CONTRACTOR: Dakota Coal Company

PRINCIPAL INVESTIGATOR: Dean Bray
Phone: (701) 221-4400
Fax: (701) 221-4450

PARTICIPANTS

<table>
<thead>
<tr>
<th>Sponsor</th>
<th>Cost Share</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dakota Coal Company</td>
<td>$1,128,000</td>
</tr>
<tr>
<td>ND Industrial Commission</td>
<td>$250,000</td>
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Total Project Cost $1,378,000

Project Schedule – 18 Months
- Contract Date – 4/6/98
- Start Date – 10/1/98
- Completion Date – 10/31/99

Project Deliverables
- Status Report – 1/1/99
- Status Report – 4/1/99
- Final Report – 10/31/99

OBJECTIVE / STATEMENT OF WORK

The objective of this project is to demonstrate the technical and commercial viability of the rear-dumping dragline bucket. The project involves the design, construction and operation of a prototype 60-80 cubic yard rear-dumping dragline bucket. Goals for the rear-dumping bucket are a 10-15% increase in dumping radius, an improved cycle time and productivity, a 5% increase in dumping height, power savings, and improved efficiency as compared to front-dumping bucket. This project is contingent on successful operation of a 21-cubic-yard rear-dumping bucket.

STATUS

This application was withdrawn.