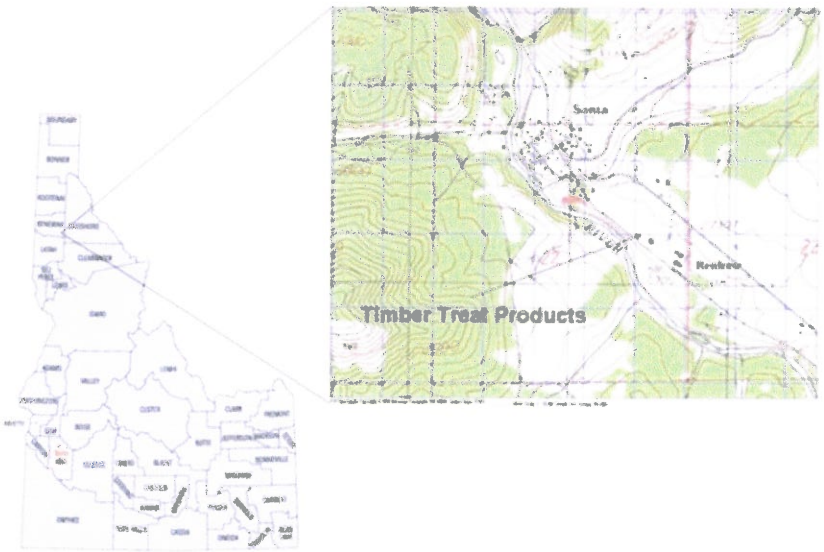

Figure 1. The site is located at 47 08' 43.49" N, 116 26' 25.14" W, also described as Section 22 Township 44 North, Range 1 West.

Figure 2: Timber Treat Parcel with major features and surrounding properties labeled.

2.1 Summary of Site Investigation Data: Two investigations were completed on the site. The initial preliminary assessment (DEQ 2009) collected field portable x-ray fluorescence (FPXRF) and some limited soil samples on which total chrome, copper and arsenic and total contaminant leachate procedure (TCLP) were completed. The more thorough site investigation (Terragraphics 2012b) collected more soil samples for chemical analysis at greater depths and

further from the contamination site. The site investigation also sought groundwater to assess impacts of the contaminants on it.

The preliminary assessment detected copper, chrome and arsenic on site (DEQ 2009). Both FPXRF and soil chemistry data collected demonstrated that the contamination was greatest in and near the treatment shed, especially near the mouth of the retort chamber. Contamination was found along the rail line leading to the drip pad decreasing with distance from the retort. Contaminants were found to the generally west of the treatment shed, while areas to the east and elsewhere on the site had no or quite low concentrations of the contaminants. Soil samples collected failed to leach actionable concentrations of copper, chrome or arsenic when the standard TCLP method was applied. The TCLP result is likely associated with the high clay content (33% in B and C horizons) found in the Reggear clay loam ubiquitously present on the site.

The detailed site investigation completed by Terragraphics (2012b) for DEQ sought to fill the data gaps left by the preliminary assessment. Composite soil samples were collected from eleven areas around the treatment shed at three depths between the surface and 24 inches Three bore holes were drilled to bedrock to assess the presence of groundwater and contaminant penetration. Composite soil samples were collected from a background area at the northeastern edge of the property. Ten perimeter surface soil samples were collected to assess the extent of the contamination. Chrome speciation was assessed on a limited number of samples from areas of high CCA contamination.

Background soil composite samples established copper, chrome and arsenic concentrations in the native clay loam soil of 17.8, 25.6, and 5.6 mg/ kg respectively Arsenic concentration in the background soils exceeded the industrial soil risk value of 1.66 mg/kg (Region 9 Screening Level (RSL) 2012). Soil background exceedence of arsenic risk values is common in North Idaho.

