Tribal Unit-45
(Riverside Lumber Co)
Environmental Assessment and Redevelopment Options

Nez Perce Tribe Water Resources Division
May 7, 2014
Brownfields Tribal Response Program

- Brownfields Definition: “A former industrial or commercial site where future use is affected by real or perceived environmental contamination”
- Cleaning up communities and advancing sustainable development
- Providing meaningful opportunities for public participation
CERCLA/Superfund Liability

- Joint and Several Liability for contamination
- Polluter Pays!
- Innocent Landowner Provisions
- Law requires prospective purchasers, adjacent property owners to conduct “All Appropriate Inquiries (AAI)” before purchasing property. You buy it, you own it!
- EPA can seek cost recovery for $ spent to cleanup property
- AAI usually satisfied by conducting a Phase I Environmental Site Assessment (ESA)
Site History and Current Use

- Richardson/Riverside Sawmill (1943-1982)
- Orofino Gun Club trap range (1985-1995)
- Fireworks stands (1987-present)
- Fisheries office (present)
- Teweeppu community center (present)
Phase I ESA and TBA
Progress to Date

- Conducted a Phase I Environmental Site Assessment (ESA) to identify potential concerns
- EPA funded a Targeted Brownfields Assessment (TBA) in 2009
- Conducted soil sampling under Transformer House for PCBs
- Conducted soil vapor survey around creosote treatment area
- Conducted Geophysics to search for UST
- Drilled and sampled 4 monitoring wells
Fireworks Area: Penta and Perchlorate in soil and groundwater
Trap Range Results

- Lead shot present across the River
- Poor access on steep rocky hillside
- Shot is chemically corroded—possibly contaminating river?
- Not assessed—remediation options are limited by rugged site conditions
Creosote Treatment Area 2013
Creosote Sample Locations

TU 45 CREOSOTE INVESTIGATION CONDUCTED 08/06/13
REMAINING FOOTPRINT AND SAMPLING LOCATIONS

- 2' SQ X 3'9" CONCRETE PIERS (TYP)
- 8' SQ X 3' OVERBURDEN OF CONCRETE VAT/OUT
- 8' X 3' CONCRETE STEM WALL (TYP ALL)

- 21.0'
- 13.0'
- 6.0'

CONCRETE FLOOR

1. 4' BELOW GRADE, CENTER BOTTOM OF TRENCH
2. 4' BELOW GRADE, CENTER BOTTOM OF TRENCH
3. 4' BELOW GRADE, CENTER BOTTOM OF TRENCH
4. 4' BELOW GRADE, CENTER BOTTOM OF TRENCH
5. 3'5" BELOW GRADE, CENTER BOTTOM OF TRENCH
6. 3'5" BELOW GRADE, CENTER BOTTOM OF TRENCH
7. 2'3" BELOW GRADE, CENTER BOTTOM OF TRENCH
8. 3'5" BELOW GRADE, CENTER BOTTOM OF TRENCH
## Creosote Soil Chemical Exceedences

<table>
<thead>
<tr>
<th>Parameter</th>
<th>IDTL (mg/kg)</th>
<th>E1</th>
<th>E2</th>
<th>E3</th>
<th>S1</th>
<th>S2</th>
<th>S3</th>
<th>S4</th>
<th>S5</th>
<th>4' - 8 ft</th>
<th>8' - 12 ft</th>
<th>12' - 15 ft</th>
</tr>
</thead>
<tbody>
<tr>
<td>2,4-Dimethylphenol</td>
<td>0.038</td>
<td>0.0945</td>
<td>0.001</td>
<td>0.106</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2-Methylnaphthalene</td>
<td>3.310</td>
<td>0.344</td>
<td>0.451</td>
<td>1.11</td>
<td>0.00</td>
<td>0.0719</td>
<td>0.188</td>
<td>0.0579</td>
<td>0.0882</td>
<td>0.14</td>
<td>1.5</td>
<td>530</td>
</tr>
<tr>
<td>3+4-Methylphenol</td>
<td>0.141</td>
<td>0.128</td>
<td>0.0728</td>
<td>0.155</td>
<td>0.00</td>
<td>0.0727</td>
<td>0.0773</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>52.264</td>
<td>0.232</td>
<td>0.13</td>
<td>0.315</td>
<td>0.00</td>
<td>0.17</td>
<td>0.231</td>
<td>0.368</td>
<td>0.109</td>
<td>0.31</td>
<td>8.9</td>
<td>370</td>
</tr>
<tr>
<td>2-Methylnaphthalene</td>
<td>3.310</td>
<td>0.344</td>
<td>0.451</td>
<td>1.11</td>
<td>0.00</td>
<td>0.0719</td>
<td>0.188</td>
<td>0.0579</td>
<td>0.0882</td>
<td>0.14</td>
<td>1.5</td>
<td>530</td>
</tr>
<tr>
<td>3+4-Methylphenol</td>
<td>0.141</td>
<td>0.128</td>
<td>0.0728</td>
<td>0.155</td>
<td>0.00</td>
<td>0.0727</td>
<td>0.0773</td>
<td>0.00</td>
<td>0.00</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>52.264</td>
<td>0.232</td>
<td>0.13</td>
<td>0.315</td>
<td>0.00</td>
<td>0.17</td>
<td>0.231</td>
<td>0.368</td>
<td>0.109</td>
<td>0.31</td>
<td>8.9</td>
<td>370</td>
</tr>
<tr>
<td>Chrysene</td>
<td>33.366</td>
<td>20.1</td>
<td>19.4</td>
<td>17.3</td>
<td>0.114</td>
<td>35.9</td>
<td>25.2</td>
<td>19.6</td>
<td>8.75</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Dibenzo[a,h]anthracene</td>
<td>0.042</td>
<td>4.5</td>
<td>3.5</td>
<td>2.99</td>
<td>0.00</td>
<td>7.95</td>
<td>3.93</td>
<td>3.36</td>
<td>1.16</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Indeno[1,2,3-cd]pyrene</td>
<td>0.422</td>
<td>9.34</td>
<td>7.74</td>
<td>6.54</td>
<td>0.0713</td>
<td>15.1</td>
<td>7.93</td>
<td>6.87</td>
<td>2.42</td>
<td>6</td>
<td>0.5</td>
<td>6.9</td>
</tr>
<tr>
<td>Naphthalene</td>
<td>1.144</td>
<td>0.765</td>
<td>0.981</td>
<td>1.77</td>
<td>0.00</td>
<td>0.00</td>
<td>0.214</td>
<td>0.00</td>
<td>0.165</td>
<td>0.26</td>
<td>0.64</td>
<td>770</td>
</tr>
<tr>
<td>Phenanthrene</td>
<td>79.042</td>
<td>1.25</td>
<td>1.77</td>
<td>2.78</td>
<td>0.00</td>
<td>0.5</td>
<td>1.17</td>
<td>0.531</td>
<td>0.29</td>
<td>1.8</td>
<td>32</td>
<td>890</td>
</tr>
</tbody>
</table>
Soil Vapor Results - Toluene
Monitor Well Drilling
December 2013
Groundwater and Soil Sampling
## Monitor Well Sample Results

