

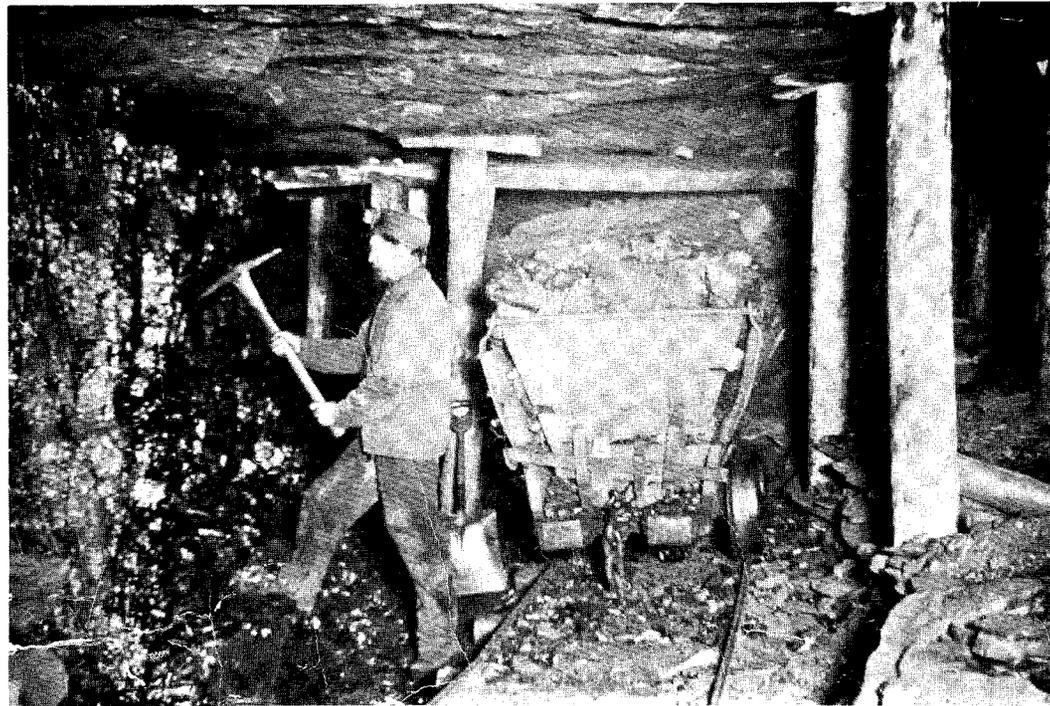
State of Colorado

Department of Natural Resources, Mined Land Reclamation Division

VOLUME V MAPS SHOWING SUBSIDENCE
POTENTIAL & HAZARD ZONES

Boulder County

SUBSIDENCE INVESTIGATION



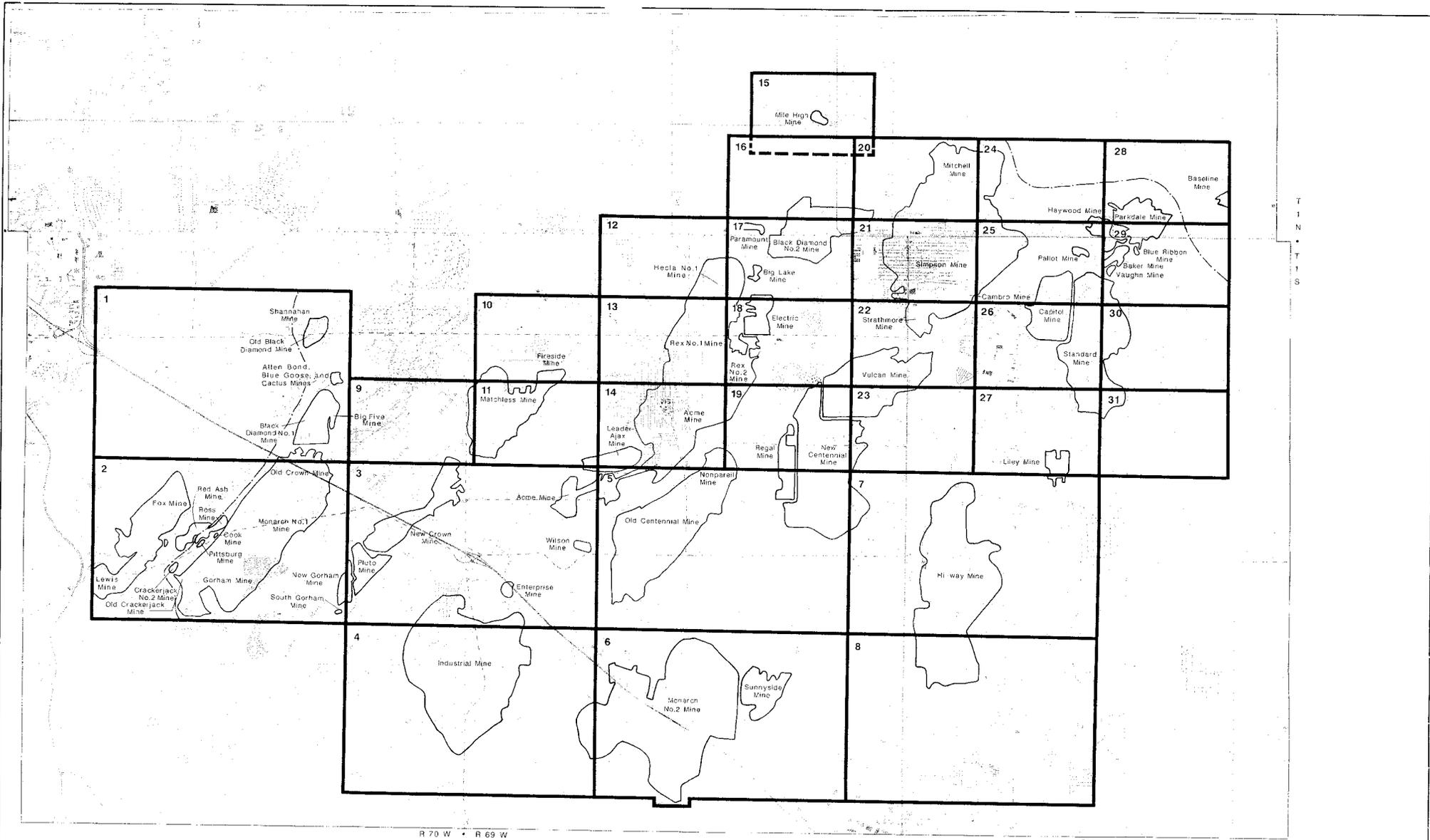
RECEIVED
MAY 6 1986
Mined Land RECLAMATION
Div. Dept. of Natural Resources

Prepared By:

Dames & Moore



1626 Cole Blvd
Golden, CO, 80401



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R 70 W • R 69 W

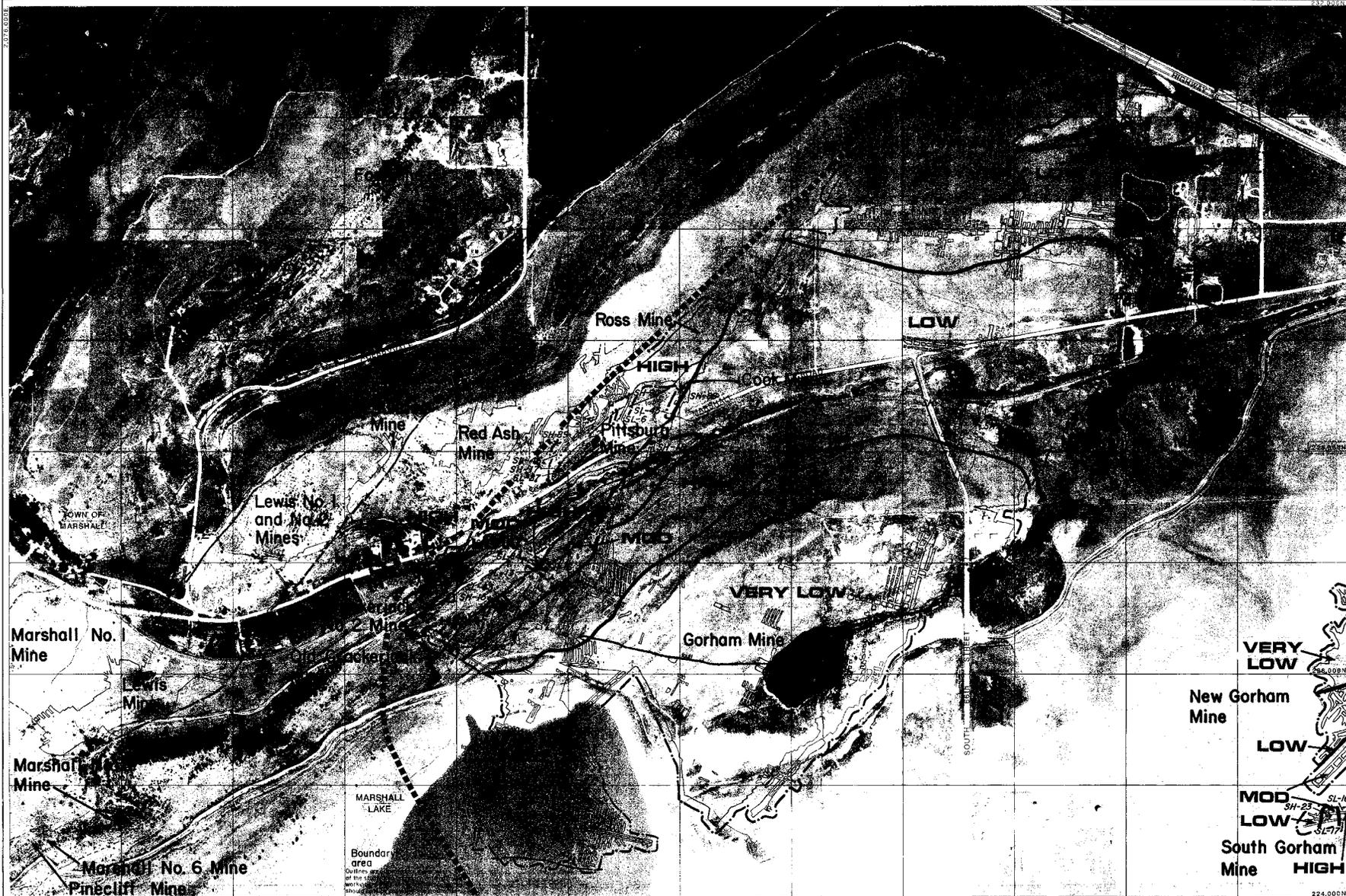
R 69 W • R 68 W

LEGEND

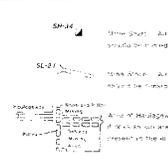
- 8 — Number refers to Maps in Volumes IV and V
- Boundary Of Study Area
- Outline of Mined Area



Dames & Moore State of Colorado Boulder County Subsidence Investigation	1626 1/2 -th. Blvd. Suite 200 Golden, CO 80621 (303) 232-9262	0 1000 2000 3000 Feet 0 1 2 Miles
	INDEX MAP 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31	0 1000 2000 3000 Feet 0 1 2 Miles
	Index Map	



1. Aerial charts and mine maps were obtained from Radio Service Company of Colorado. The aerial photographs were taken in September, 1954.
2. Mine maps, records were supplied from individual mine maps provided by the State of Colorado.
3. Contours of the photo base and mine bases were developed following comparison of the mine locations. The locations of the mine bases were established as accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Section 24.)
4. Mine workings and mine boundaries which overlaid onto adjacent aerial photographs have been checked for exactness of mine boundaries as to error in the size and location of surface cultural features on mine bases. The locations of the map are as accurate as possible given the available data.
5. This map is the property of the Colorado Bureau of Mines and shall not be reproduced without written permission of the Colorado Bureau of Mines, 1575 L.M. 34-000-104.



LEGEND

Mine Base - Aerial photograph showing the mine base. The mine base is shown as a solid black area. The mine workings are shown as a dashed line. The mine boundaries are shown as a solid line.

Mine Workings - Aerial photograph showing the mine workings. The mine workings are shown as a dashed line.

Mine Boundaries - Aerial photograph showing the mine boundaries. The mine boundaries are shown as a solid line.

Scale - 0 100 200 300 400 Feet

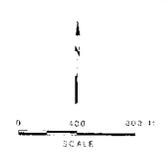
North Arrow

HIGH - Areas of high hazard potential, including areas of high seismicity, high ground water, and high surface water.

