APPENDIX A:

Marina Del Rey Sediment Characterization Study

Core Logs
### MDR Sediment Characterization

**Client:** LA Dept. of Public Works

**Project:** MDR Sediment Characterization

**Project Location:** Marina Del Rey Harbor, CA

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Depositional</td>
<td>dark olive gray to olive gray</td>
<td>None</td>
<td></td>
<td>Localized trace fine sand, very slight plasticity, very soft</td>
</tr>
<tr>
<td>1</td>
<td>Native</td>
<td>Olive gray</td>
<td>None</td>
<td></td>
<td>Slight plasticity, some shell fragments and whole shells, med soft</td>
</tr>
<tr>
<td>2</td>
<td>Native</td>
<td>brown</td>
<td>None</td>
<td></td>
<td>1/4&quot; brown lens</td>
</tr>
<tr>
<td>3</td>
<td>Native</td>
<td>none specified</td>
<td>None</td>
<td></td>
<td>Shells and shell fragments abundant, low plasticity</td>
</tr>
<tr>
<td>4</td>
<td>Native</td>
<td>olive and pale olive gray</td>
<td>None</td>
<td></td>
<td>Med plasticity, med stiff, some shell fragments, brown pocket, shell frags abundan (ostrea, etc)</td>
</tr>
<tr>
<td>5</td>
<td>Native</td>
<td>Olive gray</td>
<td>None</td>
<td></td>
<td>Med plasticity, trace shell frags, med stiff, uniform text/appear</td>
</tr>
</tbody>
</table>

**Latitude (WGS-84):** 33° 58.349

**Longitude (WGS-84):** -118° 27.07

**Date:** 9/20/07

**Time (PDT):** 10:55

**Attempt:** 1

**Tide (ft.):** 3.6

**Water Depth (ft.):** 16.7

**Penetration (ft.):** 6

**Final Core Length (ft.):** 5.7

**Analysis Length (ft.):** 1.8
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>Depositional</td>
<td>dark olive gray</td>
<td>None</td>
<td>Trace of fine sand, very soft</td>
</tr>
<tr>
<td>0</td>
<td>Silty Clay</td>
<td>Native</td>
<td>dark olive gray</td>
<td>None</td>
<td>Slight-med plasticity, med soft to soft, trace of shell fragments</td>
</tr>
<tr>
<td>1</td>
<td>Sandy Silt</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>Little to some clay, slight plasticity, trace shell fragments, med soft</td>
</tr>
<tr>
<td>2</td>
<td>Clayey Silt</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>1/2&quot; thick lens med plasticity, stiff, with trace slate gravel</td>
</tr>
<tr>
<td>3</td>
<td>Clayey Silt</td>
<td>Native</td>
<td>dark olive gray to olive gray</td>
<td>None</td>
<td>Localized trace clay, cohesive, slight micaceous, med dense, trace shell fragment towards base</td>
</tr>
<tr>
<td>4</td>
<td>Silty Sand</td>
<td>Native</td>
<td>medium brown</td>
<td>None</td>
<td>Trace rootlets, trace gravel to 1/4&quot;, cohesive, blocky, med dense, black organic pocket</td>
</tr>
<tr>
<td>5</td>
<td>Silty Sand</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>Trace clay, cohesive, slight</td>
</tr>
</tbody>
</table>

**Attempt:** 1  
**Tide (ft.):** 3.5  
**Water Depth (ft.):** 15  
**Total Pages:** 1  
**Penetration (ft.):** 6.5  
**Final Core Length (ft.):** 4.3  
**Analysis Length (ft.):** 0.3
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Depositional</td>
<td>dark olive gray</td>
<td>None</td>
<td></td>
<td>Very slight plasticity, very soft</td>
</tr>
<tr>
<td>1</td>
<td>Clayey Silt</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td></td>
<td>Slight to med plasticity, very uniform, med soft to soft</td>
</tr>
<tr>
<td>3</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td></td>
<td>Trace to little very fine sand, med soft to soft</td>
</tr>
<tr>
<td>4</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td></td>
<td>Little clay, slightly micaceous, very slight plasticity, med soft</td>
</tr>
<tr>
<td>5</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td></td>
<td>Trace to few shell fragments, slight plasticity, med soft</td>
</tr>
</tbody>
</table>

