### Boring ID: APET0100

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>[See Trench Log ISRA/AP/STP-1A for lithology]</td>
</tr>
<tr>
<td>1</td>
<td>S</td>
<td>0.0</td>
<td></td>
<td></td>
<td>1</td>
<td>SM</td>
<td>Silty Sand, dark brown (10YR 3/3), loose, moist, trace clay, micaceous, contains plant roots [Alluvium]</td>
</tr>
</tbody>
</table>
| 2                        |             |              |               |             | 2            | S                        | Total Depth = 1.5 ft; terminated prior to refusal on bedrock.  
Collected soil sample S001 at 11:55 from excavation floor.  
Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010. |

**Project:** ISRA Confirmation Sampling 2010, Outfall 009, NASA Property  
**Site:** AP/STP-1A  
**Logged By:** S. Aichner  
**Reviewed By:** M. Milman-Barris, P.G.
Total Depth = 1.5 ft; terminated prior to refusal on bedrock.

Collected soil samples S001 and S001-RWQCB at 11:00 from excavation floor.

Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.
**LOG OF BORING OUTFALL 009 ISRA-2010 NASA.GPJ BOEING.GDT 3/25/11**

**Borehole Diam. (in.):** 2  **Total Depth (ft):** 1.5

**Northing (ft):** 268239.20  **Easting (ft):** 1788915.59

**Drill Start Date:** 10-18-2010  **Start Time:** 11:30

**Drill Finish Date:** 10-18-2010  **Finish Time:** 11:45

**Depth 1st H₂O (ft):** N/A  **Date / Time:** N/A

**Depth H₂O After Drilling (ft):** N/A  **Date / Time:** N/A

**Comments:** Surface soil and alluvium overexcavated to approx. 1 ft

**Sample Interval Retained Sample Type Recovery (%) Blow Count/6" PID (ppm) Water Level Depth (feet) Graphic Log USCS Soil Classification Description Est. % of Soil**

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-AP/STP-1A for lithology]</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>S</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM</td>
<td>Silty Sand, dark brown (10YR 3/3), loose, moist, trace clay, micaceous [Alluvium]</td>
<td>10</td>
<td>70</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Depth = 1.5 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 11:45 from excavation floor.

Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.
**Boring ID: APET0400**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>S</td>
<td>0.0</td>
<td></td>
<td></td>
<td>SM</td>
<td></td>
<td>Sm</td>
<td>[See Trench Log ISRA-AP/STP-1D for lithology]</td>
</tr>
</tbody>
</table>

**Comments:**
- Surface soil and alluvium overexcavated to approx. 0.5 ft
- Total Depth = 1.0 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 13:05 from excavation floor.
- Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.

**Est. % of Soil**

<table>
<thead>
<tr>
<th></th>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>Silty Sand</td>
<td>10</td>
<td>70</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Project:** ISRA Confirmation Sampling 2010, Outfall 009, NASA Property

**Job Number:** 1008209

**Drill Rig Type/Method:** Grab (hand sampling)

**Logged By:** S. Aichner

**Reviewed By:** M. Milman-Barris, P.G.
**Boring ID: APET0401**

**Project:** ISRA Confirmation Sampling 2010, Outfall 009, NASA Property  
**Job Number:** 1008209  
**Site:** AP/STP-1D  
**Logged By:** S. Aichner  
**Reviewed By:** M. Milman-Barris, P.G.

**Borehole Diam. (in.):** 2  
**Total Depth (ft):** 1.5

**Northing (ft):** 268435.59  
**Easting (ft):** 1789299.72

**Drill Start Date:** 10-18-2010  
**Start Time:** 12:20  
**Drill Finish Date:** 10-18-2010  
**Finish Time:** 12:30  
**Drilling Contractor:** Jacob & Hefner Assoc.

**Depth 1st H2O (ft):** N/A  
**Date / Time:** N/A  
**Drill Rig Type/Method:** Grab (hand sampling)

**Depth H2O After Drilling (ft):** N/A  
**Date / Time:** N/A  
**Driller’s Name:** S. Aichner

**Easting (ft):**  
**Start Time:**  
**Finish Time:**  
**Date / Time:**

**N/A**  
**N/A**  
**N/A**

**Nothing (ft):**  
**Start Time:**  
**Finish Time:**  
**Date / Time:**

**N/A**  
**N/A**  
**N/A**

**Drill Start Date:**  
**Drill Finish Date:**

**Comments:** Surface soil and alluvium overexcavated to approx. 1 ft  
**Well Comp. Date:** N/A  
**Completion Time:** N/A  
**Sample retained in 6-inch stainless steel sleeve**

**Samplers:** Sample retained in 6-inch stainless steel sleeve  
**Soil Backfill Date:** N/A  
**Backfill Time:** N/A

**Comments:**  
**[See Trench Log ISRA-AP/STP-1D for lithology]**

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td></td>
<td>[See Trench Log ISRA-AP/STP-1D for lithology]</td>
</tr>
</tbody>
</table>

Silty Sand, dark brown (10YR 3/3), loose, moist, trace clay, micaceous [Alluvium]

**Total Depth = 1.5 ft; terminated prior to refusal on bedrock.**

**Collected soil sample S001 at 12:30 from excavation floor.**

**Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.**

---

**Est. % of Soil**

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>70</td>
<td>20</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample Interval</td>
<td>Sample Type</td>
<td>Recovery (%)</td>
<td>Blow Count/6&quot;</td>
<td>Water Level</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------</td>
<td>--------------</td>
<td>---------------</td>
<td>-------------</td>
</tr>
<tr>
<td>0</td>
<td>SM</td>
<td>0.0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**LOG OF BORING OUTFALL009_ISRA-2010 NASA.GPJ  BOEING.GDT  3/25/11**

**Boring ID: APET0403**

- **Borehole Diam. (in.):** 2
- **Total Depth (ft):** 1.0
- **Logged By:** S. Aichner
- **Bored By:** M. Milman-Barris, P.G.
- **Comments:** Surface soil and alluvium overexcavated to approx. 0.5 ft
- **Sample Type:** Grab (hand sampling)
- **Sample Interval:** N/A
- **Recovery (%):** N/A
- **Sample Retained:** Sample retained in 6-inch stainless steel sleeve
- **Blow Count/6":** N/A
- **Easting (ft):** 1789332.23
- **Northing (ft):** 268436.48
- **Drill Rig Type/Method:** PID
- **Water Level:** N/A
- **Depth 1st H2O (ft):** N/A
- **Date / Time:** N/A
- **Depth H2O After Drilling (ft):** N/A
- **Date / Time:** N/A
- **Driller's Name:** S. Aichner
- **Well Comp. Date:** N/A
- **Completion Time:** N/A
- **Backfill Time:** N/A

**USCS Soil Classification**

- **Soil:** Silty Sand, dark yellowish brown (10YR 4/4), loose, dry, micaceous [Alluvium]
- **Depth:** 0 ft
- **Recovery (%):** 100
- **Blow Count/6":** 2

**Description**

- [See Trench Log ISRA-AP/STP-1D for lithology]
- Silty Sand, dark yellowish brown (10YR 4/4), loose, dry, micaceous [Alluvium]

**Est. % of Soil**

- **Soil:** Gravel, Coarse Sand, Med. Sand, Fine Sand, Silt/Clay
  - **Gravel:** 2
  - **Coarse Sand:** 70
  - **Med. Sand:** 20

**Notes:**

- Total Depth = 1.0 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 13:10 from excavation floor.
- Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.
Sample Interval | Depth (feet) | Water Level | Recovery (%) | PID Count/6" | USCS Soil Classification | Description | Est. % of Soil
--- | --- | --- | --- | --- | --- | --- | ---
S | 0.1 | SM | | | Silty Sand, very dark brown (10YR 2/2), loose, moist, trace clay, micaceous [Alluvium] | | 10 70 20

[See Trench Log ISRA-AP/STP-1D for lithology]

Total Depth = 1.5 ft; terminated prior to refusal on bedrock.
Collected soil sample S001 at 12:55 from excavation floor.
Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.
### Boring ID: APET0405

**Project:** ISRA Confirmation Sampling 2010, Outfall 009, NASA Property  
**Site:** AP/STP-1D

#### Sample Details
- **Borehole Diam. (in.):** 2  
- **Total Depth (ft):** 1.5

#### Sample Retrieval
- **Easting (ft):** 268423.80  
- **Northing (ft):** 1789288.50
- **Drill Start Date:** 10-18-2010  
- **Drill Finish Date:** 10-18-2010
- **Start Time:** 12:05  
- **Finish Time:** 12:20

#### Comments
- **Comments:** Surface soil and alluvium overexcavated to approx. 1 ft

#### Soil Description
- **Sample Type:** Grab (hand sampling)  
- **Description:** Silty Sand, dark brown (10YR 3/3), loose, moist, trace clay, micaceous [Alluvium]
- **Total Depth = 1.5 ft; terminated prior to refusal on bedrock.**
- **Collected soil samples S001 and S001SP at 12:20 from excavation floor.**
- **Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.**

#### Soil Classification

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>[See Trench Log ISRA/AP/STP-1D for lithology]</td>
</tr>
<tr>
<td>1</td>
<td>SM</td>
<td>Silty Sand, dark brown (10YR 3/3), loose, moist, trace clay, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

#### Analysis
- **Recovery:** 100%
- **Blow Count/6**: 70
- **Water Level:**
- **Samples Retained:** 6-inch stainless steel sleeve
- **Soil Backfill Date:** N/A
- **Backfill Time:** N/A

#### Site Information
- **Driller's Name:** S. Aichner
- **Logged By:** S. Aichner
- **Reviewed By:** M. Milman-Barris, P.G.
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Retained Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>S</td>
<td>0.0</td>
<td>SM</td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-APSTP-1D for lithology]</td>
</tr>
<tr>
<td>2</td>
<td>S</td>
<td>0.0</td>
<td>SM</td>
<td></td>
<td>2</td>
<td></td>
<td>Silty Sand, very dark brown (10YR 2/2), loose, moist, trace clay, micaceous [Alluvium]</td>
<td></td>
</tr>
</tbody>
</table>

Total Depth = 2.0 ft; terminated prior to refusal on bedrock.

Collected soil samples S001 and S001-RWQCB at 10:50 from excavation floor.

Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.
**Boring ID: APET0407**

**Date / Time:**
- **Easting (ft):** 1789334.52
- **Northing (ft):** 268419.76
- **Start Time:** 12:30
- **Drill Start Date:** 10-18-2010
- **Drill Finish Date:** 10-18-2010
- **Finish Time:** 12:35

**Comments:** Surface soil and alluvium overexcavated to approx. 1 ft. Sample retained in 6-inch stainless steel sleeve. Total Depth = 1.5 ft; terminated prior to refusal on bedrock.

