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State of Utah

DEPARTMENT OF NATURAL RESOURCES
DIVISION OF OIL, GAS AND MINING

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TO: Daron Haddock, Permit Supervisor

FROM: Wayne H. Western, Reclamation Engineer *WHW*

DATE: May 25, 1993

RE: Reclamation Bond Determination, Castle Valley Resources, Wellington
Preparation Plant, ACT/007/012, Folder #2, Carbon County, Utah

SUMMARY:

In May 1993, the Division revised Castle Valley Resource's reclamation bond for the Wellington Preparation Plant. The May 1993 bond was determined to be \$2,969,000, down from the August 1992 amount of \$6,603,000. The revision was based on new and more accurate information submitted by the Permittee. The Division's bond estimate was verified by the Permittee's consultant.

Demolition Costs:

The August 1992 demolition costs were determined by the Division to be \$1,576,000. The May 1993 revision placed the demolition costs at \$1,262,000. The adjustment was based on additional information on the building material types and sizes.

The August 1992 demolition costs were based on the reclamation plan submitted by Kaiser Steel who owned the facility prior to Castle Valley Resources. The Kaiser plan contained limited information on the type of building material. Due to the lack of information, the Division assumed that all buildings were concrete rod reinforced foundations unless stated otherwise in the reclamation plan. The unit cost for such structures are the most expensive to demolish according to the Means.

According to the May 1993 information from the Permittee, most of the buildings are either classified as steel or mixed material. The unit cost for demolishing steel and mixed materials are 25% less than for concrete.

The building dimensions supplied by Castle Valley Resources were taken from field measurement and blueprints. In general the Castle Valley Resources dimensions were the same or larger than those supplied by Kaiser.



Earthwork:

The August 1992 estimate based on the Kaiser Steel reclamation plan was determined to be \$3,392,000. The May 1993 earthwork costs based on Castle Valley Resources revised reclamation plan were calculated to be \$845,000.

The major reason for the earthwork cost reductions came from a reduction in the fill's haul distance. The Kaiser plan called for most of the fill material to be transported 11 miles. The revised reclamation plan takes advantage of a new road that reduces the haul distance to 3 miles.

Additional cost reductions resulted from improved equipment selection and performance. Significant cost savings came from the use of scrapers instead of trucks and loaders to transport the fill material. The 3 mile haul road made it practical to use scrapers which are more cost effective than truck and loaders for mid-distance hauls. Other improvements came from increased production values due in part to larger equipment. The Division carefully reviewed the Permittee's earthwork cost and found them to be based on sound engineering principles.

Revegetation:

The August 1992 revegetation costs were \$300,000, while the May 1993 estimate was \$250,000. The cost reduction resulted from improved equipment selection and a cost shift. The project is large enough for the practical use of agricultural equipment. Prior estimates assumed that small specialized equipment used to revegetate mine sites would be used. The ripping costs were included in Kaiser's revegetation cost. In the May 1993 study they were included in the earthwork costs.