**Station ID:** B-1  
**Latitude (WGS-84):** 33° 58.509  
**Longitude (WGS-84):** -118° 27.076  
**Project:** MDR Sediment Characterization  
**Project Location:** Marina Del Rey Harbor, CA  
**Date:** 9/19/07  
**Time (PDT):** 14:10  
**Client:** LA Dept. of Public Works  
**Latitude (WGS-84):** 33° 58.509  
**Longitude (WGS-84):** -118° 27.076  
**Project:** MDR Sediment Characterization  
**Project Location:** Marina Del Rey Harbor, CA  
**Date:** 9/19/07  
**Time (PDT):** 14:10  
**Client:** LA Dept. of Public Works  

**Executive Summary:**  
- **Depositional:** Dark Olive Gray, None, Very slight plasticity, very soft  
- **Native:** Olive Gray, None, Slight to med plasticity, very uniform, med soft to soft  
- **Trace to little very fine sand:** Olive Gray, None, Trace to little very fine sand, med soft to soft  
- **Little clay:** Olive Gray, None, Little clay, slightly micaceous, very slight plasticity, med soft  
- **Trace to few shell fragments:** Olive Gray, None, Trace to few shell fragments, slight plasticity, med soft  

**Soil Description:**  
- **Depositional:** Dark Olive Gray  
- **Native:** Olive Gray  
- **Trace to little very fine sand:** Olive Gray  
- **Little clay:** Olive Gray  
- **Trace to few shell fragments:** Olive Gray  

**Soil Characterization:**  
- **Attempt:** 1  
- **Tide (ft.):** 4.4  
- **Water Depth (ft.):** 18.3  
- **Total Pages:** 1  
- **Penetration (ft.):** 7  
- **Final Core Length (ft.):** 5.4  
- **Analysis Length (ft.):** 2
### Depth (ft.)
<table>
<thead>
<tr>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Depositional</td>
<td>dark olive grey</td>
<td>None</td>
<td>Slightly plastic very soft</td>
</tr>
<tr>
<td>1</td>
<td>Native</td>
<td>dark olive grey</td>
<td>None</td>
<td>Trace to little fine sand, trace to few shell fragments, very slight plasticity, med soft</td>
</tr>
<tr>
<td>2</td>
<td>Native</td>
<td>dark olive grey</td>
<td>None</td>
<td>Trace shell fragments, slight micaceous, medium dense</td>
</tr>
<tr>
<td>3</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>Trace shell fragments, slight plasticity, med soft, localized less sand</td>
</tr>
<tr>
<td>4</td>
<td>Native</td>
<td>dark olive grey</td>
<td>None</td>
<td>Very fine to fine sand to trace clay, few nearly whole shells, med dense</td>
</tr>
<tr>
<td>5</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>Trace to little clay, very slight micaceous, very slight plasticity, med stiff</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Some very fine sand, to very fine sandy clay, slight plasticity, med stiff to stiff</td>
</tr>
</tbody>
</table>

**Attempt:** 1  
**Tide (ft.):** 4.4  
**Water Depth (ft.):** 16.8  
**Total Pages:** 1  

**Penetration (ft.):** 7  
**Final Core Length (ft.):** 5.6  
**Analysis Length (ft.):** 1
### MDR Sediment Characterization

