



INL Lithologic Core Storage Library

Operated by the U.S. Geological Survey
for the U.S. Department of Energy

Contact:
Mary K. V. Hodges
1955 N. Fremont Ave.,
MS 1160
Idaho Falls, ID
83415

Official Name:TAN 2271

Logged By: M. K. V. Hodges

Selected Aliases: none

USGS Site ID:435053112423101

Contractor Well ID:NA

Drilling Agency: USGS

Year Drilled: 2015

Names of Drillers: M. Gilbert and C. J. Jones

Well Status: complete

Total Depth of Hole (ft): 289 ft

Total Core Recovered (ft): 250.4 ft

Beginning Depth (ft): 0 ft

Ending Depth (ft): 289 ft

☒ Continuous Recovery

☐ Selected Intervals Recovered

Total # of Core Boxes: 43 of 64

Notes: From 208 ft to total depth, this core log was done from photographs and descriptions by W. Jolley, CWI geologist

County & State: Butte County, ID

Quadrangle Name: Circular Butte

Lat / Lng: N43°50'53.34", W 112°42'30.90" (NAD 27)

Tns / Rng / Sec: T6N / R31E / S13

UTM Coordinates: Zone 12 N 362662.161, 4856210.181

Surface Elevation (ft): 4,780.98 ft (NGVD 29)

Core Geological Profile

Lithologic Patterns



Basalts



Rhyolites



Sedimentary Rock

Soil Patterns

(See Unified Soil Classification System.)



Gravels - clean



Gravels with fines



Sands - clean



Sands with fines



Silt and clays

Intervals in Absentia



Surficial material



Natural void



Interval not cored



Missing interval

Idaho National Laboratory
Building CFA-663

Igneous and Sedimentary Structure Symbols



Vesicle zone



Large vesicles



Vesicle planes



Mega vesicles



Vesicle Cylinders



Pipe vesicles



Pillows



Vesicle Sheet



Flow/Mold



Spatter feature



Ripple marks



Mud cracks



Imbricated bedding



Graded bedding



Cross bedding

Soil Structure Symbols



Structureless - Single Grained



Structureless - Massive



Platy



Granular



Blocky



Prismatic



Columnar

Depth (feet & tenths)

Core Photo

Igneous, Soil and
Sed Structures

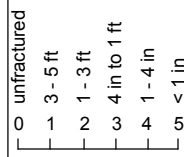
Lithology

Description

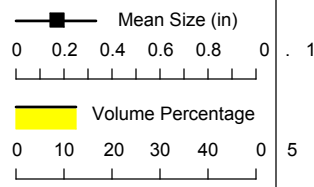
Miscellaneous
text

Lithologic description

Fracture
Frequency



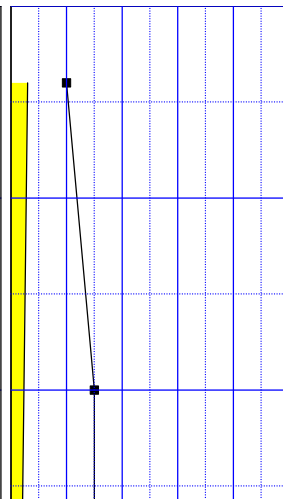
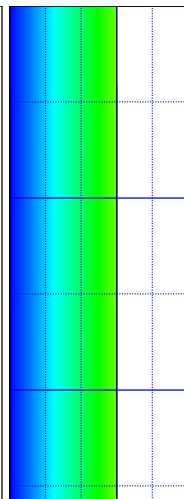
Vesicle Characteristics

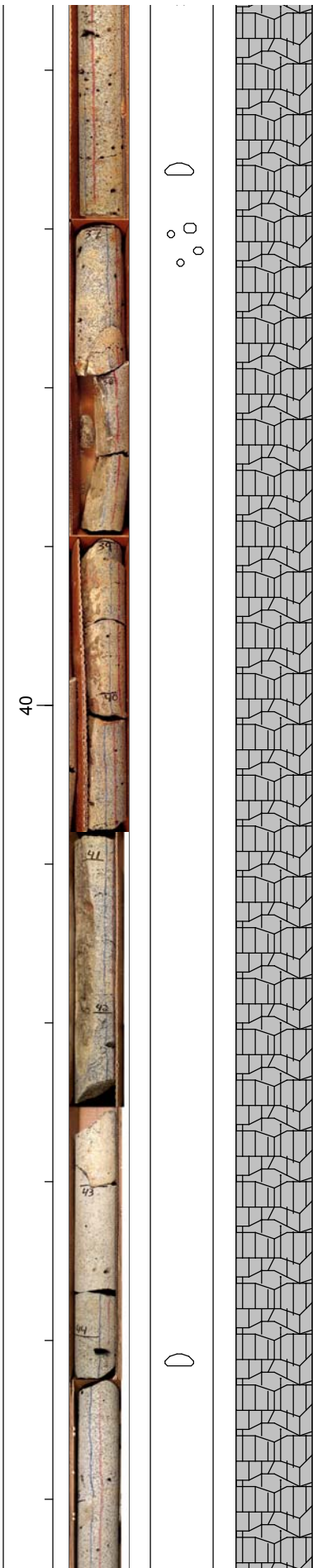


INTERVAL NOT CORED: Surficial sediment,
0-33.4 ft, not recovered

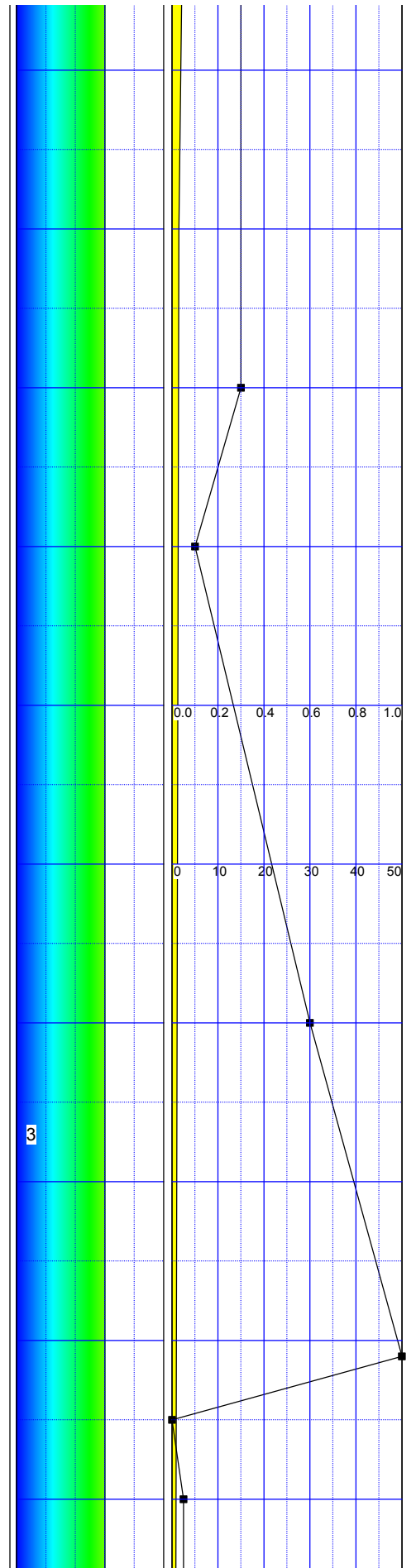
BASALT:

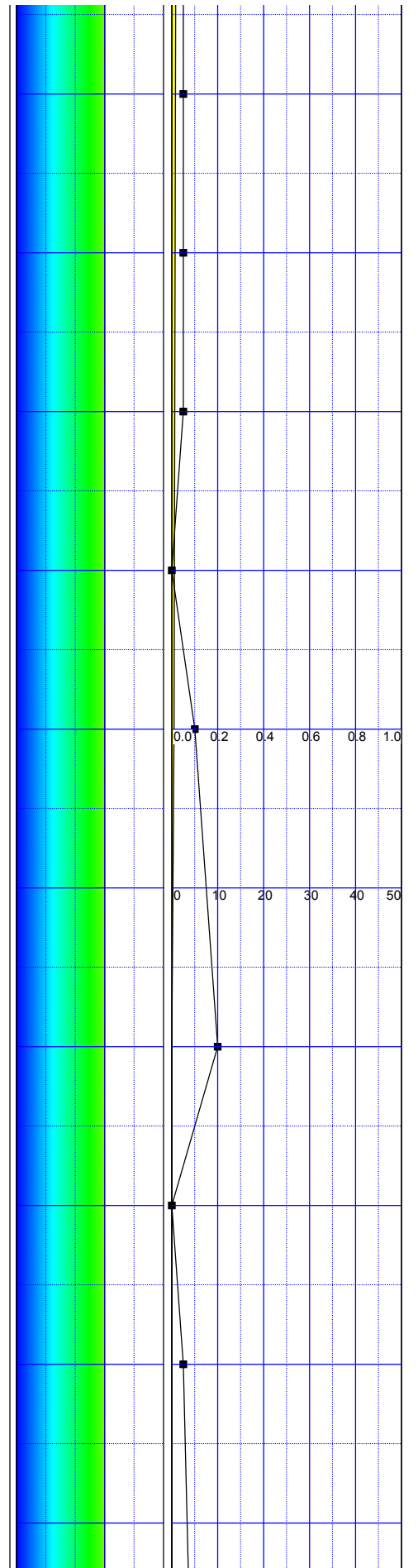
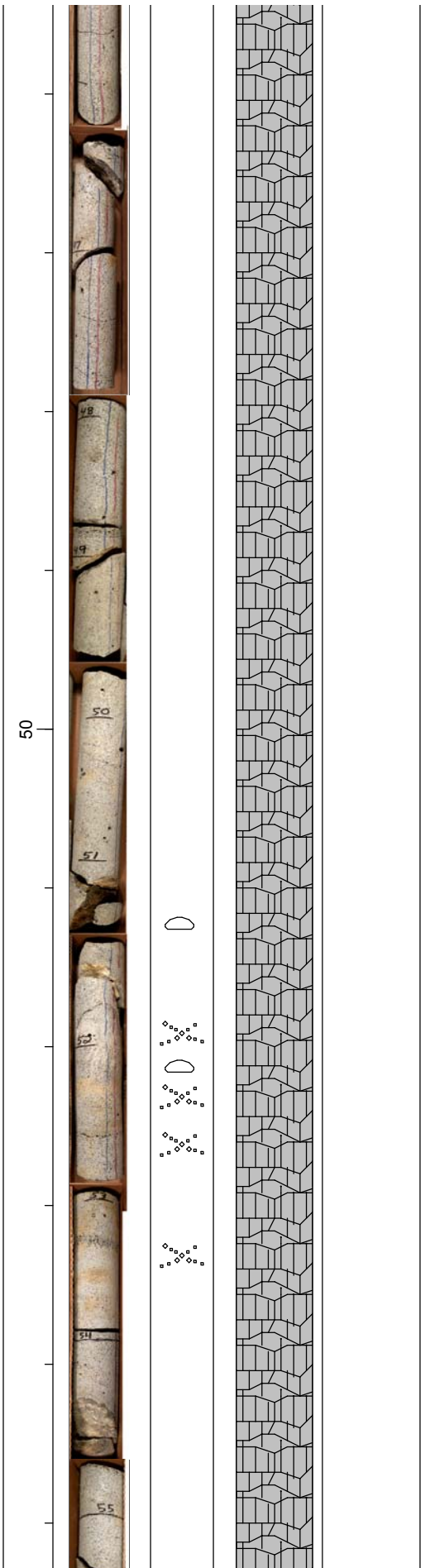
COLOR: Medium light gray N6 to medium gray N5, darker in vesicular regions, lighter in diktytaxitic and more massive regions.
TEXTURE: Phaneritic to aphanitic, intergranular, vesicular to dikitytaxitic, basalt. Vesicles are rounded to subrounded and decrease in frequency and increase in size from 33.4 to 38 ft, dikitytaxitic with a few megavesicles from 38 ft to 62 ft, dikitytaxitic to massive from 62 to 114 ft, then increasingly vesicular to base.
COMPOSITION: 30% submillimeter to 1 mm subhedral to euhedral white plagioclase; 20% submillimeter blocky black pyroxene phenocrysts; 10% submillimeter subhedral green to rusty olivine phenocrysts; 50% gray ground mass

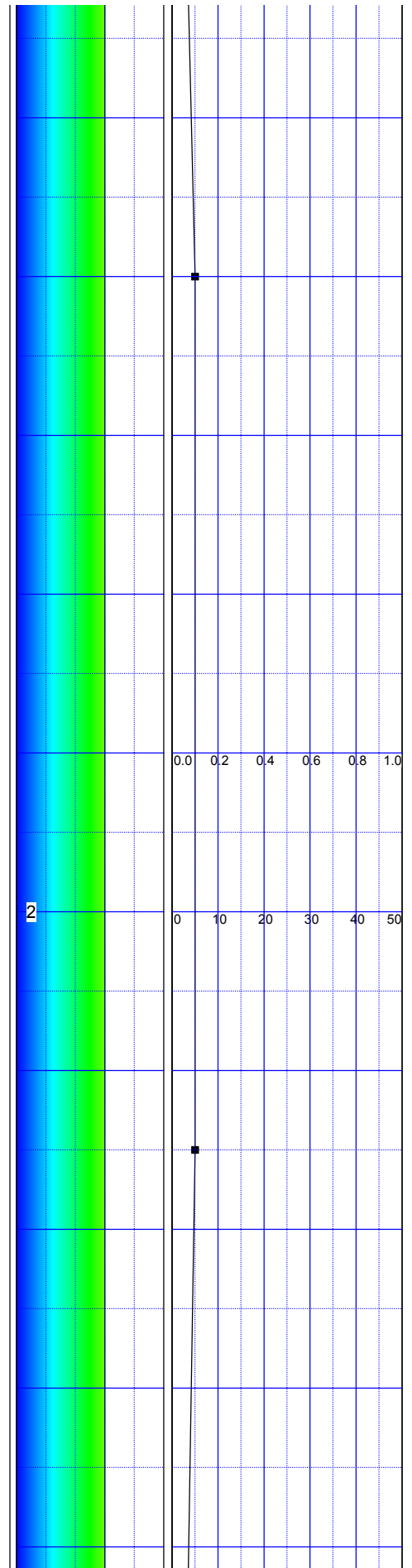
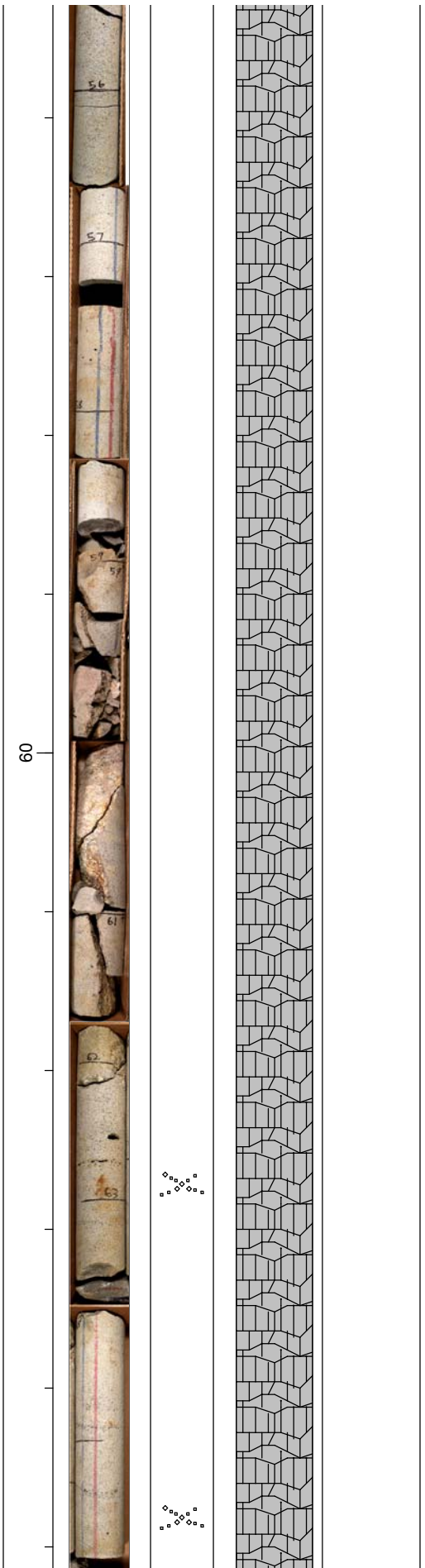