<table>
<thead>
<tr>
<th>Chemical</th>
<th>MW1</th>
<th>MW2</th>
<th>MW2 (duplicate)</th>
<th>MW3</th>
<th>MW4</th>
<th>Water WELL</th>
<th>Units</th>
<th>Action Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>Diesel</td>
<td>&lt;0.63</td>
<td>&lt;0.63</td>
<td>&lt;0.63</td>
<td>&lt;0.63</td>
<td>&lt;0.63</td>
<td>ND</td>
<td>mg/L</td>
<td>NL</td>
</tr>
<tr>
<td>Gasoline</td>
<td>&lt;0.25</td>
<td>&lt;0.25</td>
<td>&lt;0.25</td>
<td>&lt;0.25</td>
<td>&lt;0.25</td>
<td>ND</td>
<td>mg/L</td>
<td>NL</td>
</tr>
<tr>
<td>Lube Oil</td>
<td>&lt;0.63</td>
<td>&lt;0.63</td>
<td>&lt;0.63</td>
<td>&lt;0.63</td>
<td>&lt;0.63</td>
<td>ND</td>
<td>mg/L</td>
<td>NL</td>
</tr>
<tr>
<td>Perchlorate</td>
<td></td>
<td></td>
<td>5.21</td>
<td>16.9</td>
<td>16.9</td>
<td>16.4</td>
<td>2.04</td>
<td>0.516 µg/L</td>
</tr>
<tr>
<td>PCB (total)</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>µg/L</td>
<td>NL</td>
</tr>
<tr>
<td>Acenaphthene</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>5.35</td>
<td>ND</td>
<td>µg/L</td>
<td>625.7</td>
</tr>
<tr>
<td>bis(2-Ethylhexyl)phthalate</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>0.55</td>
<td>ND</td>
<td>µg/L</td>
<td>6.0</td>
</tr>
<tr>
<td>Butylbenzylphthalate</td>
<td>0.56</td>
<td>0.56</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>µg/L</td>
<td>2085.7</td>
</tr>
<tr>
<td>Carbazole</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>2.16</td>
<td>ND</td>
<td>µg/L</td>
<td>NL</td>
</tr>
<tr>
<td>Dibenzofuran</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>14.3</td>
<td>ND</td>
<td>µg/L</td>
<td>41.7</td>
</tr>
<tr>
<td>Fluoranthene</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>0.61</td>
<td>ND</td>
<td>µg/L</td>
<td>417.1</td>
</tr>
<tr>
<td>Methyl ethyl ketone (MEK)</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>ND</td>
<td>5.06</td>
<td>2.63</td>
<td>ND</td>
<td>6257.1</td>
</tr>
</tbody>
</table>
Redevelopment Ideas

- Recreational-convenience store, tackle shop, cabin rentals, boat ramp
- Assisted Living Facility-8 units, 3000 sq ft
- Enhance Teweepee Community Center
- Maintain Orofino Fisheries Offices
1. Four Directions Lodge
2. Amphitheater
3. Campsite Areas
4. Cabins
5. Bait & Tackle Shop
6. Boat ramp
7. Pond (former Mill Pond)
8. Wetlands conjunct pond
9. Inlet creek to pond
10. Outlet creek from pond
11. Reclaimed/upgraded basketball court
12. Children’s playground
13. Open/athletic fields - ceremonial grounds - market/events areas - overflow parking
14. Lodge parking
15. Truck, boat & trailer parking
16. Sand family swimming beach
17. Island with dock/bridge
18. Highway entrances
19. Interpretive nature trails
20. Sun Plaza in front of lodge

Vision concepts for reclamation of approx. 36 acre brownfield site, formerly known as the Riverside-Richardson Sawmill located east of Orofino ID
Redevelopment Challenges

- Source of clean drinking water
- Sewage disposal on gravel bar
- Winter ice/reduced river access
Questions?