Hole 376-U1530A-1R Section 1, Top of Section: 0.0 m (CSF-A)

376-U1530A-1R-1-A, 0-9 cm
UNIT: 1 SUBUNIT: -
LITHOLOGY: clay
COLOR: dark bluish gray
TEXTURE: 
CLASTS: 
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Highly altered.
Pyrite disseminated throughout.
VEINS: None.
STRUCTURE: None.

376-U1530A-1R-1-A, 9-53 cm
UNIT: 1 SUBUNIT: -
LITHOLOGY: volcaniclastic
COLOR: bluish gray
TEXTURE: altered
CLASTS: volcanic, lithic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered.
Sulfate, clay, silica and pyrite dominant.
VEINS: Pyrite+sulfate veins.
STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
**Hole 376-U1530A-2R Section 1, Top of Section: 7.2 m (CSF-A)**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Orientation</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Grain size AVG, MAX</th>
<th>Matrix volume (%)</th>
<th>Magnetic susceptibility L* a* b*</th>
<th>Reflectance</th>
<th>Description</th>
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<td>7.20</td>
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<td>376-U1530A-2R-1-A, 0-37 cm</td>
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</table>

**UNIT:** 1 SUBUNIT: -
**LITHOLOGY:** lapillistone
**COLOR:** light bluish gray
**TEXTURE:** clast-supported, polymict
**CLASTS:** volcanic, volcanic
**UPPER CONTACT:** not recovered
**LOWER CONTACT:** not recovered
**ALTERATION:** Intensely altered. Matrix is dominated by anhydrite with silica and pyrite.
**VEINS:** Sulfate+/-pyrite veins.
**STRUCTURE:** Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.

---

**Visual core descriptions**

- **Graphic lithology:** Clast-supported, polymict lapillistone.
- **Magnetic susceptibility:** Intensely altered.
- **Reflectance:** Low reflectance values.
- **Grain size:** AVG, MAX.
- **Sorting:** Poor or moderate.
- **Grading:** Fractures and veins.
- **Minor minerals:** Abundant pyrite and silica.
- **Core image:** Shipboard samples with core photos.
- **Core number:** Piece number.
- **Core length:** Hole 376-U1530A-2R-1-A, 0-37 cm.
**Hole 376-U1530A-3R Section 1, Top of Section: 16.9 m (CSF-A)**

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<th>Operation</th>
<th>Shipboard samples</th>
<th>Core description</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Sorting</th>
<th>Grain size AVG, MAX</th>
<th>Matrix volume (%)</th>
<th>Magnetic susceptibility</th>
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</table>

**Description:**

- **LITHOLOGY:** lapillistone
- **COLOR:** greenish gray
- **TEXTURE:** clast-supported, polymict
- **CLASTS:** volcanic, volcanic
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Matrix is dominantly anhydrite. Pyrite is disseminated throughout but preferentially rims dark clasts.
- **VEINS:** None.
- **STRUCTURE:** Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
376-U1530A-4R, 0-150 cm

UNIT: 1
SUBUNIT: -

LITHOLOGY: lapillistone with blocks-bombs
COLOR: greenish gray
TEXTURE: clast-supported, polymict
CLASTS: volcanic, volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: Anhydrite±sphalerite and sphalerite veins.
STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.

PMAG
PMAG
TS
TSB
HS
SCRAPE
MBIO
ICP
TS
TSB
ICP

Description
Reflectance
b*a*L*
55.0
30.0
5.0
-20.0
Magnetic susceptibility
SHMSL (SI)
1900
1400
900
400
-100
Matrix volume (%)
100
75
50
25
0
Grain size
AVG, MAX
Clay
Silt
Sand
Granule
Small pebble
Medium pebble
Large pebble
Very large pebble
Cobble
Sorting
Poor
Moderate
Well
Grading
Fractures and veins
Major
minerals
(from XRD)
Sulfide abundance (%)
15
10
5
0
Alteration rank
Graphic lithology
Core image
Shipboard samples
Core length (cm)
Core image

core number
igneous lith. unit

Site U1530 core descriptions
Visual core descriptions
**Site U1530 core descriptions**

**Visual core descriptions**

**Hole 376-U1530A-5R Section 1, Top of Section: 25.9 m (CSF-A)**

- **UNIT:** 1
- **SUBUNIT:** -
- **LITHOLOGY:** lapillistone
- **COLOR:** greenish gray
- **TEXTURE:** clast-supported, polymict
- **CLASTS:** volcanic, volcanic
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Clasts are variably resorbed. Networks of pyrite-silica-anhydrite veins common.
- **VEINS:** Anhydrite+/-pyrite+/-sphalerite.
- **STRUCTURE:** Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Subunit</th>
<th>Orientation samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
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<th>Matrix volume (%)</th>
<th>Grain size AVG, MAX</th>
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376-U1530A-6R-1-A, 0-58 cm

UNIT: 2 SUBUNIT 2a
LITHOLOGY: sandstone
COLOR: bluish gray
TEXTURE:
CLASTS: not recovered
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered. Abundant disseminated pyrite. No clasts are distinguishable.
VEINS: Pyrite veins.
STRUCTURE: None.

Site U1530 core descriptions
<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Operation</th>
<th>Shipboard samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Sorting</th>
<th>Grainsize</th>
<th>Grain size AVG, MAX</th>
<th>Matrix volume (%)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Description</th>
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</tbody>
</table>

376-U1530A-7R, 0-53 cm
UNIT: 2 SUBUNIT 2b
LITHOLOGY: mudstone
COLOR: light bluish grey
TEXTURE: silty
CLASTS:
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered. Abundant disseminated pyrite. No clasts are distinguishable.
VEINS: Pyrite vein.
STRUCTURE: None.
### Hole 376-U1530A-8R Section 1, Top of Section: 40.3 m (CSF-A)

<table>
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<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Operation</th>
<th>Shipboard samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Lithology</th>
<th>Alteration rank</th>
<th>Alg. abrasion</th>
<th>Major minerals (from XRD)</th>
<th>Grain size AVG, MAX</th>
<th>Sorting</th>
<th>Fractures and veins</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>SHMSL (SI)</th>
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<td>Sandstone</td>
<td>Light bluish gray</td>
<td>Not recovered</td>
<td>Clasts: None</td>
<td>No</td>
<td>Poor</td>
<td>None</td>
<td>None</td>
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<td>Sandstone</td>
<td>Light bluish gray</td>
<td>Not recovered</td>
<td>Clasts: None</td>
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<td>Mudstone</td>
<td>Light bluish gray</td>
<td>Not recovered</td>
<td>Clasts: None</td>
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<td>Poor</td>
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</table>

**Description**

376-U1530A-8R-1-A, 0-12 cm
UNIT: 2 SUBUNIT 2b
LITHOLOGY: sandstone
COLOR: light bluish grey
TEXTURE: Clay
CLASTS: Upper CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered. Moderate silicification with disseminated pyrite and anhydrite.
VEINS: None.
STRUCTURE: None.

376-U1530A-8R-1-A, 12-38 cm
UNIT: 2 SUBUNIT 2b
LITHOLOGY: mudstone
COLOR: light bluish grey
TEXTURE: Clay
CLASTS: Upper CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered. Contains very fine pyrite.
VEINS: None.
STRUCTURE: None.
### Site U1530 Core Descriptions

#### Visual Core Descriptions

**Hole 376-U1530A-9R Section 1, Top of Section: 45.1 m (CSF-A)**

<table>
<thead>
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<th>Core piece number</th>
<th>Subunit</th>
<th>Lithology</th>
<th>Color</th>
<th>Texture</th>
<th>Clasts</th>
<th>Upper contact</th>
<th>Lower contact</th>
<th>Alteration</th>
<th>Veins</th>
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<td>01</td>
<td>mudstone</td>
<td>bluish gray</td>
<td>silty</td>
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<td>Intensely altered. Anhydrite veins common. Contains disseminated pyrite.</td>
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<td>Intensely altered. Anhydrite veins common. Contains disseminated pyrite.</td>
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<td>None.</td>
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</table>

**376-U1530A-9R-1-A, 0-88 cm**
- **Unit:** 2 SUBUNIT 2b
- **Lithology:** mudstone
- **Color:** bluish gray
- **Texture:** silty
- **Clasts:** Upper contact: not recovered
- **Lower contact:** not recovered
- **Alteration:** Intensely altered. Anhydrite veins common. Contains disseminated pyrite.
- **Veins:** None.
- **Structure:** None.

**376-U1530A-9R-1-A, 88-95 cm**
- **Unit:** 2 SUBUNIT 2b
- **Lithology:** mudstone
- **Color:** bluish gray
- **Texture:** silty
- **Clasts:** Upper contact: not recovered
- **Lower contact:** not recovered
- **Alteration:** Intensely altered. Anhydrite veins common. Contains disseminated pyrite.
- **Veins:** Anhydrite vein.
- **Structure:** None.

**376-U1530A-9R-1-A, 95-115 cm**
- **Unit:** 2 SUBUNIT 2b
- **Lithology:** mudstone
- **Color:** bluish gray
- **Texture:** silty
- **Clasts:** Upper contact: not recovered
- **Lower contact:** not recovered
- **Alteration:** Intensely altered. Anhydrite veins common. Contains disseminated pyrite.
- **Veins:** None.
- **Structure:** None.
### Site U1530 Core Descriptions

#### Visual Core Descriptions

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<th>Depth (m)</th>
<th>Core number</th>
<th>Piece number</th>
<th>Igneous lith. unit</th>
<th>Piece image</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Fractures and veins</th>
<th>Grain size AVG, MAX</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
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**Hole 376-U1530A-10R Section 1, Top of Section: 49.9 m (CSF-A)**

**Explicit Lithology Data**

- **376-U1530A-10R-1-A, 0-4 cm**
  - **UNIT**: 2 SUBUNIT 2b
  - **LITHOLOGY**: siltstone
  - **COLOR**: bluish gray
  - **TEXTURE**: clayey
  - **CLASTS**: Upper Contact: not recovered
  - **LOWER CONTACT**: irregular
  - **ALTERATION**: Intensely altered, minor silicification. Variable pyrite. Euhedral anhydrite common in both disseminated and vein forms.
  - **VEINS**: None.
  - **STRUCTURE**: Contact is horizontal.

- **376-U1530A-10R-1-A, 4-9 cm**
  - **UNIT**: 2 SUBUNIT 2b
  - **LITHOLOGY**: siltstone
  - **COLOR**: bluish gray
  - **TEXTURE**: clayey
  - **CLASTS**: Upper Contact: not recovered
  - **LOWER CONTACT**: not recovered
  - **ALTERATION**: Intensely altered, minor silicification. Variable pyrite. Euhedral anhydrite common in both disseminated and vein forms.
  - **VEINS**: None.
  - **STRUCTURE**: Contact is horizontal.

- **376-U1530A-10R-1-A, 9-42 cm**
  - **UNIT**: 2 SUBUNIT 2b
  - **LITHOLOGY**: mudstone
  - **COLOR**: bluish gray
  - **TEXTURE**: silty
  - **CLASTS**: Upper Contact: not recovered
  - **LOWER CONTACT**: not recovered
  - **ALTERATION**: Intensely altered, minor silicification. Variable pyrite. Euhedral anhydrite common in both disseminated and vein forms.
  - **VEINS**: Anhydrite vein.
  - **STRUCTURE**: Some bedding is sub-parallel to inclined anhydrite vein.

- **376-U1530A-10R-1-A, 42-118 cm**
  - **UNIT**: 2 SUBUNIT 2b
  - **LITHOLOGY**: mudstone
  - **COLOR**: bluish gray
  - **TEXTURE**: silty
  - **CLASTS**: Upper Contact: not recovered
  - **LOWER CONTACT**: not recovered
  - **ALTERATION**: Intensely altered, minor silicification. Variable pyrite. Euhedral anhydrite common in both disseminated and vein forms.
  - **VEINS**: Anhydrite vein.
  - **STRUCTURE**: None.

**Magnetic Susceptibility**

- **SHMSL (SI)**: 8

**Matrix Volume**

- **%**: 100

**Grain Size Distribution**

- **AVG**: 1
- **MAX**: 1

**Sorting**

- **1**: Poor

**Grading**

- **Fractures and veins**: None

**Major Minerals (from XRD)**

- **Sulfide abundance (%)**: 15

**Alteration Rank**

- **Graphic lithology**: Core image
- **Core length (cm)**: 376-U1530A-10R-1-A
- **Site U1530 core descriptions**

**Orientation**

- **Igneous lith. unit**: Piece number
- **Piece image**: Core length (cm)
- **Core image**: Depth (m)
- **Visual core descriptions**: Core length (cm)

**Visual Core Descriptions**

[Diagram showing core descriptions with various visual elements such as core images, orientation, and petrographic analysis]
**Site U1530 core descriptions**

### Visual core descriptions

#### Hole 376-U1530A-10R Section 2, Top of Section: 51.31 m (CSF-A)

- **Lithology:** sandstone
- **Color:** bluish gray
- **Texture:** silty
- **Grains:**
  - **UPPER CONTACT:** not recovered
  - **LOWER CONTACT:** not recovered
- **Alteration:** Intensely altered. Highly veined by anhydrite. Weak silicification with minor disseminated pyrite.
- **Veins:** Anhydrite veins.
- **Structure:** None.

