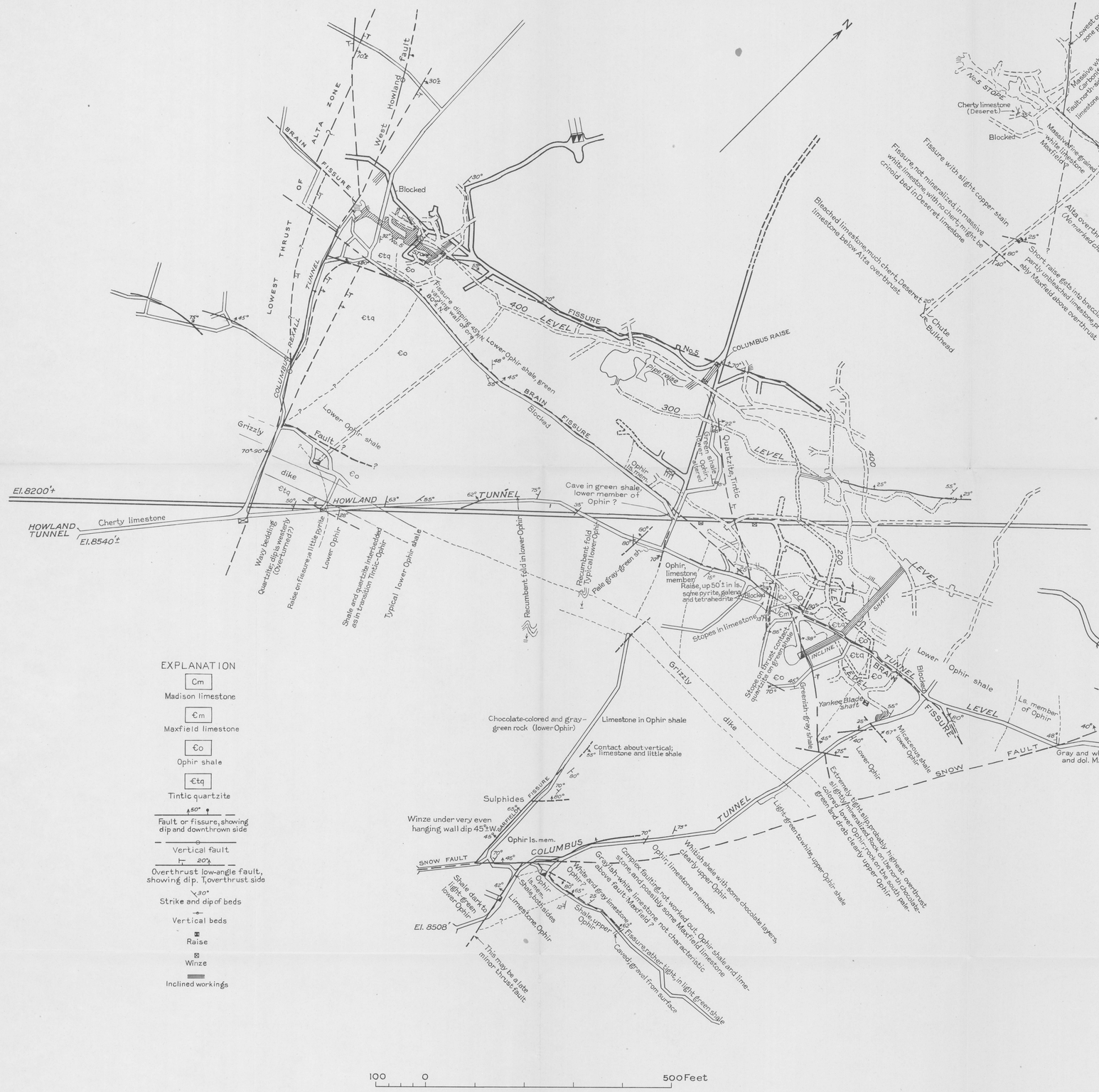
BRAIN ALTA ZONE
LOWEST THRUST OF
West Howland fault
BRAIN FISSURE
COLUMBUS RETRAIL TUNNEL
Blocked
No.5
Etq
Eo
Fissure dipping 45°N. Lower Ophir shale green
Lower Ophir shale
400 LEVEL FISSURE
COLUMBUS RAISE
No.5
Pipe raise
300
Quartzite, Tintic
Green shale, lower Ophir, altered
Ophir ls. mem.