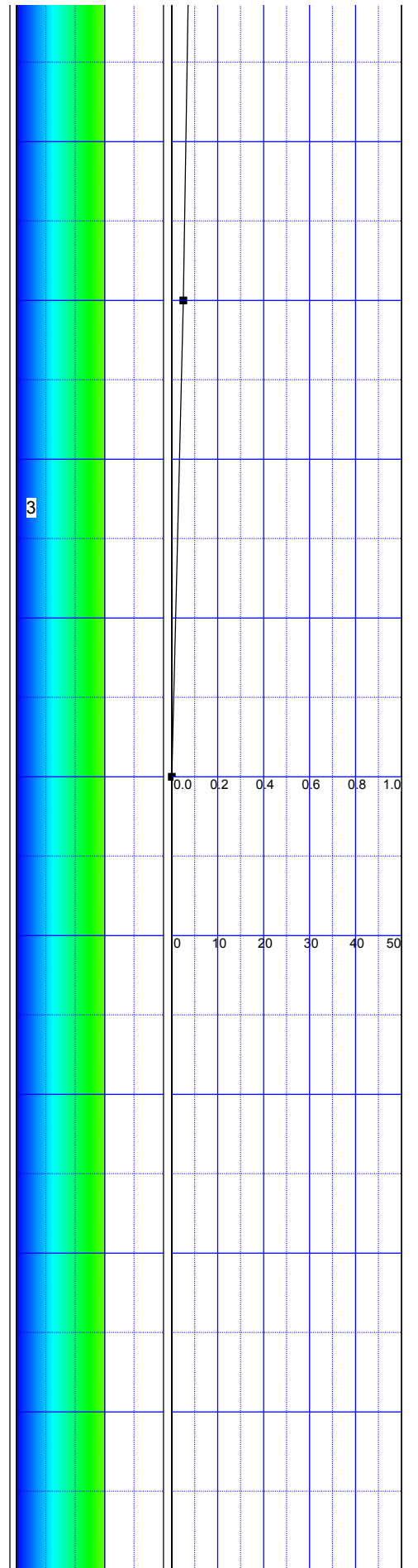
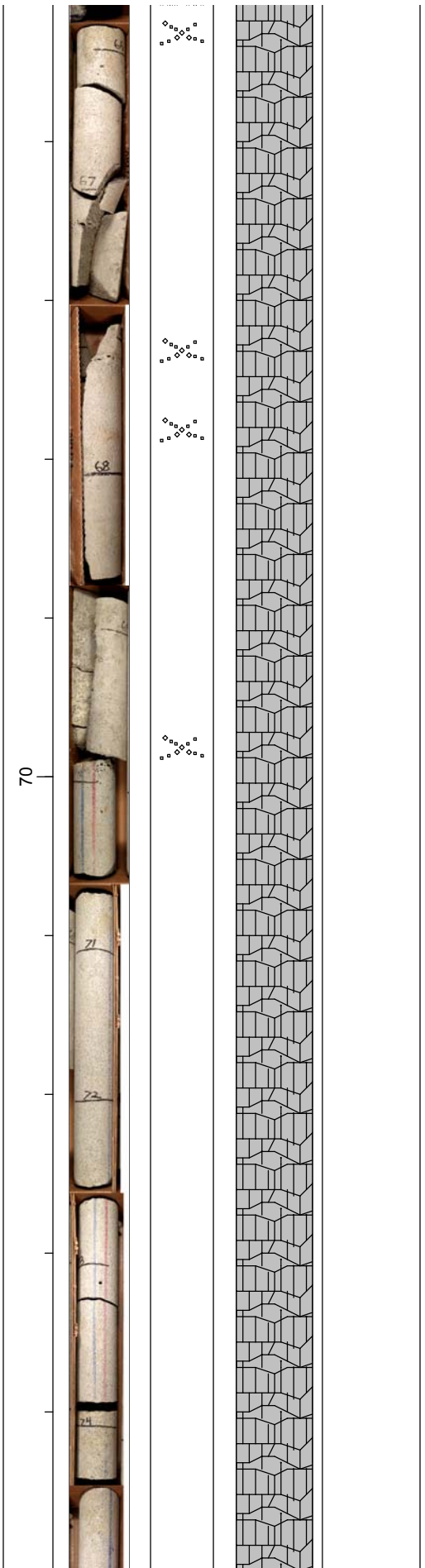


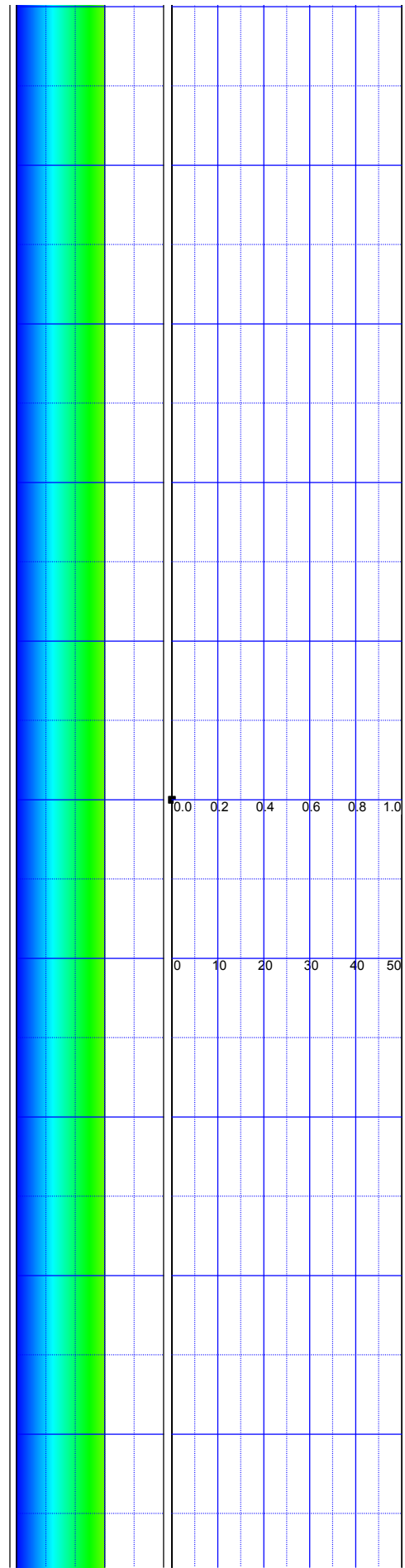
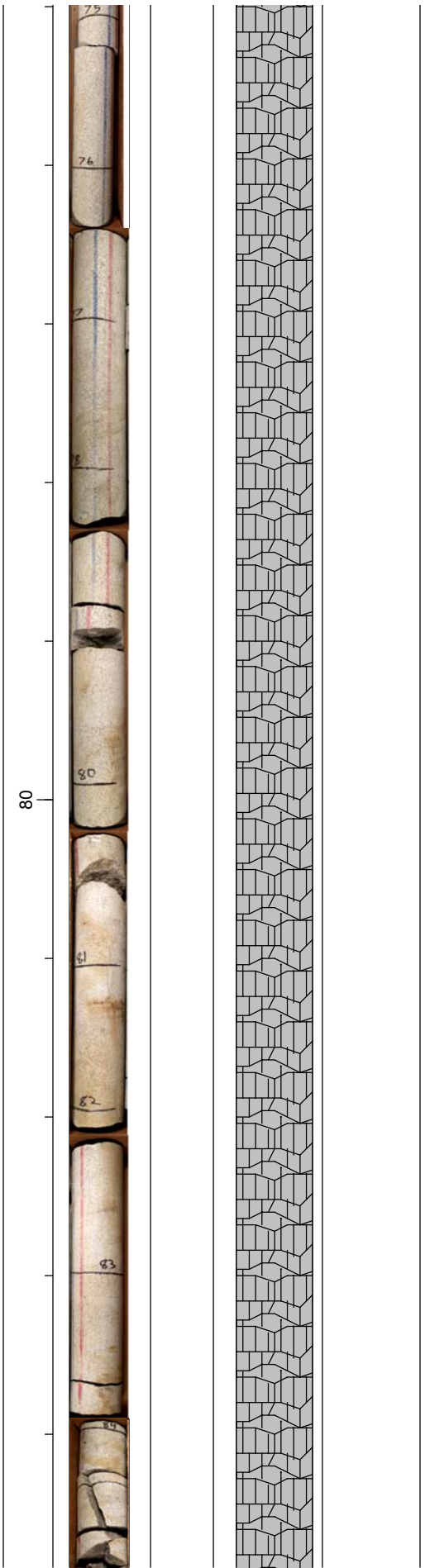
XENOLITHS/AUTOLITHS: None observed
 ALTERATION: 10 YR 7/4 grayish orange non-calcareous
 clay in fractures, grading to 5YR 5/6 light brown, throughout interval.
 In the basalt itself, olivine phenocrysts display rusty alteration, about 40% of olivine is affected, with approximately 15% of olivine phenocrysts completely replaced.

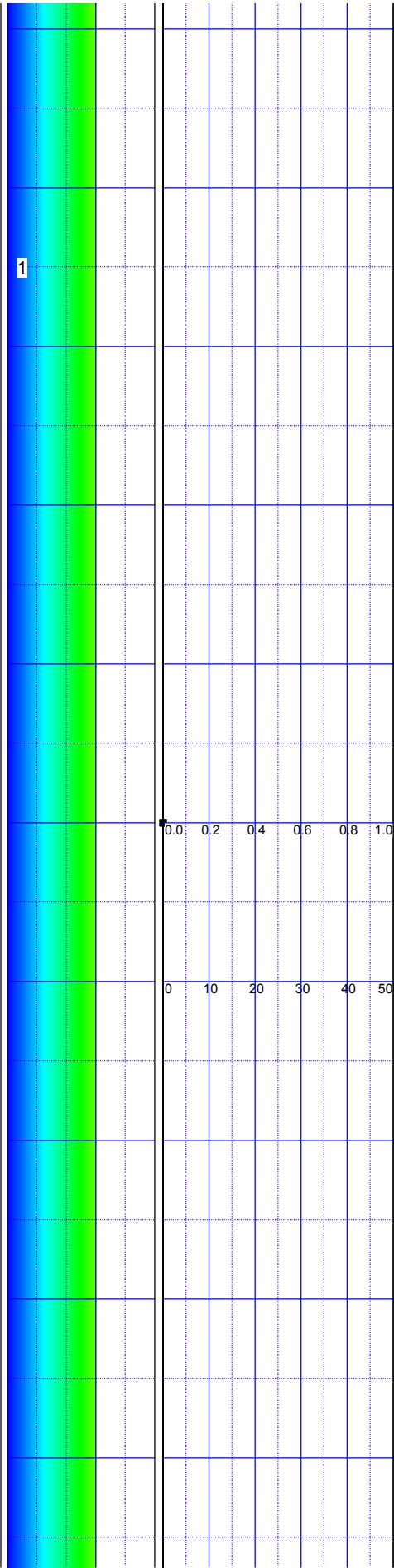
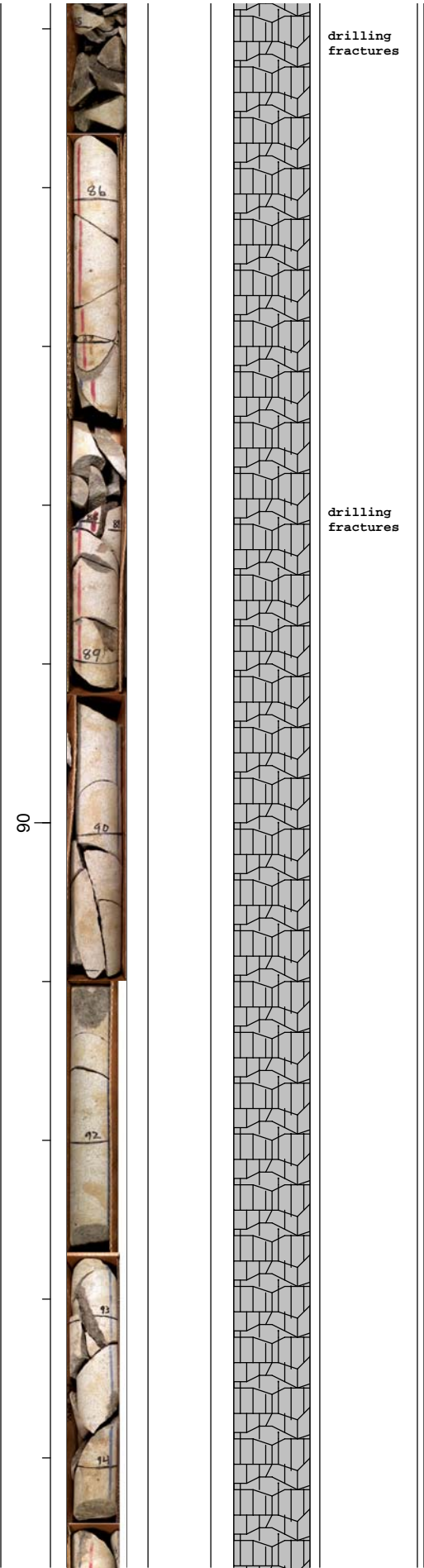


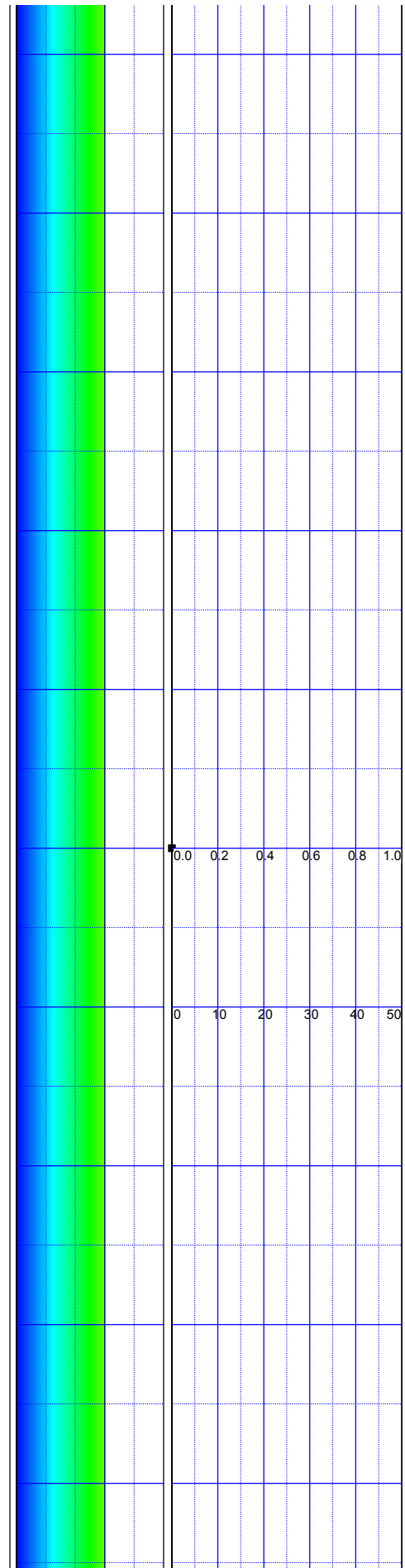
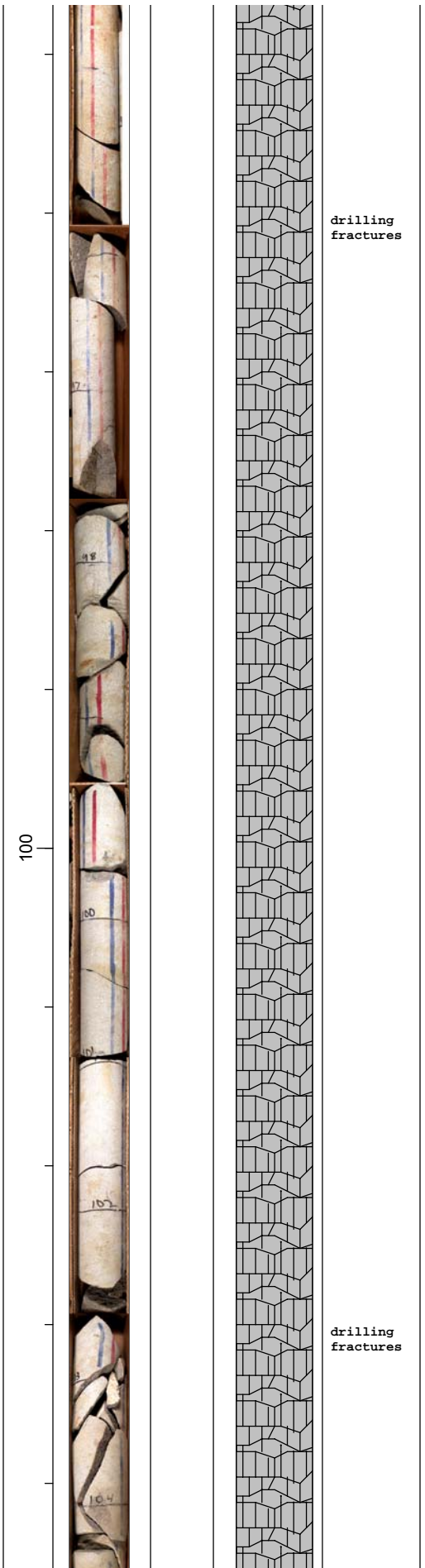