---

- **Lithology:** siltstone
- **Color:** bluish gray
- **Texture:**
- **Grains:**
  - **UPPER CONTACT:** not recovered
  - **LOWER CONTACT:** not recovered
- **Alteration:** Intensely altered. Highly veined by anhydrite. Weak silicification with minor disseminated pyrite.
- **Veins:** Anhydrite veins.
- **Structure:** None.

---

- **Lithology:** siltstone
- **Color:** bluish gray
- **Texture:**
- **Grains:**
  - **UPPER CONTACT:** thin lamina
  - **LOWER CONTACT:** irregular
- **Alteration:** Intensely altered. Weak silicification with minor disseminated pyrite and anhydrite.
- **Veins:** Anhydrite veins.
- **Structure:** None.
### Hole 376-U1530A-12R Section 1, Top of Section: 59.5 m (CSF-A)

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<th>Depth (m)</th>
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<th>Orientation</th>
<th>Magnetic susceptibility</th>
<th>Reflectance b*</th>
<th>Grain size AVG, MAX</th>
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### Hole 376-U1530A-12R Section 1, Top of Section: 59.5 m (CSF-A)

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<td>VEINS:</td>
<td>Anhydrite+/-quartz veins. STRUCTURE: Moderate fabric defined by vesicles (12-150 cm).</td>
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**Magnetic susceptibility**
- **L**^a^: 28
- **L**^b^: 18
- **L**^c^: 8
- **L**^d^: -2

**Vesicle size**
- **MAX**: 20 mm
- **MODE**: 15 mm

**Groundmass grain size**
- **MAX**: 1 mm
- **MODE**: 0.75 mm

**Phenocrysts**
- **PLAG, Cpx**: 25%

**Sulfide abundance**
- **%**: 15

**Major minerals** (from XRD)
- **Anh**: 10%
- **Gla**: 5%
- **Dnl**: 0%
**Hole 376-U1530A-12R Section 2, Top of Section: 61.0 m (CSF-A)**

**LITHOLOGY:** plagioclase phyric volcanic lava

**COLOR:** greenish gray

**TEXTURE:** porphyritic

**PHENOCRYSTS:** plagioclase

**GROUNDMASS:**

**VESICLES:**

**VESICLE ROUNDNESS & SPHERICITY:**
- UPPER CONTACT: 5
- LOWER CONTACT: not recovered

**ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay rich clasts. Anhydrite and pyrite occur as disseminated grains.

**VEINS:** Anhydrite veins.

**STRUCTURE:** Weak fabric defined by vesicles (12-150 cm).

**PMAG**

**XRD**

**Description**

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Hole 376-U1530A-12R Section 2, Top of Section: 61.0 m (CSF-A)

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376-U1530A-12R-2-A, 0-88 cm
UNIT: 3 SUBUNIT: -
LITHOLOGY: plagioclase phyric volcanic lava
COLOR: greenish gray
TEXTURE: porphyritic
PHENOCRYSTS: plagioclase
GROUNDMASS:
VESICLES:
VESICLE ROUNDNESS & SPHERICITY: 5
UPPER CONTACT: 5
LOWER CONTACT: not recovered
ALTERATION: Intensely altered. Silica and pyrite rich matrix with clay rich clasts. Anhydrite and pyrite occur as disseminated grains.
VEINS: Anhydrite veins.
STRUCTURE: Weak fabric defined by vesicles (12-150 cm).
### Hole 376-U1530A-13R Section 1, Top of Section: 64.3 m (CSF-A)

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**376-U1530A-13R-1-A, 0-3 cm**
- **UNIT:** 3
- **SUBUNIT:** -
- **LITHOLOGY:** siltstone
- **COLOR:** light bluish gray
- **TEXTURE:**
- **CLASTS:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Anhydrite infills vugs and is disseminated throughout. Disseminated pyrite common.
- **VEINS:** None.
- **STRUCTURE:** None.

**376-U1530A-13R-1-A, 3-10 cm**
- **UNIT:** 3
- **SUBUNIT:** -
- **LITHOLOGY:** volcanic lava
- **COLOR:** greenish gray
- **TEXTURE:** porphyritic
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDEDNESS & SPHERICITY:**
- **UPPER CONTACT:** 5
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay rich clasts. Anhydrite and pyrite occur as disseminated grains.
- **VEINS:** None.
- **STRUCTURE:** None.

**376-U1530A-13R-1-A, 10-47 cm**
- **UNIT:** 4
- **SUBUNIT:** -
- **LITHOLOGY:** volcaniclastic
- **COLOR:** light greenish gray
- **TEXTURE:** altered
- **CLASTS:** volcanic
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay rich clasts. Anhydrite and pyrite occur as disseminated grains.
- **VEINS:** Silica+pyrite and anhydrite+silica+pyrite veins.
- **STRUCTURE:** None.

**376-U1530A-13R-1-A, 47-135 cm**
- **UNIT:** 4
- **SUBUNIT:** -
- **LITHOLOGY:** lapilli-tuff
- **COLOR:** greenish gray
- **TEXTURE:** matrix-supported, polymict
- **CLASTS:** volcanic, fine-grained, unknown
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay rich clasts. Anhydrite and pyrite occur as disseminated grains.
- **VEINS:** Anhydrite veins.
- **STRUCTURE:** None.
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<th>Orientation</th>
<th>Magnetic susceptibility</th>
<th>Reflectance (b)**</th>
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<th>Phenocrysts PLAG, CPX, volume (%)</th>
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**Hole 376-U1530A-14R Section 1, Top of Section: 69.1 m (CSF-A)**

| Depth (m) | Core length (cm) | Piece number | Igneous lith. unit | Orientation | Core image | Hole 376-U1530A-14R-1-A | 0-36 cm | UNIT: 4 SUBUNIT: - | LITHOLOGY: lapillistone | COLOR: greenish gray | TEXTURE: clast-supported, polymict | CLASTS: volcanic, fine-grained, unknown | UPPER CONTACT: not recovered | LOWER CONTACT: not recovered | ALTERATION: Intensely altered. Silica and pyrite rich matrix with clay-rich clasts. Anhydrite and pyrite occur as disseminated grains. | VEINS: Anhydrite vein. | STRUCTURE: None. | Magnetic susceptibility | Reflectance L* a* b* |
|-----------|-----------------|--------------|------------------|------------|------------|---------------------|---------|---------------------|-----------------|-----------------|-----------------|-------------------|-----------------|-----------------|----------------------------|-----------------|-----------------|-----------------|----------------|-----------------|-----------------|
| 69.18     |                 |              |                  |            |            |                     |         |                     |                 |                 |                 |                   |                 |                 |                            |                 |                 |                 |                |                 |                 |
| 69.28     |                 |              |                  |            |            |                     |         |                     |                 |                 |                 |                   |                 |                 |                            |                 |                 |                 |                |                 |                 |
| 69.38     |                 |              |                  |            |            |                     |         |                     |                 |                 |                 |                   |                 |                 |                            |                 |                 |                 |                |                 |                 |

**Description**

376-U1530A-14R-1-A, 0-36 cm
UNIT: 4 SUBUNIT: -
LITHOLOGY: lapillistone
COLOR: greenish gray
TEXTURE: clast-supported, polymict
CLASTS: volcanic, fine-grained, unknown
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered. Silica and pyrite rich matrix with clay-rich clasts. Anhydrite and pyrite occur as disseminated grains.
VEINS: Anhydrite vein.
STRUCTURE: None.
Hole 376-U1530A-15R Section 1, Top of Section: 73.9 m (CSF-A)

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376-U1530A-15R-1-A, 0-145 cm
UNIT: 4 SUBUNIT: -
LITHOLOGY: lapillistone
COLOR: bluish gray
TEXTURE: clast-supported, polymict
CLASTS: volcanic, fine-grained, unknown
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: Anhydrite-pyrite vein.
STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
**Hole 376-U1530A-15R Section 2, Top of Section: 75.35 m (CSF-A)**

<table>
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<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>igneous lith. unit</th>
<th>Orientation Shipboard samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Fractures and veins</th>
<th>Grain size AVG, MAX</th>
<th>Matrix volume (%)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance L* a* b*</th>
</tr>
</thead>
<tbody>
<tr>
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</table>
Site U1530 core descriptions

Visual core descriptions

Hole 376-U1530A-16R Section 1, Top of Section: 78.7 m (CSF-A)

LITHOLOGY: lapillistone
COLOR: bluish gray
TEXTURE: clast-supported, monomict
CLASTS: volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered. Silica and pyrite rich matrix with clay rich clasts. Anhydrite and pyrite occur disseminated and in vugs. Partially, greenish alteration color.
VEINS: None.
STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
### Site U1530 Core Descriptions

#### Visual Core Descriptions

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core piece number</th>
<th>Depth (cm)</th>
<th>Lithology</th>
<th>Color</th>
<th>Texture</th>
<th>Clasts</th>
<th>Upper contact</th>
<th>Lower contact</th>
<th>Alteration</th>
<th>Veins</th>
<th>Structure</th>
</tr>
</thead>
<tbody>
<tr>
<td>83.50</td>
<td>01</td>
<td>8-83 cm</td>
<td>mudstone</td>
<td>bluish gray</td>
<td>silty</td>
<td>volcanic</td>
<td>not recovered</td>
<td>not recovered</td>
<td>Replaced by clay minerals, anhydrite and disseminated pyrite</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>83.60</td>
<td>02</td>
<td>8-83 cm</td>
<td>lapillistone</td>
<td>bluish gray</td>
<td>clast-supported, monomict</td>
<td>volcanic</td>
<td>not recovered</td>
<td>not recovered</td>
<td>Intensely altered. Silica and pyrite rich matrix with clay rich clasts. Anhydrite and pyrite occur disseminated and in vugs</td>
<td>None</td>
<td>None</td>
</tr>
<tr>
<td>83.70</td>
<td>03</td>
<td>8-83 cm</td>
<td>lapilli-tuff</td>
<td>bluish gray</td>
<td>matrix-supported, monomict</td>
<td>volcanic</td>
<td>not recovered</td>
<td>not recovered</td>
<td>Intensely altered. Silica and pyrite rich matrix with clay rich clasts. Higher degree of silicification than previously in the section. Anhydrite and pyrite occur disseminated</td>
<td>None</td>
<td>None</td>
</tr>
</tbody>
</table>

#### Table

<table>
<thead>
<tr>
<th>Description</th>
<th>Reflectance b<em>a</em>L*</th>
<th>Magnetic susceptibility SHMSL (SI)</th>
<th>Matrix volume (%)</th>
<th>Grain size AVG, MAX</th>
<th>Sorting</th>
<th>Fractures and veins</th>
<th>Alteration</th>
</tr>
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<tbody>
<tr>
<td>83.50</td>
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### Hole 376-U1530A-18R Section 1, Top of Section: 88.3 m (CSF-A)

<table>
<thead>
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<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Piece number</th>
<th>Igneous lith. unit</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Visual core descriptions</th>
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<tbody>
<tr>
<td>88.30</td>
<td></td>
<td>01</td>
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<tr>
<td>88.40</td>
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<td>02</td>
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<tr>
<td>88.50</td>
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<td>04</td>
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</tbody>
</table>

#### Visual Core Descriptions

**376-U1530A-18R-1-A, 0-14 cm**
- **UNIT**: 4 SUBUNIT: -
- **LITHOLOGY**: tuff with lapilli
- **COLOR**: bluish gray
- **TEXTURE**: matrix-supported, monomict
- **CLASTS**: volcanic
- **UPPER CONTACT**: not recovered
- **LOWER CONTACT**: not recovered
- **ALTERATION**: Intensely altered. Silica and pyrite rich matrix with clay rich clasts, highly resorbed. Strongly silicified. Fine-network and vug infill of anhydrite and pyrite.
- **VEINS**: None.
- **STRUCTURE**: None.

**376-U1530A-18R-1-A, 14-43 cm**
- **UNIT**: 4 SUBUNIT: -
- **LITHOLOGY**: lapillistone
- **COLOR**: bluish gray
- **TEXTURE**: clast-supported, monomict
- **CLASTS**: volcanic
- **UPPER CONTACT**: not recovered
- **LOWER CONTACT**: not recovered
- **ALTERATION**: Intensely altered. Silica and pyrite rich matrix with clay rich clasts, highly resorbed. Strongly silicified. Fine-network and vug infill of anhydrite and pyrite.
- **VEINS**: Pyrite+silica vein.
- **STRUCTURE**: None.
376-U1530A-19R-1-A, 0-59 cm

UNIT: 4
SUBUNIT: -

LITHOLOGY: lapillistone

COLOR: bluish gray

TEXTURE: clast-supported, polymict

CLASTS: volcanic, volcanic

UPPER CONTACT: not recovered

LOWER CONTACT: not recovered


VEINS: None.

STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
**Site U1530 core descriptions**

**Hole 376-U1530A-20R Section 1, Top of Section: 97.9 m (CSF-A)**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Orientation</th>
<th>Shipboard samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Grain size AVG, MAX</th>
<th>Sorting</th>
<th>Matrix volume (%)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance L*</th>
<th>Reflectance a*</th>
<th>Reflectance b*</th>
</tr>
</thead>
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<td>96.08</td>
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</tbody>
</table>

376-U1530A-20R-1-A, 0-8 cm
- **UNIT**: Unit 4 Subunit: -
- **LITHOLOGY**: lapilli-tuff
- **COLOR**: bluish gray
- **TEXTURE**: matrix-supported, monomict
- **CLASTS**: volcanic
- **UPPER CONTACT**: not recovered
- **LOWER CONTACT**: not recovered
- **ALTERATION**: Intensely altered. Silica and pyrite rich matrix with clay-rich clasts. Strongly silicified. Fine-network and vug infill of anhydrite and pyrite.
- **VEINS**: None
- **STRUCTURE**: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.

376-U1530A-20R-1-A, 8-35 cm
- **UNIT**: Unit 4 Subunit: -
- **LITHOLOGY**: lapillistone
- **COLOR**: bluish gray
- **TEXTURE**: clast-supported, monomict
- **CLASTS**: volcanic
- **UPPER CONTACT**: not recovered
- **LOWER CONTACT**: not recovered
- **ALTERATION**: Intensely altered. Silica and pyrite rich matrix with clay-rich clasts. Strongly silicified. Fine-network and vug infill of anhydrite and pyrite.
- **VEINS**: None
- **STRUCTURE**: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
**Hole 376-U1530A-21R Section 1, Top of Section: 102.7 m (CSF-A)**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Operation</th>
<th>Shiptboard samples</th>
<th>Core image</th>
<th>Lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Grain size</th>
<th>Sorting</th>
<th>Matrix volume (%)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Description</th>
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<tr>
<td>102.7</td>
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<td></td>
<td>lapillistone with blocks-bombs</td>
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<td>bluish gray</td>
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<td>clast-supported, monomict</td>
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</tbody>
</table>

**Description:** 376-U1530A-21R-1-A, 0-49 cm

- UNIT: 4 SUBUNIT: -
- LITHOLOGY: lapillistone with blocks-bombs
- COLOR: bluish gray
- TEXTURE: clast-supported, monomict
- CLASTS: volcanic
- UPPER CONTACT: not recovered
- LOWER CONTACT: not recovered
- VEINS: Pyrite-silica veins.
- STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
**Hole 376-U1530A-22R Section 1, Top of Section: 107.5 m (CSF-A)**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core piece number</th>
<th>Visual core descriptions</th>
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<tbody>
<tr>
<td>107.50</td>
<td>01</td>
<td>376-U1530A-22R-1-A, 0-125 cm</td>
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<tr>
<td>107.60</td>
<td>02</td>
<td>UNIT: 4 SUBUNIT: -</td>
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<tr>
<td>107.70</td>
<td>03</td>
<td>LITHOLOGY: lapillistone</td>
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<tr>
<td>107.80</td>
<td>04</td>
<td>COLOR: bluish gray</td>
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<td>107.90</td>
<td>05</td>
<td>TEXTURE: clast-supported, monomict</td>
</tr>
<tr>
<td>108.00</td>
<td>06</td>
<td>CLASTS: volcanic</td>
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<td>108.10</td>
<td>07</td>
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<td>LOWER CONTACT: not recovered</td>
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<tr>
<td>108.40</td>
<td>10</td>
<td>VENUS: Puffer or silica veins.</td>
</tr>
<tr>
<td>108.50</td>
<td>11</td>
<td>STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.</td>
</tr>
<tr>
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<td>109.00</td>
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</table>

**Visual core descriptions**

- **Lithology**: lapillistone
- **Texture**: clast-supported, monomict
- **Clasts**: volcanic
- **Upper Contact**: not recovered
- **Lower Contact**: not recovered
- **Alteration**: Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts. Strongly silicified. Fine-network and vug infill of anhydrite and pyrite. Euhedral anhydrite (1mm) in 11th piece.
- **Structure**: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
### Visual Core Descriptions

#### Hole 376-U1530A-23R Section 1, Top of Section: 112.3 m (CSF-A)

<table>
<thead>
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<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Orientation</th>
<th>Graphic lithology</th>
<th>Core image</th>
<th>Fractures and veins</th>
<th>Major minerals (from XRD)</th>
<th>Sulfide abundance (%)</th>
<th>Grain size AVG, MAX</th>
<th>Matrix volume (%)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Description</th>
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</tr>
</tbody>
</table>

376-U1530A-23R-1-A, 0-28 cm
UNIT: 4 SUBUNIT: -
COLOR: bluish gray
TEXTURE: matrix-supported, monomict
CLASTS: volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: None.
STRUCTURE: None.
<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>117.15</td>
<td>376-U1530A-24R-1-A, 0-105 cm</td>
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<tr>
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<td>LITHOLOGY: lapillistone</td>
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<tr>
<td>117.45</td>
<td>COLOR: bluish gray</td>
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<tr>
<td>117.55</td>
<td>TEXTURE: matrix-supported, monomict</td>
</tr>
<tr>
<td>117.65</td>
<td>CLASTS: volcanic</td>
</tr>
<tr>
<td>117.75</td>
<td>UPPER CONTACT: not recovered</td>
</tr>
<tr>
<td>117.85</td>
<td>LOWER CONTACT: not recovered</td>
</tr>
<tr>
<td>118.05</td>
<td>VEINS: None.</td>
</tr>
<tr>
<td>118.15</td>
<td>STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.</td>
</tr>
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**Hole 376-U1530A-25R Section 1, Top of Section: 121.9 m (CSF-A)**

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**376-U1530A-25R-1-A, 0-134 cm**

UNIT: 4 SUBUNIT: -
LITHOLOGY: lapilli-tuff
COLOR: bluish gray
TEXTURE: matrix-supported, monomict
CLASTS: volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: Pyrite and anhydrite+/-silica+/-pyrite veins.
STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
**Site U1530 core descriptions**

**Visual core descriptions**

---

**Hole 376-U1530A-26R Section 1, Top of Section: 126.7 m (CSF-A)**

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**Description**

- **LITHOLOGY:** lapilli-tuff
- **COLOR:** bluish gray
- **TEXTURE:** matrix-supported, monomict
- **CLASTS:** volcanic
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts. Lighter alteration halos around clasts. Strongly silicified. Fine-network and vug infill of anhydrite and pyrite.
- **VEINS:** Anhydrite+silica vein.
- **STRUCTURE:** None.
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**Hole 376-U1530A-26R Section 2, Top of Section: 127.75 m (CSF-A)**

**Description:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts. Lower silicified than previous section. Fine network and vug infill of anhydrite and pyrite. VEINS: None. STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.

**Site U1530 core descriptions**

**Visual core descriptions**
Hole 376-U1530A-27R Section 1, Top of Section: 131.5 m (CSF-A)

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376-U1530A-27R-1-A, 0-117 cm
UNIT: 4 SUBUNIT: -
LITHOLOGY: lapilli-tuff
COLOR: bluish gray
TEXTURE: matrix-supported, monomict
CLASTS: volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts. Slightly higher silicified than previous section. Fine-network and vug infill of anhydrite and pyrite.
VEINS: Anhydrite veins.
STRUCTURE: None.
**Site U1530 core descriptions**

**Visual core descriptions**

*Hole 376-U1530A-27R Section 2, Top of Section: 132.67 m (CSF-A)*

| Depth (m) | Core length (cm) | Pieces number | Igneous lith. unit | Operation | Shipboard | Core image | Graphic lithology | Alteration rank | Sulfide abundance (%) | Major minerals (from XRD) | Sorting | Grain size AVG, MAX | Matrix volume (%) | SHMSL (SI) | Reflectance L* a* b* | Magnetic susceptibility | Matrix volume (%) | Grain size AVG, MAX | Sorting | Fractures and veins | Vugs and fractures | Sulfide abundance (%) | Major minerals (from XRD) | Sorting | Grain size AVG, MAX | Matrix volume (%) | SHMSL (SI) | Reflectance L* a* b* | Magnetic susceptibility | Matrix volume (%) | Grain size AVG, MAX | Sorting | Fractures and veins | Vugs and fractures |
|-----------|------------------|---------------|--------------------|------------|-----------|------------|-------------------|------------------|----------------------|--------------------------|---------|-------------------|----------------|------------|-----------------|-------------------|----------------|-------------------|-------------------|-----------------|------------------|-------------------|-------------------|-----------------|-------------------|-------------------|-----------------|------------------|-------------------|-------------------|-----------------|------------------|-------------------|-----------------|------------------|-------------------|-------------------|-----------------|------------------|
| 132.74    |                  |               |                    |            |           |            |                   |                  |                      |                          |         |                   |                |            |                 |                   |                |                   |                   |                |                 |                   |                   |                |                 |                   |                |                 |                   |                   |                |                 |                   |                |                 |
| 132.84    |                  |               |                    |            |           |            |                   |                  |                      |                          |         |                   |                |            |                 |                   |                |                   |                   |                |                 |                   |                   |                |                 |                   |                |                 |                   |                   |                |                 |                   |                |                 |
| 132.94    |                  |               |                    |            |           |            |                   |                  |                      |                          |         |                   |                |            |                 |                   |                |                   |                   |                |                 |                   |                   |                |                 |                   |                |                 |                   |                   |                |                 |                   |                |                 |
| 133.04    |                  |               |                    |            |           |            |                   |                  |                      |                          |         |                   |                |            |                 |                   |                |                   |                   |                |                 |                   |                   |                |                 |                   |                |                 |                   |                   |                |                 |                   |                |                 |
| 133.14    |                  |               |                    |            |           |            |                   |                  |                      |                          |         |                   |                |            |                 |                   |                |                   |                   |                |                 |                   |                   |                |                 |                   |                |                 |                   |                   |                |                 |                   |                |                 |

376-U1530A-27R-2-A, 0-54 cm
UNIT: 4 SUBUNIT: -
LITHOLOGY: lapilli-tuff
COLOR: bluish gray
TEXTURE: matrix-supported, monomict
CLASTS: volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: None.
STRUCTURE: None.
### Site U1530 core descriptions

#### Visual core descriptions

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376-U1530A-28R-1-A, 0-94 cm

UNIT: 4 SUBUNIT: -

LITHOLOGY: lapilli-tuff
COLOR: bluish gray
TEXTURE: matrix-supported, monomict
CLASTS: volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: None.
STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.

**Description:**

- **Sulfide abundance (%)**
- **Grain size AVG, MAX**
- **Matrix volume (%)**
- **Magnetic susceptibility**
- **Reflectance (b')**

---

**Visual Core Descriptions:**

![Visual Core Descriptions](image-url)
<table>
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<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Operation</th>
<th>Shipboard samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Grading</th>
<th>Sorting</th>
<th>Grain size AVG, MAX</th>
<th>Matrix volume (%)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Description</th>
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**Hole 376-U1530A-29R Section 1, Top of Section: 141.1 m (CSF-A)**

**Site U1530 core descriptions**

**Visual core descriptions**

- **LITHOLOGY:** lapilli-tuff
- **COLOR:** bluish gray
- **TEXTURE:** matrix-supported, monomict
- **CLASTS:** volcanic
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, partially resorbed. Fine-network and vug infill of anhydrite and pyrite. Intra-interstitial infill by pyrite.
- **VEINS:** None.
- **STRUCTURE:** None.
**Description**

376-U1530A-30R-1-A, 0-74 cm

**UNIT:** 4  **SUBUNIT:** -

**LITHOLOGY:** lapilli-tuff

**COLOR:** dark bluish gray

**TEXTURE:** matrix-supported, monomict

**CLASTS:** volcanic

**UPPER CONTACT:** not recovered

**LOWER CONTACT:** not recovered

**ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, partially resorbed. Fine-network and vug infill of anhydrite and pyrite. Intra-interstitial infill by pyrite. Pseudomorphs after plagioclase of sulfates.

