CONTACT INFORMATION
Mining Records Curator
Arizona Geological Survey
416 W. Congress St., Suite 100
Tucson, Arizona 85701
602-771-1601
http://www.azgs.az.gov
inquiries@azgs.az.gov

The following file is part of the JABA, Inc. Tombstone Mining Records

ACCESS STATEMENT

These digitized collections are accessible for purposes of education and research. We have indicated what we know about copyright and rights of privacy, publicity, or trademark. Due to the nature of archival collections, we are not always able to identify this information. We are eager to hear from any rights owners, so that we may obtain accurate information. Upon request, we will remove material from public view while we address a rights issue.

CONSTRAINTS STATEMENT

The Arizona Geological Survey does not claim to control all rights for all materials in its collection. These rights include, but are not limited to: copyright, privacy rights, and cultural protection rights. The User hereby assumes all responsibility for obtaining any rights to use the material in excess of "fair use."

The Survey makes no intellectual property claims to the products created by individual authors in the manuscript collections, except when the author deeded those rights to the Survey or when those authors were employed by the State of Arizona and created intellectual products as a function of their official duties. The Survey does maintain property rights to the physical and digital representations of the works.

QUALITY STATEMENT

The Arizona Geological Survey is not responsible for the accuracy of the records, information, or opinions that may be contained in the files. The Survey collects, catalogs, and archives data on mineral properties regardless of its views of the veracity or accuracy of those data.

0190

TOMBSTONE MINING DISTRICT
Cochise Co. AZ

TEW Working Notebook

Geologic Maps

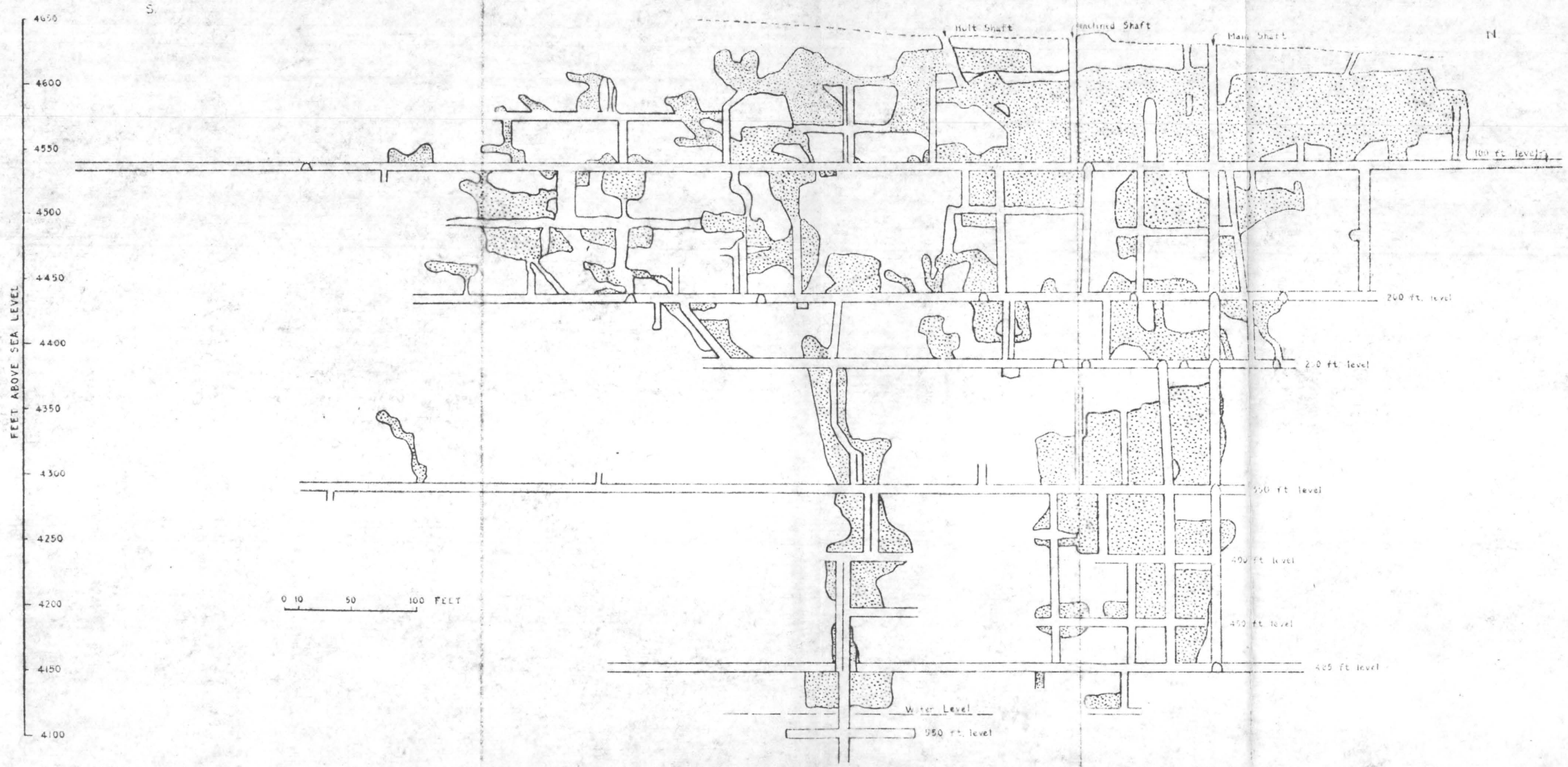


Plate X.—Longitudinal section of Tombstone Extension Mine, looking west. Stopes indicated by dotted areas.

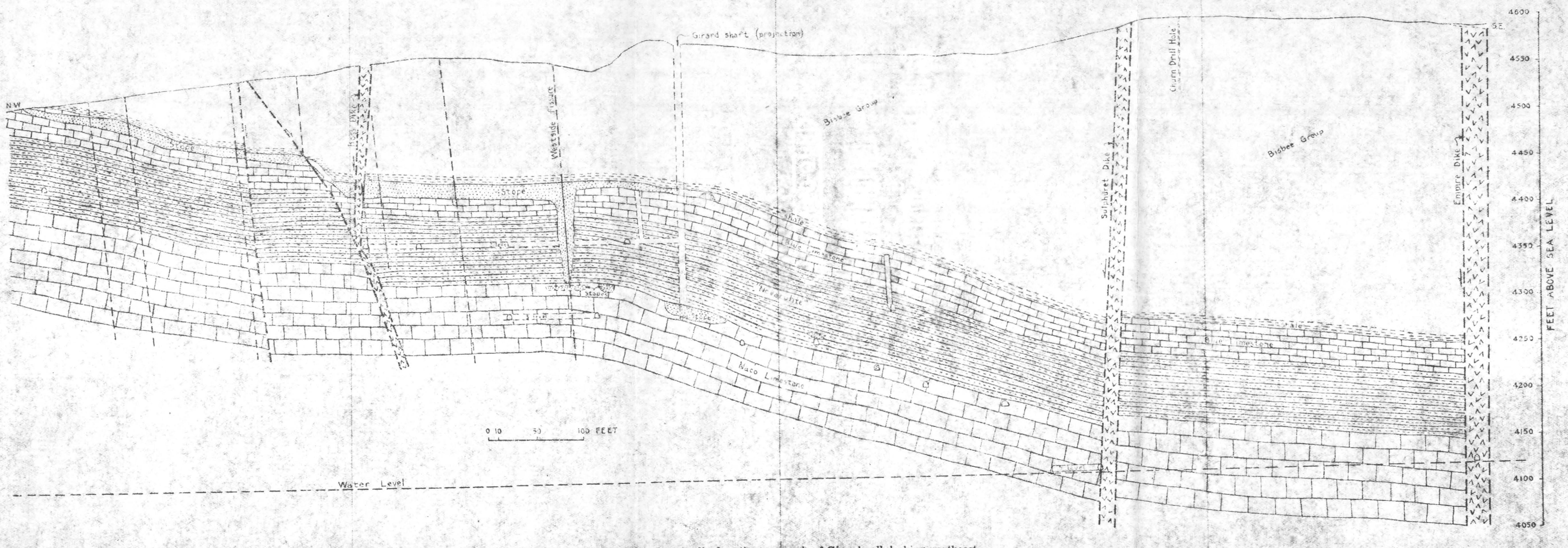
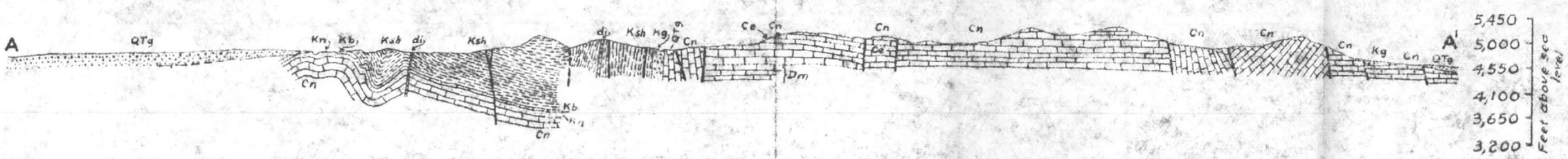
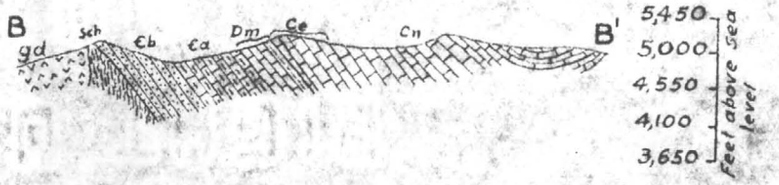


Plate XX.—Longitudinal section near axis of Girard roll, looking northeast.

SECTION A-A'



SECTION B-B'



0 1000 2000 feet

QTg – valley fill gravels
di – dike
Ksh – shale, sandstone, and quartzite
Kb – Blue limestone
Kn – "Novaculite"
Kg – conglomerate
Cn – Naco limestone
Ce – Escabrosa limestone
Dm – Martin limestone
Єa – Abrigo limestone
Єb – Bolsa quartzite
sch – schist
gd – granodiorite

Plate V.—Structure sections along lines A-A' and B-B' of Plate III.

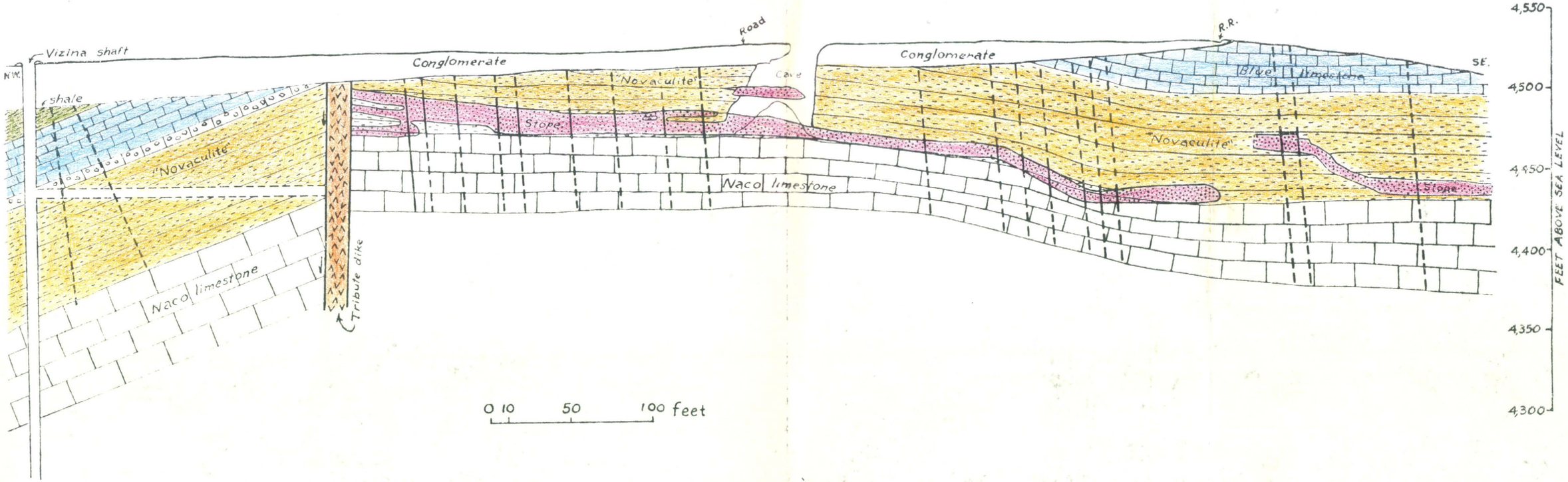


Plate XVIII.—Longitudinal section near axis of northeast Vizina roll, looking northeast.