**Job Number:** 1008209
**Site:** AP/STP-1D
**Logged By:** S. Aichner
**Driller's Name:** S. Aichner
**Drilling Contractor:** Jacob & Hefner Assoc.
**Field Instrumentation:** PID

**Depth 1st H2O (ft):** N/A
**Date / Time:** N/A

**Drill Rig Type/Method:** Grab (hand sampling)

**PID (ppm):**
- **Gravel:** 2
- **Coarse Sand:** 70
- **Med. Sand:** 10
- **Fine Sand:** 20
- **Silt/Clay:** 0

**USCS Soil Classification:**
- **Water Level:** Retained
- **Sample Type:** Grab
- **Sample Interval:** [See Trench Log ISRA-AP/STP-1D for lithology]

**Depth (feet):**
- **0:** Silty Sand, dark brown (10YR 3/3), loose, moist, trace clay, micaceous [Alluvium]

**Est. % of Soil:**

**Well Comp. Date:** N/A
**Completion Time:** N/A
**Soil Backfill Date:** N/A
**Backfill Time:** N/A

**Blow Count/6”:**
- **0:** 0.0

**Sample Interval Retained:**
- **Sample Type:** N/A
- **Recovery (%):** N/A
- **Blow Count/6”:** 0.0
- **PID (ppm):**

**Graphic Log:**

**Description:**
- **Comments:**
  - Collected soil sample S001 at 12:35 from excavation floor.
  - Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.
**Boring ID: APET0408**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>S</td>
<td>0.0</td>
<td>SM</td>
<td>S</td>
<td>Total Depth = 2.0 ft; terminated prior to refusal on bedrock.</td>
<td><em>Silty Sand, dark brown (10YR 3/3), loose, moist, trace clay, micaceous [Alluvium]</em></td>
<td></td>
</tr>
</tbody>
</table>

- **Comments:** Surface soil and alluvium overexcavated to approx. 1.5 ft
- **Sample Retained:** Sample retained in 6-inch stainless steel sleeve
- **Water Level:** N/A
- **PID:** N/A
- **Blow Count/6":** N/A

**Notes:**

- Total Depth = 2.0 ft; terminated prior to refusal on bedrock.
- Collected soil samples S001 and S001-RWQCB at 10:55 from excavation floor.
- Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silt/Clay</td>
<td>[See Trench Log ISRA-AP/STP-1D for lithology]</td>
</tr>
</tbody>
</table>

**Comments:** Surface soil and alluvium overexcavated to approx. 1 ft. Sample retained in 6-inch stainless steel sleeve. Total Depth = 1.5 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 12:50 from excavation floor. Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.
**Boring ID: APET0410**

**Project:** ISRA Confirmation Sampling 2010, Outfall 009, NASA Property  
**Site:** AP/STP-1D

**Logged By:** N. Beaty  
**Field Instrumentation:** PID

**Easting (ft):** 268409.27  
**Northing (ft):** 1789321.60

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.1</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>SM</td>
<td>Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry, contains mica [Alluvium]</td>
</tr>
<tr>
<td>3</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>SM</td>
<td>[See Trench Log ISRA-AP/STP-1D for lithology]</td>
</tr>
<tr>
<td>5</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>SM</td>
<td>Total Depth = 3.5 ft; terminated prior to refusal on bedrock.</td>
</tr>
<tr>
<td>7</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td>SM</td>
<td>Collected soil samples S001 and S001-RWQCB at 13:40 from excavation floor.</td>
</tr>
<tr>
<td>9</td>
<td>S</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>SM</td>
<td>Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.</td>
</tr>
</tbody>
</table>

**Well Comp. Date:** N/A  
**Completion Time:** N/A

**Comments:** Surface soil and alluvium overexcavated to approx. 3 ft

**Sample Retained:** Sample retained in 6-inch stainless steel sleeve  
**Soil Backfill:** N/A

**Easting (ft):** 268409.27  
**Northing (ft):** 1789321.60

**Drill Start Date:** 11-08-2010  
**Drill Finish Date:** 11-08-2010

**Drill Rig Type/Method:** Grab (hand sampling)

**Backfill Time:** N/A
**LOG OF BORING OUTFALL009_ISRA-2010 NASA.GPJ  BOEING.GDT  3/25/11**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>Water Level</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-AP/STP-1D for lithology]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>S</td>
<td>0.2</td>
<td>SM</td>
<td>Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry, contains mica [Alluvium]</td>
<td>5 75 20</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**
- Surface soil and alluvium overexcavated to approx. 2 ft
- Total Depth = 2.5 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 13:55 from excavation floor.
- Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.

**Estimated % of Soil:**

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5 75 20</td>
</tr>
</tbody>
</table>

**Log Details:**

- **Borehole Diam. (in.):** 2
- **Total Depth (ft):** 2.5
- **Northing (ft):** 268434.99
- **Easting (ft):** 1789322.20
- **Drill Start Date:** 11-08-2010
- **Drill Finish Date:** 11-08-2010
- **Start Time:** 13:45
- **Finish Time:** 13:55
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Log ID:** APET0411
- **Job Number:** 1008209
- **Site:** AP/STP-1D
- **Logged By:** N. Beaty
- **Reviewed By:** M. Milman-Barris, P.G.

**Sample Retained:**
- Sample retained in 6-inch stainless steel sleeve
### Description

[See Trench Log ISRA-AP/STP-1F for lithology]

Silty Sand, dark brown (10YR 3/3), loose, moist, micaceous, contains plant roots

[Alluvium]

Total Depth = 1.5 ft; terminated prior to refusal on bedrock.

Collected soil samples S001 and S001-RWQCB at 10:27 from excavation floor.

Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Est. % of Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
<td>SM</td>
<td>SM [Alluvium]</td>
<td>Gravel</td>
</tr>
</tbody>
</table>

10 70 20

Well Comp. Date: N/A Completion Time: N/A

Samplers: Sample retained in 6-inch stainless steel sleeve

Soil Backfill Date: N/A Backfill Time: N/A

Comments: Surface soil and alluvium overexcavated to approx. 1 ft

Sample Type: Grab (hand sampling)
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>Silt/Clay</td>
<td>[See Trench Log ISRA-AP/STP-1F for lithology]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>0.0</td>
<td></td>
<td></td>
<td>1</td>
<td>SM</td>
<td>Silty Sand, dark brown (10YR 3/3), loose, moist, trace clay, micaceous [Alluvium]</td>
<td>tr 80 20</td>
</tr>
</tbody>
</table>

- **Total Depth = 1.5 ft; terminated prior to refusal on bedrock.**
- **Collected soil sample S001 at 13:35 from excavation floor.**
- **Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.**
**LOG OF BORING OUTFALL009_ISRA-2010 NASA.GPJ  BOEING.GDT  3/25/11**

**Boring ID: APET0602**

**Project:** ISRA Confirmation Sampling 2010, Outfall 009, NASA Property
**Site:** AP/STP-1F

**Borehole Diam. (in.):** 2
**Total Depth (ft):** 1.5

**Logged By:** S. Aichner
**Logged Time:** 13:20
**Logged Date:** 10-18-2010

**Drill Rig Type/Method:** Grab (hand sampling)
**Driller’s Name:** S. Aichner

**Easting (ft):** 268837.53
**Northing (ft):** 1789806.69

**Sample Interval Retained:** Sample Type
**Recovery (%):** 0.0

**Depth (feet) Graphic Log:**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>PID</th>
<th>SM</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Description:**

- [See Trench Log ISRA-AP/STP-1F for lithology]

**Depth 1st H₂O (ft):** N/A
**Date / Time:** N/A
**13:25**

- Silty Sand, dark yellowish brown (10YR 3/4), loose, moist, micaceous [Alluvium]

**Comments:**

- Surface soil and alluvium overexcavated to approx. 1 ft
- Sample retained in 6-inch stainless steel sleeve
- Soil Backfill Date: N/A
- Backfill Time: N/A

**Est. % of Soil:**

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>tr</td>
<td>80</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Well Comp. Date:** N/A
**Completion Time:** N/A

**Comments:**

- Total Depth = 1.5 ft; terminated prior to refusal on bedrock.
- Collected soil samples S001 and D001 at 13:25 from excavation floor.
- Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.
## Boring ID: APET0603

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot; (ppm)</th>
<th>Water Level (feet)</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>0.0</td>
<td></td>
<td>0</td>
<td>0</td>
<td>[See Trench Log ISRA/AP/STP-1F for lithology]</td>
</tr>
</tbody>
</table>

### Additional Information
- **Total Depth**: 1.5 ft; terminated prior to refusal on bedrock.
- **Collected soil sample S001 at 13:40 from excavation floor.**
- **Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.**
**Boring ID: APET0604**

- **Borehole Diam. (in.):** 2
- **Total Depth (ft):** 1.5
- **Project:** ISRA Confirmation Sampling 2010, Outfall 009, NASA Property
- **Job Number:** 1008209
- **Site:** AP/STP-1F
- **Logged By:** S. Aichner
- **Reviewed By:** M. Milman-Barris, P.G.
- **Drilling Contractor:** Jacob & Hefner Assoc.
- **Field Instrumentation:** PID
- **Driller's Name:** S. Aichner

**Comments:** Surface soil and alluvium overexcavated to approx. 1 ft

**Samplers:** Sample retained in 6-inch stainless steel sleeve

**Surface soil and alluvium overexcavated to approx. 1 ft**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Est. % of Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>SM</td>
<td>Silty Sand</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-AP/STP-1F for lithology]</td>
<td></td>
</tr>
<tr>
<td>1.5</td>
<td></td>
<td>Silty Sand</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td>[Alluvium]</td>
<td></td>
</tr>
</tbody>
</table>

- **Total Depth:** 1.5 ft; terminated prior to refusal on bedrock.
- **Collected soil sample S001 at 13:45 from excavation floor.**
- **Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.**
Boring ID: APET0605

Total Depth (ft): 1.5

**Project:** ISRA Confirmation Sampling 2010, Outfall 009, NASA Property

**Job Number:** 1008209

**Site:** AP/STP-1F

**Logged By:** S. Aichner

**Reviewed By:** M. Milman-Barris, P.G.

**Drilling Contractor:** Jacob & Hefner Assoc.

**Field Instrumentation:** PID

**Driller's Name:** S. Aichner

**Sample Interval Retained**

<table>
<thead>
<tr>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td></td>
<td></td>
<td>SM</td>
<td>Silty Sand, dark yellowish brown (10YR 4/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-AP/STP-1F for lithology]</td>
</tr>
</tbody>
</table>

**Comments:** Surface soil and alluvium overexcavated to approx. 1 ft

**Total Depth = 1.5 ft; terminated prior to refusal on bedrock.**

**Collected soil samples S001 and S001-RWQCB at 10:25 from excavation floor.**

**Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.**
### Sample Table

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>0.0</td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>[See Trench Log ISRA-AP/STP-1F for lithology]</td>
</tr>
<tr>
<td>1</td>
<td>SM</td>
<td>0.0</td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>Silty Sand, dark yellowish brown (10YR 3/4), loose, moist, micaceous, contains plant roots [Alluvium]</td>
</tr>
<tr>
<td>2</td>
<td>SM</td>
<td>0.0</td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>Total Depth = 1.5 ft; terminated prior to refusal on bedrock. Collected soil samples S001 and S001-RWQCB at 10:35 from excavation floor. Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.</td>
</tr>
</tbody>
</table>

### Soil Properties

<table>
<thead>
<tr>
<th>Est. % of Soil</th>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>10</td>
<td>70</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
# Boring ID: APET0607

## Project Information
- **Project:** ISRA Confirmation Sampling 2010, Outfall 009, NASA Property
- **Job Number:** 1008209
- **Site:** AP/STP-1F

## Borehole Details
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Drill Rig Type/Method:** APET0607

## Site Details
- **Driller's Name:** N. Beaty
- **Drilling Contractor:** Jacob & Hefner Assoc.

## Sample Collection
- **Sampling: Surface soil and alluvium overexcavated to approx. 2 ft**
- **Comments:** Sample retained in 6-inch stainless steel sleeve

## Soil Log

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>PID</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.2</td>
<td>SM</td>
<td>0.2</td>
<td>S 0.2</td>
<td>Silty Sand, dark yellowish brown (10YR 4/4), medium dense, dry, contains mica [Alluvium]</td>
</tr>
<tr>
<td>2.5</td>
<td></td>
<td></td>
<td>SM</td>
<td>Total Depth = 2.5 ft; terminated prior to refusal on bedrock.</td>
</tr>
<tr>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
<td>Collected soil samples S001 and S001-RWQCB at 13:25 from excavation floor.</td>
</tr>
<tr>
<td>4.5</td>
<td></td>
<td></td>
<td></td>
<td>Excavation re-contoured without backfill on 11-29-2010 and 11-30-2010.</td>
</tr>
</tbody>
</table>

## Soil Type
- **Plot Data:**
  - Gravel: 100%
  - Coarse Sand: 0%
  - Med. Sand: 0%
  - Fine Sand: 0%
  - Silt/Clay: 0%

## Additional Information
- **Well Comp. Date:** N/A
- **Completion Time:** N/A
- **Backfill Time:** N/A
- **Soil Backfill Date:** N/A

## Log Details
- **Northing (ft):** 268518.65
- **Easting (ft):** 1789814.63
- **Date / Time:** 11-08-2010
- **Date / Time:** 13:10
- **Date / Time:** 13:25
- **Date / Time:** N/A
- **Date / Time:** N/A
- **Start Time:** 11-08-2010
- **Finish Time:** 13:25
- **Elapsed Time:** 2.52
- **Backfill Time:** 20

## Boring ID Details
- **Drill Finish Date:** 11-08-2010
- **Drill Start Date:** 11-08-2010
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
- **Elevation:** N/A
**Boring ID: B1ET0100**

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>SM</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

- **Specimen collected at 11:48 from excavation floor.**
- **Excavation backfilled on 11-01-2010.**

**Comments:**
- Surface soil and alluvium overexcavated to approx. 1 ft.
- Grab sample retained in 6-inch stainless steel sleeve.