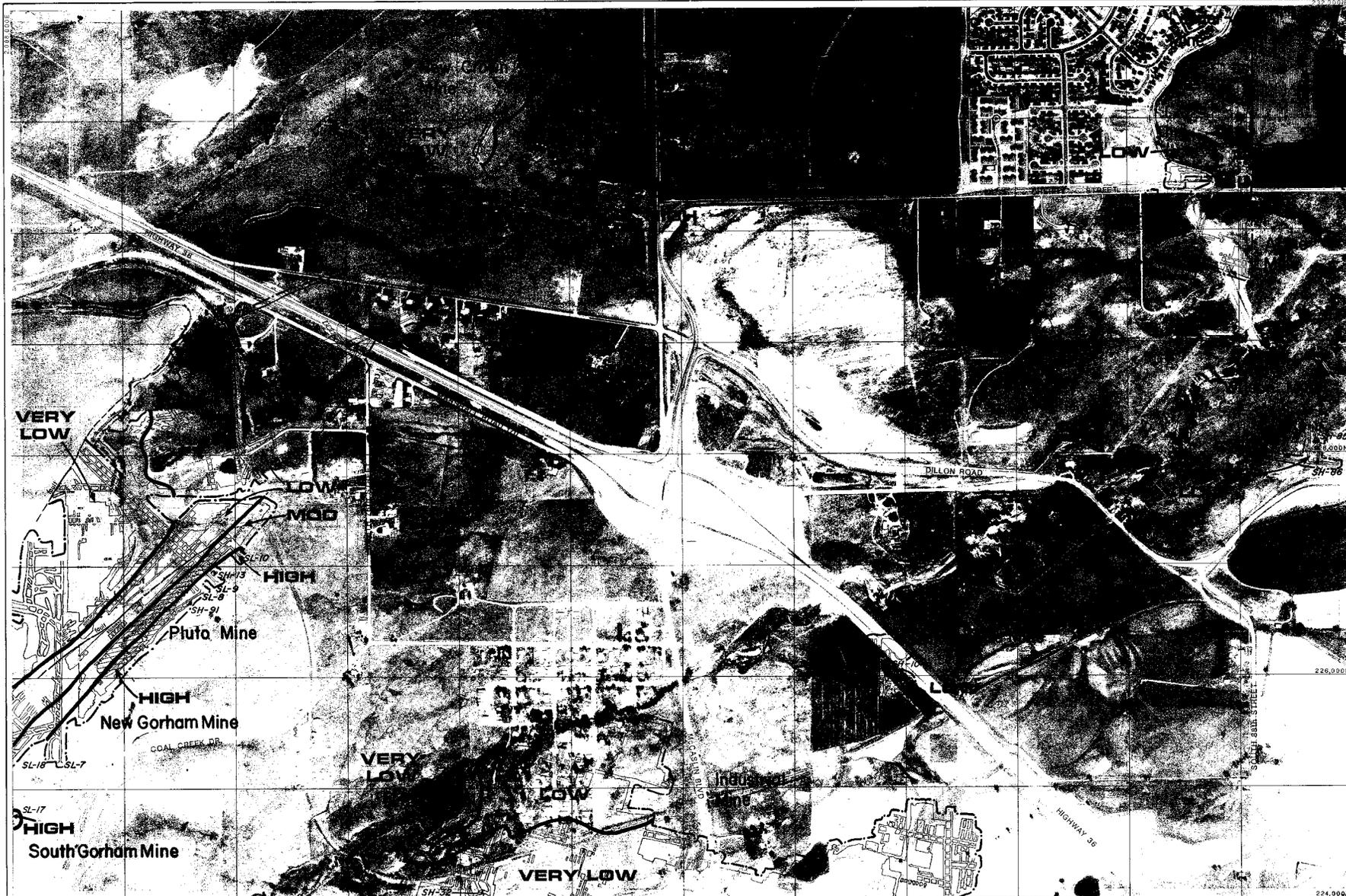
MOD - Areas of moderate hazard potential, including areas of moderate seismicity, moderate ground water, and moderate surface water.

LOW - Areas of low hazard potential, including areas of low seismicity, low ground water, and low surface water.

VERY LOW - Areas of very low hazard potential, including areas of very low seismicity, very low ground water, and very low surface water.



Dames & Moore		1000 17th Street, N.W. Washington, D.C. 20036 (202) 391-6000
State of Colorado Boilder County Subsidence Investigation		
Subsidence Potential and Hazard Zone Map		Sheet



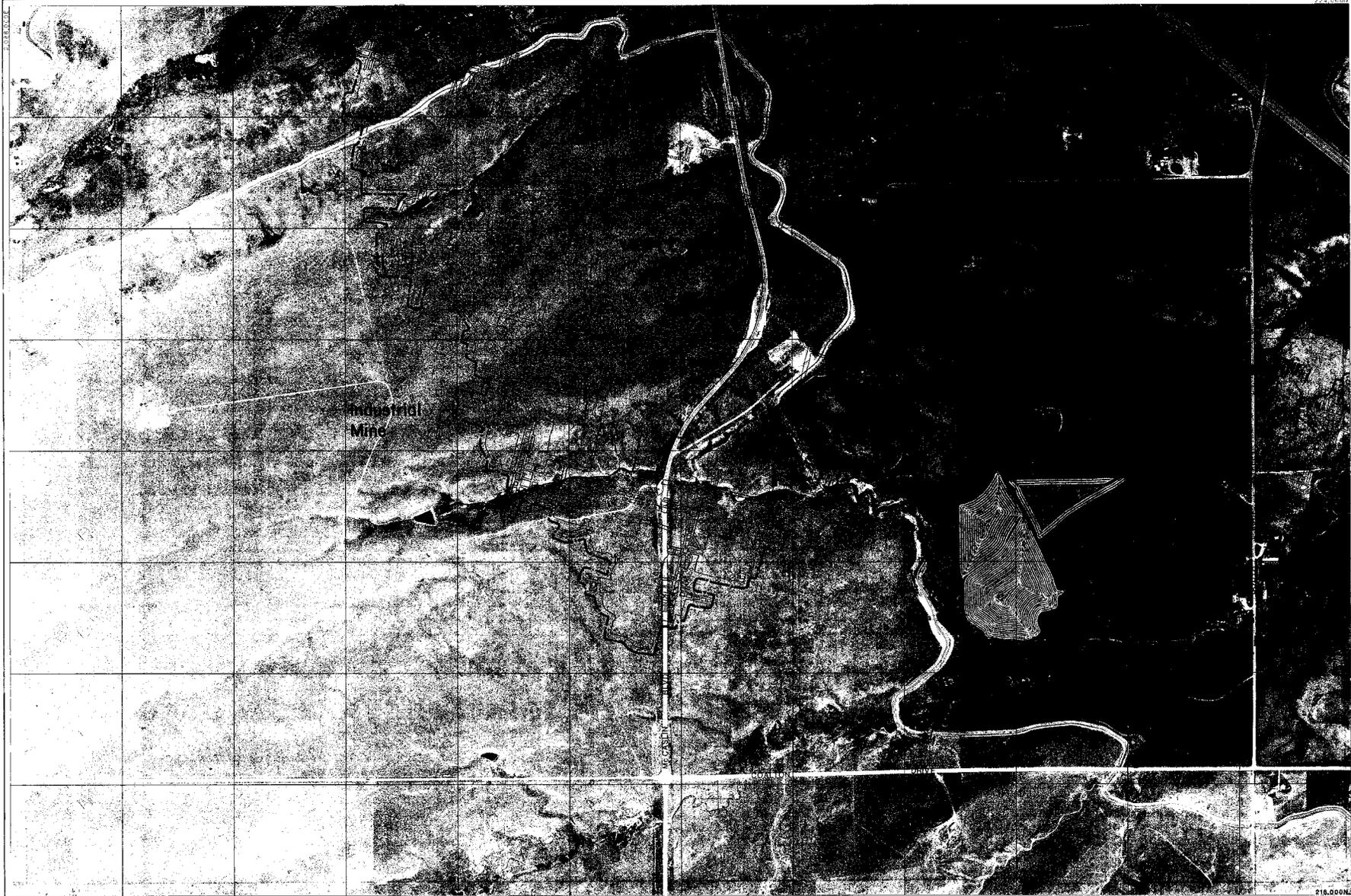
GENERAL NOTES:

1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1984.
2. Mine map materials were compiled from individual mine maps provided by the State of Colorado.
3. Contours of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Exhibit 2-1)
4. Mine workings and mine locations which overlaid onto advanced aerial photograph base maps may not exactly coincide at exact locations due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 C.R.S. 18-50-104.

LEGEND

<p>Mine Base - All shafts and the surrounding area within 50' radius should be considered as a high potential zone.</p> <p>Mine Shaft - All shafts and the surrounding area within 50' radius should be considered as a high potential zone.</p> <p>Mine Slope - All slopes and the surrounding area within 50' radius should be considered as a high potential zone.</p>	<p>HIGH - Zone of highest potential for future subsidence.</p> <p>MOD - Zone of moderate potential for future subsidence.</p> <p>LOW - Zone of low potential for future subsidence.</p> <p>VERY LOW - Zone of very low potential for future subsidence.</p>
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	<p>Dames & Moore</p> <p>1676 E. 1st Ave., Suite 200 Boulder, CO 80501 303.442.6262</p>
	<p>State of Colorado Boulder County Subsidence Investigation</p>
	<p>Subsidence Potential and Hazard Zone Map</p>



GENERAL NOTES

1. Aerial photographs base maps were obtained from Public Service Company of Colorado. The aerial photographs was flown in September, 1984.
2. Mine maps included were compiled from individual mine maps provided by the State of Colorado.
3. Contours of the photo base and mine bases were developed following completion of the field investigations. The locations of the lines and mine features are accurate within the limits of data generated by this study, proper documentation and the accuracy of the aerial photographs. See Section 1.
4. Mine workings and mine boundaries which overlap onto adjacent aerial photo base base maps may not exactly coincide at every location due to error in the scale and position of surface related features on mine maps. The locations of the maps are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and should not be reproduced without written permission of the Division. DMS-10-1173-MS-14-30-174.

LEGEND

SHM

W Mine Workings

B Mine Boundary

M Mine Boundary

D Mine Boundary

W Mine Workings

B Mine Boundary

M Mine Boundary

D Mine Boundary

W Mine Workings

B Mine Boundary

M Mine Boundary

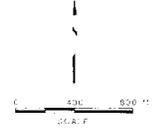
D Mine Boundary

HIGH Deeply eroded, steeply sloping, and/or high relief

MOD Deeply eroded, steeply sloping, and/or high relief

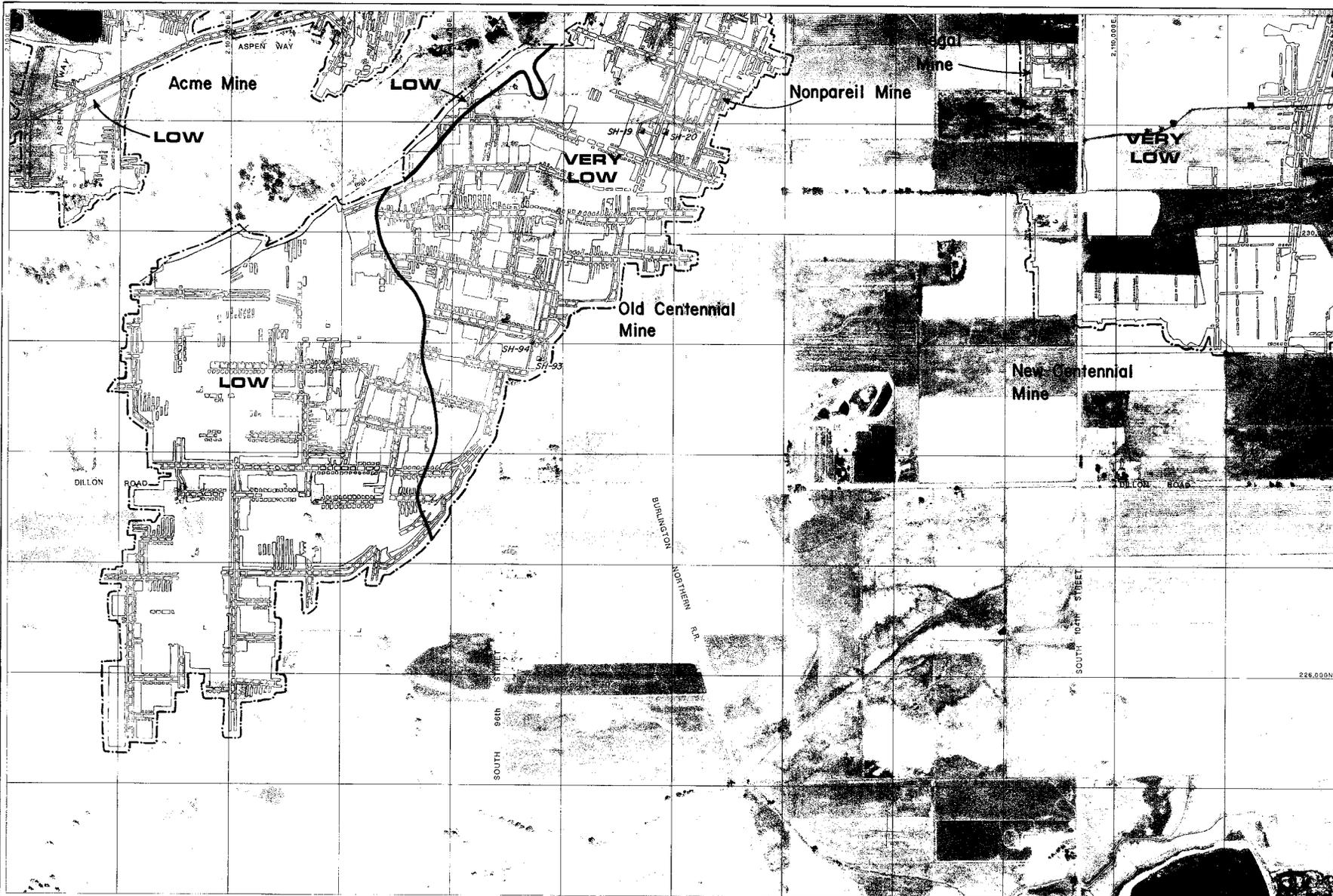
LOW Deeply eroded, steeply sloping, and/or high relief