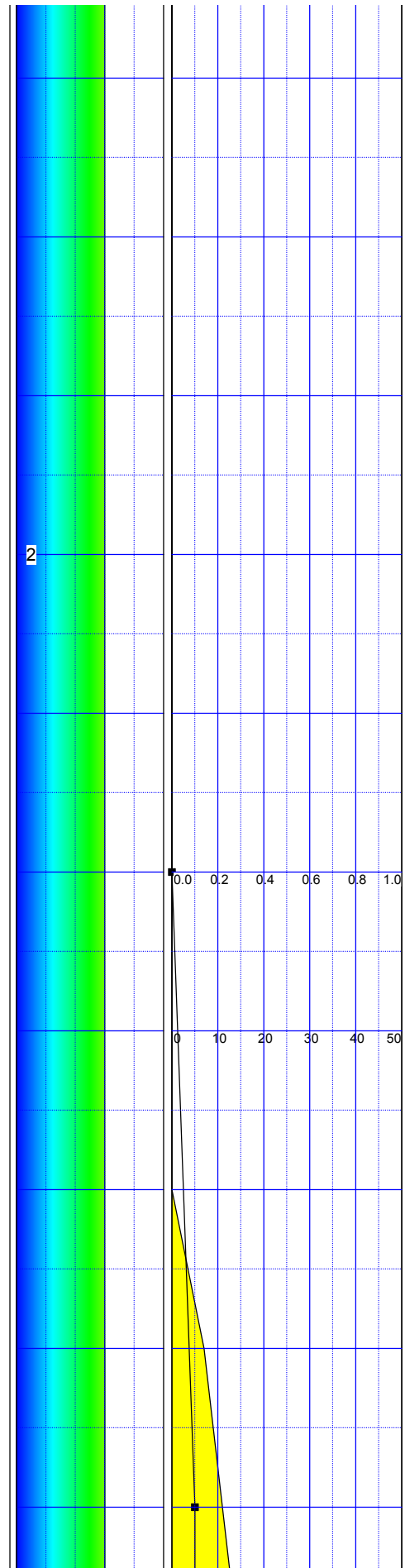
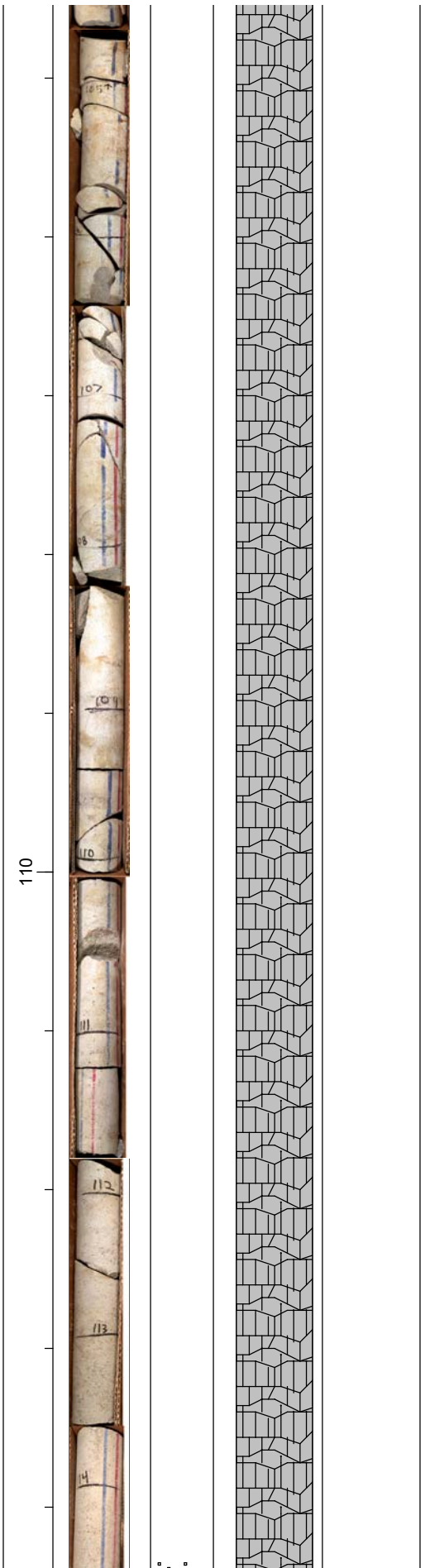


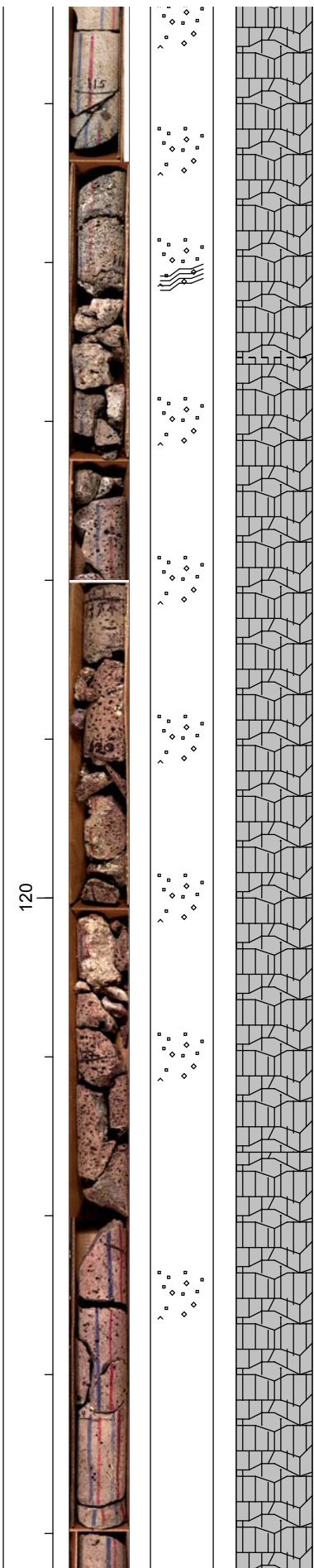






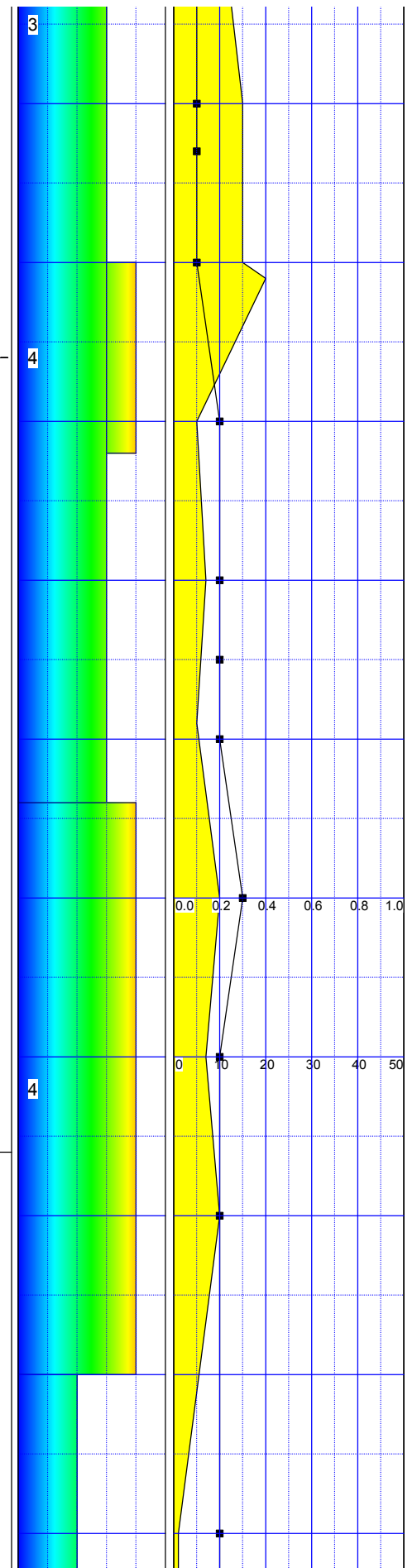


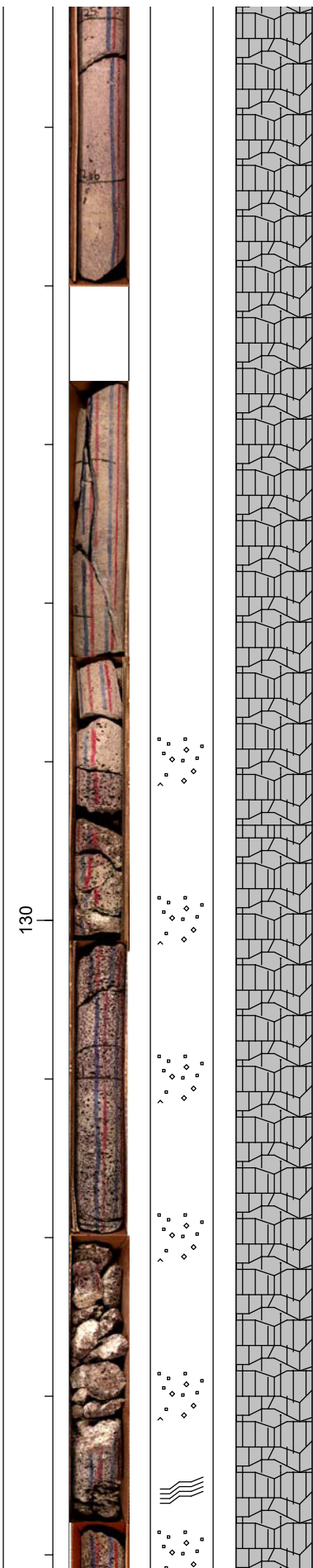




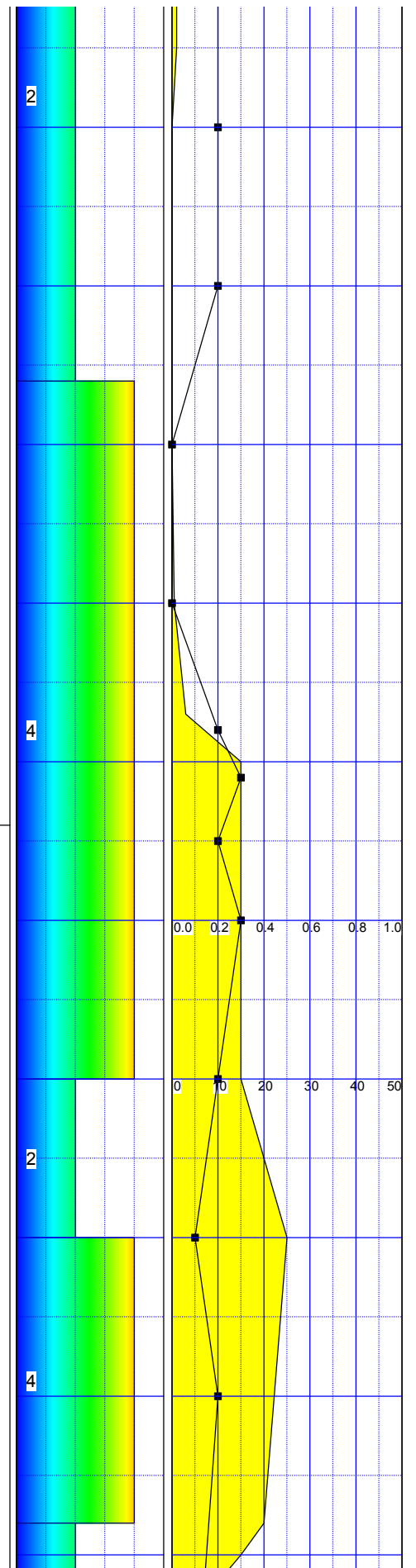
BASALT:
 COLOR: 5R 4/2 grayish red
 TEXTURE: Aphanitic, vesicular basalt.,
 flow/mold structures at 119.4, 120, and
 121.6 feet
 COMPOSITION: Sub-millimeter white euhedral
 plagioclase in grayish red groundmass
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: 10 YR 8/2 pale orange clay on
 fracture surfaces

BASALT:
 COLOR: 5R 4/2 grayish red
 TEXTURE: Aphanitic, vesicular basalt.
 vesicular from top of interval to 124 ft,
 diktytaxitic with sparse vesicles to 128 ft,
 vesicles slightly increase to base,
 flow/mold structures at top of interval
 COMPOSITION: Sub-millimeter white euhedral
 plagioclase in grayish red groundmass
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: 10 YR 8/2 pale orange clay on
 fracture surfaces





BASALT:
 COLOR: 5RP 4/2 Grayish red purple
 TEXTURE: Phaneritic, vesicular to 134.5 ft,
 diktytaxitic to 135 ft, vesicular to base of
 interval
 COMPOSITION: 30 % 1-3 millimeter white
 euhedral plagioclase in grayish red
 groundmass, plagioclase phenocrysts increase
 in size with depth, stellate clusters from
 133.6 ft to base, flow/mold structures at
 132 ft, 134 ft
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Non-calcareous 10 YR 8/2 pale
 orange clay on fracture surfaces



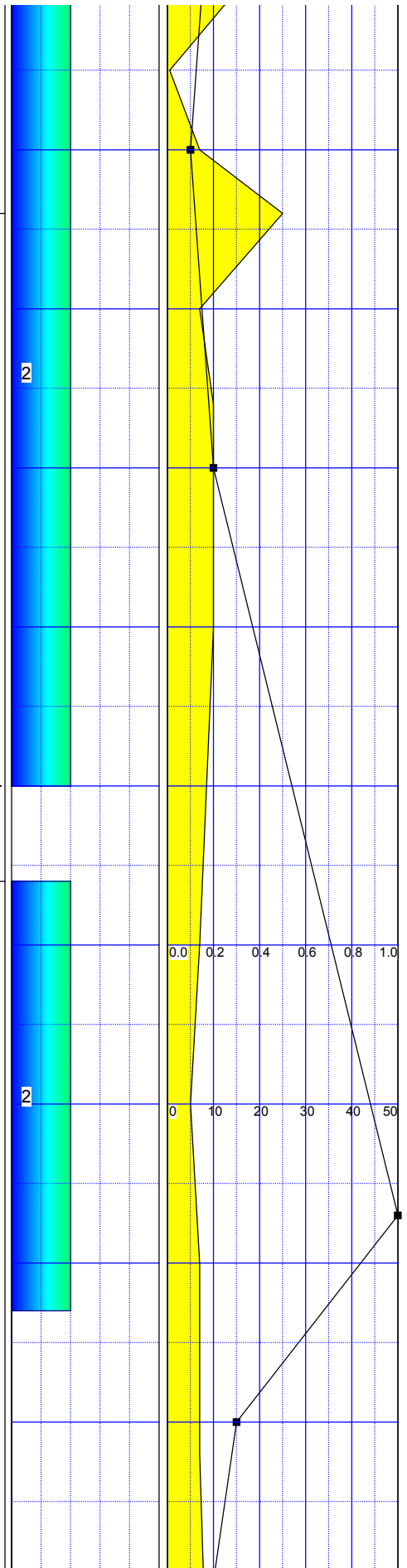
140

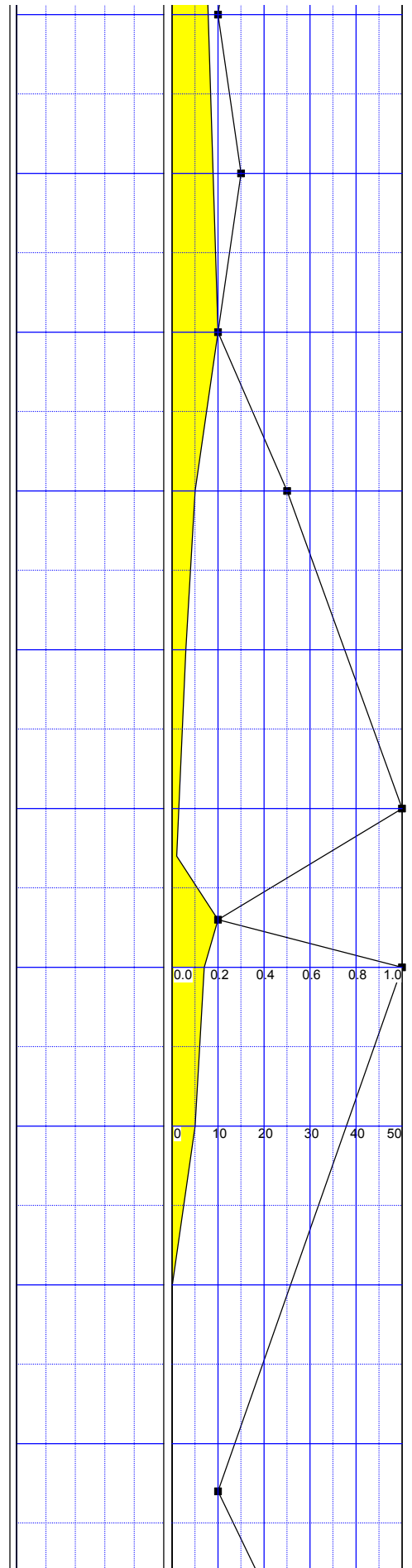
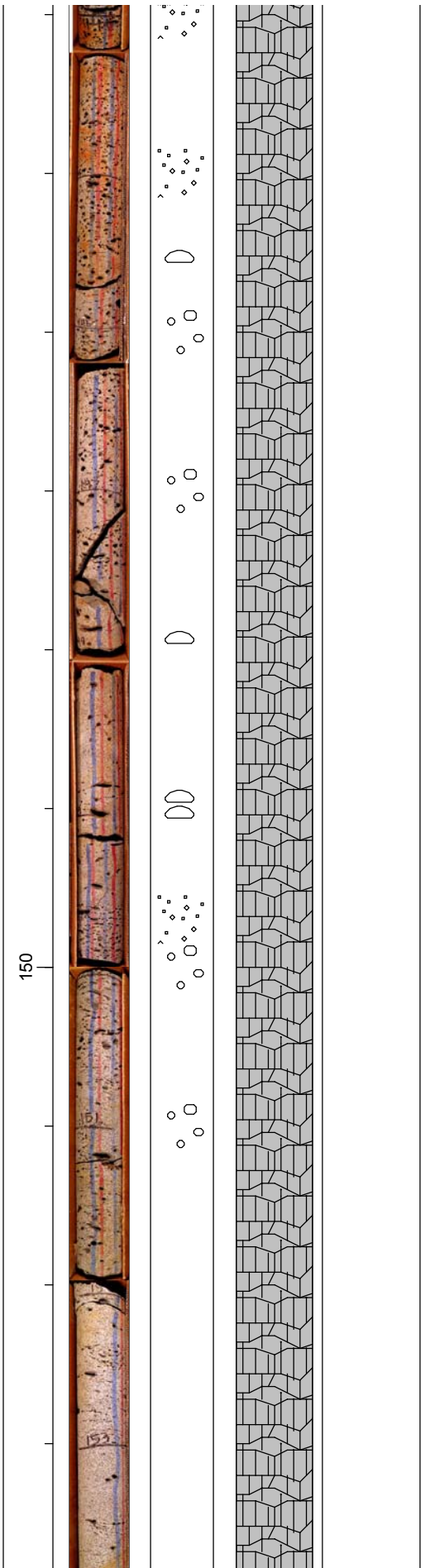


