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INCOMING  
CO150025

**From:** Mark Reynolds <mreynolds@etv.net>  
**To:** Jim Smith <jimsmith@utah.gov>  
**Date:** 10/4/2006 9:51:23 AM  
**Subject:** Lease Addition

Attached is my draft response to your deficiencies for Task No. 2597.  
This includes changes to the PHC as discussed in the Price Field Office.

**CC:** Joe Helfrich <joe Helfrich@utah.gov>, Wayne Hedberg <waynehedberg@utah.gov>

## **Draft Response to Deficiencies from Jim Smith for Task No. 2597**

**R645-300-133.100, 301-121.200, 522** The Permittee must:

- Correct or update the "Total Tons" and "TOTAL" tonnages in Table 5-1;
- Correct or update the tonnage Subtotal for lease U-46484.

(This has already been discussed with Mark Reynolds, and he has a corrected version of Table 5-1 ready to insert in the next submittal.), [JDS]

**R645-301-133.100, 301-121.200, 522**, Table 5-1 has been updated to show the correct tonnages.

**R645-301-521.142**, The Permittee must update Plate 5-1B to show the current alignment of the permit boundary. [JDS]

**R645-301-521.142**, Plate 5-1B now shows the current permit boundary.

**R645-301-525.420**, The Permittee needs to reconcile subsidence projections for the Tank Seam on Plates 5-1C and 5-3. [JDS]

**R645-301-525.420**, Plates 5-1C and 5-3 now show the current subsidence.

### **R645-301-728: Probable Hydrologic Consequences**

**R645-301-728**, This section (page 7-44 and 7-44A) has been changed as we discussed in our last meeting. A reference is made to text in Appendix 7-J stating that the report includes the Mohrland area. A reference was also made to the location in Appendix 7-J that addresses each of the subsections of R645-301-728.

Table 5-1 Coal Reserves - Bear Canyon Mine

Reserve Area	Seam	Coal Reserves (tons)	
		In-Place	Recoverable
Federal Lease <u>U-46484</u>	<u>Blind Canyon</u>	<u>5,093,206</u>	<u>1,586,852</u>
	<u>Hiawatha</u>	<u>7,015,758</u>	<u>3,085,990</u>
	<u>SUBTOTAL</u>	<u>12,108,964</u>	<u>4,672,842</u>
<u>(U-61048)</u>	<u>Tank</u>	<u>490,470</u>	<u>0</u>
	<u>Hiawatha</u>	<u>7,540,784</u>	<u>2,942,416</u>
	<u>SUBTOTAL</u>	<u>8,031,254</u>	<u>2,942,416</u>
<u>(U-61049)</u>	<u>Tank</u>	<u>10,027,191</u>	<u>6,433,459</u>
	<u>Blind Canyon</u>	<u>0</u>	<u>0</u>
	<u>Hiawatha</u>	<u>18,428,989</u>	<u>11,822,475</u>
	<u>SUBTOTAL</u>	<u>28,456,180</u>	<u>18,255,934</u>
<u>(U-024318)</u>	<u>Blind Canyon*</u>	<u>65,363</u> <u>52,763</u>	<u>12,600</u>
	<u>Hiawatha</u>	<u>0</u>	<u>0</u>
	<u>SUBTOTAL</u>	<u>65,363</u> <u>52,763</u>	<u>12,600</u>
<u>(U-024316)</u>	<u>Tank</u>	<u>694,500</u> <u>1,099,006</u>	<u>347,250</u> <u>0</u>
	<u>Blind Canyon</u>	<u>Unknown</u> <u>1,112,202</u>	<u>Unknown</u> <u>366,089</u>
	<u>Hiawatha</u>	<u>Unknown</u> <u>1,770,113</u>	<u>Unknown</u> <u>959,124</u>
	<u>SUBTOTAL</u>	<u>694,500</u> <u>3,981,321</u>	<u>347,250</u> <u>1,325,213</u>
<u>(U-020668)</u>	<u>Tank</u>	<u>448,312</u> <u>600,036</u>	<u>224,156</u> <u>318,706</u>
	<u>Blind Canyon</u>	<u>3,185,699</u> <u>2,647,894</u>	<u>1,592,850</u> <u>774,205</u>
	<u>SUBTOTAL</u>	<u>3,634,011</u> <u>3,247,930</u>	<u>1,817,005</u> <u>1,092,911</u>
<u>(U-38727)</u>	<u>Tank</u>	<u>4,555,325</u> <u>4,300,059</u>	<u>2,227,662</u> <u>2,958,627</u>
	<u>Blind Canyon</u>	<u>3,558,827</u> <u>3,779,496</u>	<u>1,592,850</u> <u>1,468,042</u>
	<u>SUBTOTAL</u>	<u>8,114,152</u> <u>8,079,555</u>	<u>4,057,075</u> <u>4,426,669</u>
Fee Land	<u>Tank</u>	<u>7,304,476</u> <u>7,836,811</u>	<u>3,652,238</u> <u>3,986,939</u>
	<u>Blind Canyon</u>	<u>9,212,699</u> <u>9,395,909</u>	<u>4,606,350</u> <u>3,808,970</u>
	<u>Hiawatha</u>	<u>2,568,465</u>	<u>1,284,232</u>
	<u>SUBTOTAL</u>	<u>19,085,640</u> <u>19,801,185</u>	<u>9,542,820</u> <u>9,080,141</u>
Total Area <u>Tons</u>	<u>Tank</u>	<u>13,002,613</u> <u>24,353,573</u>	<u>6,501,306</u> <u>13,697,731</u>
	<u>Blind Canyon</u>	<u>16,022,588</u> <u>22,081,470</u>	<u>7,991,213</u> <u>8,004,158</u>
	<u>Hiawatha</u>	<u>2,568,465</u> <u>37,324,109</u>	<u>1,284,232</u> <u>20,094,237</u>
<b>TOTAL</b>		<u>31,593,666</u> <u>83,759,152</u>	<u>15,776,751</u> <u>41,796,126</u>