VERY LOW Deeply eroded, steeply sloping, and/or high relief



Dames & Moore

State of Colorado
 Boulder County Subsidence Investigation
 Subsidence Potential and Hazard Zone Map



UNIT AND SCALE OF MAP

1" = 490'

1" = 800'

Acme Mine

LOW

Nonpareil Mine

VERY LOW

Old Centennial Mine

New Centennial Mine

LOW

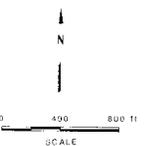
LOW

VERY LOW

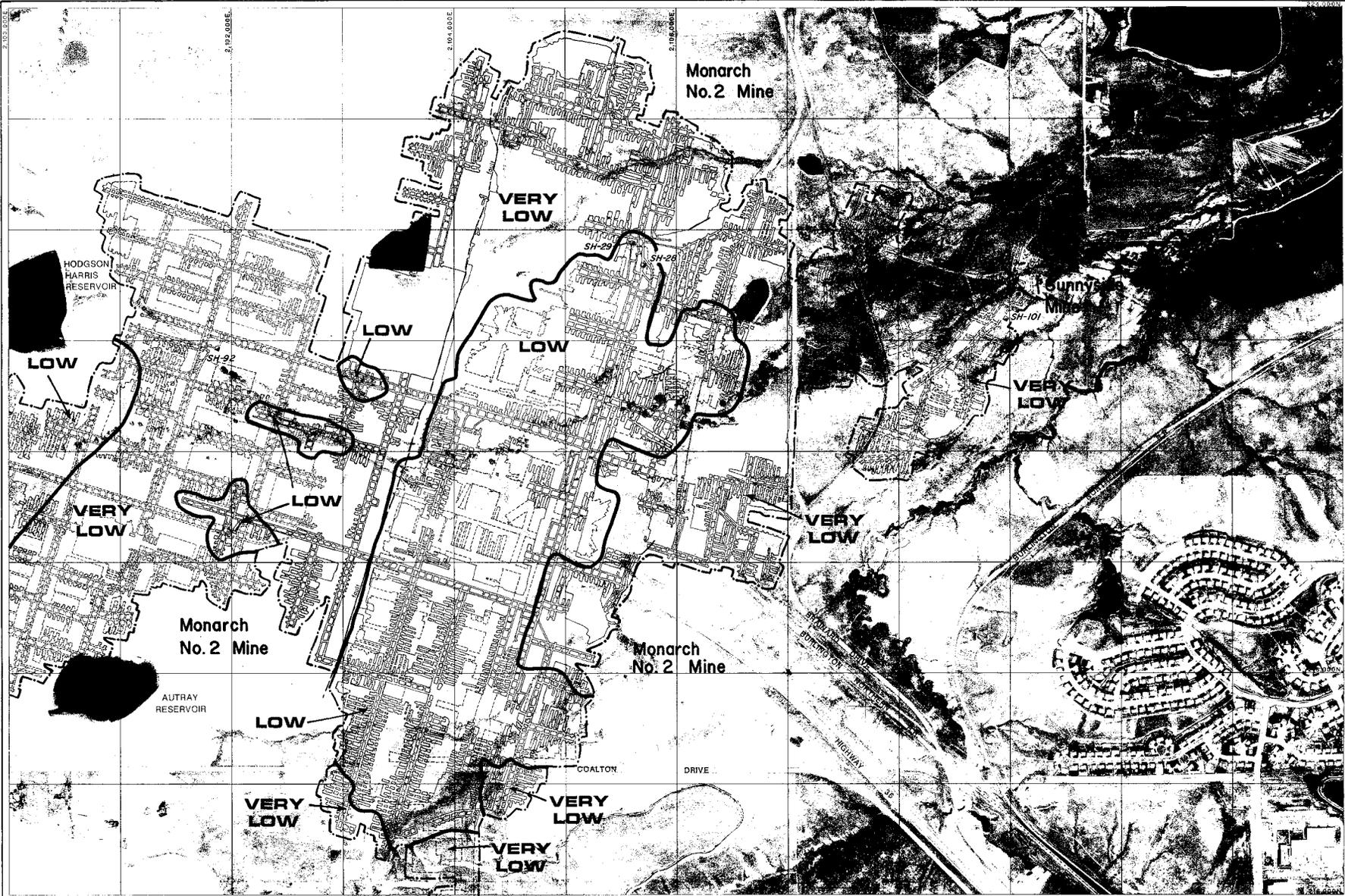
- GENERAL NOTES:**
1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1984.
 2. Mine map overlays were compiled from individual mine maps provided by the State of Colorado.
 3. Composites of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Section 2.1)
 4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide at sheet boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
 5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1978 C.R.S. 31-30-134.



- HIGH** Zone of highest potential for future subsidence.
- MOD** Zone of moderate potential for future subsidence.
- LOW** Zone of low potential for future subsidence.
- VERY LOW** Zone of very low potential for future subsidence.
- Level of potential subsidence.

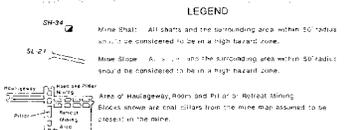


<p>Dames & Moore</p> <p>State of Colorado Boulder County Subsidence Investigation</p> <p>Subsidence Potential and Hazard Zone Map</p>	<p>1025 Cole Blvd., Suite 200 Golden, CO 80501 (303) 232-6262</p>	<p>Scale</p> <p>North Arrow</p> <p>Sheet</p>
	<p>1025 Cole Blvd., Suite 200 Golden, CO 80501 (303) 232-6262</p>	<p>Scale</p> <p>North Arrow</p> <p>Sheet</p>
	<p>1025 Cole Blvd., Suite 200 Golden, CO 80501 (303) 232-6262</p>	<p>Scale</p> <p>North Arrow</p> <p>Sheet</p>



GENERAL NOTES:

1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The earliest photography was taken in September, 1954.
2. Mine map details were compiled from individual mine maps provided by the State of Colorado.
3. Contour lines of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. See Section 5-B.
4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide at small horizontal scale. The scope and location of surface cultural features of mine maps. The locations of the maps are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 15-1-1-3, C.R.S. 34-35-104.

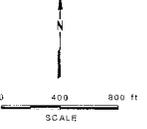


HIGH Zone of highest potential for future subsidence.

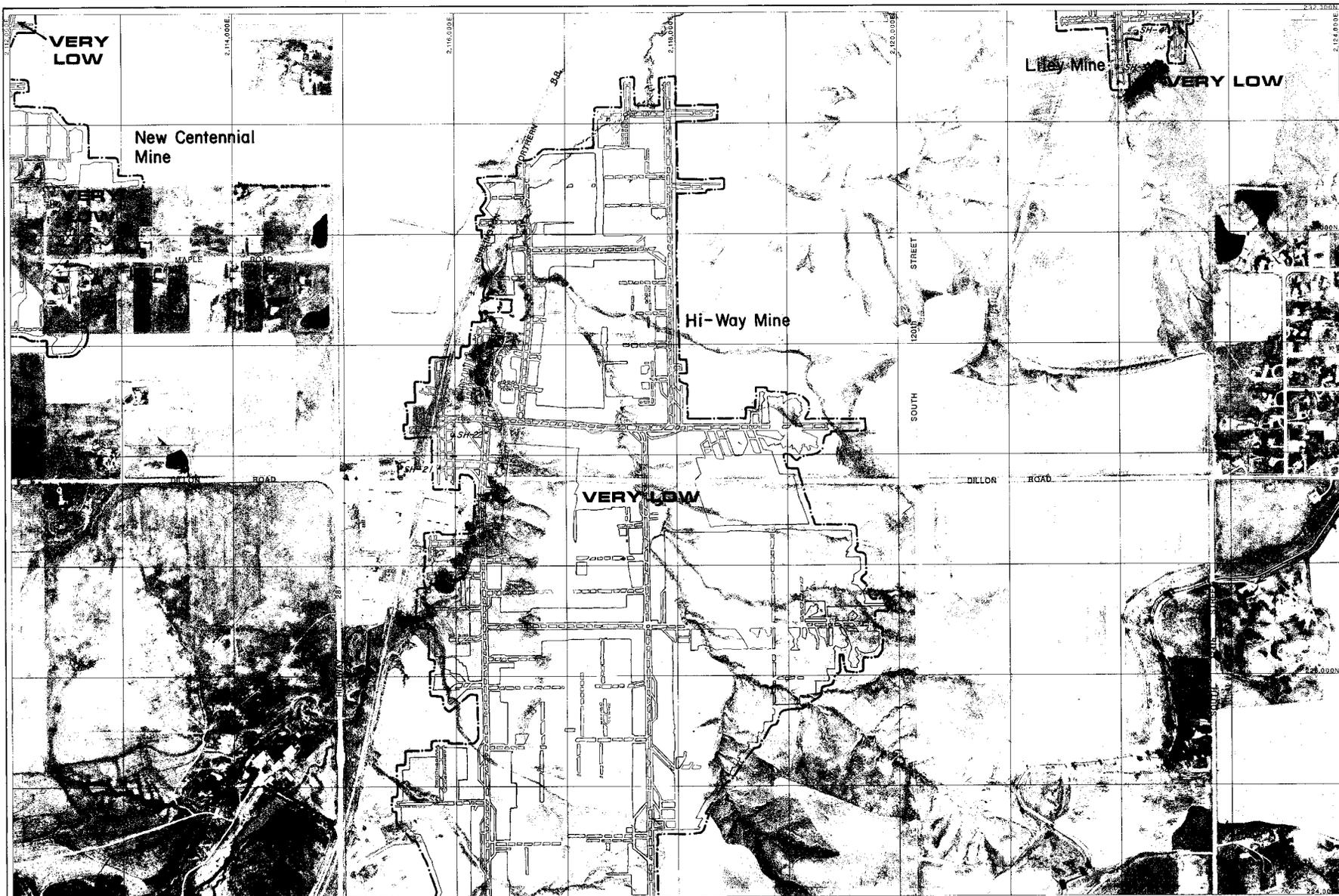
MOD Zone of moderate potential for future subsidence.

LOW Zone of low potential for future subsidence.

VERY LOW Zone of very low potential for future subsidence.

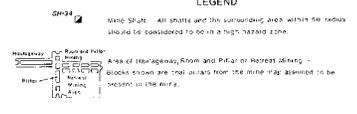


Dames & Moore 1122 Cole Blvd., Suite 200 Colorado, CO 80501 (303) 222-6262	State of Colorado Boulder County Subsidence Investigation	Sheet 6
	Subsidence Potential and Hazard Zone Map	
	SCALE	

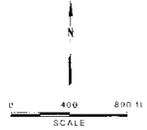


DATE: 01/11/00
 SCALE: 1" = 100'
 SHEET: 7 OF 7

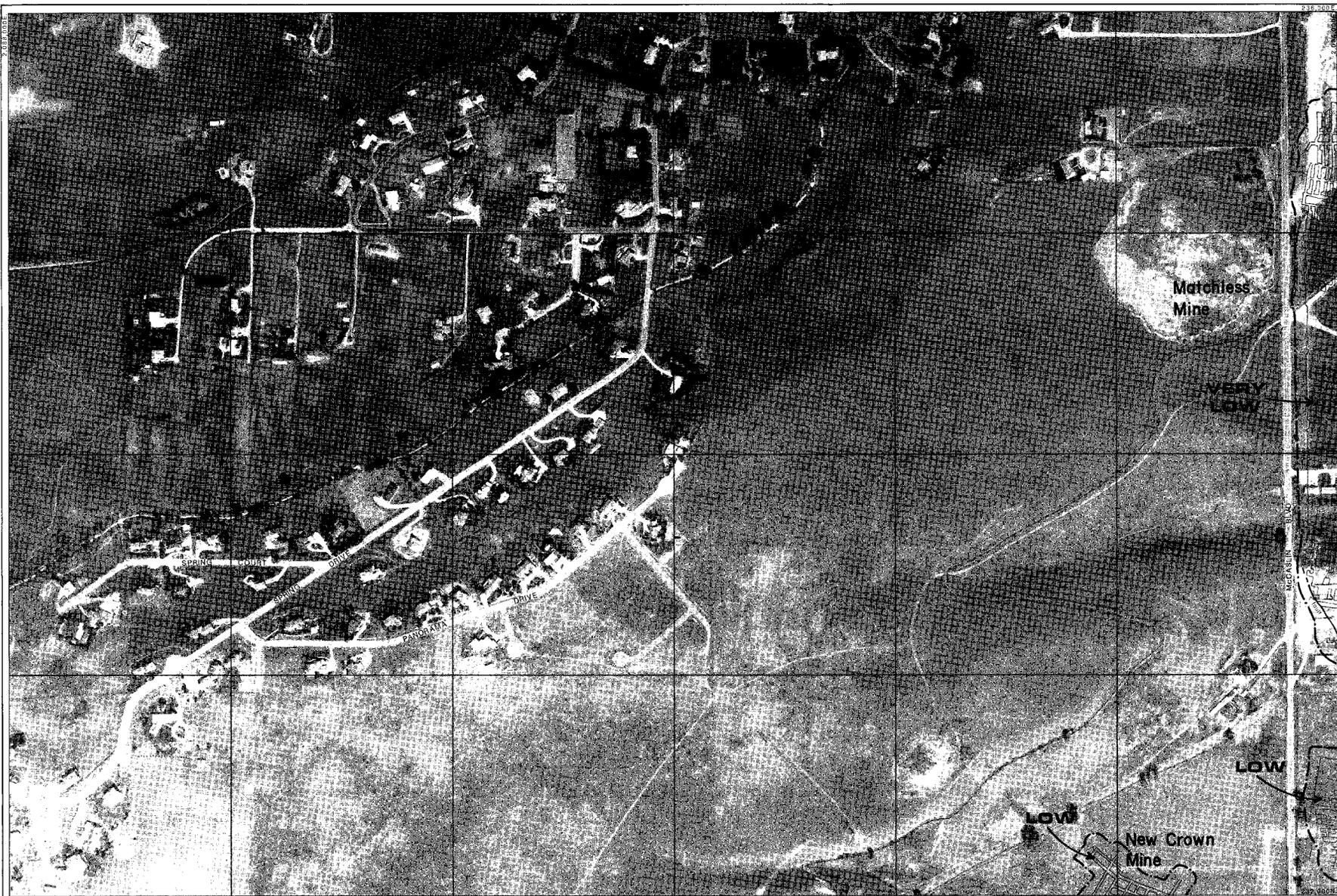
1. Aerial photograph base maps were obtained from Photoc Service Company of Colorado. The aerial photography was flown in September, 1982.
2. Mine map mosaics were compiled from individual mine maps provided by the State of Colorado.
3. Composites of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Section 2.15)
4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide at sharp boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 C.R.S. 34-36-104.