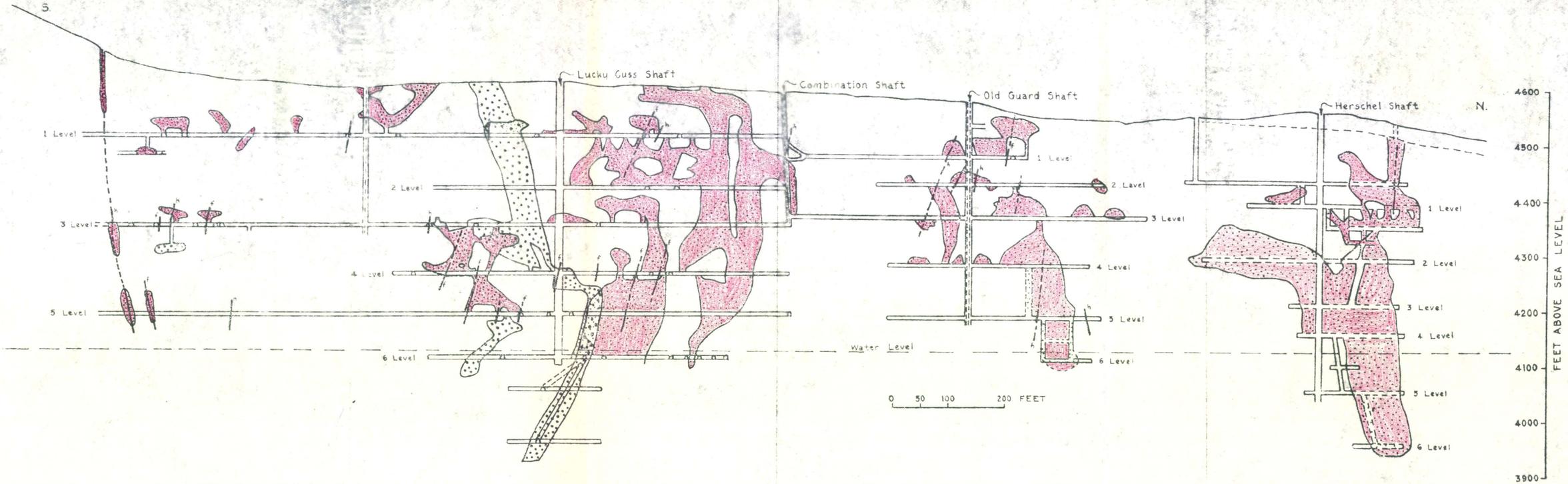


Plate XII.—Longitudinal section through Lucky Cuss, Old Guard, and Herschel mines, looking west. Stopes in Lucky Cuss fault zone indicated by small dots; stopes in massive limestone indicated by large dots; *h*, hanging-wall fissure; *f*, footwall fissure.

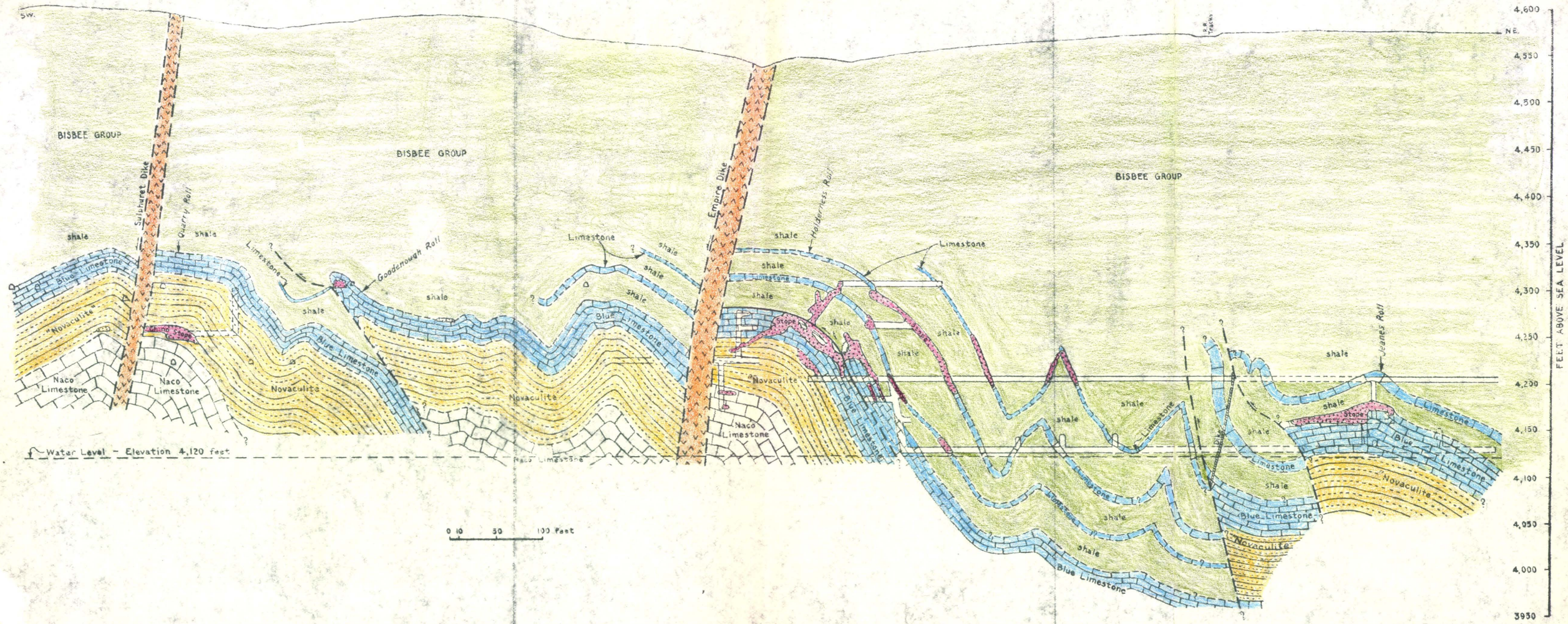


Plate XV.—Section along "409" fissure, looking northwest.

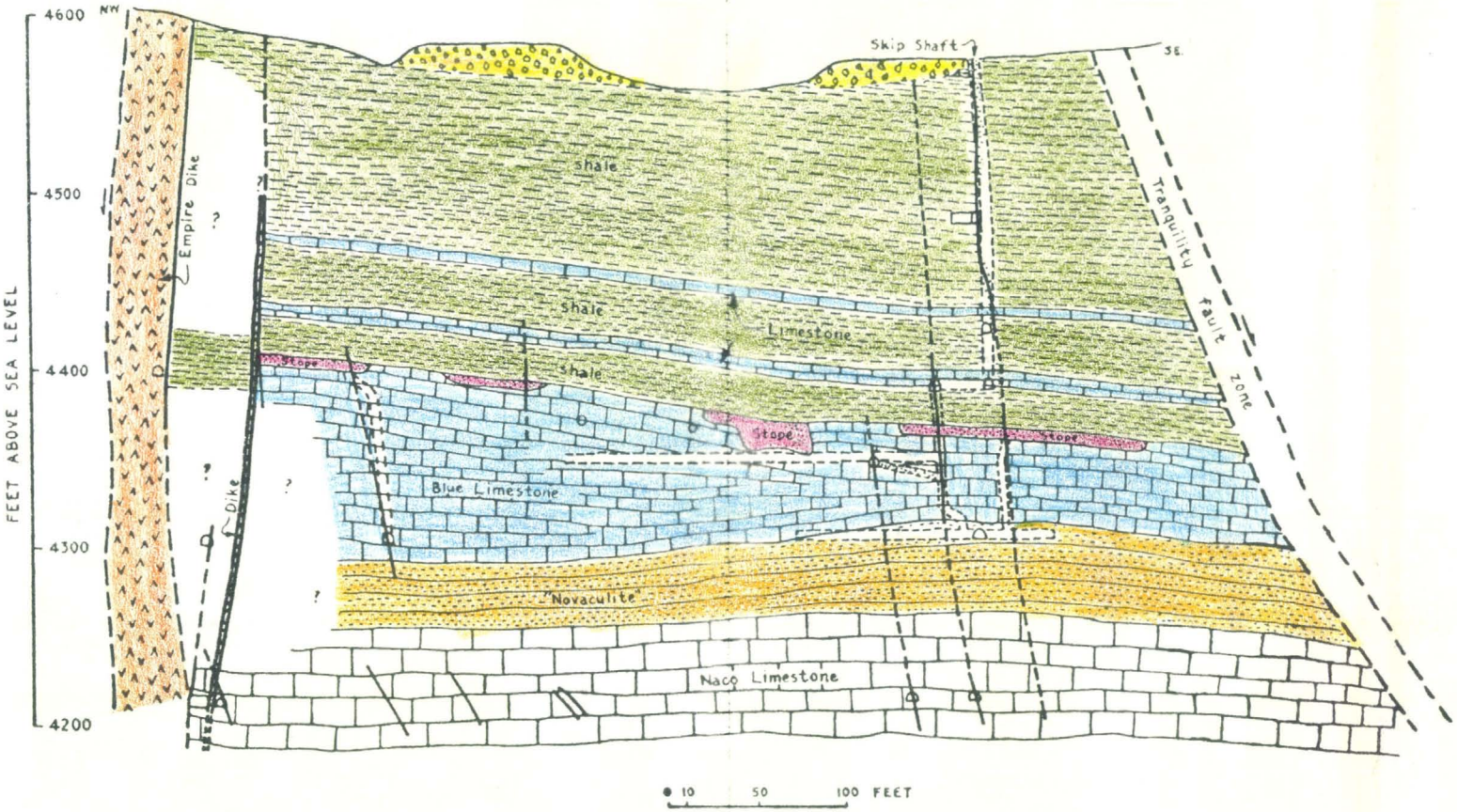


Plate XVII.—Longitudinal section near axis of Macia roll, looking northeast.

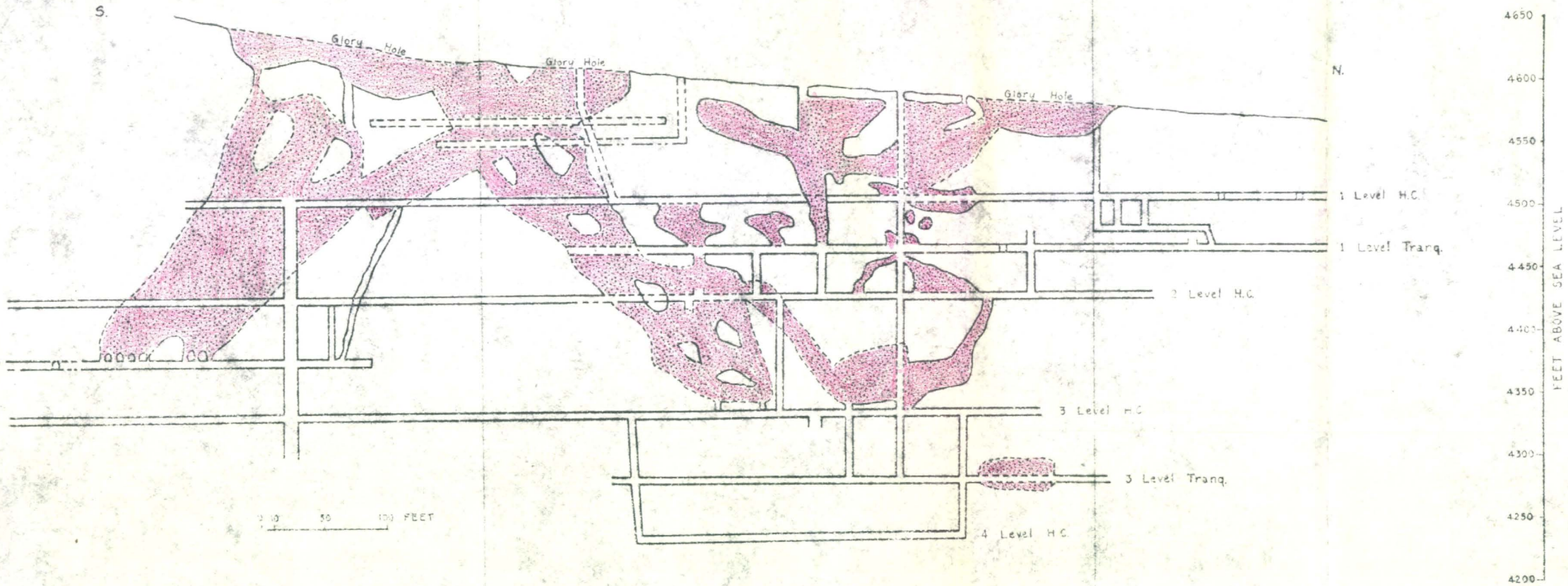


Plate IX.—Longitudinal section of workings in Head Center area, looking west. Stopes indicated by doted areas.

