

KT/015/025 #6
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388 East Boynton Road • Kaysville, Utah 84037 • (801) 544-3641

Rick Smith
Utah Division of Oil Gas & Mining
3 Triad Center, Suite 350
Salt Lake City, Utah 84180-1203

OF
OIL, GAS & MINING

31 March 1989

Ref: Co-Op Mining Co. Annual Report, Bear and Trail Canyon Mines,
Emery County, Utah.

Dear Mr. Smith,

Please find attached a copy of the referenced Annual Report. Thank
you for your cooperation in this matter.

Thank you,



Kimly C. Mangum, P.E.
Permitting & Compliance Consultant.

cc: W. Owen

CO-OP MINING COMPANY
ANNUAL REPORT 1988
BEAR AND TRAIL CANYON MINES

VEGETATION MONITORING

Attached as Appendix A, is a letter from Environmental Industrial Services relating to the vegetation monitoring completed for Co-Op Mining Company, Bear and Trail Canyon Mines.

SUBSIDENCE MONITORING

Subsidence monitoring was performed twice in 1988. The points were surveyed using the professional services of Blackhawk Engineering. The results of the survey follows.

| STATION/LOCATION | ELEVATION | | | | CHANGE | |
|-----------------------------------|---------------------|----------|---------|---------|--------|--------------|
| | original 7/19/87 | 10/23/87 | 6/26/88 | 10/1/88 | latest | accumulative |
| SMS-1/Trail-Bear | 9188.57 | 9188.55 | 9188.55 | 9188.55 | 0 | +0.02 |
| SMS-2/Bear Cyn | 8542.60 | 8542.42 | 8542.48 | 8542.42 | -0.06 | -0.18 |
| SMS-3/Trail Cyn | 8769.06 | 8769.00 | 8769.02 | 8769.05 | +0.03 | -0.01 |
| SMS-4/Trail Cyn | 8410.00 | 4810.15 | 8410.08 | 8410.00 | -0.08 | 0 |
| CON-5/Bear Cyn (CONTROL POINT) | 9379.91 | 9379.91 | 9379.91 | 9379.91 | 0 | 0 |

NOTES: 1. The area was walked between all stations. No visible movement, cracks or other subsidence effects were noted during the survey.

Monitoring locations are located on Plate 3-3 (Copy attached in Appendix B).

RAPTOR SURVEY RESULTS

Approval to discontinue raptor surveys was given to Co-Op Mining Company by UDOGM after the 1987 Annual Report unless new disturbance warrants a clearance survey. Reference UDOGM letter dated April 28, 1988 from Brent Stettler to John Whitehead. There have been no new disturbances to warrant a survey.

WATER MONITORING

All water monitoring data for 1988 has been submitted to UDOGM in quarterly submittal and have not been duplicated for this report.

Appendix C includes a copy of the flow data from the Big Bear Spring for 1988, received from the Castle Valley Special Service District.

A UPDES permit was applied for with the Bureau of Water Pollution Control, Utah Department of Health and the application is still pending. Co-Op Mining Company is presently operation under the regulations of NPDES permit No. UT-0023612. No discharge was noted during 1988.

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**APPENDIX A
VEGETATION MONITORING**



ENVIRONMENTAL INDUSTRIAL SERVICES

P.O. Box 358 - Desert Lake Road - Elmo, Utah 84521 - Telephone (801) 653-2606

Mel Coonrod - Vice-President

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March 31, 1989

Mr. K. C. Mangum
Co-Op Mining Company
P.O. Box 1245
Huntington, Utah 84528

Re. Ocular Evaluation of Interim
Revegetation Success
Bear Canyon Mine

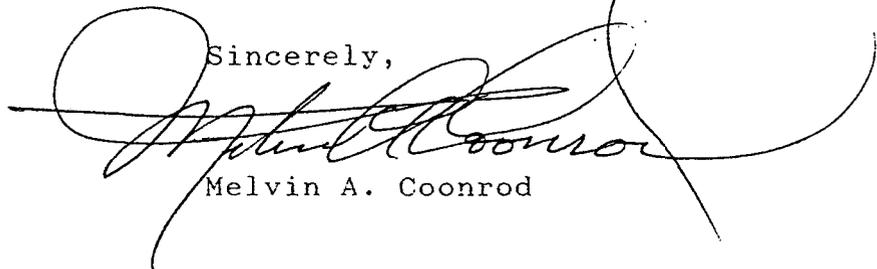
Dear Mr. Mangum:

An ocular estimate of vegetation success was conducted on all areas associated with Co-Op's Mining activities Bear and Trail Canyon. The inventory was done in September. Both Utah Division of Oil Gas & Mining and Office of Surface Mining state people have commented on the interim vegetation success. Vegetation success is fair to good on all areas ranging from 20% to 40+% vegetative cover. The soils appear stable with no major erosion. Considering all historic nature, no additional monitoring should be required on these areas.

In general, there is no additional work indicated on any of the interim areas; no noxious weeds were observed, there was no apparent problems with insects, rodents or excessive grazing.

If I can be of any additional assistance, please feel free to call.

Sincerely,



Melvin A. Coonrod

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**APPENDIX B
SUBSIDENCE MONITORING**

BIG BEAR SPRING FLOW

1988

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| <u>MONTH</u> | <u>Total Flow</u> | <u>Average ^{GPM} GSP Flow</u> |
|--------------|-------------------|---|
| January | 6,810,000 | 153 |
| February | 6,293,000 | 151 |
| March | 6,565,000 | 147 |
| April | 6,161,000 | 143 |
| May | 6,583,000 | 147 |
| June | 6,536,000 | 151 |
| July | 7,002,000 | 157 |
| August | 6,800,000 | 152 |
| September | 6,505,000 | 151 |
| October | 6,918,000 | 155 |
| November | 6,521,000 | 151 |
| December | <u>6,502,000</u> | <u>146</u> |
| Total | 79,195,000 | 150 |

received
1-17-89

CASTLE VALLEY SPECIAL SERVICE DISTRICT

P.O. BOX 877
CASTLE DALE, UTAH 84513
TELEPHONE (801) 381-5333

January 6, 1989

DORR W. HANSON
Chairman
DARREL V. LEAMASTER
Manager

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Mr Wendell Owen
Co-op Mining Company
Huntington, Utah 84528

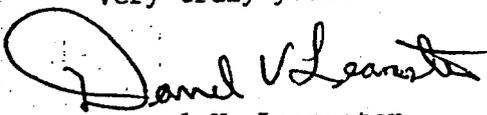
Re: 1988 Flow of Big Bear Spring

Dear Mr Owen:

Enclosed is a copy of the flow data from the Big Bear Spring for 1988.

This information is provided per our agreement for monitoring purposes.

Very truly yours


Darrel V. Leamaster
District Manager

cc: Huntington City

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APPENDIX C
WATER MONITORING