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# TECHNICAL MEMORANDUM

## Utah Coal Regulatory Program

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August 30, 2012

TO: Internal File

THRU: Ingrid Campbell, Lead *te for SAS*

FROM: James Owen, Engineer *JO*

RE: Response to DO12A, West Ridge Resources, West Ridge Mine, C/007/0041, Task #4143

### SUMMARY:

On July 3, 2012 the Utah Division of Oil Gas & Mining received a response to Division Order (DO) 12A from the West Ridge Mine

This memo addresses the application's compliance with the engineering (R645-301-500) sections of the Utah Coal Mining Rules.

### TECHNICAL ANALYSIS:

## OPERATION PLAN

## SUBSIDENCE CONTROL

Regulatory Reference: 30 CFR 784.20, 817.121, 817.122; R645-301-521, -301-525, -301-724.

### **Analysis:**

On page 5-26 in Chapter 5 of the approved MRP, the operator commits to conducting "visual observation" monitoring in addition to monitoring subsidence through the collection and analysis of aerial photometric data.

The operator is required to report any observed cracks, fractures, slumps, sink holes, troughs, or other subsidence related abnormalities. In the operator's most recently submitted annual report (2011), no indications of subsidence damage were observed. Based on the data provided through aerial surveys and analysis, the amount of subsidence observed over West

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Ridge's panels that are mined without barriers between them is expected to be in the range of 0 to 4 feet on average, with the maximum being the mined seam thickness.

Data indicates that subsidence observed over West Ridge's panels that are mined according to the "panel barrier panel" system (including the panels below the left fork of Whitmore Canyon) is substantially less, being 0 to 2 feet on average.

While subsidence data will occasionally include readings that are in error, the method West Ridge uses for monitoring is considered accurate and adequate. The overburden thickness (2500-3500ft) above the panels mined is much greater than exists in other mines in Utah and the US and had contributed to West Ridge's lack of significant subsidence. The amount of subsidence that is reported by West Ridge annually is minimal and within expected ranges. No surface subsidence indications have been reported for areas above the left fork of Whitmore Canyon in recent years.

**Findings:**

Contents and information provided sufficient enough to meet the minimum requirements of this section of the Utah Coal Mining Rules.

**RECOMMENDATIONS:**

Approval is recommended at this time.