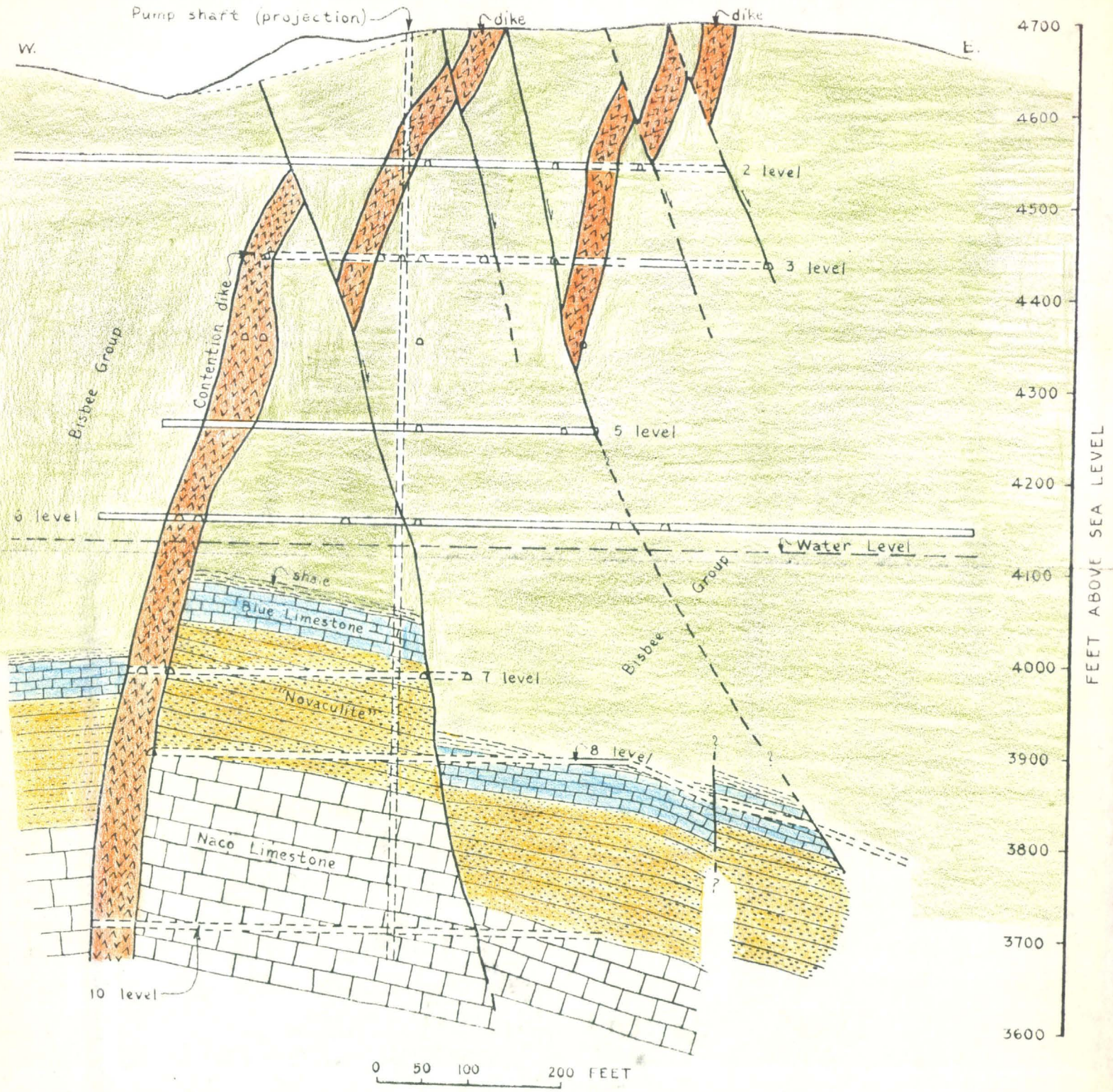


Plate VIII.—Generalized cross section through Contention dike at Pump shaft, looking north. (Modified from F. L. Ransome.)

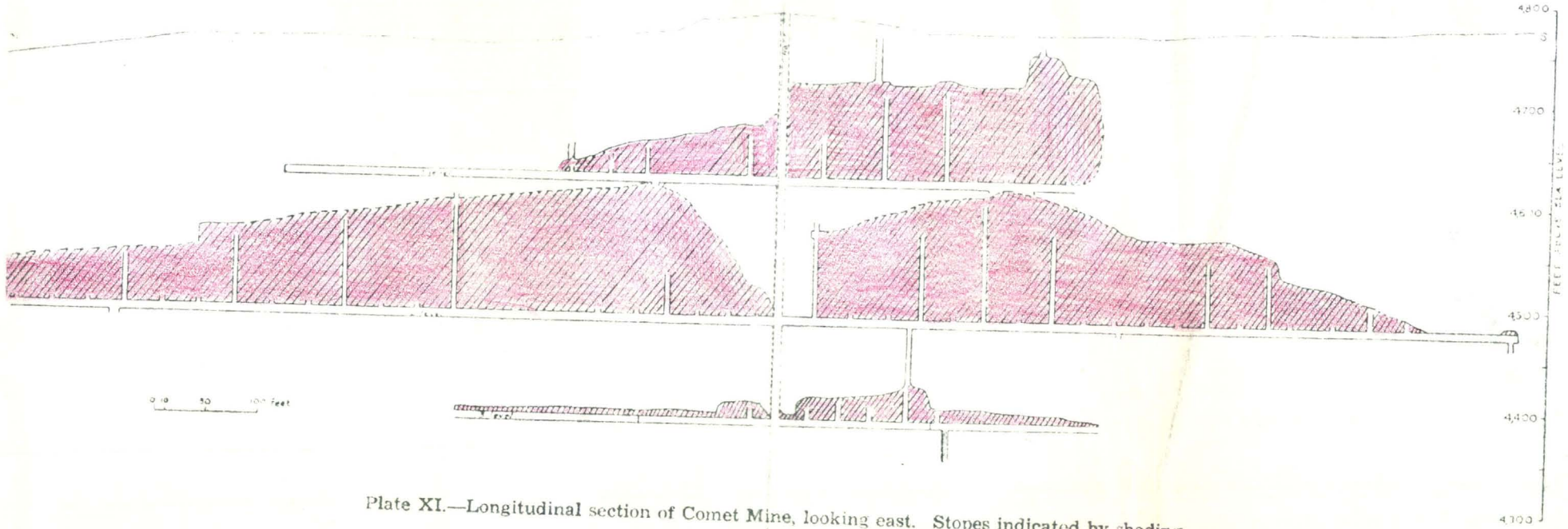
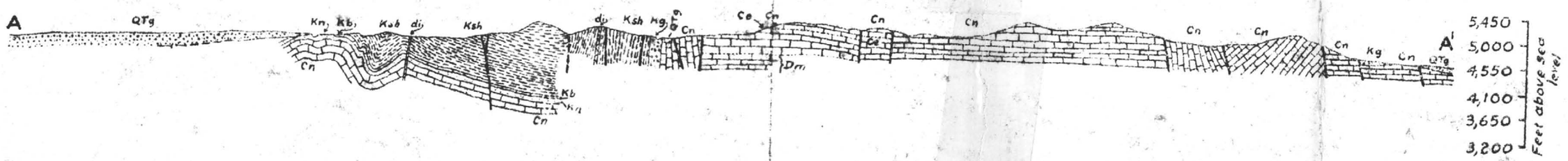
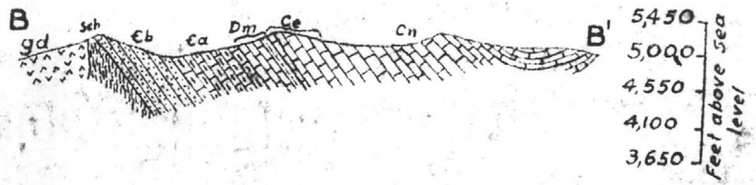


Plate XI.—Longitudinal section of Comet Mine, looking east. Stopes indicated by shading.

SECTION A–A'



SECTION B–B'



0 1000 2000 feet

QTg – valley fill gravels
di – dike
Ksh – shale, sandstone, and quartzite
Kb – Blue limestone
Kn – "Novaculite"
Kg – conglomerate
Cn – Nacco limestone
Ce – Escabrosa limestone
Dm – Martin limestone
€a – Abrigo limestone
€b – Bolsa quartzite
sch – schist
gd – granodiorite

Plate V.—Structure sections along lines A-A' and B-B' of Plate III.

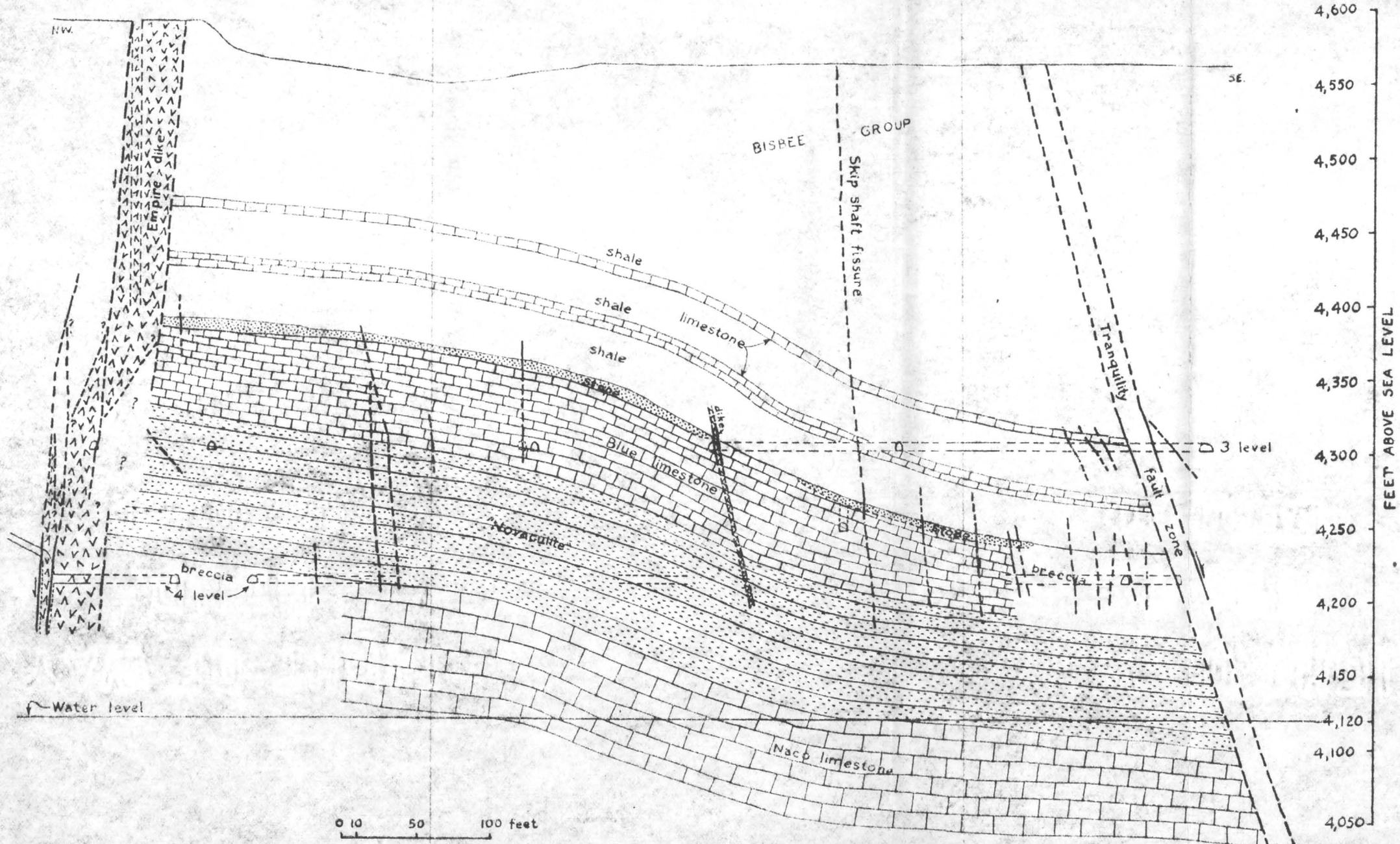


Plate XVI.—Longitudinal section near axis of Silver Thread roll, looking northeast.

