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State of Utah

DEPARTMENT OF NATURAL RESOURCES

Division of Water Rights

MICHAEL R. STYLER KENT L. JONES
Executive Director State Engineer/Division Director

May 6, 2010

TREES RANCH
P.O. BOX 308
SPRINGDALE, UT 84767

DIVISION OF WATER RIGHTS - DAM SAFETY SECTION

DAM INSPECTION REPORT - 2010

| | | | |
|------------------|--|------------------------|-------------------|
| Dam Name/Number: | South Creek – Washington County / UT00588 | | |
| Date: | April 27, 2010 | Hazard: | High |
| Storage Level: | 4019 (spill – 2 ft) | Dam Type: | Earthfill |
| Spillway Flow: | 0 | Purpose of Inspection: | Annual |
| Outlet Flow: | ?? | Weather: | 80, cloudy, windy |

Representatives at the Inspection:

| <i>Name</i> | <i>Representing</i> |
|-------------------|--------------------------------|
| John Harmon | Owner's Representative |
| Mayor Allen Brown | Town of Rockville |
| Wayne Hamilton | |
| Todd Edwards | Washington County Public Works |
| Bill Lee flank | Water Resources |
| David Marble | Water Rights / Dam Safety |

Comments:

- Your efforts to update the EAP are appreciated. Please provide a final copy of the contact list to Rockville, as well as other plan holders.
- The wet area below the dam toe at the maximum section has been staked out as requested. Thanks and continue to monitor.
- We compliment you in your efforts to maintain and operate this dam.

Necessary Maintenance and Repair:

- Your efforts to control woody vegetation on the main dam have provided good results. Tamarisk and other woody vegetation on the dike, both the upstream and downstream slopes, also need to be addressed. Rabbit brush on the training dike in the spillway channel below the weir also needs to be removed.

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| 2. | The staff gage read 31 psi at the time of the inspection, which if accurate would indicate that the reservoir was several feet above the spillway. The actual reservoir elevation was about 2 feet below the spillway, consistent with operating procedures. Please check and replace the gage if needed or verify that the gage elevation of 3959.5 that we have on file is in error. We agree that setting elevation benchmarks as the reservoir draws down this year would be beneficial. |
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| Immediate Action Required: | |
| None. | |

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| EAP Review (High and Moderate Hazard only): | | |
| 1. | Call list is up to date. (Names, phone numbers, etc) | Recently updated. |
| 2. | Copies of the EAP are distributed to the appropriate agencies/people | Provide a copy to the Town of Rockville. |
| 3. | Inundation map is included and legible | OK |

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| Embankment: | |
| Crest: | Good condition. The crest elevation of the dike was surveyed and is 18 inches lower than the elevation of the main dam. A lowered elevation is intended to allow the dike to function as a fuse plug spillway. |
| US Slope: | Woody vegetation is being cut and burned. Tamarisk on the dike also needs to be removed. |
| DS Slope: | The slope on the main dam looks good. Please remove woody vegetation on the dike. |

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| Abutments/Foundation: | |
| L Abutment: | No problems noted. |
| R Abutment: | The reservoir is high enough that the north draw spring is flowing. The area was inspected. No significant changes were observed, although vegetation has grown and it is more difficult to observe the overall area. |
| US Toe: | Inundated. |
| DS Toe: | The wet area at the toe of the dam, in the maximum section, was staked out in January. This effort is appreciated and will help to determine if the area is expanding. Water stands in the area, but active flow was not observed. Evaporation during hot months and the elevation of the reservoir seems to significantly impact the observed size and dimensions of the area. |

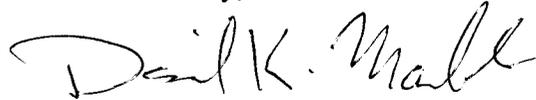
| | |
|-------------------------|--------------------|
| Reservoir Basin: | |
| Shore Stability: | No problems noted. |
| Reservoir Bottom: | Inundated. |

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|---------------------------------|--|
| Spillway: | |
| Freeboard: | Good condition. |
| Intake: | Good condition. |
| Concrete Structures: | Good condition. |
| Outfall Channel/Stilling Basin: | Rabbit brush on the training dike needs to be removed. It is recommended that the reservoir be managed to avoid the use of the principle spillway to avoid erosion problems that occurred during previous events. |
| Outlet: | |
| Conduit: | Not inspected. |
| Intake: | Inundated. |
| DS Channel/Stilling Basin: | Good condition. |
| Controls / Venting: | Controls were operated and appear to be in good condition. |
| Instrumentation: | |
| Monuments: | One monument located appears to be good condition. There could be benefit from doing a level survey of the dam. |
| Staff Gage: | The elevation gage measuring the reservoir level sometimes sticks and isn't always reliable. It was indicated during the inspection that elevations would be set as the reservoir draws down to verify and more accurately measure the elevation. We encourage you set these benchmarks. During the inspection, the gage read 31 psi. Based on the elevation of the gage that we have in our records at 3959.5, a pressure reading of 26.6 psi should correspond to a water level equal to the spillway. Either the gage elevation is in error or the gage isn't working properly. |
| Piezometers: | No significant concerns. P3 in the left abutment had been increasing somewhat with time but appears to be operating more consistently the last few years. Continue to monitor. |
| Drains: | Conductivity of seepage collected in the horizontal drains appears to be decreasing, while the sodium content remains constant. |
| | HD 4 appears to be decreasing with time. CD 2 is slightly increasing but is still low. Continue to monitor. |
| | The sediment box was cleaned during the inspection. This box appears to be performing as intended. |

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Your cooperation is appreciated. If you have any questions, please feel free to contact me at (801) 538-7376.

Sincerely,

A handwritten signature in black ink that reads "David K. Marble". The signature is written in a cursive style with a large, sweeping initial "D".

David K. Marble, P.E.
Assistant State Engineer

DKM/jm

pc: Kurt Vest - Water Rights Regional Engineer
Director Washington County Emergency Services
Division of Water Resources
Allen Brown Mayor Town of Rockville