Soil composite samples yielded copper, chrome and arsenic concentrations from ten to many thousand fold those found in background samples. The highest contaminants concentrations are in the treatment shed, and areas west and northwest of the shed. Contaminants were generally highest in the 0-6 inch soil layer and deceased with depth. Contaminants concentrations found in the surface layer of the treatment shed were halved in the 12-24 inch layer. Bore holes were placed at three locations. One location was as close to the location of the retort door as possible. Bedrock was encountered by the drill at 6 to 7 feet. Composite soil samples from the soil column between 2 and 7 feet have lower concentrations of the COCs. Although copper and chrome are found in substantial concentrations, these COCs only rarely exceeded risk thresholds while arsenic uniformly exceeded risk values. Chrome speciation results indicate the chrome is primarily in the less toxic plus-three valiancy, but does exceed industrial RSLs in the treatment shed area. Arsenic is the COC around which remedial efforts will be designed, however any measures used to abate arsenic should be as effective for the two chrome species and copper.

The soil composite results are consistent with release in the treatment shed and migration to the west and north likely by overland flow. Perimeter values demonstrate contaminant levels are quite low at the edge of the property with arsenic 10 to 100 fold its risk threshold. These concentrations are consistent with spread into these perimeter areas as dust blown from areas of higher concentration.

Although moist soil was found, ground water was not encountered in any the bore holes. Ground water did seep into the 2 feet deep holes developed in the treatment shed. Water was also present in the hole left from removal of the CCA storage tank located at the northwest corner of the treatment shed. The ground water found is consistent with a small perch aquifer likely associated with the slow drainage of water shed from the building roof. Water samples collected from the pit were less turbid and likely more representative of this perched ground water. The maximum concentration levels for arsenic and chrome are exceeded in the ground water found.

3.0 Risk Assessment

3.1 Site Conceptual Model: Based on the preliminary assessment and site investigation results a site conceptual model can be developed. The site of CCA contamination is relatively flat with the exception of the rail grade built up to the west-northwest. Native soils are rich in clay content and the surface layer in the developed area has been compacted by heavy equipment operating on the area over a 15 year history. Surface water likely runs off to the west along the natural relief declining towards the St. Maries River. The surface water encounters the rail grades and less compacted soil to the west and north of the treatment shed and infiltrates. As water enters the soil, clay micelles bind the positively charged chrome and copper and negative charged arsenate ions. The binding is sufficiently tight that the weak acid (pH 4) used in the TCLP procedure is incapable of releasing the ions. Rainwater leachate (pH 6.8) would be nearly 1000 times less effective. The declining concentration of the COCs with depth supports this conceptual model of previous CCA transport and fate.

Regional ground water is located within the bedrock layer first encountered at 7 to 10 feet below surface level. A perched ground water feature is located in the immediate vicinity of the shed and is likely attributable to catchment and watershed from the building roof. The perched ground water is contaminated with arsenic and chrome above drinking water standards. It likely drains off during the summer months to the regional groundwater system in the bedrock below the site. It is likely the COCs are bound by the clay before the soil substrate gives way to the underlying basalt. However, the small volume of this perched groundwater from far less than 0.6 acre entering much larger volume the regional system collecting from likely tens of thousands of acres would dilute COCs below levels of concern likely within the confines of the property boundaries and surely before adjacent properties were encountered.

3.2 Completed Pathways: Potential pathways of contamination to human or environmental receptors include 1) surface runoff or ground water contamination entering the St. Maries River; 2) contamination of local ground water and subsequent ingestion of that ground water; and 3) ingestion of dust particles by humans or wildlife by inhalation or from hand to mouth contact resulting in liberation of the COCs in the low pH (1) acid of the stomach. No other risk pathways are apparent.

Surface runoff to the St. Maries River is an incomplete pathway. The rail grades appear to have barred passage of surface runoff and impounded the water for infiltration to the ground water system. The relatively low perimeter concentrations observed support this conclusion. Ground water leaving the site no doubt reaches the St. Maries River, but as part of the regional ground water flow. The amount of ground water from this small area (0.6 acres) would not have sufficient COCs to impact the regional ground water system collecting water over the broader valley nor would that regional discharge locally affect a river discharging from the 240 square

mile watershed above Santa. Even if the soil clay micelles were not binding the COCs, the dilution would be sufficiently large to dilute the COCs below levels of concern.

Although the groundwater pathway is likely incomplete regionally due to soil clay uptake and dilution, it is complete locally. The perched ground water as represented by the water in the tank basin is above drinking water standards for arsenic and chrome. This groundwater could conceivably be used as a potable water source. The groundwater pathway must be addressed by remedial activities. Inhalation and/or ingestion of dust particles from the site that contains the COCs particularly arsenic are complete pathway.

