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Colorado Geological Survey
Department of Natural Resources
Denver, Colorado

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Information Series 22

**Annotated Bibliography
of Subsidence Studies
over Abandoned Coal
Mines in Colorado**

Compiled by
Tom Hatton and
J.E. Turney

Information Series 22

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

CGS LIBRARY

Compiled by
Tom Hatton
and
J.E. Turney

Colorado Geological Survey
Department of Natural Resources
State of Colorado
1984

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INTRODUCTION

This bibliography is a compilation of data on coal mine subsidence studies along the Front Range of Colorado. The information contained within can hopefully be used to facilitate further study of undermined areas subject to increased development pressure from Colorado's growing population.

Specific mine investigation studies were obtained from private consultants and public sources. Many of these reports are available for review in the offices of the Colorado Geological Survey and the Division of Mined Land Reclamation.

Other organizations referred to in the bibliography should be contacted regarding availability of their reports. Addresses for these organizations appear in Part III.

We are grateful to the many county and local government agencies and private individuals who provided valuable references and studies for use in compiling this report. We hope this bibliography will be an ongoing effort and we would be pleased to hear of any additions, corrections, or omissions. In Appendix A, we have included a data sheet to be used for additions of existing and future studies. These data sheets can be completed and sent to the Colorado Geological Survey (address listed in Part III).

HOW TO USE THE BIBLIOGRAPHY

This bibliography consists of three parts: Part I, annotated bibliography; Part II, selected references; and Part III, sources of information.

Part I references are listed by county. At the beginning of each county section, an index map and cross-reference list is included. Each study is assigned a map reference number. The locations of studies are plotted on the index map using this map reference number. The cross-reference provides a list of map reference numbers matched with authors. The studies are then listed numerically. Additionally, a Colorado Mined Land Reclamation Division identification number (CMLRD I.D.#) is listed in the upper right hand corner of each bibliography reference. This number refers to mine maps on file with the Colorado Division of Mines and information contained in the CMLRD subsidence information system. These numbers are unique for each mine. Where a reference study covers more than one mine, the appropriate CMLRD I.D.#'s are listed in the same order as the mine names.

Part II is a standard bibliography of selected references which are too general for location on the index map. Also included are other useful bibliographies and publications dealing with geology and mine subsidence in Colorado.

Part III lists Federal, State, and local agencies which provide subsidence data. The specific types of data available are listed with each agency.

BOULDER COUNTY

<u>Map Reference No.</u>	<u>Author</u>	<u>Map Reference No.</u>	<u>Author</u>
B1	Aguirre	B46	Amuedo & Ivey, 1979
B2	Barbis, 1979	B48	ATEC Associates, 1985
B3	Barbis, 1979	B49	Deuel & Associates, 1985
B4	Caulkin	B50	Deuel & Associates, 1985
B5	Chen	B51	ATEC Associates, 1986
B6	Cochran, 1973	B52	ATEC Associates, 1986
B7	Cochran, 1979	B53	ATEC Associates, 1986
B8	Cochran, 1982	B54	ATEC Associates, 1987
B9	Cochran, 1982	B55	ATEC Associates, 1987
B10	Cochran, 1983	B56	CTL/Thompson, 1987
B11	Converse	B57	ATEC, 1985
B12	CTL/Thompson, 1982	B58	ATEC, 1985
B13	CTL/Thompson, 1983	B59	Dames & Moore, 1986
B14	CTL/Thompson, 1983	B60	ATEC, 1986
B15	Culver	B61	Tierra, 1984
B16	Gallant		
B17	Myers		
B18	Robinson, C.H.		
B19	Robinson, C.S., 1972		
B20	Robinson, 1972		
B21	Robinson, 1973		
B22	Robinson, 1976		
B23	Sennett		
B24	Summerlee		
B25	Tierra, 1982		
B26	Tierra, 1982		
B27	Tierra, 1982		
B28	Tierra, 1982		
B29	Tierra, 1982		
B30a,b,c	Tierra, 1983		
B31	Tierra, 1983		
B32	Tierra, 1983		
B33	Tierra, 1983		
B34	Tierra, 1983		
B35	Tierra, 1983		
B36	Tierra, 1983		
B37	Tierra, 1983		
B38	Tierra, 1983		
B40	Tierra, 1985		
B41	Tierra, 1984		
B42	Deuel, 1984		
B43	Deuel, 1984		
B44	FM Fox, 1979		
B45	Amuedo & Ivey, 1978		

Missing:

- B39 CTL/Thompson, 1984
- B47 CTL/Thomson, 1981

R70W

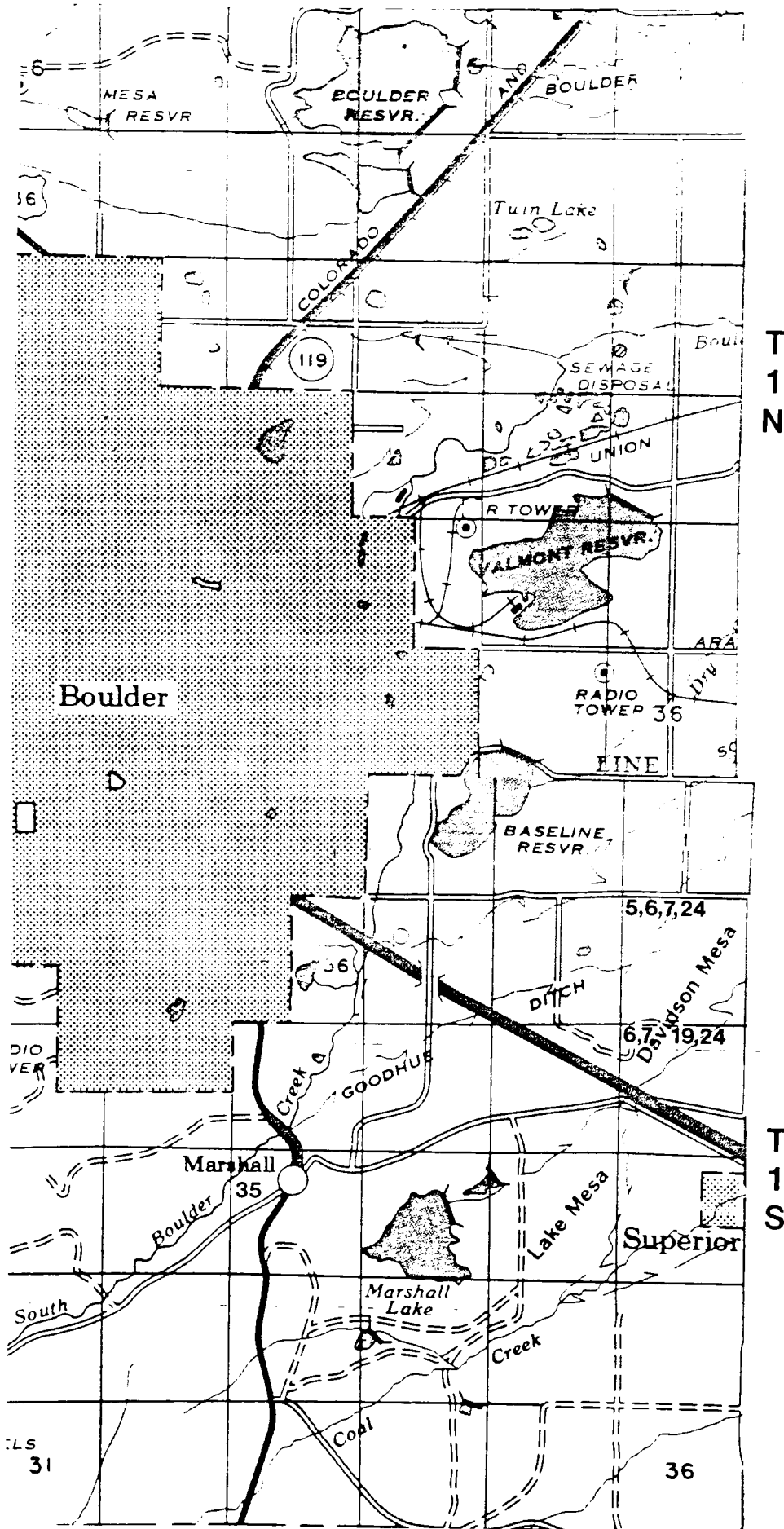


Figure 1a. Location map, Boulder County subsidence investigations.

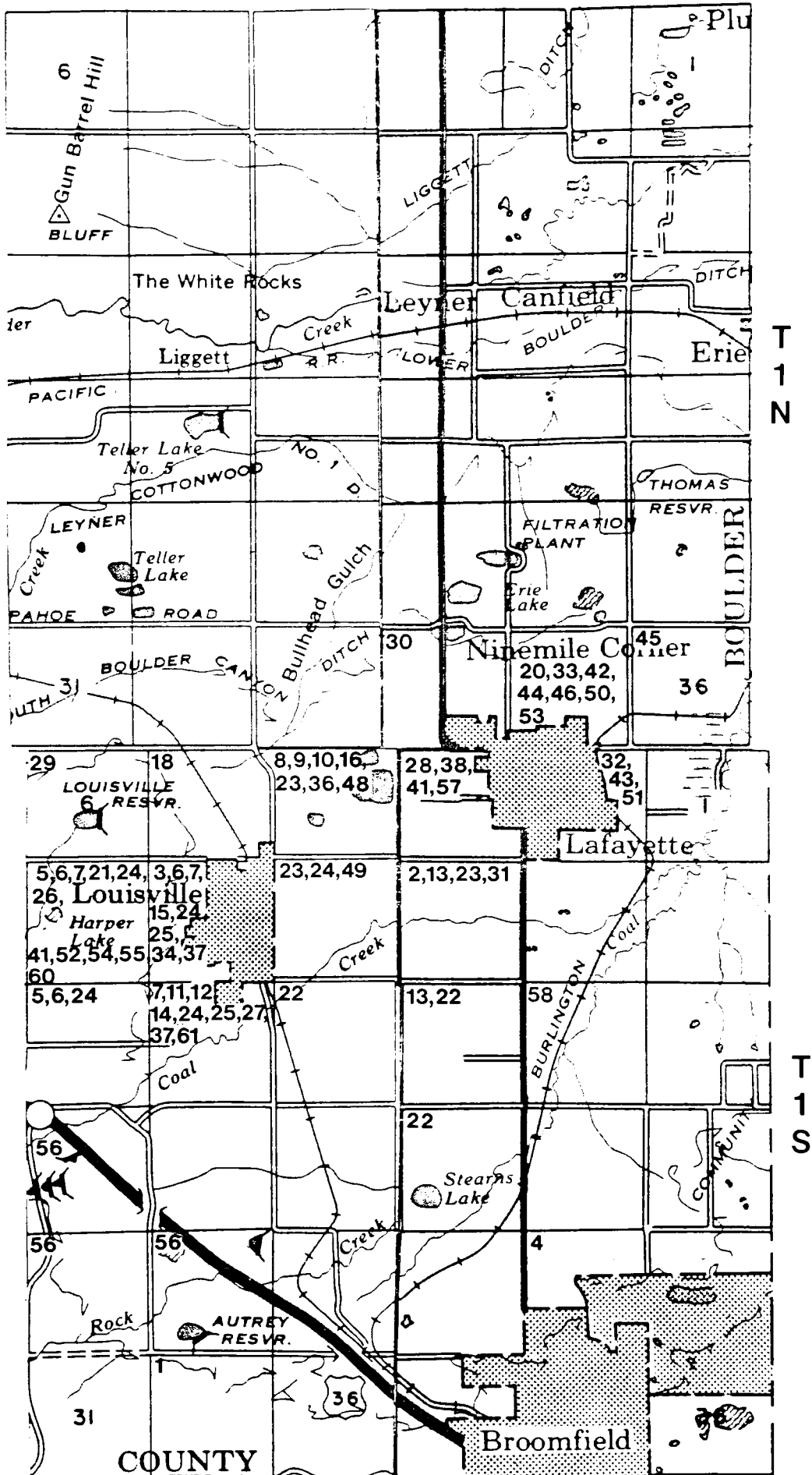


Figure 1b. Location map, Boulder County subsidence investigations.