**Station ID:** C-1  
**Latitude (WGS-84):** 33° 58.664  
**Longitude (WGS-84):** -118° 27.074

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Depositional</td>
<td>dark olive gray</td>
<td>None</td>
<td></td>
<td>Trace fine sand, very slight plasticity, soft</td>
</tr>
<tr>
<td>1</td>
<td>Native</td>
<td>dark olive gray</td>
<td>None</td>
<td></td>
<td>Trace of clay, very slight plasticity, micaceous, med soft to med stiff</td>
</tr>
<tr>
<td>2</td>
<td>Native</td>
<td>dark olive gray</td>
<td>None</td>
<td></td>
<td>Slight plasticity, med soft</td>
</tr>
<tr>
<td>3</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td></td>
<td>Silty very fine to fine sand cohesive, trace gravel to trace shell fragment</td>
</tr>
<tr>
<td>4</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td></td>
<td>Fine sandy to clayey silt, to gravel nodules, trace shell frags</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Fine to coarse sandy gravel, little to some silt, trace clay, gravel</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>subrounded to subangular 2.5&quot;</td>
</tr>
</tbody>
</table>

**Date:** 9/19/07  
**Time (PDT):** 11:10  
**Client:** LA Dept. of Public Works  
**Project:** MDR Sediment Characterization  
**Project Location:** Marina Del Rey Harbor, CA

**Soil Description Color Odor Comments**

**Attempt:** 1  
**Tide (ft.):** 4.1  
**Water Depth (ft.):** 15.4  
**Penetration (ft.):** 5  
**Final Core Length (ft.):** 3.9  
**Analysis Length (ft.):** 0.9  
**Total Pages:** 1
<table>
<thead>
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<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>Depositional</td>
<td>dark olive gray</td>
<td>None</td>
<td>Low plasticity silt, trace fine sand, very soft</td>
</tr>
<tr>
<td>1</td>
<td>Silty Sand</td>
<td>Native</td>
<td>dark olive gray</td>
<td>None</td>
<td>Silty fine sand, slight micaceous, cohesive, medium dense, trace rounded, gravel to 1&quot; base</td>
</tr>
<tr>
<td>2</td>
<td>Clayey Silt</td>
<td>Native</td>
<td>dark olive gray</td>
<td>None</td>
<td>Low plasticity silt lens, med plastic to med stiff, same color</td>
</tr>
<tr>
<td>3</td>
<td>Sandy Silt</td>
<td>Native</td>
<td>dark olive gray</td>
<td>None</td>
<td>Fine to coarse sandy silt, trace to little clay, few shell fragments, soft.</td>
</tr>
<tr>
<td>4</td>
<td>Clayey Silt</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>Low plasticity, trace shell frags, local olive mottling, med stiff</td>
</tr>
<tr>
<td>5</td>
<td>Sandy Silt</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>Fine to coarse sandy clay, slight plastic to medium plastic, few shell frags, stiff</td>
</tr>
<tr>
<td>6</td>
<td>Silty Sand</td>
<td>Native</td>
<td>olive grey to olive brown</td>
<td>None</td>
<td>Low plasticity silt, trace gravel to 3/8&quot; few shell fragments, med stiff</td>
</tr>
<tr>
<td>7</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>Low plasticity silt</td>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Depth (ft.)</td>
<td>Lithology</td>
<td>Soil Description</td>
<td>Color</td>
<td>Odor</td>
<td>Comments</td>
</tr>
<tr>
<td>------------</td>
<td>-------------</td>
<td>------------------</td>
<td>-----------</td>
<td>--------</td>
<td>----------------------------------------------------------------------------</td>
</tr>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>Depositional</td>
<td>olive gray</td>
<td>Sulpher</td>
<td>Clayey silt to fine sandy silt, med stiff, very slight odor</td>
</tr>
<tr>
<td>1</td>
<td>Silty Sand</td>
<td>Native</td>
<td>dark olive gray</td>
<td>None</td>
<td>Silty very fine to fine sand, localized trace clay, micaceous, uniform appearance, med dense with sand pockets, trace gravel down to 3/4&quot;, slight med plastic, stiff</td>
</tr>
<tr>
<td>3</td>
<td>Clayey Silt</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>Silty fine to medium sand, trace fine gravel to 1/2&quot;, trace shell fragment</td>
</tr>
</tbody>
</table>