3.3 Streamlined Human Health Risk Assessment:

3.3.1 Aresnic: Arsenic levels are highest at the surface soil layer. Dust from this layer develops during dry periods and is an inhalation hazard. The surface also contaminates footwear and likely hands. Footwear can move the contaminant to areas touched and any hand contamination can be transferred to the mouth causing ingestion. The surface arsenic concentrations are orders of magnitude above background for the area (5.3 mg/kg) and the accepted industrial soil risk level (1.66 mg/kg) (Region 9 RSL 2012). Arsenic inhalation/ingestion is a risk on the site that must be addressed by remedial action

Ingestion of arsenic in ground water is a more remote risk on the site. The existing groundwater appears to be a perched system of limited seasonal volume. However, arsenic concentrations in the water is well above the drinking water maximum concentration level (MCL) (IDAPA 58.01.08) of 10 micrograms per liter and could conceivably be used and ingested. Groundwater ingestion is a risk on the site that must be addressed.

3.3.2 Copper and Chrome: Copper and chrome generally do not exceed risk standard (RSLs) even though concentrations are present that are orders of magnitude above the background concentrations. The chrome plus six species does exceed the RSLs in the treatment shed area. Since copper and both chrome species are bound to the soil in a manner similar to arsenic, any action that addresses arsenic will address the copper and chrome present. Chrome exceeds the drinking water MCL of 50 micrograms per liter in the perched ground water, while copper does not exceed the 1.3 milligrams per liter standard. Any measure that addresses arsenic in the ground water should address chrome as well.

3.4 Streamline Ecological Risk Assessment: Wildlife could be affected by the ingestion and inhalation pathways. Soil surface concentrations of arsenic are in many locations above the accepted risk value for wildlife of 222 mg/kg (CH2M Hill 2001). Soil chrome III, chrome VI, and copper have risk thresholds at level II screening at 3.4x e^5, 410, and 390 mg/kg, respectively, for terrestrial wildlife (Table 1, ODEQ, 1998). Copper and chrome concentrations above these risk levels are present at the surface in locations of high CCA contamination on the property. These metals are a risk to local wildlife using the area. It is possible for the local wildlife to use the ground water as expressed in the CCA storage tank pit. The arsenic and chrome concentrations of the pit water are well above the arsenic and chrome MCLs. The MCLs would be as protective of wildlife as of humans. If the pit was filled the pathway would be disrupted. It is not likely the pathway to surface water would exist due to the large dilutions by unaffected

water. Remedial measures that address human health risk concerns should adequately address ecological risk concerns.

3.5 Risk Standards: The background arsenic concentration is higher that the industrial soil risk threshold of 1.66 mg/kg. The background value of 5.6 mg/kg must be achieved and maintained for surface arsenic concentration by any remedial plan to be protective as possible of human health. This standard should protect wildlife if a clean layer of one-foot is established and maintained. Any removal or capping will bring chrome and copper concentrations to their respective background concentrations. Groundwater must either be remediated to the MCL of 10 mg/L of arsenic and 50 ug/L fof chrome or use of groundwater by humans and wildlife precluded.

4.0 Proposed Remedial Work

The arsenic, chrome and chrome risks from soil would be remediated on the property by creation of a barrier. The ground water risk of ingesting arsenic and chrome would be addressed with an environmental covenant restricting groundwater use from the shallow perched aquifer and filling the pit remaining from removal of the CCA reservoir tank. This suite of remedial actions was selected by the Broadfoot Trust from the *Timber Treat Products Remediation Plan Analysis* which is attached as an appendix.

4.0.1 Cumulative Soil Samples: Two samples of background soil will be collected from the borrow area that will be used to cap the designated areas 1, 2, 3, 4, 8, 9, 10 and 11 of figure 3. Each sample will be collected into a clean, clearly labeled bag. Each sample will be collected while wearing rubber gloves, using a new clean plastic spoon to place soil in a new clean plastic bag. Samples will cooled to 4*C and stored 4*C until analysis.