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B1

CMLRD I.D. # 0130489892101

Author(s): Aguirre Engineers

Date: 1980

Title: Preliminary subsurface investigation and geologic reconnaissance,
proposed business center, Broomfield, Colorado.

Publisher:

County: Boulder

Location: Sec. 32, T1S, R69W

Mine Name: Monarch No. 2

Contents:

Geophysical logs:

Lithology logs: Yes, 29 drill holes (auger holes 60' deep)

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments: Primarily an engineering report with a section on subsidence.

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B2

CMLRD I.D. # 0130489912501

Author(s): Barbis, Frederic C., and Cochran, Dale M.

Date: 1979

Title: Subsidence study for the City of Louisville proposed development in Section 10, T1S, R69W, Boulder County, Colorado

Publisher: Charles S. Robinson and Assoc.

County: Boulder

Location: Sec. 10, T1S, R69W

Mine Name: Vulcan

Contents:

Geophysical logs:

Lithologic logs: Yes, 3 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Surficial geologic map

Comments:

Availability: City of Louisville

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B3

CMLRD I.D. # 0130488872401

Author(s): Barbis, Frederic C., and Robinson, Charles S.

Date: 1979

Title: Subsidence study for Cedarwood Park proposed development in
Sec. 8, T1S, R69W, Boulder County, Colorado

Publisher: Charles S. Robinson and Assoc.

County: Boulder

Location: Sec. 8, T1S, R69W

Mine Name: Acme

Contents:

Geophysical logs:

Lithology logs: Yes, 1 drill hole

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: City of Louisville

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B4

CMLRD I.D. # 0130489922201

Author(s): Caulkin, William S.

Date: 1980

Title: Subsidence potential at Ridgeview Heights, Broomfield, Colorado

Publisher:

County: Boulder

Location: Section 26, T1S, R69W

Mine Name: Hi-Way

Contents:

Geophysical logs:

Lithology logs: No drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Map of observed subsidence features

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B5

CMLRD I.D. # 0130488862401

Author(s): Chen and Associates, Inc.

Date: 1979

Title: Preliminary coal mine subsidence evaluation, three reservoir sites, Boulder and Weld Counties, Colorado

Publisher:

County: Boulder and Weld

Location: Sec. 7, 18, T1S, R69W, Sec. 12, T1S, R70W, Sec. 21, T1N, R68W

Mine Name: Matchless, Eagle

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments: No drilling.

Availability: City of Louisville

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B6

CMLRD I.D. # 0130488852301

Author(s): Cochran, Dale M., and Robinson, Charles S.

Date: 1973

Title: Engineering geology, Paclamar Farms area, Boulder County, Colorado

Publisher: Charles S. Robinson and Assoc.

County: Boulder

Location: Sec. 7, 8, 18, T1S, R69W; Sec. 12, 13, T1S, R70W

Mine Name: Crown

Contents:

Geophysical logs:

Lithology logs: See B21 and B24 for drill holes.

Cross-sections:

Mine maps:

Structure maps:

Other: Geologic map

Comments: Contains 2-page section on subsidence.

Availability: City of Louisville, Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B7

CMLRD I.D. # 130488872501

Author(s): Cochran, Dale M. and Robinson, Charles S.

Date: 1979

Title: Engineering geology, Centennial Valley, Boulder County, Colorado

Publisher: Charles S. Robinson and Assoc.

County: Boulder

Location: Sec. 7, 8, 17, 18, T1S, R69W; Sec. 12, 13, T1S, R70W

Mine Name: Crown, Matchless-Sunland, Fireside

Contents:

Geophysical logs:

Lithology logs: Yes, 13 drill holes, rotary and core holes.

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments: Drill holes are less than 30 ft. deep; 21 auger holes.

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B8

CMLRD I.D. # 0130489902601

Author(s): Cochran, Dale M.

Date: 1982

Title: Phase I, Mine subsidence study, drive-in theatre property,
Lafayette, Colorado.

Publisher: Converse Consultants

County: Boulder

Location: Sec. 4, T1S, R69W

Mine Name: Electric

Contents:

Geophysical logs:

Lithology logs: Yes, 7 drill holes (See B9)

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B9

CMLRD I.D. # 0130489902601

Author(s): Cochran, Dale M.

Date: 1982

Title: Phase II, Investigation of bedrock overlying abandoned coal mine workings, Electric Mine, drive-in theatre property, Lafayette, Colorado.

Publisher: Converse Consultants

County: Boulder

Location: Sec. 4, T1S, R69W

Mine Name: Electric

Contents:

Geophysical logs:

Lithology logs: Yes, 6 drill holes

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B10

CMLRD I.D. # 130489902601

Author(s): Cochran, Dale M.

Date: 1983

Title: Investigation of bedrock overlying abandoned coal mine workings, Electric Mine, drive-in theatre property, Section 4, T1S, R69W, Lafayette, Colorado

Publisher: Converse Consultants

County: Boulder

Location: Sec. 4, T1S, R69W

Mine Name: Electric

Contents:

Geophysical logs:

Lithology logs: Yes, 9 drill holes (6 from B9 plus 3 new holes)

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B11

CMLRD I.D. # 0130488872401

Author(s): Converse Ward Davis Dixon, Inc.

Date: 1981

Title: Subsidence study, Dutch Creek development, Boulder County, Colorado

Publisher:

County: Boulder

Location: Sec. 17, T1S, R69W

Mine Name: Acme

Contents:

Geophysical logs:

Lithology logs: Yes, 3 drill holes

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B12

CMLRD I.D. # 0130488872401

Author(s): CTL/Thompson, Inc.

Date: 1982

Title: Evaluation of subsidence potential, Dutch Creek subdivision,
Louisville, Colorado.

Publisher:

County: Boulder

Location: Sec. 17, T1S, R69W

Mine Name: Acme

Contents:

Geophysical logs: gamma, density, caliper, resistivity

Lithology logs: Yes, 5 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Compressive strength tests

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B13

CMLRD I.D. # 0130489912501

Author(s): CTL/Thompson, Inc.

Date: 1983

Title: Preliminary evaluation of subsidence potential, Autumn Ridge subdivision, Lafayette, Boulder County, Colorado.

Publisher:

County: Boulder

Location: Sec. 10, 15, T1S, R69W

Mine Name: Vulcan, New Centennial

Contents:

Geophysical logs:

Lithology logs: 7 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Subsidence hazard map

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B14

CMLRD I.D. # 0130488872401
0130488872402

Author(s): CTL/Thompson, Inc.

Date: 1983

Title: Evaluation of subsidence potential, Warembourg property,
Louisville, Colorado.

Publisher:

County: Boulder

Location: Sec. 17, T1S, R69W

Mine Name: Acme, Leader

Contents:

Geophysical logs: resistivity, gamma, density, caliper

Lithology logs: Yes, 8 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Subsidence hazard map

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B15

CMLRD I.D. # 0130488872401
0130488872402

Author(s): Culver, Judi C. and Robinson, Charles S.

Date: 1977

Title: Subsidence study for Colorado Mortgage Company proposed development in T.1S., R.69W., Louisville, Colorado.

Publisher: Charles S. Robinson and Associates, Inc.

County: Boulder

Location: Sec. 8, T1S, R69W

Mine Name: Leader-Ajax

Contents:

Geophysical logs:

Lithology logs: Yes, 5 drill holes

Cross sections: Yes

Mine maps:

Structure maps:

Other:

Comments: No drill hole location map.

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B16

CMLRD I.D. # 0130489892601
0130488882001

Author(s): Gallant, William A. and Benson, Carl

Date: 1981

Title: Subsidence investigation, Pow Wow Rodeo Park, Boulder County, Colorado.

Publisher: Converse Ward Davis Dixon, Inc.

County: Boulder

Location: Sec. 4, T1S, R69W

Mine Name: Helca No. 1, Rex No. 1

Contents:

Geophysical logs:

Lithology logs: Yes, 3 drill holes

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other: Calculated maximum subsidence maps

Comments:

Availability: City of Louisville

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B17

CMLRD I.D. # Various

Author(s): Myers, A.R., Hansen, J.B., Lindvall, R.A., Ivey, J.B., and Hynes, J.L.

Date: 1975

Title: Coal mine subsidence and land use in the Boulder-Weld Coal Field, Boulder and Weld Counties, Colorado.

Publisher: Colorado Geological Survey EG-9, Amuedo and Ivey

County: Boulder, Weld

Location: T1S, T1N, T2N; R67W through 70W

Mine Name: Various

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps:

Structure maps:

Other: Extent of mining, depth of cover, mine pillars, thickness of extracted coal, subsidence inventory, and subsidence hazard maps

Comments: Out of print, available for inspection.

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B18

CMLRD I.D. # 0130488882601

Author(s): Robinson, Charles H. and Dea, Peter A.

Date: 1981

Title: Coal mine subsidence study of the Crawford-Reich property, Boulder County, Colorado

Publisher: Converse Ward Davis Dixon, Inc.

County: Boulder

Location: Sec. 5, T1S, R69W

Mine Name: Rex No. 1

Contents:

Geophysical logs:

Lithology logs: Yes, 2 drill holes

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments:

Availability: City of Louisville

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B19

CMLRD I.D. # 0130488852301

Author(s): Robinson, Charles S., and Cochran, Dale M.

Date: 1972

Title: Preliminary report on subsidence at the Crown Mine, Boulder County, Colorado

Publisher: Charles S. Robinson and Associates, Inc.

County: Boulder

Location: Sec. 13, T1S, R70W

Mine Name: Crown

Contents:

Geophysical logs:

Lithology logs: Yes, 5 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B20

CMLRD I.D. # 0130489922701
0130432932801

Author(s): Robinson, Charles S. and Boyle, Clyde R.

Date: 1972

Title: Report on the undermining and subsidence at Lafayette Park development, Boulder County, Colorado

Publisher: Charles S. Robinson and Associates, Inc.

County: Boulder

Location: Sec. 35, T1N, R69W

Mine Name: Simpson, Mitchell

Contents:

Geophysical logs:

Lithology logs: Yes, 3 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B21

CMLRD I.D. # 0130488862401
0130488872501

Author(s): Robinson, Charles S. and Boyle, Clyde R.

Date: 1973

Title: Subsidence study at the Matchless-Sunland and Fireside coal mines,
Section 7, T1S, R69W, Boulder County, Colorado

Publisher: Charles S. Robinson and Associates, Inc.

County: Boulder

Location: Sec. 7, T1S, R69W

Mine Name: Matchless-Sunland and Fireside

Contents:

Geophysical logs:

Lithology logs: Yes, 3 drill holes (included in B24)

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: City of Louisville

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B22

CMLRD I.D. # 0130489892301
0130489902401

Author(s): Robinson, Charles S., and Culver, Judi C.

Date: 1976

Title: Engineering geology, Colorado Technological Center, Louisville, Colorado

Publisher: Charles S. Robinson and Associates, Inc.

County: Boulder

Location: Sec. 15, 16, 22, T1S, R69W

Mine Name: Nonpariel, Regal

Contents:

Geophysical logs:

Lithology logs: Yes, 6 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Subsidence potential map

Comments:

Availability: Colorado Geological Survey
City of Louisville

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B23

CMLRD I.D. # 0130489912401
0130489902601

Author(s): Sennett, Robert S. and Olson, Richard D.