NOTES: 1. Reserves based on latest projections (7/21/06 ~~2/28/97~~) submitted to the B.L.M. in the L.M.U. Application R2P2 update.

2. Current permit application will allow for mining of Lease U-024316 in the Tank Seam only until additional hydrologic and geologic information can be obtained.

- Blind Canyon Seam reserves mined out in 1984-1985.

No alternate water source is needed since we do not expect to impact any current water sources as explained in R645-301-724.100 and R645-301-724.200.

## **R645-301-728 Probable Hydrologic Consequence Determination**

~~See Appendix 7-J.~~ In 2001 C. W. Mining hired Mayo and Associates to do a detailed hydrologic study and a PHC of the current permit area and all areas of anticipated future mining. This study is included as Appendix 7J. The study area included the 2001 WHR permit expansion and the 2006 Federal Lease/Mohrland expansion areas. The study clearly identifies the areas during the introduction on page 1, and on the project area map on page 2. Additionally page 127 of the study states "This PHC determination is based on data and information presented in Sections 1-8 of this document." and "The hydrological evaluation presented in Section 1-8 of this report also includes the Mohrland area;" he continues by saying "however, C. W. Mining is not permitting the Mohrland area at this time." The last statement was correct at the time of the report, but is no longer correct since an application to add the Mohrland area was submitted to DOGM in 2005. This statement should be ignored when reading the document.

Additionally, at the time the report was done, no escarpment failure was planed in the left fork of Fish Creek, and the right fork of Fish Creek was not considered perennial where it flowed through the affected area. Because of this consequences related to these issues were not discussed in Appendix 7J.

### **728.100 PHC Determination**

This is included in section 9.0 of Appendix 7J. For the left fork of Fish Creek there is one area where escarpment failure may reach the stream. This would cause a temporary increase in the sediment of the area. The impact would be short term and only affect the immediate area. Escarpment failure is discussed in detail in Appendix 5-C.

During field investigations conducted in 2006 it was determined that 4,000 feet of perennial stream in the right fork of Fish Creek exist in the affected area. Since fracturing of rocks is not

expected to extend more than 250 feet above the coal seam and the minimum overburden thickness is 900 feet, no impact is expected. Additionally if any fracturing did occur it would immediately be sealed by the surface soil. Protection and monitoring of this area is discussed in Appendix 5-C.

**728.200 Baseline Information**

This is discussed in Appendix 7J sections 3 through 7 and Appendix 7M and 7N.

