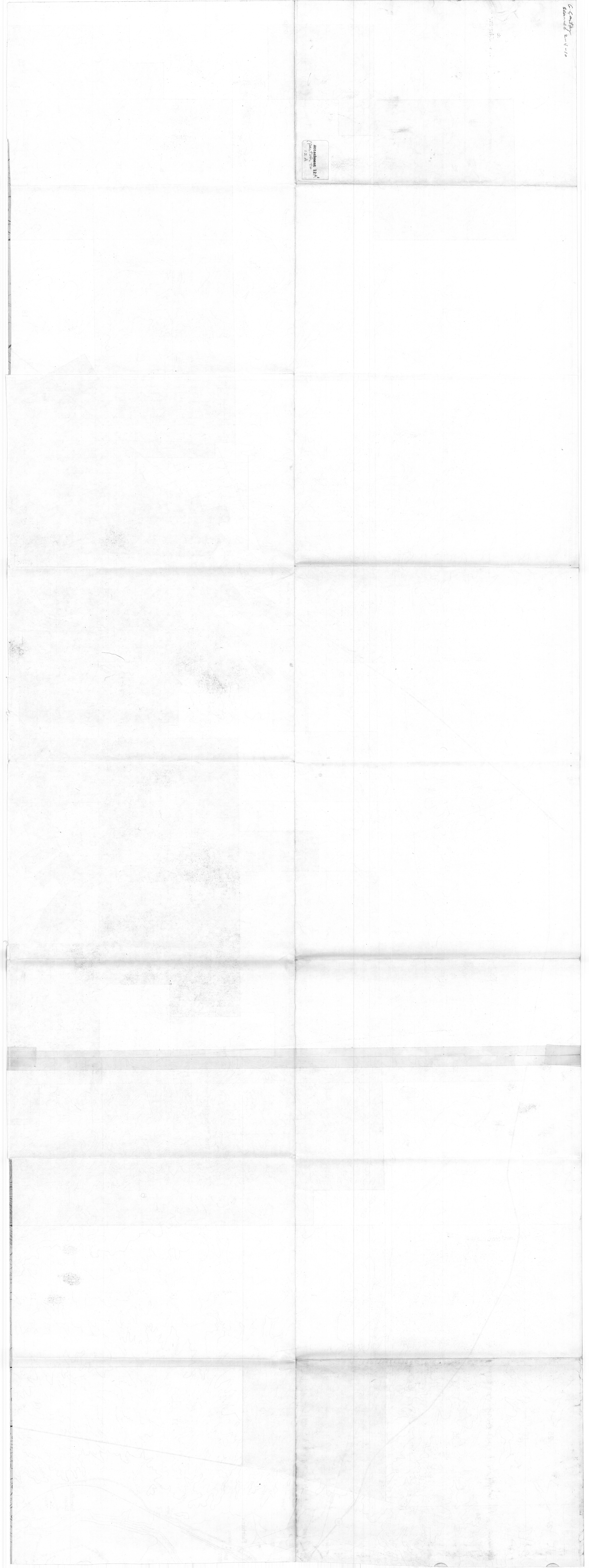


Attachment A  
(continued to A)





Attachment 12 A  
Per 12 A





GEOLOGIC MAP OF PARTS OF THE BENSON AND PEARCE QUADRANGLES, ARIZONA

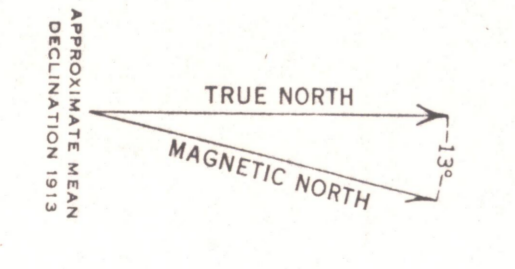
Scale 1:62,500  
Distance in miles and feet

Geological Survey of the United States  
Washington, D. C.

**EXPLANATION**

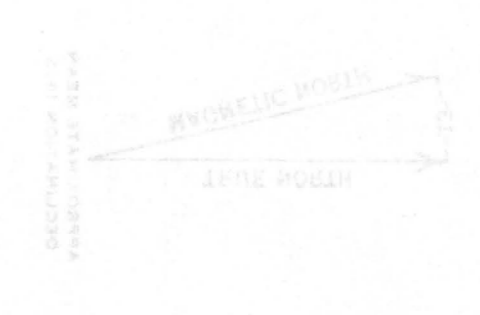
1	Quaternary	10	Permian
2	Alluvium	11	Permian
3	Recent alluvium	12	Permian
4	Recent alluvium	13	Permian
5	Recent alluvium	14	Permian
6	Recent alluvium	15	Permian
7	Recent alluvium	16	Permian
8	Recent alluvium	17	Permian
9	Recent alluvium	18	Permian
10	Recent alluvium	19	Permian
11	Recent alluvium	20	Permian
12	Recent alluvium	21	Permian
13	Recent alluvium	22	Permian
14	Recent alluvium	23	Permian
15	Recent alluvium	24	Permian
16	Recent alluvium	25	Permian
17	Recent alluvium	26	Permian
18	Recent alluvium	27	Permian
19	Recent alluvium	28	Permian
20	Recent alluvium	29	Permian
21	Recent alluvium	30	Permian
22	Recent alluvium	31	Permian
23	Recent alluvium	32	Permian
24	Recent alluvium	33	Permian
25	Recent alluvium	34	Permian
26	Recent alluvium	35	Permian
27	Recent alluvium	36	Permian
28	Recent alluvium	37	Permian
29	Recent alluvium	38	Permian
30	Recent alluvium	39	Permian
31	Recent alluvium	40	Permian
32	Recent alluvium	41	Permian
33	Recent alluvium	42	Permian
34	Recent alluvium	43	Permian
35	Recent alluvium	44	Permian
36	Recent alluvium	45	Permian
37	Recent alluvium	46	Permian
38	Recent alluvium	47	Permian
39	Recent alluvium	48	Permian
40	Recent alluvium	49	Permian
41	Recent alluvium	50	Permian
42	Recent alluvium	51	Permian
43	Recent alluvium	52	Permian
44	Recent alluvium	53	Permian
45	Recent alluvium	54	Permian
46	Recent alluvium	55	Permian
47	Recent alluvium	56	Permian
48	Recent alluvium	57	Permian
49	Recent alluvium	58	Permian
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53	Recent alluvium	62	Permian
54	Recent alluvium	63	Permian
55	Recent alluvium	64	Permian
56	Recent alluvium	65	Permian
57	Recent alluvium	66	Permian
58	Recent alluvium	67	Permian
59	Recent alluvium	68	Permian
60	Recent alluvium	69	Permian
61	Recent alluvium	70	Permian
62	Recent alluvium	71	Permian
63	Recent alluvium	72	Permian
64	Recent alluvium	73	Permian
65	Recent alluvium	74	Permian
66	Recent alluvium	75	Permian
67	Recent alluvium	76	Permian
68	Recent alluvium	77	Permian
69	Recent alluvium	78	Permian
70	Recent alluvium	79	Permian
71	Recent alluvium	80	Permian
72	Recent alluvium	81	Permian
73	Recent alluvium	82	Permian
74	Recent alluvium	83	Permian
75	Recent alluvium	84	Permian
76	Recent alluvium	85	Permian
77	Recent alluvium	86	Permian
78	Recent alluvium	87	Permian
79	Recent alluvium	88	Permian
80	Recent alluvium	89	Permian
81	Recent alluvium	90	Permian
82	Recent alluvium	91	Permian
83	Recent alluvium	92	Permian
84	Recent alluvium	93	Permian
85	Recent alluvium	94	Permian
86	Recent alluvium	95	Permian
87	Recent alluvium	96	Permian
88	Recent alluvium	97	Permian
89	Recent alluvium	98	Permian
90	Recent alluvium	99	Permian
91	Recent alluvium	100	Permian

Geological Survey of the United States  
Washington, D. C.



Scale 1:62,500  
Distance in miles and feet

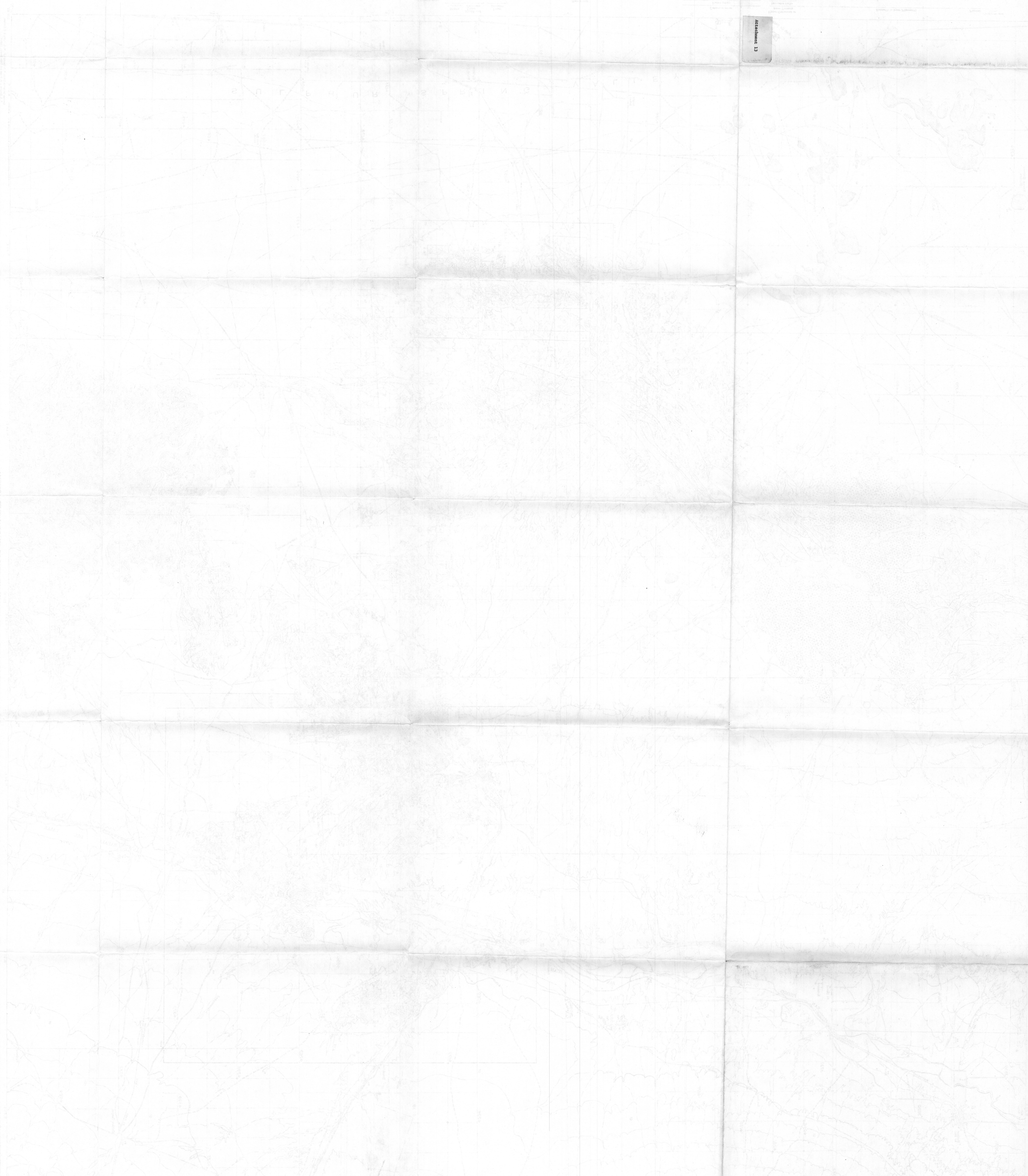
Geological Survey of the United States  
Washington, D. C.