Date: 1980

Title: Subsidence studies, Centaur Village North, Centaur Village South,
Boulder County, Colorado

Publisher: Charles S. Robinson and Associates, Inc.

County: Boulder

Location: Sec. 4, 9, 10, T1S, R69W

Mine Name: New Centennial, Electric, Big Lake

Contents:

Geophysical logs:

Lithology logs: Yes, 7 drill holes

Cross-sections:

Mine maps:

Structure maps:

Other: Subsidence hazard map

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B24

CMLRD I.D. # 0130488862401
0130488872501

Author(s): Summerlee, Thomas E.

Date: 1979

Title: Subsurface investigation, Paclamar Farms project, Boulder County, Colorado

Publisher: Charles S. Robinson and Associates, Inc.: Engineering geology, Centennial Valley, Boulder County, Colorado, Appendix A, 6p.

County: Boulder

Location: Sec. 7,8,17,18, T1S, R69W; Sec. 12,13, T1S, R70W

Mine Name: Crown, Matchless-Sunland, Fireside

Contents:

Geophysical logs:

Lithology logs: Yes, 8 drill holes

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments: 3 drill holes - 1973 See B21
5 drill holes - 1972 See B19

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B25

CMLRD I.D. # 0130488872402

Author(s): Tierra Consultants, Inc.

Date: 1982

Title: Mine subsidence potential - drilling program, Centennial Valley I
subdivision, Louisville, Colorado

Publisher:

County: Boulder

Location: Sec. 8, 17, 1S, R69W

Mine Name: Leader

Contents:

Geophysical logs: gamma ray, SP, resistivity, caliper

Lithology logs: Yes, 9 drill holes

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B26

CMLRD I.D. # 0130488862401
0130488872501

Author(s): Tierra Consultants, Inc.

Date: 1982

Title: Report of results: Drilling program for subsidence potential,
Centennial Valley II subdivision

Publisher:

County: Boulder

Location: Sec. 7, T1S, R69W

Mine Name: Matchless, Fireside

Contents:

Geophysical logs: Yes

Lithology logs: Yes, 12 drill holes

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B27

CMLRD I.D. # Various

Author(s): Tierra Consultants, Inc.

Date: 1982

Title: Subsidence potential study: Ten-acre site near Louisville,
Colorado

Publisher:

County: Boulder

Location: Sec. 17, T1S, R69W

Mine Name: Ajax

Contents:

Geophysical logs: Yes

Lithology logs: Yes, 3 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Tierra Consultants (Now Atec Associates, Inc.)

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B28

CMLRD I.D. # 0130488832502

Author(s): Tierra Consultants, Inc.

Date: 1982

Title: Mine subsidence potential - drilling program, Sutton Estates
subdivision, Lafayette, Colorado

Publisher:

County: Boulder

Location: Sec. 3, T1S, R69W

Mine Name: Black Diamond II

Contents:

Geophysical logs: Yes

Lithology logs: Yes, 6 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B29

CMLRD I.D. # 0130488862401

Author(s): Tierra Consultants, Inc.

Date: 1982

Title: Geologic study, Harper Lake expansion

Publisher:

County: Boulder

Location: Sec. 6, T1S, R69W

Mine Name: Matchless

Contents:

Geophysical logs: Yes

Lithology logs: Yes, 6 drill holes

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Tierra Consultants (now Atec Associates, Inc.)

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B30a

CMLRD I.D. # 0130488832502

Author(s): Tierra Consultants, Inc.

Date: 1983

Title: Subsidence potential study, Black Diamond Industrial Park,
Lafayette, Colorado (1 of 3)

Publisher:

County: Boulder

Location: Sec. 34, T1N, R69W

Mine Name: Black Diamond No. 2

Contents:

Geophysical logs: resistivity, sp, gamma, caliper

Lithology logs: Yes, 5 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey
Tierra Consultants, Inc. (now Atec Associates, Inc.)

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B30b

CMLRD I.D. # 0130488832502

Author(s): Tierra Consultants, Inc.

Date: 1984

Title: Subsidence potential study, Black Diamond Industrial Park,
Lafayette, Colorado (2 of 3)

Publisher:

County: Boulder

Location: Sec. 34, T1N, R69W

Mine Name: Black Diamond II

Contents:

Geophysical logs: resistivity, sp, gamma, caliper

Lithology logs: 9 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Potential strain contours and profiles

Comments: Second study of area, 4 additional holes; first study completed
1983 w/5 drill holes

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B30c

CMLRD I.D. #0130432912901

Author(s): Atec Associates, Inc.

Date: August, 1985

Title: Geotechnical Engineering Investigation - Black Diamond Industry
Park (3 of 3)

Publisher: Atec Associates, Inc.

County: Boulder

Location: Sec. 34, T1N, R69W

Mine Name: Black Diamond No. 2

Contents:

Geophysical logs: SP, gamma, resistivity

Lithology logs: 4 drill-hole logs

Cross-sections:

Mine maps:

Structure maps:

Other: Pillar Analysis, Strain Analysis

Comments: Included is 1984 Tierra Study and 1983 Tierra Study

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B31

CMLRD I.D. # 0130489912501

Author(s): Tierra Consultants

Date: 1983

Title: Subsidence potential study, Coal Creek Technological Center

Publisher:

County: Boulder

Location: Sec. 10, T1S, R69W

Mine Name: Vulcan

Contents:

Geophysical logs: Yes
Lithology logs: Yes, 13 drill holes
Cross-sections: Yes
Mine maps: Yes
Structure maps: Yes
Other: Strain analysis

Comments:

Availability: Tierra Consultants (now Atec Associates, Inc.)
Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B32

CMLRD I.D. # 0130489922001

Author(s): Tierra Consultants, Inc.

Date: 1983

Title: Subsidence potential study: Lafayette City Center Shopping Complex

Publisher:

County: Boulder

Location: Sec. 2, T1S, R69W

Mine Name: Strathmore

Contents:

Geophysical logs: Yes

Lithology logs: Yes, 3 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Tierra Consultants, Inc. (now Atec Associates, Inc.)

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B33

CMLRD I.D. # 0130432932801
0130489922701

Author(s): Tierra Consultants, Inc.

Date: 1983

Title: Subsidence potential, Lafayette Park subdivision

Publisher:

County: Boulder

Location: Sec. 35, T1N, R69W

Mine Name: Mitchell, Simpson

Contents:

Geophysical logs: Yes

Lithology logs: Yes, 6 drill holes

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other: Strain profile calculations

Comments:

Availability: Tierra Consultants, Inc. (now Atec Associates, Inc.)
Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B34

CMLRD I.D. # 0130488872401

Author(s): Tierra Consultants, Inc.

Date: 1983

Title: Subsidence potential study: Proposed Pine Street Plaza site,
Louisville, Colorado

Publisher:

County: Boulder

Location: Sec. 8, T1S, R69W

Mine Name: Acme

Contents:

Geophysical logs: Yes

Lithology logs: Yes, 3 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Tierra Consultants, Inc. (now Atec Associates, Inc.)

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B35

CMLRD I.D. # 0130488812303

Author(s): Tierra Consultants, Inc.

Date: 1983

Title: Subsidence study, site located near Marshall, Colorado

Publisher:

County: Boulder

Location: Sec. 21, T1S, R70W

Mine Name: Lewis, Fox, Eagle

Contents:

Geophysical logs: Yes

Lithology logs: Yes, 2 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Tierra Consultants, Inc. (now Atec Associates, Inc.)

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B36

CMLRD I.D. # 0130489902601

Author(s): Tierra Consultants, Inc.

Date: 1983

Title: Subsidence potential study, Centaur Village North subdivision
Filing #6, Lafayette, Colorado

Publisher:

County: Boulder

Location: Sec. 4, T1S, R69W

Mine Name: Electric

Contents:

Geophysical logs: resistivity, sp, gamma, caliper

Lithology logs: Yes, 24 drill holes

Cross-sections: Yes

Mine maps: Yes

Structure maps: Yes

Other: Shaft abandonment report

Comments:

Availability: Colorado Geological Survey
Tierra Consultants, Inc. (now Atec Associates, Inc.)

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B37

CMLRD I.D. # 0130488872402

Author(s): Tierra Consultants, Inc.

Date: 1983

Title: Subsidence potential study on eighteen acres located in the Centennial Valley I subdivision, Louisville, Colorado

Publisher:

County: Boulder

Location: Sec. 8, 17, T1S, R69W

Mine Name: Leader

Contents:

Geophysical logs: resistivity, sp, gamma, caliper

Lithology logs: Yes, 27 drill holes

Cross-sections:

Mine maps: Yes

Structure maps: Yes

Other: Lot summary of subsidence conditions
Statistical composite of various elevations

Comments:

Availability: Tierra Consultants, Inc. (now Atec Associates, Inc.)
Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B38

CMLRD I.D. # 0130488832502

Author(s): Tierra Consultants, Inc.

Date: 1983

Title: Subsidence potential study, Churchhill Pointe subdivision,
Lafayette, Colorado

Publisher:

County: Boulder

Location: Sec. 3, T1S, R69W

Mine Name: Black Diamond II

Contents:

Geophysical logs: resistivity, sp, gamma, caliper

Lithology logs: Yes, 30 drill holes

Cross-sections: Yes

Mine maps: Yes

Structure maps: Yes

Other: Strain analysis report

Comments:

Availability: Colorado Geological Survey
Tierra Consultants, Inc. (now Atec Associates, Inc.)

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B40

CMLRD I.D. # Various

Author(s): Tierra Consultants, Inc.

Date: 1985

Title: Surface and Mine Features Map, Louisville and Lafayette

Publisher: Colorado Division of Mined Land Reclamation, Inactive Mine Program

County: Boulder

Location: Louisville -Lafayette

Mine Name: Various

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: Extent of mining maps (mine features) overlain on air photos and topographic base maps (1 inch to 100 feet)

Structure maps:

Other:

Comments: Louisville is on an airphoto base and Lafayette is on a photographic base.

Availability: Mined Land Reclamation, Inactive Mine Program

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B41

CMLRD I.D. # 0130488862401
0130488872501

Author(s): Tierra Consultants, Inc. (now Atec Associates, Inc.)

Date: April, 1984

Title: Subsidence Potential Study for Centennial IV -- Master Plan

Publisher:

County: Boulder

Location: Sec. 7, T1S, R69W

Mine Name: Matchless, Fireside

Contents:

Geophysical logs: Resistivity, SP, natural gamma, caliper

Lithology logs: 18 drill holes, 17 rotary holes and 1 partial core hole

Cross-sections:

Mine maps: yes

Structure maps:

Other: Strain profiles and contours

Comments: Rock strength tests
Drill holes included in B26 and B29

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B42

CMLRD I.D. # 0103489922701
0103432932801

Author(s): Deuel and Associates, Inc. (formerly Tierra Consultants, Inc.)

Date: November, 1984

Title: Subsidence Potential Study for Marcus Properties Limited,
Lafayette Project

Publisher:

County: Boulder

Location: Sec. 35, T1N, R69W

Mine Name: Simpson, Mitchell

Contents:

Geophysical logs: Resistivity, SP. Natural Gamma, Caliper

Lithology logs: 34 borings and logs

Cross-sections: Geologic cross section

Mine maps: yes

Structure maps: Structure contour map of top of mine interval

Other: Potential strain calculations and strain countour map,
damage reducing architectural techniques

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B43

CMLRD I.D. #0130489932602

Author(s): Deuel and Associates, Inc. (formerly Tierra Consultants, Inc.)
Date: December, 1984
Title: Subsidence Potential Study, Proposed Lafayette Elementary School Site

Publisher:

County: Boulder

Location: Sec. 2, T1S, R69W

Mine Name: Cambro

Contents:

Geophysical logs: Resistivity, SP, natural gamma, caliper

Lithology logs: 8 test borings and logs

Cross-sections:

Mine maps: yes

Structure maps:

Other: Strain analysis

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B44

CMLRD I.D. #0130432932801

Author(s): F.M. Fox and Associates, Inc.