- HIGH** Zone of highest potential for future subsidence.
- MOD** Zone of moderate potential for future subsidence.
- LOW** Zone of the potential for future subsidence.
- VERY LOW** Zone of very low potential for future subsidence.
- Critical cultural subsidence.



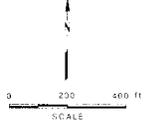
Dames & Moore 1626 Lake Blvd., Suite 200 Boulder, CO 80508 (303) 440-0282	State of Colorado Boulder County Subsidence Investigation
	Subsidence Potential and Hazard Zone Map
	Sheet 7



- GENERAL NOTES**
1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1984.
 2. Mine map overlays were compiled from individual mine maps provided by the State of Colorado.
 3. Contours of the photo mine and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Section 2.1)
 4. Mine coverings and mine foundations which cover up mine adjacent aerial photograph base maps may not exactly coincide at sheet boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
 5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the D.M.S. in Durham 11-1973 C.M.S. 38-44-104.



- HIGH** - Areas of highest potential for future subsidence
- MID** - Areas of moderate potential for future subsidence
- LOW** - Areas of low potential for future subsidence
- VERY LOW** - Areas with the greatest likelihood of future subsidence



<p>Dames & Moore</p> <p>State of Colorado Boulder County Subsidence Investigation</p> <p>Subsidence Potential and Hazard Zone Map</p>	<p>1026 E. 14th Street, Suite 200 Boulder, CO 80502 (303) 440-0000</p>
	<p>Sheet</p>
	<p>Scale</p>



Matchless Mine

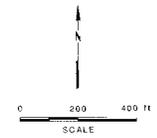
VERY LOW

LEGEND

- Mine Slope - All slopes and the surrounding area within 50' radius should be considered to be in a high hazard zone.
- Area of Abutment, Room and Pillar or Retort Caving
- Graticles shown are 500' apart from the mine except as noted to be present in the mine.
- Upper seam workings
- Lower seam workings
- Fault or striking zone as shown on mine maps of recent or approximate blocks, D-downthrow; G-upthrow

- HIGH** Zone of highest potential for future subsidence.
- MOD** Zone of moderate potential for future subsidence.
- LOW** Zone of low potential for future subsidence.
- VERY LOW** Zone of very low potential for future subsidence.
- Area of potential subsidence

1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was taken in September, 1964.
2. Mine maps and plans were compiled from individual mine maps provided by the State of Colorado.
3. Composite of the photo base and mine bases were developed following consideration of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Section 2.11)
4. Mine workings and mine boundaries which overlaid onto adjacent aerial photograph base maps may not exactly coincide as sheet boundaries due to error in the scale and location of surface control features on mine maps. The locations of the maps are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 CRS 53-30-104.



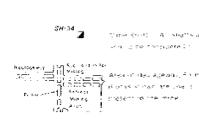
Dames & Moore	1620 G. Hill Blvd., Suite 200 Boulder, CO 80501 (303) 442-4266	DATE DRAWN CHECKED APPROVED
	State of Colorado Boulder County Subsidence Investigation	Sheet 10
Subsidence Potential and Hazard Zone Map		

240.000N
E. 110.000W

2054-232 NE



1. Aerial photographs in color were obtained from Public Service Company of Colorado. The aerial photo of this area from 11 September 1962.
2. The map overlays were prepared from individual color maps provided by the State of Colorado.
3. Contour lines of the photo base and wire marks were also used following revision of the base projections. The locations of the mines and mine features are accurate within the limits of care exercised in this study, including reconstruction and the accuracy of the aerial photographs. (See Section 2.)
4. Mine locations and mine boundaries were overlaid onto adjacent aerial photograph base maps that are clearly identified as being independent due to areas of the scale and locations of various cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
5. The map is the property of the Colorado Division of Mines and may not be reproduced without written permission of the Division of Mines, 1515 13th Avenue, Denver, Colorado 80202.



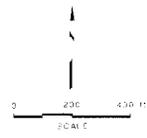
LEGEND

Mine Features
 A solid black line indicates the location of a mine feature. Mine features are shown on the map as they appear in the aerial photograph.

Mine Boundaries
 A dashed black line indicates the location of a mine boundary. Mine boundaries are shown on the map as they appear in the aerial photograph.

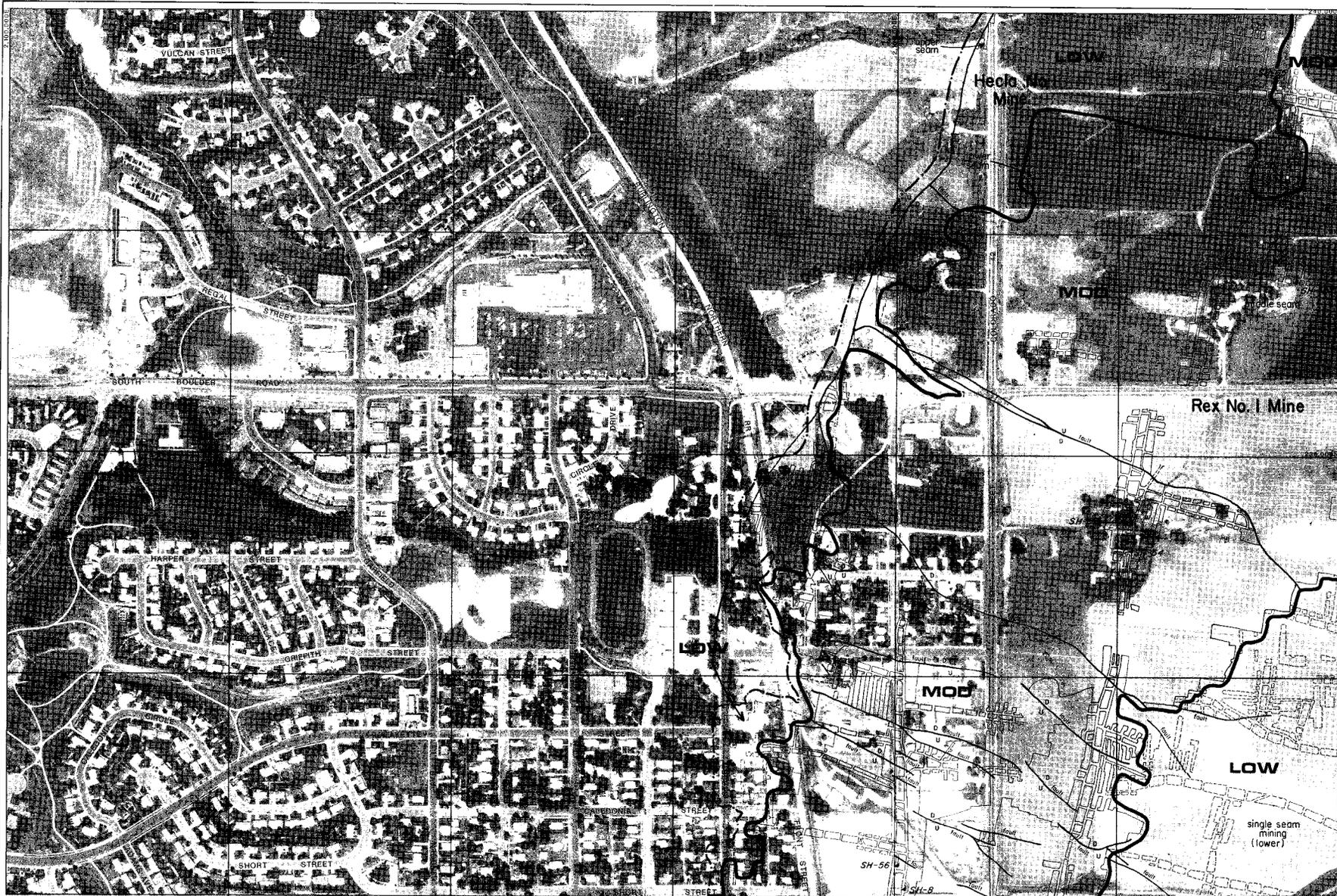
Mine Locations
 A solid black circle indicates the location of a mine location. Mine locations are shown on the map as they appear in the aerial photograph.

- HIGH** Zone of high potential for subsidence
- MDD** Zone of moderate potential for subsidence
- LOW** Zone of low potential for subsidence
- VERY LOW** Zone of very low potential for subsidence



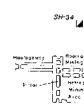
Dames & Moore CONSULTANTS

State of Colorado
 Boulder County Subsidence Investigation
 Subsidence Potential and
 Hazard Zone Map



GENERAL NOTES:

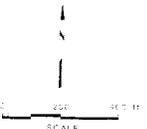
1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1983.
2. Mine maps were compiled from individual mine maps provided by the State of Colorado.
3. Composites of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study. Accurate documentation and the accuracy of the aerial photography. (See Section 2.1)
4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide at their boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 CRS 34-30-102.



LEGEND

- Mine Shaft - All shafts and the surrounding area within 50' radius shall be considered to be a high hazard zone.
- Area of Highways, Road and Railroad - Mining Blocks shown are 1/4 mile from the mine map boundary to be present in the mine.
- Open-pit mine workings
- Public seam workings
- Upper seam workings
- Facility showing level as shown on mine maps of record
- North-south block, 5' elevation block

- HIGH** Zone of highest potential for future subsidence.
- MOD** Zone of moderate potential for future subsidence.
- LOW** Zone of low potential for future subsidence.
- VERY LOW** Zone of very low potential for future subsidence.
- Line of potential subsidence.



Dames & Moore 	1626 East 17th, Suite 200 Golden, CO 80401 (303) 232-6592
	State of Colorado Boulder County Subsidence Investigation
	Subsidence Potential and Hazard Zone Map



GENERAL NOTES:

1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1985.
2. Mine maps mosaics were compiled from individual mine maps provided by the State of Colorado.
3. Contours of the photo base and mine bases were developed for being coincident of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Section 2.1.)
4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide as mine boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the map are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 C.R.S. 24-34-104.

LEGEND

<p>SH-34</p> <p> Mine Base Mine Workings Mine Features </p>	<p> Upper Seam Workings Lower Seam Workings Mine Features Mine Features </p>	<p> HIGH Zone of highest potential for future subsidence. MOD Line of evidence potential for future subsidence. LOW Zone of low potential for future subsidence. VERY LOW Zone of very low potential for future subsidence. </p>
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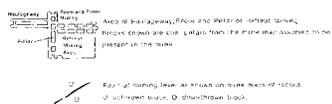
	1625 Cole Blvd., Suite 210 Boulder, CO 80501 (303) 442-9200
	State of Colorado Boulder County Subsidence Investigation Subsidence Potential and Hazard Zone Map



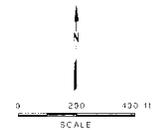
GENERAL NOTES

1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1980.
2. Mine map materials were compiled from individual mine maps provided by the State of Colorado.
3. Contours of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Section 7.1.)
4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide as sheet boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
5. This map is the property of The Colorado Division of Mines and shall not be reproduced without written permission of the Director pursuant to 1973 C.R.S. 34-30-104.