**Reported Soil Types:**
- Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]

**Soil Backfill Date:** N/A

**Field Instrumentation:**
- PID

**Well Comp. Date:** N/A

**Completion Time:** N/A

**Logged By:** S. Aichner

**Drill Rig Type/Method:** Grab (hand sampling)

**PID**

**Driller's Name:** A. Vann

**Dates and Times:**
- Drill Start: 08-26-2010
- Drill Finish: 11:48

**Easting (ft):** 1796941.42

**Northing (ft):** 269107.49

**Job Number:** 1008208

**Drilling Contractor:** MP Environmental Svcs.

**Reviewed By:** M. Milman-Barris, P.G.
<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S</td>
<td>[See Trench Log ISRA-B1-1A for lithology]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total Depth = 2.5 ft; terminated prior to refusal on bedrock.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Collected soil sample S001 at 08:36 from excavation floor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Excavation backfilled on 11-01-2010.</td>
</tr>
</tbody>
</table>

**Comments:**
- Surface soil and alluvium overexcavated to approx. 2 ft
- Total Depth = 2.5 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 08:36 from excavation floor.
- Excavation backfilled on 11-01-2010.

**Notes:**
- PID (ppm)
- Est. % of Soil
- SM
- Total Depth
### Log of Boring 009 Outfall Boeing Area 2010 ISRA Implementation

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM</td>
<td>0.0</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>SM</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

- **Total Depth:** 3.5 ft; terminated prior to refusal on bedrock.

- Collected soil sample S001 at 08:49 from excavation floor.

- Excavation backfilled on 11-01-2010.

---

**Boring ID:** B1ET0102  
**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation  
**Site:** B1-1A Area  
**Logged By:** S. Aichner  
**Reviewed By:** M. Milman-Barris, P.G.

- **Easting (ft):** 269112.35  
- **Northing (ft):** 1796913.86  
- **Start Time:** 08:38  
- **Finish Time:** 08:49  
- **Drill Rig Type/Method:** Grab (hand sampling)

**Comments:** Surface soil and alluvium overexcavated to approx. 3 ft  
Grab sample retained in 6-inch stainless steel sleeve

**Total Depth = 3.5 ft; terminated prior to refusal on bedrock.**

**Collected soil sample S001 at 08:49 from excavation floor.**

**Excavation backfilled on 11-01-2010.**
# LOG OF BORING  OUTFALL009_ISRA-2010.GPJ  BOEING.GDT  2/21/11

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM</td>
<td>[See Trench Log ISRA-B1-1A for lithology]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S</td>
<td>Silty Sand, yellowish brown (10YR 5/6), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total Depth = 3.5 ft; terminated prior to refusal on bedrock.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Collected soil sample S001 at 09:16 from excavation floor.</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Excavation backfilled on 11-01-2010.</td>
</tr>
</tbody>
</table>

**Notes:**
- **Borehole Diam. (in.):** 2
- **Easting (ft):** 279083.17
- **N/A**
- **N/A**
- **Total Depth (ft):** 3.5
- **Sample Retained:** Grab sample retained in 6-inch stainless steel sleeve
- **Comments:** Surface soil and alluvium overexcavated to approx. 3 ft
- **Job Number:** 1008208
- **Logged By:** S. Aichner
- **Reviewed By:** M. Milman-Barris, P.G.
- **Project:** Outfall 009 Boeing Area 2010 ISRA Implementation
- **Site:** B1-1A Area
- **Drilling Contractor:** MP Environmental Svcs.
- **Drill Rig Type/Method:** Grab (hand sampling)
- **PID:**
- **Well Comp. Date:** N/A
- **Completion Time:** N/A
- **Surface soil and alluvium overexcavated to approx. 3 ft**
- **Drill Start Date:** 09-01-2010
- **Drill Finish Date:** 09-01-2010
- **Start Time:** 09:00
- **Finish Time:** 09:16
- **Depth 1st H,O (ft):** N/A
- **Easting (ft):** 1796890.78
- **N/A**
- **Northing (ft):** 269083.17
- **Date / Time:** N/A
- **N/A**
- **Boring ID:** B1ET0103
- **Driller's Name:** A. Vann
- **PID:**
- **Well Comp. Date:** N/A
- **Completion Time:** N/A
- **Comments:**
- **Samplers:** Grab sample retained in 6-inch stainless steel sleeve
- **Well Backfill Date:** N/A
- **Backfill Time:** N/A
- **MP Environmental Svcs.**
**Boring ID: B1ET0104**

- **Borehole Diam. (in.):** 2
- **Total Depth (ft):** 3.5
- **Project:** Outfall 009 Boeing Area 2010 ISRA Implementation

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-1A for lithology]</td>
</tr>
<tr>
<td>0.0</td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silt/Clay</td>
<td>Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td>3.5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fine Sand</td>
<td>10 70 20</td>
</tr>
</tbody>
</table>

- **Comments:** Surface soil and alluvium overexcavated to approx. 3 ft
- **Depth 1st H₂O (ft):** N/A
- **Date / Time:** N/A

- **Easting (ft):** 269066.07
- **Northing (ft):** 1796877.31

- **Drill Start Date:** 09-01-2010
- **Start Time:** 09:48
- **Logged By:** S. Aichner
- **Reviewed By:** M. Milman-Barris, P.G.

- **PID:** B1ET0104
- **Drill Rig Type/Method:** Grab (hand sampling)

- **Backfill Time:** N/A
- **Soil Backfill Date:** N/A
- **Driller's Name:** A. Vann

- **Surface soil and alluvium overexcavated to approx. 3 ft**
- **Grab sample retained in 6-inch stainless steel sleeve**

- **Total Depth = 3.5 ft; terminated prior to refusal on bedrock.**

- **Collected soil sample S001 at 10:09 from excavation floor.**

- **Excavation backfilled on 11-01-2010.**
<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graph Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-1A for lithology]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td></td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>10  70  20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>S</td>
<td>Total Depth = 3.5 ft; terminated prior to refusal on bedrock.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
<td>Collected soil samples S001 and S001SP at 10:16 from excavation floor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
<td>Excavation backfilled on 11-01-2010.</td>
</tr>
</tbody>
</table>

**Comments:** Surface soil and alluvium overexcavated to approx. 3 ft. Collected soil samples S001 and S001SP at 10:16 from excavation floor. Excavation backfilled on 11-01-2010.
**Boring ID:** B1ET0106

**Borehole Diam. (in.):** 2

**Total Depth (ft):** 3.5

**Northing (ft):** 269103.09

**Easting (ft):** 1796907.69

**Drill Start Date:** 09-01-2010

**Start Time:** 10:18

**Logged By:** S. Aichner

**Drill Rig Type/Method:** Grab (hand sampling)

**Boring ID:** 1796907.69

**Date / Time:** N/A

**Depth H2O After Drilling (ft):** N/A

**Date / Time:** N/A

**Driller’s Name:** A. Vann

**Easting (ft):** N/A

**Start Time:** N/A

**Finish Time:** N/A

**Date / Time:** N/A

**Drilling Contractor:** MP Environmental Svcs.

**Field Instrumentation:** PID

**Comments:** Surface soil and alluvium overexcavated to approx. 3 ft

**Samplers:** Grab sample retained in 6-inch stainless steel sleeve

**Well Comp. Date:** N/A

**Completion Time:** N/A

**Sample Interval Retained:**

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>SM</td>
<td>0.1</td>
<td>SM</td>
<td>SM</td>
<td>0</td>
<td>0</td>
<td>[See Trench Log ISRA-B1-1A for lithology]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Total Depth = 3.5 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 10:21 from excavation floor.

Excavation backfilled on 11-01-2010.

**Well Comp. Date:** N/A

**Soil Backfill Date:** N/A

**Backfill Time:** N/A

**Est. % of Soil**

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>70</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Well Comp. Date:** N/A

**Soil Backfill Date:** N/A

**Backfill Time:** N/A

**Est. % of Soil**

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>70</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Silty Sand, dark yellowish brown (10YR 3/4), loose, dry, micaceous [Alluvium]

Total Depth = 2.5 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 11:19 from excavation floor.

Excavation recontoured 11-2010 without backfill.

[See Trench Log ISRA-B1-1C for lithology]
<table>
<thead>
<tr>
<th>Sample Interval Retained Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td>SM</td>
<td>Silt/Clay</td>
<td>Silty Sand, dark yellowish brown (10YR 3/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silt/Clay</td>
<td>Total Depth = 1.0 ft.</td>
</tr>
</tbody>
</table>

Collected soil sample S001 at 15:11 from excavation sidewall.
Excavation recontoured 11-2010 without backfill.
Boring ID: B1ET0300

Borehole Diam. (in.): 2
Total Depth (ft): 6.0

Not thing (ft): 268911.87
Easting (ft): 1797158.96

Drill Start Date: 08-26-2010
Start Time: 09:57
Logged By: S. Aichner

Drill Finish Date: 08-26-2010
Finish Time: 10:09
Drilling Contractor: MP Environmental Svcs.

Depth 1st H₂O (ft): N/A
Date / Time: N/A
Drill Rig Type/Method: Grab (hand sampling)

Depth H₂O After Drilling (ft): N/A
Date / Time: N/A
Driller's Name: A. Vann

Comments: Surface soil and alluvium overexcavated to approx. 5.5 ft

Well Comp. Date: N/A
Completion Time: N/A

Samplers: Grab sample retained in 6-inch stainless steel sleeve

Soil Backfill Date: N/A
Backfill Time: N/A

Est. % of Soil

Graphic Log

USCS Soil Classification

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Water Level</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>SM</td>
<td>0.0</td>
<td>N/A</td>
<td>N/A</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

[See Trench Log ISRA-B1-1D for lithology]

Total Depth = 6.0 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 10:09 from excavation floor.

Excavation recontoured 11-03-2010 without backfill.
Boring ID: B1ET0301

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>SM</td>
<td>Silty Sand, brown (10YR 4/3), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

[See Trench Log ISRA-B1-1D for lithology]

Total Depth = 2.5 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 10:25 from excavation floor.

Excavation recontoured 11-03-2010 without backfill.
## LOG OF BORING OUTFALL009_ISRA-2010.GPJ  BOEING.GDT  2/21/11

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
</tr>
<tr>
<td>0</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM</td>
<td>Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total Depth = 2.5 ft; terminated prior to refusal on bedrock.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Collected soil sample S001 at 10:40 from excavation floor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Excavation recontoured 11-03-2010 without backfill.</td>
</tr>
</tbody>
</table>

**Boring ID:** B1ET0302

- **Borehole Diam. (in.):** 2
- **Total Depth (ft):** 2.5
- **Northing (ft):** 269070.60
- **Easting (ft):** 1797178.69
- **Drill Start Date:** 08-26-2010
- **Start Time:** 10:33
- **Drill Finish Date:** 08-26-2010
- **Finish Time:** 10:40
- **Logged By:** S. Aichner
- **Reviewed By:** M. Milman-Barris, P.G.
- **Drilling Contractor:** MP Environmental Svcs.
- **Field Instrumentation:** PID
- **Driller’s Name:** A. Vann
- **Comments:** Surface soil and alluvium overexcavated to approx. 2 ft
- **Well Comp. Date:** N/A
- **Completion Time:** N/A
- **Samplers:** Grab sample retained in 6-inch stainless steel sleeve
- **Soil Backfill Date:** N/A
- **Backfill Time:** N/A
- **Est. % of Soil**
  - **Gravel:** 10
  - **Coarse Sand:** 70
  - **Med. Sand:** 20
  - **Fine Sand:** 10
  - **Silt/Clay:** 70
**Boring ID: B1ET0303**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM</td>
<td>Silty Sand, dark yellowish brown (10YR 4/4), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

- Total Depth = 2.5 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 10:57 from excavation floor.
- Excavation recontoured 11-03-2010 without backfill.