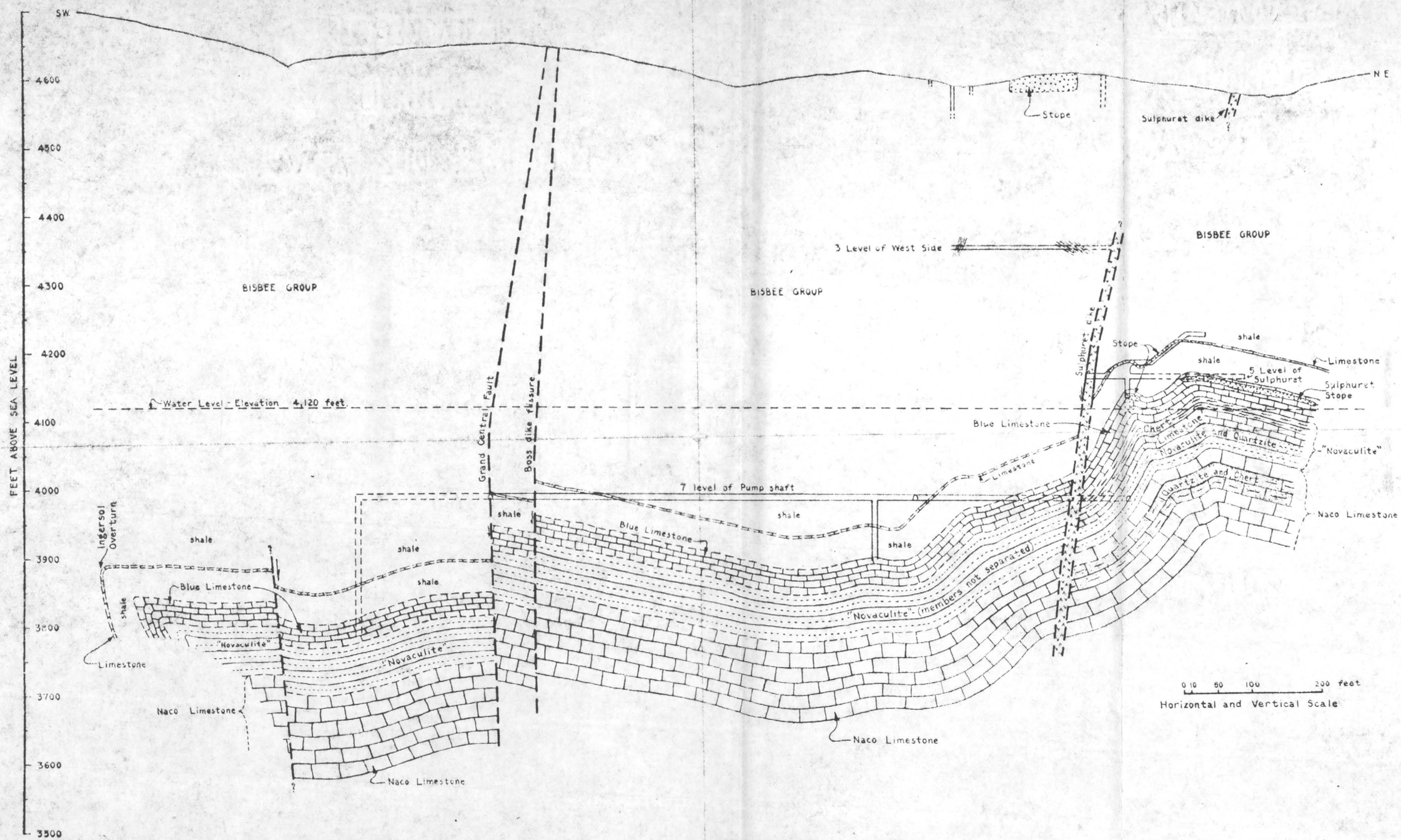


Plate XXII.—Section along Arizona Queen fissure, looking northwest.

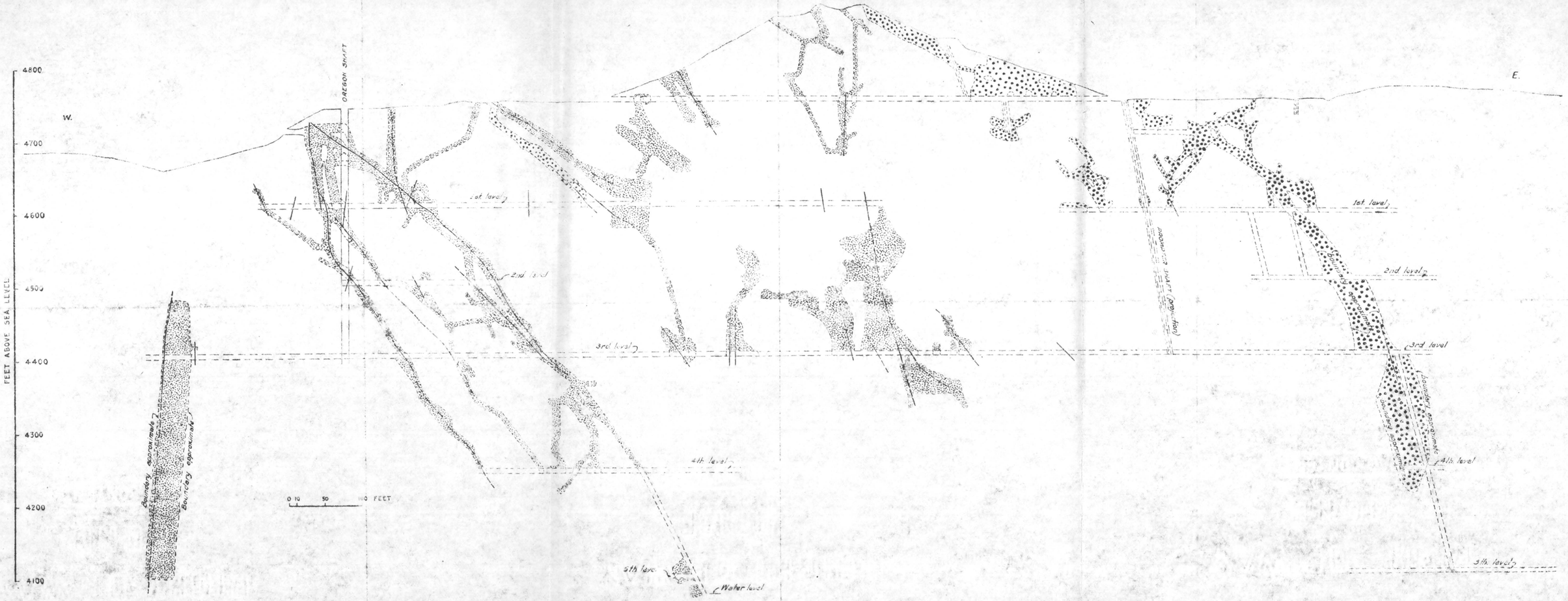


Plate XIV.—Longitudinal section through Oregon and Prompter mines, looking north. Stopes in Oregon slips indicated by small dots; stopes in Prompter fault indicated by large dots.

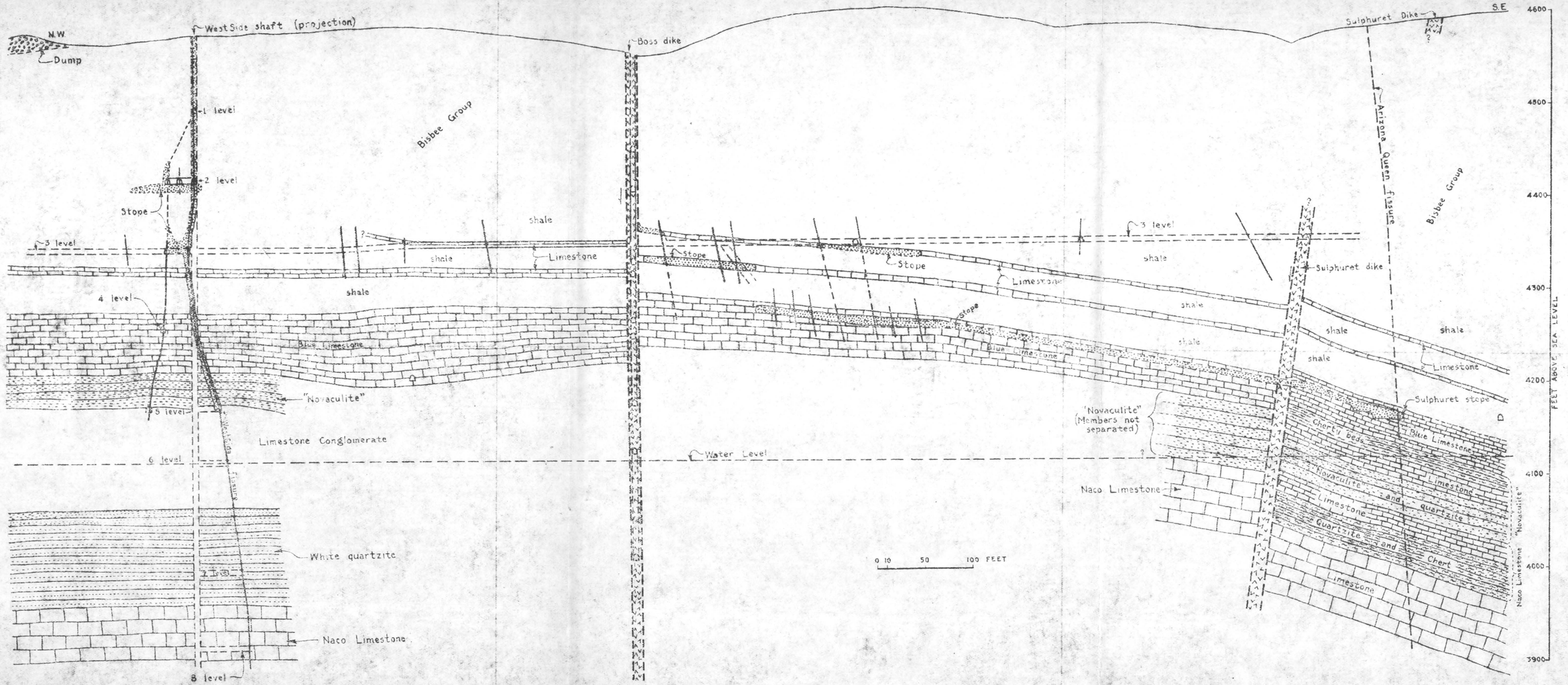


Plate XXI.—Longitudinal section near axis of West Side roll, looking northeast.