Cave in green shale, lower member of Ophir ?
Grizzly
Fault ?
dike
El. 8200'±
HOWLAND TUNNEL
Cherty limestone
El. 8540'±
HOWLAND TUNNEL
Wavy bedding; Quartzite; dips westerly (Overturned?)
Raise on fissure a little pyrite
Lower Ophir
Shale and quartzite interbedded as in transition Tintic-Ophir
Typical lower Ophir shale
Recumbent fold in lower Ophir
Recumbent fold Typical lower Ophir
Pale gray-green sh.
Ophir limestone member
Raise, up 50'± in ls., some pyrite, galena and tetrahedrite
Stopes in limestone
Stope on three contact quartzite and green shale
INCLINE
Ctq
BRAIN TUNNEL
LEDGE
Yankee Blade shaft
Greenish-gray shale
Lower Ophir shale
Blocked
FISSURE
LEVEL
Ls. member of Ophir
Micaceous shale lower Ophir
Lower Ophir
Extremely tight slip probably highest overthrust
Gray and white ls. and dol. Maxfield ?
Good exposure cherty lime-stone, Deseret
1-2' sulphides
SNOW FAULT
Chocolate-colored and gray-green rock (lower Ophir)
Limestone in Ophir shale
Contact about vertical; limestone and little shale
Sulphides FISSURE
Winze under very even hanging wall dip 45°W.
COLUMBUS TUNNEL
Ophir ls. mem.
Shale dark to light green lower Ophir
Ophir limestone member
Shale, ls. shales
Limestone, Ophir
El. 8508'
This may be a late minor thrust fault
Whitish shale with some chocolate layers, Clearly upper Ophir
Complex faulting not worked out. Ophir shale and lime-stone and possibly some Maxfield limestone not characteristic
Grayish-white limestone above fault: Maxfield ?
White and gray limestone
Shale, upper Ophir
Fissure rather tight, in light green shale
Caved gravel from surface
Light green to white, upper Ophir shale
Extremely tight slip probably highest overthrust
Slightly mineralized rock on the south; chocolate-colored limestone, Ophir rock on the south; pale-green and drab clearly upper Ophir
Grizzly dike
Sulphides FISSURE
Chocolate-colored and gray-green rock (lower Ophir)
Limestone in Ophir shale
Contact about vertical; limestone and little shale
Lowest overthrust of Alta zone probably here
Massive white limestone, probably Cane Springs ?
Fault-north side of drift; limestone south, green rock (upper Ophir) N
No.5 STOPE
Cherty limestone (Deseret)
Blocked
Massive fine-grained white limestone Maxfield ?
Timbered but country rock seems to belong to upper shale member of Ophir shale
Raise in dark gray limestone
Mineralized fissure in limestone
Blocked
Vein about 1½' thick, horses of limestone
All limestone
Drift on No.5 (Brain) fissure
400
COLUMBUS RAISE
Smooth-fault limestone
Bleached limestone, much chert, Deseret ?
Fissure with slight copper stain
Fissure, not mineralized, in massive white limestone, with no chert; might be crinoid bed in Deseret limestone
Short raise gets into brecciated partly unbleached limestone, prob-ably Maxfield above overthrust
Alta overthrust about here? (No marked change on fissure noted)
Chute
Bulkhead
Blocked
Ls. and upper sh., with some Ophir ls. over white dol. Maxfield ?
Upper Ophir, low dips
Crushed ls. Ophir, on both sides
RAISE
Metamorphosed Em, Brecciated, upper Ophir ?
Eo
Shale and ls., upper and middle Ophir
Whitish ls. both sides Maxfield ?
Ophir sh.
Banded shale, brown and green, like top of lower Ophir, overlain by ls. mem-ber of Ophir in raise, thrust N.70°E., 25°N. lower Ophir above
Fault
Tight fissure
Upper member of Ophir shale, light gray-green, hard, below overthrust
Fault between ls. and upper ? shale member Ophir
Sh.
