










	<h2 style="text-align: center;"><i>Regulatory Aspects of Passive Diffusion Bag Samplers</i></h2>	
<ul style="list-style-type: none"><li>• Regulatory Considerations / Requirements<ul style="list-style-type: none"><li>- Regulatory requirements specific to diffusion samplers have not been identified that would preclude their use</li><li>- Major deterrent to deployment is lack of standard method in States Sampling Procedures Manuals</li><li>- Strong reluctance to switch from methods already in use</li><li>- Technical performance of the Diffusion Sampler is a key issue (this is technical not regulatory)</li></ul></li> <li>• Regulatory Acceptance<ul style="list-style-type: none"><li>- Summary of State experience</li></ul></li></ul> <p style="margin-top: 20px;">1</p>		

	<h2 style="text-align: center;"><i>PDB Sampler Perception</i></h2>	
<ul style="list-style-type: none"><li>• Focus – A Different Sample <u>Collection</u> Method<ul style="list-style-type: none"><li>Once the PDB Sampler is retrieved from the well, all other sampling issues (i.e., sample containers, preservation, chain of custody, analysis, etc....) are identical to conventional sampling methodologies</li></ul></li></ul> <p style="margin-top: 20px;">2</p>		

	<h2><i>Applicability</i></h2>	
<ul style="list-style-type: none"><li>• Recommended for long term monitoring at well characterized sites</li><li>• Sentinel wells: problem w/unknown contam. depth</li><li>• Contaminants of concern must be appropriate for PDBS</li><li>• Due to inability to detect iron, sulfate, nitrate, and manganese, PDBS currently not recommended for evaluation of Natural Attenuation processes [note: PDB samplers can detect DO, Methane, and breakdown prod]</li></ul> <p data-bbox="201 871 225 904">3</p>		

	<h2><i>Deployment Issues</i></h2>	
<ul style="list-style-type: none"><li>• PDB samples represent a “point sample” so you must accurately measure PDB sampler position in well<ul style="list-style-type: none"><li>- Use “As built” well diagrams for well info</li><li>- Measure total depth of well, compare to “as-built”</li></ul></li><li>• Must assess potential for vert. stratification<ul style="list-style-type: none"><li>- At least initially, use multiple bags to vert. profile well</li><li>- based on site conditions, may need to re-assess</li></ul></li><li>• Important to eval. potential for vertical flow in well<ul style="list-style-type: none"><li>- High potential in bedrock or unconsolidated w/clay &amp; silt</li><li>- Use heat pulse flow meter or similar device</li></ul></li></ul> <p data-bbox="201 1792 225 1825">4</p>		

	<h2><i>EQUILIBRATION TIMES</i></h2>	
<p><b><u>2-week minimum</u></b></p> <ul style="list-style-type: none"><li>- may need longer timeframe in tight formations to allow stabilization of water column</li><li>- Field studies show longer deployments, up to 3-months, did not encounter problems [i.e. bio-fouling, bag rupture]</li></ul> <p>5</p>		

	<h2><i>Performance Evaluation</i></h2>	
<ul style="list-style-type: none"><li>• Simple site conditions – comparison to historic data acceptable</li><li>• More complicated site conditions: side-by-side comparisons appropriate</li><li>• Poor correlation <u>DOES NOT</u> indicate failure</li><li>• Identify and agree upon evaluation criteria before deployment</li></ul> <p>6</p>		



***Thank You!***