**VEINS:** None.

**STRUCTURE:** Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.

---

### Core Image and Observation

**Depth (m):**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core piece</th>
<th>Core length (cm)</th>
<th>Core piece number</th>
<th>Site U1530 core descriptions</th>
<th>Visual core descriptions</th>
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<td>145.98</td>
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<td>146.08</td>
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<tr>
<td>146.18</td>
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<td>146.28</td>
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### XRD Analysis

**XRD Analysis**

- **401**
- **402**
- **403**
- **404**
- **405**

**Description**

- **Reflectance**
  - b*a*L*
  - 48.0
  - 28.0
  - 8.0

**Magnetic susceptibility**

- **SHMSL (SI)**
  - -1
  - -1
  - -1

**Matrix volume (%)**

- **100**
- **75**
- **50**
- **25**
- **0**

**Grain size AVG, MAX**

- **1**
- **Clay**
- **Silt**
- **Sand**
- **Granule**
- **Small pebble**
- **Medium pebble**
- **Large pebble**
- **Very large pebble**
- **Cobble**

**Sorting**

- **Poor**
- **Moderate**
- **Well**

**Grading**

- **Fractures and veins**
  - **Major**

**Major minerals (from XRD)**

- **Sulfide abundance (%)**
  - **15**
  - **10**
  - **5**
  - **0**

**Alteration rank**

**Graphic lithology**

**Core image**

**Shipboard samples**

**Igneous lith. unit**

**Piece number**

**Core length (cm)**

**Depth (m)**

**Core length (cm)**

**Core piece number**

**Site U1530 core descriptions**

**Visual core descriptions**

**Orientation**

**Igneous lith. unit**

**Piece number**

**Core length (cm)**

**Depth (m)**
**Hole 376-U1530A-31R Section 1, Top of Section: 150.7 m (CSF-A)**

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<th>Depth (m)</th>
<th>Piece number</th>
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<th>Orientation</th>
<th>Visual core descriptions</th>
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<td>151.00</td>
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**LITHOLOGY:** lapilli-tuff
**COLOR:** dark bluish gray
**TEXTURE:** matrix-supported, monomict
**CLASTS:** volcanic
**UPPER CONTACT:** not recovered
**LOWER CONTACT:** not recovered
**ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, partially resorbed. Lower silicified than previous section. Fine-network and vug infill of anhydrite and pyrite. Intra-interstitial infill by pyrite. **VEINS:** Silica vein. **STRUCTURE:** None.

376-U1530A-31R-1-A, 0-98 cm
**UNIT:** 4  **SUBUNIT:** -
**COLOR:** dark bluish gray
**TEXTURE:** matrix-supported, monomict
**CLASTS:** volcanic
**UPPER CONTACT:** not recovered
**LOWER CONTACT:** not recovered
**ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, partially resorbed. Lower silicified than previous section. Fine-network and vug infill of anhydrite and pyrite. Intra-interstitial infill by pyrite. **VEINS:** Silica vein. **STRUCTURE:** None.
**Hole 376-U1530A-32R Section 1, Top of Section: 155.5 m (CSF-A)**

**Lithology:** lapilli-tuff
**Color:** dark bluish gray
**Texture:** matrix-supported, monomict
**Clasts:** volcanic
**Upper Contact:** not recovered
**Lower Contact:** not recovered

**Alteration:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, partially resorbed. Higher silicified than previous section. Fine-network and vug infill of anhydrite and pyrite. Intra-interstitial infill by pyrite.

**Veins:** None.

**Structure:** Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.

---

### Visual Core Descriptions

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<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Ignimbrite lith. unit</th>
<th>Orientation</th>
<th>Core image</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Alteration rank</th>
<th>Grain size AVG, MAX</th>
<th>Sorting</th>
<th>Matrix volume (%)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
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</table>
Site U1530 core descriptions

Hole 376-U1530A-33R Section 1, Top of Section: 160.3 m (CSF-A)

LITHOLOGY: lapilli-tuff
COLOR: dark bluish gray
TEXTURE: matrix-supported, monomict
CLASTS: volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
### Site U1530 core descriptions

#### Hole 376-U1530A-34R Section 1, Top of Section: 165.1 m (CSF-A)

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<th>Core piece number</th>
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<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Grain size AVG, MAX</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Description</th>
</tr>
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<tbody>
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<td>10</td>
<td>lapilli-tuff with blocks-bombs</td>
<td>not recovered</td>
<td>Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, clearly distinguishable. Lower silicified than previous section. Fine-network and vug infill by pyrite. Intra-interstitial infill by pyrite. VEIRS: None. STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.</td>
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**Visual core descriptions:**


### XRD

**Reflectance**

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**Magnetic susceptibility**

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**Matrix volume (%)**

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**Grain size AVG, MAX**

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**Sorting**

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**Grading**

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<td>Fractures and veins</td>
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**Major minerals (from XRD)**

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**Sulfide abundance (%)**

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**Core image**

- [Core image 1](#)
- [Core image 2](#)
- [Core image 3](#)
- [Core image 4](#)
- [Core image 5](#)
- [Core image 6](#)
- [Core image 7](#)
- [Core image 8](#)
- [Core image 9](#)
- [Core image 10](#)

**Core description**

- [Core description 1](#)
- [Core description 2](#)
- [Core description 3](#)
- [Core description 4](#)
- [Core description 5](#)
- [Core description 6](#)
- [Core description 7](#)
- [Core description 8](#)
- [Core description 9](#)
- [Core description 10](#)
**Hole 376-U1530A-35R Section 1, Top of Section: 169.9 m (CSF-A)**

| Depth (m) | Core length (cm) | Pieces number | Igneous lith. unit | Orientation | Core image | Gra... | Sulfide ... | Grain size ... | Magnetic ... | Reflectance | Description |
|-----------|------------------|---------------|--------------------|-------------|-----------|---------|-----------|-------------|--------------|-------------|-------------|-------------|
| 169.98    |                  | 01            |                    |             |           | MAD     |           |             |              |             |             |
| 170.08    |                  | 4             |                    |             |           |         |           |             |              |             |             |
| 170.18    |                  |               |                    |             |           |         |           |             |              |             |             |
| 170.28    |                  |               |                    |             |           |         |           |             |              |             |             |

**LITHOLOGY**: lapilli-tuff

**COLOR**: dark bluish gray

**TEXTURE**: matrix-supported, polymict

**CLASTS**: volcanic, volcanic

**UPPER CONTACT**: not recovered

**LOWER CONTACT**: not recovered

**ALTERATION**: Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, clearly distinguishable. Lower silicified than previous section. Fine-network and vug infill of anhydrite and pyrite. Intra-interstitial infill by pyrite. VEINS: None.

**STRUCTURE**: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.

376-U1530A-35R-1-A, 0-47 cm

**UNIT**: 4 SUBUNIT: -

**LITHOLOGY**: lapilli-tuff

**COLOR**: dark bluish gray

**TEXTURE**: matrix-supported, polymict

**CLASTS**: volcanic, volcanic

**UPPER CONTACT**: not recovered

**LOWER CONTACT**: not recovered

**ALTERATION**: Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, clearly distinguishable. Lower silicified than previous section. Fine-network and vug infill of anhydrite and pyrite. Intra-interstitial infill by pyrite. VEINS: None.

**STRUCTURE**: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
Hole 376-U1530A-36R Section 1, Top of Section: 174.7 m (CSF-A)

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<th>Shipboard samples</th>
<th>Core image</th>
<th>Sulfide abundance (%)</th>
<th>Fractures and veins</th>
<th>Grains</th>
<th>Sorting</th>
<th>Matrix volume (%)</th>
<th>SHMSL (SI)</th>
<th>Reflectance L* a* b*</th>
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376-U1530A-36R-1-A, 0-92 cm
UNIT: 4 SUBUNIT: -
LITHOLOGY: lapilli-tuff
COLOR: bluish gray
TEXTURE: matrix-supported, monomict
CLASTS: volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered

376-U1530A-36R-1-A, 92-101 cm
UNIT: 4 SUBUNIT: -
LITHOLOGY: volcaniclastic
COLOR: bluish gray
TEXTURE: altered
CLASTS: volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
### Hole 376-U1530A-37R Section 1, Top of Section: 179.5 m (CSF-A)

- **Unit:** 4
- **Subunit:** -
- **Lithology:** Volcaniclastic
- **Color:** Bluish gray
- **Texture:** Altered
- **Clasts:**
  - **Upper Contact:** Not recovered
  - **Lower Contact:** Not recovered
- **Alteration:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, strongly resorbed. Fine-network and vug infill of anhydrite and pyrite. Intra-interstitial infill by pyrite. Pseudomorphs after plagioclase of sulfates and pyrite.
- **Veins:** None.
- **Structure:** Anhydrite and pyrite veins.

#### Table: Core Descriptions

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<th>Graphic lithology</th>
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**Description:**
376-U1530A-37R-1-A, 0-80 cm
UNIT: 4 SUBUNIT: -
LITHOLOGY: Volcaniclastic
COLOR: Bluish gray
TEXTURE: Altered
CLAUSTE:
UPPER CONTACT: Not recovered
LOWER CONTACT: Not recovered
VEINS: None.
STRUCTURE: Anhydrite and pyrite veins.
### Site U1530 core descriptions

#### Visual core descriptions

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<th>Core image</th>
<th>Core sample</th>
<th>Core description</th>
<th>Site U1530 A-38R-1-A, 0-68 cm</th>
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### Table

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**Hole 376-U1530A-39R Section 1, Top of Section: 189.1 m (CSF-A)**

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376-U1530A-39R-1-A, 0-150 cm
UNIT: 4 SUBUNIT: -
LITHOLOGY: volcaniclastic
COLOR: bluish gray
TEXTURE: altered
CLASTS:
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: Anhydrite+pyrite and pyrite veins.
STRUCTURE: Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
**Hole 376-U1530A-39R Section 2, Top of Section: 190.6 m (CSF-A)**

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**Description:**

- **376-U1530A-39R-2-A, 0-89 cm**
- **UNIT:** 4
- **SUBUNIT:** -
- **LITHOLOGY:** volcaniclastic
- **COLOR:** bluish gray
- **TEXTURE:** altered
- **CLASTS:**
  - **UPPER CONTACT:** not recovered
  - **LOWER CONTACT:** not recovered
- **VEINS:** Anhydrite vein.
- **STRUCTURE:** Weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation.
The lithology is volcaniclastic, with a bluish gray color and an altered texture.

Upper and lower contacts are not recovered.

Alteration is intensely altered, with a silica and pyrite-rich matrix and clay and anhydrite-rich clasts. The clasts are strongly resorbed. Fine-network and vug infill of anhydrite and pyrite. Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite is partly oxidized.

Veins are not present.

Structure is weak volcanic fabric defined by fabrics within different volcanic clasts with different orientation. Two slickenlines (45 and 46 cm), moderate to steep rake, normal sense of shear.
**Hole 376-U1530A-41R Section 1, Top of Section: 198.7 m (CSF-A)**

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**376-U1530A-41R-1-A, 0-29 cm**

UNIT: 4 SUBUNIT: -
LITHOLOGY: volcanioclastic
COLOR: bluish gray
TEXTURE: altered
CLASTS:
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: None.
STRUCTURE: None.

**376-U1530A-41R-1-A, 29-74 cm**

UNIT: 4 SUBUNIT: -
LITHOLOGY: lapillistone
COLOR: bluish gray
TEXTURE: clast-supported, monomict
CLASTS: volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: Silica+pyrite veins.
STRUCTURE: None.
**Hole 376-U1530A-42R Section 1, Top of Section: 203.5 m (CSF-A)**

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**Description:**

376-U1530A-42R-1-A, 0-28 cm

**UNIT:** 4 SUBUNIT: -

**COLOR:** bluish gray

**TEXTURE:** altered

**CLASTS:**

**UPPER CONTACT:** not recovered

**LOWER CONTACT:** not recovered

**ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, strongly resorbed. Fine-network and vug infill of anhydrite and pyrite. Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite partly oxidized.

**VEINS:** Silica vein.

**STRUCTURE:** None.
Site U1530 core descriptions

Visual core descriptions

Hole 376-U1530A-43R Section 1, Top of Section: 208.3 m (CSF-A)

- UNIT: 4
- SUBUNIT: -
- LITHOLOGY: volcaniclastic
- COLOR: bluish gray
- TEXTURE: altered
- CLASTS: Upper Contact: not recovered, Lower Contact: not recovered
- VEINS: Anhydrite+pyrite veins.
- STRUCTURE: None.

376-U1530A-43R-1-A, 0-80 cm
- UNIT: 4
- SUBUNIT: -
- LITHOLOGY: volcaniclastic
- COLOR: bluish gray
- TEXTURE: altered
- CLASTS: Upper Contact: not recovered, Lower Contact: not recovered
- VEINS: Anhydrite+pyrite veins.
- STRUCTURE: None.
Hole 376-U1530A-44R Section 1, Top of Section: 213.1 m (CSF-A)

**Description:**
- UNIT: 4 SUBUNIT: -
- LITHOLOGY: volcaniclastic
- COLOR: light bluish gray
- TEXTURE: altered
- CLASTS:
  - UPPER CONTACT: not recovered
  - LOWER CONTACT: not recovered
- VEINS: Silica+pyrite veins.
- STRUCTURE: None.
Hole 376-U1530A-45R Section 1, Top of Section: 217.9 m (CSF-A)

- **LITHOLOGY:** volcaniclastic
- **COLOR:** light bluish gray
- **TEXTURE:** altered
- **CLASTS:**
  - **UPPER CONTACT:** not recovered
  - **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered.
  Silica and pyrite rich matrix with clay and anhydrite rich clasts, strongly resorbed. Vug infill of anhydrite and pyrite.
  Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite partly oxidized.
- **VEINS:** None.
- **STRUCTURE:** None.
376-U1530A-46R-1, 0-111 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: light bluish gray
TEXTURE: 
PHENOCRYSTS: 
GROUNDMASS: 
VESICLES: VESICLE ROUNDEDNESS & SPHERICITY: 
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: Pyrite veins.
STRUCTURE: None.