**728.310 Adverse Impacts to the Hydrologic Balance**

This is discussed in section 9.1 of Appendix 7J

**728.320 Acid/Toxic Forming Material**

This is discussed in section 9.2 of Appendix 7J

**728.330 Impacts of Proposed on:**

- |         |                         |                                                 |
|---------|-------------------------|-------------------------------------------------|
| 728.331 | Sediment Yield;         | This is discussed in section 9.3 of Appendix 7J |
| 728.332 | Water Quality;          | This is discussed in section 9.4 of Appendix 7J |
| 728.333 | Stream Flow Alteration; | This is discussed in section 9.5 of Appendix 7J |
| 728.334 | Water Availability;     | This is discussed in section 9.6 of Appendix 7J |

**728.340-350 Affects on Water Resources and Water Rights**

This is discussed in section 9.7 of Appendix 7J

**R645-301-729 Cumulative Hydrologic Impact Assessment**

See Appendix 7-L.

**R645-301-730 Operation Plan**

**R645-301-731 General Requirements**

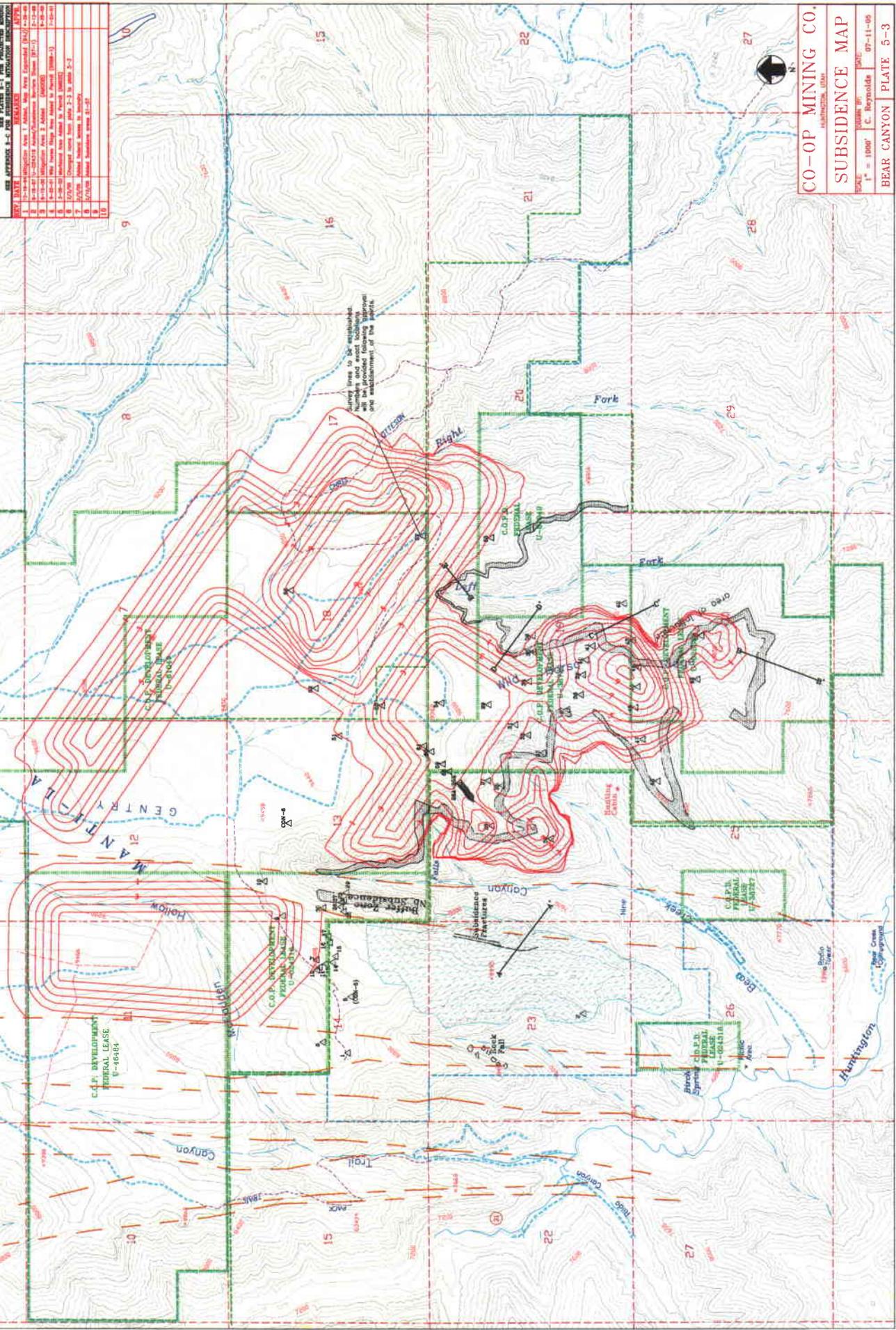
**731.100 Hydrologic Balance Protection**