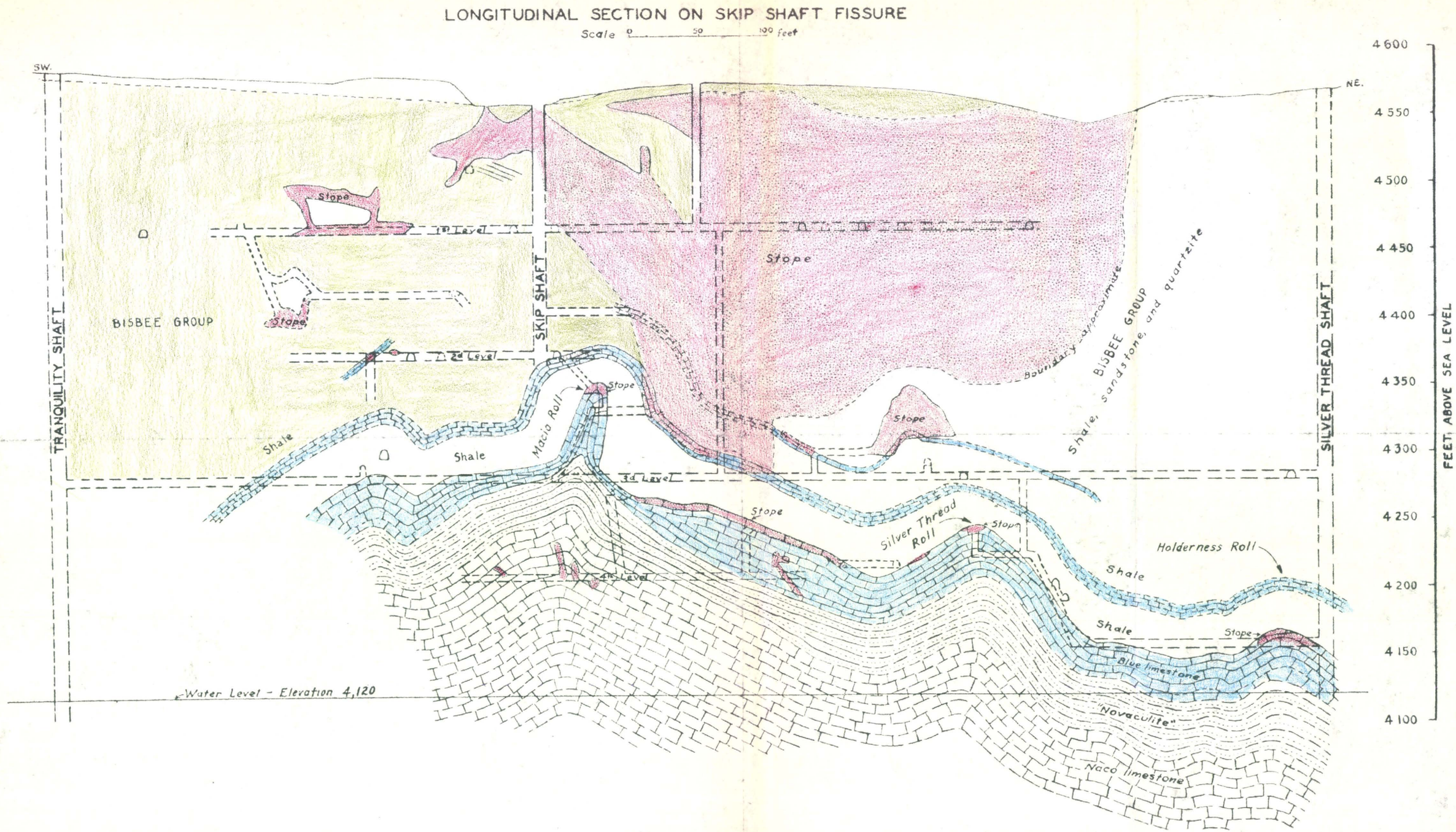


Plate XXIII.—Longitudinal section on Skip shaft fissure, looking northwest.

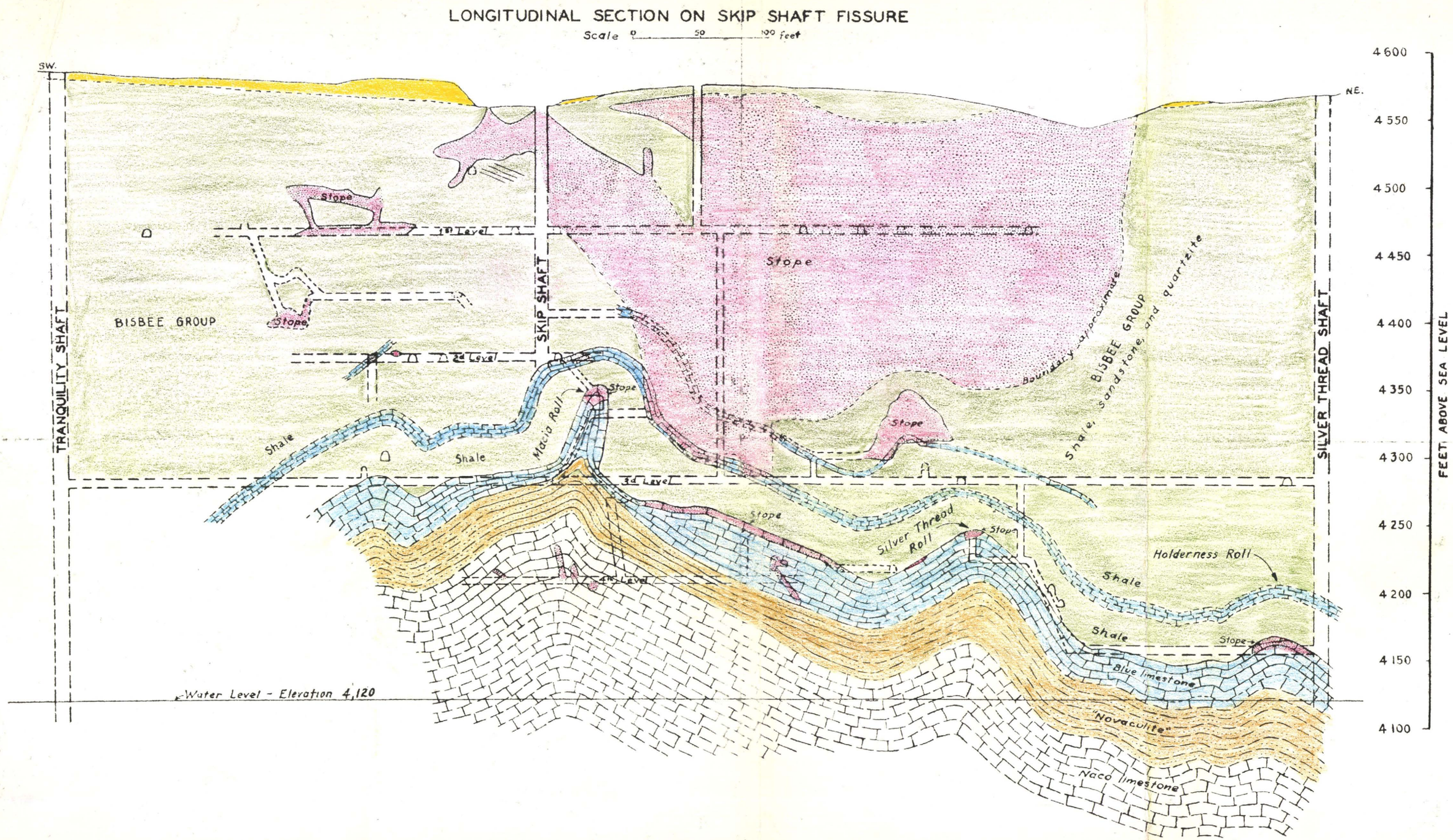
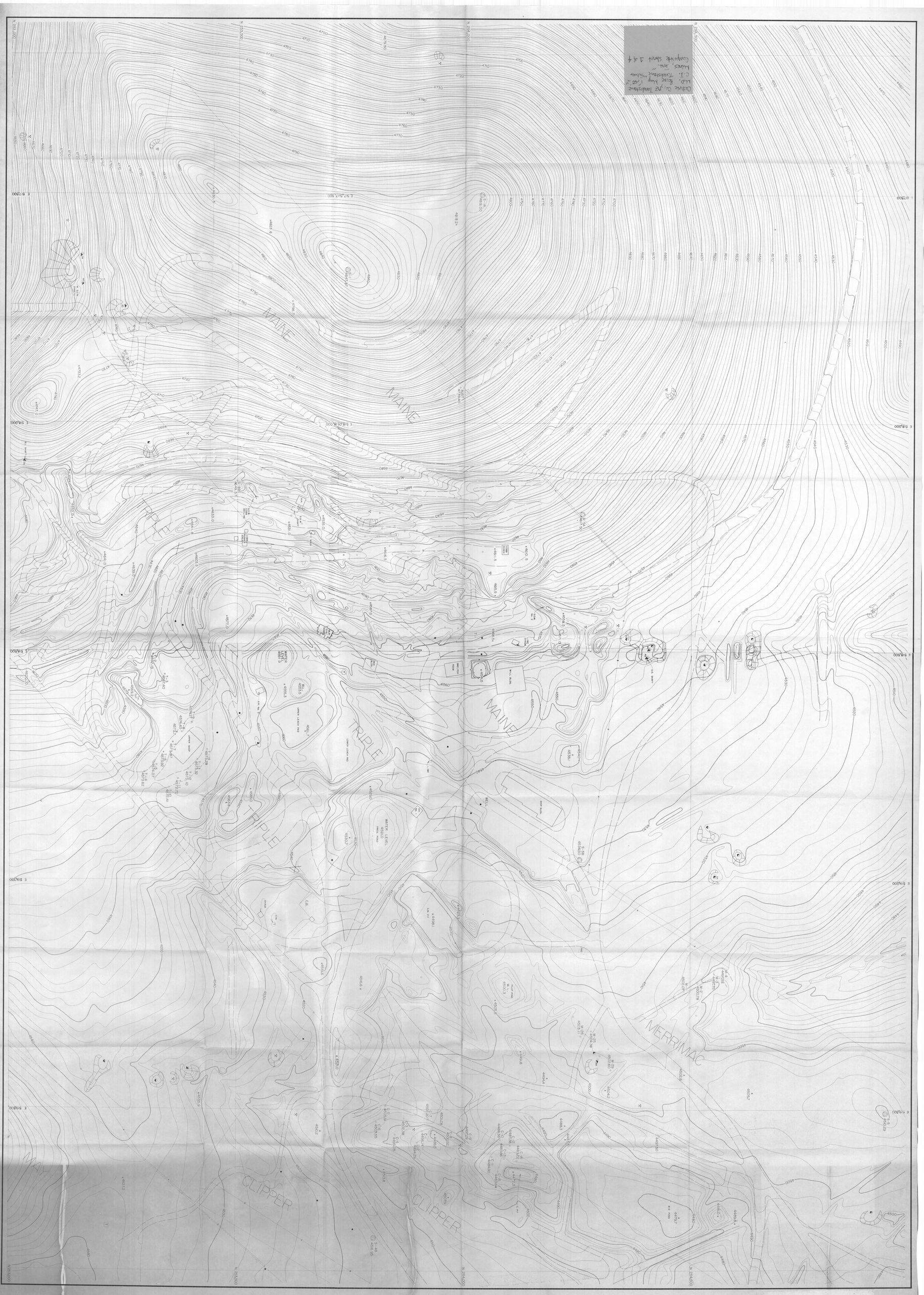


Plate XXIII.—Longitudinal section on Skip shaft fissure, looking northwest.