[See Trench Log ISRA-B1-1D for lithology]
<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
<td>SM</td>
<td>SM</td>
<td>Silty Sand, brown (10YR 4/3), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1.0</td>
<td>SM</td>
<td>SM</td>
<td>Total Depth = 1.0 ft; terminated prior to refusal on bedrock.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2.0</td>
<td>SM</td>
<td>SM</td>
<td>Collected soil sample S001 at 10:24 from excavation floor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3.0</td>
<td>SM</td>
<td>SM</td>
<td>Excavation recontoured 11-03-2010 without backfill.</td>
</tr>
</tbody>
</table>

[See Trench Log ISRA-B1-1D for lithology]
**Boring ID: B1ET0305**

**Borehole Diam. (in.):** 2

**Total Depth (ft):** 6.0

**Northing (ft):** 268906.18

**Easting (ft):** 1797146.08

**Drill Start Date:** 08-27-2010

**Start Time:** 09:48

**Logged By:** S. Aichner

**Reviewed By:** M. Milman-Barris, P.G.

**Drill Finish Date:** 08-27-2010

**Finish Time:** 09:57

**Drilling Contractor:** MP Environmental Svcs.

**Drill Rig Type/Method:** Grab (hand sampling)

**Depth 1st H2O (ft):** N/A

**Date / Time:** N/A

**PID**

**B1-1D Area**

**Completion Time:** N/A

**Backfill Time:** N/A

**Comments:** Surface soil and alluvium overexcavated to approx. 5.5 ft

**Well Comp. Date:** N/A

**Soil Backfill Date:** N/A

**Sample Interval Retained Sample Type Recovery (%) Blow Count/6" PID (ppm) Water Level Depth (feet) Graphic Log Description**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Recovery</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>6.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0.0</td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

- Total Depth = 6.0 ft; terminated prior to refusal on bedrock.

- Collected soil sample S001 at 09:57 from excavation floor.

- Excavation recontoured 11-03-2010 without backfill.
**Sample Interval** | **Retained Sample Type** | **Recovery (%)** | **Blow Count/6”** | **PID (ppm)** | **Water Level** | **Depth (feet)** | **Graphic Log** | **USCS Soil Classification** | **Description** |
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
0 | | | | | | | [See Trench Log ISRA-B1-1D for lithology] | | |

<table>
<thead>
<tr>
<th>Depth</th>
<th>0.2</th>
<th>SM</th>
<th>Silty Sand, brownish yellow (10YR 6/6), loose, dry, micaceous [Alluvium]</th>
</tr>
</thead>
</table>

**Comments:**
- Surface soil and alluvium overexcavated to approx. 5.5 ft
- Collected soil sample S001 at 10:11 from excavation floor.
- Excavation recontoured 11-03-2010 without backfill.
- Total Depth = 6.0 ft; terminated prior to refusal on bedrock.
Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous [Alluvium]

Total Depth = 6.0 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 10:38 from excavation floor.

Excavation recontoured 11-03-2010 without backfill.

[See Trench Log ISRA-B1-1D for lithology]
Borehole Diam. (in.): 2  Total Depth (ft): 5.0
Notching (ft): 268958.15  Easting (ft): 1797166.50
Drill Start Date: 08-27-2010  Start Time: 10:41
Logged By: S. Aichner
Drill Finish Date: 08-27-2010  Finish Time: 10:59
Drilling Contractor: MP Environmental Svcs.
Depth 1st H₂O (ft): N/A  Date / Time: N/A
Drill Rig Type/Method: Grab (hand sampling)
Depth H₂O After Drilling (ft): N/A  Date / Time: N/A
Driller’s Name: A. Vann
Comments: Surface soil and alluvium overexcavated to approx. 4.5 ft
Samplers: Grab sample retained in 6-inch stainless steel sleeve

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Est. % of Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.0</td>
<td>S</td>
<td>SM</td>
<td>Silty Sand, yellowish brown (10YR 5/6), loose, dry, micaceous [Alluvium]</td>
<td>80 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

[See Trench Log ISRA-B1-1D for lithology]

Total Depth = 5.0 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 10:59 from excavation floor.

Excavation recontoured 11-03-2010 without backfill.
**Boring ID: B1ET0309**

- **Project:** Outfall 009 Boeing Area 2010 ISRA Implementation
- **Site:** B1-1D Area
- **Logged By:** S. Aichner
- **Reviewed By:** M. Milman-Barris, P.G.

**Sample Details:**

- **Job Number:** 1008208
- **Driller's Name:** A. Vann
- **Drill Rig Type/Method:** Grab (hand sampling)

**Surface Details:**

- **Start Time:** 12:09
- **Finish Time:** 12:18
- **Total Depth:** 6.5 ft
- **Terminated prior to refusal on bedrock.**
- **Excavation recontoured 11-03-2010 without backfill.**

**Notes:**

- **Comments:** Surface soil and alluvium overexcavated to approx. 6 ft
- **Grab sample retained in 6-inch stainless steel sleeve**

**Description:**

- **Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous [Alluvium]**

**Total Depth = 6.5 ft; terminated prior to refusal on bedrock.**

- **Collected soil sample S001 at 12:18 from excavation floor.**
- **Excavation recontoured 11-03-2010 without backfill.**

**Graphical Log:**

- **[See Trench Log ISRA-B1-1D for lithology]**
**Boring ID: B1ET0310**

**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation  
**Job Number:** 1008208  
**Site:** B1-1D Area

---

**Comments:** Surface soil and alluvium overexcavated to approx. 3 ft

**Grab sample retained in 6-inch stainless steel sleeve**

---

**Total Depth (ft):** 3.5  
**Date/Time:** 08-27-2010

---

**Water Level:** Retained

---

**Sample Interval**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.1</td>
<td>S</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td>SM</td>
</tr>
<tr>
<td>3</td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silty Sand, brownish yellow (10YR 6/6), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

---

**Description**

[See Trench Log ISRA-B1-1D for lithology]

Total Depth = 3.5 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 12:32 from excavation floor.

Excavation recontoured 11-03-2010 without backfill.
# Boring Log

**Boring ID:** B1ET0311

**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation

**Site:** B1-1D Area

---

**Date / Time:** 08-27-2010

**Time:** 12:41

**Groundwater Level:** N/A

---

**PID:**

**Borehole Diam. (in.):** 2

**Total Depth (ft):** 3.5

**Drill Start Date:** 08-27-2010

**Start Time:** 12:36

**Logged By:** S. Aichner

**Reviewed By:** M. Milman-Barris, P.G.

---

**Sample Interval Retained:**

**Sample Type:** Grab sample retained in 6-inch stainless steel sleeve

**Recovery (%):** 0.2

**Blow Count/6”:** SM

**Water Level:** N/A

**Depth (feet):** 0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10

**USCS Soil Classification:** Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous [Alluvium]

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-3</td>
<td>Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

---

**Excavation recontoured 11-03-2010 without backfill.**

---

**Comments:**

- Surface soil and alluvium overexcavated to approx. 3 ft
- Total Depth = 3.5 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 12:41 from excavation floor.
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Graph (hand sampling)</td>
<td>100</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>SM</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>Silt/Clay</td>
<td>Total Depth = 3.5 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 12:54 from excavation floor. Excavation recontoured 11-03-2010 without backfill.</td>
</tr>
</tbody>
</table>

PID: B1ET0312
**Borehole Diam. (in.):** 2  
**Total Depth (ft):** 3.0

**Northing (ft):** 269022.42  
**Easting (ft):** 1797212.46

**Drill Start Date:** 08-27-2010  
**Start Time:** 12:56

**Drill Finish Date:** 08-27-2010  
**Finish Time:** 13:03

**Comments:** Surface soil and alluvium overexcavated to approx. 2.5 ft

**Samplers:** Grab sample retained in 6-inch stainless steel sleeve

---

### Sample Description

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Graphic Log</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
<td></td>
<td></td>
</tr>
<tr>
<td>0.2</td>
<td>SM</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td>Silty Sand, brown (10YR 4/3), loose, dry, micaceous [Alluvium]</td>
<td></td>
<td>10 70 20</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total Depth = 3.0 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 13:03 from excavation floor. Excavation recontoured 11-03-2010 without backfill.</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**Log of Boring**

**Outfall 009 Boeing Area 2010 ISRA Implementation**

**Boring ID:** B1ET0314

**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation

**Site:** B1-1D Area

---

**Sample Interval**

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Est. % of Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

**Description**

- [See Trench Log ISRA-B1-1D for lithology]

---

**Comments**

- **Surface soil and alluvium overexcavated to approx. 5 ft**
- **Grab sample retained in 6-inch stainless steel sleeve**

---

**Additional Details**

- **Total Depth (5.5 ft):**
  - Collected soil sample S001 at 08:21 from excavation floor.
  - Excavation recontoured 11-03-2010 without backfill.
  - Total Depth = 5.5 ft; terminated prior to refusal on bedrock.

---

**Notes**

- **Easting (ft):** 1797226.87
- **Northing (ft):** 269071.92
- **Log of Boring OUTFALL009 ISRA-2010.GPJ**
- **PID:** A. Vann

---

**Table Data**

<table>
<thead>
<tr>
<th>Depth</th>
<th>PI</th>
<th>Type</th>
<th>Est. % of Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>SM</td>
<td>Silty Sand, dark brown (10YR 3/3), loose, dry, micaceous [Alluvium]</td>
<td>70 30</td>
</tr>
</tbody>
</table>

---

**Additional Details**

- **Log of Boring OUTFALL009 ISRA-2010.GPJ**
- **PID:** A. Vann

---

**References**

- **Reviewed By:** M. Milman-Barris, P.G.
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>Total Depth = 3.0 ft; terminated prior to refusal on bedrock.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>Collected soil sample S001 at 08:33 from excavation floor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>Excavation recontoured 11-03-2010 without backfill.</td>
</tr>
</tbody>
</table>
Boring ID: B1ET0316

Borehole Diam. (in.): 2
Total Depth (ft): 2.5

Project: Outfall 009 Boeing Area 2010 ISRA Implementation

Northing (ft): 269054.14
Easting (ft): 1797169.30

Job Number: 1008208
Site: B1-1D Area

Drill Start Date: 08-30-2010
Start Time: 08:56

Logged By: S. Aichner
Reviewed By: M. Milman-Barris, P.G.

Drill Finish Date: 08-30-2010
Finish Time: 09:06

Drilling Contractor: MP Environmental Svcs.
Field Instrumentation: PID

Depth 1st H2O (ft): N/A
Date / Time: N/A

Drill Rig Type/Method: Grab (hand sampling)

Depth H2O After Drilling (ft): N/A
Date / Time: N/A

Driller’s Name: A. Vann

Comments: Surface soil and alluvium overexcavated to approx. 2 ft

Well Comp. Date: N/A
Completion Time: N/A

Grab sample retained in 6-inch stainless steel sleeve

Soil Backfill Date: N/A
Backfill Time: N/A

---

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
<th>Est. % of Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>SM</td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>SM</td>
<td>Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous [Alluvium]</td>
<td>tr 10 70 20</td>
</tr>
</tbody>
</table>

Total Depth = 2.5 ft; terminated prior to refusal on bedrock.

Collected soil samples S001 and S001SP at 09:06 from excavation floor.

Excavation recontoured 11-03-2010 without backfill.
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>SM</td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td>SM</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

- **Total Depth = 4.0 ft; terminated prior to refusal on bedrock.**
- **Collected soil sample S001 at 09:25 from excavation floor.**
- **Excavation recontoured 11-03-2010 without backfill.**
**Boring ID:** B1ET0318

**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation

**Site:** B1-1D Area

**Drill Start Date:** 08-30-2010  **Start Time:** 09:26

**Logged By:** S. Aichner  **Reviewed By:** M. Milman-Barris, P.G.

**Drill Rig Type/Method:** Grab (hand sampling)

**Comments:** Surface soil and alluvium overexcavated to approx. 3.5 ft

**Sample Interval**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>Water Content</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>S</td>
<td>0.2</td>
<td></td>
<td></td>
<td>0</td>
<td>0</td>
<td>[Trench Log ISRA-B1-1D for lithology]</td>
<td></td>
<td>SM</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

**Total Depth = 4.0 ft; terminated prior to refusal on bedrock.**

Collected soil sample S001 at 09:38 from excavation floor.

Excavation recontoured 11-03-2010 without backfill.
**Boring ID: B1ET0319**

**Borehole Diam. (in.):** 2
**Total Depth (ft):** 5.5

**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation
**Job Number:** 1008208
**Site:** B1-1D Area

**Drill Start Date:** 08-30-2010
**Start Time:** 09:42

**Logged By:** S. Aichner
**Reviewed By:** M. Milman-Barris, P.G.

**Drill Rig Type/Method:** Grab (hand sampling)

**Date / Time:** 09:56

**Comments:** Surface soil and alluvium overexcavated to approx. 5 ft

**Samplers:** Grab sample retained in 6-inch stainless steel sleeve

---

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
</tr>
</tbody>
</table>

- **SM:** Silty Sand, brownish yellow (10YR 6/6), loose, dry, micaceous [Alluvium]

- **Total Depth = 5.5 ft; terminated prior to refusal on bedrock.**

- **Collected soil sample S001 at 09:56 from excavation floor.**

- **Excavation recontoured 11-03-2010 without backfill.**

---

**Well Comp. Date:** N/A
**Completion Time:** N/A

**Soil Backfill Date:** N/A
**Backfill Time:** N/A

**Field Instrumentation:** N/A

---

**Well Completion Date:** N/A
**Drill Start Date:** N/A
**Drill Finish Date:** N/A

**Easting (ft):** 1797129.83
**Northing (ft):** 269009.81

**Start Time:** 09:42
**Finish Time:** 09:56

**Date / Time:** N/A

**Driller’s Name:** A. Vann

---

**Comments:**

- Surface soil and alluvium overexcavated to approx. 5 ft.
- Grab sample retained in 6-inch stainless steel sleeve.