**LEGEND**

- BEAR CANYON TRAIL
- FEDERAL LEASE BOUNDARIES
- FOREST SERVICE BOUNDARY
- SUBSIDENCE STATION
- SECTION LINE
- SUBSIDENCE MINEZ CONTOURS
- EQUIPMENT LOCATION
- FAULT LINE

THIS PLATE SHOWS CONTIGUOUS SUBSIDENCE MINEZ AS SHOWN ON PLATES 4-1 THROUGH 4-10 FOR DEVELOPMENT AREA AND PLATES 4-11 THROUGH 4-15 FOR DEVELOPMENT AREA. SEE APPENDIX 4-C FOR SUBSIDENCE MINEZ DATA.

DATE	DESCRIPTION	BY
12-15-48	Initial Map Area Expanded (4-11) (4-12) (4-13)	J. H. ...
1-15-49	Initial Map Area Expanded (4-14) (4-15)	J. H. ...
2-15-49	Initial Map Area Expanded (4-16) (4-17)	J. H. ...
3-15-49	Initial Map Area Expanded (4-18) (4-19)	J. H. ...
4-15-49	Initial Map Area Expanded (4-20) (4-21)	J. H. ...
5-15-49	Initial Map Area Expanded (4-22) (4-23)	J. H. ...
6-15-49	Initial Map Area Expanded (4-24) (4-25)	J. H. ...
7-15-49	Initial Map Area Expanded (4-26) (4-27)	J. H. ...
8-15-49	Initial Map Area Expanded (4-28) (4-29)	J. H. ...
9-15-49	Initial Map Area Expanded (4-30) (4-31)	J. H. ...
10-15-49	Initial Map Area Expanded (4-32) (4-33)	J. H. ...
11-15-49	Initial Map Area Expanded (4-34) (4-35)	J. H. ...
12-15-49	Initial Map Area Expanded (4-36) (4-37)	J. H. ...
1-15-50	Initial Map Area Expanded (4-38) (4-39)	J. H. ...
2-15-50	Initial Map Area Expanded (4-40) (4-41)	J. H. ...
3-15-50	Initial Map Area Expanded (4-42) (4-43)	J. H. ...
4-15-50	Initial Map Area Expanded (4-44) (4-45)	J. H. ...
5-15-50	Initial Map Area Expanded (4-46) (4-47)	J. H. ...
6-15-50	Initial Map Area Expanded (4-48) (4-49)	J. H. ...
7-15-50	Initial Map Area Expanded (4-50) (4-51)	J. H. ...
8-15-50	Initial Map Area Expanded (4-52) (4-53)	J. H. ...
9-15-50	Initial Map Area Expanded (4-54) (4-55)	J. H. ...
10-15-50	Initial Map Area Expanded (4-56) (4-57)	J. H. ...
11-15-50	Initial Map Area Expanded (4-58) (4-59)	J. H. ...
12-15-50	Initial Map Area Expanded (4-60) (4-61)	J. H. ...
1-15-51	Initial Map Area Expanded (4-62) (4-63)	J. H. ...
2-15-51	Initial Map Area Expanded (4-64) (4-65)	J. H. ...
3-15-51	Initial Map Area Expanded (4-66) (4-67)	J. H. ...
4-15-51	Initial Map Area Expanded (4-68) (4-69)	J. H. ...
5-15-51	Initial Map Area Expanded (4-70) (4-71)	J. H. ...
6-15-51	Initial Map Area Expanded (4-72) (4-73)	J. H. ...
7-15-51	Initial Map Area Expanded (4-74) (4-75)	J. H. ...
8-15-51	Initial Map Area Expanded (4-76) (4-77)	J. H. ...
9-15-51	Initial Map Area Expanded (4-78) (4-79)	J. H. ...
10-15-51	Initial Map Area Expanded (4-80) (4-81)	J. H. ...
11-15-51	Initial Map Area Expanded (4-82) (4-83)	J. H. ...
12-15-51	Initial Map Area Expanded (4-84) (4-85)	J. H. ...
1-15-52	Initial Map Area Expanded (4-86) (4-87)	J. H. ...
2-15-52	Initial Map Area Expanded (4-88) (4-89)	J. H. ...
3-15-52	Initial Map Area Expanded (4-90) (4-91)	J. H. ...
4-15-52	Initial Map Area Expanded (4-92) (4-93)	J. H. ...
5-15-52	Initial Map Area Expanded (4-94) (4-95)	J. H. ...
6-15-52	Initial Map Area Expanded (4-96) (4-97)	J. H. ...
