Senate Committee on Environment and Public Works and its Subcommittee on Water and Wildlife

Joint Hearing “Natural Gas Drilling, Public Health and Environmental Impacts”

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http://www.chec.pitt.edu
http://www.fractracker.org
PBT-Josephine Facility Outfall on Blacklick Creek and Kriging Interpolation of Instream Total Dissolved Solids and Salinity
View South of Pittsburgh, PA

Proximity of Schools to Marcellus Wells and Marcellus Violations

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## 2010 Oil and Gas Act Citations by Well Type Issued by the PA DEP

<table>
<thead>
<tr>
<th>Violation Description</th>
<th>Non Marcellus</th>
<th>Marcellus</th>
<th>Unknown Formation</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Failure to minimize accelerated erosion, implement E&amp;S plan, maintain E&amp;S controls. Failure to stabilize site until total site restoration under OGA Sec 206(c)(d)</td>
<td>88</td>
<td>111</td>
<td>97</td>
<td>296</td>
</tr>
<tr>
<td>Failure to plug a well upon abandonment</td>
<td>85</td>
<td>8</td>
<td>161</td>
<td>254</td>
</tr>
<tr>
<td>Discharge of pollutual material to waters of Commonwealth</td>
<td>58</td>
<td>105</td>
<td>85</td>
<td>248</td>
</tr>
<tr>
<td>O&amp;G Act 223-General. Used only when a specific O&amp;G Act code cannot be used</td>
<td>20</td>
<td>138</td>
<td>13</td>
<td>171</td>
</tr>
<tr>
<td>Failure to install, in a permanent manner, the permit number on a completed well</td>
<td>25</td>
<td>29</td>
<td>76</td>
<td>130</td>
</tr>
<tr>
<td>Clean Streams Law-General. Used only when a specific CLS code cannot be used</td>
<td>8</td>
<td>106</td>
<td>12</td>
<td>126</td>
</tr>
<tr>
<td>Failure to properly store, transport, process or dispose of a residual waste.</td>
<td>15</td>
<td>68</td>
<td>43</td>
<td>126</td>
</tr>
<tr>
<td>Failure to maintain 2' freeboard in an impoundment</td>
<td>33</td>
<td>58</td>
<td>11</td>
<td>102</td>
</tr>
<tr>
<td>Failure to submit well record within 30 days of completion of drilling</td>
<td>83</td>
<td>2</td>
<td>14</td>
<td>99</td>
</tr>
<tr>
<td>Impoundment not structurally sound, impermeable, 3rd party protected, greater than 20&quot; of seasonal high ground water table</td>
<td>12</td>
<td>58</td>
<td>9</td>
<td>79</td>
</tr>
</tbody>
</table>

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Barium in PBT-Josephine Effluent

[Mean] = 27.30 mg/L; [Max.] = 37 mg/L

- [Mean Ba] ≈14 x (MCL) of Ba in drinking water of 2 ppm.
- The Ba ATSDR MRL’s oral intermediate/chronic exposure are .2 mg/kg/day. Derived MRLs for barium in drinking are 6.89, 5.77, and 3.04 (mg/L/day) for adult men, adult women, and children, respectively (renal).
- [Mean Ba] is 3.96, 4.73, and 8.98 X the derived drinking water MRL’s for intermediate and chronic exposures for adult men, women, and children, respectively.
- EPA Ba CMC of 21 ppm exceeded; EPACCC for barium in water is 4.1 ppm, 6.66X [Mean Ba].

Facilities Accepting Natural Gas Solid Wastes and Wastewater and Public Water Supply Withdrawal Stations

Volz, C.D. et al., 2011  http://www.chec.pitt.edu
http://www.fractracker.org
Facilities Accepting Natural Gas Wastewater
MD, NY, NJ, OH, WV & PA

Data obtained from the PADEP at:

Volz, C.D. et al., 2011  http://www.fractracker.org