Date: 1979

Title: Subsidence Hazard Investigation, Lafayette Park

Publisher:

County: Boulder

Location: Sec. 35, T1N, R69W

Mine Name: Simpson, Mitchell

Contents:

Geophysical logs:

Lithology logs: 8 Test Holes

Cross-sections:

Mine maps: 3 Sheets

Structure maps:

Other: Subsidence Hazard Maps

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B45

CMLRD I.D. #0130432952701

Author(s): Amuedo and Ivey

Date: June, 1978

Title: Investigations of Subsidence Potential Proposed Additions to the City of Lafayette Wastewater Treatment Facilities.

Publisher:

County: Boulder

Location: T1N, R69W, Sec. 36

Mine Name: Haywood (Irvington) Mine

Contents:

Geophysical logs: 6

Lithology logs: Yes, 6

Cross-sections:

Mine maps: Yes

Structure maps: Yes

Other: Compressive Strength Tests

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B46

CMLRD I.D. #0130432932801

Author(s): Amuedo and Ivey

Date: November, 1978

Title: Subsidence Evaluation - Lafayette Park Filing No. 2

Publisher:

County: Boulder

Location: Sec. 35, T1N, R69W

Mine Name: Simpson, Mitchell

Contents:

Geophysical logs: No

Lithology logs: No

Cross-sections: No

Mine maps:

Structure maps:

Other: 1 Base Map

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B48

CMLRD I.D. #0130489902601

Author(s): Atec Associates, Inc.

Date: July, 1975

Title: Geotechnical Engineering Investigation - Centaur Villiage Filing
No. 7

Publisher: Atec Associates, Inc.

County: Boulder

Location: Lafayette, Colorado T1S, R69W, Sec. 4

Mine Name: Hecla and Big Lake Mines

Contents:

Geophysical logs: Yes, 7

Lithology logs: Yes, 7

Cross-sections: Appendix B

Mine maps: Sketches

Structure maps:

Other: Comments from Greg Sherman (Deuel & Associates April, 1985) Strain Analysis, Architectural Techniques to reduce structural damage.

Comments: (Formerly Deuel & Associates; Formerly Tierra Associates)

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B49
CMLRD I.D. #0130489892502

Author(s): Deuel and Associates, Inc.

Date: May, 1985

Title: Subsidence Potential Study of 6-Acre Proposed Development Site in Lafayette, Colorado

Publisher:

County: Boulder

Location: Phoenix Park, Section 9, T1S, R69W

Mine Name: Rex No. 2 Mine (Hecla No. 2 previously)

Contents:

Geophysical logs: Yes, 5 Appendix B

Lithology logs: Yes, 5

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other:

Comments: (Formerly, Tierra Associates; now Atec Associates)

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B50

CMLRD I.D. # 0130432932801
0130489922701

Author(s): Duell and Associates, Inc.

Date: April, 1985

Title: Subsidence Potential Study of Proposed Development Site on
Property Located in Lafayette, Colorado (Marcus Properties)

Publisher:

County: Boulder

Location: Sec. 35, T1N, R69W

Mine Name: Mitchell, Simpson

Contents:

Geophysical logs: Gamma, Sp, Resistance, Caliper

Lithology logs: Yes

Cross-sections: No

Mine maps: No

Structure maps: No

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B51

CMLRD I.D. # 0130489922001

Author(s): ATEC Associates, Inc.

Date: February, 1986

Title: Lafayette City Center Geotechnical Investigation

Publisher:

County: Boulder

Location: Sec. 2, T1S, R69W

Mine Name: Strathmore

Contents:

Geophysical logs: Gamma, Sp

Lithology logs: Yes

Cross-sections: No

Mine maps: Yes

Structure maps: No

Other: No

Comments: See B32

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B52

CMLRD I.D. # 0130488862401

Author(s): ATEC Associates, Inc.

Date: June, 1986

Title: Subsidence Investigation Enclave Subdivision Louisville, Colorado

Publisher:

County: Boulder

Location: Sec. 7, T1S, R69W

Mine Name: Matchless (in vicinity)

Contents:

Geophysical logs: Gamma

Lithology logs: Yes

Cross-sections: No

Mine maps: No

Structure maps: No

Other: No

Comments: No mining occurred under this site.

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B53

CMLRD I.D. # 0130432932801

Author(s): ATEC Associates, Inc.

Date: November, 1986

Title: Subsidence and Preliminary Geotechnical Engineering Investigation
Lafayette Park Subdivision, Phase II, Lafayette, Colorado

Publisher:

County: Boulder

Location: Sec. 35, T1N, R69W

Mine Name: Mitchell

Contents:

Geophysical logs: Gamma, Resistance

Lithology logs: Yes

Cross-sections: No

Mine maps: No

Structure maps: No

Other: No

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B54

CMLRD I.D. # 0130488862401

Author(s): ATEC Associates, Inc.

Date: May, 1987

Title: The Grove at Harper Lake Subdivision
Louisville, Colorado

Publisher:

County: Boulder

Location: Sec. 7, T1S, R69W

Mine Name: Matchless

Contents:

Geophysical logs: Gamma, Sp, Resistance, Caliper

Lithology logs: Yes

Cross-sections: No

Mine maps: No

Structure maps: No

Other: No

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B55

CMLRD I.D. # 0130488862401
0130488872501

Author(s): ATEC Associates, Inc.

Date: November, 1987

Title: Subsidence Engineering Investigation
Centennial Valley PUD; Centennial Valley, Subdivisions 4, 6, 7, 8,
and
the Grove at Harper Lake

Publisher:

County: Boulder

Location: Sec. 7, T1S, R69W

Mine Name: Matchless, Fireside

Contents:

Geophysical logs:	Gamma, Sp, Resistance, Caliper
Lithology logs:	Yes
Cross-sections:	No
Mine maps:	Yes
Structure maps:	No
Other:	No

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B56

CMLRD I.D. # 01304888512101
0130489892101

Author(s): CTL/Thompson, Inc.

Date: November, 1987

Title: Evaluation of subsidence potential Rock Creek Ranch Development,
Superior, Colorado

Publisher:

County: Boulder and Jefferson

Location: Sec. 19, 29, 30, T1S, R69W

Mine Name: Industrial, Monarch No. 2

Contents:

Geophysical logs: Gamma, Caliper, Density

Lithology logs: Yes

Cross-sections: No

Mine maps: Yes

Structure maps: No

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B57

CMLRD I.D. # 0130489922001

Author(s): ATEC Associates, Inc.

Date: January, 1985

Title: Subsidence Investigation Countryside Village Lafayette, Colorado

Publisher:

County: Boulder

Location: Sec. 3, T1S, R69W

Mine Name: Strathmore

Contents:

Geophysical logs: Gamma, Sp, Resistance

Lithology logs: Yes

Cross-sections: No

Mine maps: No

Structure maps: No

Other:

Comments: Area not undermined

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B58

CMLRD I.D. # 0130489922201

Author(s): ATEC Associates, Inc.

Date: December, 1985

Title: Subsidence Investigation Lafayette Business Park Lafayette,
Colorado

Publisher:

County: Boulder

Location: Sec. 14, T1S, R69W

Mine Name: Hi-Way

Contents:

Geophysical logs: Gamma, Sp, Resistance

Lithology logs: Yes

Cross-sections: No

Mine maps: No

Structure maps: No

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B59

CMLRD I.D. # Various

Author(s): Dames & Moore

Date: May, 1986

Title: Boulder County Subsidence Investigation, Volumes I, II, III

Publisher:

County: Boulder

Location: T1S, R68W-R69W-R70W; T1N, R68W-R69W

Mine Name: Various

Contents:

Geophysical logs: Gamma, Density, Caliper, Resistance

Lithology logs: Yes - 150 logs

Cross-sections: Yes - eight

Mine maps: Yes

Structure maps: No

Other: Maps include: overburden thicknesses, subsidence potential and hazard zones

Comments: This study excludes mines in the vicinity of Marshall and in northeast Boulder County

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B60

CMLRD I.D. # 0130488862401
0130488872501

Author(s): ATEC Associates, Inc.

Date: February, 1986

Title: Subsidence Investigation Saddleback Subdivision, Louisville,
Colorado

Publisher:

County: Boulder

Location: Sec. 7, T1S, R69W

Mine Name: Matchless, Fireside

Contents:

Geophysical logs: Gamma, Sp, Resistance, Caliper

Lithology logs: Yes

Cross-sections: No

Mine maps: No

Structure maps: No

Other: Strain contour map

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. B61

CMLRD I.D. # 0130488872402

Author(s): Tierra Consultants, Inc.

Date: February, 1984

Title: Addendum to Subsidence Potential Study on Eighteen Acres located in the Centennial Valley I Subdivision, Louisville, Colorado

Publisher:

County: Boulder

Location: Sec. 17, T1S, R69W

Mine Name: Leader

Contents:

Geophysical logs: Gamma, Sp, Resistance, Caliper

Lithology logs: Yes

Cross-sections: No

Mine maps: Yes

Structure maps: Yes

Other:

Comments: This study was a follow-up to the 1983 study "B37".

Availability: Colorado Geological Survey

EL PASO COUNTY

Map Reference No.

Author

E1	Colorado Springs, 1967
E2a,b	CTL/Thompson, 1982, 1983
E3	Lewis (Dames and Moore), 1973
E4	Lincoln Devore, 1981
E5	Woodward Clyde Associates, 1967
E7	RockyMtn. Geotechnical, 1983
E8	CTL/Tnompson, 1984
E9	Rocky Mountain Geotechnical, 1983
E10	Rocky Mountain Geotechnical, 1983
E11	Rocky Mountain Geotechnical, 1983
E12	Rocky Mountain Geotechnical, 1983
E13	Rocky Mountain Geotechnical, 1984
E14	Tierra Consultants, 1984
E15	Tierra Consultants, 1984
E16	Lincoln DeVore, 1984
E17	Michael Baker, Jr., 1984
E18	Douglas, Cory and Fisk, 1955
E19	Dames/Moore, 1985

Missing:

E6 CTL/Thompson

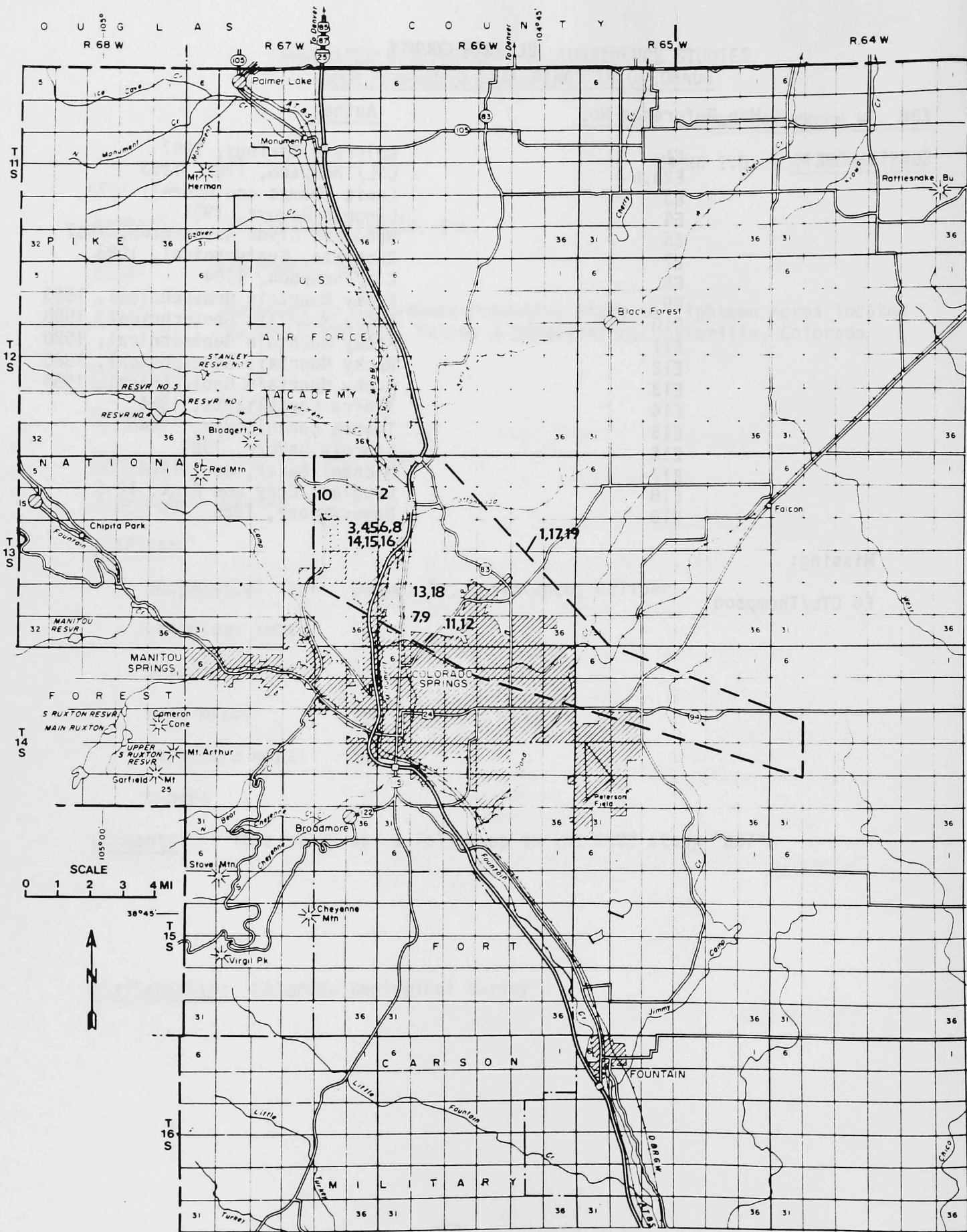


Figure 2. Location map, El Paso County subsidence investigations.

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E1

CMLRD I.D. # Various

Author(s): Colorado Springs Planning Department

Date: 1967

Title: Mining report, Colorado Springs Coal Field, a guide for future land use

Publisher: City of Colorado Springs

County: El Paso

Location: T13S, T14S R66W, R77W

Mine Name: Various

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Summary of coal mine operations in El Paso County

Comments: Compilation of mine data for mines located in Colorado Springs. Also, street maps superimposed on mine maps.

Availability: Pikes Peak Area council of Governments

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E2a

CMLRD I.D. # 0410947140703

Author(s): CTL/Thompson, Inc.

Date: 1982

Title: Evaluation of subsidence potential, Ravencrest subdivision,
Woodmen Road and Rockrimmon Boulevard, Colorado Springs, Colorado

Publisher:

County: El Paso

Location: Sec. 7, T13S, R66W

Mine Name: Pikeview and Carlton

Contents:

Geophysical logs: gamma, density, caliper

Lithology logs: Yes

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E2b

CMLRD I.D. # 0410947140703

Author(s): CTL/Thompson, Inc.

Date: Nov 30, 1983

Title: Subsidence evaluation, Lots 3, 7, 8, and 9, Block 4, Rockrimmon Cliffs Subdivision, Colorado Springs, Colorado

Publisher:

County: El Paso

Location: Sec. 18, T13S, R66W Rockrimmon and I-25

Mine Name: Pikeview

Contents: 8 drill holes

Geophysical logs: gamma, density, caliper

Lithology logs: Yes

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other: Video camera logs on 2 holes

Comments: Proposing to backfill the main slope entrance. Present subdivision name - North Creek 1, 2, 3

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E3

CMLRD I.D. # 0410947150703

Author(s): Lewis, John H.

Date: 1973

Title: Geologic considerations, Rockrimmon dam and reservoir site,
Colorado Springs, Colorado

Publisher: Dames and Moore

County: El Paso

Location: Sec. 18, T13S, R66W; Sec. 13, T13S, R67W

Mine Name: Pikeview

Contents:

Geophysical logs:

Lithology logs: Yes, 19 drill holes

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E4

CMLRD I.D. # 0410947140703

Author(s): Lincoln Devore

Date: 1981

Title: Preliminary surface soils investigation, Pikeview mine portal area, Colorado Springs, Colorado

Publisher:

County: El Paso

Location: Sec. 18, T13S, R66W

Mine Name: Pikeview

Contents:

Geophysical logs:

Lithology logs: Yes

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E5

CMLRD I.D. # 0410947140703

Author(s): Woodward, Clyde, Sherard and Associates

Date: 1967

Title: Effects of underground mine on land development, Pikeview mine area

Publisher:

County: El Paso

Location: Sec. 18, T13S, R66W; Sec. 13, T13S, R67W

Mine Name: Pikeview

Contents:

Geophysical logs:

Lithology logs:

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E7

CMLRD I.D. # 0410947170307
0410947170301

Author(s): Rocky Mountain Geotechnical, Inc.

Date: July 11, 1983

Title: Mine Subsidence Investigation, Cragmoor Properties
El Paso County, Colorado

Publisher:

County: El Paso

Location: NE-1/4, Sec. 32, SE1/4, Sec. 29, T13S, R66W

Mine Name: Corley, Busy Bee, Patterson

Contents:

Geophysical logs:

Lithology logs: 10 test holes and Lithology logs

Cross-sections: 2 subsurface profiles through site

Mine maps: Mine map and test boring Location diagram

Structure maps:

Other: Table of Estimates of Maximum Ground Surface Effects
Due to Subsidence; Map of existing subsidence features

Comments: Followup study to Rocky Mtn. Geotechnical report "Subsurface
Soils Investigation, First West Group, Colorado Springs, CO",
RMG Job No. 79F.

Availability: Rocky Mountain Geotechnical, Inc.
Available for inspection at the Colorado Geological Survey and
Colorado Division of Mined Land Reclamation, Inactive Mine Program

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E8

CMLRD I.D. # 0410947140703

Author(s): CTL/Thompson, Inc. (Richard Phillips, Darrel Holmquist)

Date: 1984

Title: Evaluation of subsidence potential, Saddle Ridge and Shave/Black
Parcels, Pikeview Mine

Publisher:

County: El Paso

Location: Saddle Ridge Portion
E/2 Sec. 18, T13S, R67W and W1/2 Sec. 18, T13S, R66W
Shave/Black parcel NW1/4 Sec. 18, T13S, R66W

Mine Name: Pikeview

Contents: 15 exploratory borings

Geophysical logs: gamma logs, density logs, caliper logs

Lithology logs: 15

Cross-sections: 2

Mine maps: Pikeview mine map for the property area

Structure maps: 2 depth to mining maps

Other: Mining history, cores, strength tests (indirect
tensile strength unconfined pressure and pointload
tests), Subsidence risk map

Comments: Borings 1-6A are on the Saddle Ridge Parcel. Borings 7 through 9
are on the Shave/Black parcels

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E9

CMLRD I.D. # 0410947170307
0410947170301

Author(s): Rocky Mountain Geotechnical, Inc. (Ken Myers)

Date: January 18, 1983

Title: Subsurface Soils Investigation, First West Group

Publisher:

County: El Paso

Location: NE 1/4 Sec. 32, SE 1/4 Sec. 29, T13S, R66W

Mine Name: Busy Bee, Corley, Patterson

Contents:

Geophysical logs:

Lithology logs: 10 borings and logs

Cross-sections:

Mine maps: Mine Map and Test Boring Location Diagram

Structure maps:

Other: Table of Maximum Surface Subsidence Predictions

Comments: Same property as Rocky Mountain Geotechnical Report No. 2570/3743 (E7 this report), "Mine Subsidence Investigation, Cragmoor Properties."

Availability: Colorado Geological Survey, Division of Mined Land Reclamation, Inactive Mine Program

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E10

CMLRD I.D. # 04010947110801
04010947110802

Author(s): Rocky Mountain Geotechnical, Inc.

Date: September 2, 1983

Title: Subsidence Investigation, Alex Patterson Mine.

Publisher:

County: El Paso

Location: SE 1/4 SW 1/4 Sec 11. T13S, R67W

Mine Name: Alex Patterson

Contents:

Geophysical logs:

Lithology logs: 4 test borings with lithology descriptions

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey; Mined Land Reclamation Division,
Inactive Mine Program.

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E11

CMLRD I.D. # 0410947180201

Author(s): Rocky Mountain Geotechnical, Inc.

Date: November 28, 1983

Title: 2822 Country Club Circle Abandoned Mine Subsidence Investigation

Publisher:

County: El Paso

Location: Sec. 33, T13S, R66W

Mine Name: Rapson

Contents:

Geophysical logs:

Lithology logs: Two test borings with lithology descriptions

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey; Mined Land Reclamation Division,
Inactive Mine Program.

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E12

CMLRD I.D. # 0410947180201

Author(s): Rocky Mountain Geotechnical, Inc.

Date: July 11, 1983

Title: Mine Subsidence Report 2858 Country Club Place, Colorado Springs,
Colorado

Publisher:

County: El Paso

Location: Sec. 33, T13S, R66W

Mine Name: Rapson

Contents:

Geophysical logs:

Lithology logs: 2 test borings with lithology descriptions

Cross-sections: Subsurface profile

Mine maps:

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey; Mined Land Reclamation Division,
Inactive Mine Program.

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E13

CMLRD I.D. # 0410947170307
0410947170308

Author(s): Rocky Mountain Geotechnical, Inc.

Date: January 30, 1984

Title: Mine Subsidence Analysis, Easternmost Portion of University Commons, Colorado Springs, Colorado

Publisher:

County: El Paso

Location: Sec. 29, T13S, R66W

Mine Name: Corley No. 3

Contents:

Geophysical logs:

Lithology logs: 13 test borings with lithology descriptions, plus 10 test borings from previous studies

Cross-sections: Mine map with test boring locations

Mine maps: Mine map with test boring locations

Structure maps:

Other: Rock mechanics:

12 Brazilian tensile strength tests, 6 beam flexure tests, 11 unconfined compressive strength tests; 2 strain contour maps, 2 subsidence contour maps

Comments: Same property as E7 and E9 this report

Availability: Colorado Geological Survey, Mined Land Reclamation Division, Inactive Mine Program

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E14

CMLRD I.D. # 0410947140703

Author(s): Tierra Consultants, Inc. (now Atec Associates)

Date: April, 1984

Title: Subsidence Potential Study, Rockrimmon Property

Publisher:

County: El Paso

Location: Sec. 13, T13S, R67W

Mine Name: Pikeview

Contents: 3 test borings

Geophysical logs: Resistivity, spontaneous potential, gamma caliper logs

Lithology logs: 3 lithology descriptions

Cross-sections: Single profile

Mine maps: Drill hole location map with general mine workings

Structure maps:

Other: Potential strain analysis, maximum potential subsidence

Comments: First of two studies of property

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E15

CMLRD I.D. # 0410947140703

Author(s): Tierra Consultants, Inc. (now Atec Associates)

Date: June, 1984

Title: Subsidence Potential Study, Rockrimmon-Sommerset

Publisher:

County: El Paso

Location: Sec. 13, T13S, R67W

Mine Name: Pikeview

Contents: 4 test borings (plus 3 from previous study)

Geophysical logs: Resistivity, spontaneous potential, gamma and caliper logs

Lithology logs: 4 lithology descriptions

Cross-sections: Single profile

Mine maps: Drill hole location map with general mine workings

Structure maps:

Other: Strain contour map

Comments: Final report of two studies

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E16

CMLRD I.D. # 041094714703

Author(s): Lincoln Devore Testing Laboratory, Inc.