4.1 Barrier Placement: A barrier of soil barrowed from the adjacent 21 acre property to the north east of the 0.6 acre Timber Treat Products parcel will be placed. The borrow area is owned by the Boradfoot Trust. The soil from this area is the same Reggear clay loam found on the site with same background, arsenic, copper and chrome concentrations. Areas 1, 2, 3, 4, 8,9,10 and 11 of figure 3 will be capped. The cap would cover approximately 53% of the parcel. The cap will consist of a layer of geotextile to mark the lower boundary of the cap material and the upper boundary of contaminated soils. Placement of geotextile will assist identification of the boundary should opening of the cap be required in further site management. One to one and a half feet of clean borrowed soil would be placed on the geotextile and re-vegetated in non-traffic use area with grasses. Areas trafficked by vehicles will be compacted and basalt shot rock added as necessary to bear vehicle weight.. A cement slab may be installed over the cap inside the treatment shed. An environmental covenant would be placed on the property requiring cap maintenance and the proper re-interment of any soils excavated from beneath the cap during construction or utility placement activities.

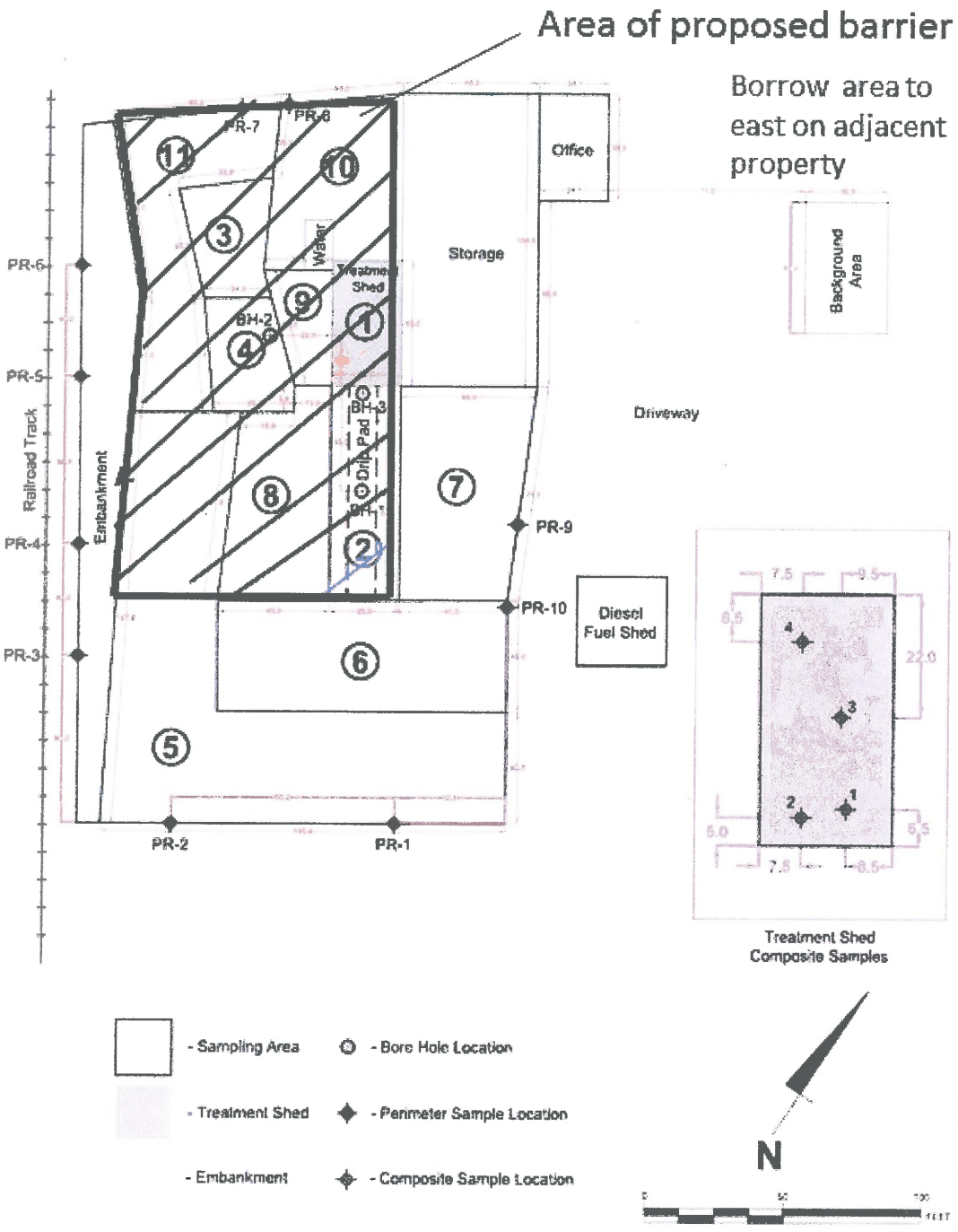

Figure 3. Location of the prosed barrier over CCA contamination at the Timber Treat Products Site

4.2 Ground Water Management: The pit remaining from the removal of the CCA reservoir tank will be filled with borrow area soil to preclude any use of the surface expression of the perched ground water by wildlife. An environmental covenant will be placed on the parcel that precludes the use of shallow groundwater. Since water service is from the Santa water system, placement of the covenant would have no deleterious effect on property value.

5.0 Proposed Work Schedule

Work on the site would begin the last week of August 2012. The necessary earth moving equipment and geotextile would be mobilized to the site on August 27th. Pit filling, geotextile and soil placement is expected to take at most the three days from of August 28-30th. Grass seed distribution and de-mobilization from the site would occur on August 31st. Using models supplied by DEQ, the Broadfoot Trust lawyer would develop the required environmental covenants to maintain and if necessary restore the cap and prohibit shallow ground water use during a mid-August through September time period. Once these documents are signed, the Trust will develop a site closure report in October 2012.