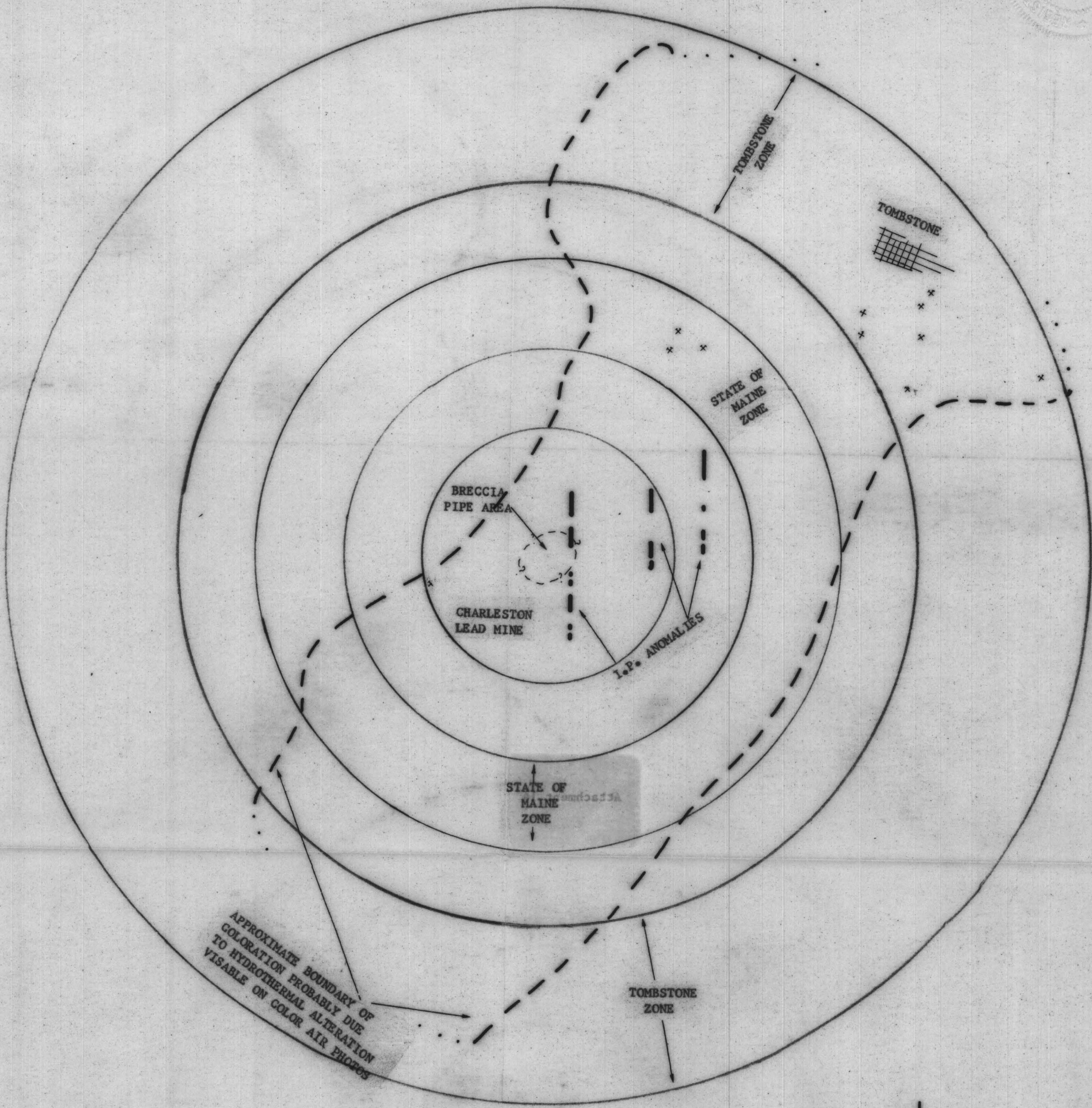
Е П Г Ы Ч Д Ъ Р Ъ Ы Ы І А Р

Лист 1

ГЕОЛОГИЧЕСКАЯ СЛУЖБА НАЦИОНАЛЬНОГО ЦЕНТРА НАУКИ И ТЕХНОЛОГИЙ



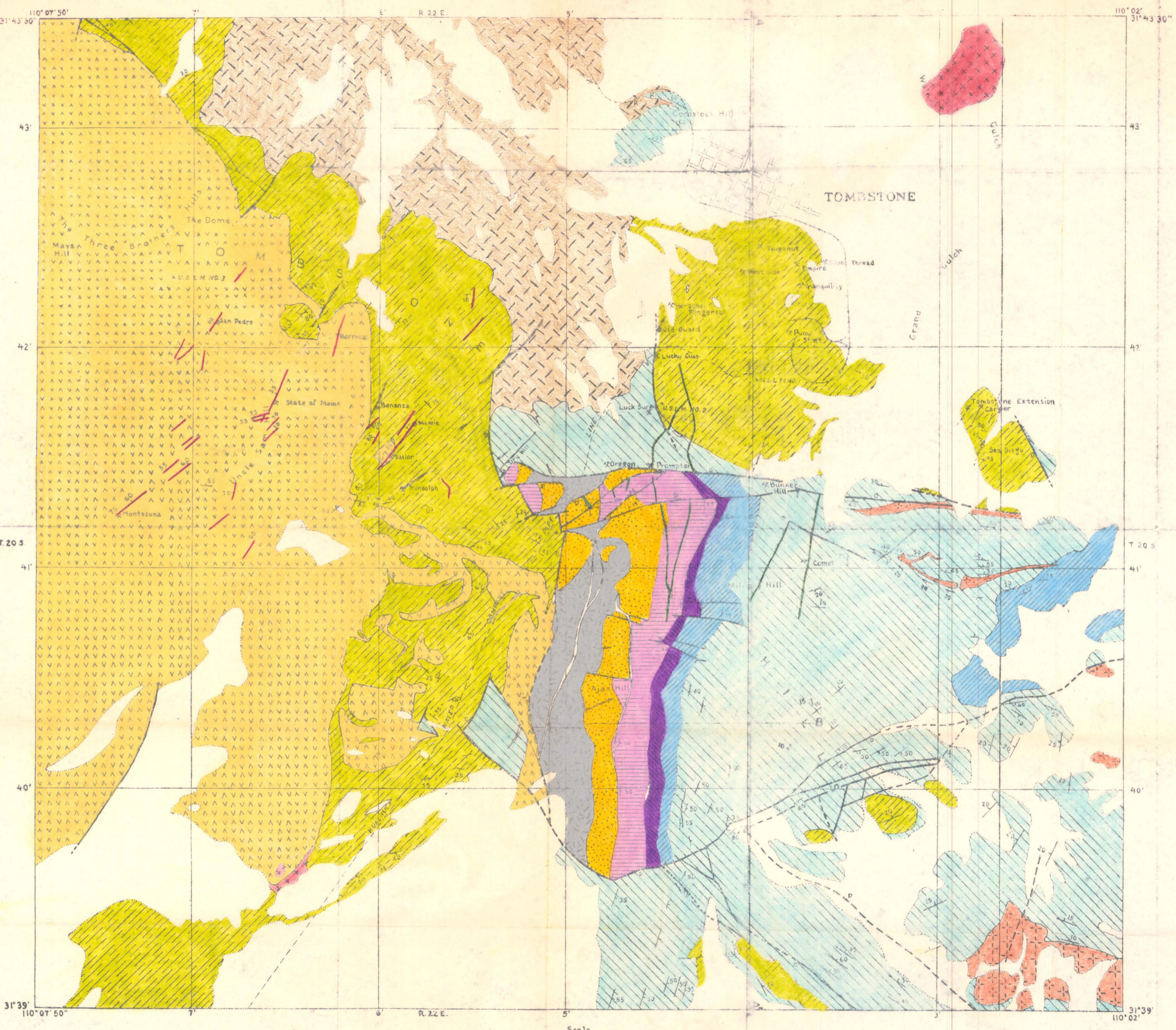
01-4-8-10000-10000



ATTACHMENT 14-A

Overlay for Gilluly Geologic Map, showing hypothetical alteration zoning pattern, Tombstone Mining District





EXPLANATION

- Volcanic Rocks  
 (Basalt in northeastern portion, andesite breccia in southwestern portion of area.)
- Conglomerate  
 (Cemented gravel and angular detritics, overlain by alluvium in many places.)
- UNCONFORMITY

 Uncle Sam Porphyry  
 (Intrusive mass of quartz latite porphyry)
- Rhyolite Porphyry  
 (Sills and dikes)
- Schieffelin granodiorite  
 (Intrusive Mass)
- LATE CRETACEOUS OR TERTIARY

 Bisbee group  
 (Sedimentary Beds)
- Fault  
 D, Downthrown side
- UNCONFORMITY

 Naco limestone
- Mine
- Escabrosa limestone
- Strike and dip of beds
- Martin limestone
- DISCONFORMITY

 Abrigo limestone
- Bolsa quartzite
- UNCONFORMITY

 Pinal schist  
 (Includes areas of pre-Cambrian (?) granodiorite)

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



POST-PYCZOSIC

EXPLANATION

- UNCONFORMITY**
  - Basalt in northern part of area, andesite dykes in southern part of area
- UNCONFORMITY**
  - Consolidated gravel and angular detritus over a thin layer of alluvium in places
- UNCONFORMITY**
  - Basaltic Porphyry (dikes and dikes)
- UNCONFORMITY**
  - Nucleus San Porphyry (Intrusive mass of quartz talite porphyry)
- UNCONFORMITY**
  - Schistose granodiorite (Intrusive Mass)
- UNCONFORMITY**
  - Biabe Group (Sedimentary Beds)
- UNCONFORMITY**
  - Waco limestone
- UNCONFORMITY**
  - Escarpment limestone
- UNCONFORMITY**
  - Martin limestone
- UNCONFORMITY**
  - Abrigo limestone
- UNCONFORMITY**
  - Bona quartzite
- UNCONFORMITY**
  - Pinel schist (Includes areas of pre-Cambrian (?) granodiorite)



Plate III—General geologic map of Tomstone district. (Modified from F. B. ...)

Attch. #15

**EXPLANATION**

QUATERNARY AND LATE TERTIARY

Gravel and sand

LATE CRETACEOUS OR TERTIARY

Schieffelin granodiorite

CRETACEOUS

Shale, sandstone and quartzite

Limestone

"Novaculite" (silicified shale, conglomerate and quartzite)

UNCONFORMITY

CARBONIFEROUS PENNSYLVANIAN AND PERMIAN

Naco limestone

MISSISSIPPIAN

Escabrosa limestone

DEVONIAN

Martin limestone

DISCONFORMITY

CAMBRIAN

Abrigo limestone

Bolsa quartzite

UNCONFORMITY

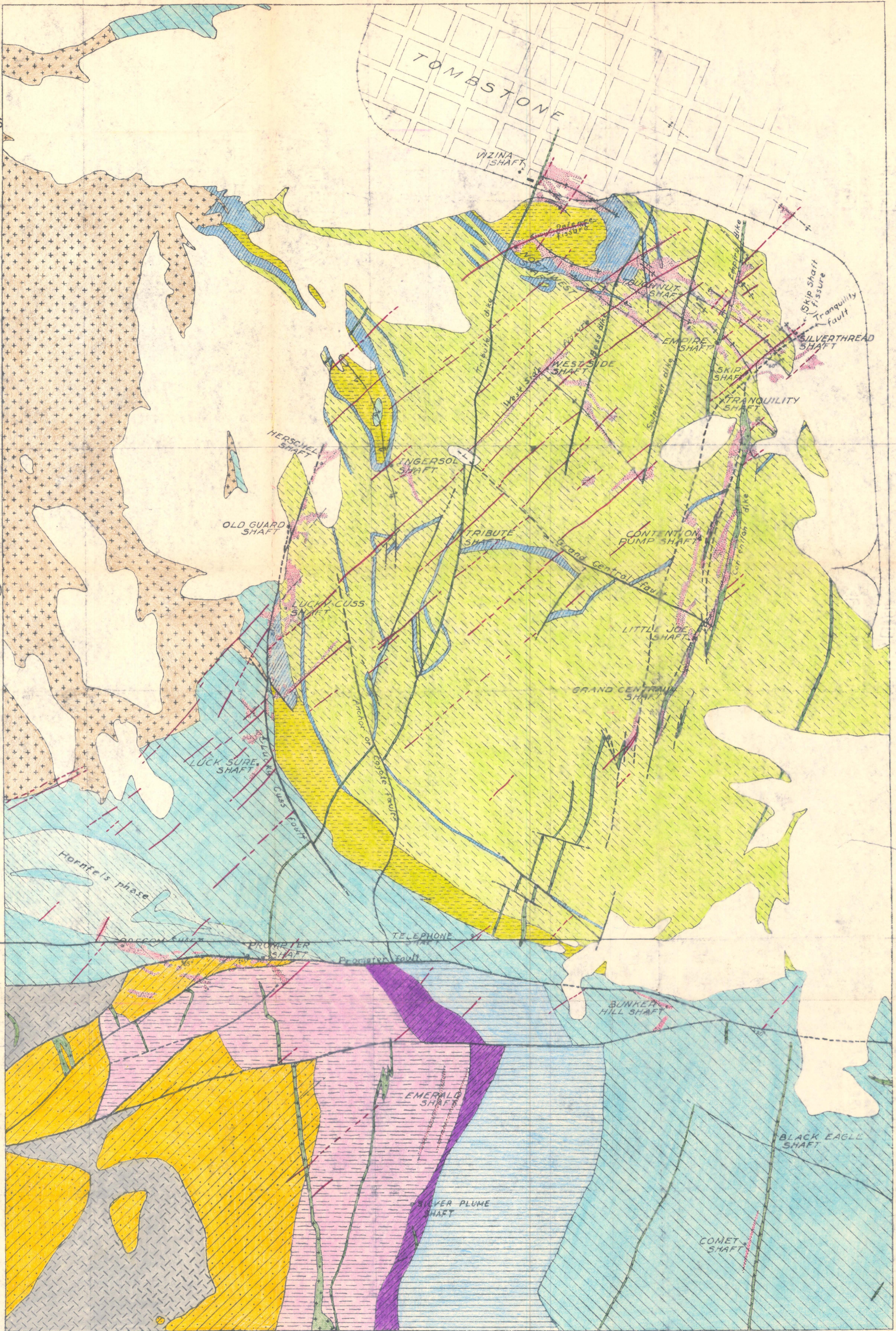
PRE-CAMBRIAN(?)

Granodiorite

Fault

Anticline

Slopes



**GEOLOGIC MAP OF TOMBSTONE DISTRICT, ARIZONA**

MODIFIED FROM F. L. RANSOME  
Plate IV



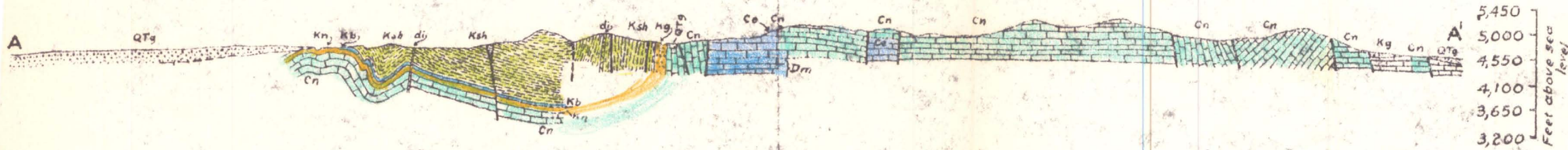
**EXPLANATION**

[Symbol]	QUATERNARY AND LATE TERTIARY
[Symbol]	LATE CRETACEOUS OR TERTIARY
[Symbol]	CRETACEOUS
[Symbol]	DEVONIAN
[Symbol]	MISSISSIPPIAN
[Symbol]	CARBONIFEROUS PERMIAN AND TRIASSIC
[Symbol]	UNCONFORMITY
[Symbol]	DISCONFORMITY
[Symbol]	CAMBRIAN
[Symbol]	PRE-CAMBRIAN (?)

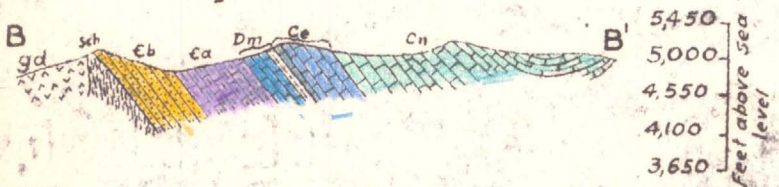
*Attach. 16*

5000 1500 1000 500 0  
 GEOLOGIC MAP OF TOMBSTONE DISTRICT, ARIZONA  
 MODIFIED FROM F. RANSOME  
 Plate IV

# 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
- Ea - Abrigo limestone
- Eb - Bolsa quartzite
- sch - schist
- gd - granodiorite

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

Attachment 17

Plate VI

Scanned  
Carton 2-4-10

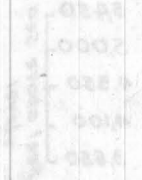
Attach. 17



SECTION A-A

- 9d - Phonolite
- 9c - Lava
- 9b - Quartzite
- 9a - Limestone
- 8 - Limestone
- 7 - Limestone
- 6 - Limestone
- 5 - Limestone
- 4 - Limestone
- 3 - Limestone
- 2 - Limestone
- 1 - Limestone
- 0 - Gravelly fill gravel

