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November 25, 1986

Project No. : 1800
Corres. No.: Boyd-US-245

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Attention: Mr. John R. Morgan
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Chief Engineer, Coal
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Reference: USAID/BOYD Contract No. 391-0478-C-00-5006-00

Subject: Addendum to Volume 11:
Final Lignite Reserve and Quality Report

Dear Sirs:

In response to USAID and WAPDA comments on BOYD's Volume No. 11 (attached), the following items are addressed.

1. Improvement in Lignite Quality

As a result of the Phase II drilling program, the estimated average as-received quality of the Lakhra lignite has increased from 5,120 to 5,740 Btu/lb. This improvement is attributed to the reduction in the area of influence of some of the lower quality Phase I drill holes and a re-evaluation of the Phase I seam sections to achieve more selective recovery of the lignite benches.

Phase II Drilling

In the Phase I drilling program, 68 samples of the 3 lignite beds were analyzed from the East and West Pit areas. An additional 55 samples were taken in the Phase II program. The following table shows the distribution of the samples by seam and pit area:

	Number of Seam Analyses					
	East		West		Total	
Seam	Phase I	Phase II	Phase I	Phase II	Phase I	Phase II
3	3	4	10	2	13	6
2	10	18	17	12	27	30
1	10	12	18	7	28	19
	23	34	45	21	68	55

As shown in this table, the amount of seam data was nearly doubled as a result of the Phase II program.

This new data better defines the coal quality in areas where the quality had previously been defined by one or two core holes. In several cases the Phase I data showed high ash and low thermal values for holes with large areas of influence. The Phase II data reduced the areas of influence of these holes and resulted in an improvement in the overall average coal quality. This effect of the new drilling is the most significant factor in the overall improvement in coal quality.

Re-evaluation of Phase I Data

As a result of the additional data collected in the Phase II drilling program, it was determined that the lignite could be mined in a selective manner. This would further reduce the amount of carbonaceous strata recovered with the lignite ROM product. The carbonaceous strata, which will be excluded during selective mining, occur as in-seam partings and contacts at the top and bottom of the coal seam.

The Phase I data were re-evaluated and additional carbonaceous material was deleted from the composite seam analysis in several holes. This adjustment of the Phase I data resulted in a minor improvement in the average as-received quality.

2. Revised Geological Interpretation

Previous studies (BOYD's Volume No. 4) of the Lakhra deposit indicated a fault separating the Central and West areas. Selected Phase II drilling was intended to better define the geology along the northern and central part of this indicated fault. The results of this drilling show no significant structural anomalies in this area, and therefore the previously indicated fault was deleted.

The no coal area between the West and Central areas is attributed to the subsurface weathering of the lignite beds.

We believe the preceding responses clarify the comments raised by USAID and WAPDA.

Respectfully submitted,

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