**Client:** LA Dept. of Public Works

**Project:** MDR Sediment Characterization

**Project Location:** Marina Del Rey Harbor, CA

**Latitude (WGS-84):** 33° 58.823

**Longitude (WGS-84):** -118° 27.229

**Date:** 9/19/07

**Time (PDT):** 9:05

**Penetration (ft.):** 6

**Final Core Length (ft.):** 4.2

**Analysis Length (ft.):** 0.75

**Water Depth (ft.):** 13.7

**Total Pages:** 1
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>Depositional</td>
<td>dark olive gray</td>
<td>Sulphur</td>
<td>Slight plastic, very soft, very slight sulfur odor</td>
</tr>
<tr>
<td>1</td>
<td>Silty Sand</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>Silty very fine to fine sand, localized trace clay, micaceous, medium dense</td>
</tr>
<tr>
<td>2</td>
<td>Clayey Silt</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>Very fine to fine round, slight plasticity, med soft to med stiff, uniform</td>
</tr>
<tr>
<td>5</td>
<td>Sandy Silt</td>
<td>Native</td>
<td>olive grey</td>
<td>None</td>
<td>Very fine to fine sandy silt, trace clay, very slight plasticity, slight micaceous, slight micaceous, med soft</td>
</tr>
</tbody>
</table>

attempt: 1  
Tide (ft.): 3.8  
Water Depth (ft.): 15.1  
Total Pages: 1  
Penetration (ft.): 7  
Final Core Length (ft.): 5  
Analysis Length (ft.): 1.3
Depth (ft.) | Lithology | Soil Description | Color   | Odor   | Comments
---|---|---|---|---|---
0  | Clayey Silt | Depositional | dark olive grey | None  | trace sand and fine gravel
1  | Silty Sand | Native | olive grey | None  | silty fine to medium fine sand, some gravel
2  | Silty Clay | Native | dark brown | None  | silty fine to medium sand, some gravel
3  | Silty Sand | Native | olive grey | None  | silty fine to medium fine sand, some gravel
4  |  |  |  |  |  
5  |  |  |  |  |  
6  |  |  |  |  |  
7  |  |  |  |  |  
8  |  |  |  |  |  

Date: 9/18/07
Time (PDT): 13:55
Client: LA Dept. of Public Works
Project: MDR Sediment Characterization
Project Location: Marina Del Rey Harbor, CA

Latitude (WGS-84): 33° 58.966
Longitude (WGS-84): -118° 26.942

Attempt: 1
Tide (ft.): 4.5
Water Depth (ft.): 16.8
Total Pages: 1

Penetration (ft.): 6
Final Core Length (ft.): 3.2
Analysis Length (ft.): 1.5
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>none</td>
<td>None</td>
<td>NO RECOVERY</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Station ID: E-2
Latitude (WGS-84): 33° 58.979
Longitude (WGS-84): -118° 27.067

Date: 9/18/07
Time (PDT): 14:50
Client: LA Dept. of Public Works
Project: MDR Sediment Characterization
Project Location: Marina Del Rey Harbor, CA

Attempt: 1
Tide (ft.): 4.3
Water Depth (ft.): 16
Total Pages: 1
Penetration (ft.): 7
Final Core Length (ft.): 3.5
Analysis Length (ft.): 0
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>Depositional</td>
<td>dark olive gray</td>
<td>None</td>
<td>very soft</td>
</tr>
<tr>
<td>2</td>
<td>Silty Clay</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td>trace sand</td>
</tr>
<tr>
<td>3</td>
<td>Silty Sand</td>
<td>Native</td>
<td>olive brown, yellow brown, light olive brown</td>
<td>None</td>
<td>silty fine to coarse sand</td>
</tr>
</tbody>
</table>

**Attempt:** 2  
**Tide (ft.):** 4.2  
**Water Depth (ft.):** 16  
**Total Pages:** 1  

**Penetration (ft.):** 5  
**Final Core Length (ft.):** 3  
**Analysis Length (ft.):** 1.7
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Depositional</td>
<td>olive grey</td>
<td>None</td>
<td></td>
<td>Very soft, trace san downward</td>
</tr>
<tr>
<td>1</td>
<td>Native</td>
<td>olive grey to olive brown</td>
<td>None</td>
<td></td>
<td>Sandy as fine to coarse, little gravel to one inch</td>
</tr>
<tr>
<td>2</td>
<td>Native</td>
<td>olive brown, yellow brown</td>
<td>None</td>
<td></td>
<td>micaceous, less silt downward</td>
</tr>
<tr>
<td>3</td>
<td>Native</td>
<td>olive grey</td>
<td>None</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Attempt:** 1