---

**PID:** N/A
**Drilling Contractor:** MP Environmental Svcs.
Silty Sand, yellow (10YR 7/6), loose, dry, micaceous [Alluvium]

Total Depth = 2.5 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 10:11 from excavation floor.

Excavation recontoured 11-03-2010 without backfill.
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>SM</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td>4.0</td>
<td>SM</td>
<td>Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous [Alluvium]</td>
<td></td>
</tr>
</tbody>
</table>

**Comments:**
- Surface soil and alluvium overexcavated to approx. 4 ft
- Grab sample retained in 6-inch stainless steel sleeve
- Total Depth = 4.5 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 10:31 from excavation floor.
- Excavation recontoured 11-03-2010 without backfill.
### Boring ID: B1ET0322

<table>
<thead>
<tr>
<th>Borehole Diam. (in.):</th>
<th>2</th>
<th>Total Depth (ft): 2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>Northing (ft):</td>
<td>268956.57</td>
<td>Easting (ft): 1797089.12</td>
</tr>
<tr>
<td>Drill Start Date:</td>
<td>08-30-2010</td>
<td>Start Time: 10:38</td>
</tr>
<tr>
<td>Drill Finish Date:</td>
<td>08-30-2010</td>
<td>Finish Time: 10:46</td>
</tr>
<tr>
<td>Depth 1st H₂O (ft):</td>
<td>N/A</td>
<td>Date / Time: N/A</td>
</tr>
<tr>
<td>Depth H₂O After Drilling (ft): N/A</td>
<td>Date / Time: N/A</td>
<td></td>
</tr>
</tbody>
</table>

#### Comments:
Surface soil and alluvium overexcavated to approx. 2 ft

#### Sample
- **Sample Type:** Grab sample retained in 6-inch stainless steel sleeve
- **Recovery (%):** 0.1
- **Soil Backfill Date:** N/A
- **Backfill Time:** N/A

#### Soil Backfill
- **Well Comp. Date:** N/A
- **Completion Time:** N/A

#### Drilling Details
- **PID:** N/A
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Drill Rig:** N/A
- **Reviewed By:** M. Milman-Barris, P.G.
- **Driller's Name:** A. Vann

#### Water Level
- **Water Level:** N/A

#### Field Instrumentation
- **Easting (ft):** N/A
- **Northing (ft):** N/A
- **Date / Time:** N/A
- **Date / Time:** N/A

#### Sample Interval

<table>
<thead>
<tr>
<th>Sample Interval (feet)</th>
<th>Recovery (%)</th>
<th>Blown Count/6&quot;</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>1</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>2</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>3</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>4</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>5</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>6</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>7</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>8</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>9</td>
<td>N/A</td>
<td>N/A</td>
</tr>
<tr>
<td>10</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

#### USCS Soil Classification

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>SM</th>
<th>Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous [Alluvium]</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>0</td>
<td>SM</td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
</tr>
<tr>
<td>2.5</td>
<td>0</td>
<td>SM</td>
<td>Total Depth = 2.5 ft; terminated prior to refusal on bedrock.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Collected soil sample S001 at 10:46 from excavation floor.</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>Excavation recontoured 11-03-2010 without backfill.</td>
</tr>
</tbody>
</table>

#### Est. % of Soil

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silty/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>10</td>
<td>60</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>
**LOG OF BORING OUTFALL009 ISRA-2010.GPJ  BOEING.GDT  2/21/11**

**Boring ID: B1ET0323**

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>S</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>SM</td>
<td>Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous [Alluvium]</td>
<td></td>
</tr>
</tbody>
</table>

- **[See Trench Log ISRA-B1-1D for lithology]**

- **Total Depth = 2.5 ft; terminated prior to refusal on bedrock.**

- **Collected soil sample S001 at 10:58 from excavation floor.**

- **Excavation recontoured 11-03-2010 without backfill.**

**Comments:** Surface soil and alluvium overexcavated to approx. 2 ft

**Well Comp. Date:** N/A  **Completion Time:** N/A

**Samplers:** Grab sample retained in 6-inch stainless steel sleeve

**Soil Backfill Date:** N/A  **Backfill Time:** N/A
**LOG OF BORING OUTFALL009 ISRA-2010.GPJ  BOEING.GDT  2/21/11**

### Sample Interval Retained

<table>
<thead>
<tr>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>S</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Notes:**
- Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous [Alluvium]
- Total Depth = 2.5 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 11:10 from excavation floor.
- Excavation recontoured 11-03-2010 without backfill.

**Boring ID:** B1ET0324

**Borehole Diam. (in.):** 2

**Total Depth (ft):** 2.5

**Northing (ft):** 268983.99

**Easting (ft):** 1797099.49

**Drill Start Date:** 08-30-2010

**Start Time:** 11:00

**Logged By:** S. Aichner

**Reviewed By:** M. Milman-Barris, P.G.

**Depth 1st H₂O (ft):** N/A

**Date / Time:** N/A

**Depth H₂O After Drilling (ft):** N/A

**Date / Time:** N/A

**Driller’s Name:** A. Vann

**Job Number:** 1008208

**Site:** B1-1D Area

**Drilling Contractor:** MP Environmental Svcs.

**Field Instrumentation:** PID

**Comments:** Surface soil and alluvium overexcavated to approx. 2 ft

**Well Comp. Date:** N/A

**Completion Time:** N/A

**Samplers:** Grab sample retained in 6-inch stainless steel sleeve

**Soil Backfill Date:** N/A

**Backfill Time:** N/A

**B1-1D Area**

**Outfall 009 Boeing Area 2010 ISRA Implementation**

**Total Depth:** 2.5 ft; terminated prior to refusal on bedrock.

**Grab sample retained in 6-inch stainless steel sleeve**
Boring ID: B1ET0325

Outfall 009 Boeing Area 2010 ISRA Implementation

Project: Outfall 009 Boeing Area 2010 ISRA Implementation
Job Number: 1008208
Site: B1-1D Area
Logged By: S. Aichner
Reviewed By: M. Milman-Barris, P.G.

Northing (ft): 269016.75
Easting (ft): 1797102.92

Drill Start Date: 08-30-2010
Start Time: 13:23

Drill Finish Date: 08-30-2010
Finish Time: 13:30

Drill Rig Type/Method: Grab (hand sampling)

Depth 1st H₂O (ft): N/A
Date / Time: N/A

Depth H₂O After Drilling (ft): N/A
Date / Time: N/A

Borehole Diam. (in.): 2
Total Depth (ft): 1.0

Easting (ft): 1797102.92

Driller's Name: A. Vann

Comments: Native soil and alluvium

Grab sample retained in 6-inch stainless steel sleeve


device

Sample Interval Retained Depth (feet)
Sample Type Recovery (%) Blow Count/6" PID (ppm) Water Level

0

SM

0.1

Silty Sand, dark yellowish brown (10YR 4/4), loose, dry, micaceous [Alluvium]

Total Depth = 1.0 ft.

Collected soil sample S001 at 13:30 from excavation sidewall.

Excavation recontoured 11-03-2010 without backfill.

Native soil and alluvium

Grab sample retained in 6-inch stainless steel sleeve

Est. % of Soil

Gravel Coarse Sand Med. Sand Fine Sand Silt/Clay

10 70 20

[See Trench Log ISRA-B1-1D for lithology]
### LOG OF BORING

**Boring ID:** B1ET0326

**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation

**Site:** B1-1D Area

**Logged By:** S. Aichner

**Reviewed By:** M. Milman-Barris, P.G.

**Driller's Name:** A. Vann

**Drilling Contractor:** MP Environmental Svcs.

**Well Comp. Date:** N/A

**Completion Time:** N/A

**Job Number:** 1008208

**Date / Time:** 08-30-2010

**Easting (ft):** 1797117.76

**N/A**

**Northing (ft):** 269021.04

**Date / Time:** 13:38

**Start Time:** 13:43

**Backfill Time:** N/A

**Backfill Date:** N/A

**Drill Start Date:** 08-30-2010

**Date / Time:** N/A

**N/A**

**Depth H2O After Drilling (ft):** N/A

**Depth 1st H2O (ft):** N/A

**Date / Time:** N/A

**Sample Type:** Grab

**PID:** Grab (hand sampling)

**Drill Rig Type/Method:** PID

**Field Instrumentation:** PID

**Surface soil and alluvium overexcavated to approx. 3 ft**

**Comments:** Surface soil and alluvium overexcavated to approx. 3 ft

**Sample Interval:**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>SM</td>
<td>Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>SM</td>
<td>Total Depth = 3.5 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 13:43 from excavation floor. Excavation recounted 11-03-2010 without backfill.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>SM</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Type:** Grab sample retained in 6-inch stainless steel sleeve

**Sample Interval:**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>SM</td>
<td>Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>SM</td>
<td>Total Depth = 3.5 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 13:43 from excavation floor. Excavation recounted 11-03-2010 without backfill.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>SM</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Type:**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>[See Trench Log ISRA-B1-1D for lithology]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>SM</td>
<td>Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>SM</td>
<td>Total Depth = 3.5 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 13:43 from excavation floor. Excavation recounted 11-03-2010 without backfill.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>4</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>5</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>7</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>8</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>9</td>
<td>SM</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10</td>
<td>SM</td>
<td></td>
</tr>
</tbody>
</table>
### Boring ID: B1ET0400

#### Project: Outfall 009 Boeing Area 2010 ISRA Implementation

**Site:** B1-1B Area

**Logged By:** S. Aichner
**Reviewed By:** M. Milman-Barris, P.G.

**Job Number:** 1008208

**Borehole Diam. (in.):** 2
**Easting (ft):** 1797095.94
**Starting Date:** 08-26-2010
**Start Time:** 11:23
**Drill Finish Date:** 08-26-2010
**Finish Time:** 11:32

**Northing (ft):** 269130.87
**PID (ppm):** N/A
**Date / Time:** N/A

**Date / Time:** N/A
**Water Level:** N/A
**Completion Time:** N/A

**Comments:**
- Surface soil and alluvium overexcavated to approx. 2 ft
- Collected soil sample S001 at 11:32 from excavation floor.

**Driller’s Name:** A. Vann

**Drill Rig Type/Method:** Grab (hand sampling)

#### Sample Interval Retained

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
<td></td>
</tr>
</tbody>
</table>

- Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]

- Total Depth = 2.5 ft; terminated prior to refusal on bedrock.

- Collected soil sample S001 at 11:32 from excavation floor.

- Excavation recontoured 11-2010 without backfill.