Site U1530 core descriptions
Visual core descriptions

Hole 376-U1530A-46R Section 1, Top of Section: 222.7 m (CSF-A)
### Visual core descriptions

**Hole 376-U1530A-47R Section 1, Top of Section: 227.5 m (CSF-A)**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Orientation</th>
<th>Core image</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts PLAG, CPX volume (%)</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance L^* a^* b^*</th>
<th>Description</th>
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**Description:**

- **SITE:** U1530
- **UNIT:** 5 SUBUNIT: -
- **LITHOLOGY:** altered volcanic
- **COLOR:** light bluish gray
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDNESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, partially resorbed. Vug-infill of anhydrite and pyrite, predominantly within clasts. Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite partly oxidized.
- **VEINS:** None.
- **STRUCTURE:** None.

376-U1530A-47R-1-A, 0-32 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: light bluish gray
TEXTURE:
PHENOCRYSTS:
GROUNDMASS:
VESICLES:
VESICLE ROUNDNESS & SPHERICITY:
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: None.
STRUCTURE: None.
Hole 376-U1530A-48R Section 1, Top of Section: 232.3 m (CSF-A)

376-U1530A-48R-1-A, 0-68 cm
LITHOLOGY: altered volcanic
COLOR: light bluish gray
TEXTURE:
PHENOCRYSTS:
GROUNDMASS:
VESICLES:
VESICLE ROUNDNESS & SPHERICITY:
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: Anhydrite veins.
STRUCTURE: None.
### Site U1530 core descriptions

**Hole 376-U1530A-49R Section 1, Top of Section: 237.1 m (CSF-A)**

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<tr>
<th>Depth (m)</th>
<th>Core piece number</th>
<th>Piece length (cm)</th>
<th>Petrographic lithology</th>
<th>Alternation rank</th>
<th>Major minerals (from XRD)</th>
<th>Sorting</th>
<th>Sulfide abundance (%)</th>
<th>Grain size AVG, MAX</th>
<th>Matrix volume (%)</th>
<th>Fractures and veins</th>
<th>Alteration rank</th>
<th>Grading</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
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<td>Poor</td>
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</table>

**376-U1530A-49R-1-A, 0-8 cm**
- **UNIT**: 5
- **SUBUNIT**: -
- **LITHOLOGY**: lapilli-tuff
- **COLOR**: dark bluish gray
- **TEXTURE**: matrix-supported, monomict
- **CLASTS**: volcanic
- **UPPER CONTACT**: not recovered
- **ALTERATION**: Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, partially resorbed. Fine network and vug-infill of anhydrite and pyrite, predominantly within clasts. Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite partly oxidized.
- **VEINS**: Silica vein.
- **STRUCTURE**: None.

**376-U1530A-49R-1-A, 8-127 cm**
- **UNIT**: 5
- **SUBUNIT**: -
- **LITHOLOGY**: altered volcanic
- **COLOR**: gray
- **TEXTURE**:
- **PHENOCRYSTS**:
- **GROUNDMASS**:
- **VESICLES**:
- **VESICLE ROUNDNESS & SPHERICITY**:
- **UPPER CONTACT**: not recovered
- **LOWER CONTACT**: not recovered
- **ALTERATION**: Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, partially resorbed. Fine network and vug-infill of anhydrite and pyrite, predominantly within clasts. Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite partly oxidized.
- **VEINS**: Anhydrite+/-silica and silica+pyrite veins.
- **STRUCTURE**: Slickenline with steep rake and normal sense of shear (82 cm).
### Site U1530 core descriptions

**Visual core descriptions**

**Hole 376-U1530A-49R Section 2, Top of Section: 238.37 m (CSF-A)**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core piece number</th>
<th>Lithology</th>
<th>Color</th>
<th>Texture</th>
<th>Phenocrysts</th>
<th>Groundmass</th>
<th>Vesicles</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
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**Core description:**
- **LITHOLOGY:** altered volcanic
- **COLOR:** gray
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, strongly resorbed. Fine network and vug-fill of anhydrite and pyrite, predominantly within clasts. Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite partly oxidized.
- **VEINS:** Anhydrite and silica+pyrite veins.
- **STRUCTURE:** None.
**Hole 376-U1530A-50R Section 1, Top of Section: 241.9 m (CSF-A)**

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<th>Core piece number</th>
<th>Core length (cm)</th>
<th>Igneous lith. unit</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Fractures and veins</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Alteration rank</th>
<th>Alteration rank (XRD)</th>
<th>Major minerals (from XRD)</th>
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**376-U1530A-50R-1-A, 0-108 cm**

**UNIT:** 5

**SUBUNIT:** -

**LITHOLOGY:** altered volcanic

**COLOR:** bluish gray

**TEXTURE:**

**PHENOCRYSTS:**

**GROUNDMASS:**

**VESICLES:**

**VESICLE ROUNDNESS & SPHERICITY:**

**UPPER CONTACT:** not recovered

**LOWER CONTACT:** not recovered

**ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, strongly resorbed. Fine network and vug-infill of anhydrite and pyrite, predominantly within clasts. Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite partly oxidized.

**VEINS:** Anhydrite±pyrite and silica veins.

**STRUCTURE:** None.
**Site U1530 core descriptions**

Hole 376-U1530A-50R Section 2, Top of Section: 242.98 m (CSF-A)

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<th>Core length (cm)</th>
<th>Unit</th>
<th>Subunit</th>
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**376-U1530A-50R-2-A, 0-63 cm**

**UNIT:** 5

**SUBUNIT:** -

**LITHOLOGY:** altered volcanic

**COLOR:** bluish gray

**TEXTURE:**

**PHENOCRYSTS:**

**GROUNDMASS:**

**VESICLES:**

**VESICLE ROUNDNESS & SPHERICITY:** not recovered

**UPPER CONTACT:** not recovered

**LOWER CONTACT:** not recovered

**ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite rich clasts, strongly resorbed. Fine network and vug-infill of anhydrite and pyrite, predominantly within clasts. Pseudomorphs after plagioclase of sulfides and pyrite. Pyrite partly oxidized.

**VEINS:** Silica+/-pyrite veins.

**STRUCTURE:** None.
### Site U1530 core descriptions

**Hole 376-U1530A-51R Section 1, Top of Section: 246.7 m (CSF-A)**

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<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Fractures and veins</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Sorting</th>
<th>Matrix volume (%)</th>
<th>SHMSL (SI)</th>
<th>Reflectance L&lt;sup&gt;a&lt;/sup&gt; b&lt;sup&gt;<em>&lt;sub&gt;a&lt;/sub&gt;</em></th>
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**Description**

376-U1530A-51R-1-A, 0-7 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: volcaniclastic
COLOR: bluish gray
TEXTURE: altered
CLASTS: Upper Contact: not recovered
VEINS: None.
STRUCTURE: None.

376-U1530A-51R-1-A, 7-58 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: bluish gray
TEXTURE: Phenocrysts:
PHENOCRYSTS: Groundmass:
VESICLES:
VESICLE ROUNDNESS & SPHERICITY:
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: Pyrite+anhydrite veins.
STRUCTURE: None.
376-U1530A-51R-1-A, 0-7 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: volcaniclastic
COLOR: bluish gray
TEXTURE: altered
CLASTS:
UPPER CONTACT: not recovered
VEINS: None.
STRUCTURE: None.

376-U1530A-51R-1-A, 7-58 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: bluish gray
TEXTURE: altered
CLASTS: altered
UPPER CONTACT: not recovered
VEINS: Pyrite+anhydrite veins.
STRUCTURE: None.
Hole 376-U1530A-52R Section 1, Top of Section: 251.5 m (CSF-A)

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<th>Core length (cm)</th>
<th>Core image</th>
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<th>Fractures and veins</th>
<th>Phenocrysts</th>
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<th>Vesicle size MAX, MODE (mm)</th>
<th>Vesicle roundness &amp; sphericity</th>
<th>Major minerals (from XRD)</th>
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376-U1530A-52R-1-A, 0-119 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: light bluish gray
TEXTURE: 
PHENOCRYST:
GROUNDMASS:
VESICLES:
VESICLE ROUNDESS & SPHERICITY:
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered.
VEINS: Silica+pyrite+anhydrite veins.
STRUCTURE: None.

Description [Visual core descriptions]
Hole 376-U1530A-53R Section 1, Top of Section: 256.3 m (CSF-A)

- Lithology: altered volcanic
- Color: light greenish grey
- Texture:
- Phenocrysts:
- Groundmass:
- Vesicles:
- Vesicle roundness & sphericity:
- Upper contact: not recovered
- Lower contact: not recovered
- Alteration: Intensely altered, more greenish color than previous section. Silica and pyrite rich matrix with clay and anhydrite. Fine network and suggit of anhydrite and pyrite. Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite partly oxidized.
- Veins: Silica-anhydrite and pyrite veins.
- Structure: None.
Hole 376-U1530A-54R Section 1, Top of Section: 261.1 m (CSF-A)

Site U1530 core descriptions

Hole 376-U1530A-55R Section 1, Top of Section: 265.9 m (CSF-A)

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<th>Vesicle size MAX, MODE (mm)</th>
<th>Magnetic susceptibility SHMSL (SI)</th>
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**Description:**

- **هى 376-U1530A-55R 2-A, 0-102 cm**
- **UNIT:** S SUBUNIT: -
- **LITHOLOGY:** altered volcanic
- **COLOR:** light greenish grey
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDNESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite. Fine network and vug-infill of anhydrite and pyrite. Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite partly oxidized.
- **VÉNIS:** Silica+pyrite veins.
- **STRUCTURE:** None.
### Site U1530 core descriptions

**Visual core descriptions**

#### Hole 376-U1530A-56R Section 1, Top of Section: 270.7 m (CSF-A)

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<th>Alteration rank</th>
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<th>Major minerals (from XRD)</th>
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**376-U1530A-56R-1-A, 0-130 cm**

**UNIT:** 5, **SUBUNIT:** -

**LITHOLOGY:** altered volcanic

**COLOR:** light gray

**TEXTURE:**

**PHENOCRYSTS:**

**GROUNDMASS:**

**VESICLES:**

**VESICLE ROUNDNESS & SPHERICITY:**

**UPPER CONTACT:** not recovered

**LOWER CONTACT:** not recovered

**ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite. Fine network and vug-infill of anhydrite and pyrite. Pseudomorphs after plagioclase of sulfates and pyrite. Pyrite partly oxidized.

**VEINS:** Silica+/-pyrite+/-anhydrite veins.

**STRUCTURE:** None.
**Hole 376-U1530A-56R Section 2, Top of Section: 272.0 m (CSF-A)**

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<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Orientation</th>
<th>Core image</th>
<th>Core description</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Phenozyrst</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
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Hole 376-U1530A-57R Section 1, Top of Section: 275.5 m (CSF-A)

276.00-276.10 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: light gray
TEXTURE: 
PHENOCRYSTS: 
GROUNDMASS: 
VESICLES:
VESICLE ROUNDNESS & SPHERICITY: 
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
VEINS: Silica+/-anhydrite veins.
STRUCTURE: None.
Hole 376-U1530A-58R Section 1, Top of Section: 280.3 m (CSF-A)

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<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Piece number</th>
<th>Igneous lith. unit</th>
<th>Operation</th>
<th>Shipboard samples</th>
<th>Core image</th>
<th>Core info</th>
<th>Lithology</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>SHMSL (SI)</th>
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UNIT: 5  SUBUNIT: -  
LITHOLOGY: altered volcanic  
COLOR: light gray  
TEXTURE:  
PHENOCRYSTS:  
GROUNDMASS:  
VESICLE ROUNDNESS & SPHERICITY:  
UPPER CONTACT: not recovered  
LOWER CONTACT: not recovered  
VEINS: Pyrite+silica vein.  
STRUCTURE: None.
**Hole 376-U1530A-59R Section 1, Top of Section: 285.1 m (CSF-A)**

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<th>Shipboard samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts PLAG, CPX, volume (%)</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance L* a* b*</th>
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376-U1530A-59R-1-A, 0-31 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: gray
### Site U1530 core descriptions

**Visual core descriptions**

| Core length (cm) | Piece number | Core image | Graphic lithology | Magentic susceptibility | Reflectance | Sulfide abundance (%) | Groundmass grain size (mm) | Vesicle size MAX, MODE (mm) | Phenocrysts | Plag, Cpx, volume (%) | Groundmass | Vescicles | Vesicle roundness & sphericity | Alteration rank | Upper Contact | Lower Contact | Fractures and veins | Major minerals (from XRD) | View | Description |
|------------------|--------------|------------|-------------------|------------------------|-------------|-----------------------|---------------------------|-----------------------------|-------------|-----------------------|-------------|-----------|-----------------------------|----------------<<<<|---------------|---------------|--------------------------|--------------------------|------|-------------|
### Site U1530 core descriptions

#### Visual core descriptions

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<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Piece number</th>
<th>Igneous lith. unit</th>
<th>Operation</th>
<th>Shipboard samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts PLAG, CPX volume (%)</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Magnetic susceptibility</th>
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**Description:**

- **UNIT:** 5 SUBUNIT: -
- **LITHOLOGY:** altered volcanic
- **COLOR:** gray
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLE ROUNDESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay and anhydrite, clasts are completely resorbed. Fine network and vug-infill of anhydrite and pyrite. Pyrite partly oxidized.
- **VEINS:** Pyrite vein.
- **STRUCTURE:** None.
### Hole 376-U1530A-62R Section 1, Top of Section: 299.5 m (CSF-A)

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<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Vesicle roundness &amp; sphericity</th>
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**Description:**

- **UNIT:** 5 SUBUNIT: -
- **LITHOLOGY:** altered volcanic
- **COLOR:** gray
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLE ROUNDEDNESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Silica and pyrite rich matrix with clay, silica and anhydrite, patchy. Fine network and vug-infill of anhydrite and pyrite. Pyrite coarser and partly oxidized. Veins: Pyrite+silica and pyrite+sulfate veins
- **STRUCTURE:** Strong to weak volcanic fabric defined by vesicles (0-131 cm).
### Visual Core Descriptions

#### Hole 376-U1530A-63R Section 1, Top of Section: 304.3 m (CSF-A)

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<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Major lithology</th>
<th>Main minerals</th>
<th>Sulfide abundance (%)</th>
<th>Veins size</th>
<th>Magic susceptibility</th>
<th>Reflectance</th>
<th>Magnetic susceptibility</th>
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**Description:**
- **Lithology:** Altered volcanic
- **Color:** Light gray
- **Texture:** Phenocrysts, groundmass, vesicles
- **Vesicle roundness & sphericity:**
- **Upper contact:** Not recovered
- **Lower contact:** Not recovered
- **Alteration:** Intensely altered. Silica and pyrite rich matrix with clay, silica and anhydrite, patchy. Pseudomorphs after plagioclase of white color and soft. Fine network and vug-infill of anhydrite and pyrite. Pyrite coarser and partly oxidized.
- **Veins:** Sulfide veins.
- **Structure:** None.

