

0033



**State of Utah**  
DEPARTMENT OF NATURAL RESOURCES  
DIVISION OF OIL, GAS AND MINING

Michael O. Leavitt  
Governor

Ted Stewart  
Executive Director

James W. Carter  
Division Director

355 West North Temple  
3 Triad Center, Suite 350  
Salt Lake City, Utah 84180-1203  
801-538-5340  
801-359-3940 (Fax)  
801-538-5319 (TDD)

DRH

**DIVISION OF OIL GAS & MINING  
FIELD VISIT FORM  
TECHNICAL**

**Date :** June 20, 1996

**Time:** 8:30 a.m.

**Mine:** Willow Creek Mine

**File Number:** ACT/007/038, Folder #2

**DOGM Staff:** Steven M. Johnson, Robert Davidson, and Peter Hess

**Other Attendees:**

**Purpose:**

Examine construction operations, particularly the construction of the altered stream channel.

**Observations:**

The stream channel is well constructed from the culvert to the bend, but the last stretch after the bend is not well built. The channel is not the proper depth and large boulders were not well placed in position for stability.

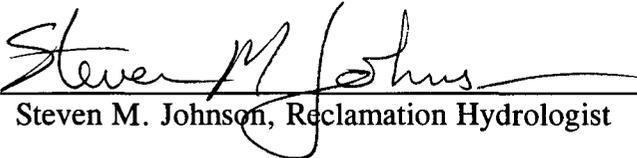
Crews were working on removing the old main Willow Creek culvert. This activity was causing a large increase in sediment to the stream flow. The culvert removal was not necessary prior to completion of the stream alteration. Prior to their work on the culvert the water in Willow Creek was clear and the channel bottom was plainly visible. As they worked on the culvert the channel quickly became sediment laden and the turbidity was so high that the channel bottom became hidden even in shallow water.

There was a rock filter placed in the stream channel about 50 yards down stream from the culvert work, but this filter was constructed of coarse rock (approximately  $D_{50}$  was about 3 to 4 inches from visual inspection) and allowed flow to pass at a rapid rate. A very small pool formed on the upstream side of the filter but it was no deeper than a couple inches and no wider than two channel widths. Detention time in the pool was too short for adequate sediment removal.



**Recommendations/Conclusions:**

The Willow Creek channel, after the 90 degree bend, needs to be reconstructed to match the quality of the rest of the channel. The removal of the old culvert should be investigated as a violation of sediment control regulations.

**Signature:**  on June 24, 1996  
Steven M. Johnson, Reclamation Hydrologist

---

O:\GROUPS\COAL\WP\007002.WIL\DRAFT\VISIT620.FVF

cc: Peter Hess, DOGM-Price  
Bob Davidson D.O.G.M. (Salt Lake City)