1000 feet



SECTION B-B

Plate 7 - Structure section along line A-A and B-B of Plate III

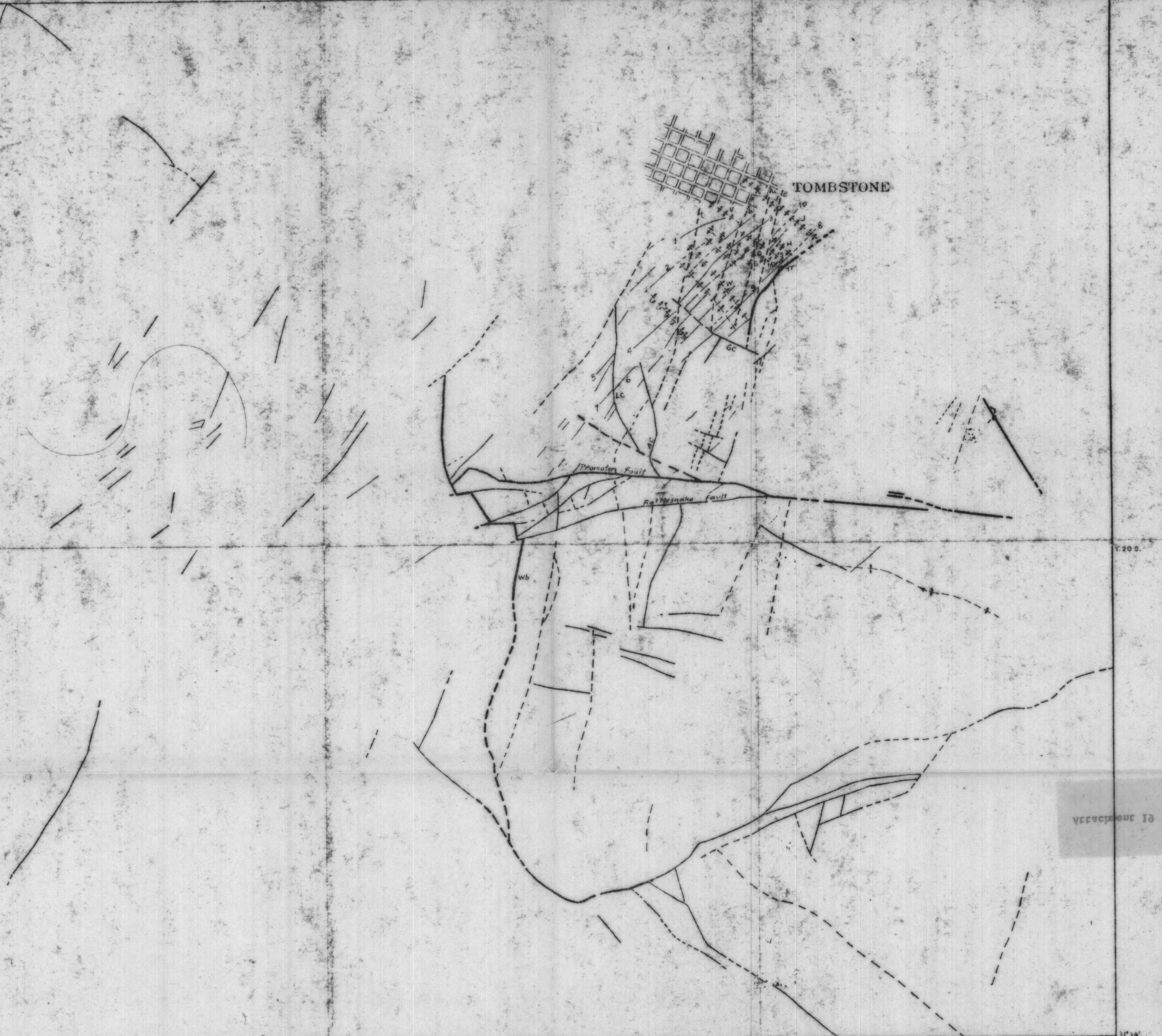




107° 30'

R. 22 E.

110° 02' 31" 43' 30"



Attachment 10

107° 50'

R. 22 E.

110° 02' 31' 39"

Scale

1 Mile

Plate VI.—Structure diagram of Tombstone district (place transparent paper over Plate III). I, Ingersoll 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; 1, Tribute dike fissure; 6, Boss dike fissure; u, Sulphuret dike fissure; e, Empire dike fissure; Tr, Tranquility fault; GG, 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.

204450 5 5010 420

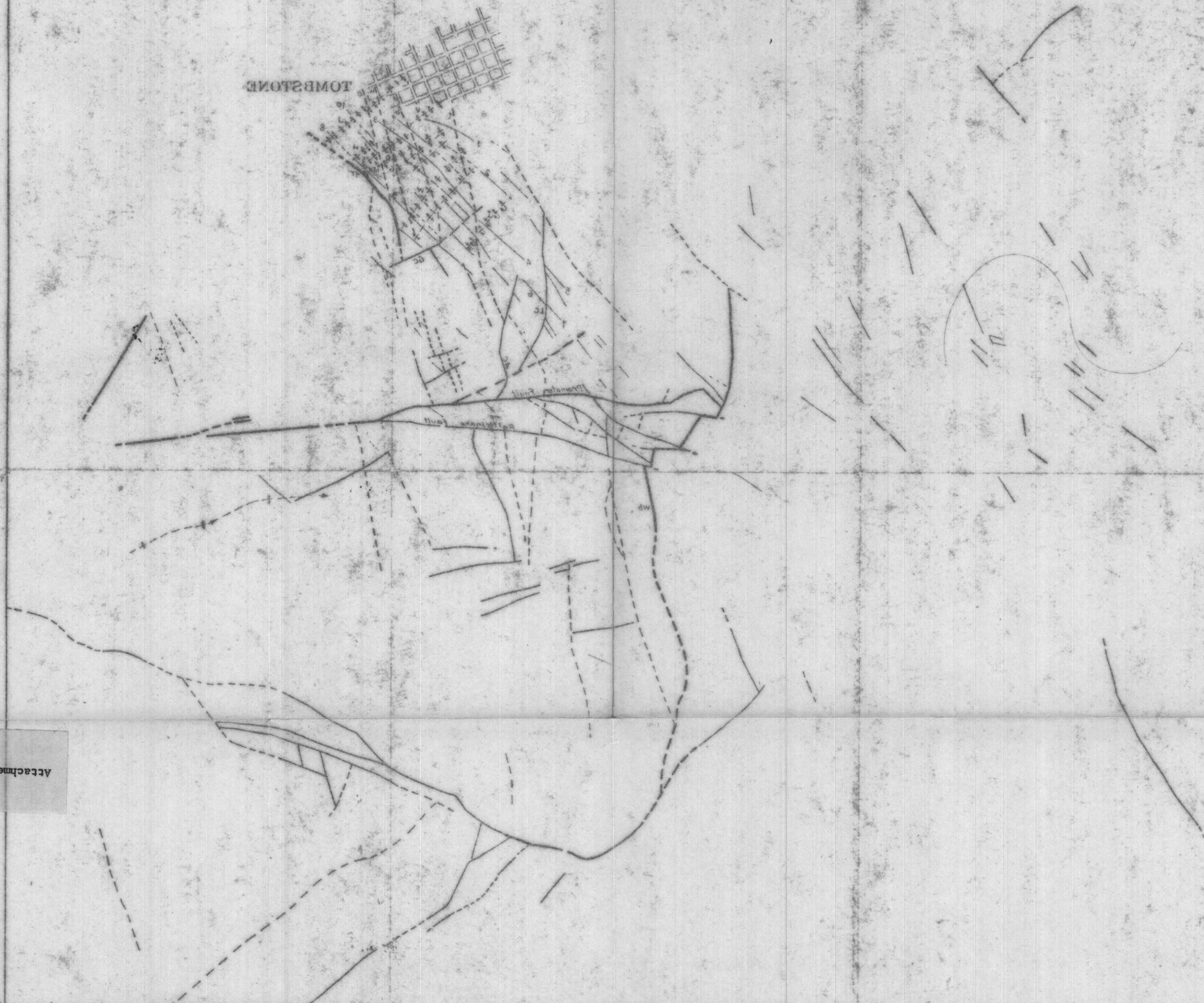


110° 30'

35 2

110° 30'

TOMBSTONE



110° 30'

Attachment 19

110° 30'

Scale  
1 Mile

35 2

110° 30'

Plate VI—Structure diagram of Tombstone district (place transparent paper over Plate III). A, Ingersoll overthrust; W, West Side fault; G, Grand roll; Q, Quarry roll; V, Vining roll; S, Silver Thread roll; M, Macia roll; H, Holden roll; A, James roll; T, Triple dike fracture; B, Boss dike fracture; S, Sulphur dike fracture; L, Loping dike fracture; T, Transitory fault; GG, Grand Central fault; AG, Anchor or Coyote fault; LC, Lucky Cass fault; W, West boundary fault; I, Dolence fracture; S, Interior fault; 1, White dike fracture; 2, West Side fracture; 3, East Side fracture; 4, Blue Mountain fracture; 5, Flat shaft fracture; 6, Wedge fracture; 7, Wedge fracture; 8, Skip shaft fracture; 9, Arizona Queen fracture; 10, 400' fracture.

SCANNED 2 2010 NVA

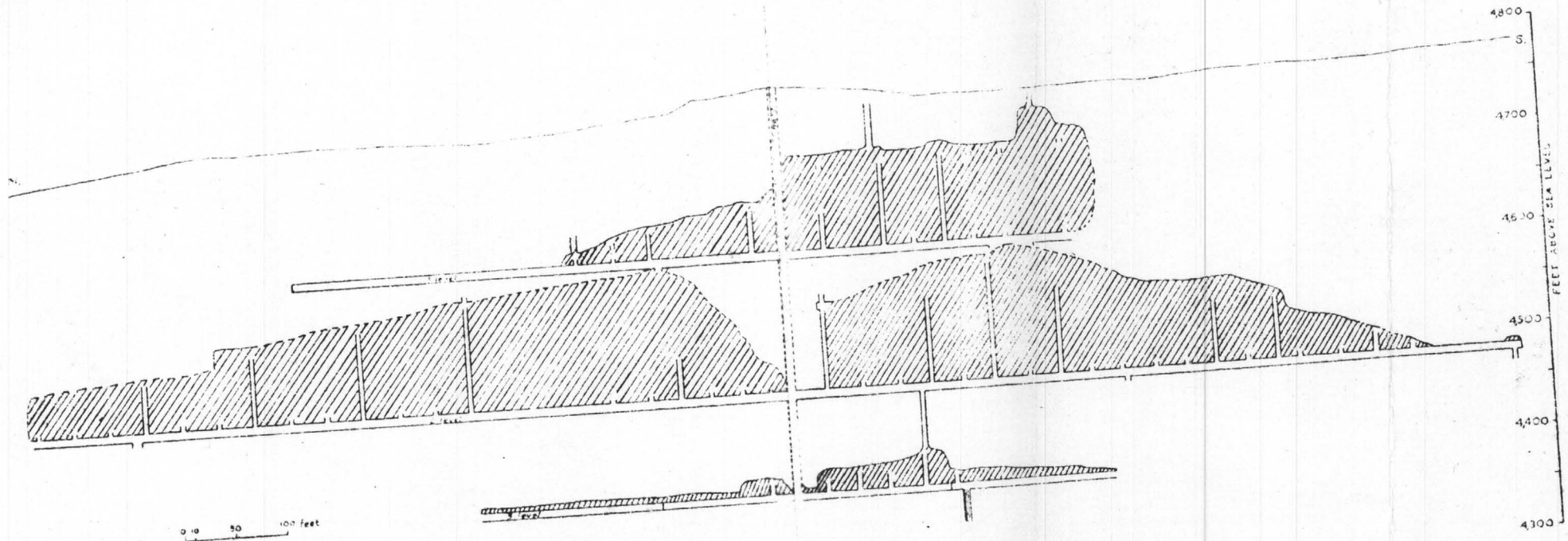


Plate XI.—Longitudinal section of Comet Mine, looking east. Slopes indicated by shading.

Scanned 24-10  
Lester

Attach 23

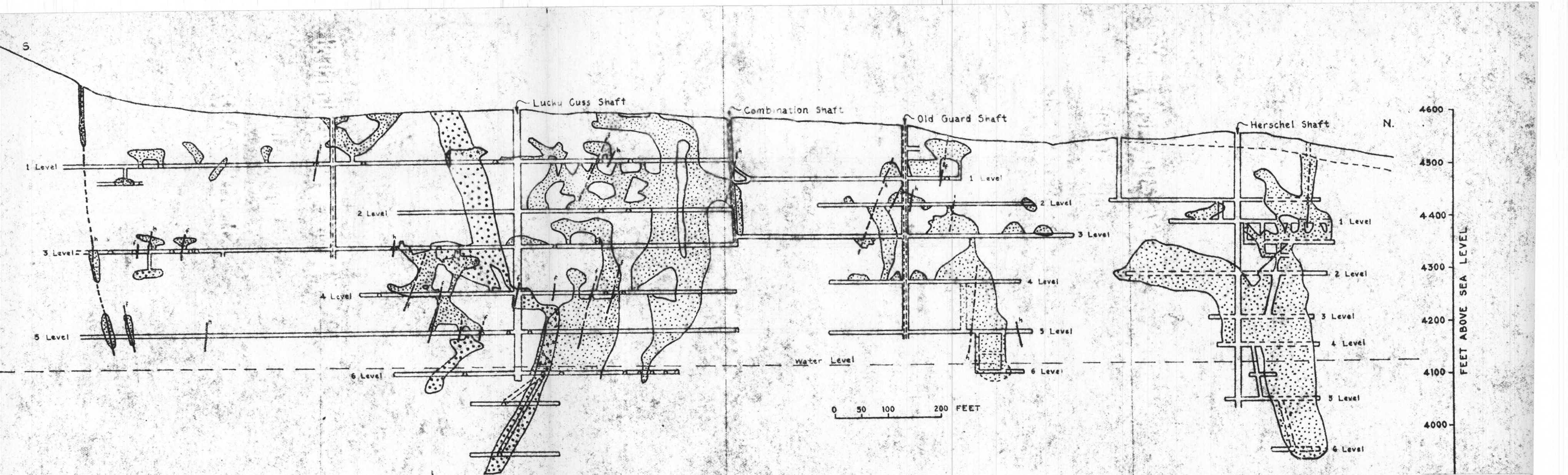
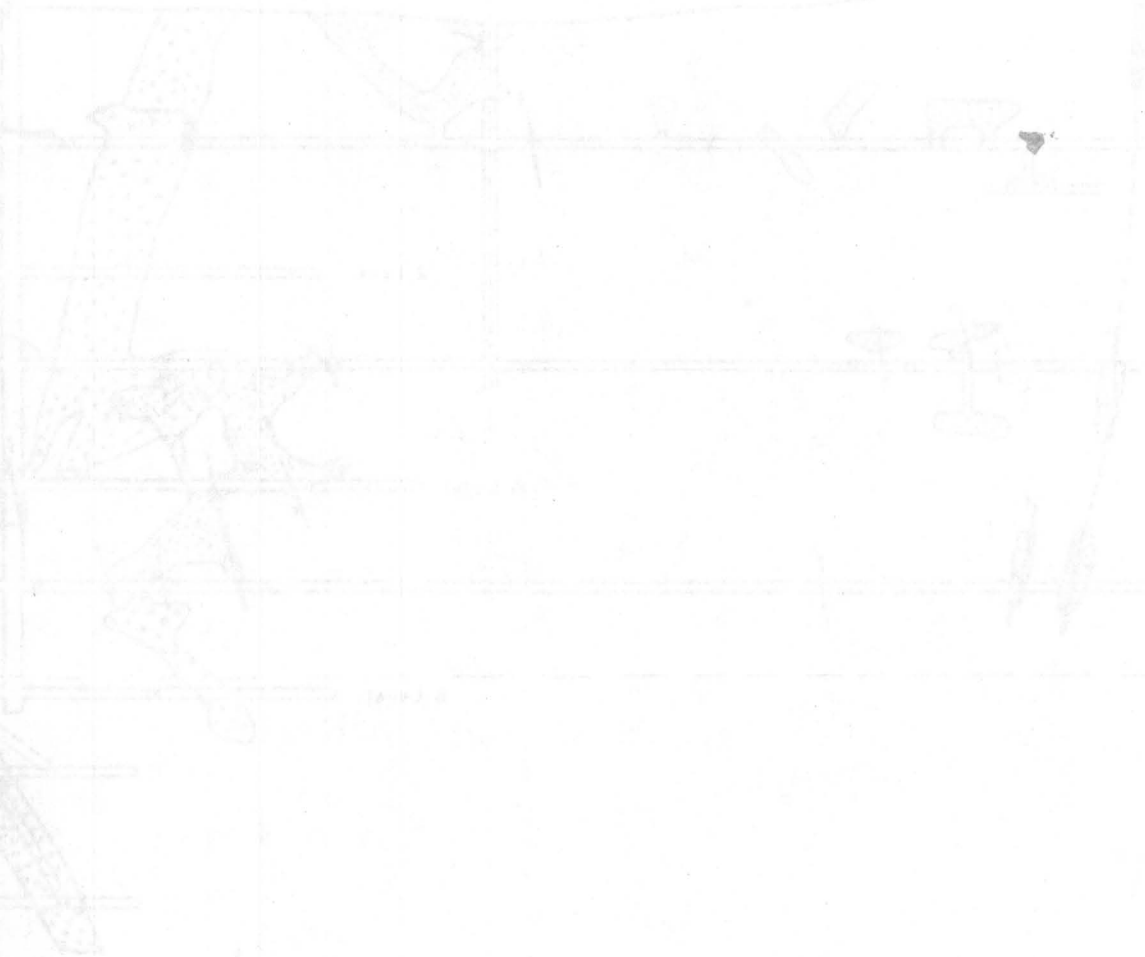
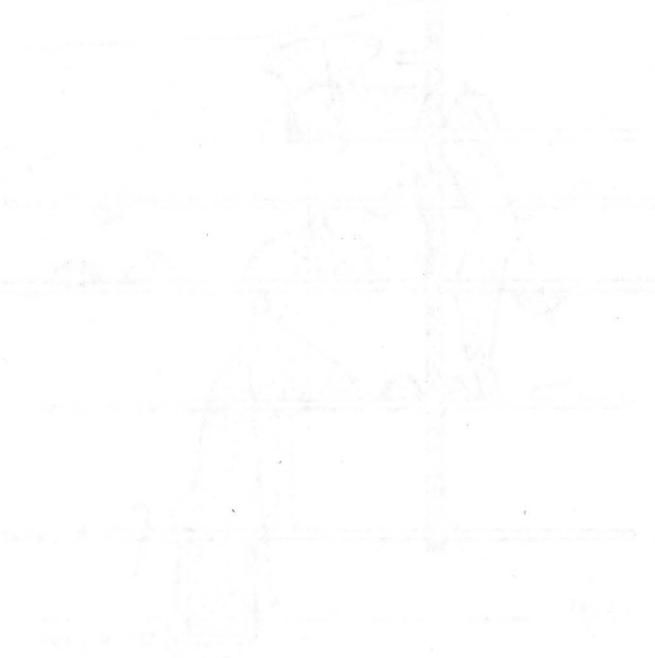


