LEGEND

- BEAR CANYON PERMIT
- FEDERAL LEASE BOUNDARIES
- FOREST SERVICE BOUNDARY
- MINE WORKINGS
- PILLARED AREA
- SECTION LINE
- COAL OUTCROP
- FAULT LINE
- POTENTIAL SUBSIDENCE ZONE
- SUBSIDENCE IMPACT CONTOURS — 5

Note: Subsidence impact countours only show anticipated vertical displacement from mining the seam shown on this map. Plate 5-3 shows the cumulative subsidence impacts.

C.O.P. DEVELOPMENT
FEDERAL LEASE
U-61048

C.O.P. DEVELOPMENT
FEDERAL LEASE
U-46454

C.O.P. DEVELOPMENT
FEDERAL LEASE
U-61049

C.O.P. DEVELOPMENT
FEDERAL LEASE
U-024316

C.O.P.D.
FEDERAL
LEASE
U-61049

C.O.P. DEVELOPMENT
FEDERAL LEASE
U-38727

C.O.P. DEVELOPMENT
FEDERAL LEASE
U-020668

C.O.P.D.
FEDERAL
LEASE
U-024318

C.O.P.D.
FEDERAL
LEASE
U-38727

HC PP 1
2,040 X 1,150 ft
(2016-2017)

HC PP 2
2,050 X 1,270 ft
(2015-2016)

HC PP 3
2,050 X 1,270 ft
(2015-2016)

C CM 5, 5-Entry Mains (2012)

C CM 4, 5-Entry Mains (2011-2012)

C CM 6, 5-Entries (2012-2013)

HC PP 4
1,500 X 1,100 ft
(2014-2015)

HC LW 1
5,700 X 650 ft
(2013-2014)

HC LW 2
5,700 X 650 ft
(2013-2014)

HC LW 3
5,700 X 650 ft
(2014)

HC LW 4
5,700 X 650 ft
(2014)

HC LW 5
5,700 X 650 ft
(2014)

Alternate Rock Tunnel (2010)

POSSIBLE FUTURE PORTALS

Fault 60'
Down
Up

Trail Canyon Fault 135'
Down
Up

Fault 67'
Up
Down

Pleasant Valley Fault 522'
Up
Down

Fault 8'
Down
Up

Blind Canyon
Down
Up

Double Fault 6'
Up
Down

Bear Canyon Fault 220'
Down
Up

RECEIVED
DEC 2 2 2009
DIV. OF OIL, GAS & MINING

HIAWATHA SEAM
STRIKE N 19° E
DIP 0° TO 3°

LICENSED PROFESSIONAL ENGINEER
MARK A. REYNOLDS
5040079-2202
12-1-09
STATE OF UTAH

N

CO-OP MINING CO.

HUNTINGTON, UTAH

HIAWATHA SEAM WORKINGS

SCALE:	DRAWN BY:	DATE:
1" = 1000'	M. Reynolds	01/01/09

BEAR CANYON | PLATE 5-1B