Ls.
Banded shale upper Ophir
Shale, mostly upper Ophir
Raise
Average dip of wavy green and chocolate-colored shale, upper Ophir
Complex fissuring, some sulphide
Dark metamorphosed Em? Eo sh., lower Ophir
LEVEL
Tight fissure
Irregular broad stope in upper Ophir shale. Most definite fissure N.35W. 73E.
In stope a little below level, thrust contact, Ophir ls. below, altered sh. of lower Ophir above
Relations obscure, overthrust probably shifted on fissure
Limestone like upper Ophir
Light-green sh. on both sides of fissure
Ophir ls. mem.
Stope
Lower member of Ophir shale nearly horizontal
Wavy tight fissure
Complex faulting in ls. and sh. of Ophir
Winze follows fault N.60°E., 25°N. ls. below, sh. above, Ophir
Dark greenish lower member of Ophir shale
Contact steepens upward
Stopes on steep fissure
Green shale, lower Ophir
Mineralized
Tight fissure
Ophir, ls. overlain by green sh.
Green sh., Ophir, upper or lower
Shale mostly dark, lower Ophir
Lower member of Ophir shale
Deep water; not entered
NO.3 SHAFT
Wavy thrust fault, shale of upper Ophir above, lower member of Ophir shale below
Above upper overthrust roof coming
Complex fissure zone general dip steep
Raise
Shale, upper Ophir
Banded shale upper Ophir
Fault between ls. and upper ? shale member Ophir
Much chert Cd
White limestone
Fissure tight but distinct on north-west side of tunnel. Limestone on east side of fault shows fault crinkly banding as in Maxfield limestone
Alta overthrust
Whitish jasts (Chert?) in white and gray limestone
OLD MANWAY
Fissure with 1-2' sulphides
Tight fissure
Massive white limestone or dolomite
Ls. wavy bands
Crinkly banded ls.
Shale, gray-brown to light gray-green, brittle, much fissured, upper mem. of Ophir
Dark brittle shale and mottled limestone
Timber; complex fissuring & possibly on overthrust. Shale, dip steepens eastward
Shale, mostly light greenish gray, like upper member of Ophir shale
Gray and light banded limestone, Maxfield ?
Banded limestone
Roof caving; best developed fissure; mapped
Limestone faintly banded in white, brown, and gray
White massive limestone faintly gray banding (low dip westward (?)
Massive yellow-stained white limestone
Limestone, massive, mostly white, but blotched with gray-blue, gray-yer eastward
Madison (?) limestone, shattered, gray, mottled by partial bleaching. No dips determined
Shale, like upper member of Ophir shale. Flat dips
Fissure, wafer-course
Fault in roof here
Shale overlain by fragly dolomite, in part blue-gray, with fusulinids (Jefferson(?)
Face, 1934, approximate
Snow fault zone (?)
Mottled limestone, faintly banded, Em
Chocolate-colored shale in roof, maybe thrust over the limestone
Mostly gray limestone or dolomite, some very dark
Sharp fault contact on east side, dolomite both sides, some chert below
Mostly white sugary limestone or dolomite
Lower part of Maxfield limestone No large fault recognized in this drift
Whitish limestone with thin wavy bands characteristic of Maxfield limestone
Fissure slightly mineralized Crinkly bands in limestone
COLUMBUS RAISE
Massive ls.
Shale and mottled Cambrian ls.
Limestone
Dol.
Em
Eo
Steep fissure cut off in raise by flat one
Shale, limestone east
Tight fissure; a little pyrite
Shale, shattered
Raise up 50± on fissure in lime-stone, near contact with shale east, some pyrite, galena and tetrahedrite
Mottled limestone and shale, like middle part of Maxfield limestone
Copper stains
Blocked
Large mass of chert in lime-stone (Deseret limestone)
White limestone, white masses like altered chert
OVERTHRUST ? ALTA (Not definitely located)
Shattered limestone
Gray and white ls. and dol. Maxfield ?
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