7-15-52	Initial Map Area Expanded (4-98) (4-99)	J. H. ...
8-15-52	Initial Map Area Expanded (4-100) (4-101)	J. H. ...
9-15-52	Initial Map Area Expanded (4-102) (4-103)	J. H. ...
10-15-52	Initial Map Area Expanded (4-104) (4-105)	J. H. ...
11-15-52	Initial Map Area Expanded (4-106) (4-107)	J. H. ...
12-15-52	Initial Map Area Expanded (4-108) (4-109)	J. H. ...
1-15-53	Initial Map Area Expanded (4-110) (4-111)	J. H. ...
2-15-53	Initial Map Area Expanded (4-112) (4-113)	J. H. ...
3-15-53	Initial Map Area Expanded (4-114) (4-115)	J. H. ...
4-15-53	Initial Map Area Expanded (4-116) (4-117)	J. H. ...
5-15-53	Initial Map Area Expanded (4-118) (4-119)	J. H. ...
6-15-53	Initial Map Area Expanded (4-120) (4-121)	J. H. ...
7-15-53	Initial Map Area Expanded (4-122) (4-123)	J. H. ...
8-15-53	Initial Map Area Expanded (4-124) (4-125)	J. H. ...
9-15-53	Initial Map Area Expanded (4-126) (4-127)	J. H. ...
10-15-53	Initial Map Area Expanded (4-128) (4-129)	J. H. ...
11-15-53	Initial Map Area Expanded (4-130) (4-131)	J. H. ...
12-15-53	Initial Map Area Expanded (4-132) (4-133)	J. H. ...
1-15-54	Initial Map Area Expanded (4-134) (4-135)	J. H. ...
2-15-54	Initial Map Area Expanded (4-136) (4-137)	J. H. ...
3-15-54	Initial Map Area Expanded (4-138) (4-139)	J. H. ...
4-15-54	Initial Map Area Expanded (4-140) (4-141)	J. H. ...
5-15-54	Initial Map Area Expanded (4-142) (4-143)	J. H. ...
6-15-54	Initial Map Area Expanded (4-144) (4-145)	J. H. ...
7-15-54	Initial Map Area Expanded (4-146) (4-147)	J. H. ...
8-15-54	Initial Map Area Expanded (4-148) (4-149)	J. H. ...
9-15-54	Initial Map Area Expanded (4-150) (4-151)	J. H. ...
10-15-54	Initial Map Area Expanded (4-152) (4-153)	J. H. ...
11-15-54	Initial Map Area Expanded (4-154) (4-155)	J. H. ...
12-15-54	Initial Map Area Expanded (4-156) (4-157)	J. H. ...
1-15-55	Initial Map Area Expanded (4-158) (4-159)	J. H. ...
2-15-55	Initial Map Area Expanded (4-160) (4-161)	J. H. ...
3-15-55	Initial Map Area Expanded (4-162) (4-163)	J. H. ...
4-15-55	Initial Map Area Expanded (4-164) (4-165)	J. H. ...
5-15-55	Initial Map Area Expanded (4-166) (4-167)	J. H. ...
6-15-55	Initial Map Area Expanded (4-168) (4-169)	J. H. ...
7-15-55	Initial Map Area Expanded (4-170) (4-171)	J. H. ...
8-15-55	Initial Map Area Expanded (4-172) (4-173)	J. H. ...
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12-15-55	Initial Map Area Expanded (4-180) (4-181)	J. H. ...
1-15-56	Initial Map Area Expanded (4-182) (4-183)	J. H. ...
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8-15-56	Initial Map Area Expanded (4-196) (4-197)	J. H. ...
9-15-56	Initial Map Area Expanded (4-198) (4-199)	J. H. ...
10-15-56	Initial Map Area Expanded (4-200) (4-201)	J. H. ...
11-15-56	Initial Map Area Expanded (4-202) (4-203)	J. H. ...
12-15-56	Initial Map Area Expanded (4-204) (4-205)	J. H. ...
1-15-57	Initial Map Area Expanded (4-206) (4-207)	J. H. ...