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### Additional Information

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<tr>
<th>Description</th>
<th>Reflectance</th>
<th>Magnetic susceptibility</th>
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<td>LOWER CONTACT: not recovered</td>
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### Table

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<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Major lithology</th>
<th>Main minerals</th>
<th>Sulfide abundance (%)</th>
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**Description:**
- **Lithology:** Altered volcanic
- **Color:** Light gray
- **Texture:** Phenocrysts, groundmass, vesicles
- **Vesicle roundness & sphericity:**
- **Upper contact:** Not recovered
- **Lower contact:** Not recovered
- **Alteration:** Intensely altered. Silica and pyrite rich matrix with clay, silica and anhydrite, patchy. Pseudomorphs after plagioclase of white color and soft. Fine network and vug-infill of anhydrite and pyrite. Pyrite coarser and partly oxidized.
- **Veins:** Sulfide and pyrite veins.
- **Structure:** None.
### Site U1530 Core Descriptions

#### Visual Core Descriptions

**0.42 cm**
- **Unit:** 5 SUBUNIT: -
- **Lithology:** altered volcanic lava
- **Color:** greenish gray
- **Texture:**
- **Phenocrysts:**
- **Groundmass:**
- **Vesicles:**
- **Vesicle Roundness & Sphericity:**
- **Upper Contact:** not recovered
- **Lower Contact:** not recovered
- **Alteration:** Intensely altered.
- **Description:**
  - 0-17 cm: Silica and pyrite rich, patchy matrix of clay, silica and anhydrite. Fine network and vug-infill of anhydrite and pyrite. Pyrite coarser and partly oxidised.
  - 17-42 cm: Greenish altered, clay-silica-pyrite dominated, vugs filled with silica.
  - **Veins:** Anhydrite + pyrite + silica veins.
  - **Structure:** Moderate volcanic fabric defined by vesicles (0-30 cm); weak fabric defined by vesicles (30-60 cm).

**42-101 cm**
- **Unit:** 5 SUBUNIT: -
- **Lithology:** altered volcanic lava
- **Color:** gray
- **Texture:**
- **Phenocrysts:**
- **Groundmass:**
- **Vesicles:**
- **Vesicle Roundness & Sphericity:**
- **Upper Contact:** not recovered
- **Lower Contact:** not recovered
- **Alteration:** Intensely altered.
- **Description:**
  - Intensely altered. Silica and pyrite rich, patchy matrix of clay, silica and anhydrite. Fine network and vug-infill of anhydrite and pyrite. Pyrite coarser and partly oxidised. 17-42 cm: Greenish altered, clay-silica-pyrite dominated, vugs filled with silica. **Veins:** Pyrite and anhydrite veins.
  - **Structure:** Weak fabric defined by vesicles (0-30 cm).

**101-136 cm**
- **Unit:** 5 SUBUNIT: -
- **Lithology:** altered volcanic lava
- **Color:** greenish gray
- **Texture:**
- **Phenocrysts:**
- **Groundmass:**
- **Vesicles:**
- **Vesicle Roundness & Sphericity:**
- **Upper Contact:** not recovered
- **Lower Contact:** not recovered
- **Alteration:** Intensely altered to greenish color. Silica and pyrite rich, patchy matrix of clay, silica and anhydrite. Fine network and vug-infill of anhydrite and pyrite. **Veins:** Anhydrite vein.
  - **Structure:** Weak fabric defined by vesicles (120-136 cm).
Hole 376-U1530A-65R Section 1, Top of Section: 313.9 m (CSF-A)

### Site U1530 core descriptions

### Visual core descriptions

**376-U1530A-65R-1-A, 0-24 cm**

**LITHOLOGY:** altered volcanic lava

**COLOR:** gray

**TEXTURE:**

**PHENOCRYSTS:**

**GROUNDMASS:**

**VESICLES:**

**VESICLE ROUNDNESS & SPHERICITY:**

**UPPER CONTACT:** not recovered

**LOWER CONTACT:** not recovered

**ALTERATION:** Intensely altered. Silica and pyrite rich, patchy matrix of clay, silica and anhydrite. Fine network and oval-shaped vug-infill of anhydrite and pyrite. Pyrite coarser and partly oxidized.

**VEINS:** Silica+anhydrite+/-anhydrite veins.

**STRUCTURE:** Weak volcanic fabric defined by vesicles (0-57 cm).

**376-U1530A-65R-1-A, 24-57 cm**

**LITHOLOGY:** altered volcanic lava

**COLOR:** greenish gray

**TEXTURE:**

**PHENOCRYSTS:**

**GROUNDMASS:**

**VESICLES:**

**VESICLE ROUNDNESS & SPHERICITY:**

**UPPER CONTACT:** not recovered

**LOWER CONTACT:** not recovered

**ALTERATION:** Intensely altered to greenish color. Silica and pyrite rich, patchy matrix of clay, silica and anhydrite. Vug-infill of anhydrite, silica and pyrite.

**VEINS:** Pyrite and silica+anhydrite veins.

**STRUCTURE:** Weak volcanic fabric defined by vesicles (0-57 cm).
### Site U1530 core descriptions

#### Hole 376-U1530A-67R Section 1, Top of Section: 323.5 m (CSF-A)

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<thead>
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<th>Core length (cm)</th>
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<th>Igneous lith. unit</th>
<th>Operation</th>
<th>Shipboard samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts PLAG, Cpx, volume (%)</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance b<em>a</em>L*</th>
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**376-U1530A-67R-1-A, 0-12 cm**

- **UNIT:** 5
- **SUBUNIT:** -
- **LITHOLOGY:** altered volcanic
- **COLOR:** light gray
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDEDNESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Strongly silicified. Patchy replacement by silica, clay minerals and anhydrite. Fracture controlled veinlets all over.
- **VEINS:** Silica and anhydrite-pyrite veins.
- **STRUCTURE:** None.
- **VEINS:** Pyrite-silica+ anhydrite veins.
- **STRUCTURE:** None.

**376-U1530A-67R-1-A, 12-16 cm**

- **UNIT:** 5
- **SUBUNIT:** -
- **LITHOLOGY:** altered volcanic
- **COLOR:** greenish gray
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDEDNESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Strongly silicified. Patchy replacement by silica, clay minerals and anhydrite. Fracture controlled veinlets all over.
- **VEINS:** Silica and anhydrite-pyrite veins.
- **STRUCTURE:** None.

**376-U1530A-67R-1-A, 16-64 cm**

- **UNIT:** 5
- **SUBUNIT:** -
- **LITHOLOGY:** altered volcanic
- **COLOR:** light gray
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDEDNESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered. Strongly silicified. Patchy replacement by silica, clay minerals and anhydrite. Fracture controlled veinlets all over.
- **VEINS:** Silica+pyrite veins.
- **STRUCTURE:** None.
**Hole 376-U1530A-68R Section 1, Top of Section: 328.3 m (CSF-A)**

| Depth (m) | Core length (cm) | Pieces number | Igneous lith unit | Opposition Shipboard samples | Core image | Sulfide abundance (%) | Phenocrysts PLAG, Cpx, volume (%) | Groundmass grain size (mm) | Vesicle size MAX, MODE | Magnetic susceptibility | Reflectance b*a*L* | Description |
|-----------|------------------|---------------|-------------------|-------------------------------|------------|------------------------|-------------------------------|---------------------------|-------------------------|-----------------|---------------|--------------|--------------------------------|
### Site U1530 core descriptions

#### Visual core descriptions

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<th>Pieces number</th>
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**Hole 376-U1530A-69R Section 1, Top of Section: 333.1 m (CSF-A)**

- **Sulfide abundance (%):**
- **SHMSL (SI):**
- **Reflectance:***
- **Groundmass grain size (mm):**
- **Vesicle size MAX, MODE (mm):**
- **Magnetic susceptibility:**
- **Alteration rank:**
- **Graphic lithology:**
- **Core image:**
- **Core length:**
- **Piece number:**
- **Igneous lith. unit:**
- **Operation:**
- **Orientation:**

**LITHOLOGY:** altered volcanic

**COLOR:** light gray

**TEXTURE:**

**PHENOCRYSTS:**

**GROUNDMASS:**

**VESICLES:**

**VESICLE ROUNDNESS & SPHERICITY:**

**UPPER CONTACT:** not recovered

**LOWER CONTACT:** not recovered

**ALTERATION:** Intensely altered by silica, clay minerals and anhydrite. Strong silicification. Pyrite disseminated.

**VEINS:** None.

**STRUCTURE:** None.

---

**376-U1530A-69R-1-A, 0-9 cm**

- **UNIT:** 5 SUBUNIT: -
- **LITHOLOGY:** altered volcanic
- **COLOR:** light gray
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDNESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered by silica, clay minerals and anhydrite. Strong silicification. Pyrite disseminated.
- **VEINS:** None.
- **STRUCTURE:** None.

**376-U1530A-69R-1-A, 9-35 cm**

- **UNIT:** 5 SUBUNIT: -
- **LITHOLOGY:** altered volcanic
- **COLOR:** greenish gray
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDNESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely altered by greenish clay minerals, silica and anhydrite. Strong silicification. Pyrite disseminated. Coating by yellowish clay minerals and iron-oxyhydroxides.
- **VEINS:** Pyrite vein.
- **STRUCTURE:** None.

---

**TSB**

**ICP**

**MAD**
**Hole 376-U1530A-70R Section 1, Top of Section: 337.9 m (CSF-A)**

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<th>Core</th>
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<th>Major minerals (from XRD)</th>
<th>Fractures and veins</th>
<th>Phenoeyysts PLAG, CPX, volume (%)</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Vesicle roundness &amp; sphericity</th>
<th>Alteration rank</th>
<th>Magnetic susceptibility</th>
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**SITE U1530 Core Descriptions**

**Visual Core Descriptions**

- **SULFIDE ABUNDANCE**: Not recovered
- **MAJOR MINERALS**: PLAG, CPX
- **GROUNDMASS**: Intensely altered by greenish clay minerals, silica and anhydrite. Strong silicification. Pyrite disseminated. A few fracture controlled veinlets.
- **VESICLES**: Pyrite+sils+sulfate veins
- **STRUCTURE**: None.
Hole 376-U1530A-71R Section 1, Top of Section: 342.7 m (CSF-A)

**Visual core descriptions**

**Site U1530 core descriptions**

---

**Core image**: 376-U1530A-71R-1-A, 0-16 cm
- **UNIT**: 5
- **SUBUNIT**: -
- **LITHOLOGY**: altered volcanic
- **COLOR**: light gray
- **TEXTURE**: -
- **PHENOCRYSTS**: -
- **GROUNDMASS**: -
- **VESICLES**:
  - **VESICLE ROUNDNESS & SPHERICITY**: rounded, low (elongate)
- **UPPER CONTACT**: not recovered
- **LOWER CONTACT**: not recovered
- **ALTERATION**: Intensely altered by silica, clay minerals and anhydrite. Strong silicification. Veinlets filled with pyrite and silica. Pyrite disseminated.
- **VEINS**: None.
- **STRUCTURE**: None.

---

**Core image**: 376-U1530A-71R-1-A, 16-20 cm
- **UNIT**: 5
- **SUBUNIT**: -
- **LITHOLOGY**: altered volcanic
- **COLOR**: gray
- **TEXTURE**: -
- **PHENOCRYSTS**: -
- **GROUNDMASS**: -
- **VESICLES**:
  - **VESICLE ROUNDNESS & SPHERICITY**: rounded, low (elongate)
- **UPPER CONTACT**: not recovered
- **LOWER CONTACT**: not recovered
- **ALTERATION**: Intensely altered by silica, clay minerals and anhydrite. Strong silicification. Oval vugs filled with silica. Veinlets filled with pyrite and silica. Pyrite disseminated.
- **VEINS**: Silica vein.
- **STRUCTURE**: None.