Plate XII.—Longitudinal section through Lucky Cuss, Old Guard, and Herschel mines, looking west. Stopes in Lucky Cuss fault zone indicated by small dots; stopes in massive limestone indicated by large dots; h, hanging-wall fissure; f, footwall fissure.

Scanned 2-4-10 Carter

1000  
900  
800  
700  
600  
500  
400  
300  
200  
100  
0



At 400/24

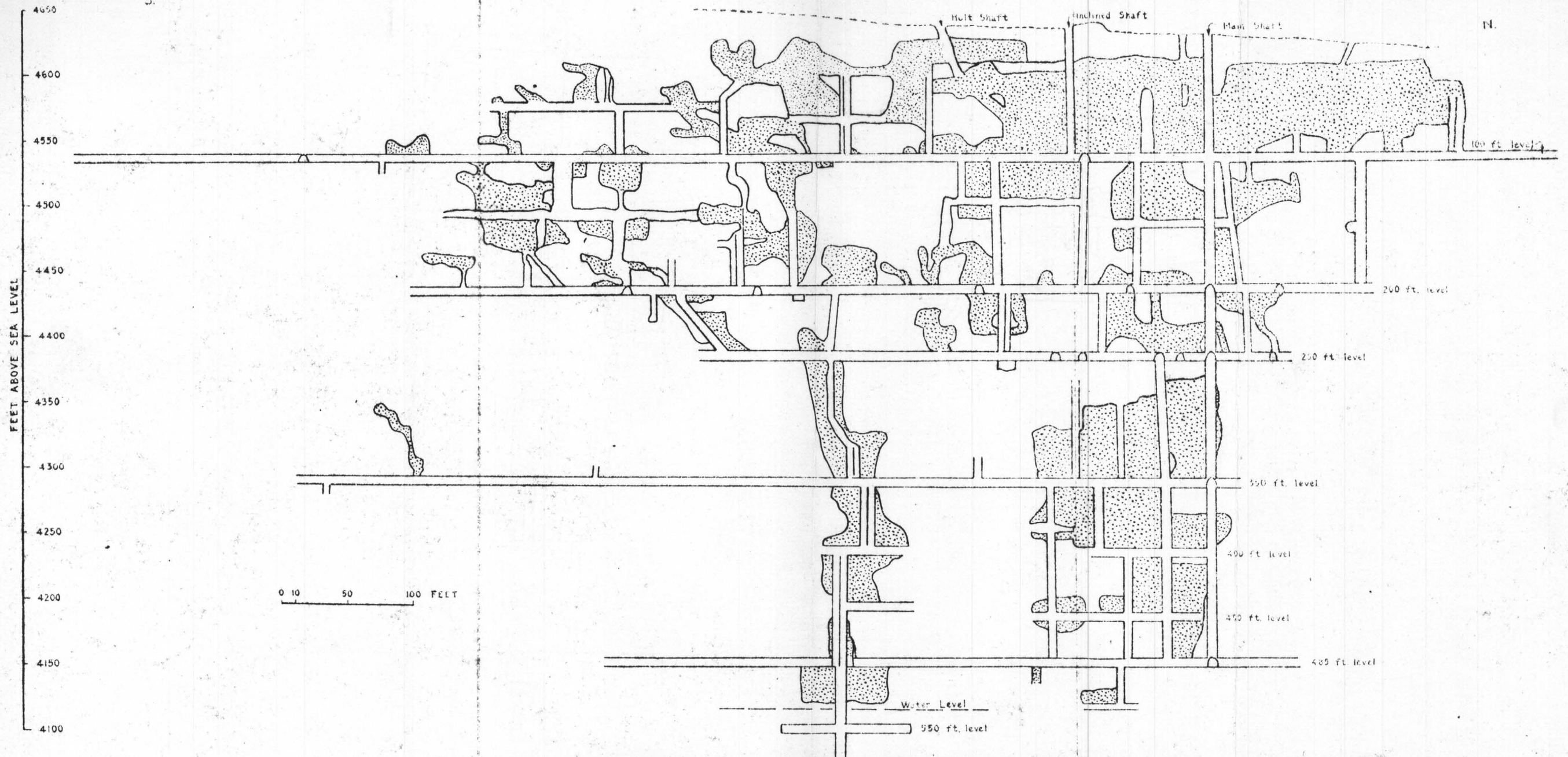
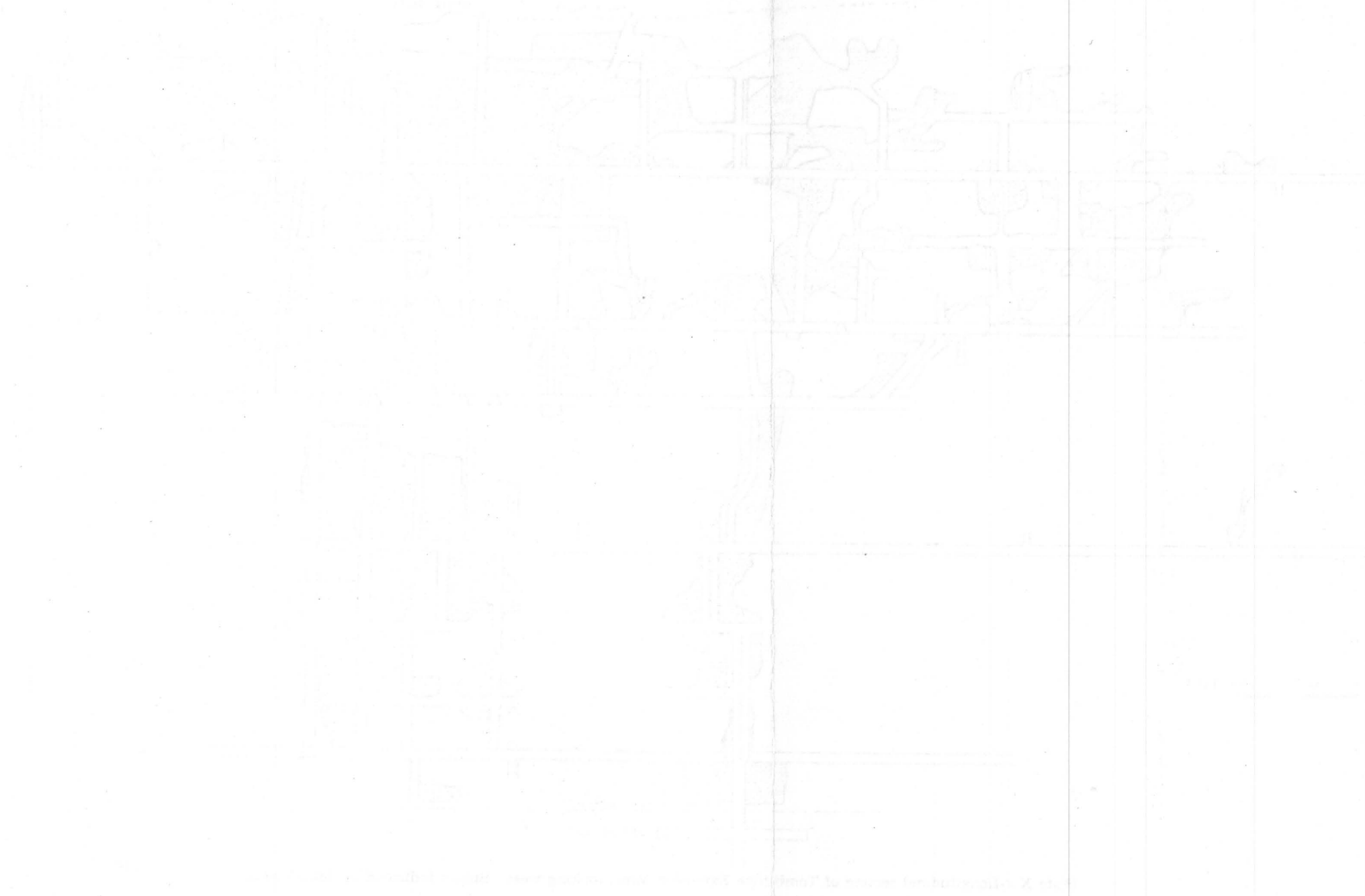


Plate X.—Longitudinal section of Tombstone Extension Mine, looking west. Stopes indicated by dotted areas.

Scanned 2-4-10 Carter



Attach 42

S.

N.

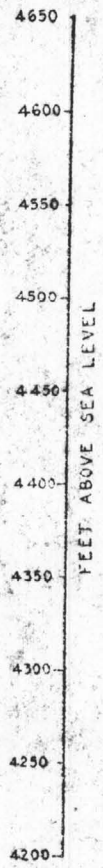
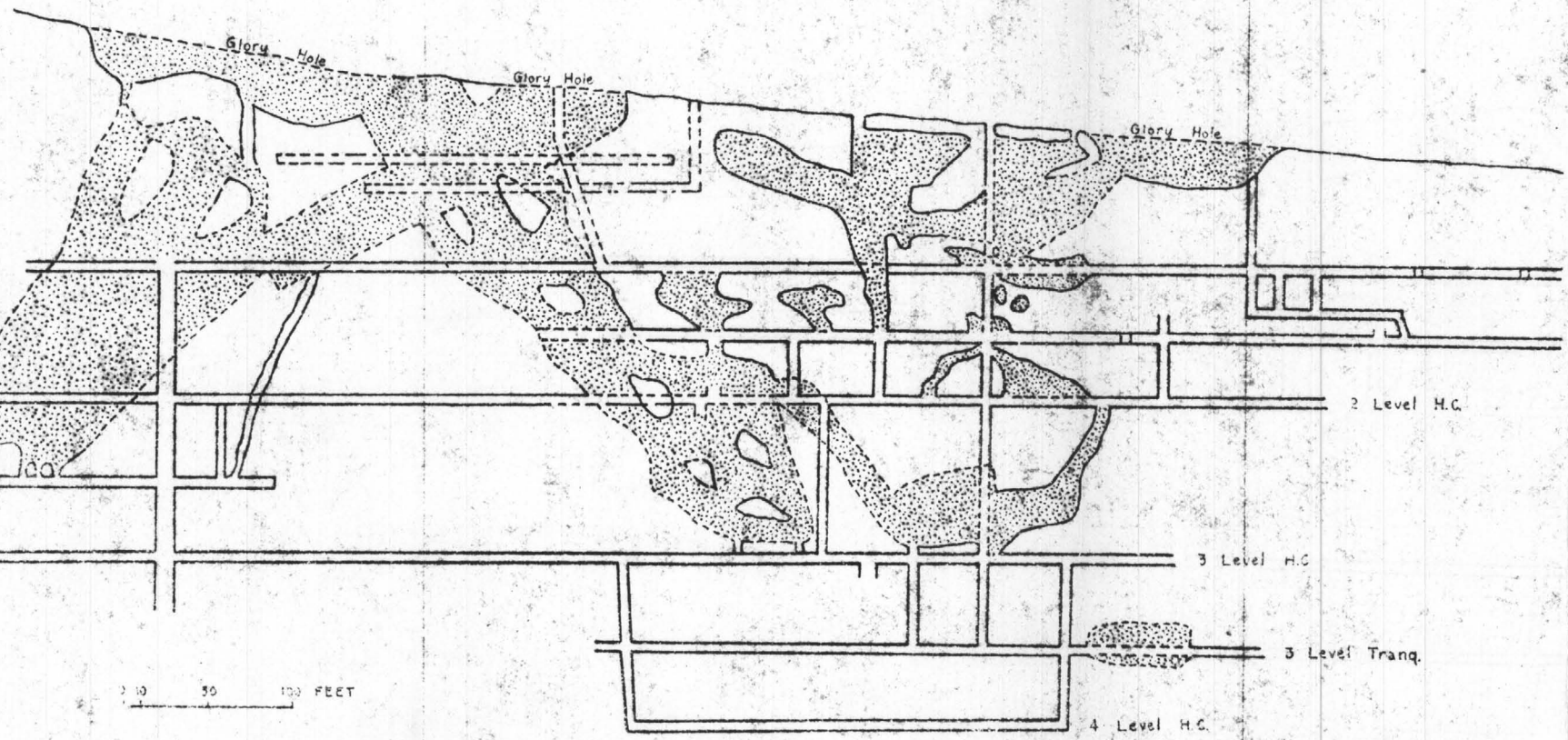


Plate IX.—Longitudinal section of workings in Head Center area, looking west. Stopes indicated by dotted areas.