6.0 Supporting Documentation

The Preliminary Assessment of the site is attached (IDEQ 2009). It includes much of the supporting material requested. This includes:

- Physical characteristics of the site facilities and contiguous areas – pages 6-10 and 12.
- Locations of any wells on site or within one-half mile – page 10
- Operational history of the facility – page 7
- Some information on methods and results from investigation of releases of CCA – page 11 and Timber Treatment Products Site Investigation QAPP
- Some sampling results and other characteristics of soils - pages 13-15 and Timber Treat Products Site Investigation Report
- Available information on the environmental regulation and compliance history – pages 7 and 20.

The Timber Treatment Products Site Investigation QAPP is attached to provide the supporting sampling and analysis plan and quality assurance plan information (Terragraphics 2012a.). The Timber Treat Products Site Investigation Report is attached to provide the additional sampling results characterizing soils and groundwater (Terragraphics 2012b). The legal description of the property is included in figure 1 of the remedial plan and a risk evaluation included as a logical piece of the remedial plan.

7.0 References

CH2M Hill 2001. Ecological Risk Assessment for Operable Unit 3 Bunker Hill Metallurgical Superfund Site. Idaho.

EPA 2012. Region 9 Screening Levels. http://www.epa.gov/region9/superfund/prg/rsl-table.html

IDAPA 58.01.08 Idaho Rules for Public Drinking Water Systems
http://adminrules.idaho.gov/rules/current/58/0108.pdf

IDEQ 2009. Timber Treat Products Facility Santa Idaho Preliminary Assessment Report. 24p

ODEQ 1998. Guidance for Ecological Risk Assessment: Levels I, II, III, IV. Oregon Department of Environmental Quality, Waste Management & Cleanup Division, Cleanup Policy & Program Development Section, 811 SW 6th Avenue, Portland, Oregon 97204. p.34.

Terragraphics 2012a. Quality Assurance Project Plan for a Site Investigation at Former Timber Treatment Facility in Santa, Idaho.14p

Terragraphics 2012a. Quality Assurance Project Plan for a Site Investigation at Former Timber Treatment Facility in Santa, Idaho. 24p

Terragraphics 2012b. Site Investigation Report: Former Timber Treatment Facility in Santa, Idaho. 22p

STATE OF IDAHO
DEPARTMENT OF
ENVIRONMENTAL QUALITY

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C.L. "Butch" Otter, Governor
Curt Fransen, Director