**Est. % of Soil**

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>tr</td>
<td>10</td>
<td>70</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>
**LOG OF BORING OUTFALL009_ISRA-2010.GPJ  BOEING.GDT  2/21/11**

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
</tr>
</tbody>
</table>

- **Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]**

- **Total Depth = 2.5 ft; terminated prior to refusal on bedrock.**

- **Collected soil sample S001 at 08:14 from excavation floor.**

- **Excavation recontoured 11-2010 without backfill.**

**Comments:** Surface soil and alluvium overexcavated to approx. 2 ft

**Well Comp. Date:** N/A  **Completion Time:** N/A

**Samplers:** Grab sample retained in 6-inch stainless steel sleeve  **Soil Backfill Date:** N/A  **Backfill Time:** N/A
**Boring ID: B1ET0402**

**Borehole Diam. (in.):** 2  
**Total Depth (ft):** 2.0  
**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation  
**Northing (ft):** 269087.57  
**Easting (ft):** 1797074.90  
**Job Number:** 1008208  
**Site:** B1-B Area  
**Drill Start Date:** 08-31-2010  
**Start Time:** 08:17  
**Logged By:** S. Aichner  
**Reviewed By:** M. Milman-Barris, P.G.  
**Drill Finish Date:** 08-31-2010  
**Finish Time:** 08:26  
**Drilling Contractor:** MP Environmental Svcs.  
**Field Instrumentation:** PID  
**Depth 1st H2O (ft):** N/A  
**Date / Time:** N/A  
**Drill Rig Type/Method:** Grab (hand sampling)  
**Depth H2O After Drilling (ft):** N/A  
**Date / Time:** N/A  
**Driller's Name:** A. Vann  

**Comments:** Surface soil and alluvium overexcavated to approx. 1.5 ft.  

**Sample Interval**  
**Sample Type**  
**PID (ppm)**  
**Water Level**  
**Recovery (%)**  
**Blow Count/6”**  
**Depth (feet)**  
**Graphic Log**  
**USCS Soil Classification**  
**Description**  
**Est. % of Soil**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Description</th>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.0</td>
<td>1</td>
<td>SM</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
<td>tr 10 70 20</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
| 2.0         | 2               |             |              |               |           |             | Total Depth = 2.0 ft; terminated prior to refusal on bedrock.  
Collected soil sample S001 at 08:26 from excavation floor.  
Excavation recontoured 11-2010 without backfill. | |        |            |          |          |          |

**Total Depth (ft):** Project: Outfall 009 Boeing Area 2010 ISRA Implementation  
**Well Comp. Date:** N/A  
**Completion Time:** N/A  
**Samplers:** Grab sample retained in 6-inch stainless steel sleeve  
**Soil Backfill Date:** N/A  
**Backfill Time:** N/A  

**Easting (ft):** 1797074.90  
**Start Time:** 08:17  
**Finish Time:** 08:26  
**Date / Time:** N/A  
**Date / Time:** N/A  

**Logged By:** S. Aichner  
**Reviewed By:** M. Milman-Barris, P.G.  
**Driller's Name:** A. Vann  

**Northing (ft):** 269087.57  
**Drill Start Date:** 08-31-2010  
**Drill Finish Date:** 08-31-2010  
**Drill Rig Type/Method:** Grab (hand sampling)  
**Depth 1st H2O (ft):** N/A  
**Depth H2O After Drilling (ft):** N/A  

**Comments:** Surface soil and alluvium overexcavated to approx. 1.5 ft.
### LOG OF BORING OUTFALL009_ISRA-2010.GPJ  BOEING.GDT  2/21/11

**Boring ID: B1ET0403**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td></td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>1</td>
<td></td>
<td>SM</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

- **Total Depth**: 2.5 ft; terminated prior to refusal on bedrock.
- **Comments**: Surface soil and alluvium overexcavated to approx. 2 ft

** глубина**: 2.5 фут; завершено без признания на грунте

**Замечания**: поверхность грунта и аллювий перекопаны до приблизительно 2 футов

---

**Table:**

- **Borehole Diam. (in.)**: 2
- **Total Depth (ft)**: 2.5
- **Northing (ft)**: 269101.17
- **Easting (ft)**: 1797096.34
- **Drill Start Date**: 08-31-2010
- **Start Time**: 08:32
- **Drill Finish Date**: 08-31-2010
- **Finish Time**: 08:40
- **Drilling Contractor**: MP Environmental Svs, P.G.
- **Field Instrumentation**: PID
- **Driller’s Name**: A. Vann

**Comments:** Surface soil and alluvium overexcavated to approx. 2 ft

**Grab sample retained in 6-inch stainless steel sleeve**

**Well Comp. Date**: N/A

**Completion Time**: N/A

**Soil Backfill Date**: N/A

**Backfill Time**: N/A

---

**Surface soil and alluvium overexcavated to approx. 2 ft**

**Grab sample retained in 6-inch stainless steel sleeve**

**Comments:** Surface soil and alluvium overexcavated to approx. 2 ft

**Grab sample retained in 6-inch stainless steel sleeve**

**Comments:** Surface soil and alluvium overexcavated to approx. 2 ft
**Boring ID: B1ET0404**

- **Borehole Diam. (in.):** 2
- **Total Depth (ft):** 2.0
- **Project:** Outfall 009 Boeing Area 2010 ISRA Implementation
- **Northing (ft):** 269109.12
- **Easting (ft):** 1797108.60
- **Job Number:** 1008208
- **Site:** B1-1B Area
- **Drill Start Date:** 08-31-2010
- **Start Time:** 08:46
- **Logged By:** S. Aichner
- **Reviewed By:** M. Milman-Barris, P.G.
- **Drill Finish Date:** 08-31-2010
- **Finish Time:** 08:52
- **Drilling Contractor:** MP Environmental Svcs.
- **Field Instrumentation:** PID
- **Depth 1st H2O (ft):** N/A
- **Date / Time:** N/A
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Depth H2O After Drilling (ft):** N/A
- **Date / Time:** N/A
- **Driller’s Name:** A. Vann

**Comments:** Surface soil and alluvium overexcavated to approx. 1.5 ft

**Well Comp. Date:** N/A

**Completion Time:** N/A

**Samplers:** Grab sample retained in 6-inch stainless steel sleeve

**Soil Backfill Date:** N/A

**Backfill Time:** N/A

---

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sample Type</td>
<td>Recovery (%)</td>
<td>Blow Count/6”</td>
<td>PID (ppm)</td>
<td>Water Level</td>
<td>Depth (feet)</td>
<td>Graphic Log</td>
<td>USCS Soil Classification</td>
<td>Description</td>
<td></td>
</tr>
<tr>
<td>0</td>
<td>SM</td>
<td>0.2</td>
<td>N/A</td>
<td>N/A</td>
<td>0</td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
<td>10 10 60 20</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Total Depth = 2.0 ft; terminated prior to refusal on bedrock.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Collected soil sample S001 at 08:52 from excavation floor.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td>Excavation recontoured 11-2010 without backfill.</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Sample Interval Retained</td>
<td>Sample Type</td>
<td>Recovery (%)</td>
<td>Blow Count/6&quot;</td>
<td>PID (ppm)</td>
<td>Water Level</td>
<td>Depth (feet)</td>
<td>Graphic Log</td>
<td>USCS Soil Classification</td>
<td>Description</td>
</tr>
<tr>
<td>-------------------------</td>
<td>-------------</td>
<td>--------------</td>
<td>---------------</td>
<td>-----------</td>
<td>-------------</td>
<td>--------------</td>
<td>-------------</td>
<td>------------------------</td>
<td>-------------</td>
</tr>
<tr>
<td>0</td>
<td>SM</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous [Alluvium]</td>
<td>Total Depth = 2.0 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 09:04 from excavation floor. Excavation recontoured 11-2010 without backfill.</td>
</tr>
</tbody>
</table>

[See Trench Log ISRA-B1-1B for lithology]
## LOG OF BORING  OUTFALL 009 ISRA-2010.GPJ  BOEING.GDT  2/21/11

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td>SM</td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>S</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>S</td>
<td>Total Depth = 2.0 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 09:15 from excavation floor. Excavation recontoured 11-2010 without backfill.</td>
</tr>
</tbody>
</table>

### Project Information
- **Boring ID:** B1ET0406
- **Project:** Outfall 009 Boeing Area 2010 ISRA Implementation
- **Site:** B1-B Area
- **Job Number:** 1008208
- **Driller's Name:** A. Vann

### Drilling Details
- **Borehole Diam. (in.):** 2
- **Total Depth (ft):** 2.0
- **Date / Time:** 08-31-2010 09:00
- **Logged By:** S. Aichner
- **Reviewed By:** M. Milman-Barris, P.G.
- **Depth H2O After Drilling:** N/A
- **Date / Time:** N/A
- **Drill Rig Type/Method:** PID
- **Field Instrumentation:** PID
- **Surface soil and alluvium overexcavated to approx. 1.5 ft**
- **Sampling:** Grab sample retained in 6-inch stainless steel sleeve

### Comments
- **Water Level:** N/A
- **Comments:** N/A

### Logs
- **Depth 1st H2O (ft):** N/A
- **Date / Time:** N/A
- **Well Comp. Date:** N/A
- **Drill Start Date:** N/A
- **Soil Backfill Date:** N/A
- **Drill Finish Date:** 08-31-2010
- **Soil Backfill Time:** N/A
- **Finish Time:** 09:15
- **Drilling Contractor:** MP Environmental Svcs.
- **Backfill Time:** N/A
- **Job Number:** 1008208

### Soil Classification
- **Est. % of Soil**
  - Gravel: 10%
  - Coarse Sand: 70%
  - Med. Sand: 20%
  - Fine Sand: 20%
  - Silt/Clay: 20%
Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium]

Surface soil and alluvium overexcavated to approx. 3.5 ft

Grab sample retained in 6-inch stainless steel sleeve

Total Depth = 4.0 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 09:31 from excavation floor.

Excavation recontoured 11-2010 without backfill.
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot; (ppm)</th>
<th>Water Level (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
</tr>
</tbody>
</table>

**Description**

- Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium]

---

**Comments**

- Surface soil and alluvium overexcavated to approx. 3.5 ft
- Soil sample S001 collected at 09:41 from excavation floor.
- Excavation recontoured 11-2010 without backfill.
**LOG OF BORING OUTFALL 09 ISRA-2010.GPJ BOEING.GDT 2/21/11**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td>0-3</td>
<td></td>
<td>SM</td>
<td>Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium]</td>
</tr>
</tbody>
</table>

- **Depth 1st H₂O (ft):** N/A
- **Date / Time:** N/A
- **Easting (ft):** 1797101.77
- **N/A**
- **Start Time:** 09:46
- **Northing (ft):** 269148.58
- **PID:** B1ET0409
- **Easting (ft):** 09:53
- **Date / Time:** N/A
- **Driller's Name:** A. Vann
- **Job Number:** 1008208
- **Backfill Time:** N/A
- **N/A**
- **Surface soil and alluvium overexcavated to approx. 2.5 ft**
- **N/A**
- **N/A**
- **Comments:** Surface soil and alluvium overexcavated to approx. 2.5 ft
- **Well Comp. Date:** N/A
- **Backfill Time:** N/A
- **Completion Time:** N/A
- **N/A**
- **Samplers:** Grab sample retained in 6-inch stainless steel sleeve
- **Logged By:** S. Aichner
- **Field Instrumentation:** PID
- **Drilling Contractor:** MP Environmental Svcs.
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Drill Finish Date:** 08-31-2010
- **Date / Time:** N/A
- **Start Time:** 09:46
- **N/A**
- **Date / Time:** N/A
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Depth 1st H₂O After Drilling (ft):** N/A
- **Date / Time:** N/A
- **Comments:** Surface soil and alluvium overexcavated to approx. 2.5 ft
- **Well Comp. Date:** N/A
- **Completion Time:** N/A
- **Samplers:** Grab sample retained in 6-inch stainless steel sleeve
- **Logged By:** S. Aichner
- **Field Instrumentation:** PID
- **Drilling Contractor:** MP Environmental Svcs.
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Depth 1st H₂O After Drilling (ft):** N/A
- **Date / Time:** N/A
- **Comments:** Surface soil and alluvium overexcavated to approx. 2.5 ft
- **Well Comp. Date:** N/A
- **Completion Time:** N/A
- **Samplers:** Grab sample retained in 6-inch stainless steel sleeve
- **Logged By:** S. Aichner
- **Field Instrumentation:** PID
- **Drilling Contractor:** MP Environmental Svcs.
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Depth 1st H₂O After Drilling (ft):** N/A
- **Date / Time:** N/A
- **Comments:** Surface soil and alluvium overexcavated to approx. 2.5 ft
- **Well Comp. Date:** N/A
- **Completion Time:** N/A
- **Samplers:** Grab sample retained in 6-inch stainless steel sleeve
- **Logged By:** S. Aichner
- **Field Instrumentation:** PID
- **Drilling Contractor:** MP Environmental Svcs.
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Depth 1st H₂O After Drilling (ft):** N/A
- **Date / Time:** N/A
- **Comments:** Surface soil and alluvium overexcavated to approx. 2.5 ft
- **Well Comp. Date:** N/A
- **Completion Time:** N/A
- **Samplers:** Grab sample retained in 6-inch stainless steel sleeve
- **Logged By:** S. Aichner
- **Field Instrumentation:** PID
- **Drilling Contractor:** MP Environmental Svcs.
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Depth 1st H₂O After Drilling (ft):** N/A
- **Date / Time:** N/A
- **Comments:** Surface soil and alluvium overexcavated to approx. 2.5 ft
- **Well Comp. Date:** N/A
- **Completion Time**
<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blown Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td>Silty Sand</td>
<td>0.2 Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium]</td>
</tr>
<tr>
<td>2</td>
<td>SM</td>
<td>0.2</td>
<td></td>
<td></td>
<td></td>
<td>Silty Sand</td>
<td>0.2 Total Depth = 2.5 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 10:11 from excavation floor. Excavation recontoured 11-2010 without backfill.</td>
</tr>
</tbody>
</table>

[See Trench Log ISRA-B1-1B for lithology]
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td></td>
<td>Silty Sand</td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td>Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous, trace fine sandstone and shale gravel [Alluvium]</td>
<td>tr 10 10 60 20</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td>Total Depth = 1.0 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 10:22 from excavation floor. Excavation recontoured 11-2010 without backfill.</td>
<td></td>
</tr>
</tbody>
</table>

Comments: Surface soil and alluvium overexcavated to approx. 0.5 ft.
Surface soil and alluvium overexcavated to approx. 0.5 ft. Collected soil sample S001 at 10:38 from excavation floor. Excavation recontoured 11-2010 without backfill.