Attachment 21  
*Plate IX*



Attach. 21

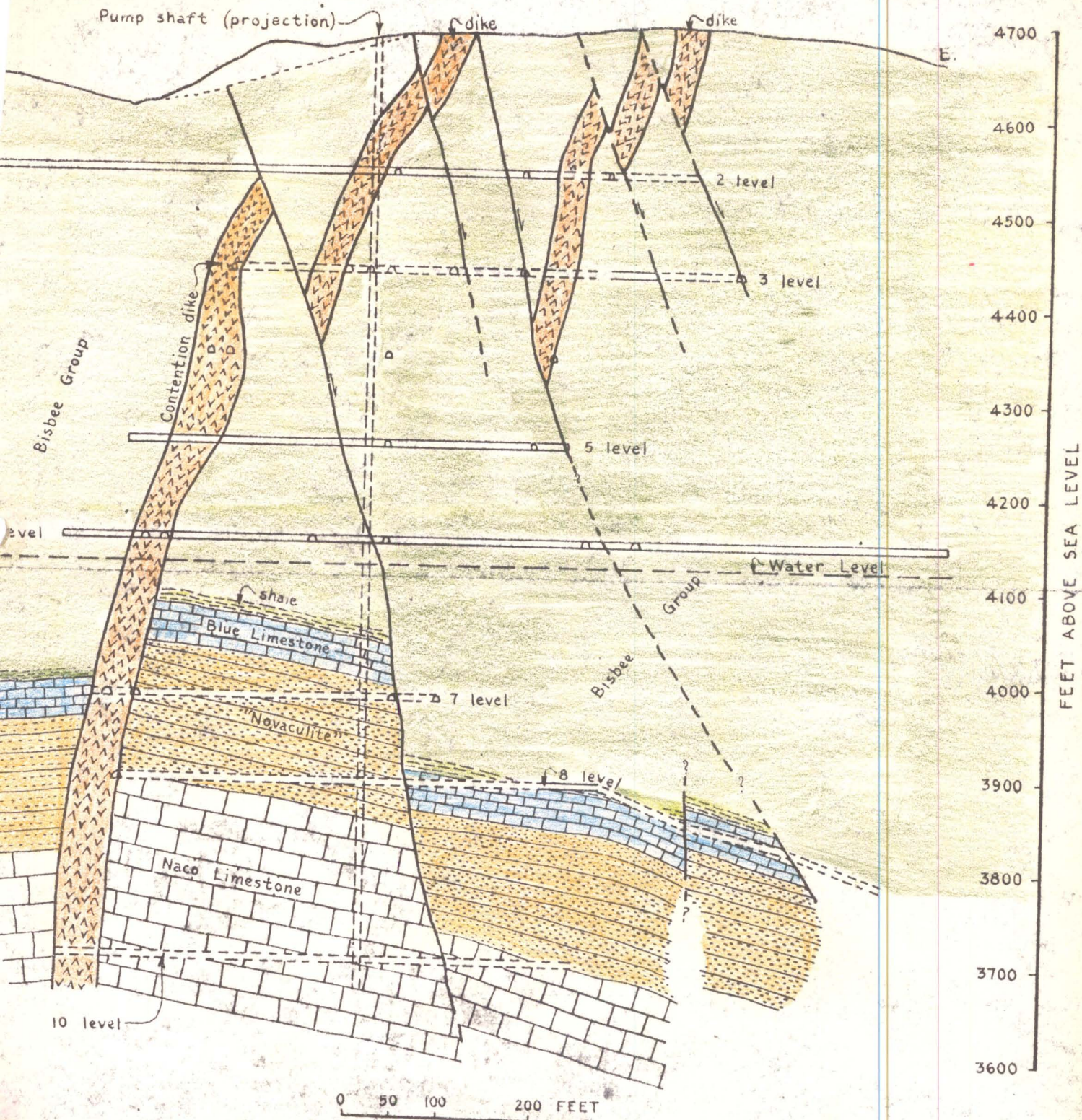
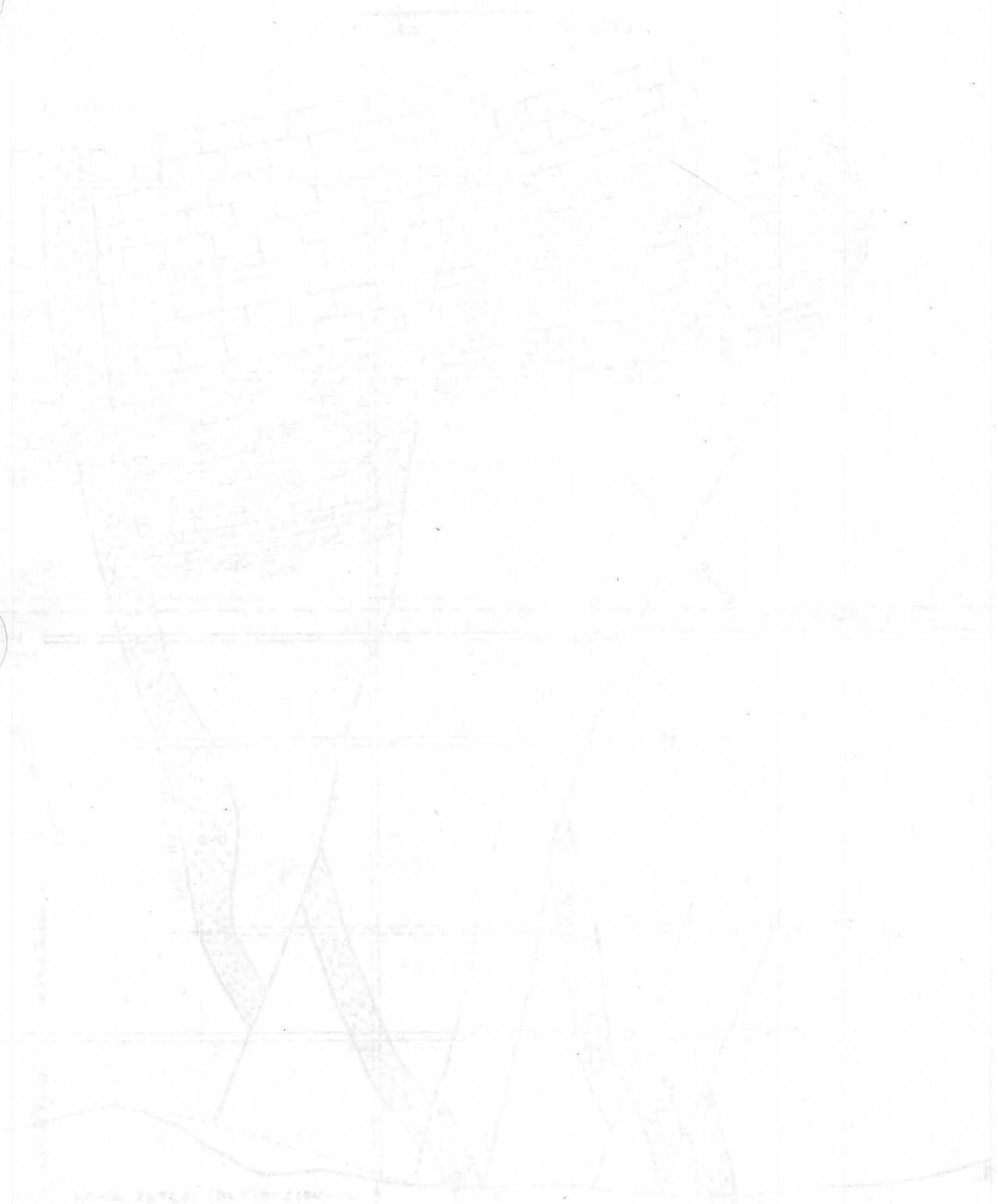


Plate VIII.—Generalized cross section through Contention dike at Pump shaft, looking north. (Modified from F. L. Ransome.)

*III*

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cutta



4000  
3500  
3000  
2500  
2000  
1500  
1000  
500  
0

FEET ABOVE SEA LEVEL

Attach. 20

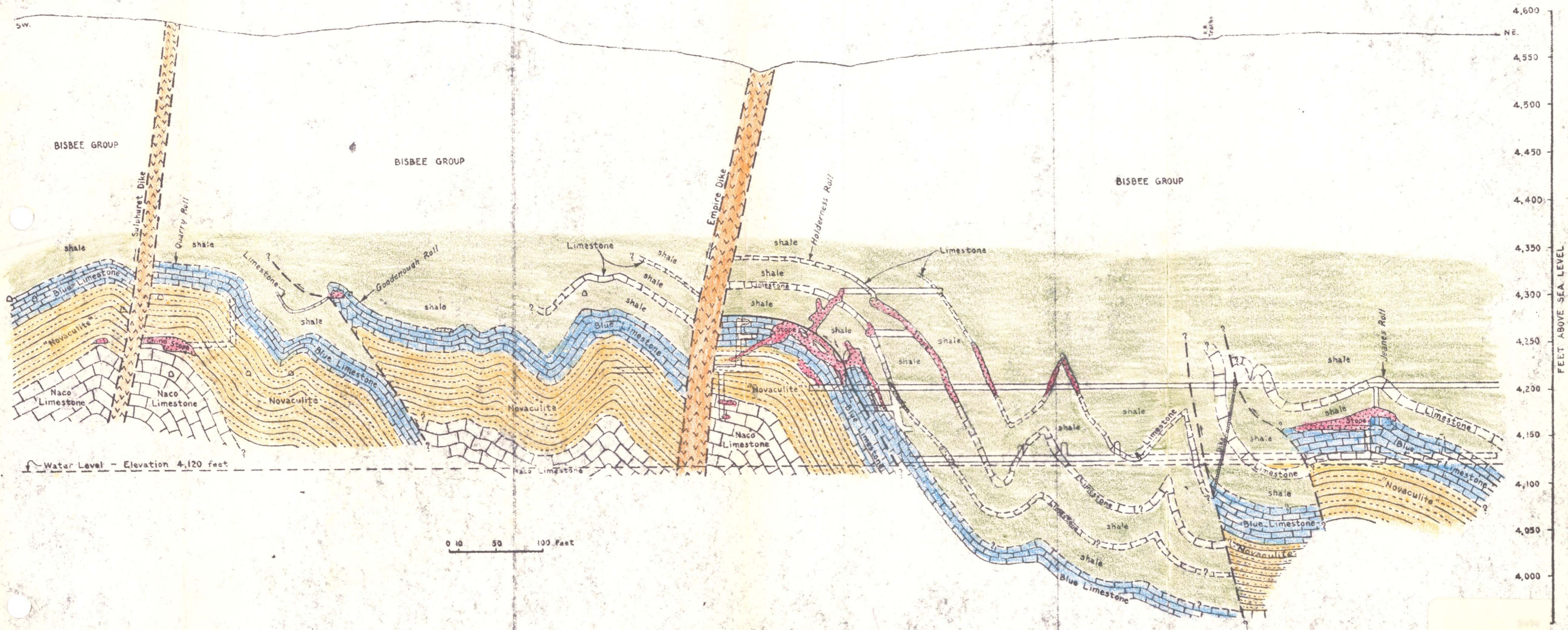
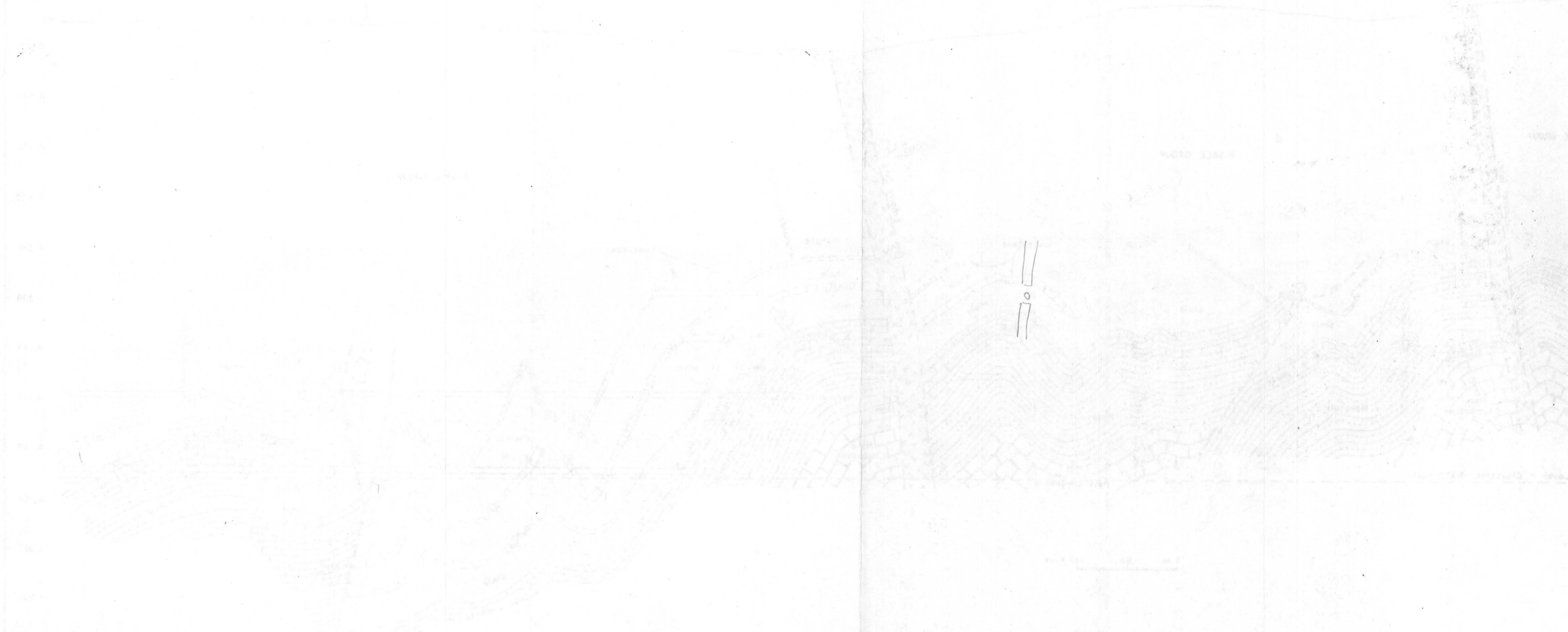


Plate XV.—Section along "409" fissure, looking northwest.