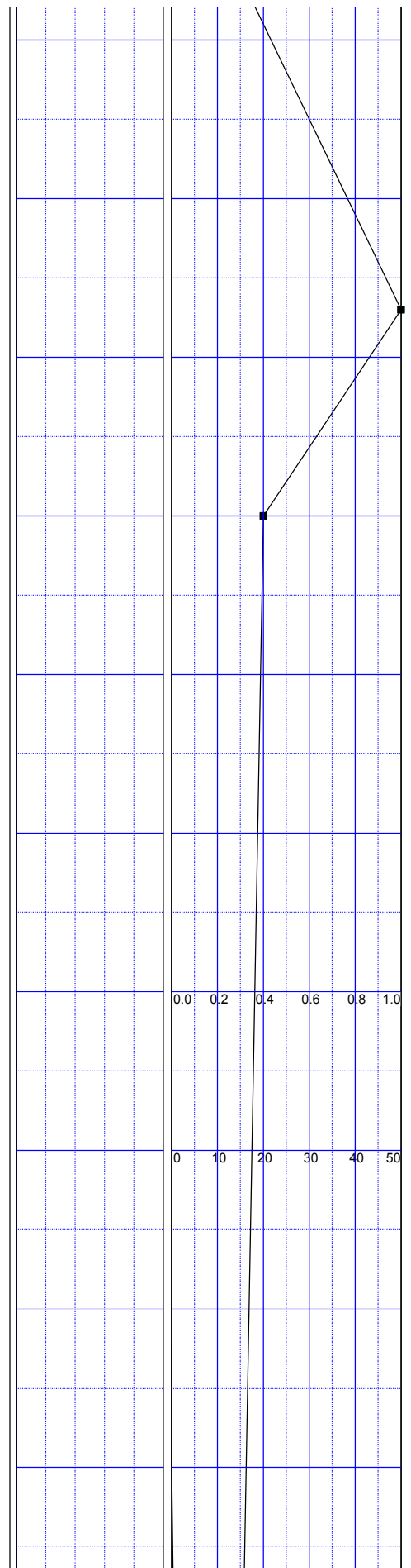
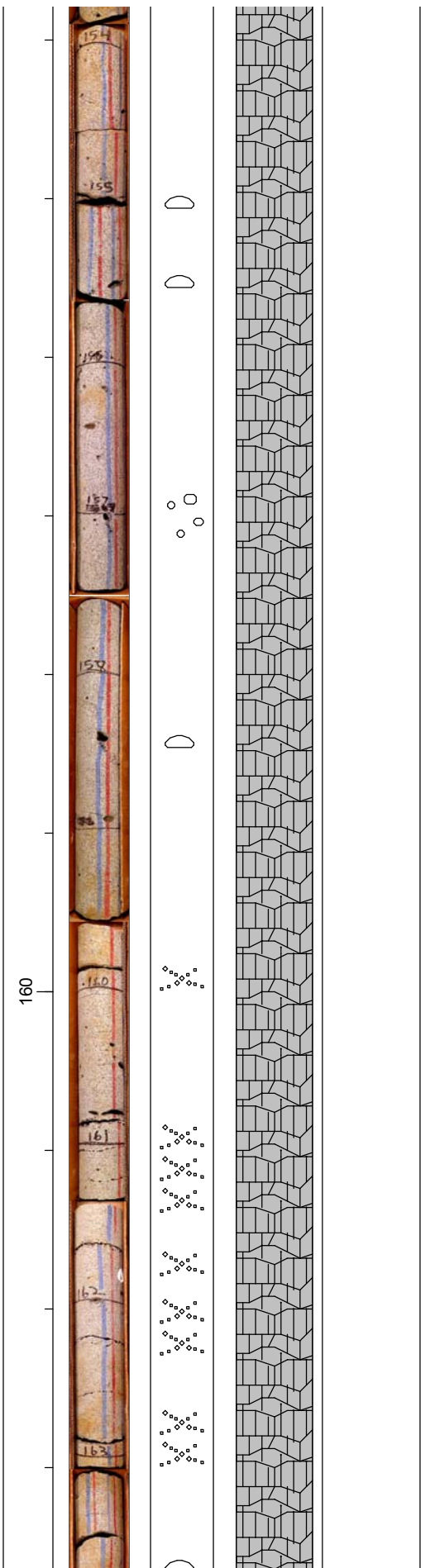
BASALT:
 COLOR: 5R 4/2 grayish red
 TEXTURE: Aphanitic, vesicular basalt,
 flow/mold structure at base
 COMPOSITION: Sub-millimeter white euhedral
 plagioclase in grayish red groundmass
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: 10 YR 8/2 pale orange clay on
 fracture surfaces

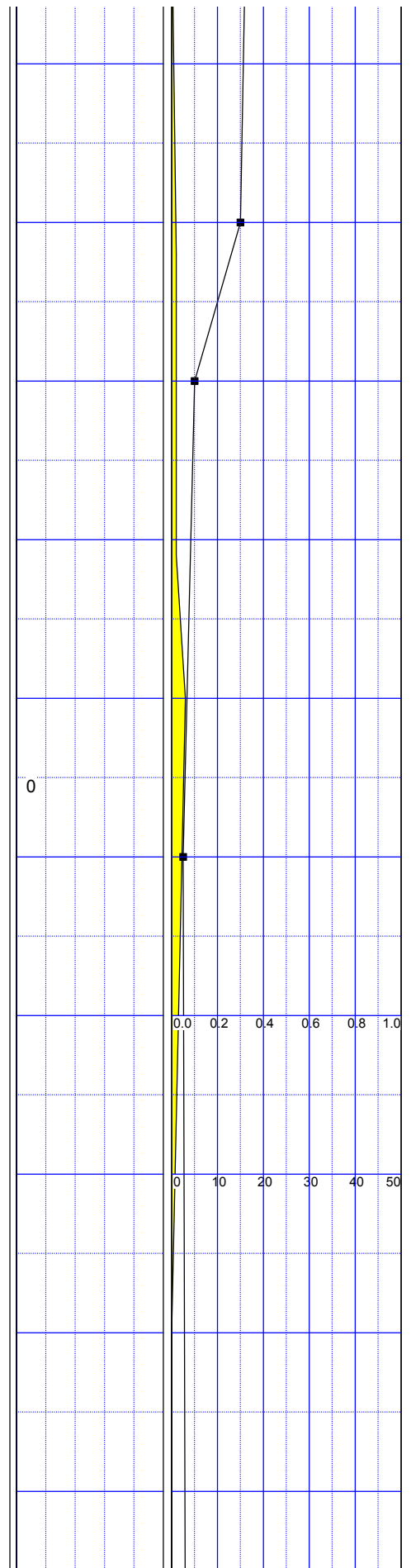
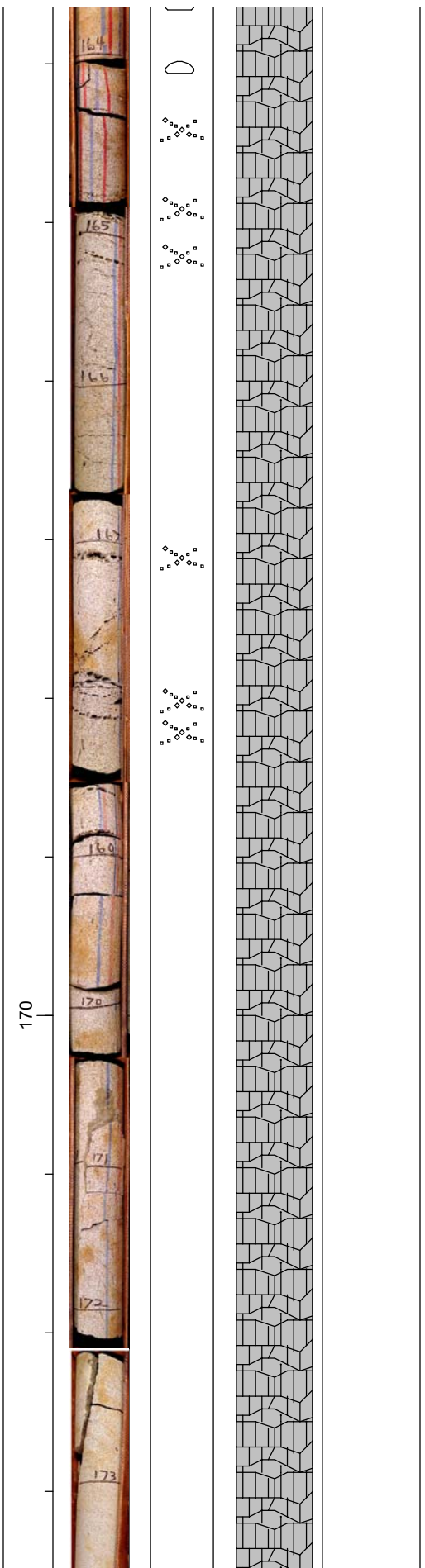
MISSING INTERVAL: Missing, no data

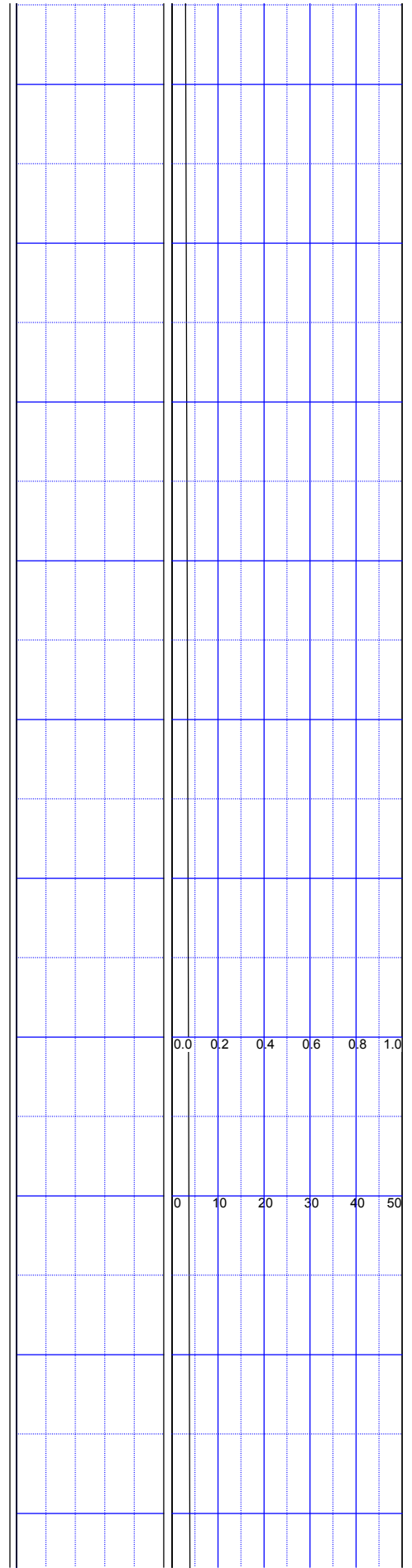
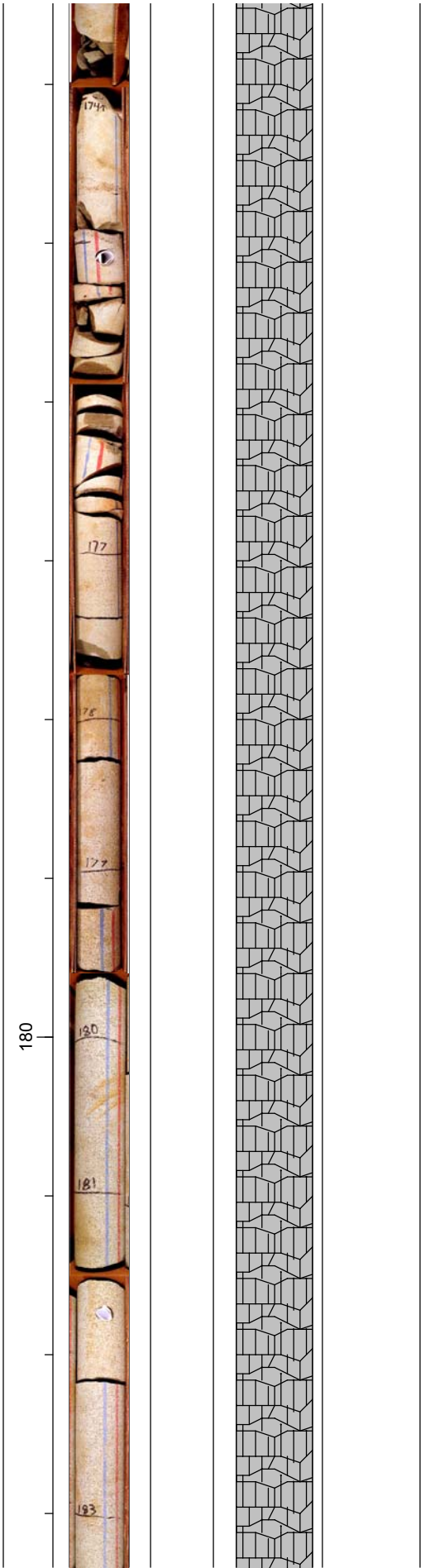
BASALT:
 COLOR: N4 medium dark grey to N3 dark grey
 TEXTURE: Aphanitic, vesicular basalt,
 flow/mold structures at top and base.
 Vesicular from top to 154 ft, vesicles
 increase in size and decrease in number to
 154 ft, diktytaxitic from 153 to 195 ft,
 vesicular to base
 COMPOSITION: 25% 2-4 mm euhedral plagioclase
 phenocrysts, and 10% 1-2 mm grey groundmass
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Reddish oxidation on surfaces
 and inside vesicles at top and base of
 interval, Non-calcareous 10 YR 8/2 pale
 orange clay on fracture surfaces

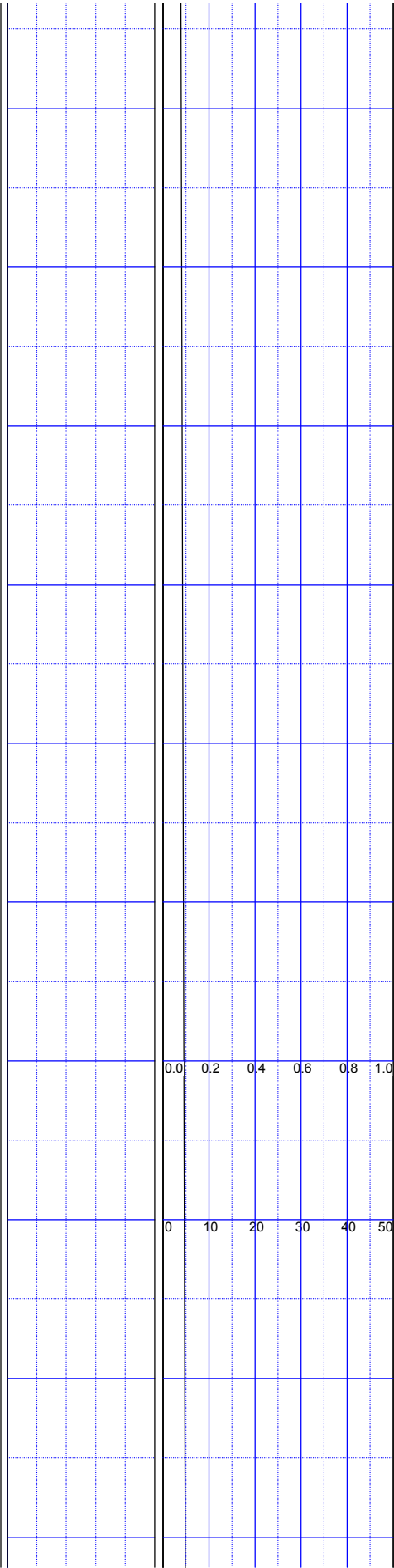
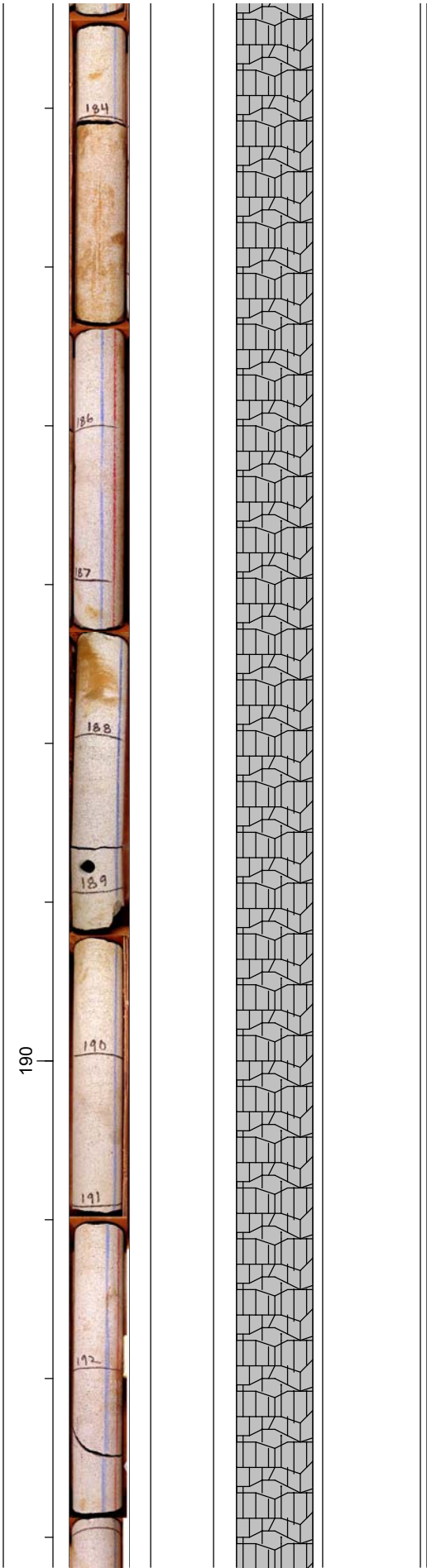