[See Trench Log ISRA-B1-1B for lithology]

Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium]

Total Depth = 1.0 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 10:38 from excavation floor.

Excavation recontoured 11-2010 without backfill.
<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>s</td>
<td>0.0</td>
<td>0.0</td>
<td>1.0</td>
<td>0.0</td>
<td>GM</td>
<td>GM</td>
<td>Silty Gravel, light yellowish brown (10YR 6/4), loose, dry, fine angular shale gravel, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

[See Trench Log ISRA-B1-1B for lithology]

Total Depth = 1.0 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 10:49 from excavation floor.

Excavation recontoured 11-2010 without backfill.
**Sample Interval** | **Sample Type** | **Recovery (%)** | **Blow Count/6”** | **PID (ppm)** | **Depth (feet)** | **Graphic Log** | **USCS Soil Classification** | **Description** | **Est. % of Soil** |
--- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
<p>| 0 | | | | | | | | [See Trench Log ISRA-B1-1B for lithology] |
| 1 | SM | 0.1 | | | | | | Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium] | 10 10 60 20 |
| 2 | | | | | | | | Total Depth = 1.5 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 11:03 from excavation floor. Excavation recontoured 11-2010 without backfill. |</p>
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S</td>
<td>Silty Gravel with Sand, very pale brown (10YR 7/4), loose, dry, fine sandstone gravel, micaceous [Alluvium]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td>GM</td>
<td>Silty Gravel with Sand, very pale brown (10YR 7/4), loose, dry, fine sandstone gravel, micaceous [Alluvium]</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silty Gravel with Sand, very pale brown (10YR 7/4), loose, dry, fine sandstone gravel, micaceous [Alluvium]</td>
<td></td>
</tr>
</tbody>
</table>

Total Depth = 1.5 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 11:16 from excavation floor.

Excavation recontoured 11-2010 without backfill.
# Boring ID: B1ET0416

**Borehole Diam. (in.):** 2  
**Total Depth (ft):** 1.0  
**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation  
**Northing (ft):** 269125.12  
**Easting (ft):** 1797063.43  
**Job Number:** 1008208  
**Site:** B1-1B Area  
**Drill Start Date:** 08-31-2010  
**Start Time:** 12:26  
**Logged By:** S. Aichner  
**Reviewed By:** M. Milman-Barris, P.G.  
**Drill Finish Date:** 08-31-2010  
**Finish Time:** 12:30  
**Drilling Contractor:** MP Environmental Svcs.  
**Field Instrumentation:** PID  
**Depth 1st H2O (ft):** N/A  
**Date / Time:** N/A  
**Drill Rig Type/Method:** Grab (hand sampling)  
**Depth H2O After Drilling (ft):** N/A  
**Date / Time:** N/A  
**Driller's Name:** A. Vann  
**Comments:** Surface soil and alluvium overexcavated to approx. 0.5 ft  
**Well Comp. Date:** N/A  
**Completion Time:** N/A  
**Samplers:** Grab sample retained in 6-inch stainless steel sleeve  
**Soil Backfill Date:** N/A  
**Backfill Time:** N/A  
**Surface soil and alluvium overexcavated to approx. 0.5 ft**  
**Grab sample retained in 6-inch stainless steel sleeve**  

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>SM</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>SM</td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>SM</td>
<td>SM</td>
<td>Silty Sand, yellowish brown (10YR 5/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium]</td>
</tr>
</tbody>
</table>
|                          |             |              |               |           |             | 2            | SM          | SM                      | Total Depth = 1.0 ft; terminated prior to refusal on bedrock.  
|                          |             |              |               |           |             | 3            | SM          | SM                      | Collected soil sample S001 at 12:30 from excavation floor.  
|                          |             |              |               |           |             | 4            | SM          | SM                      | Excavation recontoured 11-2010 without backfill. |

**Est. % of Soil**

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>70</td>
<td>20</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
## Boring ID: B1ET0417

**Outfall 009 Boeing Area 2010 ISRA Implementation**

<table>
<thead>
<tr>
<th>Job Number:</th>
<th>Site:</th>
<th>B1-1B Area</th>
</tr>
</thead>
<tbody>
<tr>
<td>1008208</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Logged By:** S. Aichner  
**Reviewed By:** M. Milman-Barris, P.G.

**Drilling Contractor:** MP Environmental Svcs.

### Description

- **[See Trench Log ISRA-B1-1B for lithology]**
- **Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium]**
- Total Depth = 2.0 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 12:52 from excavation floor.
- Excavation recontoured 11-2010 without backfill.

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>0.0</td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
</tr>
<tr>
<td>2</td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium]</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Depth H2O After Drilling (ft):</th>
<th>Date / Time:</th>
<th>Driller’s Name:</th>
<th>Comments:</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>A. Vann</td>
<td>Surface soil and alluvium overexcavated to approx. 1.5 ft</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Water Level</th>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Est. % of Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>s</td>
<td>SM</td>
<td>0.0</td>
<td></td>
<td>0</td>
<td></td>
<td>0</td>
<td>10 10 60 20</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Well Comp. Date:</th>
<th>Completion Time:</th>
<th>Soil Backfill Date:</th>
<th>Backfill Time:</th>
</tr>
</thead>
<tbody>
<tr>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
<td>N/A</td>
</tr>
</tbody>
</table>

**Site:** Outfall 009 Boeing Area 2010 ISRA Implementation
**Boring ID: B1ET0418**

**Borehole Diam. (in.):** 2  
**Total Depth (ft):** 3.5  
**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation

**Northing (ft):** 269155.55  
**Easting (ft):** 1797119.74  
**Job Number:** 1008208  
**Site:** B1-1B Area

**Drill Start Date:** 08-31-2010  
**Start Time:** 12:58  
**Logged By:** S. Aichner  
**Reviewed By:** M. Milman-Barris, P.G.

**Drill Finish Date:** 08-31-2010  
**Finish Time:** 13:09  
**Drilling Contractor:** MP Environmental Svcs.  
**Field Instrumentation:** PID

**Depth 1st H₂O (ft):** N/A  
**Date / Time:** N/A  
**Drill Rig Type/Method:** Grab (hand sampling)

**Depth H₂O After Drilling (ft):** N/A  
**Date / Time:** N/A  
**Driller's Name:** A. Vann

**Comments:** Surface soil and alluvium overexcavated to approx. 3 ft  
**Well Comp. Date:** N/A  
**Completion Time:** N/A

**Sample Interval Retained**  
**Sample Type**  
**Recovery (%):**  
**Blow Count/6**:  
**PID (ppm):**

<table>
<thead>
<tr>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>SM</td>
<td>Silt/Clay</td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td>Fine Sand</td>
<td>Silty Sand, light yellowish brown (10YR 6/4), loose, dry, micaceous, trace fine sandstone gravel [Alluvium]</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Coarse Sand</td>
<td>tr 10 70 20</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Med. Sand</td>
<td>Total Depth = 3.5 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 13:09 from excavation floor. Excavation recontoured 11-2010 without backfill.</td>
</tr>
<tr>
<td>4</td>
<td></td>
<td>Fine Sand</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td>Silt/Clay</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td>Silt/Clay</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td>Silt/Clay</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td>Silt/Clay</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td>Silt/Clay</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td>Silt/Clay</td>
<td></td>
</tr>
</tbody>
</table>

**Est. % of Soil**

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>tr 10 70 20</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
**MWH**

**Boring ID: B1ET0419**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM</td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
</tr>
<tr>
<td>3</td>
<td>S</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td>SM</td>
<td>Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous, trace fine gravel [Alluvium]</td>
</tr>
<tr>
<td>3</td>
<td>SM</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Total Depth = 3.5 ft; terminated prior to refusal on bedrock.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Collected soil sample S001 at 13:28 from excavation floor.</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Excavation recontoured 11-2010 without backfill.</td>
</tr>
</tbody>
</table>

**Comments:** Surface soil and alluvium overexcavated to approx. 3 ft

**Grab sample retained in 6-inch stainless steel sleeve**

**Notes:**
- Well Comp. Date: N/A
- Completion Time: N/A
- Soil Backfill Date: N/A
- Backfill Time: N/A

**Log of Boring OUTFALL009 ISRA-2010.GPJ BOEING.GDT 2/21/11**
### Boring ID: B1ET0420

**Project:** Outfall 009 Boeing Area 2010 ISRA Implementation  
**Job Number:** 1008208  
**Site:** B1-B Area

**Comments:** Surface soil and alluvium overexcavated to approx. 1.5 ft. Well Comp. Date: N/A  
Completion Time: N/A  
Soil Backfill Date: N/A  
Backfill Time: N/A

**Grab sample retained in 6-inch stainless steel sleeve**

---

<table>
<thead>
<tr>
<th>Sample Interval (ft)</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-1B for lithology]</td>
</tr>
<tr>
<td>0.1</td>
<td>SM</td>
<td>0.1</td>
<td></td>
<td>1</td>
<td>SM</td>
<td>Silty Sand</td>
<td>Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td></td>
<td></td>
<td>Total Depth = 2.0 ft; terminated prior to refusal on bedrock.</td>
</tr>
</tbody>
</table>

- Collected soil sample S001 at 14:17 from excavation floor.
- Excavation recontoured 11-2010 without backfill.
### Boring ID: B1ET0421

- **Borehole Diam. (in.):** 2
- **Total Depth (ft):** 2.0
- **Project:** Outfall 009 Boeing Area 2010 ISRA Implementation
- **Northing (ft):** 269221.40
- **Easting (ft):** 1797112.80
- **Job Number:** 1008208
- **Site:** B1-1B Area
- **Drill Start Date:** 08-31-2010
- **Start Time:** 14:21
- **Logged By:** S. Aichner
- **Drill Finish Date:** 08-31-2010
- **Finish Time:** 14:31
- **Drilling Contractor:** MP Environmental Svcs.
- **Reviewed By:** M. Milman-Barris, P.G.
- **Depth 1st H2O (ft):** N/A
- **Date / Time:** N/A
- **B1ET0421**
- **Field Instrumentation:** PID
- **Drill Rig Type/Method:** Grab (hand sampling)
- **Depth H2O After Drilling (ft):** N/A
- **Date / Time:** N/A
- **Driller's Name:** A. Vann

### Comments:
- Surface soil and alluvium overexcavated to approx. 1.5 ft
- Grab sample retained in 6-inch stainless steel sleeve
- Total Depth = 2.0 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 14:31 from excavation floor.
- Excavation recontoured 11-2010 without backfill.