*Plate XV*

March 27



10

Scanned 2-24-10 - Carter

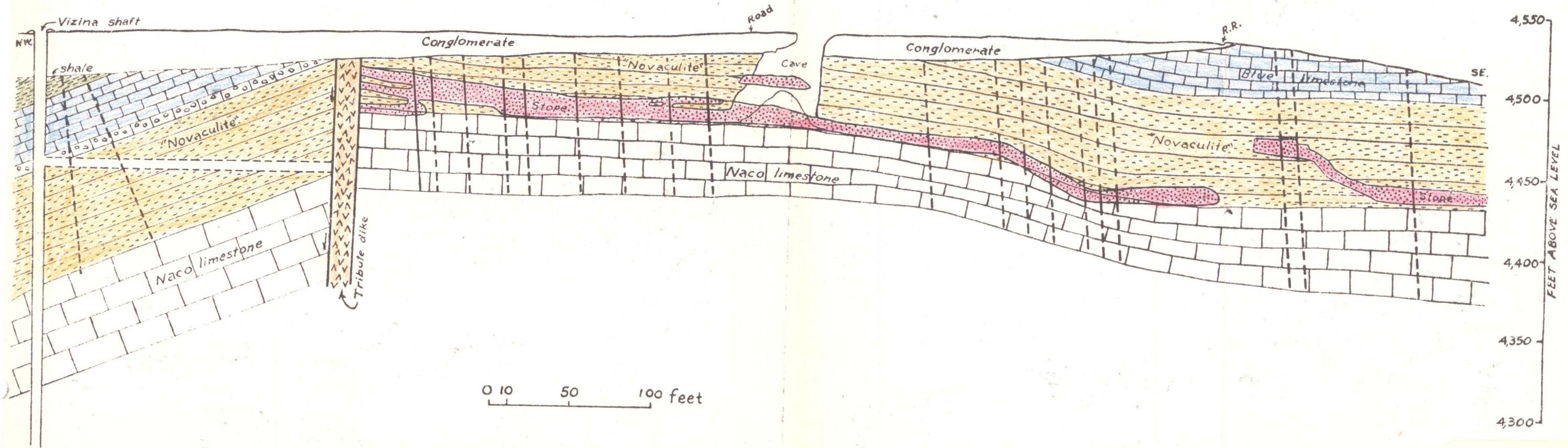


Plate XVIII.—Longitudinal section near axis of northeast Vizina roll, looking northeast.

Scanned 2-6-10 - Carter

Attch 30

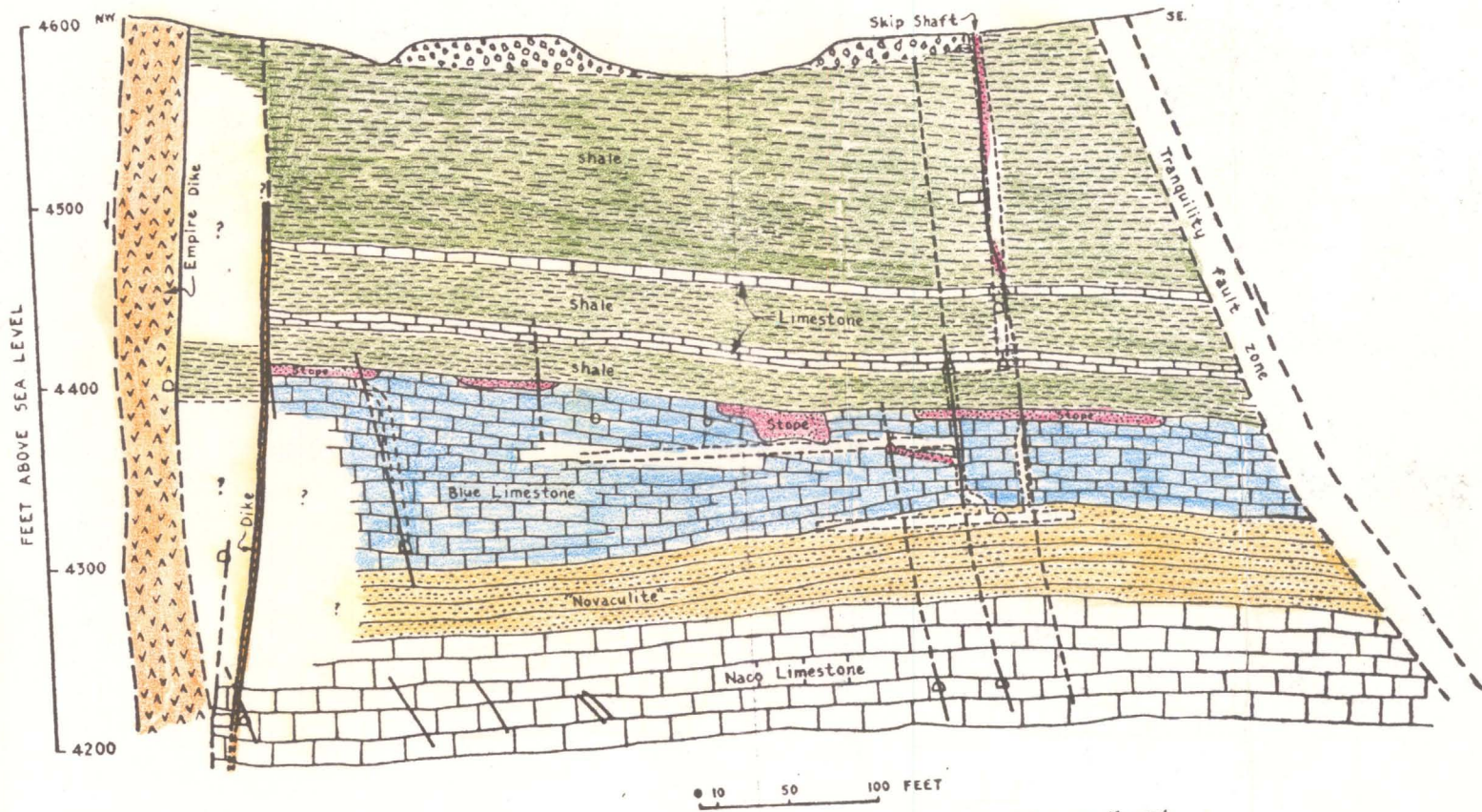


Plate XVII.—Longitudinal section near axis of Macia roll, looking northeast.

Attachment 29  
 2017-2018



Scanned 2-4-10 Carter



Geological cross-section showing the relationship between the various geological units in the area.

Attach. 29

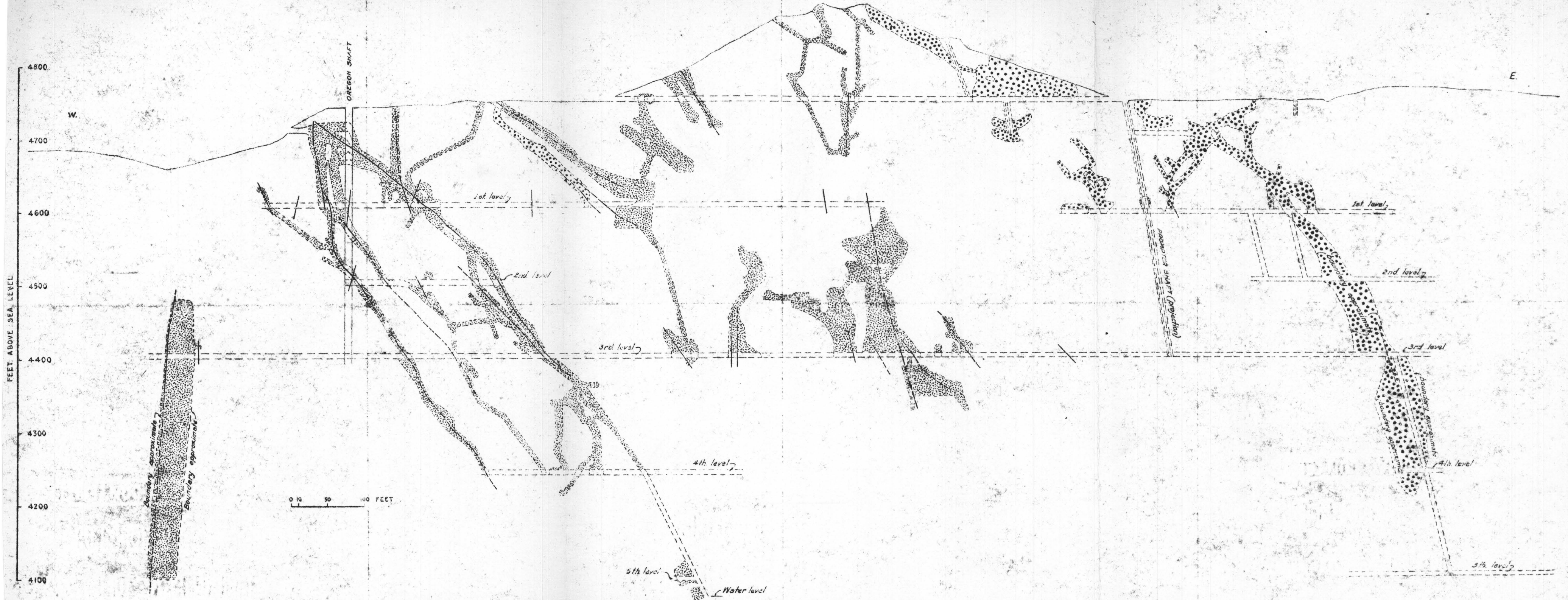


Plate XIV.—Longitudinal section through Oregon and Prompter mines, looking north. Slippages in Oregon slips indicated by small dots; slippages in Prompter fault indicated by large dots.

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Carter

April 26

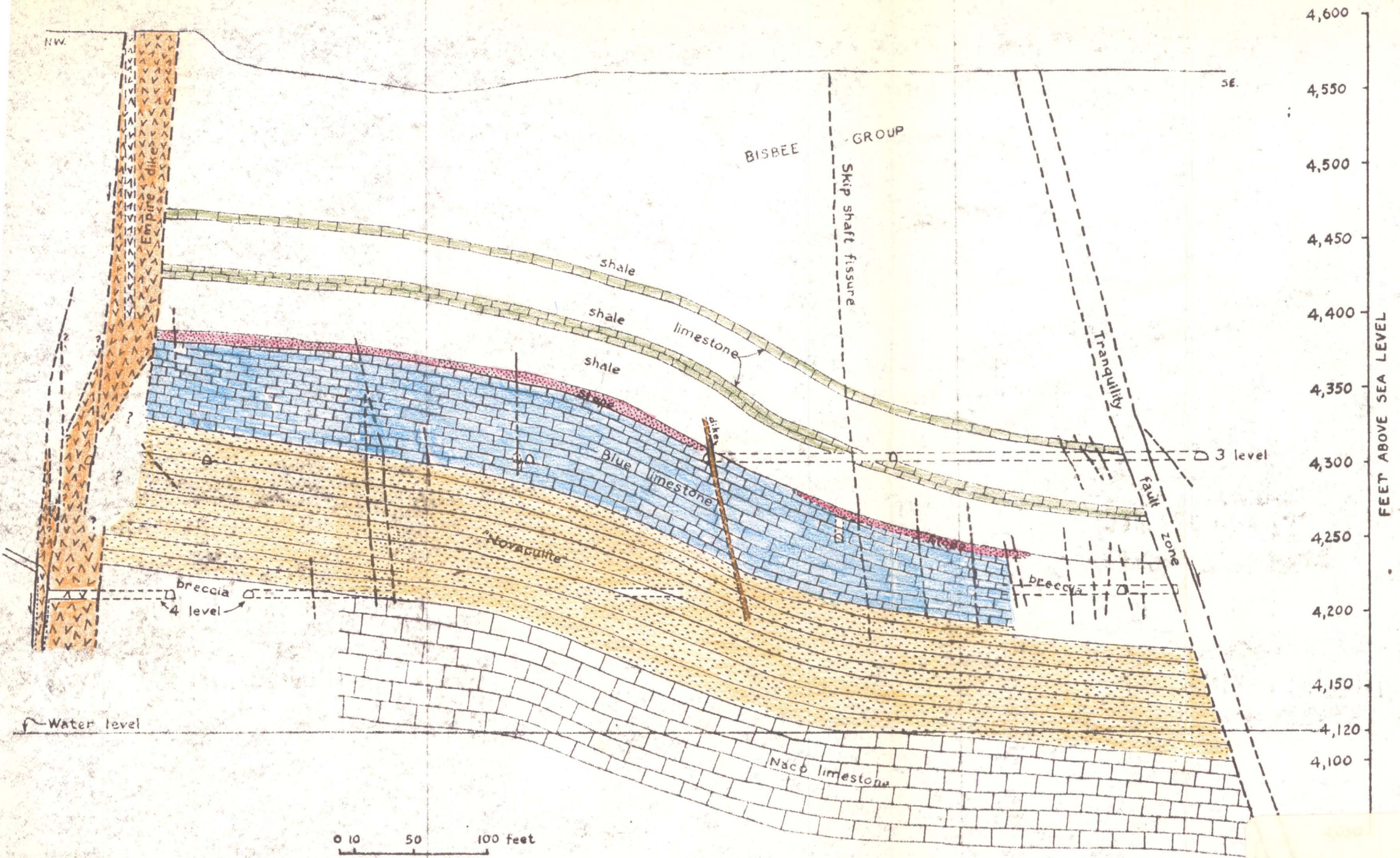


Plate XVI.—Longitudinal section near axis of Silver Thread roll, looking northeast.

Attachment 28

Pla. XVI

Scanned 2-4-10 - Carter

Attach 25

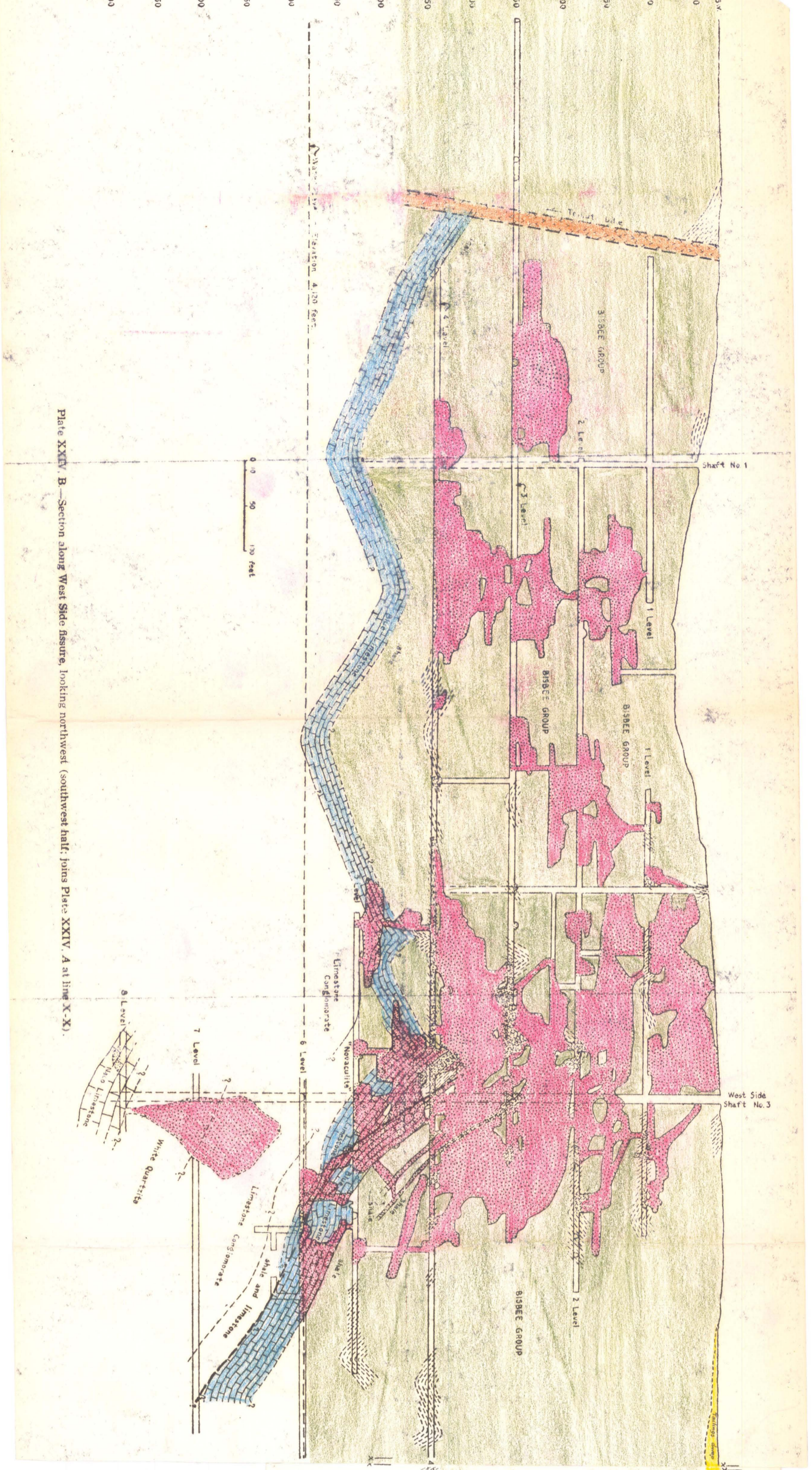


Plate XXIV, B—Section along West Side fissure, looking northwest (southwest half, joins Plate XXIV, A at line X-X).