Cactus Co., Pre Tombstone
M.D. Rise Map 1"=50'
C.I. "Tombstone" Silver
Mines, Inc.
Composite Sheet 1 of 4
MAINE
MAINE
MAINE
TRIPLE
TRIPLE
MERRIMAC
CLIPPER
CLIPPER
WATER LEVEL
WELL
JAMES A. BRISCOE & ASSOC. INC. "TOMBSTONE SILVER MINES, INC." 1"=50' 2 C.I. 6-19-85 C.A.S. 85068 COMPOSITE SHEET 1 OF 4

LUCKY HILLS STOCK RANCH
SOLSTICE HILL
SOLSTICE SHAFT
INTERVENER
DEFENCE
HERSCHALL SHAFT
INGERSOL
NEAT MODEL LINE
Ruins
OLD GUARD
LUCKY CUSS
LUCKY CUSS RIDGE
STATE LEASE
N 258,000
N 257,000
N 256,000
N 255,000
N 254,000
N 253,000
N 252,000
E 522,000
E 523,000
E 524,000
E 525,000
E 526,000
E 527,000
E 528,000
E 529,000
E 530,000

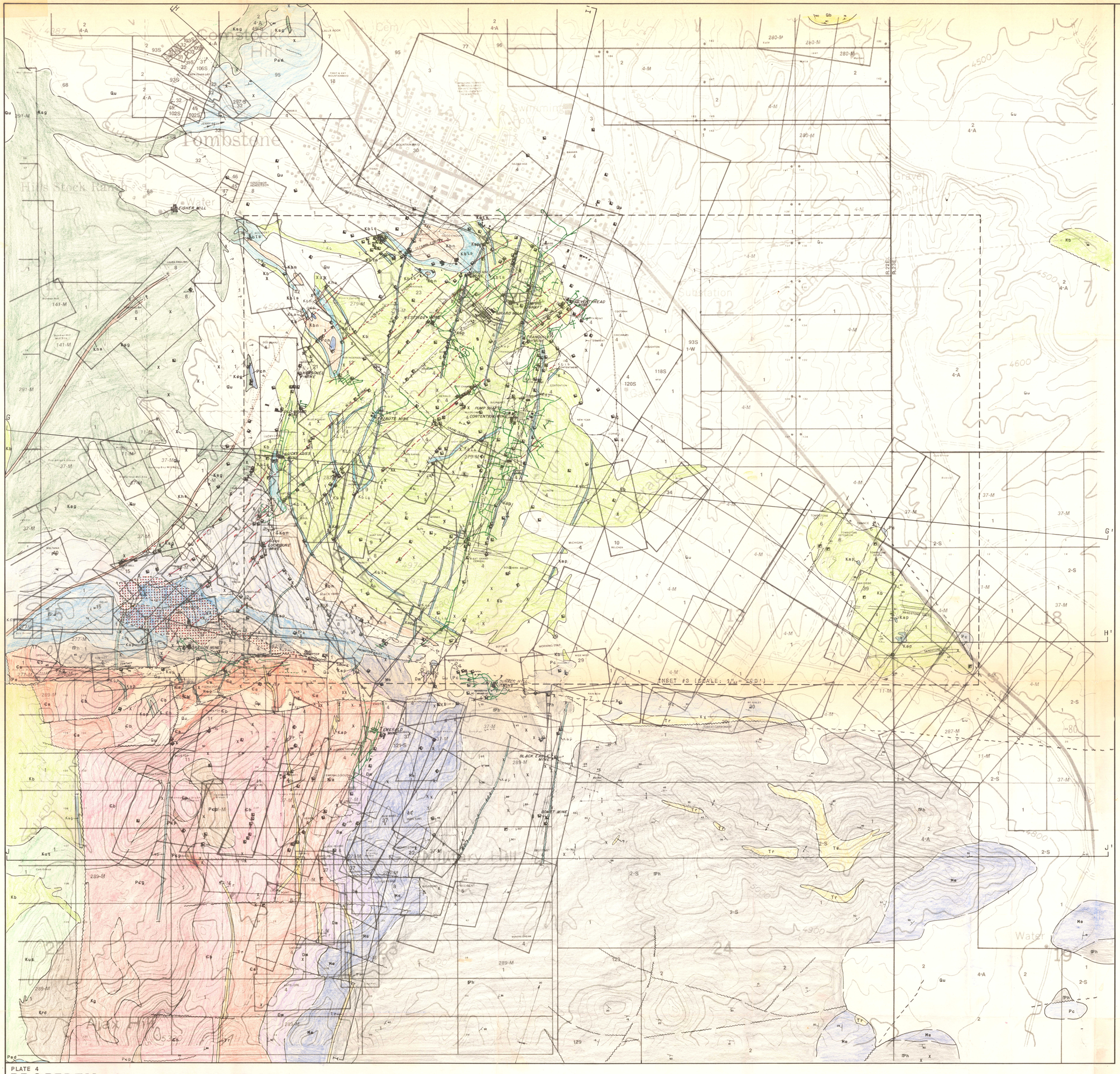


PLATE 5

GEOLOGY MAP EXPLANATION

ROCK TYPES

CENOZOIC

- **QUATERNARY**
  - Qb — BASALT INTRUSIVE
  - Qu — QUATERNARY UNDIVIDED
- **TERTIARY**
  - Tr — RHYOLITE PLUG AND ASSOCIATED DIKES (AGE: 63 M.Y.)

MESOZOIC

- **CRETACEOUS**
  - Khn — HORNBLENDE ANDESITE PLUG AND ASSOCIATED DIKES
  - Krd — RHYODACITE
  - Kg — GRANOPHYRE
  - Kut — UNCLE SAM TUFF; (AGE: 71.8 ± 2.4 M.Y.)
  - Ksg — SCHIEFFELIN GRANODIORITE (AGE: 72 M.Y.)
  - Kap — ANDESITE PORPHYRY DIKES

Unconformity

- Kb — BISBEE FORMATION
- Kbls — LIMESTONE — (INCLUDES BLUE 12 FOOT AND 4 FOOT LIME OF LOCAL USAGE
- Kbn — NOVACULITE — SILICIFICATION CHARACTERIZES THIS UNIT (PROBABLY EQUIVALENT OF THE GLANCE CONGLOMERATE) AND RESULTS IN THE "NOVACULITE" TEXTURE

PALEOZOIC

- **PENNSYLVANIAN – PERMIAN** (NACO GROUP)

Unconformity

- Pcn — CONCHA FORMATION
- Ped — EPITAPH DOLOMITE
- Pc — COLINA LIMESTONE
- IPa — PERMIAN–PENNSYLVANIAN EARP LIMESTONE
- IPh — HORQUILLA LIMESTONE

- **MISSISSIPPIAN**

Disconformity

- Me — ESCABROSA LIMESTONE

- **DEVONIAN**

Disconformity

- Dm — MARTIN LIMESTONE

- **CAMBRIAN**

Disconformity

- Ca — ABRIGO LIMESTONE
- Cb — BOLSA QUARTZITE

PRECAMBRIAN

Unconformity

- Pcg — GRANITE
- Pcp — PINAL SCHIST

HORNFELS

ALTERATION

SYMBOLS

a. ANTICLINE b. SYNCLINE
Showing trace of axial plane

CONTACT
Dashed where approximately located, dotted where concealed or interpreted

FAULT
Dashed where approximately located, dotted where concealed

VEINS
INCLUDES THE SO CALLED "FISSURES" OF LOCAL USAGE

a. 25 b. 18
STRIKE AND DIP
a. Bedding trends
b. Joint trends
(— = vertical dip)

25
FLOW STRUCTURE
Indicating strike and dip
(— = vertical dip)

UNDERGROUND WORKINGS

SHAFT

ADIT PORTAL

X
PROSPECT PIT

REFERENCES - GEOLOGY

Drewes, Harald, 1980, Tectonic Map of Southeast Arizona, U.S. Geological Survey Map I-1158.

Hewett, Roger A., 1974, Exploration Geology and Geochemistry of the Tombstone - Charleston Area, Cochise County, Arizona, Plate 2, Stanford University Ph.D. Dissertation.

Unknown, Circa 1950? Probably a Newmont Mining Co. Geologic and Alteration map, with surface projection of underground mine workings, scale 1" = 100', Plate 1 of 2, Tombstone, Cochise County, Arizona and Vicinity. Topographic map 1:600, contour interval 10 feet. From the files of the Tombstone Development Company, Inc.

CONTOUR INTERVAL 25 FEET

500 0 500 1000 Feet

Scale 1" = 500'

PLATE 4 & 5

GEOLOGY AND LAND STATUS MAP

DATE: 8/11/82	REVISIONS				
DRAWN BY: R.L.A.	DATE	NUMB.	BY	DATE	NUMB.	BY
APPROVED:					
	DRAWING NUMBER				
D.N.	R.	P.	F.	LOC.	

COUNTRY: U.S.A.
STATE: Arizona
COUNTY: Cochise
MOUNTAIN RANGE: Tombstone Hills
MINING DISTRICT: Tombstone

Tombstone Development Company Inc.

Prepared by James A. Briscoe Thomas E. Waldrip, Jr.
James A. Briscoe & Associates Tucson, Arizona

PLATE 4

PROPERTY MAP EXPLANATION

PATENTED PROPERTY OWNERSHIP

1	United States of America
2	Arizona, State of
3	Tombstone Tuacatte National Historical Monument
4	Tombstone Development Company
5	Escapule, Charles B. & Louis M.
6	Will, Douglas J. (estate) Wurth, Leo F.
7	Lewis, Mary M. et al.*
8	Houston Mining Resources, Inc. et al.*
9	Escapule, Florence
10	Thomas, Tracy R.
11	Hodgson, Kenneth P. & Rita J.
12	Ingersoll Consolidated Mining Co.
15	St. Louis University
17	Tombstone Restoration Commission
18	Fotopulos, Gus & Fotopulos, Eugene W. (Trustee)
20	Frankovich, Gerald J.
21	Pass City Mining Co.
22	Wyrick, Daniel & Linda
23	Costello, John M. et al.*
25	Goode, Jack J. et ux.
28	Hudson, Norman G.
29	Crites, R. B. & Evelyn
30	Powell, Marie Barnartz
31	Escapule, Ernest H. et ux.
32	Spilstrom, Warren E. (Trust) c/o Reidy, J. Lutkin
34	Valley National Bank of Phoenix
37	Winters, Wayne
39	San Diego Mining Co.
40	Culpepper, Glen E., Wooley, Murray B. (Co.E Trustee)
41	Escapule, Charles B. et ux.
44	Deckerow, William
45	Hetmanek, Elwyn G. & Evelyn J. Ward, Raymond E. & Bernice A.
46	Hallenbuscher, James & Joyce
47	Independent Order of Odd Fellows, Tombstone Rebekah Lodge
49	Randolph, Charles J. & Gloria L.
68	Pioneer Trust Company of Arizona
77	Goss, Marlene E.
93	Tombstone, City of c/o City Clerk
95	West, Helen J.
96	Medigovich, Sam V. et ux.
102	Madella, Peter & Gloria
103	Hamlin, Katharine H.
104	Wellingford, William L. & Claudia
105	Findling, Ralph M. & Alice M.
106	Scott, George J. & Laura B.
107	Opat, Gill
108	Miles, Barbara J.
109	Hatcher, Charles & Edna
110	Eaton, John S. & Barbara D.
111	Spangler, Oscar D. & Patricia W.
112	Blanford, John M. & Betty R.
113	Grey, John W. & Mary B.
114	Tobias, Harry (Family Trust)
115	Curtis, Earl V. & Mary E.
116	Johnson, Leslie & Doris Harle
117	Bentson, Allen A. & Wilma C.
118	Brown, John D. & Margaret D. Johnson, Theron R. & Paige, C.
120	Auskring, Bette G.
121	Fry, Harold & Dorothy S.
129	Cochise Ranchland Association
297	Burnek, Tony J.