---

**Core image**: 376-U1530A-71R-1-A, 20-55 cm
- **UNIT**: 5
- **SUBUNIT**: -
- **LITHOLOGY**: altered volcanic
- **COLOR**: light greenish grey
- **TEXTURE**: -
- **PHENOCRYSTS**: -
- **GROUNDMASS**: -
- **VESICLES**:
  - **VESICLE ROUNDNESS & SPHERICITY**: rounded, low (elongate)
- **UPPER CONTACT**: not recovered
- **LOWER CONTACT**: not recovered
- **ALTERATION**: Intensely altered by silica, clay minerals and anhydrite. Strong silicification. Oval vugs filled with silica. Veinlets filled with pyrite and silica. Pyrite disseminated.
- **VEINS**: Silica+anhydrite veins.
- **STRUCTURE**: None.

---
**Site U1530 core descriptions**

**Visual core descriptions**

**Hole 376-U1530A-72R Section 1, Top of Section: 347.5 m (CSF-A)**

<table>
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<th>Core length (cm)</th>
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<th>Igneous lith. unit</th>
<th>Operation</th>
<th>Shipboard samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Magnetic susceptibility</th>
<th>SHMSL (SI)</th>
<th>Reflectance b<em>a</em>L*</th>
<th>Viscosity size MAX, MODE (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Phenocrysts PLAG, CPX, volume (%)</th>
<th>Groundmass grain size (mm)</th>
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**Description**: 376-U1530A-72R-1-A, 0-59 cm

UNIT: S SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: greenish gray
TEXTURE:
PHENOCRYST:
GROUNDMASS:
VESICLES:
VESICLE ROUNDNESS & SPHERICITY:
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered by greenish gray clay minerals, silica and anhydrite. Strong silicification. Irregular vugs are minor, partly filled with silica and clay.
VEINS: Silica+clay vein.
STRUCTURE: None.

### XRD

**Description**

- 2θ: 347.08°
- Reflectance: b*a*L* 204 184 164 144
- Magnetic susceptibility: SHMSL (SI) 204 184 164 144
- Sulfide abundance: 25%
- Vein size: 20 mm
- Groundmass grain size: 1 mm
- Phenocrysts: PLAG, CPX
- Reflectance: b*a*L*
- Magnetic susceptibility: SHMSL (SI)
Hole 376-U1530A-73R Section 1, Top of Section: 352.3 m (CSF-A)

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<th>Core image</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Vesicle size</th>
<th>Magnetic susceptibility</th>
<th>Reflectance b/a L*</th>
<th>Description</th>
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<td>376-U1530A-73R-1-A, 0-46 cm</td>
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**LITHOLOGY:** altered volcanic

**COLOR:** bluish gray

**TEXTURE:**

**PHENOCRYSTSS:**

**GROUNDMASS:**

**VESICLES & SPHERICITY:**

**UPPER CONTACT:** not recovered

**LOWER CONTACT:** not recovered

**ALTERATION:** Intensely altered by silica, clay minerals, pyrite and sulfates. High silicification. Vugs filled with silica, sulfate and pyrite.

**VEINS:** Anhydrite+pyrite vein.

**STRUCTURE:** None.
376-U1530A-74R-1-A, 0-106 cm

UNIT: 5  SUBUNIT: -

LITHOLOGY: altered volcanic
COLOR: light gray
TEXTURE: Phenocrysts
PHENOCRYSTS:
GROUNDMASS:
VESICLES:
VESICLE ROUNDNESS & SPHERICITY:
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely, patchy altered by silica, clay minerals, pyrite and sulfates. Vugs filled with silica, sulfates and/or pyrite. Network of silica-sulfate-pyrite veinlets.
VEINS: Anhydrite±pyrite veins.
STRUCTURE: None.
### Site U1530 core descriptions

**Visual core descriptions**

**Hole 376-U1530A-75R Section 1, Top of Section: 361.9 m (CSF-A)**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Igneous lith. unit</th>
<th>Orientation</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Vesicle size</th>
<th>Fractures and veins</th>
<th>Alteration rank</th>
<th>Phenoocrysts</th>
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**Description**

376-U1530A-75R-1-A, 0-100 cm  
UNIT: 5 SUBUNIT: -  
LITHOLOGY: altered volcanic  
COLOR: light gray  
TEXTURE:  
PHENOCRYSTS:  
GROUNDMASS:  
VESICLES:  
VESICLE ROUNDEDNESS & SPHERICITY:  
UPPER CONTACT: not recovered  
LOWER CONTACT: not recovered  
ALTERATION: Intensely, patchy altered by silica, clay minerals, pyrite and sulfates. Vugs are partly filled with silica-pyrite and sulfate. Fine network of silica-sulfate-pyrite veinlets.  
VEINS: Anhydrite-pyrite and silica veins.  
STRUCTURE: None.
### Site U1530 core descriptions

**Visual core descriptions**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Core piece number</th>
<th>Igneous lith. unit</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Phenoocrysts (from XRD)</th>
<th>PLAG, CPX volume (%)</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Vesicles and veins</th>
<th>Fractures and veins</th>
<th>Magnetic susceptibility</th>
<th>Reflectance L* a* b* Description</th>
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</table>

**376-U1530A-76R-1-A, 0-99 cm**

UNIT: 5  SUBUNIT: -

LITHOLOGY: altered volcanic

COLOR: light gray

TEXTURE: 

PHENOCRYSTS:

GROUNDMASS:

VESICLES:

VESICLE ROUNDNESS & SPHERICITY: not recovered

UPPER CONTACT: not recovered

LOWER CONTACT: not recovered

ALTERATION: Intensely, patchy altered by silica, clay minerals, pyrite and sulfates. Vugs are partly filled with silica-pyrite and sulfate. Fine network of silica-sulfate-pyrite veinlets. Outer parts of core oxidized to yellow color.

VEINS: Pyrite and sulfide-pyrite-ultra veins.

STRUCTURE: Strong volcanic fabric defined by vesicles (0-9 cm).
**Hole 376-U1530A-77R Section 1, Top of Section: 371.5 m (CSF-A)**

- **LITHOLOGY:** altered volcanic
- **COLOR:** light gray
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDNESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely, patchy altered by silica, clay minerals, pyrite and sulfates. Vugs are partly filled with silica-pyrite and sulfate. Fine network of silica-sulfate-pyrite veinlets. Outer parts of core oxidized to yellow color.
- **VEINS:** None.
- **STRUCTURE:** None.
### Visual Core Descriptions

**Hole 376-U1530A-78R Section 1, Top of Section: 376.3 m (CSF-A)**

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<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Igneous lith. unit</th>
<th>Observation samples</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts PLAG, Cpx, volume (%)</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance ( b^* ) ( a^* )</th>
<th>Description</th>
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- **376-U1530A-78R-1-A, 0.63 cm**
- **UNIT: 5 SUBUNIT: -**
- **LITHOLOGY: altered volcanic**
- **COLOR: light gray**
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered
- **ALTERATION:** Intensely, patchy altered by silica, clay minerals, pyrite and sulfates. Vugs are partly filled with silica-pyrite and sulfate. Fine network of silica-sulfate-pyrite veinlets. Outer parts of core oxidized to yellow color.
- **VEINS:** None.
- **STRUCTURE:** None.
### Hole 376-U1530A-79R Section 1, Top of Section: 381.1 m (CSF-A)

#### Site U1530 core descriptions

**Visual core descriptions**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core piece number</th>
<th>Igneous lith. unit</th>
<th>Orientation</th>
<th>Core length (cm)</th>
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</table>

**Lithology:** altered volcanic

**Color:** light gray

**Texture:**

**Phenocrysts:**

**Groundmass:**

**Vesicles:**

**Vesicle Roundness & Sphericity:**

**Upper Contact:** not recovered

**Lower Contact:** not recovered

**Alteration:** Intensely, patchy altered by silica, clay minerals, pyrite and sulfates. Vugs are partly filled with silica-pyrite and sulfate. Fine network of silica-sulfate-pyrite veinlets. Outer parts of core oxidized to yellow color.

**Veins:** Sulfate+pyrite and anhydrite and pyrite veins.

**Structure:** None.
Hole 376-U1530A-80R Section 1, Top of Section: 385.9 m (CSF-A)

376-U1530A-80R-1-A, 0-5 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: light gray
TEXTURE: 
PHENOCRYSTS: 
GROUNDMASS: 
VESICLES: 
VESICLE ROUNDESS & SPHERICITY: 
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely, patchy altered by silica, clay minerals, pyrite and sulfates. Vugs are partly filled with silica-pyrite and sulfate. Fine network of silica-sulfate-pyrite veinlets.
VEINS: None.
STRUCTURE: None.

SITE U1530 core descriptions
Visual core descriptions

| Depth (m) | Core length (cm) | Pieces number | igneous lith. unit | Orientation | Shipboard | Core image | Graphic lithology | Alteration rank | Sulfide abundance (%) | Major minerals (from XRD) | Phenocrysts PHLOG, CPX volume (%) | Groundmass grain size (mm) | Vesicle size MAX, MODE (mm) | Magnetic susceptibility | Reflectance L° a° b° |
|----------|-----------------|---------------|-------------------|-------------|-----------|------------|-------------------|----------------|----------------------|--------------------------|--------------------------|-----------------------------|-----------------------------|---------------------------|----------------|---|
| 1 4 5 6 7 | 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 | 0 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50 51 52 53 54 55 56 57 58 59 60 61 62 63 64 65 66 67 68 69 70 71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 |

Reflectance

Magnetic susceptibility

Vesicle size MAX, MODE (mm)

Groundmass grain size (mm)

Phenocrysts PHLOG, CPX volume (%)
### Site U1530 core descriptions

#### Visual core descriptions

**Hole 376-U1530A-81R Section 1, Top of Section: 390.7 m (CSF-A)**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Laminated unit</th>
<th>Slabs</th>
<th>Core image</th>
<th>Lithology</th>
<th>Color</th>
<th>Texture</th>
<th>Pegmatite</th>
<th>Phlogopite</th>
<th>Sulfides</th>
<th>Vugs</th>
<th>Sulfate</th>
<th>Silica</th>
<th>Matrix</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Fractures and veins</th>
<th>Grading</th>
<th>Sorting</th>
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<td>Sulfides</td>
<td>Vugs</td>
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</table>

- **Lithology:** altered volcanic
- **Color:** gray
- **Texture:** altered
- **Pegmatite:**
- **Phlogopite:**
- **Sulfides:**
- **Vugs:**
- **Sulfate:**
- **Silica:**

**Description:**

- Intensely and pervasively altered. Silicified with disseminated pyrite. Vugs filled with sulfate and silica.
- **Structure:** None.

---

**Hole 376-U1530A-81R-1-A, 33-91 cm**

**Unit:** 5

- **Lithology:** volcaniclastic
- **Color:** greenish gray
- **Texture:** altered

**Clasts:**

**Upper Contact:** not recovered

**Lower Contact:** not recovered

**Alteration:** Intensely and pervasively altered. Silicified with disseminated pyrite. Vugs filled with sulfate and silica.

**Veins:** Anhydrite+/- pyrite and chlorite veins.

**Structure:** None.
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<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts PLAG, Cpx. volume (%)</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Vesicle ROUNDESS &amp; SPHERICITY</th>
<th>Magnetic susceptibility</th>
<th>Reflectance L° a° b°*</th>
<th>Description</th>
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**376-U1530A-81R-1-A, 0-33 cm**
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: gray
TEXTURE: altered
CLASTS:
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely and pervasively altered. Silicified with disseminated pyrite. Vugs filled with sulfate and silica.
VEINS: Pyrite vein.
STRUCTURE: None.

**376-U1530A-81R-1-A, 33-91 cm**
UNIT: 5 SUBUNIT: -
LITHOLOGY: volcaniclastic
COLOR: greenish gray
TEXTURE: altered
CLASTS:
UPPER CONTACT: not recovered
ALTERATION: Intensely and pervasively altered. Silicified with disseminated pyrite. Vugs filled with sulfate and silica.
VEINS: Anhydrite+/- pyrite and chlorite veins.
STRUCTURE: None.
**Hole 376-U1530A-82R Section 1, Top of Section: 395.5 m (CSF-A)**

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<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts volume (%)</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size (MAX, MODE) (mm)</th>
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376-U1530A-82R-1-A, 0-50 cm

**UNIT:** 5
**SUBUNIT:** -

**LITHOLOGY:** altered volcanic
**COLOR:** gray

**TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDESS & SPHERICITY:**
- **UPPER CONTACT:** not recovered
- **LOWER CONTACT:** not recovered

**ALTERATION:** Intensely altered. Patchy grey colored alteration, rich in silica and disseminated pyrite. Vugs filled with sulfate and silica.