October 30, 2012

Linda Walcker, Trustee
Vergie May Broadfoot Trust
51203 Fruitvale Road
Milton-Freewater, Oregon 97862

Re: Timber Treat Products Voluntary Remediation Workplan Comments

Dear Ms. Walcker:

Thank you for your September 14, 2012 submittal of a draft Voluntary Remediation Workplan (Workplan) for the former Timber Treat Products Facility in Santa, Idaho. The Department of Environmental Quality (DEQ) has reviewed the draft Workplan and, while supporting the general remedial strategy outlined, has determined that the draft Workplan is incomplete. DEQ has provided the attached comments which identify those areas which need clarification or further information in any future revision of the Workplan. There are also a number of editorial comments which should also be addressed. Please provide a revised Workplan addressing these comments by December 14, 2012. Once DEQ determines the Workplan is complete, the Voluntary Clean-up Program requires that the Workplan must go through a public comment process which is typically for a period of thirty (30) days. Further revisions to the Workplan may occur in response to the public comment process depending on the nature of comments received.

If you would like to discuss these comments we would be happy to meet with you by telephone or face-to-face. You can contact me at any time at (208) 373-0246 or via email at bruce.wicherski@deq.idaho.gov.

Thank you,
Bruce Wicherski

Bruce Wicherski
Voluntary Cleanup Program Manager
Waste Management and Remediation Division

BW:tg \timber treatment products workplan review letter.doc

cc: Orville Green, DEQ
Michael McCurdy, DEQ
Geoff Harvey, DEQ
Dan Redline, DEQ
Susan Hamlin, Deputy Attorney General

Comments

- Remediation Goals.

  DEQ would accept the concentrations of arsenic (As), chromium (Cr), and copper (Cu) measured in the soil from the adjacent Broadfoot property during the Terragraphics investigation as remediation goals for the cleanup (6, 33, and 21 mg/kg, respectively from 1-2 feet below ground surface). Those values appear to be consistent with published background concentrations from similar areas, such as the values for the Spokane Basin (9, 18, and 22 mg/kg for arsenic, chromium, and copper) obtained by the State of Washington in their statewide background study (WA DOE, 1994; Publication 94-115).

  The workplan proposes that risks to receptors from impacted groundwater be mitigated by a prohibition on the use of groundwater implemented through an environmental covenant placed on the property. This would be acceptable to the Department.

- Proposed Remediation.

  DEQ would accept a cap of clean fill of 1 to 1 ½ feet thick, over a geotextile base, using soil obtained from the adjacent Broadfoot Trust property with the following requirements:

  1. Details must be provided regarding how the cap will be placed (geotextile placement, soil preparation, number of lifts, method of compaction, compaction goal, etc.)
  2. Details as to how the final cap thickness will be measured.
  3. Details must be provided as to how the cap will be installed and maintained so as to minimize rutting, subsidence, and erosion from vehicle traffic and surface runoff.
  4. The cap must cover, at a minimum; the areas sampled which exceed the remediation goals. Areas of the property not capped should be sampled to demonstrate a cap is not needed.
  5. The cap must be graded to ensure proper runoff from the site, prevention of ponding, and blending with adjacent uncapped areas.
  6. Identification of the area to be used as borrow soil and how borrow soil sampling will take place.
  7. Periodic testing of the borrow soil used in the cap prior to placement to ensure that it meets remediation goals and is consistent with the background concentrations measured earlier by Terragraphics. A recommendation for sampling frequency for the expected volume of soil needed for the cap would be four samples for the first 1000 cubic yards and one sample per each additional 500 cubic yards.
  8. Details must be provided about which areas will be revegetated and the revegetation effort itself (seed mix, seed bed preparation, seeding/germination/establishment methods, etc.)

- Quality Assurance Project Plan (QAPP). Reference to the QAPP completed for this site for the site characterization work completed by Terragraphics is not specific or sufficient to support the sampling and analysis needed for the work proposed in the Workplan. As mentioned in our August 27, 2012 letter, a section of the Workplan should describe the sampling and laboratory analytical methods, sampling frequency, and other procedures that will document that the tasks and goals of the Workplan were accomplished and achieved. For this remedial project, the primary sampling activities are the borrow soil sampling and soil sampling of any uncapped areas to demonstrate that the remedial goals were achieved. Borrow soil sampling should also include analysis for Cr+6.