UNPATENTED PROPERTY OWNERSHIP

4	Tombstone Development Company
11	Hodgson, Kenneth P. & Rita J.
37	Winters, Wayne
141	Time, Steve
277	Con-American Mining Company, Inc.
279	Winters, Wayne Lewis, Scott
280	Nuttall, Joan M. Burk, Matie M. et al.*
281	Clark, Arthur
282	DeHaliday, Sue M.
287	Chadwick, Paul
288	Akers, James Franks, Jack
289	International Mining & Metals, Inc. et al.*
291	Escapule, E. M. Escapule, F. B.
294	Clark, Adeline

EXPLANATORY NOTES

Property data are from Cochise County Courthouse records, U.S.L.M. records and private reports of the Tombstone Development Co., Inc., researched by Thomas L. Waldrip, Jr. The data shown on the property map represents the patented claims, and the mine shafts mapped covering the Tombstone area and its environs. These are: Tombstone, Tombstone Gulch, Fairbank and Lewis Springs 7½' quadrangles, scale 1:24,000. The data was compiled from the enlarged photomosaics in 1" = 500' feet and superimposed on an enlargement of the Tombstone 7½ minute topographic map, scale 1:24,000. Some of the mine shafts and workings were adjusted where necessary to conform to the records. No field checking of this data has been done.

Location of mine shafts were taken from the 1909 U.S.G.S. 1" = 500' topographic map, covering the Tombstone Gulch area, but not covering the Contention Mine. The Contention Mine was added to the references on this map sheet. South of the Prompter Fault, geology from the 1:6000 map was updated according to the more recent map by Hewett and Drewes, as interpreted by James A. Briscoe.

This map was prepared using the overlay drafting method. The topographic base is screened to 20%, the unpatented claims to 50%, the patented claims to 70%, while the geology and mine shafts and workings are shown unscreened.

Plate 4, the property map, and Plate 5, the geologic map, are both at the same scale, so the property ownership, which is in Plate 4, colored to show the various property ownership, while in Plate 5, the geology is colored to show the geologic relationships.

APPROXIMATE MAGNETIC DECLINATION, 1982

NOTE: NUMBER FOLLOWED BY LETTER INDICATES TYPE OF OWNERSHIP

- M — Mining Claim (unpatented)
- S — Surface Ownership Only
- W — Withdrawal—no mineral entry
- P — State Prospecting Permit
- L — State Mineral Lease
- A — State Prospecting Permit Application

*Note: For more complete ownership information, please see Numerical Owner Index List.

N

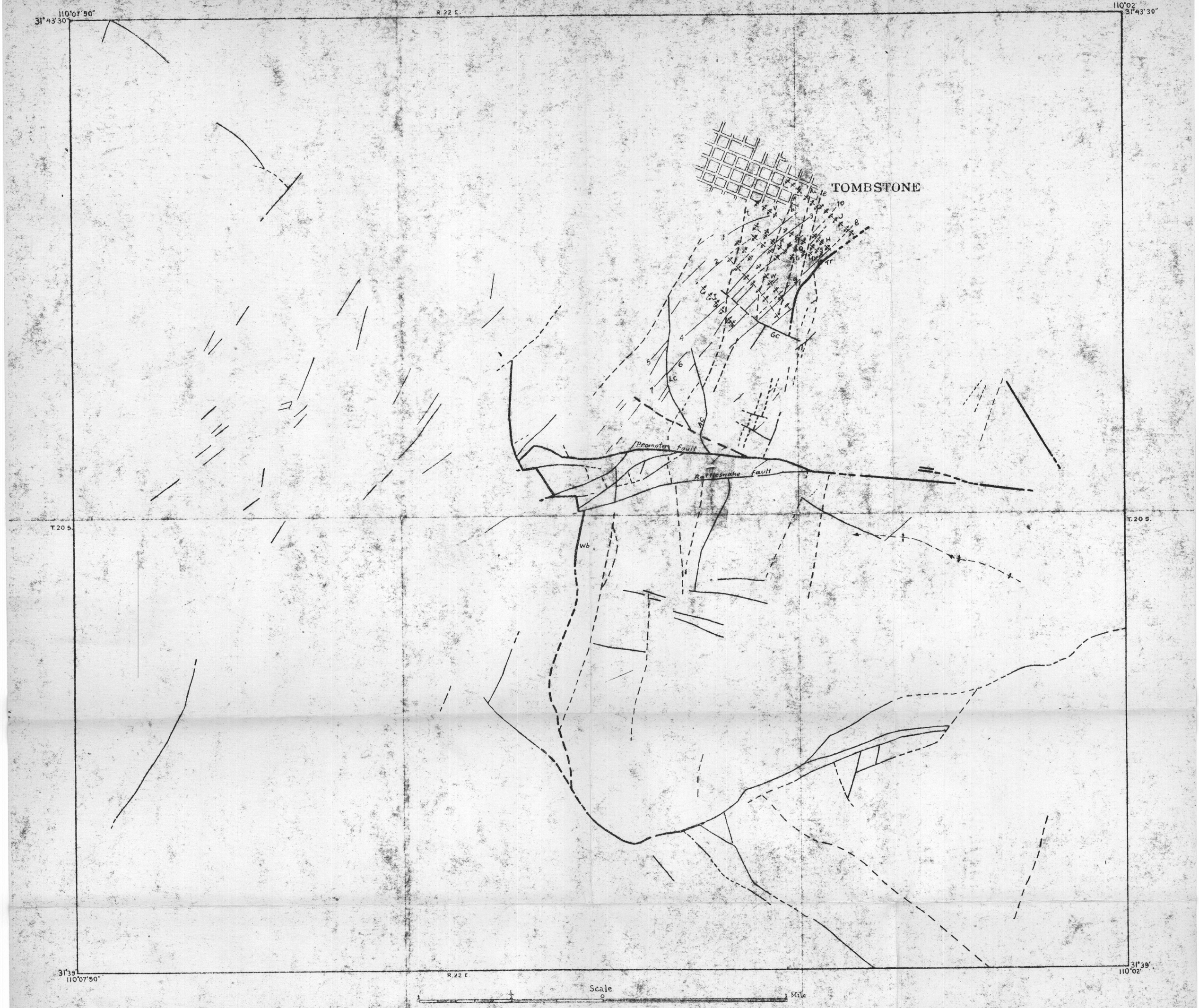


Plate VI.—Structure diagram of Tombstone district (place transparent paper over Plate III). *I*, Ingersol overturn; *W*, West Side roll; *G*, Girard roll; *Q*, Quarry roll; *V*, Vizina roll; *S*, Silver Thread roll; *M*, Macia roll; *H*, Holderness roll; *J*, Jeanes roll; *t*, Tribute dike fissure; *b*, Boss dike fissure; *u*, Sulphuret dike fissure; *e*, Empire dike fissure; *Tr*, Tranquility fault; *GC*, Grand Central fault; *AC*, Anchor or Coyote fault; *LC*, Lucky Cuss fault; *Wb*, west boundary fault; *1*, Defence fissure; *2*, Intervener fissure; *3*, West Side fissure; *4*, Blue Monday fissure; *5*, Rat shaft fissure; *6*, East Side fissure; *7*, Wedge fissure; *8*, Skip shaft fissure; *9*, Arizona Queen fissure; *10*, "409" fissure.

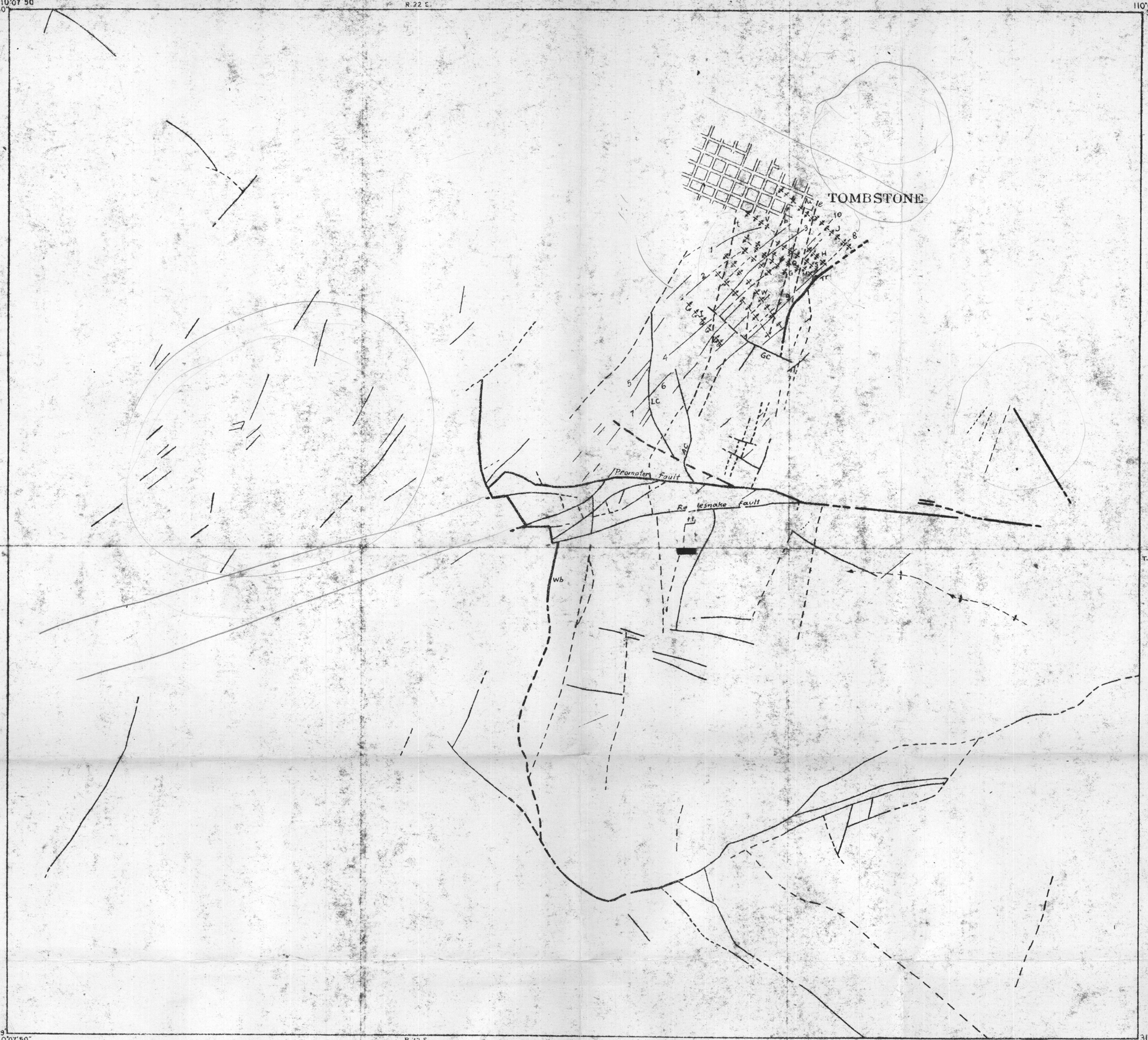


Plate VI.—Structure diagram of Tombstone district (place transparent paper over Plate III). *I*, Ingersol overturn; *W*, West Side roll; *G*, Girard roll; *Q*, Quarry roll; *V*, Vizina roll; *S*, Silver Thread roll; *M*, Macia roll; *H*, Holderness roll; *J*, Jeanes roll; *t*, Tribute dike fissure; *b*, Boss dike fissure; *u*, Sulphuret dike fissure; *e*, Empire dike fissure; *Tr*, Tranquility fault; *GC*, Grand Central fault; *AC*, Anchor or Coyote fault; *LC*, Lucky Cuss fault; *Wb*, west boundary fault; *1*, Defence fissure; *2*, Intervener fissure; *3*, West Side fissure; *4*, Blue Monday fissure; *5*, Rat shaft fissure; *6*, East Side fissure; *7*, Wedge fissure; *8*, Skip shaft fissure; *9*, Arizona Queen fissure; *10*, "409" fissure.

