WORKSHOP
ON
FORESTRY RECLAMATION APPROACH

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Bridging Reclamation, Science & The Community
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Loosely grade the topsoil or topsoil substitutes established in step #1 to create a non-compacted growth medium (upper 4 feet of the material).
Benefits of Loose Grading

- Facilitates proper tree planting
- Increase infiltration
- More void spaces to hold air and water
- Easier for roots to grow

BETTER TREE SURVIVAL AND GROWTH
Growth of Tree Roots

Cell 1 - Struck-off

Cell 9 - Compacted
Compacted Cell at Starfire Mine Six Years After Tree Planting
Loose Dumped Cell at Starfire Mine Six Years After Tree Planting
What is Loose Grading?

- End-dumping or direct casting of spoil
- Single pass final grading
- Low ground pressure dozer
- No “tracking-in”
- Keep rubber-tired equipment off final surface
End – Dumping of Loose Spoil
Compacted Reclamation Cell at Starfire Mine
Struck-off Reclamation Cell at Starfire Mine
Loose-Dumped Reclamation Cell at Starfire Mine
Truck Shovel Operations on Flat or Gently Rolling Surfaces

- Compacted
- Loose
- Compacted
Dragline Operations
Contour Haulback

No Compaction Required to Maintain Stability of Slope
Contour Haulback

Compaction Required to Maintain Stability of Slope
Loosely Graded Steep-Slope Site at Peel Poplar Mine (Pike County)
Loosely Graded Steep-Slope Site at Peel Poplar Mine (Pike County)
Overcoming Excessive Compaction

- Ripper blades and deep plows
- First used on prime farmlands
- One direction vs. cross-ripping
- Ripping depth
- Rip when ground is dry
Ripper Blade Attached to Dozer
Dozer Ripping at Starfire Mine
Deep Plow
Cost Implications

- Backfilling unchanged
- Less final grading
- Avoid ripping, if possible
Obstacles to Loose Grading

- Regulatory concerns
- Operator concerns
- Slope stability concerns
Success of FRA at Starfire Mine
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QUESTIONS??