LEGEND



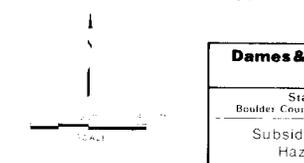
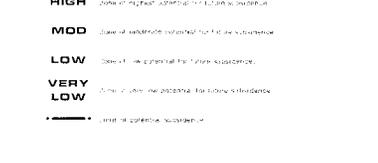
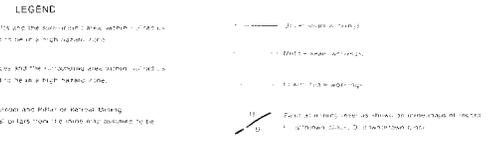
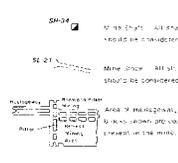
- HIGH** Zone of highest potential for future subsidence.
- MOD** Zone of moderate potential for future subsidence.
- LOW** Zone of low potential for future subsidence.
- VERY LOW** Zone of very low potential for future subsidence.
- Mine of potential subsidence



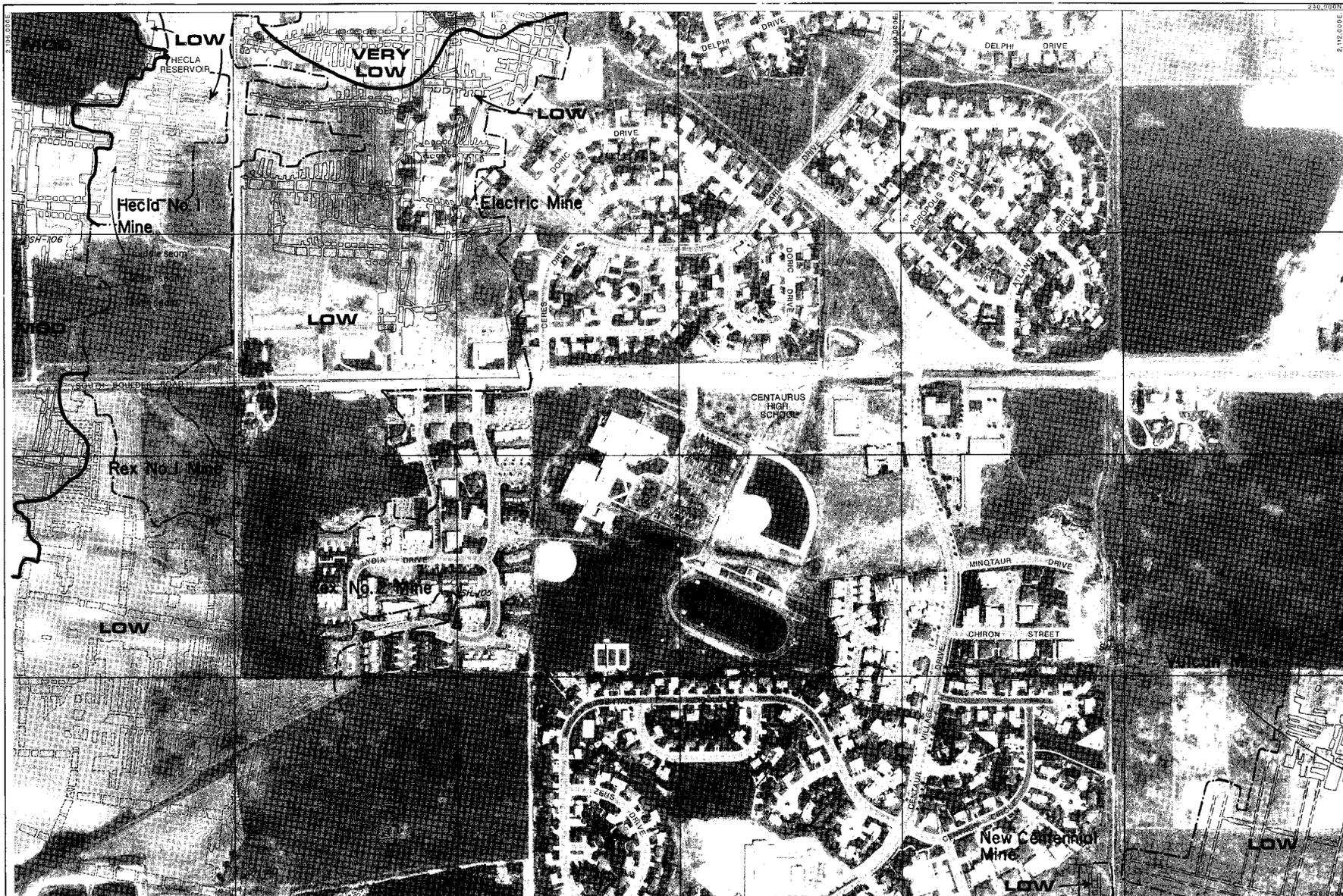
Dames & Moore 	1626 Cole Blvd., Suite 200 Boulder, CO 80501 (303) 442-6262	1 2 3 4 5 6 7 8 9 10
	State of Colorado Boulder County Subsidence Investigation	
	Subsidence Potential and Hazard Zone Map	



- GENERAL NOTES:
1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1984.
 2. Mine map overlays were compiled from individual mine maps provided by the State of Colorado.
 3. Composites of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. Use Section 2.11.
 4. Mine workings and mine abandonment which overlap onto adjacent aerial photograph base maps may not be clearly depicted. Mine boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
 5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division. DMR 1973 DMS 34-10-174.



Dames & Moore 1625 Foothill Parkway, Suite 200 Boulder, CO 80501 (303) 440-6200	State of Colorado Boulder County Subsidence Investigation
	Subsidence Potential and Hazard Zone Map
	Scale: 1" = 100'



210,000
2,110,000

GENERAL NOTES

1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1968.
2. Mine map mosaics were compiled from individual mine maps provided by the State of Colorado.
3. Contours of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See SECTION 5.1.)
4. Mine workings and mine boundaries which overlay onto adjacent aerial photographs have been marked exactly coincident at these boundaries. Due to error in the scale and location of surface cultural features on mine maps, the locations of the maps are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 CRS 34-30-124.

SP-04



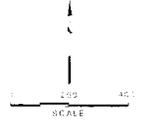
LEGEND

Mine Shaft - All shafts and the surrounding 300' within 5.7' radius should be considered to be a high hazard zone.

Mine - Area of haulage way, Room and Pillar or Retrial Mining. Shows areas which are "cut" off from the mine main adit to be reported on the mine.

- 200' beam workings
- 300' beam workings
- 1000' beam workings
- 1000' mine boundaries
- Shaft of mine; open or shown on mine maps of record.
- Shaft on check; □ downhaul shaft

- HIGH** - Zone of highest potential for future subsidence.
- MOD** - Zone of moderate potential for future subsidence.
- LOW** - Zone of low potential for future subsidence.
- VERY LOW** - Zone of very low potential for future subsidence.
- Limit of potential subsidence.



Dames & Moore 1526 C-40 Blvd., Suite 200 Boulder, CO 80501 (303) 442-4282	State of Colorado Boulder County Subsidence Investigation
	Subsidence Potential and Hazard Zone Map
	Sheet 15

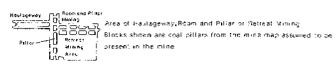


244.000N
212 2-B NW

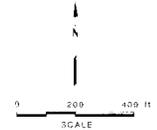
GENERAL NOTES

1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1984.
2. Mine map mosaics were compiled from individual mine maps provided by the State of Colorado.
3. Composites of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. Use Section 2.17.
4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide at street boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 CRS 34-35-104.

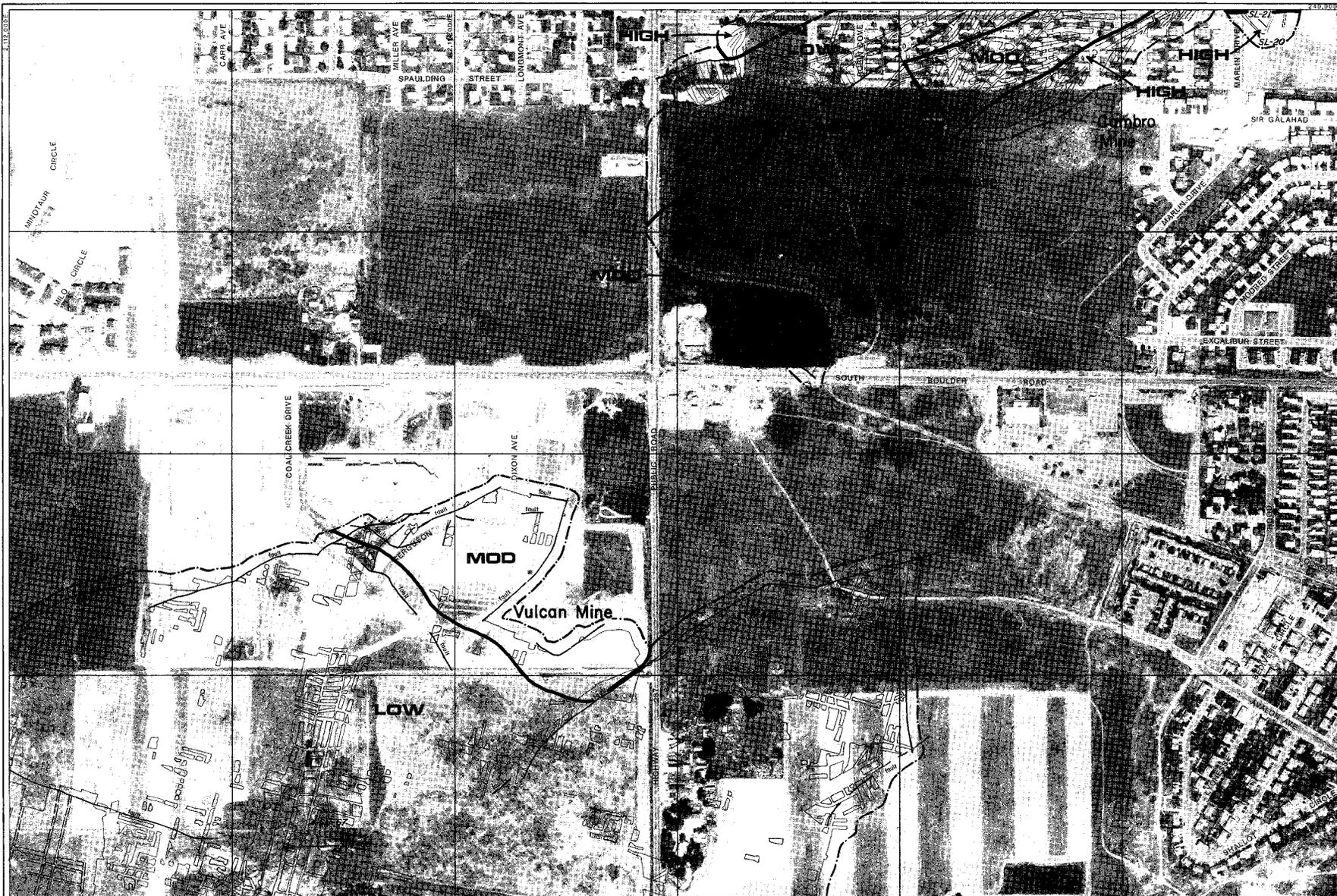
LEGEND



- HIGH** Zone of highest potential for future subsidence.
- MOD** Zone of moderate potential for future subsidence.
- LOW** Zone of low potential for future subsidence.
- VERY LOW** Zone of very low potential for future subsidence.
- Limit of potential subsidence.



Dames & Moore 1626 Cole Blvd., Suite 200 Golden, CO 80401 303.233.6200	C.E. 07/20/2007 001-1016
	State of Colorado Boulder County Subsidence Investigation Subsidence Potential and Hazard Zone Map



MAP AND FIELD SYMBOLS

SL-21	SL-20
SL-19	SL-18
SL-17	SL-16
SL-15	SL-14
SL-13	SL-12
SL-11	SL-10
SL-9	SL-8
SL-7	SL-6
SL-5	SL-4
SL-3	SL-2
SL-1	SL-0

GENERAL NOTES

1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1984.
2. Mine map contours were compiled from individual mine maps provided by the State of Colorado.
3. Contours of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by the study, previous documentation and the accuracy of the aerial photography. (See Section 2.1.)
4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide at sheet boundaries, due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 CRS 34-30-104.

LEGEND

	Mine Base - All shafts and the surrounding area within 50' radius should be considered to be in a High Hazard zone.		Mine Slope - all shafts and the surrounding area within 50' radius should be considered to be in a High Hazard zone.
	Mine Workings - All shafts and the surrounding area within 50' radius should be considered to be in a High Hazard zone.		Area of Roadway, Room and Pillar or "Open" Mining, which system are not shown on the mine map should be considered to be in a High Hazard zone.
	Contour - 50' intervals		Shaft - 50' intervals
	Road		Downhaul

HIGH

Zone of highest potential for future subsidence.

MOD

Zone of moderate potential for future subsidence.

LOW

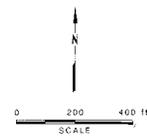
Zone of low potential for future subsidence.