**Tide (ft.):** 4

**Water Depth (ft.):** 15.8

**Date:** 9/18/07

**Time (PDT):** 16:49

**Client:** LA Dept. of Public Works

**Project:** MDR Sediment Characterization

**Project Location:** Marina Del Rey Harbor, CA

**Latitude (WGS-84):** 33° 58.979

**Longitude (WGS-84):** -118° 27.216

**Penetration (ft.):** 4.5

**Final Core Length (ft.):** 3

**Analysis Length (ft.):** 1.7
### Soil Description Table

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Silty Sand</td>
<td>Depositional</td>
<td>Olive grey and olive</td>
<td>None</td>
<td>Sandy clay also, sediment mixed, loose to medium soft.</td>
</tr>
<tr>
<td>1</td>
<td>Sandy Silt</td>
<td>Native</td>
<td>Olive brown to yellow brown</td>
<td>None</td>
<td>With clay, micaceous, very stiff. Refusal at 2 ft.</td>
</tr>
</tbody>
</table>

### Additional Information

- **Attempt:** 1
- **Tide (ft.):** 3.5
- **Water Depth (ft.):** 16.1
- **Penetration (ft.):** 2
- **Final Core Length (ft.):** 1.5
- **Analysis Length (ft.):** 1

---

**Station ID:** E-4  
**Latitude (WGS-84):** 33° 58.972  
**Longitude (WGS-84):** -118° 27.357  
**Date:** 9/18/07  
**Time (PDT):** 16:58  
**Client:** LA Dept. of Public Works  
**Project:** MDR Sediment Characterization  
**Project Location:** Marina Del Rey Harbor, CA
### MDR Sediment Characterization

**Station ID:** F-1  
**Latitude (WGS-84):** 33° 58.913  
**Longitude (WGS-84):** -118° 26.717

**Project Location:** Marina Del Rey Harbor, CA

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>Depositional</td>
<td>olive grey</td>
<td>None</td>
<td>very soft</td>
</tr>
<tr>
<td>1</td>
<td>Silty Sand</td>
<td>Native</td>
<td>olive brown</td>
<td>None</td>
<td>silty fine sand</td>
</tr>
<tr>
<td>2</td>
<td>Silty Sand</td>
<td>Native</td>
<td>olive brown</td>
<td>None</td>
<td>fine sandy silt</td>
</tr>
<tr>
<td>3</td>
<td>Fine Grain Sand</td>
<td>Native</td>
<td>medium brown</td>
<td>None</td>
<td>less silt and browner towards bottom</td>
</tr>
<tr>
<td>4</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>
</tr>
<tr>
<td>6</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>
</tr>
<tr>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Date:** 9/18/07  
**Time (PDT):** 11:10  
**Client:** LA Dept. of Public Works  

**Project:** MDR Sediment Characterization

**Tide (ft.):** 4.5  
**Water Depth (ft.):** 15.2  
**Final Core Length (ft.):** 5.5  
**Analysis Length (ft.):** 2.2  
**Penetration (ft.):** 7  
**Total Pages:** 1
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Depositional</td>
<td>dark olive gray</td>
<td>None</td>
<td>Trace of fine sand, very slight plasticity, very soft</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>Native</td>
<td>dark olive gray</td>
<td>None</td>
<td>Trace of clay, cohesive, slightly sticky, med loose</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Native</td>
<td>dark olive gray to</td>
<td>None</td>
<td>Trace to little fine sand, very slight plasticity, soft, trace shell fragments toward base</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Native</td>
<td>olive gray to olive</td>
<td>Sulphur</td>
<td>Trace of fine sand, slight plasticity, med soft</td>
<td></td>
</tr>
<tr>
<td></td>
<td>Native</td>
<td>gray</td>
<td></td>
<td>Localized trace sand, med plasticity, few nodules/concretions, few brown oxide flecks</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Native</td>
<td>olive gray to grayish brown</td>
<td>Sulphur</td>
<td>Less silt downwards, slight cohesive, micaceous, med dense, obvious sulfur</td>
<td></td>
</tr>
</tbody>
</table>