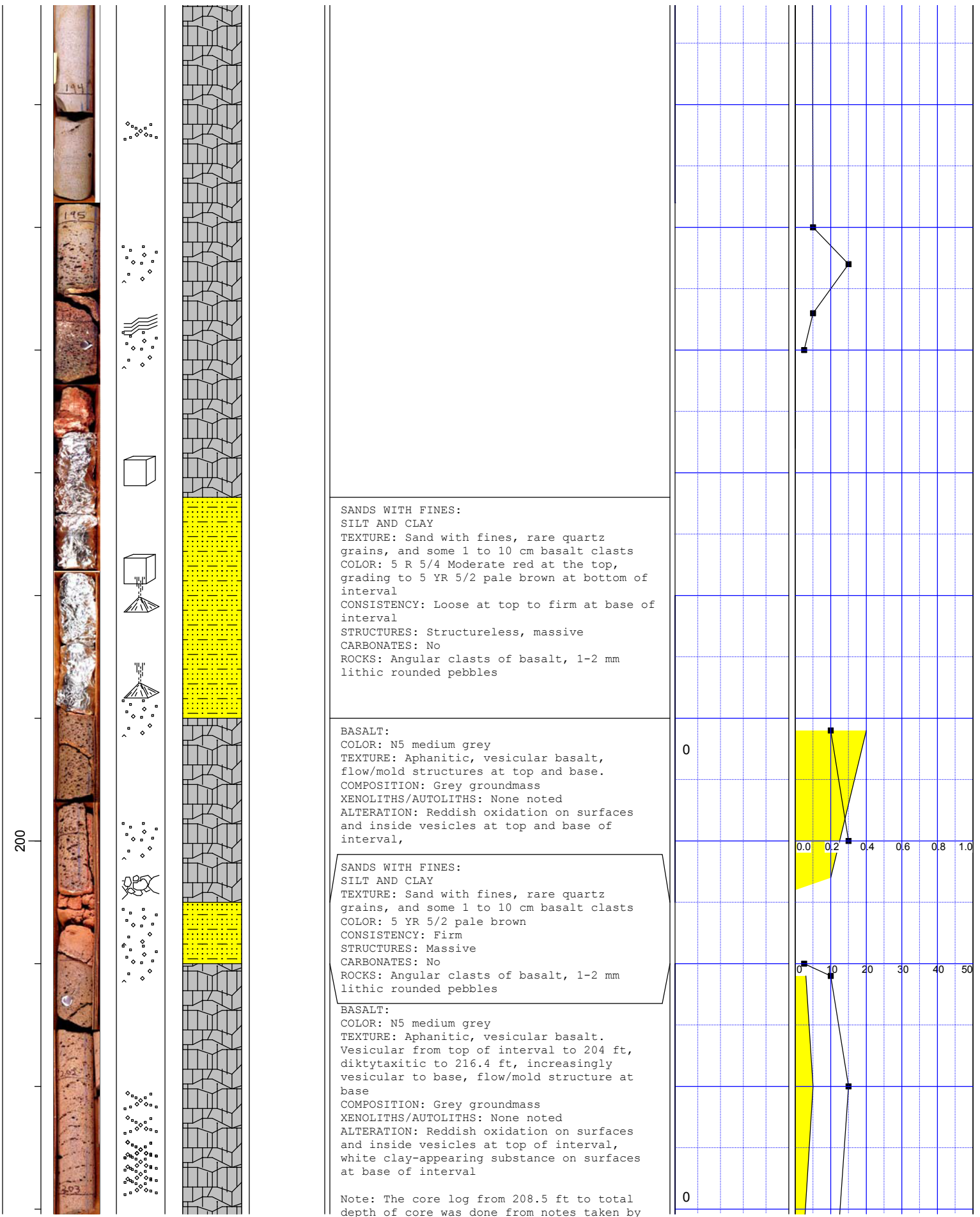


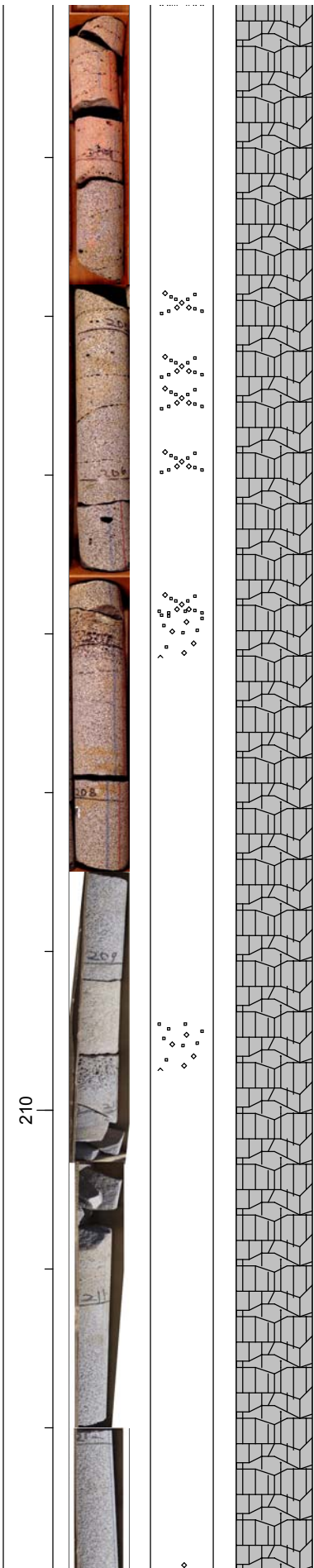




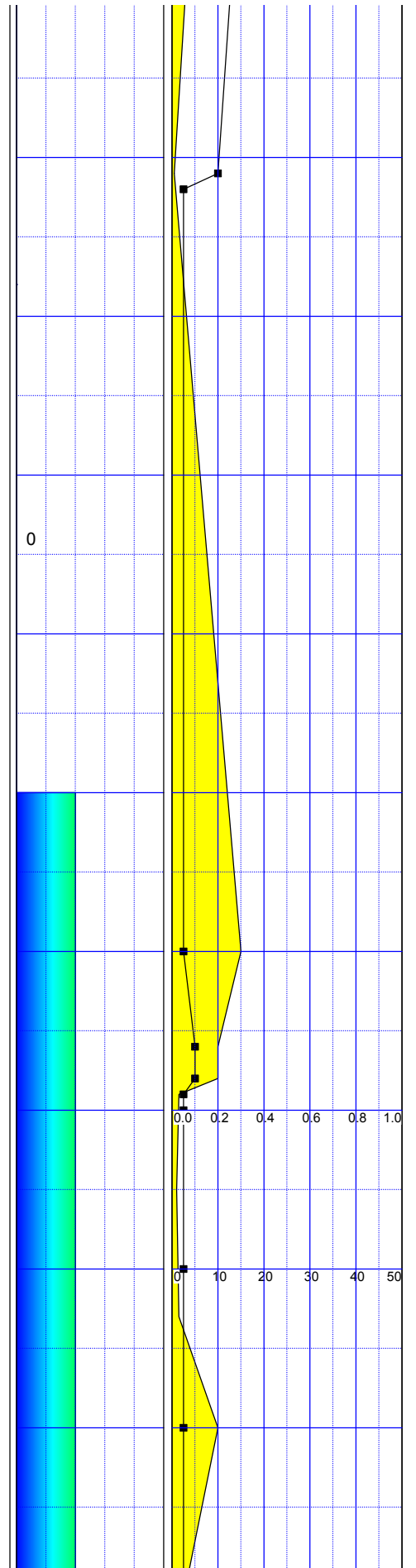


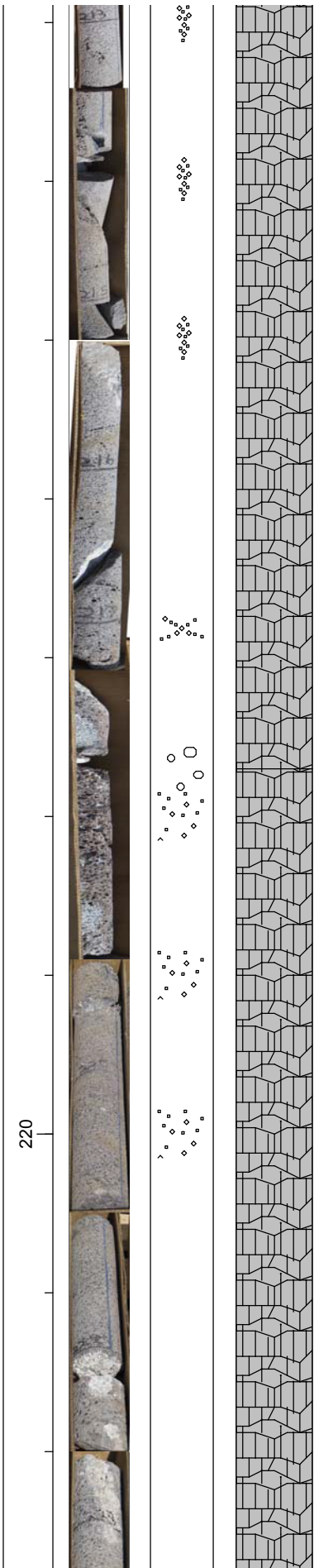




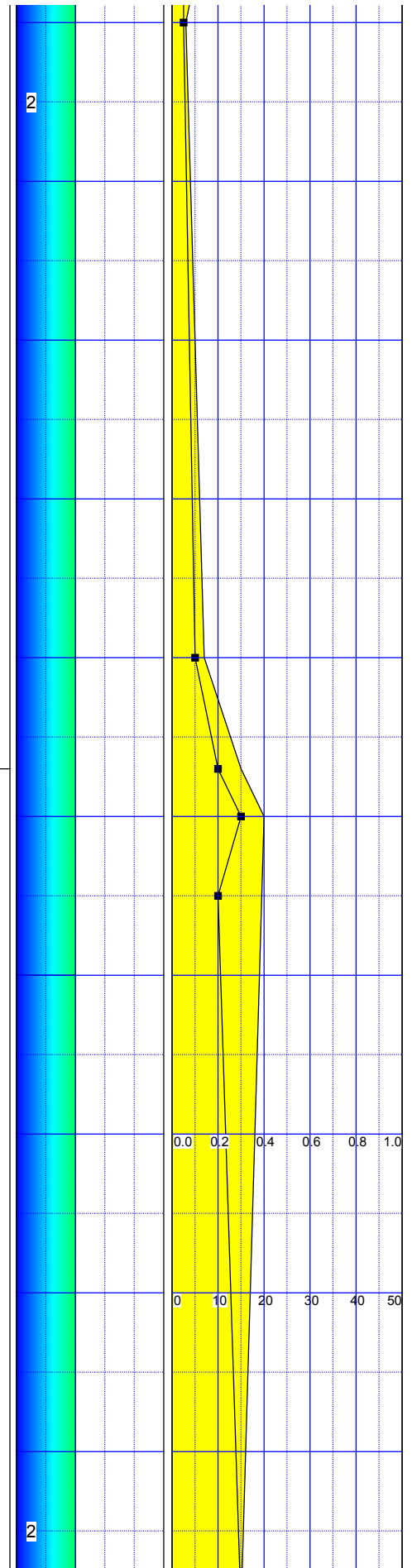


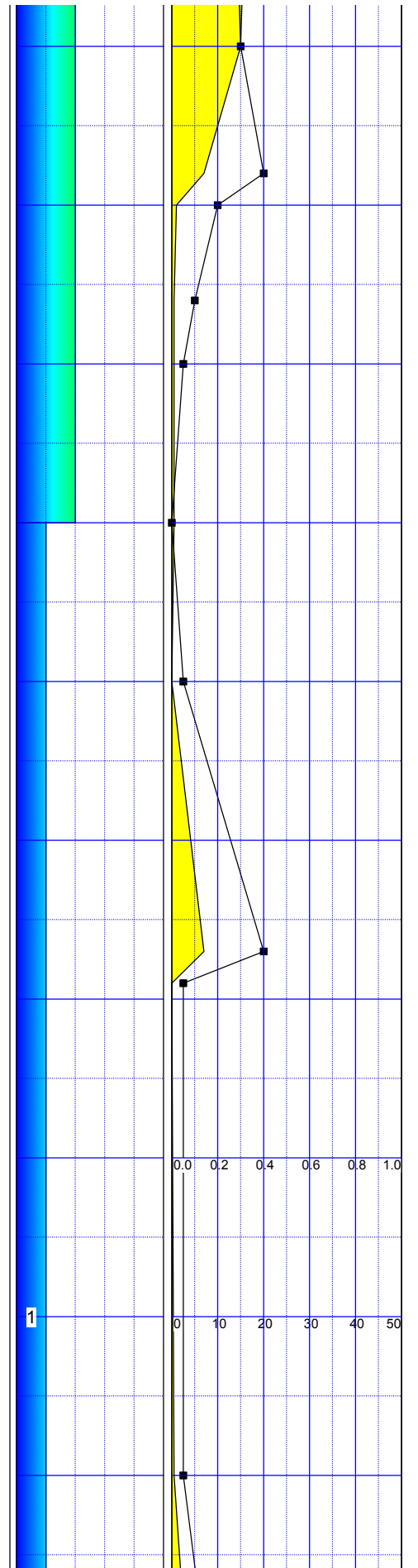
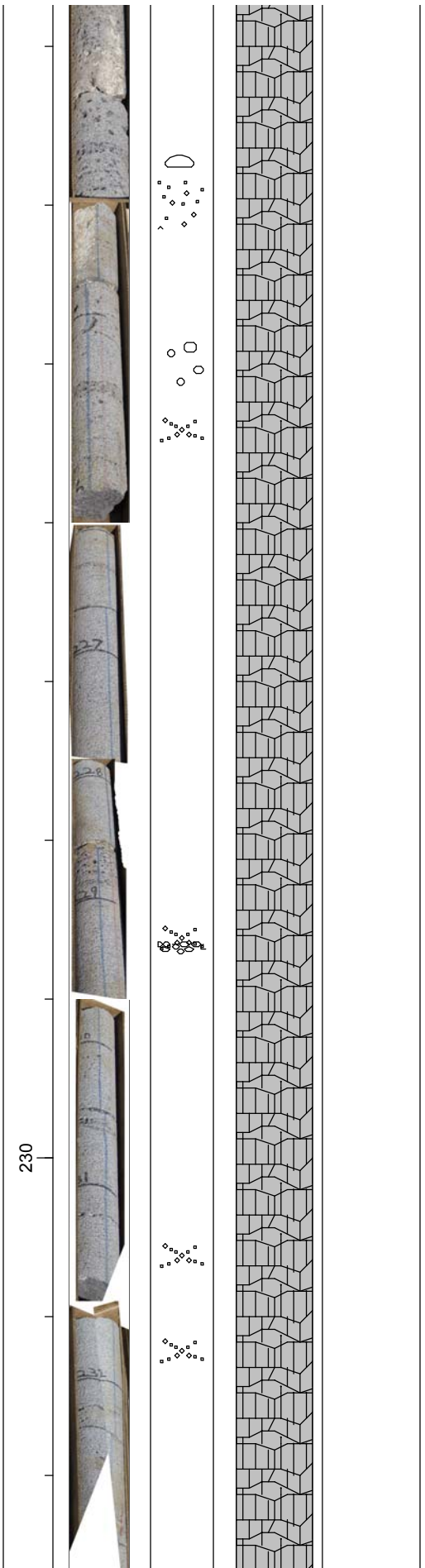
W. Jolley, CWI geologist, and photographs.