Plate XXIV, A—Section along West Side fissure, looking northwest (northeast half, joins Plate XXIV, B at line X-X).

Scanned 2-4-10 Carter

Attach 36



LONGITUDINAL SECTION ON SKIP SHAFT FISSURE

Scale 0 50 100 feet

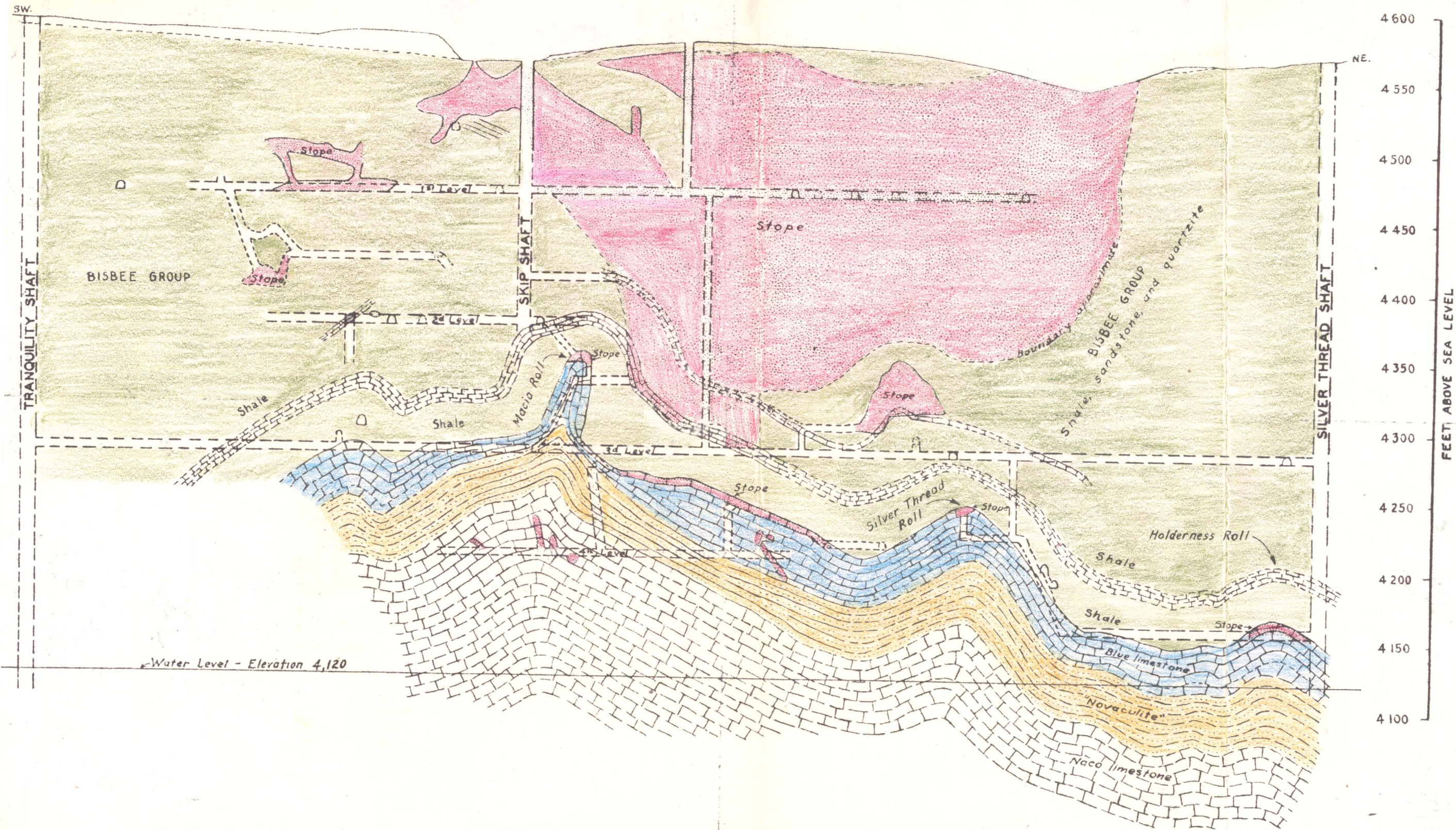


Plate XXIII.—Longitudinal section on Skip shaft fissure, looking northwest.



Scanned 24-10-2014

LONGITUDINAL SECTION ON SHAFT FISSURE

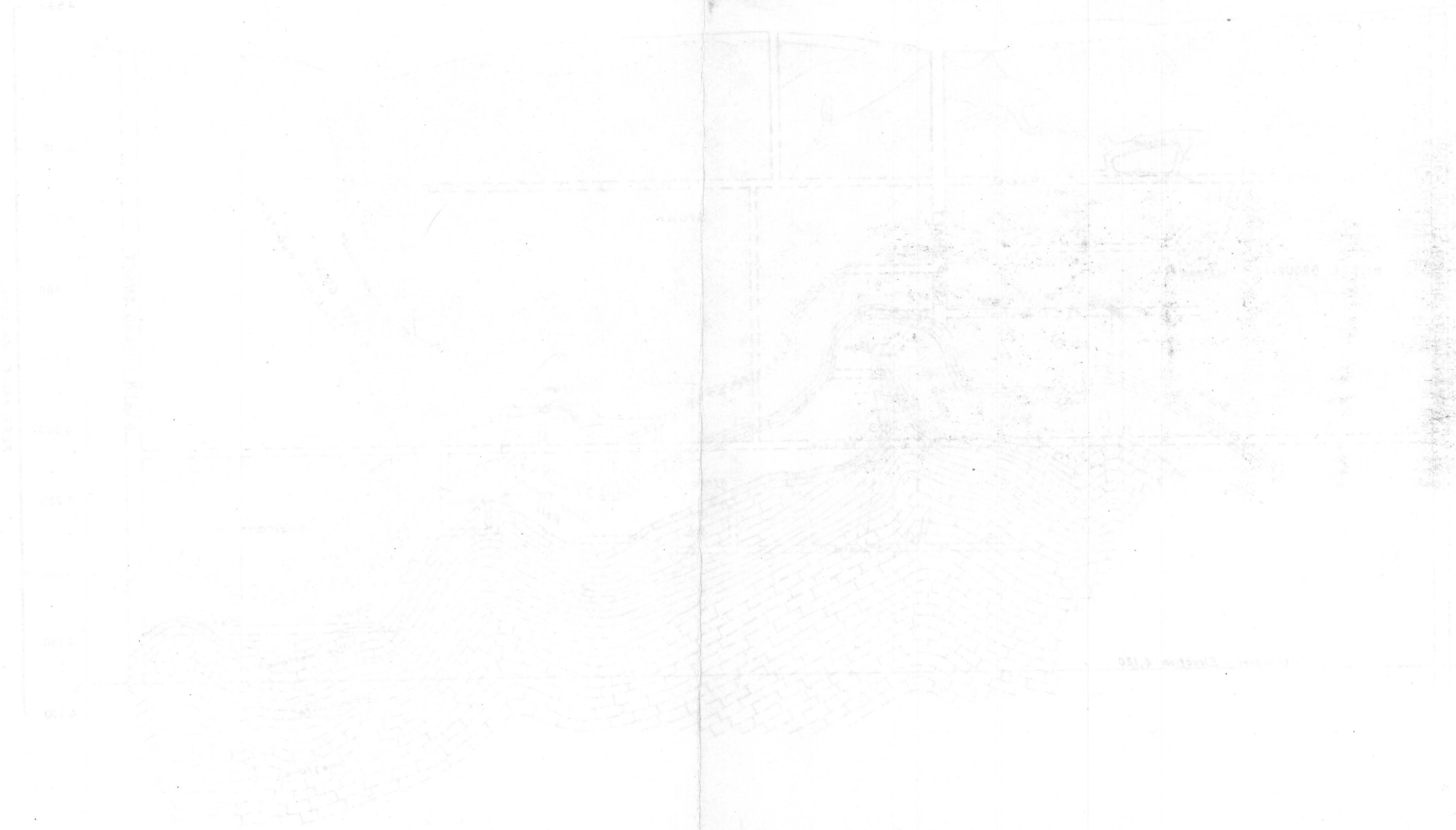


Plate XXIII - Longitudinal section on shaft fissure

XXIII

Attach 35

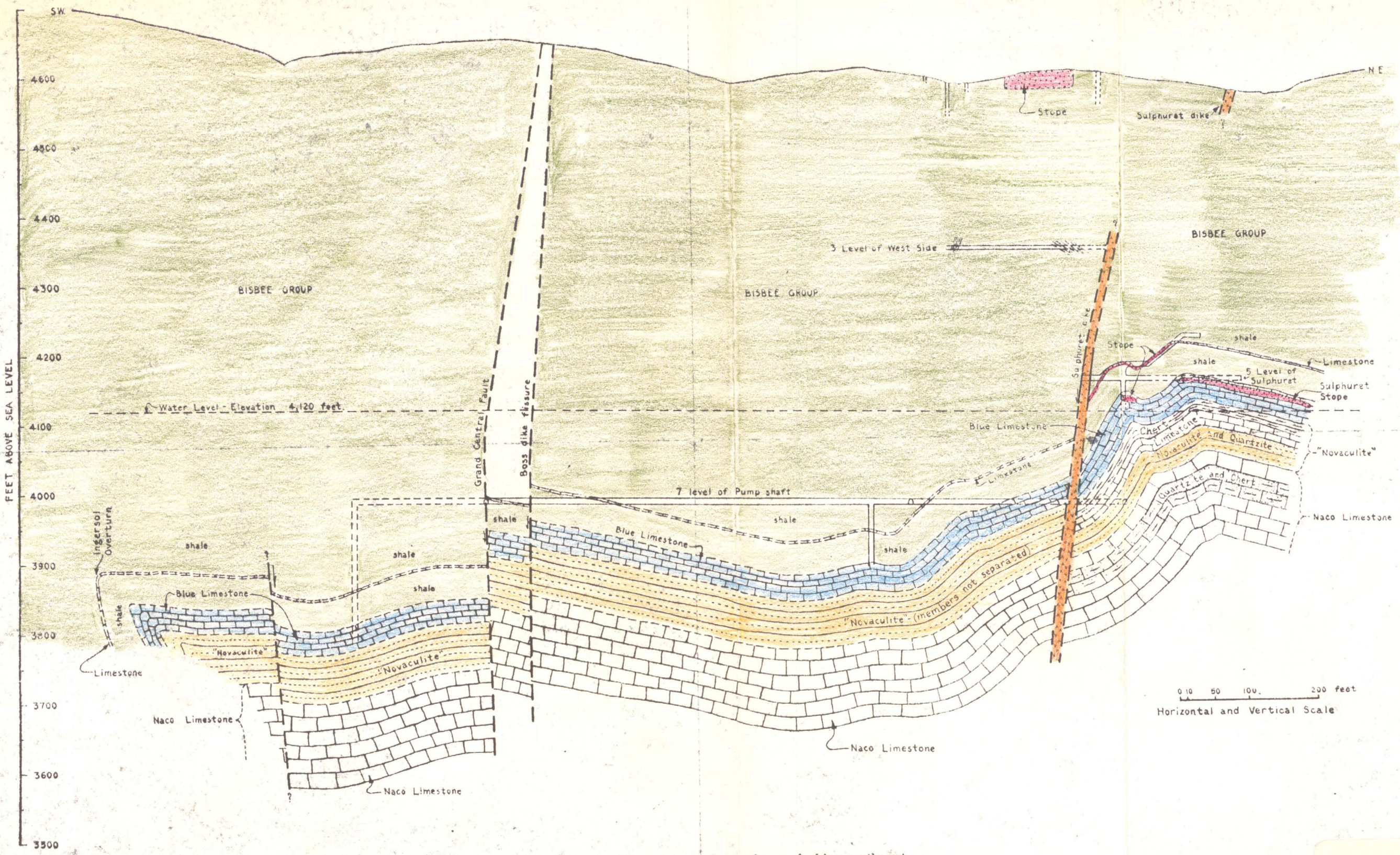
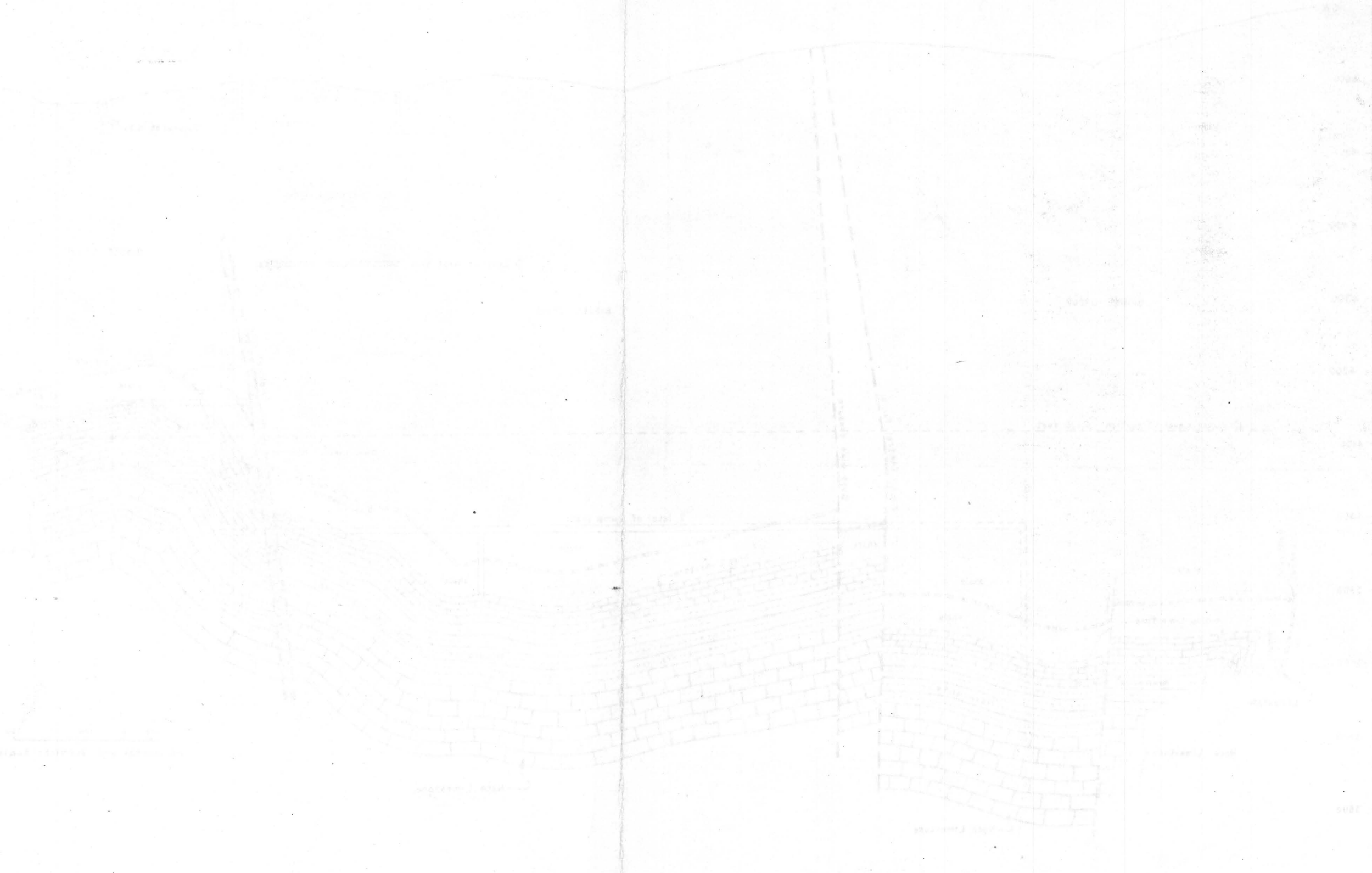