Date: Feb. 3, 1984; May 25, 1984

Title: Subsidence Evaluation Proposed North Pointe Center and Subsidence Evaluation Addendum

Publisher:

County: El Paso

Location: Sec. 18, T13S, R66W

Mine Name: Pikeview

Contents: 14 test borings

Geophysical logs: Natural gamma, gamma-gamma and caliper, buorehole camera

Lithology logs: Yes

Cross-sections:

Mine maps: Final Pikeview - 1957 Mine map and test hole location map
1901 Pikeview Mine Map, Carlton Coal Mine - 1903

Structure maps:

Other: Subsidence profile and strain curve, tensile strength of core samples

Comments: Subsequent mine backfill proposals by Goodson & Assoc. completed for this project (June 27, 1984)

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E17

CMLRD I.D. # Various

Author(s): Michael Baker, Jr.

Date: 1984

Title: Colorado Springs Land Use and Building Code Project

Publisher: Office of Surface Mining

County: El Paso

Location: T13S, T14S, R66W, R67W

Mine Name: Various

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: Mine maps plotted relative to surface features

Structure maps:

Other: This study is an update of the 1967 Colorado Springs study

Comments:

Availability: Mined Land Reclamation Division, Inactive Mine Program;
Colorado Geological Survey; Office of Surface Mining; Colorado
Springs Planning Department

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E18

CMLRD I.D. # 0130489892101

Author(s): Douglas, Corey & Fisk

Date: April 13, 1955

Title: Report on Surface Settlement of the Rangeview Subdivision

Publisher:

County: El Paso

Location: S 1/2 NW 1/4 Sec. 29, T13S, R66W

Mine Name: Curtis, City Coal Mine No. 1 - Williams, Williamsville, New
Altitude and Danville

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: Surface topography and features overlain on the mine
maps

Structure maps:

Other:

Comments: Historical, first subsidence hazard investigation for a
subdivision

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. E19

CMLRD I.D. # Various

Author(s): Dames and Moore

Date: March, 1985

Title: Colorado Springs Subsidence Investigation - Executive Summary,
Volume 1, 2 and 3

Publisher: Colorado Mined Land Reclamation Division, Inactive Mine
Reclamation Program

County: El Paso

Location: Colorado Springs area - Rockrimmon, Cragmor, Palmer Park, Rustic
Hills

Mine Name: 25 different mines

Contents: Approximately 100 drill holes

Geophysical logs: Yes

Lithology logs: Yes

Cross-sections: Yes

Mine maps: Yes

Structure maps: Yes

Other:

Comments:

Availability: Colorado Geological Survey
Colorado Mined Land Reclamation Division
City of Colorado Springs - Planning Department
Penrose Regional Library - Colorado Springs

FREMONT COUNTY

Map Reference No.

F1

Author

McDermid Engineering
Assoc., 1983

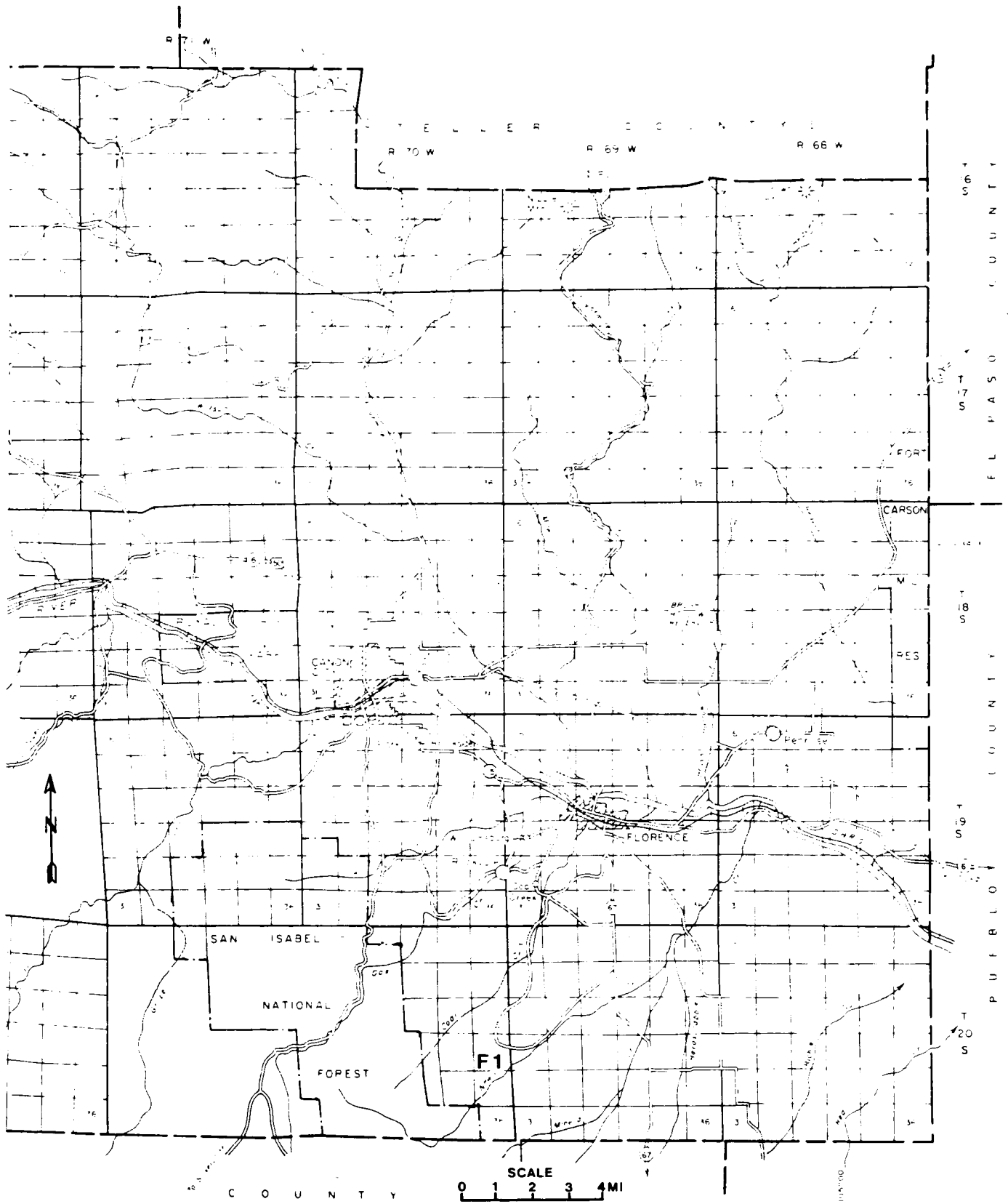


Figure 3. Location map, Fremont County subsidence investigations.

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. F1

CMLRD I.D. # 0431172835001

Author(s): McDermid Engineering Associates, Inc.

Date: 1983

Title: City of Florence, Newlin Creek Waterline rehabilitation,
feasibility, and design report

Publisher: State of Colorado, Mined Land Reclamation Division

County: Fremont

Location: Sec. 24, 25, T20S, R70W

Mine Name: Canon City

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Subsidence zone map

Comments: This is a study on impact of subsidence on a water pipeline.

Availability: Colorado Mined Land Reclamation Division

JEFFERSON COUNTY

<u>Map Reference No.</u>	<u>Author</u>
J1	Amuedo and Ivey, 1981
J2	Amuedo and Ivey, 1981
J3	Amuedo and Ivey, 1982
J4	Chen
J5	CTL/Thompson, 1981
J6	CTL/Thompson, 1982
J7	CTL/Thompson, 1983
J8	Dames & Moore, 1983
J9	Dames & Moore, 1983
J10	F.M. Fox, 1972
J11	F.M. Fox, 1977
J12	Goodson
J13	Lucas
J14	Myers
J15	Amuedo and Ivey, 1983

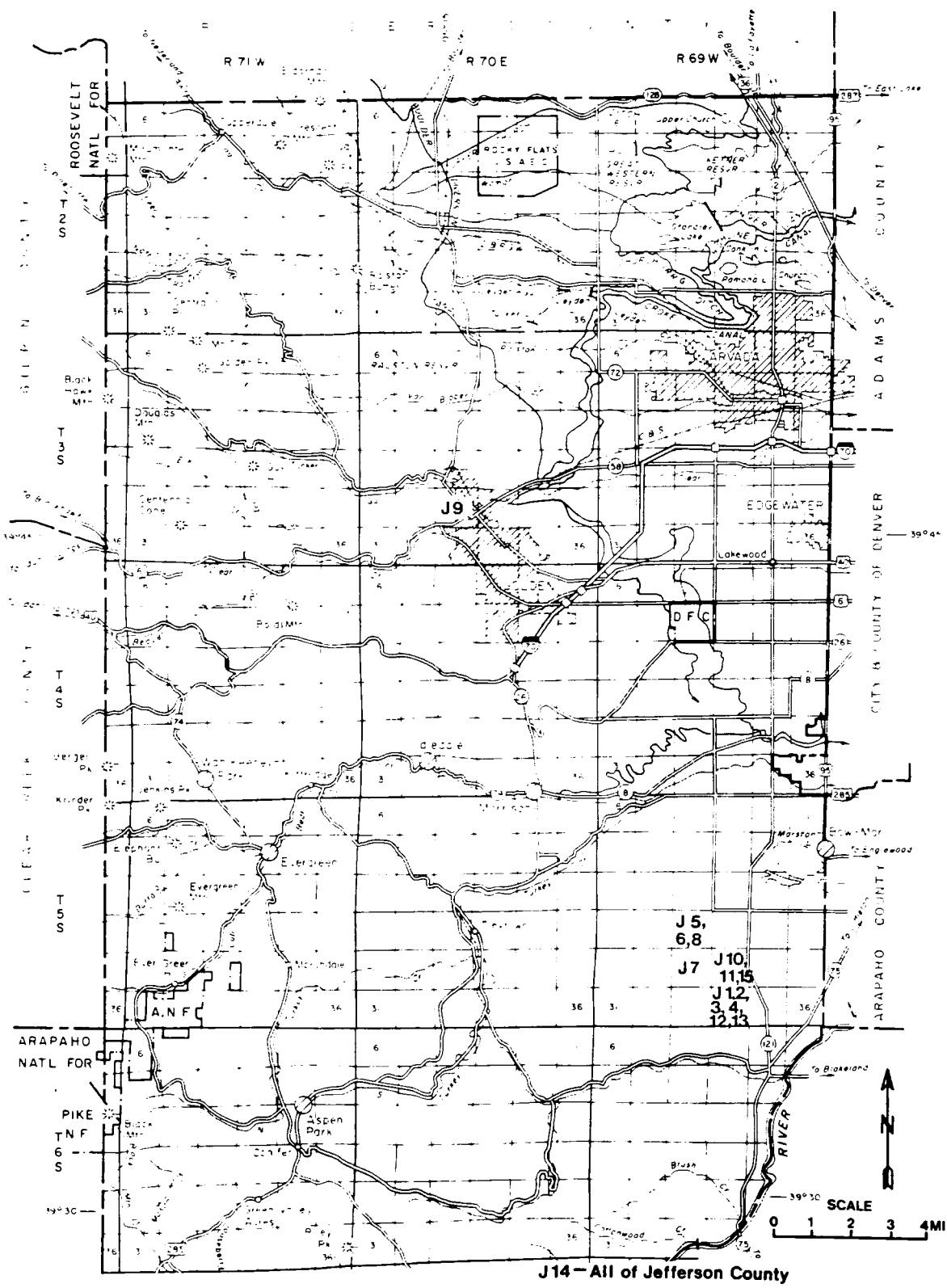


Figure 4. Location map, Jefferson County subsidence investigations.