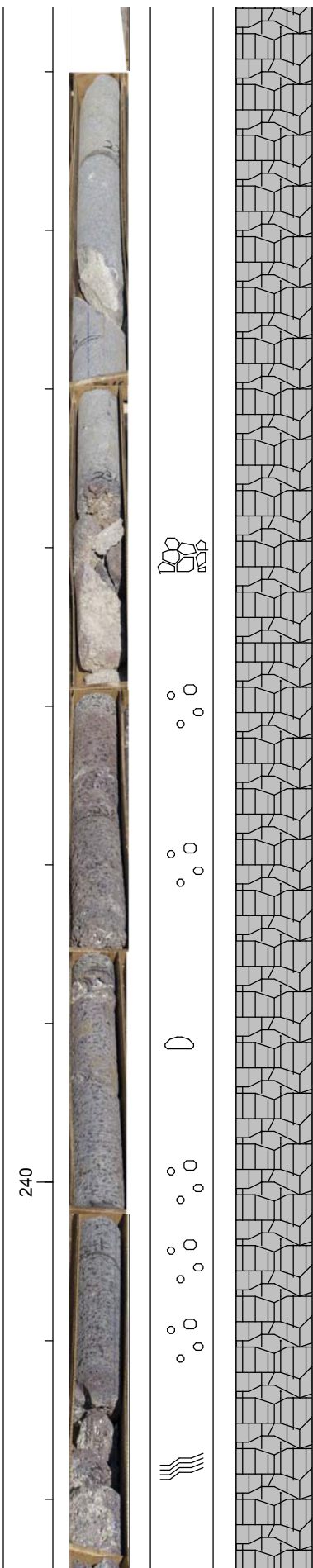




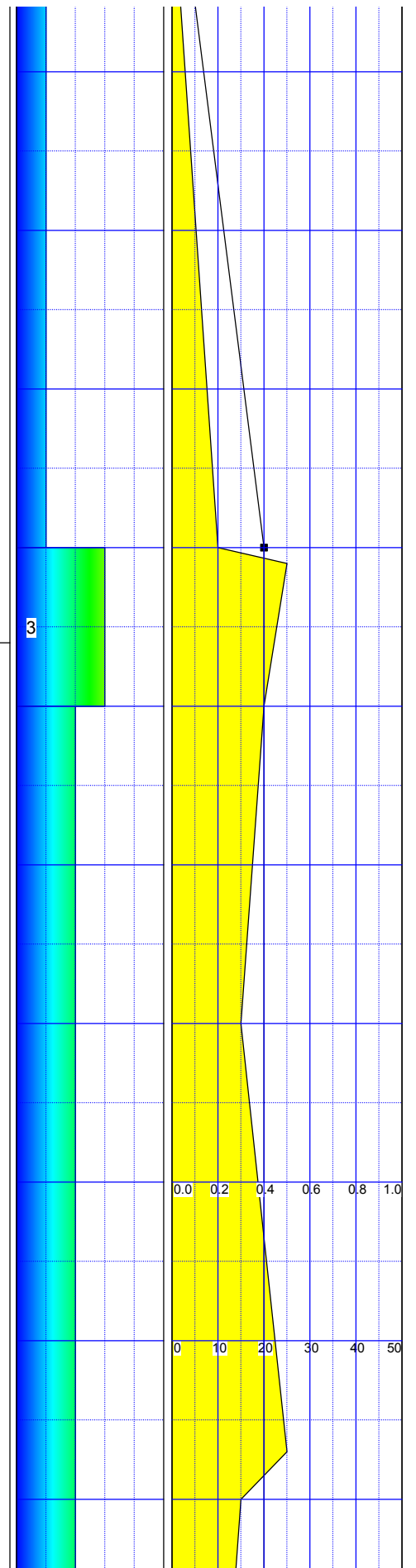
BASALT:
 COLOR: Medium grey
 TEXTURE: Vesicular basalt, vesicular from top of interval to 224.5 ft, diktytaxitic to 235.8 ft, vesicular from 235.8 ft to base of interval. Spatter, flow and mold at base.
 COMPOSITION: Grey groundmass
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Red to orange oxidation on surfaces and inside vesicles at top and base of interval, white to light tan material in fractures at base.

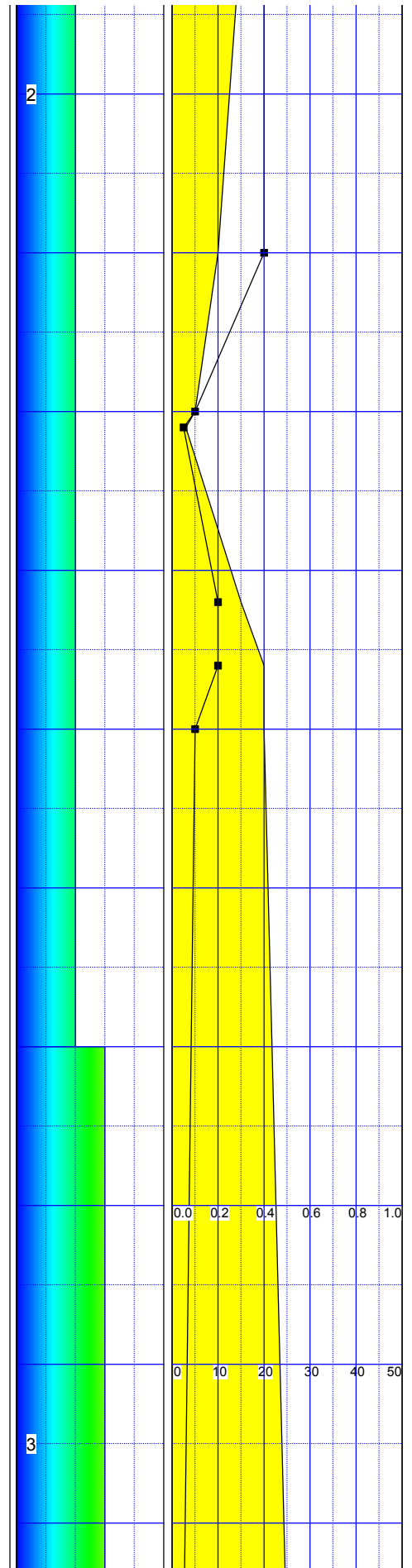
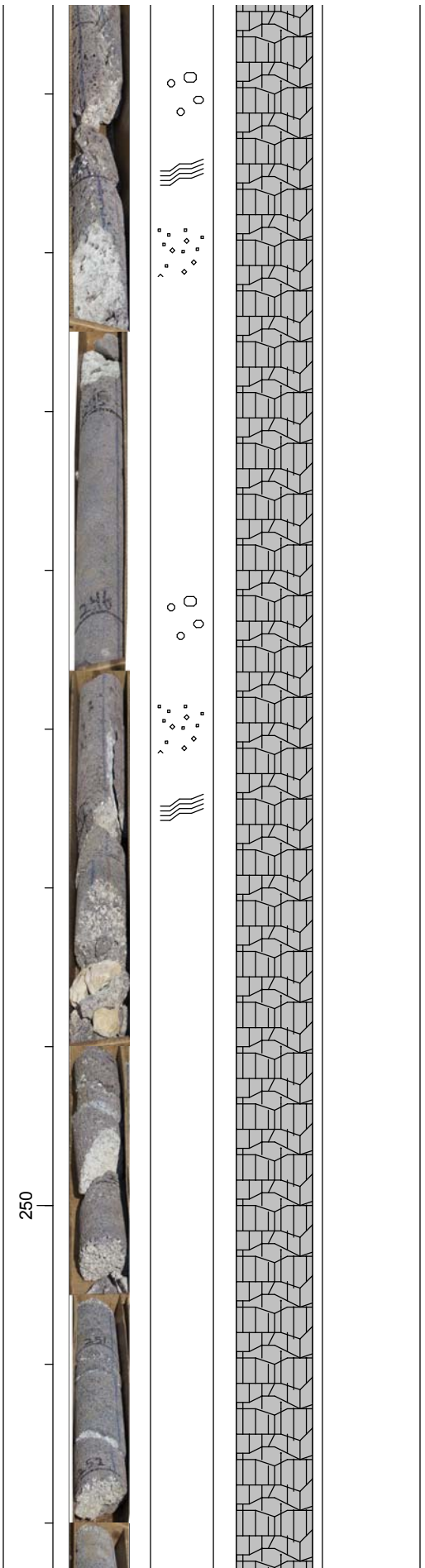


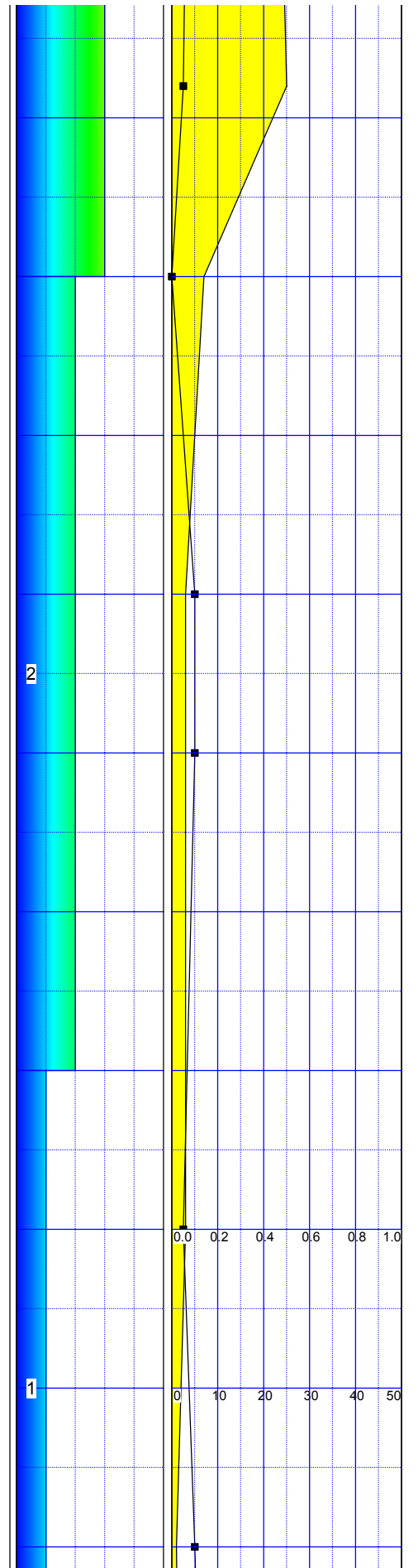
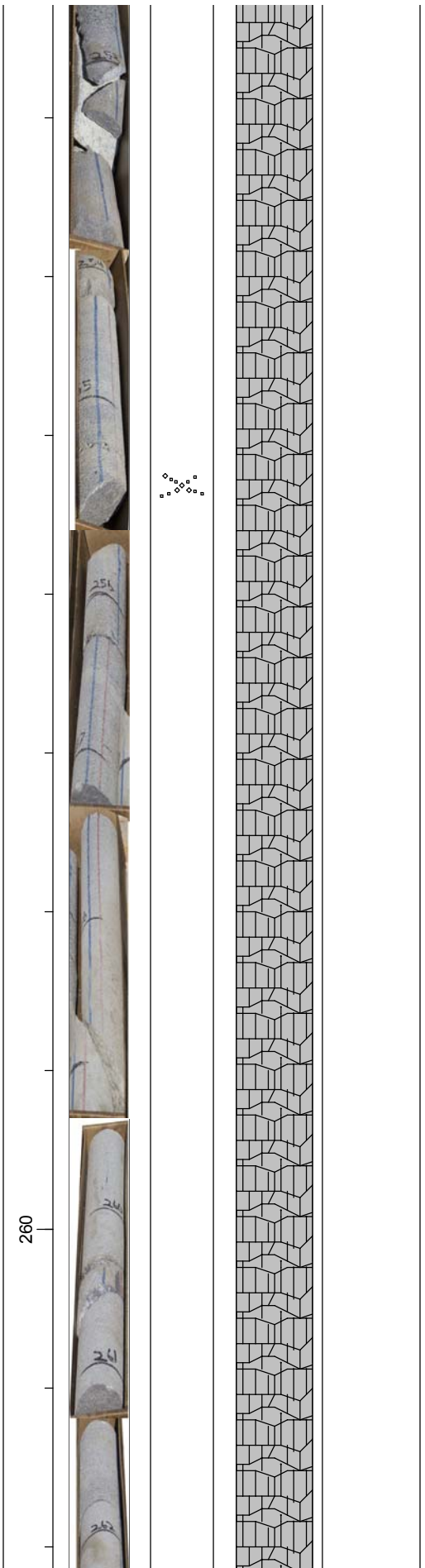


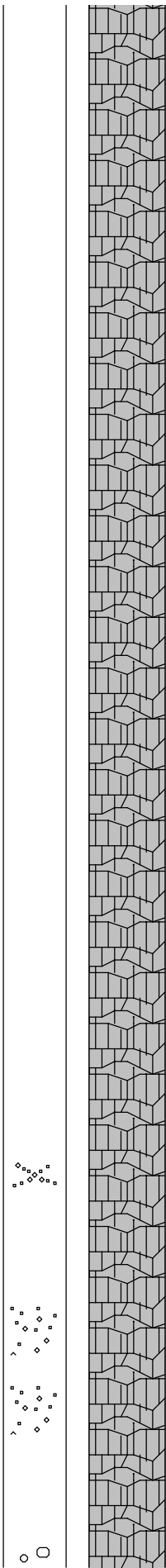


BASALT:
 COLOR: Medium grey
 TEXTURE: Aphanitic, vesicular
 basalt, vesicular to 245 ft, diktytaxitic to
 246.2 ft, increasingly vesicular from 246
 to 253 ft, then diktytaxitic to 258 ft,
 massive from 258 to 261 ft, diktytaxitic to
 269 ft, then increasingly vesicular to base
 of interval. Flow/mold and spatter at top,
 247 ft, and base of interval.
 COMPOSITION: Grey groundmass
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Whitish amorphous substance on
 fracture surfaces and inside some vesicles
 throughout interval, white to tan massive
 substance at base, Red to orange oxidation
 at top, base, and on flow structures