2-15-57	Initial Map Area Expanded (4-208) (4-209)	J. H. ...
3-15-57	Initial Map Area Expanded (4-210) (4-211)	J. H. ...
4-15-57	Initial Map Area Expanded (4-212) (4-213)	J. H. ...
5-15-57	Initial Map Area Expanded (4-214) (4-215)	J. H. ...
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9-15-57	Initial Map Area Expanded (4-222) (4-223)	J. H. ...
10-15-57	Initial Map Area Expanded (4-224) (4-225)	J. H. ...
11-15-57	Initial Map Area Expanded (4-226) (4-227)	J. H. ...
12-15-57	Initial Map Area Expanded (4-228) (4-229)	J. H. ...
1-15-58	Initial Map Area Expanded (4-230) (4-231)	J. H. ...
2-15-58	Initial Map Area Expanded (4-232) (4-233)	J. H. ...
3-15-58	Initial Map Area Expanded (4-234) (4-235)	J. H. ...
4-15-58	Initial Map Area Expanded (4-236) (4-237)	J. H. ...
5-15-58	Initial Map Area Expanded (4-238) (4-239)	J. H. ...
6-15-58	Initial Map Area Expanded (4-240) (4-241)	J. H. ...
7-15-58	Initial Map Area Expanded (4-242) (4-243)	J. H. ...
8-15-58	Initial Map Area Expanded (4-244) (4-245)	J. H. ...
9-15-58	Initial Map Area Expanded (4-246) (4-247)	J. H. ...
10-15-58	Initial Map Area Expanded (4-248) (4-249)	J. H. ...
11-15-58	Initial Map Area Expanded (4-250) (4-251)	J. H. ...
12-15-58	Initial Map Area Expanded (4-252) (4-253)	J. H. ...
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3-15-59	Initial Map Area Expanded (4-258) (4-259)	J. H. ...
4-15-59	Initial Map Area Expanded (4-260) (4-261)	J. H. ...
5-15-59	Initial Map Area Expanded (4-262) (4-263)	J. H. ...
6-15-59	Initial Map Area Expanded (4-264) (4-265)	J. H. ...
7-15-59	Initial Map Area Expanded (4-266) (4-267)	J. H. ...
8-15-59	Initial Map Area Expanded (4-268) (4-269)	J. H. ...
9-15-59	Initial Map Area Expanded (4-270) (4-271)	J. H. ...
10-15-59	Initial Map Area Expanded (4-272) (4-273)	J. H. ...
11-15-59	Initial Map Area Expanded (4-274) (4-275)	J. H. ...
12-15-59	Initial Map Area Expanded (4-276) (4-277)	J. H. ...
1-15-60	Initial Map Area Expanded (4-278) (4-279)	J. H. ...
2-15-60	Initial Map Area Expanded (4-280) (4-281)	J. H. ...
3-15-60	Initial Map Area Expanded (4-282) (4-283)	J. H. ...
4-15-60	Initial Map Area Expanded (4-284) (4-285)	J. H. ...
5-15-60	Initial Map Area Expanded (4-286) (4-287)	J. H. ...
6-15-60	Initial Map Area Expanded (4-288) (4-289)	J. H. ...
7-15-60	Initial Map Area Expanded (4-290) (4-291)	J. H. ...
8-15-60	Initial Map Area Expanded (4-292) (4-293)	J. H. ...
9-15-60	Initial Map Area Expanded (4-294) (4-295)	J. H. ...
10-15-60	Initial Map Area Expanded (4-296) (4-297)	J. H. ...
11-15-60	Initial Map Area Expanded (4-298) (4-299)	J. H. ...
12-15-60	Initial Map Area Expanded (4-300) (4-301)	J. H. ...



**CO-OP MINING CO.**  
HUNTINGTON, UTAH

**SUBSIDENCE MAP**

SCALE: 1" = 1000'  
DATE: 07-11-56  
BY: C. Bernolske  
PLATE: 5-3



**LEGEND**



Scale: 1" = 1000'

Author: M. Reynolds

Date: 08-01-06

**CO-OP MINING CO.**

TANK SEAM WORKINGS

BEAR CANYON PLATE 5-1C