VERY LOW

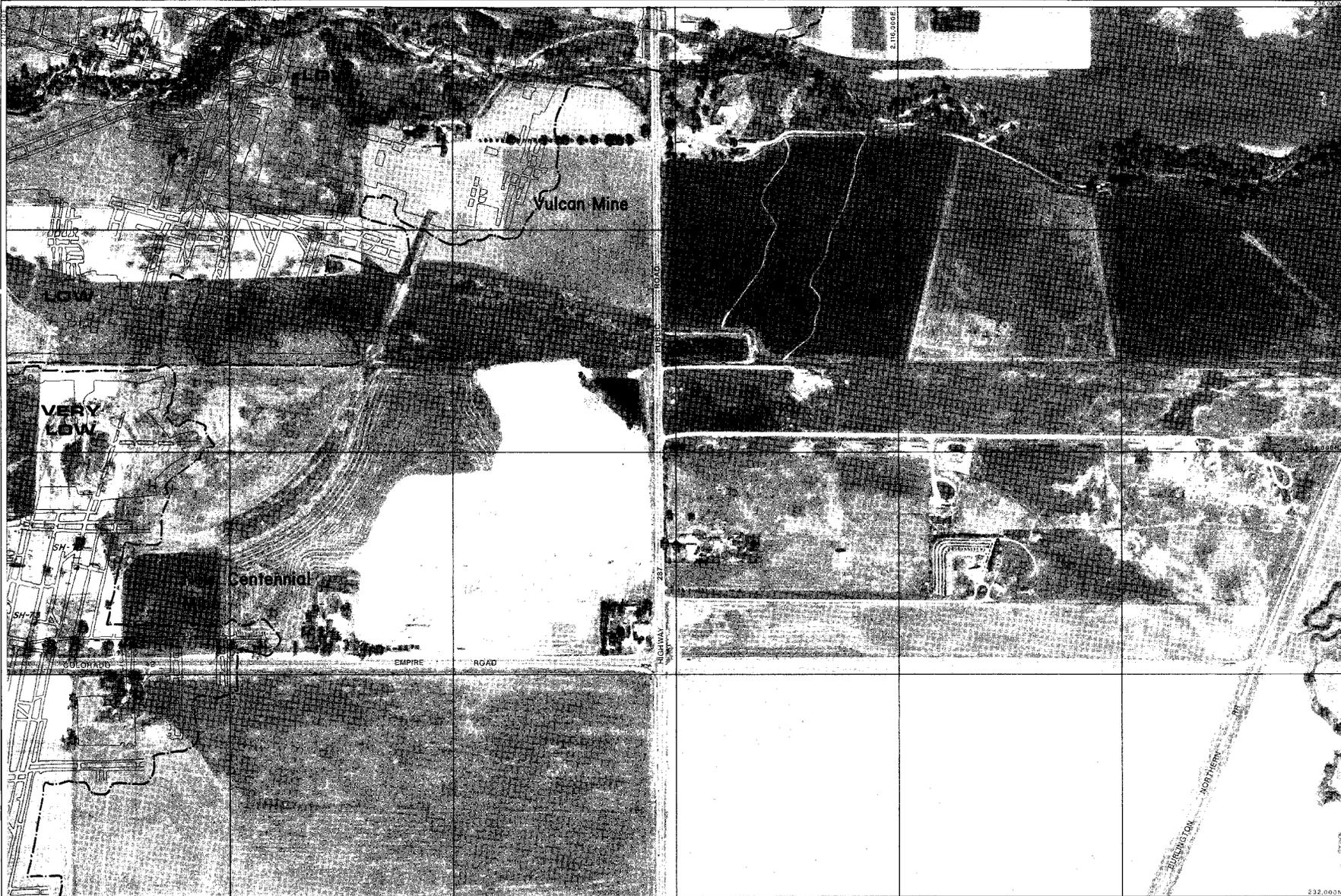
Zone of very low potential for future subsidence.

Dames & Moore 1400 Cook Blvd., Suite 270
Boulder, CO 80501
(303) 442-6262

State of Colorado
Boulder County Subsidence Investigation
Subsidence Potential and
Hazard Zone Map



DATE	1985
DRAWN BY	...
CHECKED BY	...
SCALE	AS SHOWN
SHEET	22



DATE OF PHOTO: 9/28/58
 PHOTO SCALE: 1" = 100'

233.003N
 2110-232.5W

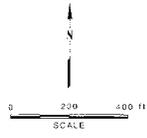
GENERAL NOTES:

1. Aerial photograph base maps were obtained from Pacific Service Company of Colorado. The aerial photography was flown in September, 1958.
2. Mine map mosaics were compiled from individual mine maps provided by the State of Colorado.
3. Components of the photo base and mine bases were developed following consultation of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Section 2.11)
4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide at sheet boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the roads are as accurate as possible given the available data.
5. This map is the property of the "Boulder County" of Mine and shall not be reproduced without written permission of the District Engineer to 1973 CRS 34-30-104.

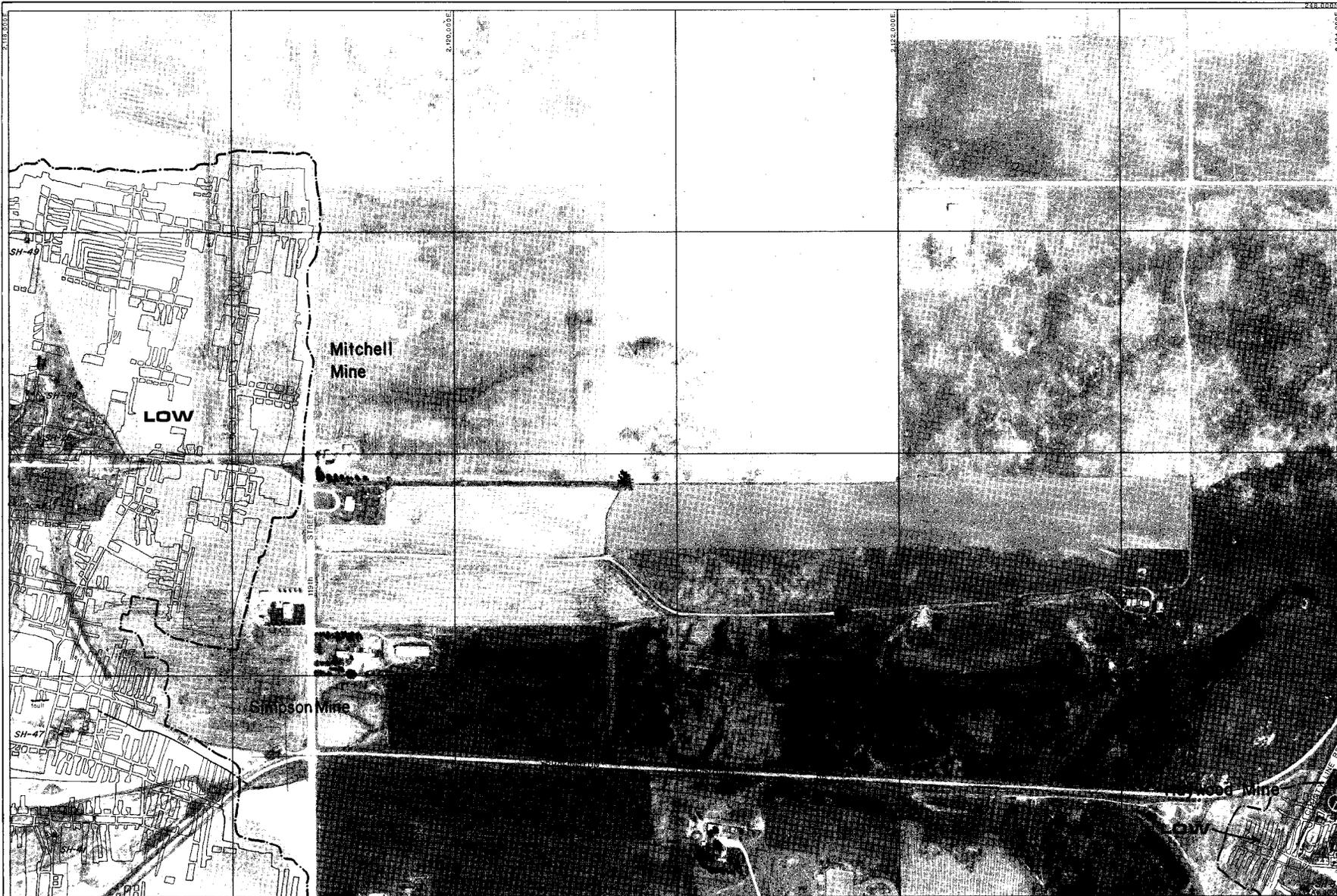
LEGEND



- HIGH** Zone of highest potential for future subsidence
- MOD** Zone of moderate potential for future subsidence
- LOW** Zone of low potential for future subsidence
- VERY LOW** Zone of very low potential for future subsidence
- Limit of potential subsidence



Dames & Moore 1626 Lake Blvd., Suite 200 Golden, CO 80601 303.427.4600	State of Colorado Boulder County Subsidence Investigation	SHEET NO. 23
	Subsidence Potential and Hazard Zone Map	
	SCALE	



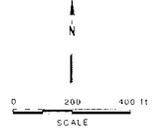
UNIT AND SCALE INFORMATION

Scale	1:25,000
Horizontal Accuracy	± 1.0 m
Vertical Accuracy	± 1.0 m
Map Date	1984
Map Title	Subsidence Potential and Hazard Zone Map
Map No.	2112-210-NE

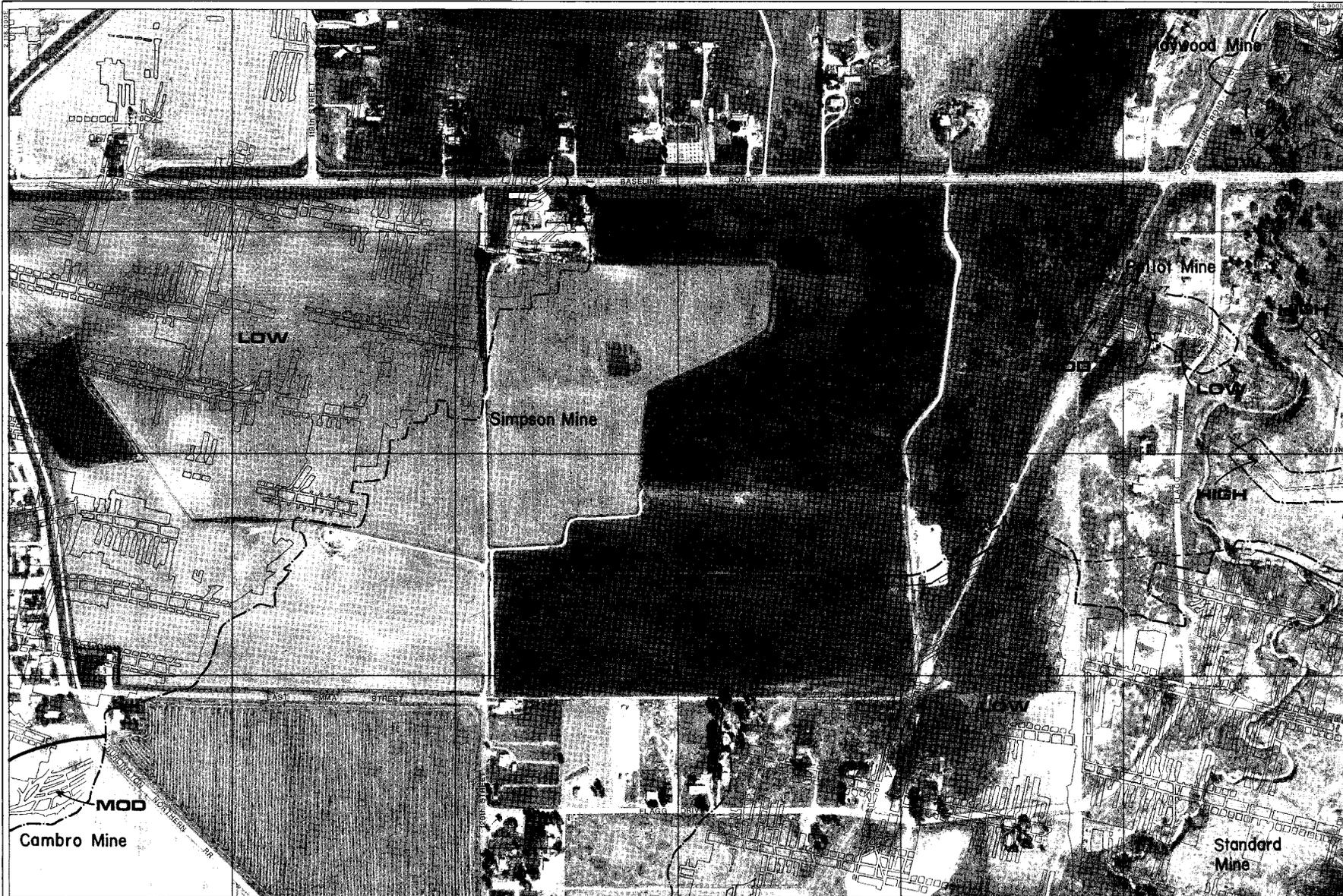
- GENERAL NOTES:**
- Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was taken in September, 1984.
 - Mine map mosaics were compiled from individual mine maps provided by the State of Colorado.
 - Composite of the photo base and mine cases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study. Previous interpretations and the accuracy of the aerial photography, see Sec. on 2.17.
 - Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide at sheet boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
 - This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division, established by 1978 C.R.S. 24-33-107.



- HIGH** Zone of highest potential for future subsidence.
- MOD** Zone of moderate potential for future subsidence.
- LOW** Zone of low potential for future subsidence.
- VERY LOW** Zone of very low potential for future subsidence.
- Line of subsidence.