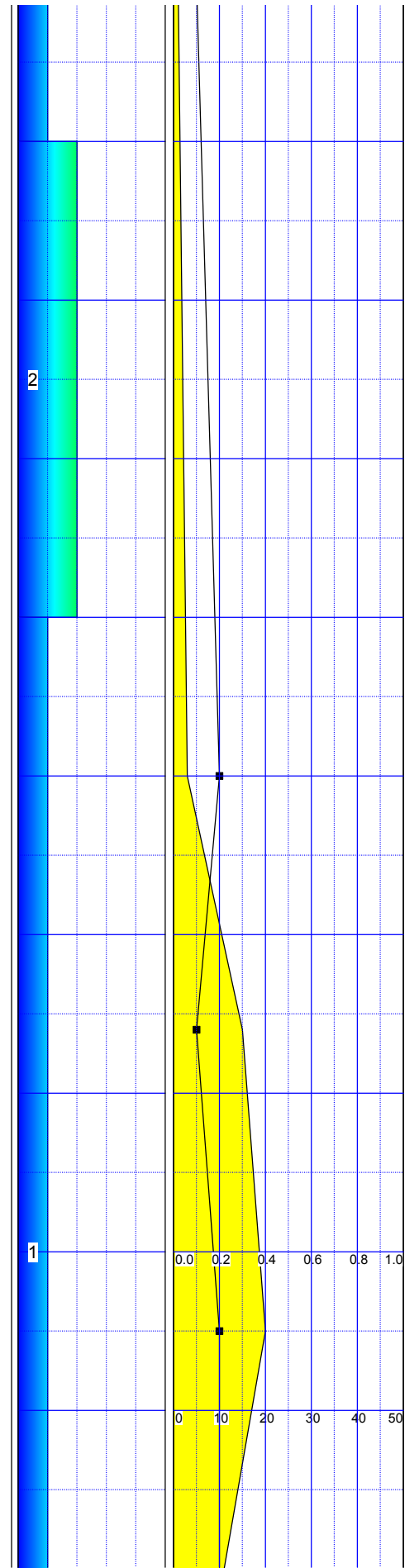


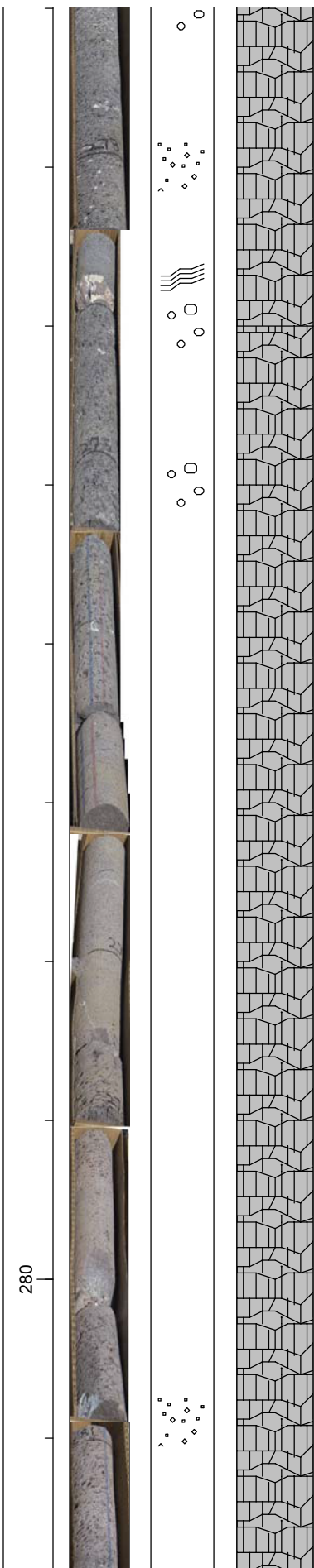




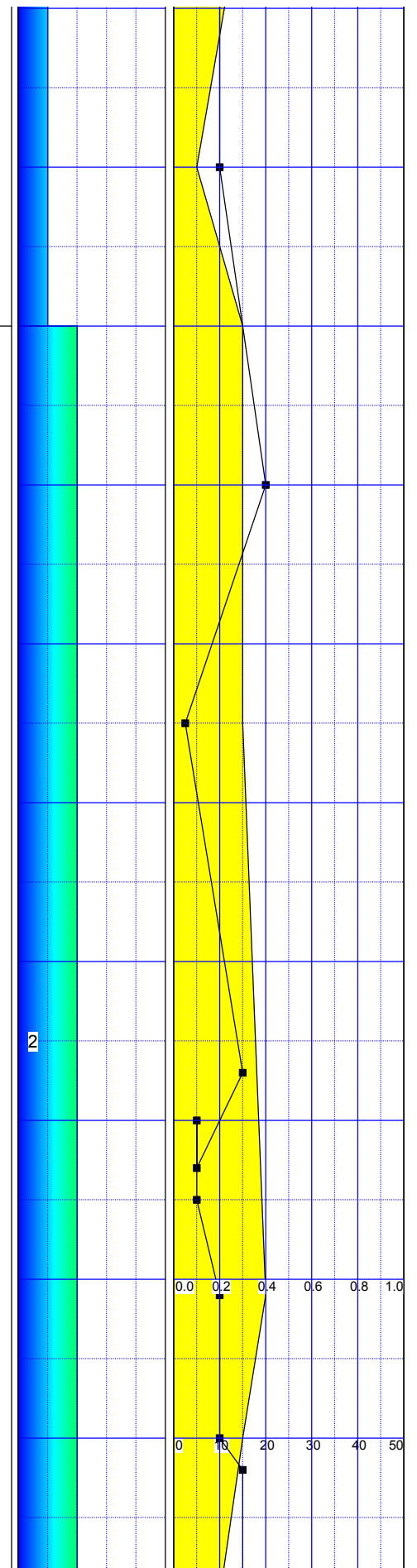


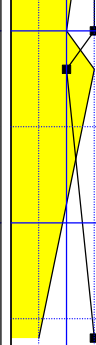
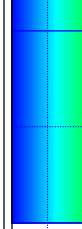
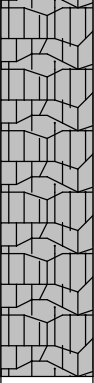
270





BASALT:
 COLOR: Medium grey
 TEXTURE: Aphanitic, vesicular
 basalt, vesicular to 276.5 ft, diktytaxitic
 to 278.6 ft, vesicular to 279.4 ft,
 diktytaxitic to 280.3 ft, vesicular to base
 of interval, which did not reach the base of
 this flow
 COMPOSITION: Grey groundmass
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Whitish amorphous substance on
 fracture surfaces and inside some vesicles
 throughout interval, Red to orange oxidation
 at top of interval







INL Lithologic Core Storage Library

Idaho National Laboratory
Building CFA-663

Operated by the U.S. Geological Survey
for the U.S. Department of Energy

Contact:

Mary Hodges
USGS INL Project Office
1955 N. Fremont Ave.
Idaho Falls, ID 83415

Official Name: TAN 2272

Logged By: M. K. V. Hodges

Selected Aliases: No aliases

USGS Site ID:435053112423001

Contractor Well ID: NA

Drilling Agency: USGS for CWI

Year Drilled: 2015

Names of Drillers: M. Gilbert, C. J. Jones

Well Status: Complete

Total Depth of Hole (ft): 289

Total Core Recovered (ft): 79

Beginning Depth (ft): 210.7

Ending Depth (ft): 282.8

☒ Continuous Recovery

☐ Selected Intervals Recovered

Total # of Core Boxes: 20

County & State: Butte County, ID

Quadrangle Name: Circular Butte

Lat / Lng: N 43° 50' 52.91" W 112° 42' 30.28"

Tns / Rng / Sec: T6N / R31E / S13

UTM Coordinates: Zone 12 N 362611.797, 4856413.705

Surface Elevation (ft): 4781.25

Notes: Well was rotary drilled to approximate water level, then cored to total depth, core log was done from photos and site geologist notes.

Core Geological Profile

Lithologic Patterns



Basalts



Rhyolites



Sedimentary Rock

Soil Patterns

(See Unified Soil Classification System.)



Gravels - clean



Gravels with fines



Sands - clean



Sands with fines



Silt and clays

Intervals in Absentia



Surficial material



Natural void



Interval not cored



Missing interval

Igneous and Sedimentary Structure Symbols



Vesicle zone



Large vesicles



Vesicle planes



Mega vesicles



Vesicle Cylinders



Pipe vesicles



Pillows



Vesicle Sheet



Flow/Mold



Spatter feature



Ripple marks



Mud cracks



Imbricated bedding



Graded bedding



Cross bedding

Soil Structure Symbols



Structureless - Single Grained



Structureless - Massive



Platy



Granular



Blocky



Prismatic



Columnar

Depth (feet & tenths)

Core Photo

Igneous, Soil and
Sed Structures

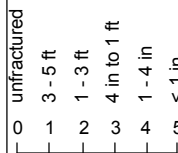
Lithology

Description

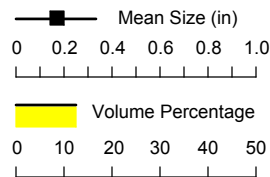
Miscellaneous Text

Lithologic Description

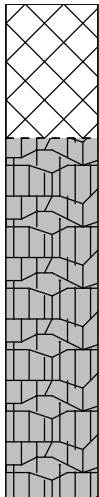
Fracture
Frequency



Vesicle Characteristics

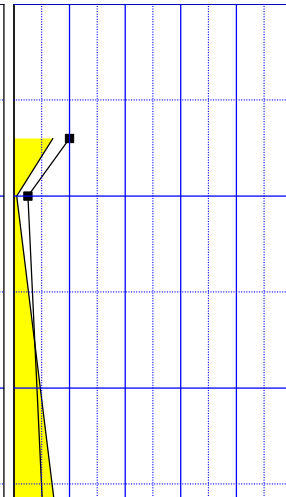
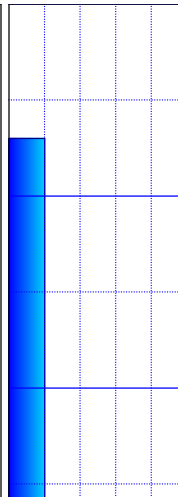


210



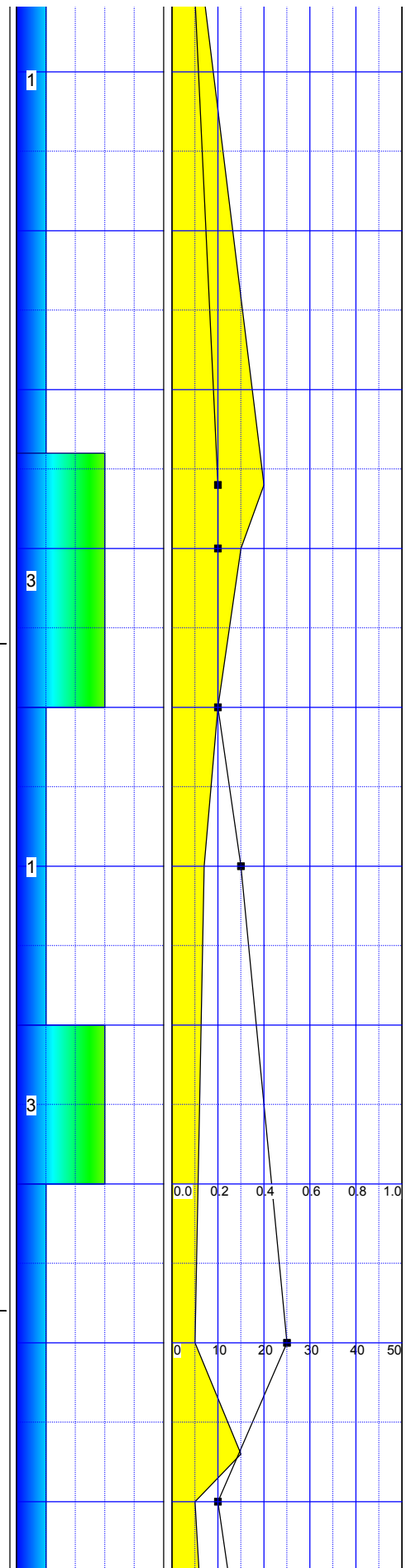
INTERVAL NOT CORED: Uncored sediment and basalt

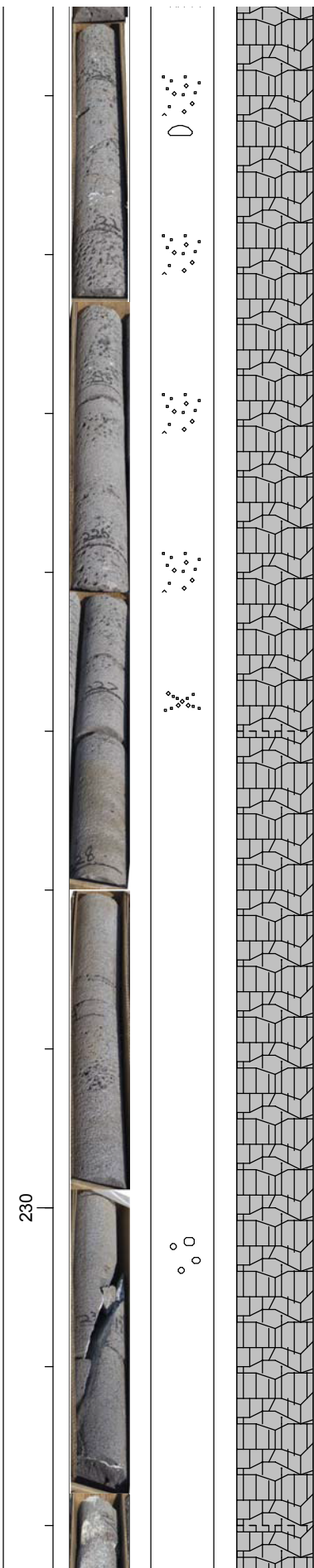
BASALT: BASALT:
COLOR: Light gray
TEXTURE: Aphanitic, diktytaxitic, vesicular.
Vesicles 0.2-0.3 in, abundance is estimated at 5%
COMPOSITION: (description from W. Jolley, CWI) plagioclase dominant, grey groundmass
XENOLITHS/AUTOLITHS: None noted
ALTERATION: At 216 ft, fractures and vesicles filled with whitish clayey material



COLOR: Reddish oxidation from 217.7 to 220 ft, where it changes to light gray.
TEXTURE: Diktytaxitic, aphanitic basalt, vesicular from top of interval, vesicles average 0.25 in., and approximately 15 % abundance; vesicles increase in size and decrease in abundance to 226 ft; diktytaxitic to 235.8 ft, fractures at 217.7, 217.9, 221.3, 222-224 ft, 228.6 ft, 233 ft.
COMPOSITION: Plagioclase dominated
XENOLITHS/AUTOLITHS: None noted
ALTERATION: Reddish oxidation at the top and base of interval, pale yellowish to white amorphous material fills fractures

COLOR: Reddish oxidation from 217.7 to 220 ft, where color changes to light gray.
TEXTURE: Diktytaxitic, aphanitic basalt, vesicular from top of interval, vesicles average 0.25 in., and approximately 15 % abundance; vesicles increase in size and decrease in abundance to 226 ft; diktytaxitic to 235.8 ft Fractures at 217.7, 217.9, 221.3, 222-224 ft, 228.6 ft, 233 ft.,
COMPOSITION: Plagioclase dominated
XENOLITHS/AUTOLITHS: None noted
ALTERATION: Reddish oxidation at the top and base of interval, pale yellowish to white

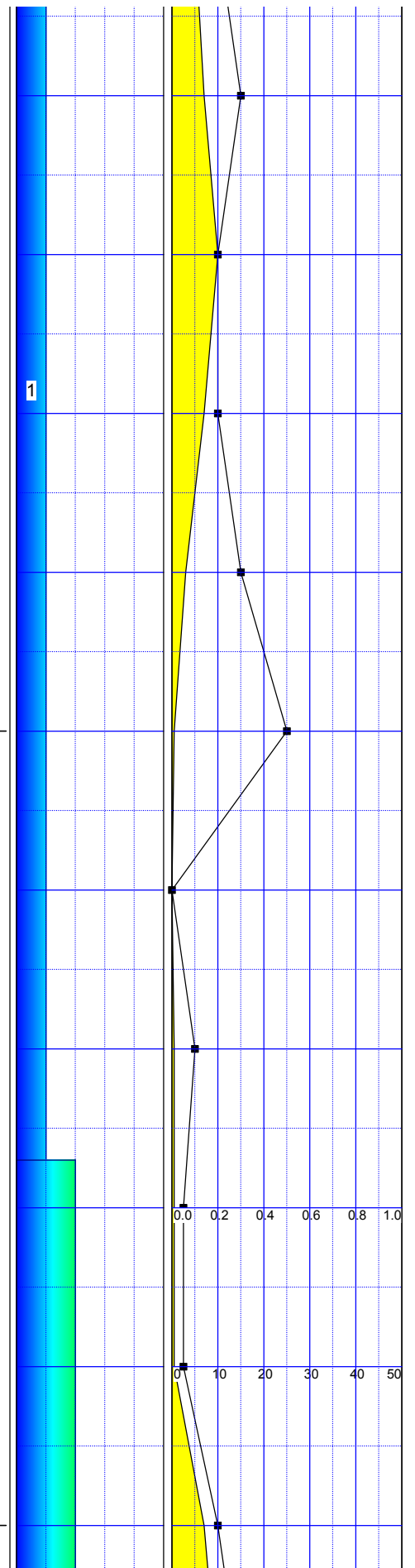


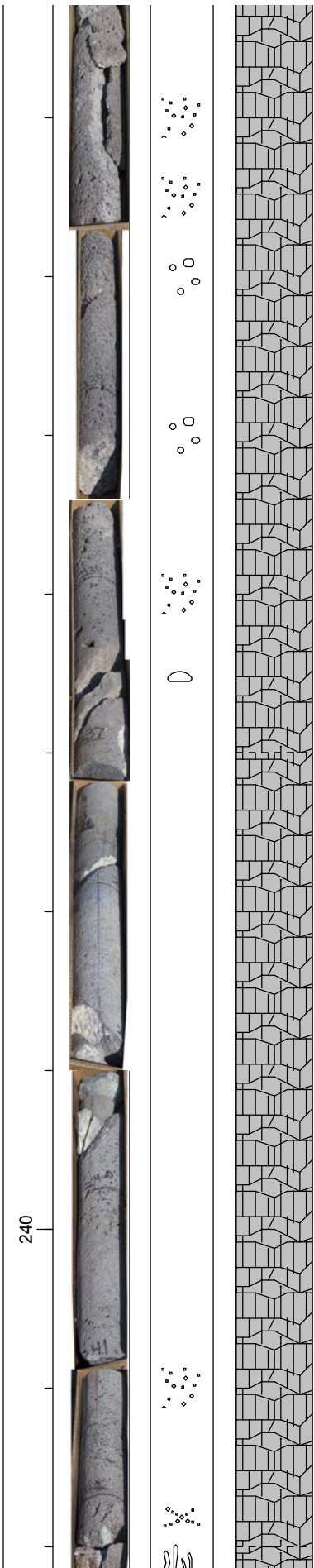


amorphous material fills fractures

BASALT:
 COLOR: Light gray.
 TEXTURE: Aphanitic, diktytaxitic. Vesicle
 planes at 228.8 ft 229.4 ft. Fracture at 251
 ft
 COMPOSITION: Not done
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Fracture 231 ft filled with
 white amorphous material, CWI radiological
 control technician reports that the
 substance reacts moderately to HCl, and
 reports that the substance is likely to be
 whey injected into formation for contaminant
 remediation, plus calcium carbonate

