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United States Department of Agriculture | Forest Service | Manti-La Sal National Forest

Supervisor's Office
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Phone # (435) 637-2817
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File Code: 2820-4
Date: June 3, 2005

Mr. Daren Rasmussen
Stream Alteration Specialist
Utah Division of Water Rights
1594 West North Temple, Suite 220
P.O. Box 146300
Salt Lake City, UT 84114-6300

c/015/0015
Copy Wayne Jr

Dear

My staff has reviewed Energy West Mining Company's application for a stream alteration permit for several small side drainages of Rilda Creek. We do not object to issuance of the permit, but we are concerned about the sizing of the culverts. We are currently working with the Utah Division of Oil, Gas and Mining to ensure the culvert is properly sized to prevent damage to the mine facilities and the environment.

The culverts were designed to carry the runoff of the side drainages for a 10 year, 24 hour event. This is a design standard of SMCRA (Surface Mining Control and Reclamation Act of 1977) for coal mining facilities. We appreciate the fact that Dan Guy of Blackhawk Engineering designed the drainage structures using conservative values in the runoff curves and included a generous safety factor in sizing the culverts. However, we are concerned that the culverts could be in place for up to 20 years, and a 10 year event may not be realistic for predicting culvert needs. A greater concern we have is that the greatest amount of runoff may actually come from high-intensity, short-duration summer storm events, as shown on the enclosed NOAA Point Precipitation Frequency Estimates. The precipitation during a one-hour thunderstorm may be 40-60% of the precipitation of a 24-hour event. This could require the culverts to handle a large amount of water over a relatively short time period. We are also concerned that the culverts be large enough to handle rocks and debris that may be transported by a high-intensity event. We ask that you review the culvert data to ensure they will handle summer thunderstorms and the associated debris.

Please contact Dale Harber, geologist, at (435) 636-3548, or Katherine Foster, hydrologist, at (435) 636-3503 if you have any questions.

Alice B Carlton

Sincerely,

ALICE B. CARLTON
Forest Supervisor

RECEIVED
JUN 0 6 2005
DIV. OF OIL, GAS & MINING

Enclosure

cc: Utah Division of Oil, Gas and Mining, ATTN: Wayne Hedberg, 1594 West North Temple, Suite 1210, P.O. Box 145801, Salt Lake City, Utah 84114-5801

POINT PRECIPITATION FREQUENCY ESTIMATES FROM NOAA ATLAS 14

Utah 39.406 N 111.152 W 7798 feet

from "Precipitation-Frequency Atlas of the United States" NOAA Atlas 14, Volume 1, Version 3
G.M. Bonnin, D. Todd, B. Lin, T. Parzybok, M.Yekta, and D. Riley
NOAA, National Weather Service, Silver Spring, Maryland, 2003

Extracted: Thu Jun 2 2005

Confidence Limits | Seasonality | Location Maps | Other Info | Grids | Maps | Help | Docs

Precipitation Frequency Estimates (inches)

ARI* (years)	5 min	10 min	15 min	30 min	60 min	120 min	3 hr	6 hr	12 hr	24 hr	48 hr	4 day	7 day	10 day	20 day	30 day	45 day	60 day
2	0.17	0.26	0.32	0.43	0.54	0.66	0.74	0.95	1.19	1.44	1.74	2.13	2.57	2.95	3.98	4.85	5.98	7.15
5	0.24	0.36	0.45	0.60	0.74	0.88	0.95	1.17	1.44	1.76	2.12	2.60	3.16	3.62	4.91	5.95	7.33	8.78
10	0.29	0.45	0.55	0.75	0.92	1.07	1.14	1.36	1.66	2.01	2.43	2.99	3.63	4.15	5.65	6.79	8.38	10.03
25	0.38	0.58	0.72	0.97	1.21	1.37	1.43	1.62	1.95	2.35	2.84	3.50	4.27	4.86	6.64	7.90	9.75	11.65
50	0.46	0.70	0.87	1.17	1.45	1.63	1.69	1.86	2.18	2.61	3.15	3.91	4.76	5.40	7.40	8.73	10.78	12.87
100	0.55	0.84	1.05	1.41	1.74	1.95	1.99	2.16	2.42	2.87	3.48	4.32	5.27	5.94	8.17	9.56	11.82	14.09
200	0.66	1.01	1.25	1.68	2.08	2.31	2.36	2.50	2.74	3.13	3.81	4.73	5.79	6.49	8.94	10.38	12.85	15.29
500	0.83	1.27	1.57	2.12	2.62	2.89	2.94	3.08	3.30	3.48	4.24	5.29	6.48	7.22	9.97	11.45	14.21	16.85
1000	0.99	1.50	1.87	2.51	3.11	3.42	3.48	3.61	3.83	3.87	4.58	5.72	7.01	7.78	10.75	12.25	15.25	18.04

Text version of table

* These precipitation frequency estimates are based on a partial duration series. **ARI** is the Average Recurrence Interval. Please refer to the documentation for more information. NOTE: Formatting forces estimates near zero to appear as zero.