Plate XXII.—Section along Arizona Queen fissure, looking northwest.

Attachment 34  
 Plate XXII

Scanned Carta  
Z-410



Attach 34

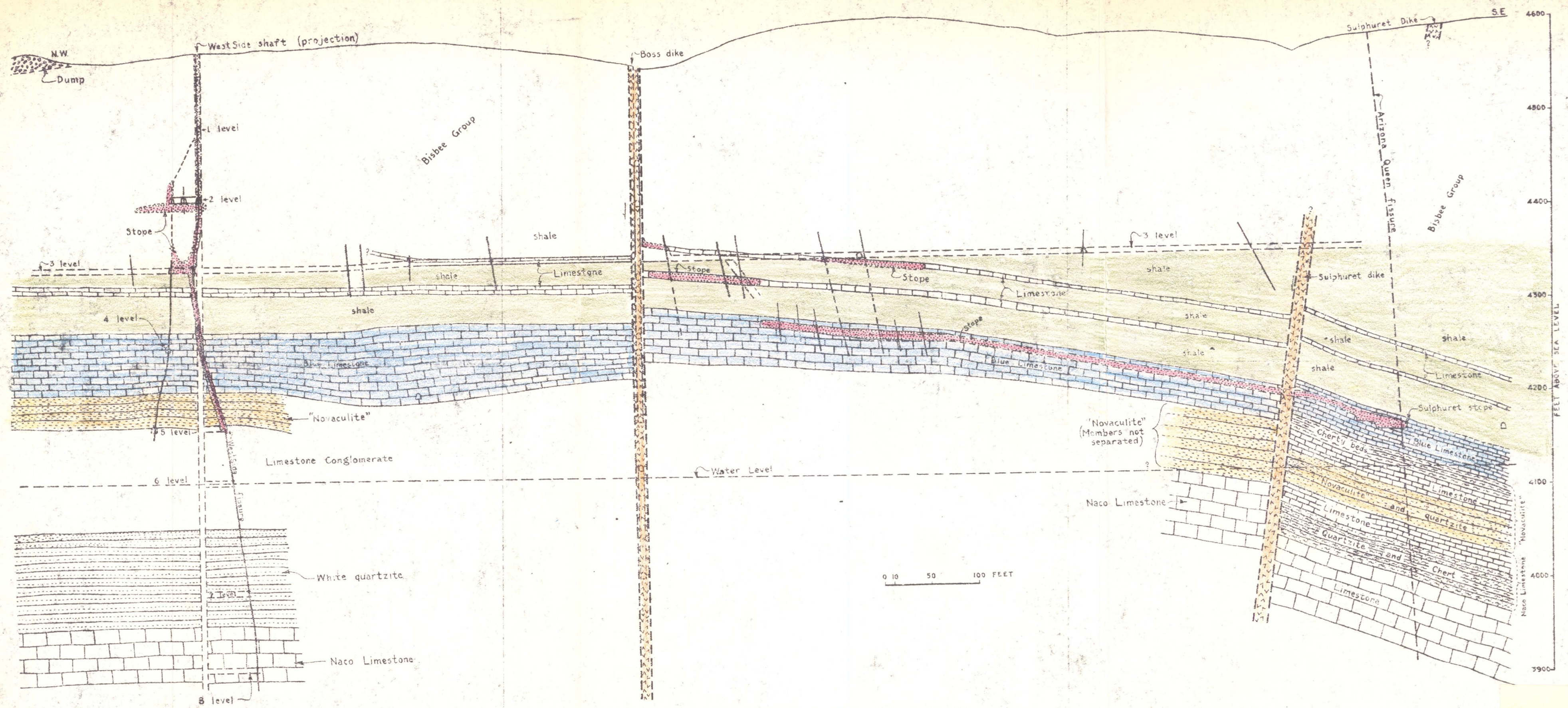


Plate XXI.—Longitudinal section near axis of West Side roll, looking northeast.

Plate XXI

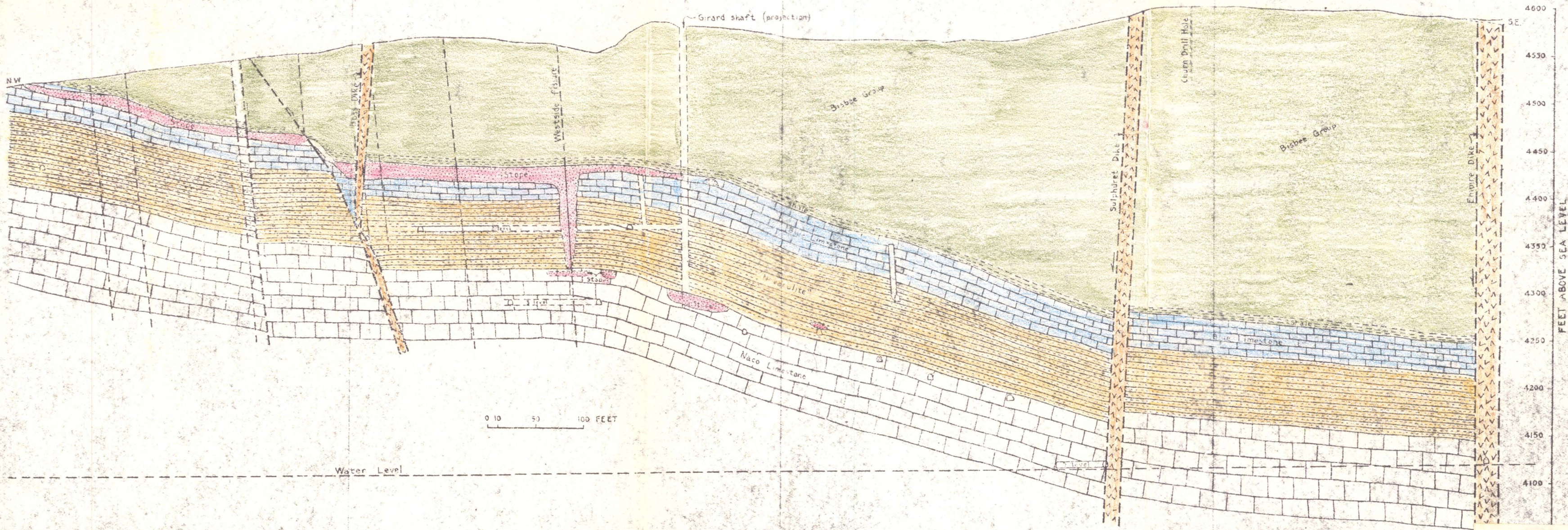


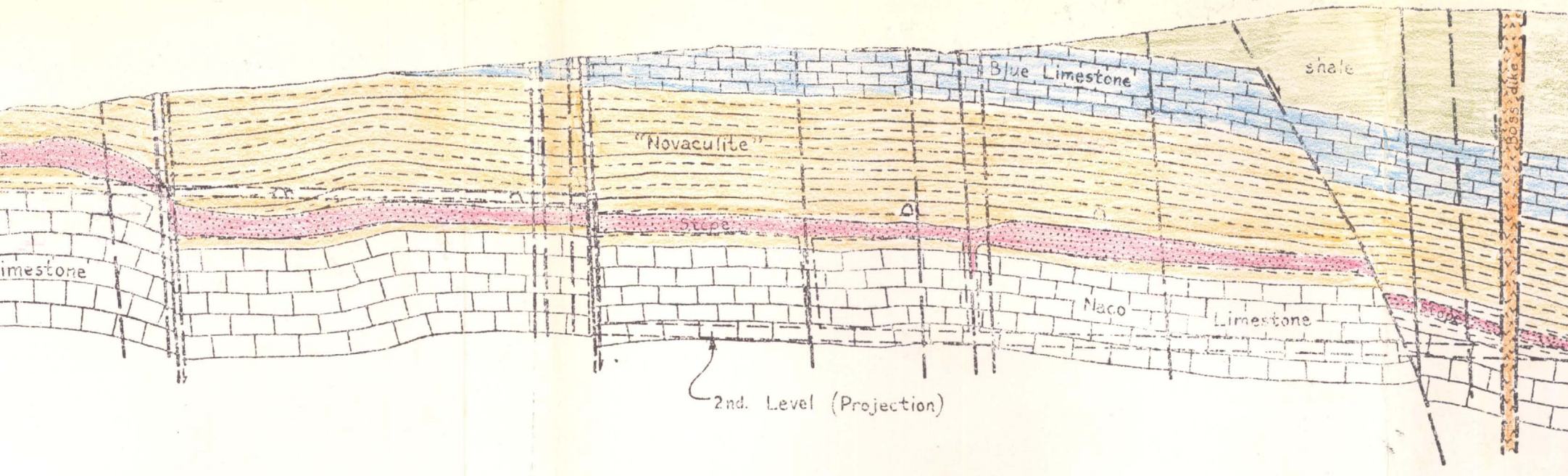
Plate XX.—Longitudinal section near axis of Girard roll, looking northeast.

Scanned 2-4-10 *lata*

FEET ABOVE SEA LEVEL  
4500  
4400  
4300

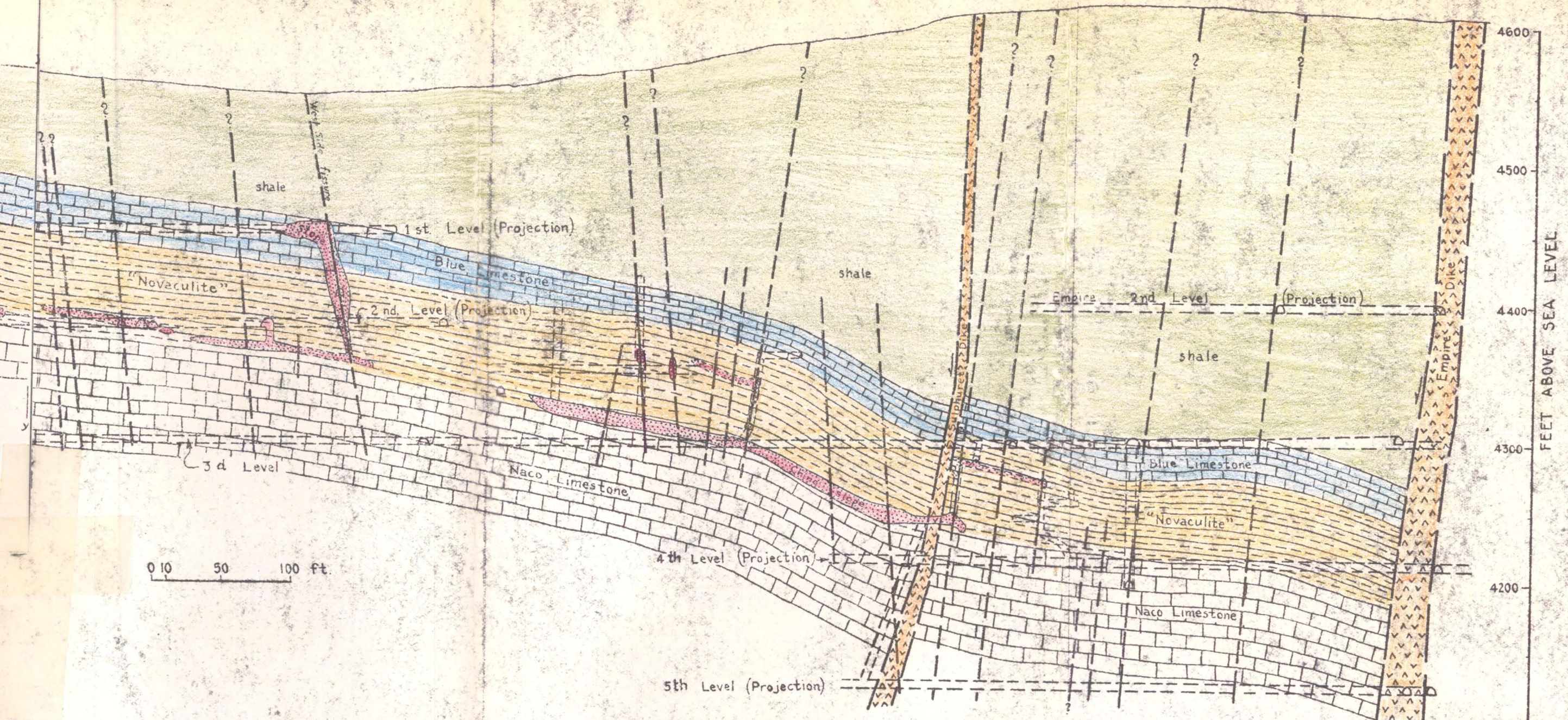
0 10 50 100 ft.

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



0 10 50 100 ft.

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



Scanned 2-4-10 Carter

