**Core Geological Profile**

### Lithologic Patterns
- Basalts
- Rhyolites
- Sedimentary Rock

### Soil Patterns
- Gravels - clean
- Gravels with fines
- Sands - clean
- Sands with fines
- Silts 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
- Prismatic
- Blocky
- Columnar

### Fracture Frequency

<table>
<thead>
<tr>
<th>Fracture Frequency</th>
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<td>0.2</td>
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### Vesicle Characteristics

<table>
<thead>
<tr>
<th>Volume Percentage</th>
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### Description

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

**BASALT:** 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 diktytaxitic, basalt. Vesicles are rounded to subrounded and decrease in frequency and increase in size from 33.4 to 38 ft, diktytaxitic with a few megavesicles from 38 ft to 62 ft, diktytaxitic 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: 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
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
SANDS WITH FINES:
SILT AND CLAY
TEXTURE: Sand with fines, rare quartz grains, and some 1 to 10 cm basalt clasts
COLOR: 5 R 5/4 Moderate red at the top, grading to 5 YR 5/2 pale brown at bottom of interval
CONSISTENCY: Loose at top to firm at base of interval
STRUCTURES: Structureless, massive
CARBONATES: No
ROCKS: Angular clasts of basalt, 1-2 mm lithic rounded pebbles

BASALT:
COLOR: N5 medium grey
TEXTURE: Aphanitic, vesicular basalt, flow/mold structures at top and base.
COMPOSITION: Grey groundmass
XENOLITHS/AUTOLITHS: None noted
ALTERATION: Reddish oxidation on surfaces and inside vesicles at top of interval.
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 basin, 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
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
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- Gravels - clean
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- Sands - clean

**Intervals in Absentia**
- Surficial material
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**Igneous and Sedimentary Structure Symbols**
- Vesicle zone
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**Soil Structure Symbols**
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**Fracture Frequency**
- Mean Size (in)
- Volume Percentage

**Vesicle Characteristics**

**Description**

INTERVAL NOT CORED: Uncored sediment and 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

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

BASALT:
COLOR: Light gray.
TEXTURE: Aphanitic, diktytaxitic. Vesicle planes at 228.6 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 form 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
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 239-249.3 ft. Fractures at 254, 257.5, 262.7, 269.3 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
INTERVAL NOT CORED: Uncored