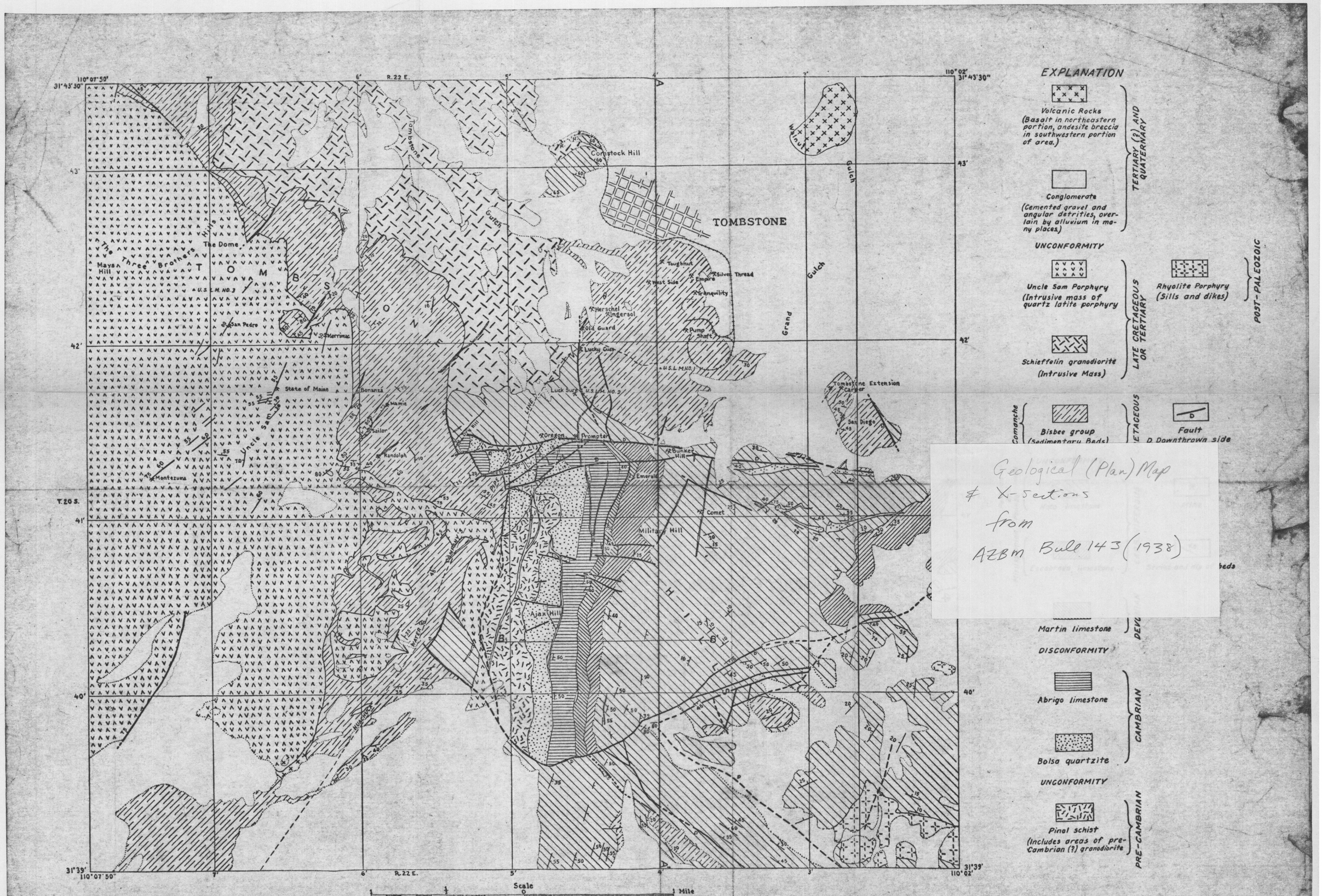


Plate III.—General geologic map of Tombstone district. (Modified from F. L. Ransome.)

Geological (Plan) Map
& X-sections
from
AZBM Bull 143 (1938)

F

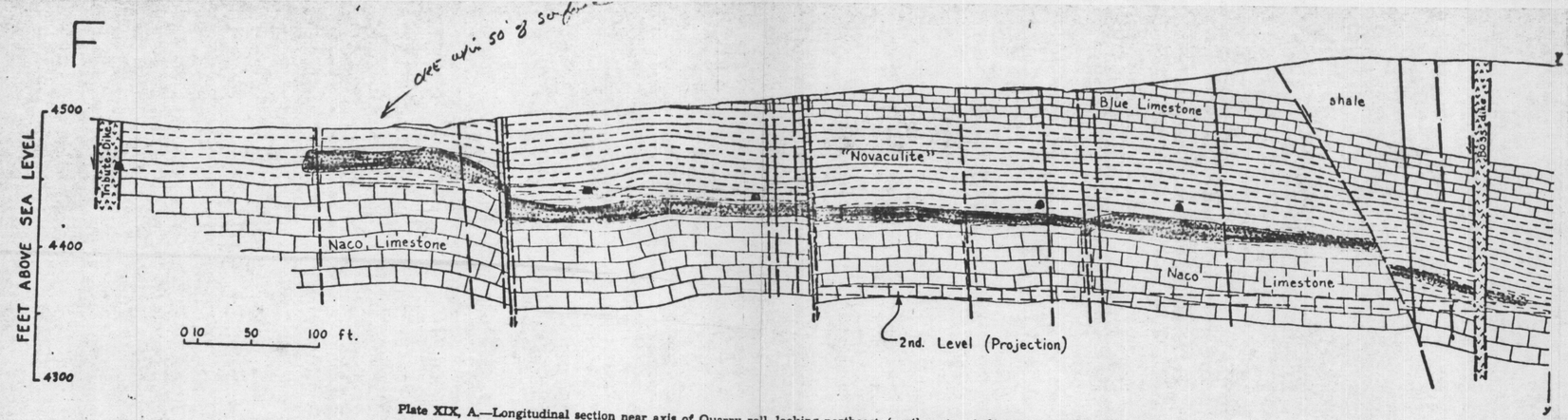


Plate XIX, A.—Longitudinal section near axis of Quarry roll, looking northeast (northwestern half; joins Plate XIX, *B* at y-y).

Geological Cross-sections

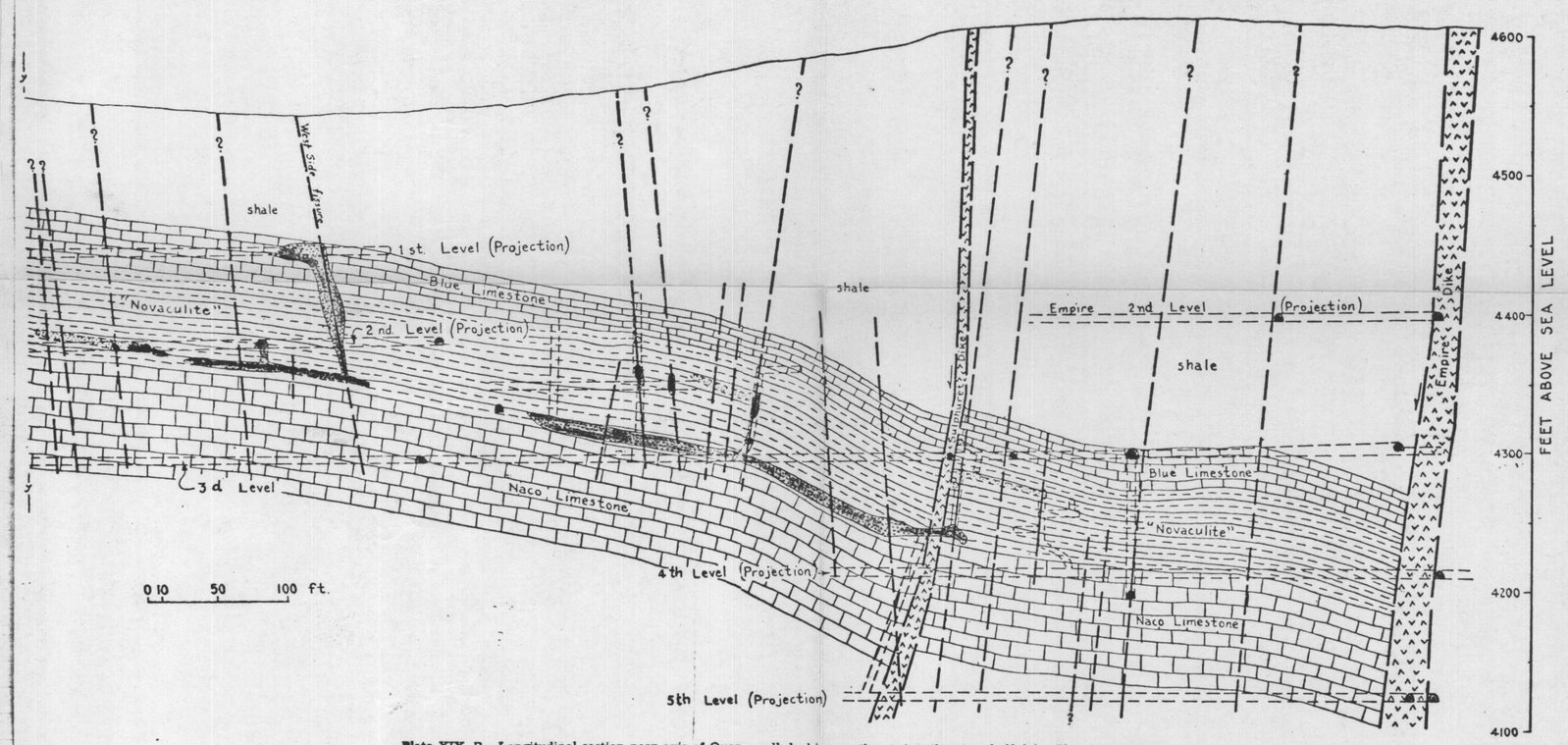


Plate XIX, B.—Longitudinal section near axis of Quarry roll, looking northeast (southeastern half; joins Plate XIX, *A* at y-y).

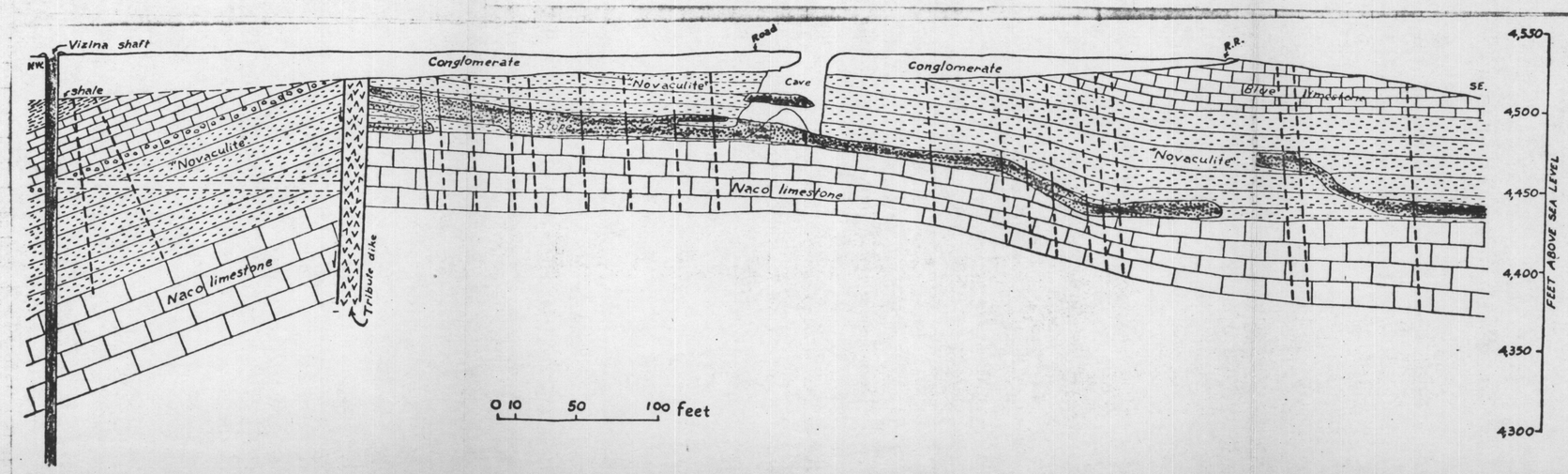


Plate XVIII.—Longitudinal section near axis of northeast Vizina roll, looking northeast.