#### Sample Interval
<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>s</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>SM</td>
<td>Silty Sand, very pale brown (10YR 7/4), loose, dry, micaceous [Alluvium]</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>S</td>
<td>Total Depth = 2.0 ft; terminated prior to refusal on bedrock. Collected soil sample S001 at 14:31 from excavation floor. Excavation recontoured 11-2010 without backfill.</td>
</tr>
</tbody>
</table>

#### Est. % of Soil

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Sil/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>20</td>
<td>60</td>
<td>20</td>
<td></td>
</tr>
<tr>
<td>Sample Interval</td>
<td>Sample Type</td>
<td>Recovery (%)</td>
<td>Blow Count/6&quot;</td>
<td>PID (ppm)</td>
</tr>
<tr>
<td>-----------------</td>
<td>-------------</td>
<td>--------------</td>
<td>---------------</td>
<td>-----------</td>
</tr>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>0.1</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Est. % of Soil**

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Med. Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>tr</td>
<td>20</td>
<td>60</td>
<td>20</td>
<td></td>
</tr>
</tbody>
</table>

**Sample Retained in 6-inch stainless steel sleeve / Encores**

**Comments:** Surface soil and alluvium excavated to approx. 2 ft.

**Sample Type:** Grab (hand sampling)

**Date / Time:** 10:50

**Driller's Name:** A. Vann

**Job Number:** 1008208

**Site:** B1-2

**Project:** ISRA Confirmation Sampling 2010, Outfall 009, Boeing Property

**Logged By:** S. Aichner

**Reviewed By:** M. Milman-Barris, P.G.
LOG OF BORING  OUTFALL009_ISRA-2010.GPJ  BOEING.GDT  3/25/11

Sample Interval | Retained Sample Type | Recovery (%) | Blow Count/6" | PID (ppm) | Water Level | Graphic Log | USCS Soil Classification | Description |
--- | --- | --- | --- | --- | --- | --- | --- | --- |
0 | | | | | | | | [See Trench Log ISRA-B1-2 for lithology] |
2 | | | | | | SM | Silty Sand, brown (10YR 4/3), loose, dry, trace fine sandstone gravel, micaceous [Alluvium] |
| | | | | | | | Total Depth = 2.5 ft; terminated prior to refusal on bedrock. |
| | | | | | | | Collected soil sample S001 at 11:19 from excavation floor. |
| | | | | | | | Excavation backfilled 01-12-2011 - 01-31-2011. |

- **Est. % of Soil**
  - Gravel: 20
  - Coarse Sand: 60
  - Med. Sand: 20
  - Fine Sand: 20
  - Silt/Clay: 0

- **Comments:** Surface soil and alluvium excavated to approx. 2 ft

- **Sample Type:** Sample retained in 6-inch stainless steel sleeve / Encores

- **Drill Rig Type/Method:** Grab (hand sampling)

- **PID:** N/A

- **Date / Time:** 09-23-2010

- **Determined By:** M. Milman-Barris, P.G.

- **Reviewed By:** M. Milman-Barris, P.G.

- **Job Number:** 1008208

- **Site:** B1-2

- **Project:** ISRA Confirmation Sampling 2010, Outfall 009, Boeing Property

- **Drill Start Date:** 09-23-2010

- **Finish Time:** 11:19

- **Drilling Contractor:** MP Environmental Svcs.

- **Logged By:** S. Aichner

- **Date / Time:** 09-23-2010

- **Driller’s Name:** A. Vann

- **Well Comp. Date:** N/A

- **Completion Time:** N/A

- **Drill Rig Type/Method:** Grab (hand sampling)

- **PID:** N/A

- **Date / Time:** N/A

- **Driller’s Name:** A. Vann

- **Sample Type:** Sample retained in 6-inch stainless steel sleeve / Encores

- **Comments:** Surface soil and alluvium excavated to approx. 2 ft

- **Sample Interval:** 0

- **Retained Sample Type:** Sample retained in 6-inch stainless steel sleeve / Encores

- **Recovery (%):** 0.1

- **Blow Count/6":** 2

- **PID (ppm):** N/A

- **Water Level:** N/A

- **Graphic Log:** SM

- **USCS Soil Classification:** Silty Sand, brown (10YR 4/3), loose, dry, trace fine sandstone gravel, micaceous [Alluvium]

- **Description:** Total Depth = 2.5 ft; terminated prior to refusal on bedrock.

- **Comments:** Collected soil sample S001 at 11:19 from excavation floor.

- **Excavation backfilled 01-12-2011 - 01-31-2011.**
Boring ID: B1ET0502

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>Silty Sand, brown (10YR 5/3), loose, dry, trace fine sandstone gravel, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

[See Trench Log ISRA-B1-2 for lithology]

- Total Depth = 2.5 ft; terminated prior to refusal on bedrock.
- Collected soil sample S001 at 11:31 from excavation floor.
- Excavation backfilled 01-12-2011 - 01-31-2011.

Silty Sand, brown (10YR 5/3), loose, dry, trace fine sandstone gravel, micaceous

<table>
<thead>
<tr>
<th>Est. % of Soil</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gravel</td>
</tr>
<tr>
<td>Coarse Sand</td>
</tr>
<tr>
<td>Med. Sand</td>
</tr>
<tr>
<td>Fine Sand</td>
</tr>
<tr>
<td>Silt/Clay</td>
</tr>
<tr>
<td>tr</td>
</tr>
<tr>
<td>10</td>
</tr>
<tr>
<td>70</td>
</tr>
<tr>
<td>20</td>
</tr>
</tbody>
</table>

Comments: Surface soil and alluvium excavated to approx. 2 ft

Well Comp. Date: N/A  Completion Time: N/A

Samplers: Sample retained in 6-inch stainless steel sleeve / Encores

Soil Backfill Date: N/A  Backfill Time: N/A
<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td>2</td>
<td>SM</td>
<td>Silt/Clay</td>
<td>[See Trench Log ISRA-B1-2 for lithology]</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>0.1</td>
<td></td>
<td></td>
<td>SM</td>
<td>Silt/Clay</td>
<td>Silty Sand, brown (10YR 4/3), loose, dry, trace fine sandstone gravel, micaceous [Alluvium]</td>
</tr>
</tbody>
</table>

- **Comments:** Surface soil and alluvium excavated to approx. 2 ft.
- **Comments:** Sample retained in 6-inch stainless steel sleeve / Encores.
- **Comments:** Total Depth = 2.5 ft; terminated prior to refusal on bedrock.
- **Comments:** Collected soil sample S001 at 11:44 from excavation floor.
- **Comments:** Excavation backfilled 01-12-2011 - 01-31-2011.
**Boring ID: B1ET0503A**

<table>
<thead>
<tr>
<th>Sample Interval Retained Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>PID (ppm)</th>
<th>Water Level (feet)</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-2 for lithology]</td>
</tr>
</tbody>
</table>

- **Easting (ft):** 1796849.99
- **Northing (ft):** 269285.10
- **Date / Time:** 12:50
- **Easting (ft):** 1796849.99
- **Northing (ft):** 269285.10
- **Date / Time:** 12:50
- **Easting (ft):** 1796849.99
- **Northing (ft):** 269285.10
- **Date / Time:** 12:50

**Comments:**
- Surface soil and alluvium excavated to approx. 3 ft
- Collected soil sample S001 at 12:50 from excavation floor.
- Excavation backfilled 01-12-2011 - 01-31-2011.

**Description:**
- Silty Sand, yellowish brown (10YR 5/4), medium dense, dry, slightly indurated
- Alluvium

**Est. % of Soil**

<table>
<thead>
<tr>
<th>Gravel</th>
<th>Coarse Sand</th>
<th>Medium Sand</th>
<th>Fine Sand</th>
<th>Silt/Clay</th>
</tr>
</thead>
<tbody>
<tr>
<td>15</td>
<td>70</td>
<td>15</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Total Depth = 3.5 ft; terminated prior to refusal on bedrock.**

**Logged By:** N. Beaty
**Reviewed By:** M. Milman-Barris, P.G.
Boring ID: B1ET0504

**LOG OF BORING OUTFALL009 ISRA-2010.GPJ  BOEING.GDT  3/25/11**

<table>
<thead>
<tr>
<th>Sample Interval Retained</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>[See Trench Log ISRA-B1-2 for lithology]</td>
</tr>
</tbody>
</table>

| 0 | SM | Silty Sand, brown (10YR 4/3), loose, dry, trace fine sandstone gravel, micaceous [Alluvium] |
|--------------------------------|
| Total Depth = 2.5 ft; terminated prior to refusal on bedrock. |
| Collected soil sample S001 at 12:28 from excavation floor. |
| Excavation backfilled 01-12-2011 - 01-31-2011. |
### Description

[See Trench Log ISRA-B1-2 for lithology]

- **Date / Time:** 09-23-2010
- **Start Time:** 12:33
- **Finish Time:** 12:41

**PID**
- **474**
- **50tr 2010**
- **[See Trench Log ISRA-B1-2 for lithology]**

- **Silty Sand, yellowish brown (10YR 5/4), loose, dry, trace fine sandstone gravel, micaceous [Alluvium]**

**Total Depth** = 2.5 ft; terminated prior to refusal on bedrock.

Collected soil sample S001 at 12:41 from excavation floor.

Excavation backfilled 01-12-2011 - 01-31-2011.
**Boring ID: B1ET0506**

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Recovery (%)</th>
<th>Blow Count/6”</th>
<th>Water Level</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td></td>
<td>0</td>
<td>SM</td>
<td>Silty Sand, brown (10YR 4/3), loose, dry, trace fine sandstone gravel, micaceous [Alluvium]</td>
</tr>
<tr>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>0.3</td>
<td></td>
<td>2</td>
<td>SM</td>
<td>Silty Sand, brown (10YR 4/3), loose, dry, trace fine sandstone gravel, micaceous [Alluvium]</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td></td>
<td>3</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4</td>
<td></td>
<td></td>
<td>4</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5</td>
<td></td>
<td></td>
<td>5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6</td>
<td></td>
<td></td>
<td>6</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td>7</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td>8</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9</td>
<td></td>
<td></td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10</td>
<td></td>
<td></td>
<td>10</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

- **Project:** ISRA Confirmation Sampling 2010, Outfall 009, Boeing Property
- **Job Number:** 1008208
- **Site:** B1-2
- **Logged By:** S. Aichner
- **Drilling Contractor:** MP Environmental Svcs.

**Comments:**
- Surface soil and alluvium excavated to approx. 2 ft
- Sample retained in 6-inch stainless steel sleeve / Encores
- Collected soil sample S001 at 14:30 from excavation floor.
- Excavation backfilled 01-12-2011 - 01-31-2011.

- **Well Comp. Date:** N/A
- **Completion Time:** N/A
- **Sample Type:** Grab (hand sampling)
- **Soil Backfill Date:** N/A
- **Backfill Time:** N/A

**Est. % of Soil**

- **Gravel:** 10
- **Coarse Sand:** 20
- **Med. Sand:** 50
- **Fine Sand:** 20
- **Silt/Clay:** 100

- **Far Below:**
- **Near Below:**
- **Non-Drill:**
- **Unknown:**

**Field Instrumentation:**

**Driller's Name:** A. Vann

**Reviewed By:** M. Milman-Barris, P.G.
### LOG OF BORING

**Borehole Diam. (in.):** 2
**Total Depth (ft):** 1.5
**Project:** ISRA Confirmation Sampling 2010, Outfall 009, Boeing Property
**Job Number:** 1008208
**Site:** B1-2

**Northing (ft):** 269314.16
**Easting (ft):** 1796802.26
**Logged By:** S. Aichner

**Drill Start Date:** 09-23-2010
**Start Time:** 13:05
**Logged By:** S. Aichner

**Drill Finish Date:** 09-23-2010
**Finish Time:** 13:22
**Drilling Contractor:** MP Environmental Svcs.

**Depth 1st H₂O (ft):** N/A
**Date / Time:** N/A
**Drill Rig Type/Method:** Grab (hand sampling)

**Depth H₂O After Drilling (ft):** N/A
**Date / Time:** N/A
**Driller’s Name:** A. Vann

**Comments:** Surface soil and alluvium excavated to approx. 1 ft

**Sample Type:** Sample retained in 6-inch stainless steel sleeve / Encores
**Sample Interval:** Soil Backfill Date: N/A
**Drill Start Date:** 09-23-2010
**Drill Finish Date:** 09-23-2010

<table>
<thead>
<tr>
<th>Sample Interval</th>
<th>Sample Type</th>
<th>Recovery (%)</th>
<th>Blow Count/6&quot;</th>
<th>PID (ppm)</th>
<th>Water Level</th>
<th>Depth (feet)</th>
<th>Graphic Log</th>
<th>USCS Soil Classification</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>0.1</td>
<td>SM</td>
<td>0.1</td>
<td></td>
<td></td>
<td></td>
<td>1</td>
<td>SM</td>
<td>Silt/Clay</td>
<td>[See Trench Log ISRA-B1-2 for lithology]</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Silty Sand, brown (10YR 5/3), loose, dry, trace fine sandstone gravel, micaceous [Alluvium]</td>
<td>Guiding</td>
</tr>
</tbody>
</table>

**Total Depth = 1.5 ft; terminated prior to refusal on bedrock.**

**Collected soil sample S001 at 13:22 from excavation floor.**

**Excavation backfilled 01-12-2011 - 01-31-2011.**

**PID:** N/A
**Well Comp. Date:** N/A
**Completion Time:** N/A

**Soil Backfill Date:** N/A
**Backfill Time:** N/A