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J1

CMLRD I.D. # 0590660918001

Author(s): Amuedo and Ivey

Date: 1981

Title: Subsidence investigation, Phase I, Virginia Mine, South Garrison and Ken Caryl, Jefferson County, Colorado

Publisher:

County: Jefferson

Location: Sec. 34, T5S, R69W

Mine Name: Virginia

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Predicted surface subsidence map, predicted surface strain map.

Comments:

Availability: Jefferson County

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J2

CMLRD I.D. # 0590550918001

Author(s): Amuedo and Ivey

Date: 1981

Title: Phase II, subsidence investigation, Virginia Mine, So. Garrison Street and Ken Caryl Rd., Jefferson County, Colorado

Publisher:

County: Jefferson

Location: Sec. 34, T5S, R69W

Mine Name: Virginia

Contents:

Geophysical logs: gamma, sp, resistivity, caliper, density

Lithology logs: Yes

Cross-sections: Yes

Mine maps:

Structure maps:

Other: Predicted surface subsidence map.

Comments:

Availability: Jefferson County

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J3

CMLRD I.D. # 0590660918001

Author(s): Amuedo and Ivey

Date: 1982

Title: Mine subsidence investigation, Virginia Mine, Jefferson County, Colorado, Vol. 1 and 2

Publisher: Jefferson County

County: Jefferson

Location: Sec. 34, T5S, R69W

Mine Name: Virginia

Contents:

Geophysical logs: gamma, density, caliper, resistivity, drift survey

Lithology logs: Yes: auger drill hole, 8 rotary drill holes

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other: Depth sounding resistivity surveys, subsidence and strain maps.

Comments:

Availability: Mined Land Reclamation Division
Jefferson County

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J4

CMLRD I.D. # 0590660918001

Author(s): Chen and Associates

Date: 1981

Title: Foundation recommendations in areas of potential ground subsidence, Albertson's Food Center #8-P, Ken Caryl Rd. and Garrison Street, Jefferson County, Colorado

Publisher:

County: Jefferson

Location: Sec. 34, T5S, R69W

Mine Name: Virginia

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments: Text only.

Availability: Jefferson County

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J5

CMLRD I.D. # 0590660908202

Author(s): CTL/Thompson, Inc.

Date: 1981

Title: Evaluation of subsidence potential, Coal Mine West Project, Coal Mine Rd. and Kipling Street, Jefferson County, Colorado

Publisher:

County: Jefferson

Location: Sec. 21, T5S, R69W

Mine Name: Economy

Contents:

Geophysical logs: gamma, density, caliper, resistivity

Lithology logs: Yes, 6 drill holes

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other: Subsidence hazard map.

Comments: E-logs not available at Colorado Geological Survey.

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J6

CMLRD I.D. # 0590660908202

Author(s): CTL/Thompson, Inc.

Date: 1983

Title: Evaluation of subsidence potential, Coal Mine Road alignment, Coal Mine Road and Kipling Street, Jefferson County, Colorado

Publisher:

County: Jefferson

Location: Sec. 21, T5S, R69W

Mine Name: Economy

Contents:

Geophysical logs: gamma, density, caliper, resistivity

Lithology logs: 8 drill holes

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Strain profile, subsidence profile

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J7

CMLRD I.D. # 0590660908201
0590660908202

Author(s): CTL/Thompson, Inc.

Date: 1982

Title: Subsidence potential of the area between the Littleton and Economy mines, Coal Mine Rd. and Kipling Street, Jefferson County, Colorado

Publisher:

County: Jefferson

Location: Sec. 28, T5S, R69W

Mine Name: Littleton, Economy

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: Yes

Structure maps:

Other: Subsidence risk map.

Comments:

Availability: Colorado Geological Survey
Jefferson County

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J8

CMLRD I.D. # 0590660908202

Author(s): Dames and Moore

Date: 1983

Title: Report, northern end of the Economy Mine subsidence hazard study, Jefferson County, Colorado

Publisher: State of Colorado, Mined Land Reclamation Division

County: Jefferson

Location: Sec. 21, T5S, R69W

Mine Name: Economy

Contents:

Geophysical logs: gamma, resistivity, gamma density, caliper

Lithology logs: Yes: 11 rotary, 1 angle core drill hole

Cross-sections: Yes

Mine maps:

Structure maps: Yes

Other: Surface strain contours, trough subsidence contours, hazard and utility location map

Comments:

Availability: Mined Land Reclamation Division

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J9

CMLRD I.D. # 0590545800001

Author(s): Dames and Moore

Date: 1983

Title: Report, Rubey Clay - mine subsidence hazard study, Golden, Colorado

Publisher:

County: Jefferson

Location: Sec. 28, T3S, R70W

Mine Name: Old Loveland, New Loveland, New White Ash, New Mine

Contents:

Geophysical logs: gamma, density, resistivity, caliper

Lithology logs: Yes

Cross-sections: See comments

Mine maps: Yes

Structure maps: Yes

Other: Surface strain contour map.

Comments: Cross-section maps are of mine workings.

Availability: Jefferson County, City of Golden, Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J10

CMLRD I.D. # 0590660908201

Author(s): F.M. Fox and Associates, Inc.

Date: 1972

Title: Subsidence evaluation, SE/4 of the NW/4, Section 27, Township
5 South, Range 69 West, Jefferson County, Colorado

Publisher:

County: Jefferson

Location: Sec. 27, T5S, R69W

Mine Name: Littleton

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps:

Structure maps:

Other: Subsidence contour map

Comments:

Availability: Jefferson County

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J11

CMLRD I.D. # 0590660908203
0590660908202
0590660918001

Author(s): F.M. Fox and Associates, Inc.

Date: 1977

Title: Abandoned coal mine review for the Meadows planned development,
Jefferson County, Colorado

Publisher:

County: Jefferson

Location: Sec. 21,27,34, T5S, R69W

Mine Name: Littleton, Economy, Virginia

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: Yes

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J12

CMLRD I.D. # 0590060918001

Author(s): Goodson and Associates, Inc.

Date: 1983

Title: Virginia Mine subsidence hazard evaluation project

Publisher: State of Colorado, Mined Land Reclamation Division

County: Jefferson

Location: Sec. 34, T5S, R69W

Mine Name: Virginia

Contents:

Geophysical logs: Self-potential, resistivity, resistance, gamma,
gamma-gamma, caliper

Lithology logs: See comments

Cross-sections: Strain and geologic

Mine maps: Yes

Structure maps: Yes

Other: Subsidence hazard zone map

Comments: Daily drilling report.
Subsidence monitoring system design.

Availability: Mined Land Reclamation Division
Jefferson County
Monthly survey results from subsidence monitoring system are
available at the Mined Land Reclamation Division

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J13

CMLRD I.D. # 0590660918001

Author(s): Lucas, J.C. and Russell, C.

Date: 1984

Title: Investigation of mine conditions beneath a southwest metropolitan water and sanitation district sewer line, Virginia Mine, Jefferson County, Colorado

Publisher: State of Colorado, Mined Land Reclamation Division

County: Jefferson

Location: Sec. 34, T5S, R69W

Mine Name: Virginia

Contents:

Geophysical logs: caliper, gamma-gamma, gamma

Lithology logs: Yes, 5 drill holes

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments:

Availability: Mined Land Reclamation Division

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J14

CMLRD I.D. # 0590545800001

Author(s): Myers, A.R., Lindvall, R.A., Hynes, J.L. and Ivey, J.B.

Date: 1978

Title: Coal and clay mine hazard study and estimated unmined coal resources, Jefferson County, Colorado

Publisher: Jefferson County, prepared by Amuedo and Ivey

County: Jefferson

Location: T2,3,4,5, and 6S, R69W; T2,3,4 and 5S, R70W; T2S, R71W

Mine Name: Bluebird No. 1, Leyden, White Ash, New Loveland, Golden Star, Economy, Rowe, Independence

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: Extent of mining

Structure maps:

Other: Coal isopach map, columnar section of Cretaceous rocks, subsidence inventory maps, subsidence hazard maps, mining factors maps.

Comments: Contains a bibliography on local coal studies and subsidence theory.

Availability: Colorado Geological Survey
 Jefferson County

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. J15

CMLRD I.D. # 059066098201

Author(s): Amuedo and Ivey, Inc.

Date: Sept. 29, 1984

Title: Subsidence Investigation, Littleton Mine, Jefferson County,
Colorado

Publisher:

County: Jefferson

Location: NW 1/4 Sec. 27, T5S, R69W

Mine Name: Littleton

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps: General Mine Map

Structure maps:

Other: Subsidence and horizontal strain predictions

Comments: Proposed southwest mini-storage subdivision

Availability: Colorado Geological Survey, Jefferson County Planning Department

WELD COUNTY

Map Reference No.

Author

W1	Hydro-Search, 1983
W2	Hynes, 1984
W3	Tierra, 1983
W4	Chen, 1980
W5	Church, 1980
W6	Gaz, 1980
W7	Deuel and Associates, 1985
W8	Deuel and Associates, 1985