- Environmental Covenant. The remedy selected is an engineered barrier of clean soil plus a geotextile base. The restrictions that should be included in the covenant include:

    1. The allowable land use should be restricted to non-residential unless it can be demonstrated that the soil concentrations for relevant chemicals of concern (COCs) meet residential criteria (including Cr+6).
    2. Groundwater use should be prohibited until current or future owners can demonstrate that site groundwater meets remediation goals for groundwater.
    3. There should be no disturbance/excavation of the cap and/or contaminated soil below the cap without first providing a plan for review and approval by DEQ addressing any contaminated soil generated and repair of the cap and,
    4. There should also be regular inspection of the cap, conducted in accordance with an operation and maintenance plan, to ensure the cap continues to function as intended and any necessary repairs are completed.

The DEQ can assist you in developing an environmental covenant which addresses these issues.

Editorial Comments

- Global replacement of "chrome" with "chromium" throughout the entire document.
- A site investigation data table or summary table of results would be helpful in Section 2.1. Might want to reference the Terragraphics figure showing the site layout and data for sample locations and include this figure as an attachment. It would also be helpful to identify the location of the background samples relative to the other sample locations.
- Page 5. 4th paragraph, "Chrome speciation results indicate…" This sentence is communicating two disparate thoughts. If Cr^{3+} exceeds EPA industrial regional screening levels (RSLs), does it really matter that it is less toxic than other Cr species?
- Section 3.2. Page 7. The last sentence of the last paragraph in this section should be reworded. Perhaps something like….The potential for inhalation and or ingestion of site dust particles contaminated with chromium, copper, and arsenic represents a completed pathway.

- Section 3.5. The maximum contaminant level (MCL) for arsenic is shown as mg/l instead of ug/l.
- Section 4.0.1: Cumulative Soil Samples…what is a cumulative sample?
- Section 5.0. Dates will need to be adjusted.
- References and citations to the EPA Region 9 Regional Screening Levels should be changed. Regional Screening Levels from Regions 3, 6, and 9 have been consolidated into one set of tables and are provided at the following website: http://www.epa.gov/reg3hwmd/risk/human/rb-concentration_table/
- The reference to the Idaho rules for public drinking water systems for evaluating ground water risk should be changed to the Idaho ground water quality rules (IDAPA 58.01.11). The ground water standard cited for chromium (50 ug/l) is incorrect. The correct value is 100 ug/l.

Proposed Remediation Addendum

March 22, 2013

In May of 2012, TerraGraphics Environmental Engineering, Inc., of Moscow, ID, completed a site investigation of the former Timber Treat Products (TTP) wood treatment facility in Santa, Idaho, to determine to what extent, vertical and horizontal, copper, chromium and arsenic (CCA), chemicals that may pose a risk to human health and wildlife, exists in the soil. The result of this site investigation indicated CCA concentrations in the soil exceed Idaho Initial Default Target Level (IDTL). These chemicals may pose a risk to human health and wildlife.

As with a Northern Idaho Superfund site, a barrier is required to isolate .83 acres plus, where it has been proven to have higher than acceptable levels of CCA. When the barrier is in place and covered with 1 – 1.5 ft. of clean, and compacted, barrier soil it seems unnecessary to the Trust to place a non-residential restriction on the site.

Although two samples reported relatively high concentrations of total arsenic, TCLP results for the four samples were less than the arsenic RCRA criterion of 5 milligrams per liter (mg/l). Copper and chromium exceed risk values where arsenate concentrations are also high in the treatment shed, but do not exceed risk values where arsenate concentrations are low (outside the treatment shed), but still exceed risk values. The soil at the former TTP site has up to 33% clay content which is known to bind chemicals such as copper, chromium and arsenate. With a barrier in place, and 1 – 1.5 ft. of clean soil placed on top of it, these chemicals cannot migrate through the soil. Gravity and tight binding of the contaminants by the clay should prevent them from moving to the soil surface. It is expected that similar to the arsenic, chromium and copper also are tightly bounded due to the high clay content of the surficial soils. Arcadis Site Investigation Work Plan 3.2, p7.