BASALT:
 COLOR: Medium gray.
 TEXTURE: Aphanitic, diktytaxitic, vesicular

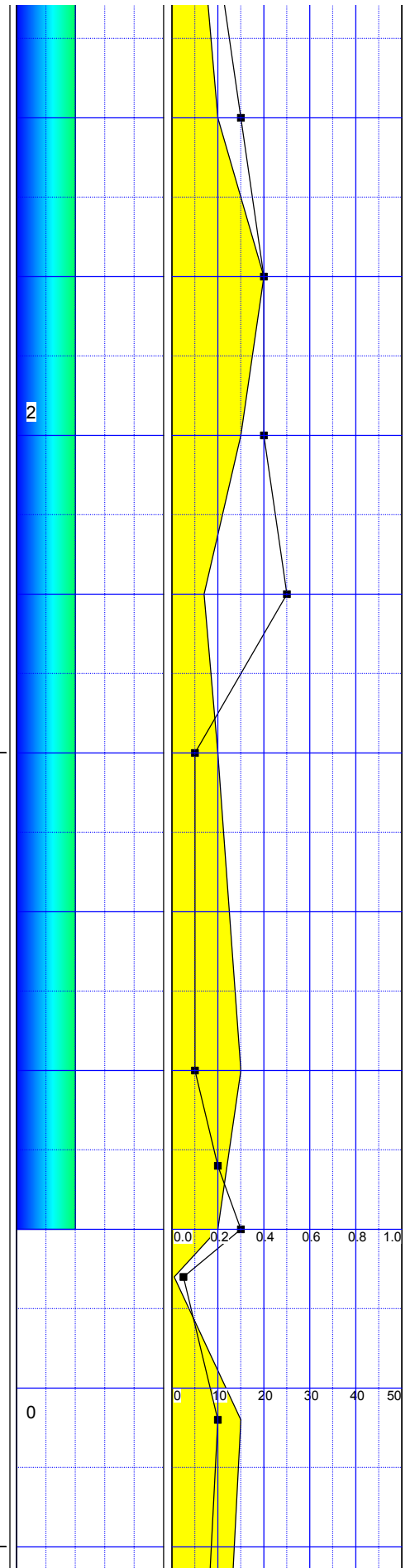


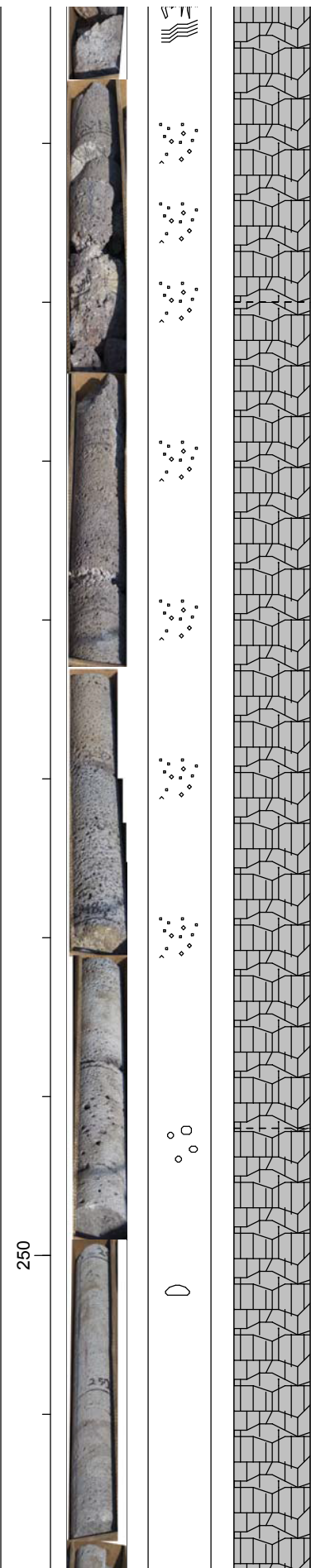


basalt. Fractured and vesicular from 232-236 ft, diktytaxitic and fractured from 236-237 ft; vesicles 0.1 in to 1.0 inch, increasing in size and decreasing in abundance with increasing depth
COMPOSITION: Not done
XENOLITHS/AUTOLITHS: None noted
ALTERATION: Amorphous, white substance fills fractures, reacts moderately to HCL, likely whey plus calcium carbonate

BASALT:
COLOR: Light gray.
TEXTURE: Aphanitic, diktytaxitic. Vesicle zone from 239-240.3 ft ft. Fracture at 239 ft,
COMPOSITION: Not done
XENOLITHS/AUTOLITHS: None noted
ALTERATION: Amorphous, white substance fills fractures, reacts moderately to HCL, likely whey plus calcium carbonate

BASALT:

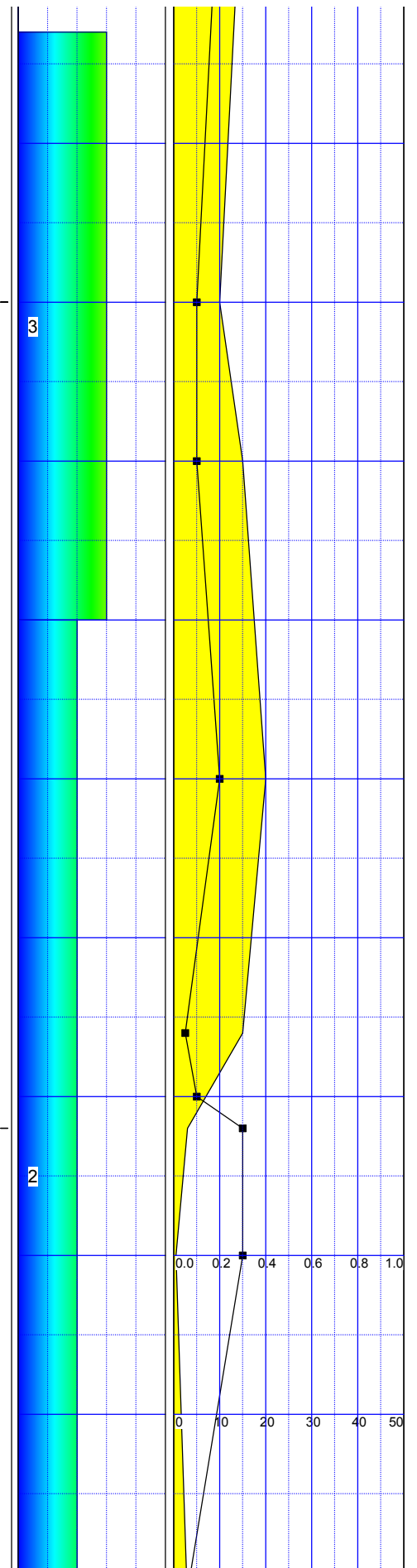


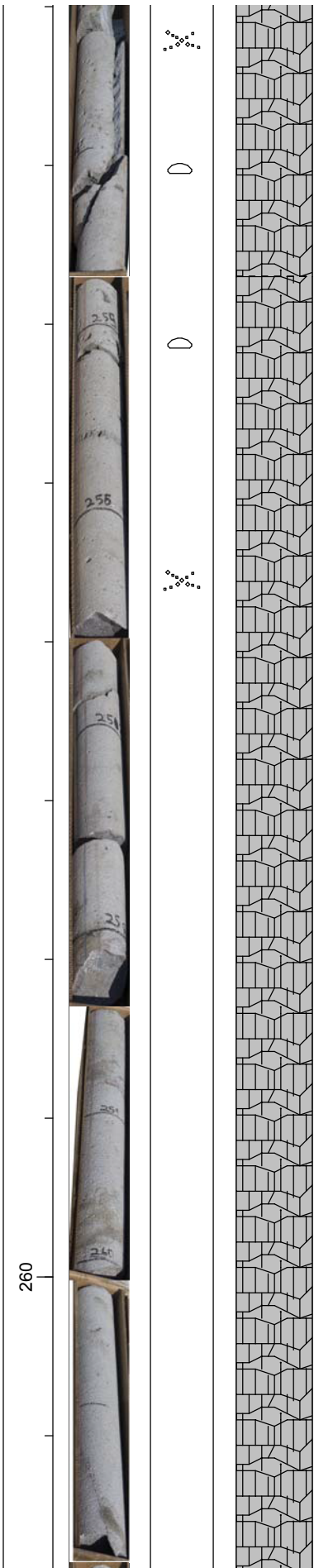


COLOR: Reddish gray, oxidized
 TEXTURE: Aphanitic, vesicular basalt.
 Vesicular throughout. Fractures 242-244 ft.
 Vesicles average 0.1 in, approximately 10% abundance
 COMPOSITION: Not done
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Amorphous, white substance fills fractures, reacts moderately to HCL, likely whey plus calcium carbonate

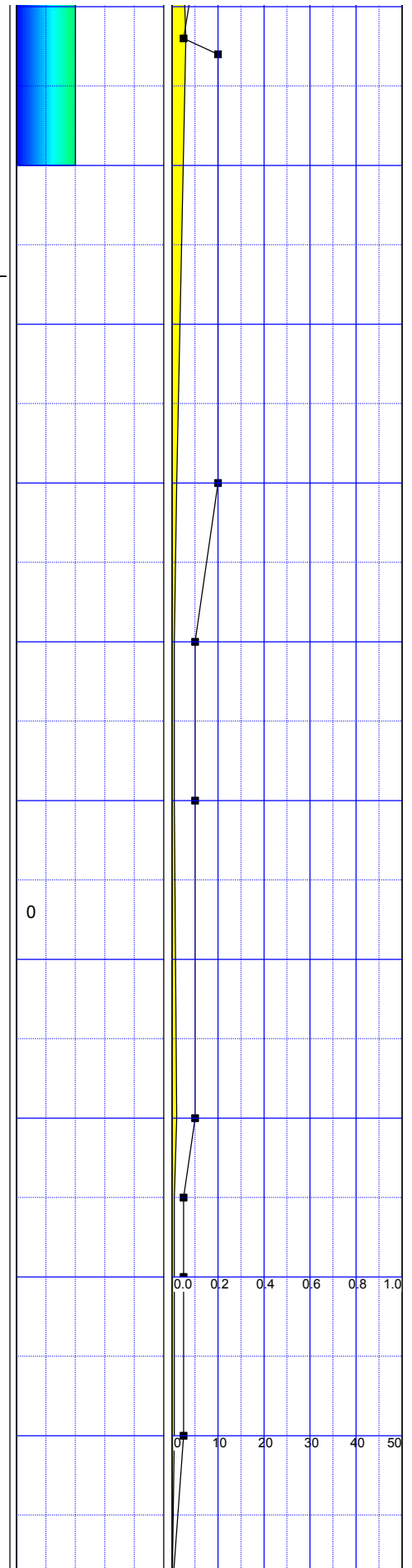
BASALT:
 COLOR: Light gray.
 TEXTURE: Aphanitic, diktytaxitic.
 COMPOSITION: Not done
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Red fracture fill at 242.8 ft

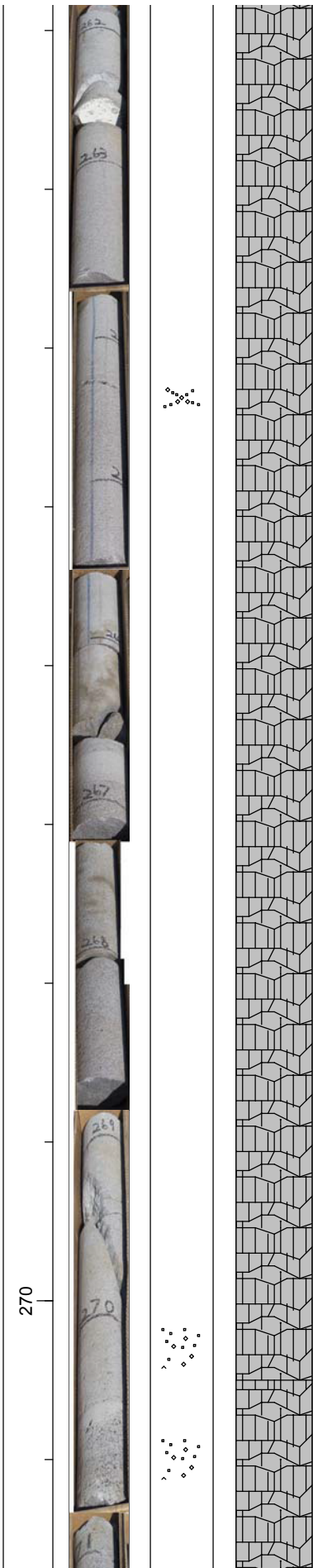
BASALT:
 COLOR: Light gray.
 TEXTURE: Aphanitic, diktytaxitic basalt.
 Rare, large (> 1 in) vesicles near top of interval, rest is massive
 COMPOSITION: Not done
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: None noted



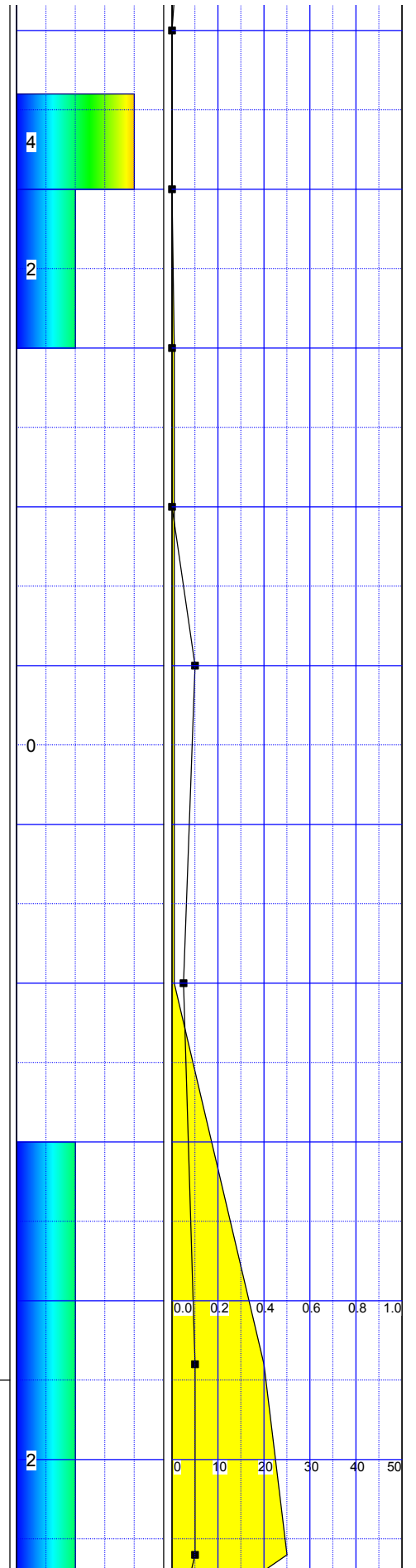


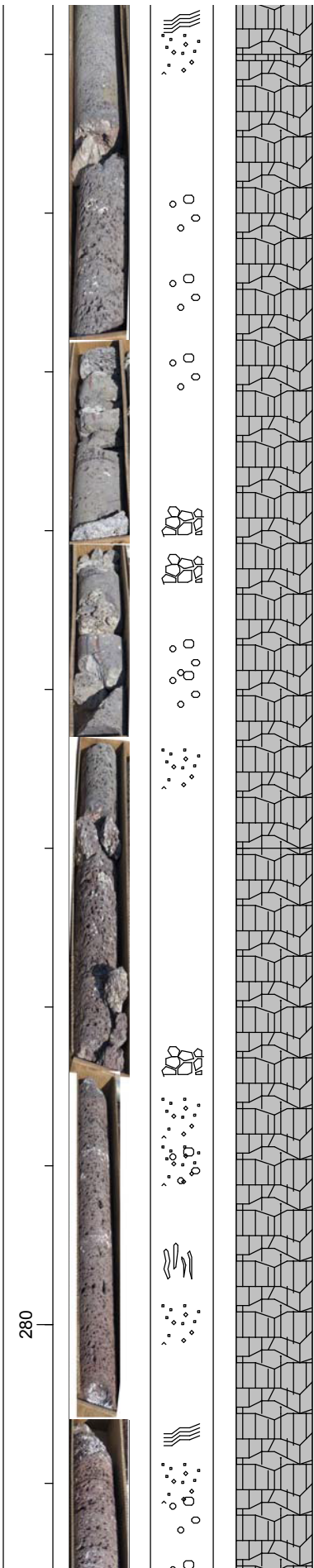
BASALT:
 COLOR: Light gray.
 TEXTURE: Aphanitic, diktytaxitic. Vesicle zone from 239-240.3 ft ft. Fractures at 254, 257.5, 262.7, 269.2 ft. Vesicle plane at 364.3 ft
 COMPOSITION: Not done
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Amorphous, white substance fills fractures, reacts moderately to HCL, likely whey plus calcium carbonate





BASALT:
 COLOR: Medium gray.
 TEXTURE: Aphanitic, vesicular, Vesicles decrease in size and increase in abundance to base, flow/mold structure at base of interval
 COMPOSITION: Not done
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: None noted





BASALT:
 COLOR: Medium gray.
 TEXTURE: Aphanitic, vesicular, Vesicles decrease in size and increase in abundance to base, red oxidized flow/mold structure at base; spatter at 275.3 ft, fractures at 274.5, 276 ft,
 COMPOSITION: Not done
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Amorphous, white substance fills fractures, reacts moderately to HCL, likely whey plus calcium carbonate

BASALT:
 COLOR: Dark red
 TEXTURE: Aphanitic, vesicular, Vesicles average 0.5 in. in size, 10-15% abundance, some vesicles are filled with, and some fractures are coated with yellow to white amorphous substance, as is the base. Fractures at 278.2, 280.6, 282.2 ft
 COMPOSITION: Not done
 XENOLITHS/AUTOLITHS: None noted
 ALTERATION: Amorphous, yellow to white substance in fractures, vesicles, and base