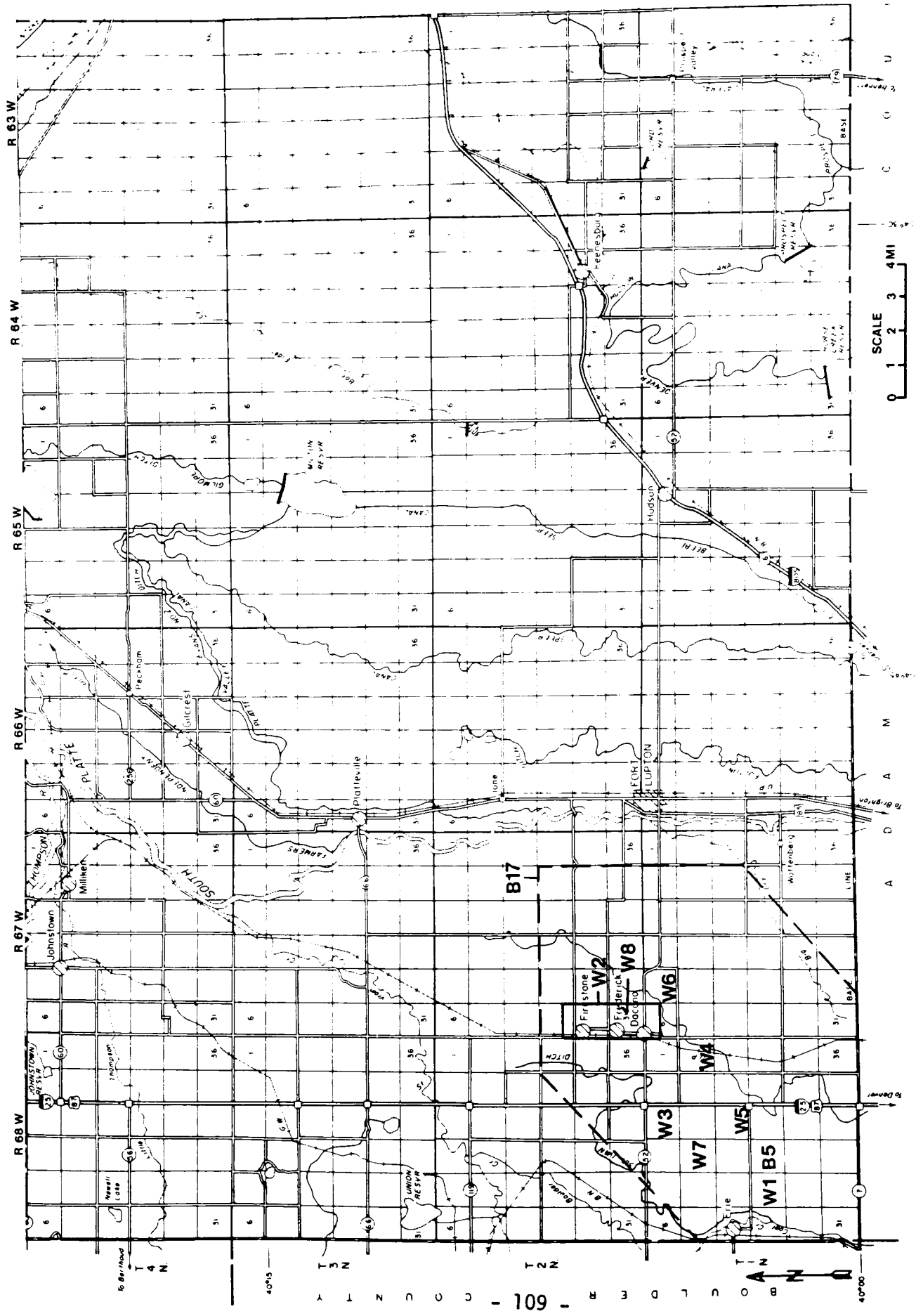


Figure 5. Location map, Weld County subsidence investigations.

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. W1

CMLRD I.D. # 1230432983101

Author(s): Hydro-Search, Inc.

Date: 1983

Title: Site evaluation and operation plan for Landfill Systems, Inc.
disposal site, Erie, Colorado

Publisher:

County: Weld

Location: Sec. 20, T1N, R68W

Mine Name: Boulder Valley No. 1

Contents:

Geophysical logs:

Lithology logs: Yes

Cross-sections:

Mine maps: See comments

Structure maps:

Other: Subsidence hazard map.

Comments: Mine maps are generalized extent of mining.

Report contains only short section on subsidence.

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. W2

CMLRD I.D. # Various

Author(s): Hynes, Jeffrey L., Colorado Geological Survey

Date: 1984

Title: Tri-Towns Subsidence Investigation, Weld County, Colorado

Publisher: Colorado Division of Mined Land Reclamation, Inactive Mine Program

County: Weld

Location: T1N, T2N, R67W

Mine Name: Baum, Firestone, Evans, Grant, Sterling, Warwick

Contents:

Geophysical logs: natural-gamma, gamma density, resistivity and caliper

Lithology logs: 97 drill holes - 11 core, 86 rotary - and lithology descriptions

Cross-sections: Representative Cross-sections

Mine maps: Mining Features

Structure maps:

Other: Subsidence evaluation and hazard classification

Comments: Extent of mining maps (mine features) overlain on air photos (1 inch to 200 feet scale)

Availability: Colorado Mined Land Reclamation Division, Inactive Mine Program, Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. W3

CMLRD I.D. # 1230433013701

Author(s): Tierra Consultants, Inc.

Date: 1983

Title: Subsidence potential study, Dacono property, Weld County, Colorado

Publisher:

County: Weld

Location: Sec. 3, T1N, R68W

Mine Name: Puritan

Contents:

Geophysical logs: Yes

Lithology logs: Yes

Cross-sections: Yes

Mine maps: Yes

Structure maps:

Other: Hole location map.

Comments:

Availability: Tierra Consultants, Inc.

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. W4

CMLRD I.D. # 1230433043501

Author(s): Chen and Assoc.
Ralph Mock, Richard Hepworth

Date: 1980

Title: Preliminary Engineering Geology, soils and coal mine subsidence
evaluation for the Harrington property, Weld County, Colorado

Publisher: Chen and Assoc.

County: Weld

Location: Sec. 12, T1N, R68W

Mine Name: Gradon Mine

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. W5

CMLRD I.D. # 1230433013201

Author(s): Edward A. Church
Ralph Mock, Richard Hepworth

Date: 1980

Title: Geologic Investigation, Proposed Coufal Residence, 40 acre tract

Publisher:

County: Weld

Location: N-1/2 N-1/2 SW1/4 Sec. 15, T1N, R68W

Mine Name: Eagle Mine

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps:

Structure maps:

Other: Construction recommendations

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. W6

CMLRD I.D. # 1230433053601

Author(s): Louis Gaz

Date: 1982

Title: Geologic Hazard - Martin Exploration Co.

Publisher:

County: Weld

Location: Sec. 5, T1N, R67W

Mine Name: Sterling Mine

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps:

Structure maps:

Other: Subsidence Evaluation

Comments:

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. W7

CMLRD I.D. #1230432932801

Author(s): Deuel and Associates

Date: March, 1985

Title: Subsidence Potential of 9 Acres of the Scotts Acres Subdivision

Publisher: Deuel and Associates, Inc.

County: Weld

Location: Section 9, T1N, R68W (incorrectly listed as R69W in report)

Mine Name: Morrison Mine

Contents:

Geophysical logs: 3

Lithology logs: Yes

Cross-sections:

Mine maps:

Structure maps: Yes, 1

Other: Strain Analysis

Comments: Deuel and Associates (now Atec Associates)

Availability: Colorado Geological Survey

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. W8

CMLRD I.D. # 1230433053601

Author(s): Deuel and Associates, Inc.

Date: March, 1985

Title: Subsidence Potential Study of 320 Acres located in Frederick,
Colorado for Grant Bros.

Publisher:

County: Weld

Location: Sec. 31, T2N, R67W

Mine Name: Sterling

Contents:

Geophysical logs: Gamma, Sp, Resistance, Caliper

Lithology logs: Yes

Cross-sections: No

Mine maps: No

Structure maps: No

Other: Strain contour map

Comments:

Availability: Colorado Geological Survey

SELECTED REFERENCES

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- American Geological Institute, 1983, Bibliography and Index of Colorado Geology, 1975 to 1980: Colo. Geol. Survey Bull. 45, 294p.
- American Geological Institute, 1983, Bibliography and Index of Colorado Geology, 1981 to 1982: Colo. Geol. Survey Information Series No. 19, 111 p.
- Amuedo and Ivey, 1981, Inactive coal mines of the front range area: Inactive Mine Reclamation Program, Division of Mined Land Reclamation, State of Colorado.
- Averitt, Paul, and Lopez, Loredda, 1971, Bibliography and Index of U.S. Geological Survey publications relating to coal, 1882-1970: U.S. Geol. Survey Bull. 1377, 173p.
- Borek, D.L., and Murray, D.K., 1979, Colorado coal reserve depletion data and coal mine summaries: Colo. Geol. Survey OFR 79-1.
- Colorado Inactive Mine Program, 1982, Inactive mines of Colorado: Division of Mined Land Reclamation, State of Colorado, 1 sheet.
- Colorado School of Mines Research Institute, 1980, Annotated bibliography of source materials on abandoned coal-mined lands in Colorado: U.S. Dept. Int., Office of Surface Mining, 127 p.
- Colton, Roger B. and Lowrie, Raymond L., 1973, Map showing mined areas of the Boulder-Weld Coal Field, Colorado: U.S. Geol. Survey Misc. Field Studies Map MF-513.
- Fender, H.B., Jones, D.C., and Murray, D.K., 1978, Bibliography and index of publications related to coal in Colorado, 1972-1977: Colo. Geol. Survey Bull. 41, 54p.
- Holt, R.D., 1972, Bibliography, Coal resources in Colorado: Colo. Geol. Survey Bull. 34-A, 31p.
- Kirkham, R.M., 1978, Coal mines and coal analyses of the Denver and Cheyenne Basins, Colorado: Colo. Geol. Survey Open File Report 78-9.
- Lowrie, R.L., 1976, Analysis of the coal industry in Boulder-Weld Coal Field, Colorado: U.S. Bureau Mines Rep. Inv. 6726, 79p.
- Moore, R., Colaizzi, G., Laird, R., 1984, Feasibility of using fly ash for backfilling abandoned coal mines in Colorado Springs, Colorado. Goodson associates for the Office of Surface Mining, Denver, Colorado.

- Pendleton, James A., 1978, Geology and the conduct of local government: An urban geologist's viewpoint: Ph.D. Thesis, Univ. of Colorado, Boulder, 209p., 16 plates.
- Rocky Mountain Association of Geologists, 1981, Bibliography of theses and dissertations on Colorado, 1968-1980: The Mountain Geologist, Vol. 18, No. 4, p. 96-113.
- Rogers, W.P. and others, 1974, Guidelines and criteria for identification and land use controls of geologic hazard and mineral resource areas: Colo. Geol. Survey Spec. Pub. No. 8, 14p.
- Turney, J.E., and Murray-Williams, L., 1984, Colorado front range inactive coal mine data and subsidence information: Colo. Geol. Survey.
- Turney, J.E., 1984, Subsidence Above Inactive Coal Mines, Information for the Homeowner, Colorado Geological Survey, Special Publication 26.
- Walker, F.K., 1976, Bibliography and index of U.S. Geological Survey publications relating to coal, 1971-1975: U.S. Geol. Survey Circ. 742, 32p.

Sources of Information

Colorado Division of Mines
1313 Sherman Street, Room 423
Denver, CO 80203
(303) 866-3567

Coal mine maps
Coal mine production records

Colorado Geological Survey
Department of Natural Resources
1313 Sherman Street, Room 715
Denver, CO 80203
(303) 866-2611

CGS publications
Consultant reports
General information

Colorado School of Mines
Golden, CO 80401
(303) 273-3690

Publications
Technical library

Denver Public Library
Western History Department
1357 Broadway
Denver, CO 80203
(303) 571-2009

Rocky Mountain Fuel Co. Maps

Jefferson County Planning Department
1700 Arapahoe Street
Golden, CO 80401
(303) 277-8699

Consultant reports
Virginia Mine subsidence investigation

Mined Land Reclamation Division
State of Colorado Department of Natural Resources
1313 Sherman Street, Room 423
Denver, CO 80203
(303) 866-3567

Colorado Inactive Mine Program
Subsidence hazard publications
Extent of mining maps
OSM emergency action reports

Louisville Planning Department
749 Main Street
Louisville, CO 80027
(303) 666-6565

Consultant reports

Office of Surface Mining
Western Technical Center
1020 15th Street
Denver, CO 80202

Emergency action closeout reports

U.S. Bureau of Mines
Intermountain Field Operations Center
Building 20, Denver Federal Center
Denver, CO 80225
(303) 234-4119

Coal mine maps and data for the State of Colorado
Subsidence Information Center bibliography file

U.S. Geological Survey Library
1526 Cole Boulevard
Golden, CO 80401
(303) 234-4133

Publications

APPENDIX A

DATA SHEET

ANNOTATED BIBLIOGRAPHY OF SUBSIDENCE STUDIES
OVER ABANDONED COAL MINES IN COLORADO

Map Reference No. _____

CMLRD I.D. # _____

Author(s):

Date:

Title:

Publisher:

County:

Location:

Mine Name:

Contents:

Geophysical logs:

Lithology logs:

Cross-sections:

Mine maps:

Structure maps:

Other:

Comments:

Availability:

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