**VEINS:** Anhydrite+/- pyrite veins.

**STRUCTURE:** None.

376-U1530A-82R-1-A, 0-50 cm

**PMAG**

**5**

**01**

**02**

**03**

**PMAG**

**01**

**02**

**03**

**PMAG**
Site U1530 core descriptions

### Visual core descriptions

#### Hole 376-U1530A-83R Section 1, Top of Section: 400.3 m (CSF-A)

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<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Core piece number</th>
<th>Igneous lith. unit</th>
<th>Orientation</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX (mm)</th>
<th>Vesicle size MODE (mm)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance ( b^* )</th>
<th>Reflectance ( L^* )</th>
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<th>Reflectance b*</th>
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</table>

**UNIT**: 5 **SUBUNIT**: -

**LITHOLOGY**: altered volcanic

**COLOR**: light gray

**TEXTURE**: 

**PHENOCRYSTS**: 

**GROUNDMASS**: 

**VESICLES**: 

**VESICLE ROUNDNESS & SPHERICITY**: 

**UPPER CONTACT**: not recovered

**LOWER CONTACT**: not recovered

**ALTERATION**: Intensely altered. Disseminated pyrite and silica prolific. Fe oxyhydroxides common.

**VEINS**: None.

**STRUCTURE**: None.

#### Hole 376-U1530A-83R Section 1, 27-89 cm

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<th>Core length (cm)</th>
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<th>Igneous lith. unit</th>
<th>Orientation</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Phenocrysts</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX (mm)</th>
<th>Vesicle size MODE (mm)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance ( b^* )</th>
<th>Reflectance ( L^* )</th>
<th>Reflectance a*</th>
<th>Reflectance b*</th>
<th>Description</th>
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</table>

**UNIT**: 5 **SUBUNIT**: -

**LITHOLOGY**: altered volcanic lava

**COLOR**: greenish gray

**TEXTURE**: 

**PHENOCRYSTS**: 

**GROUNDMASS**: 

**VESICLES**: 

**VESICLE ROUNDNESS & SPHERICITY**: 

**UPPER CONTACT**: not recovered

**LOWER CONTACT**: not recovered

**ALTERATION**: Intensely altered and pyrite rich. Plagioclase pseudomorphed by sulfate. Vugs infilled with chlorite and pyrite.

**VEINS**: None.

**STRUCTURE**: None.
### Site U1530 core descriptions

#### Visual core descriptions

<table>
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<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Piece number</th>
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<th>Orientation</th>
<th>Core image</th>
<th>Core samples</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Sulfide abundance (%)</th>
<th>Fractures and veins</th>
<th>Upper Contact</th>
<th>Lower Contact</th>
<th>Alteration rank</th>
<th>Graphic lithology</th>
<th>Major minerals (from XRD)</th>
<th>VESICLES</th>
<th>VESICLE ROUNDNESS &amp; SPHERICITY</th>
<th>Vein abundance</th>
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### Site U1530 core descriptions

#### Visual core descriptions

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**376-U1530A-85R-1-A, 0-9 cm**

UNIT: 5 SUBUNIT: -

LITHOLOGY: altered volcanic
COLOR: gray
TEXTURE: altered
PHENOCRYSTS: groundmass
VESICLES: vesicle roundness & sphericity: upper contact: not recovered
LOWER CONTACT: not recovered
VEINS: None.
STRUCTURE: None.

**376-U1530A-85R-1-A, 9-84 cm**

UNIT: 5 SUBUNIT: -

LITHOLOGY: volcaniclastic
COLOR: light gray
TEXTURE: altered
CLASTS: fine-grained, unknown
UPPER CONTACT: not recovered
ALTERATION: Intensely altered with both clay rich clasts and silicified clasts. Pyrite commonly associated with silica.
VEINS: Anhydrite veins.
STRUCTURE: None.
### Visual Core Descriptions

#### Site U1530 Core Descriptions

Hole 376-U1530A-85R Section 1, Top of Section: 409.9 m (CSF-A)

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</table>

376-U1530A-85R-1-A, 0-9 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: gray
TEXTURE: altered
PHENOCRYSTs: PLAG, CPX
VESICLES: None.
VESSICLE ROUNDNESS & SPHERICITY: None.
UPPER CONTACT: not recovered.
LOWER CONTACT: not recovered.
VEINS: None.
STRUCTURE: None.

376-U1530A-85R-1-A, 9-84 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: volcaniclastic
COLOR: light gray
TEXTURE: altered
CLASTS: fine-grained, unknown
UPPER CONTACT: not recovered.
ALTERATION: Intensely altered with both clay rich clasts and silicified clasts. Pyrite commonly associated with silica.
VEINS: Anhydrite veins.
STRUCTURE: None.
**Hole 376-U1530A-86R Section 1, Top of Section: 414.7 m (CSF-A)**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core piece number</th>
<th>Core length (cm)</th>
<th>Lithology</th>
<th>Color</th>
<th>Texture</th>
<th>Phenocrysts</th>
<th>Groundmass</th>
<th>Vesicles and veins</th>
<th>Magnetic susceptibility</th>
<th>Alteration rank</th>
<th>Reflectance</th>
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</table>

**Description**: 376-U1530A-86R-1-A, 0-80 cm
UNIT: 5 SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: light gray
TEXTURE: altered volcanic
PHENOCRYST: PLAG, CPX
GROUNDMASS: altered volcanic
VESICLE: altered volcanic
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered with patchy alunite. Vesicles commonly filled with sulfate and pyrite.
VEINS: Pyrite vein
STRUCTURE: None.
### Visual core descriptions

**Hole 376-U1530A-87R Section 1, Top of Section: 419.5 m (CSF-A)**

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Piece number</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Phenocrysts PLAG, CPX volume (%)</th>
<th>Major minerals (from XRD)</th>
<th>Fractures and veins</th>
<th>Groundmass grain size (mm)</th>
<th>Vesicle size MAX, MODE (mm)</th>
<th>Vesicle roundness &amp; sphericity</th>
<th>Magnetic susceptibility</th>
<th>Reflectance b*&lt;sup&gt;+&lt;/sup&gt;&lt;sup&gt;a*&lt;/sup&gt;</th>
<th>Description</th>
</tr>
</thead>
</table>
Site U1530 core descriptions

Visual core descriptions

Hole 376-U1530A-88R Section 1, Top of Section: 424.3 m (CSF-A)

UNIT: 5
SUBUNIT: -
LITHOLOGY: altered volcanic
COLOR: gray
TEXTURE: 
PHENOCRYSTS: 
GROUNDMASS: 
VESICLES: 
VESICLE ROUNDNESS & SPHERICITY: 
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered. Fe oxyhydroxides common in vugs and veins. Plagioclase replaced by alunite.
VEINS: Pyrite veins.
STRUCTURE: None.
### Visual core descriptions

**Hole 376-U1530A-89R Section 1, Top of Section: 429.1 m (CSF-A)**

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<th>Piece number</th>
<th>Core image</th>
<th>Core length (cm)</th>
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<tbody>
<tr>
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<td>VESICLES:</td>
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<td>VESICLE ROUNDNESS &amp; SPHERICITY:</td>
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<td>LOWER CONTACT:</td>
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</table>

**Major Minerals (from XRD)**

- **Sulfide abundance (%)**
- **Phenocrysts PLAG, CPX, volume (%)**
- **Groundmass grain size (mm)**
- **Vesicle size MAX, MODE (mm)**
- **Magnetic susceptibility SHMSL (SI)**
- **Reflectance L^* a^* b^***

**Description**

- **376-U1530A-89R-1-A, 0-67 cm**
- **UNIT: 5 SUBUNIT: -**
- **LITHOLOGY: altered volcanic lava**
- **COLOR: bluish gray**
- **TEXTURE:**
- **PHENOCRYSTS:**
- **GROUNDMASS:**
- **VESICLES:**
- **VESICLE ROUNDNESS & SPHERICITY:**
- **UPPER CONTACT: not recovered**
- **LOWER CONTACT: not recovered**
- **ALTERATION: Intensely altered. Vugs infilled with sulfate and pyrite. Fe oxihydroxides common. Plagioclase pseudomorphed. VEINS: Pyrite+silica veins. STRUCTURE: Moderate volcanic fabric defined by vesicles (31-47 cm).**
Hole 376-U1530A-90R Section 1, Top of Section: 433.9 m (CSF-A)

- **Lithology:** Altered volcanic
- **Color:** Gray
- **Texture:**
- **Phenocrysts:**
- **Groundmass:**
- **Vesicles:**
- **Vesicle Roundness & Sphericity:**
- **Upper Contact:** Not recovered
- **Lower Contact:** Not recovered
- **Alteration:** Intensely altered and no clasts are distinguishable. Veins composed of anhydrite. Plagioclase pseudomorphs common.
- **Veins:** Anhydrite+pyrite and pyrite veins.
- **Structure:** Moderate volcanic fabric defined by vesicles (0-99 cm).

**Visual Core Descriptions**

- **PMAG**
- **TS**
- **TSB**
- **IP**
- **ICP**
- **SHMSL** (SI)

**Magnetic Susceptibility**

<table>
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<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Core piece number</th>
<th>Core image</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>VESICLES</th>
<th>VESELE ROUNDNESS &amp; SPHERICITY</th>
<th>Upper Contact</th>
<th>Lower Contact</th>
<th>Alteration</th>
<th>GRAPHIC LITHOLOGY</th>
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**Description**

- Reflectance
- B*a*L*  
- Magnetic susceptibility
- SHMSL (SI)
- Vesicle size
- Major minerals (from XRD)
- Sulfide abundance (%)
Site U1530 core descriptions

<table>
<thead>
<tr>
<th>Depth (m)</th>
<th>Core length (cm)</th>
<th>Pieces</th>
<th>Lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Grain size AVG, MAX</th>
<th>Matrix volume (%)</th>
<th>Magnetic susceptibility</th>
<th>Reflectance</th>
<th>Description</th>
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<tbody>
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<td>0</td>
<td>0</td>
<td>Plagioclase pseudomorphs common</td>
<td>376-U1530A-91R-1-A, 0-10 cm</td>
<td>Intensely altered and no clasts are distinguishable. Veins composed of anhydrite.</td>
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<td>438.80</td>
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**Hole 376-U1530A-92R Section 1, Top of Section: 443.5 m (CSF-A)**

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<th>Core length (cm)</th>
<th>Pieces number</th>
<th>Core image</th>
<th>Graphic lithology</th>
<th>Alteration rank</th>
<th>Sulfide abundance (%)</th>
<th>Major minerals (from XRD)</th>
<th>Sorting</th>
<th>Grain size AVG, MAX</th>
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<th>Magnetic susceptibility</th>
<th>Reflectance</th>
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376-U1530A-92R-1-A, 0-38 cm
UNIT: 5 SUBUNIT: - LITHOLOGY: altered volcanic lava
COLOR: gray
TEXTURE: 
PHENOCRYSTs: 
GROUNDMASS: 
VESICLES: 
VESICLE ROUNDEss & SPHEREss: 
UPPER CONTACT: not recovered
LOWER CONTACT: not recovered
ALTERATION: Intensely altered and no clasts are distinguishable. Veins composed of anhydrite. Plagioclase pseudomorphs common.
VEINS: Anhydrite and silicicarbonate veins.
STRUCTURE: None.
Hole 376-U1530A-93R Section 1, Top of Section: 448.3 m (CSF-A)

- **Lithology:** altered volcanic lava
- **Color:** light gray
- **Texture:**
  - Phenocrysts:
  - Groundmass:
  - Vesicles:
    - Vesicle roundness & sphericity:
  - Upper contact: not recovered
  - Lower contact: not recovered
- **Alteration:** Intensely altered. Vugs are infilled with anhydrite. Veins composed of anhydrite with minor pyrite. Plagioclase pseudomorphs common.
- **Structure:** Strong volcanic fabric defined by vesicles (0-8 cm).

---

**Visual Core Descriptions**

**Core Number:** 376-U1530A-93R-1-A, 0-8 cm

- **Depth:** 448.3 m
- **Sample:** CSF-A
- **Unit:** 5
- **Subunit:** -
- **Lithology:** altered volcanic lava
- **Color:** light gray
- **Texture:**
  - Phenocrysts:
  - Groundmass:
  - Vesicles:
    - Vesicle roundness & sphericity:
  - Upper contact: not recovered
  - Lower contact: not recovered
- **Alteration:** Intensely altered. Vugs are infilled with anhydrite. Veins composed of anhydrite with minor pyrite. Plagioclase pseudomorphs common.
- **Structure:** None.

**Core Number:** 376-U1530A-93R-1-A, 8-38 cm

- **Depth:** 448.4 m
- **Sample:** CSF-A
- **Unit:** 5
- **Subunit:** -
- **Lithology:** altered volcanic lava
- **Color:** light gray
- **Texture:**
  - Phenocrysts:
  - Groundmass:
  - Vesicles:
    - Vesicle roundness & sphericity:
  - Upper contact: not recovered
  - Lower contact: not recovered
- **Alteration:** Intensely altered. Vugs are infilled with anhydrite. Veins composed of anhydrite with minor pyrite. Plagioclase pseudomorphs common.
- **Structure:** None.