The Broadfoot Trust requested Voluntarily Cleanup Remediation (VCR) of the site, which was granted by IDEQ.

Equipment provided by Vern Walcker for the purpose of the VCR project at the former Timber Treat Products site will be:

1. 1 Case 580 SK backhoe

2. 1 966C wheel loader

3. 1 4 cubic yard buck and forks

4. 1 10' blade

Prior to preparing the site for placing the geotextile fabric, the lean-to shed will be removed. The site will be prepared to allow the geotextile fabric to be placed flat on the ground surface, and then borrow soil will be placed over the barrier to cover an 0.83 acre area. Borrow soil will be placed approximately 20 ft. beyond and the border around the test site area. The borrow soil that is planned for the site cover is 96 feet northeast of the storage shed. This soil was tested, to determine the local background level of copper, chrome and arsenic by TerraGraphics, (QAPP 8.13). Result of the testing is located in Table one of the report. Therefore, the Trust finds it unnecessary and resists re-sampling the barrier soil which will be borrowed from the site investigation background test site. Borrow soil from the tested background area, will be used to cover the areas indicated in Sampling Area Locations. TerraGraphics Final, Site Investigation Report, Figure 2, p.4

Conventional lath stakes with measurements marking off 1 foot and 1 ½ feet respectively will be used to mark the level of the fill placed on the prepared site to assure fulfillment of the requirement. Fill on the northwest side will be tapered downward toward the ditch along the old rail grade. Otherwise the ground is essentially flat. All barrier soil will be placed with the 966C wheel loader. Soil compaction will be achieved by driving the 966C wheel loader, weighing 18.5 ton, over the filled surface area while the 3-4 cubic yard bucket is loaded. Estimate total weight is 24 – 25 ton. Barrier soil expected to be used is approximately 2,000 cu. yd., (43,560 sq. ft./x 0.83 acre x 1.5 ft./27 cu. ft./cubic yd.)

Final grading will be done with a wheel loader. The area covered with borrow soil will be scarified and seeded with native sod forming Fescue grass seed. The Trust assumes that IDEQ will have a representative on site to oversee the remedial work at the former TTP site to assure that the Trust follows the remedial plan.

The geotextile fabric, and clean soil from the tested background, will create a barrier that will prevent users from coming in contact with contaminated soil. If the site should be disturbed the geotextile fabric and soil can be placed back to its original condition. Use of groundwater will be prohibited until it can be demonstrated that site

groundwater meets remediation goals for groundwater. The Trust agrees to place an environmental covenant on the Timber Treat Products parcel to include prohibition of shallow groundwater use as well as maintenance and replacement of the barrier should it ever become necessary to breach the barrier.

Workplan Addendum #2

August 18, 2013

Timber Treatment Products VCR

As with the North Idaho Superfund site, a barrier is required to isolate .83 acres on the former Timber Treat Products site where is has been proven to have higher than acceptable levels of Copper, Chromium and Arsenic.

7 days	Soil from the tested and approved background area will be stockpiled in preparation for placing it on the geotextile fabric creating a barrier.
2 – 3 days	To place geotextile fabric on the ground surface.
2 – 3 days	To place conventional stakes with measurements marking of 1 and 1 ½ feet respectively that will be used to mark the level of the fill placed on the prepared site to assure fulfillment of the requirement.
5 days	To place barrier soil with a Caterpillar 966C wheel loader, weighing 18.5 ton. Soil will be compacted as the 966C wheel loader drives over the soil while placing the soil on geotextile fabric.
2 days	The area covered with borrow soil will be scarified and seeded with native, sod forming, Fescue grass seed.

The site work time frame above is at best an approximate but will be held to as close as possible barring any unforeseen problem.

Upon completion of the barrier, the inspection, maintenance and repair requirements needed to assure the barrier remains functional will be incorporated into the environmental covenant. Use of shallow groundwater through the barrier will be prohibited until it can be demonstrate that site groundwater meets remediation goals for groundwater.

Terragraphics Inc., of Moscow, ID will be sampling, and testing the soil samples from the borrow soil to assure that it meets criteria of the work plan.Terragraphics Inc., will be working through a Brownfields sponsored Assessment project.