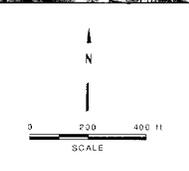
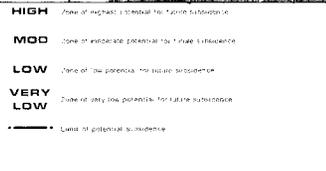
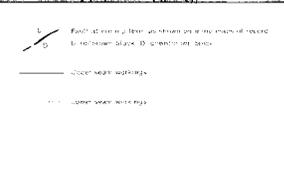
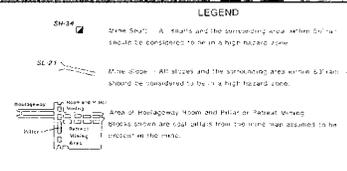


Dames & Moore 1625 F 4th St., Suite 200 Golden, CO 80401 (303) 239-4262	Title 2112-210-NE Subsidence Potential and Hazard Zone Map Date 1984
	State of Colorado Boulder County Subsidence Investigation Subsidence Potential and Hazard Zone Map Sheet 74

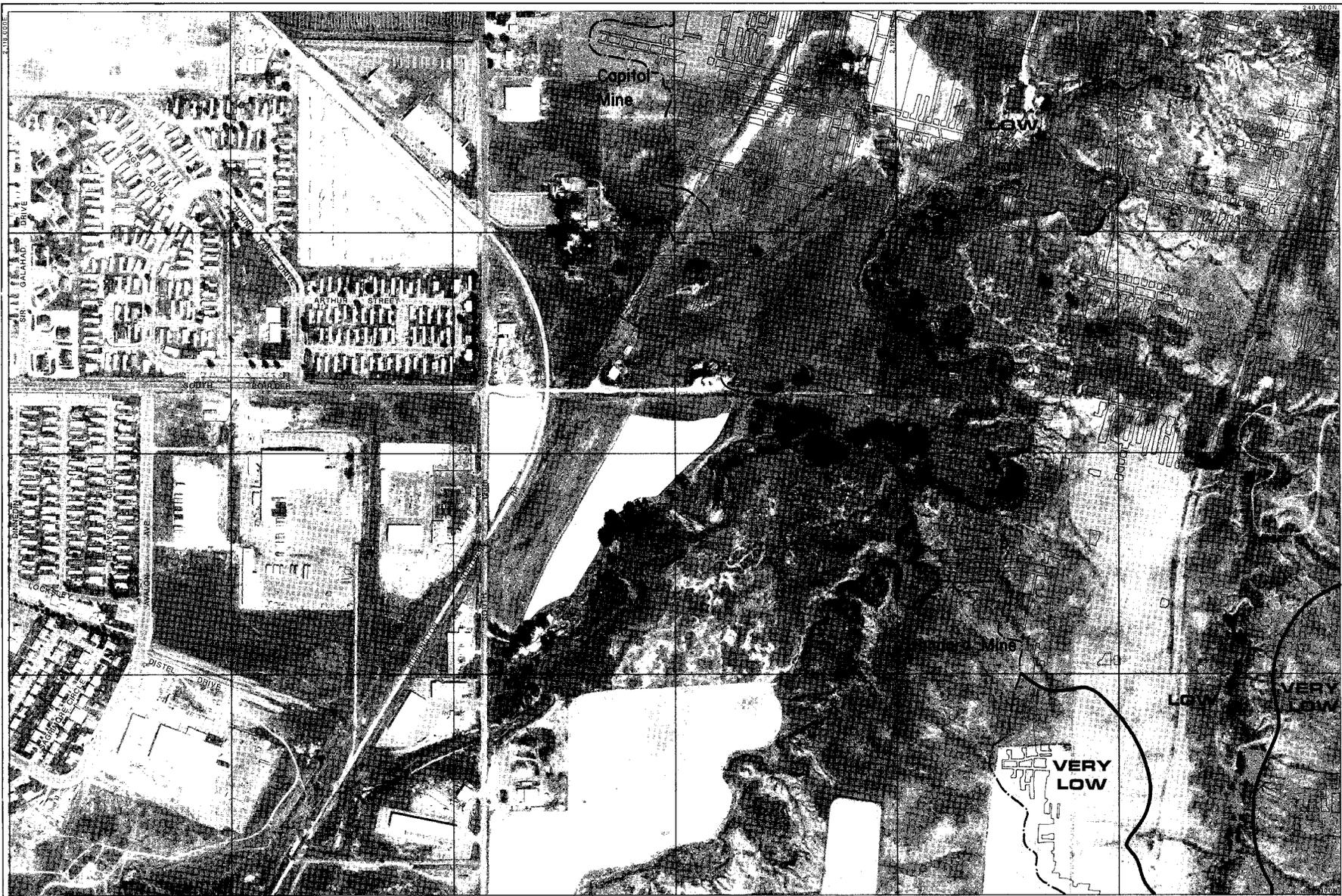


NOT TO SCALE

- GENERAL NOTES:**
1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was from September, 1962.
 2. Mine maps, mosaics were compiled from individual mine maps provided by the State of Colorado.
 3. Contours of the whole base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by the study; previous documentation and the accuracy of the aerial photography. (See Section 2.4).
 4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide at these boundaries. A 10' error in the scale and location of surface cultural features on mine maps. The location of the maps are as accurate as possible given the available data.
 5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division. Contract No. 3379, DMS, 34-46104.



Dames & Moore High Quality Service Since 1920 10000 Corporate Center Denver, Colorado 80231		Scale 1" = 200' 1" = 80.47 m
State of Colorado Boulder County Subsidence Investigation Subsidence Potential and Hazard Zone Map		Sheet 25



840 0000

DATE: 01/15/03
 BY: [illegible]
 CHECKED: [illegible]

2110-2320

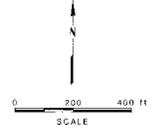
GENERAL NOTES:

1. Aerial photographs base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1984.
2. Mine map mosaics were compiled from individual mine maps provided by the State of Colorado.
3. Coordinates of the photo base and mine bases were developed following compilation of the field investigations. The locations of the mine and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Section 2.1).
4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph data may not exactly coincide at sheet boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 CRS 34-30-104.

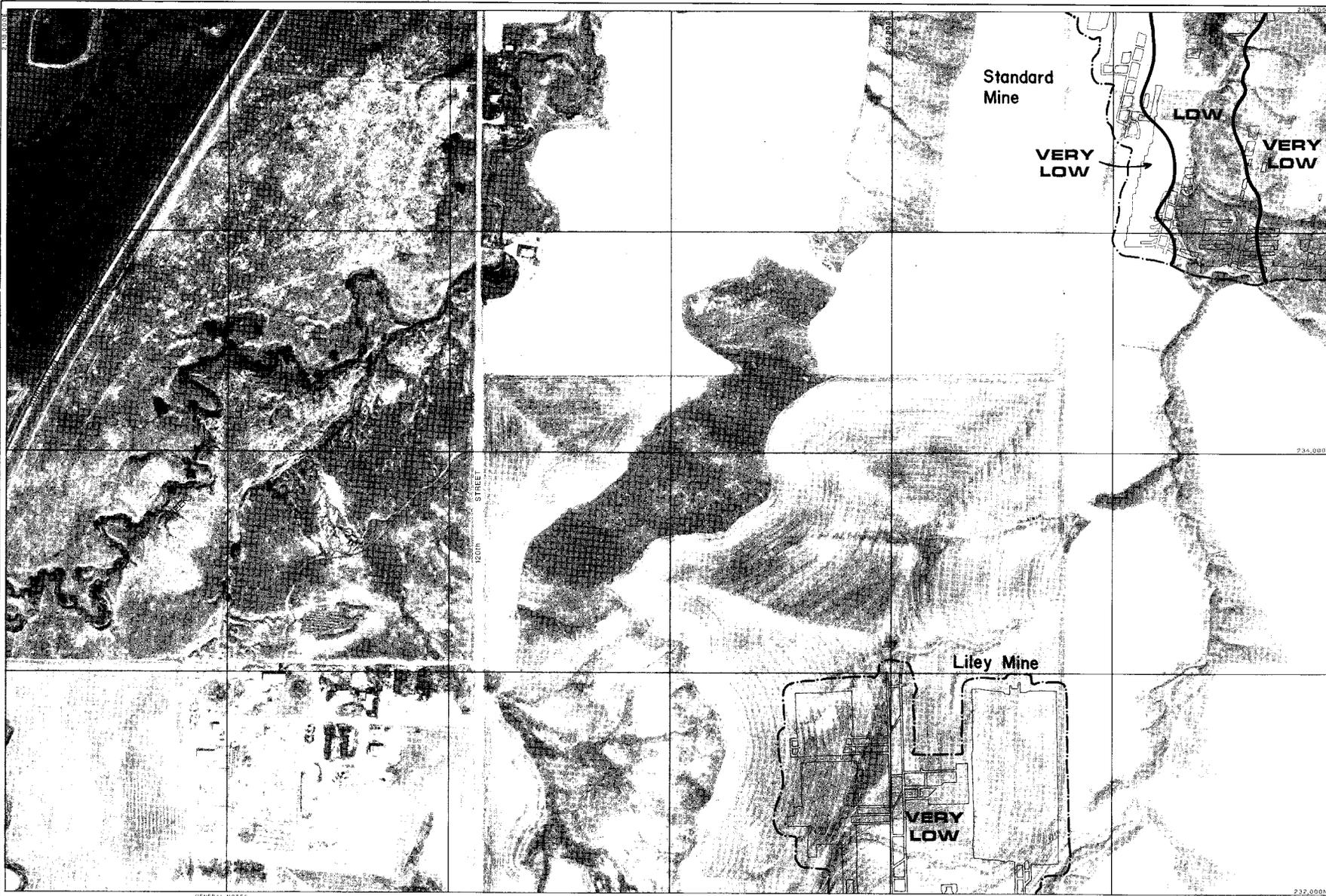
LEGEND



- HIGH** Zone of highest potential for future subsidence.
- MOD** Zone of moderate potential for future subsidence.
- LOW** Zone of low potential for future subsidence.
- VERY LOW** Zone of very low potential for future subsidence.
- Line of potential subsidence.



Dames & Moore 1625 Cole Blvd., Suite 200 Golden, CO 80401 (303) 232-0200	State of Colorado Boulder County Subsidence Investigation
	Subsidence Potential and Hazard Zone Map Sheet 2a



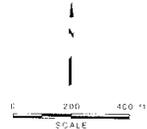
GENERAL NOTES:

1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1964.
2. Mine map mosaics were compiled from individual mine maps provided by the State of Colorado.
3. Contours of the mine base and mine basins were developed following compilation of the field investigations, the locations of the mines and mine features are accurate within the limits of data generated by this study, previous documentation and the accuracy of the aerial photography. (See Section 2.4)
4. Mine workings and mine foundations, when overlain upon adjacent aerial photograph base maps may not exactly coincide at mine boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible upon the available data.
5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 CRS 33-30-106.

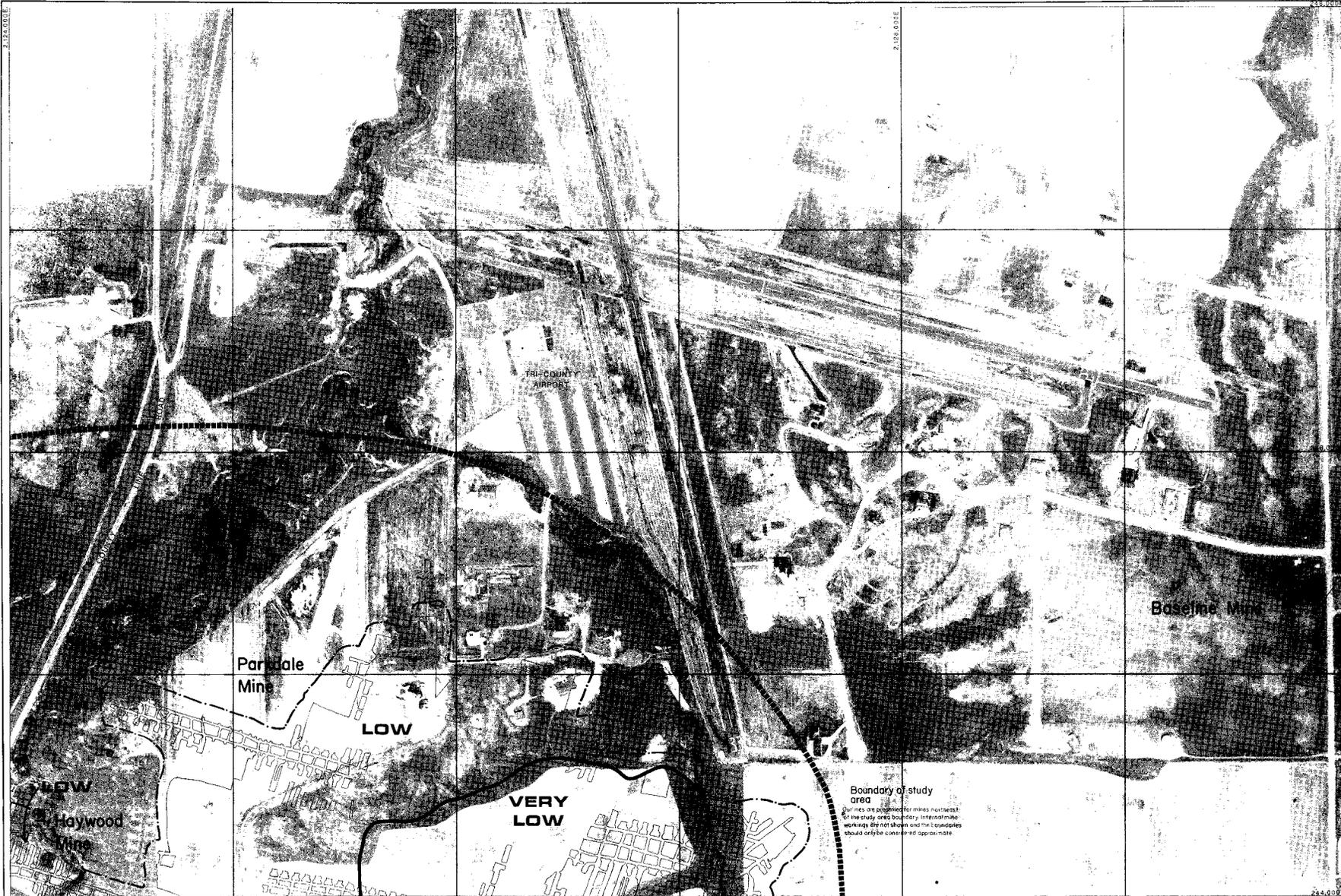
LEGEND

- 1. Mine Base
- 2. Mine Basin
- 3. Mine Workings
- 4. Mine Foundations
- 5. Mine Features
- 6. Mine Boundaries
- 7. Mine Features
- 8. Mine Boundaries

- HIGH** Zone of highest potential for future subsidence
- MDD** Zone of moderate potential for future subsidence
- LOW** Zone of low potential for future subsidence
- VERY LOW** Zone of very low potential for future subsidence
- Limit of potential subsidence



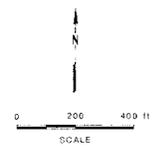
Dames & Moore State of Colorado Boulder County, Subsidence Investigation Subsidence Potential and Hazard Zone Map	State of Colorado, Suite 2000 Boulder, CO 80502 Phone 232-6262	Date Scale Sheet
	Date Scale Sheet	Date Scale Sheet
	Date Scale Sheet	Date Scale Sheet



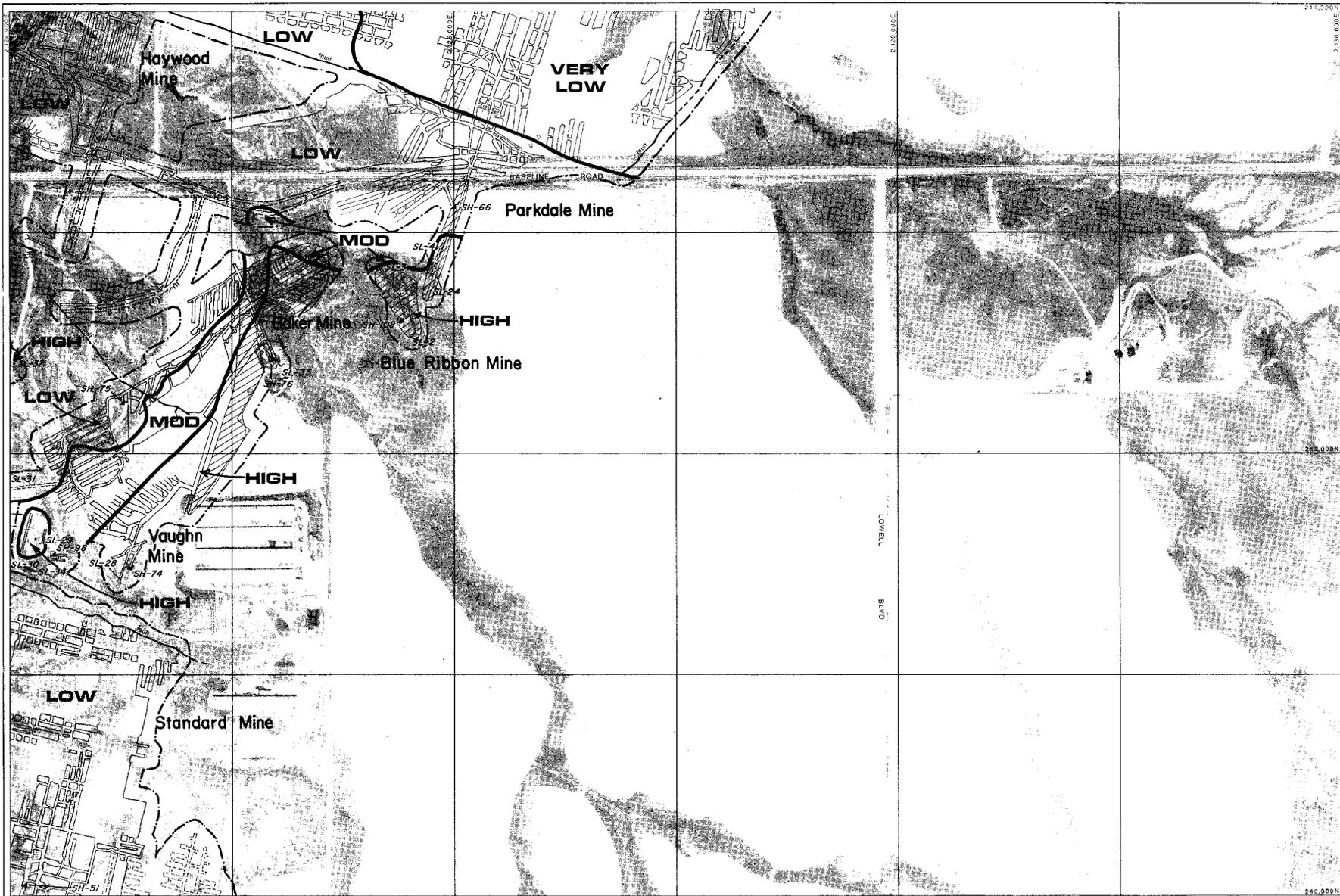
- GENERAL NOTES:**
1. Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1984.
 2. Mine map mosaics were compiled from individual mine maps provided by the State of Colorado.
 3. Composites of the photo base and mine base maps were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study; previous documentation and the accuracy of the aerial photography. (See Section 2.1.2)
 4. Mine workings and mine boundaries which overlap onto adjacent aerial photograph base maps may not exactly coincide at street boundaries due to error in the scale and location of surface cultural features on mine maps. The locations of the maps are as accurate as possible given the available data.
 5. This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1979 CRS 54-50-104.



- HIGH** Zone of highest potential for future subsidence.
- MOD** Zone of moderate potential for future subsidence.
- LOW** Zone of low potential for future subsidence.
- VERY LOW** Zone of very low potential for future subsidence.
- Length of potential subsidence.



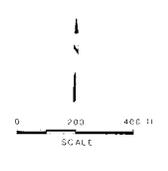
Dames & Moore 1626 Cook Blvd., Suite 200 Golden, CO 80601 (303) 232-6000	State of Colorado Boulder County Subsidence Investigation	PLATE 2
	Subsidence Potential and Hazard Zone Map	
	State of Colorado Department of Natural Resources Division of Mines	



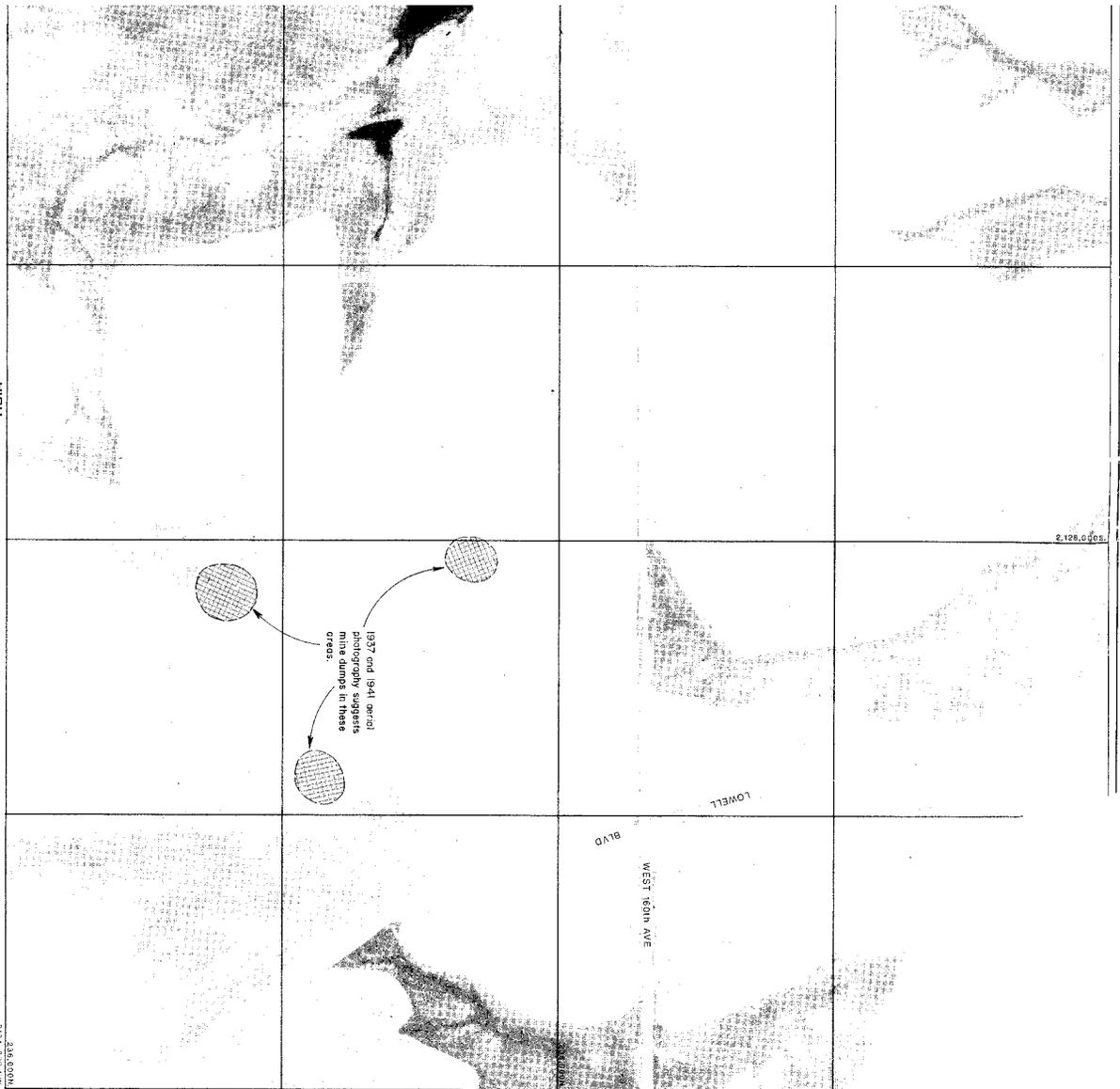
- GENERAL NOTES:**
- Aerial photograph base maps were obtained from Public Service Company of Colorado. The aerial photography was flown in September, 1962.
 - Mine maps were compiled from individual mine maps provided by the State of Colorado.
 - Composites of the photo base and mine bases were developed following completion of the field investigations. The locations of the mines and mine features are accurate within the limits of data generated by this study; previous documentation and the accuracy of the aerial photography. (See Section 2.1).
 - Mine workings and mine boundaries which overlap onto an aerial photograph base map may not exactly coincide as shown here due to error in the scale and location of surface cultural features on mine maps. The locations of the map are as accurate as possible given the available data.
 - This map is the property of the Colorado Division of Mines and shall not be reproduced without written permission of the Division pursuant to 1973 CRS 34-31-124.



- HIGH** Zone of highest potential for future subsidence.
 - MOD** Zone of moderate potential for future subsidence.
 - LOW** Zone of low potential for future subsidence.
 - VERY LOW** Zone of very low potential for future subsidence.
 - Limit of potential subsidence.**
- Location of subsidence search indicated on historical aerial photography or identified by data from other investigations.



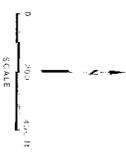
Dames & Moore State of Colorado Boulder County Subsidence Investigation Subsidence Potential and Hazard Zone Map	1626 Cole Blvd., Suite 209 Boulder, CO 80501 303.440.2200	Scale 0 200 400 ft SCALE
	Sheet 20	244,000E 242,000E 240,000E
	240,000N 242,000N 244,000N	242,000E 244,000E



Sheet 1
 State Grid - All letters and the surrounding area within the grid
 should be considered as one single sheet only.

LEGEND

- HIGH** Zone of High Potential for Future Subsidence
- MOD** Zone of Moderate Potential for Future Subsidence
- LOW** Zone of Low Potential for Future Subsidence
- VERY LOW** Zone of Very Low Potential for Future Subsidence



Dames & Moore
 State of Colorado
 Boulder County Subsidence Investigation
 Subsidence Potential and
 Hazard Zone Map

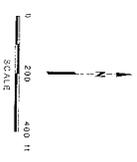
1248 Civic Blvd., Suite 200
 Boulder, CO 80501
 (303) 440-8800

DATE: 11/11/03
 SHEET: 30



LEGEND

- HIGH** Zone of high potential for future subsidence
- MDD** Zone of moderate potential for future subsidence
- LOW** Zone of low potential for future subsidence
- VERY LOW** Zone of very low potential for future subsidence



	Dames & Moore 1000 North 17th Street Denver, CO 80202 (303) 733-7000
	State of Colorado Boulder County Subsidence Investigation Subsidence Potential and Hazard Zone Maps

This map was prepared by Dames & Moore, Inc. for the State of Colorado. The map shows the results of a field investigation conducted in 1998. The map is not to be used for any other purpose without the written consent of Dames & Moore, Inc.