Station ID: G-1
Latitude (WGS-84): 33° 58.73
Longitude (WGS-84): -118° 26.713

Date: 9/20/07
Time (PDT): 8:50
Client: LA Dept. of Public Works
Project: MDR Sediment Characterization
Project Location: Marina Del Rey Harbor, CA
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Depositional</td>
<td>Clayey Silt</td>
<td>dark olive gray</td>
<td>None</td>
<td>Trace fine sand, slight plasticity, very soft, sandy silt with clay to fine-med sandy clay, slight plasticity, mixed litho, trace gravel at base</td>
</tr>
<tr>
<td>1</td>
<td>Native</td>
<td>Sandy Silt</td>
<td>dark olive gray</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Native</td>
<td>olive to olive brown mottled</td>
<td>olive to olive brown mottled</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Native</td>
<td>Silty Sand</td>
<td>olive with yellow brown oxide mottled</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Native</td>
<td>olive to pale olive</td>
<td>olive to pale olive</td>
<td>None</td>
<td>Silt, trace sand, trace clay, slight micaceous, very slight plastic/elastic, med soft, to med stiff</td>
</tr>
</tbody>
</table>

Attempt: 1  
Penetration (ft.): 6  
Tide (ft.): 3.5  
Final Core Length (ft.): 5.1  
Water Depth (ft.): 15.8  
Analysis Length (ft.): 2  
Total Pages: 1
### Soil Description

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Depositional</td>
<td>Olive gray</td>
<td>None</td>
<td></td>
<td>Couple olive brown pockets at base, very slight plasticity, very soft</td>
</tr>
<tr>
<td>1</td>
<td>Native</td>
<td>dark olive gray</td>
<td>None</td>
<td></td>
<td>non-plastic, slight micaceous, less silt downwards, med soft</td>
</tr>
<tr>
<td>2</td>
<td>Native</td>
<td>olive gray to gray</td>
<td>None</td>
<td></td>
<td>cohesive, med dense with clayey silt, slight plasticity, crumbly green</td>
</tr>
<tr>
<td>3</td>
<td>Native</td>
<td>olive gray</td>
<td>None</td>
<td></td>
<td>brown clay, shell frags, med soft/stiff</td>
</tr>
</tbody>
</table>

### Sediment Characteristics

- **Latitude (WGS-84):** 33° 58.561
- **Longitude (WGS-84):** -118° 26.72
- **Project:** MDR Sediment Characterization
- **Client:** LA Dept. of Public Works
- **Project Location:** Marina Del Rey Harbor, CA

### Sediment Characterization

- **Sand:** Fine Grain Sand
- **Silt:** Sandy Silt, Silty Sand, Clayey Silt

### Table

- **Depth:** 0, 1, 2, 3, 4, 5, 6, 7, 8
- **Lithology:** Depositional, Native
- **Soil Description:** Olive gray, dark olive gray, olive gray to gray
- **Color:** Olive gray, dark olive gray, olive gray to gray
- **Odor:** None
- **Comments:** Couple olive brown pockets at base, very slight plasticity, very soft, non-plastic, slight micaceous, less silt downwards, med soft, cohesive, med dense, with clayey silt, slight plasticity, crumbly green brown clay, shell frags, med soft/stiff

### Additional Information

- **Attempt:** 1
- **Tide (ft.):** 3.7
- **Water Depth (ft.):** 15
- **Date:** 9/20/07
- **Time (PDT):** 12:00
- **Client:** LA Dept. of Public Works
- **Project:** MDR Sediment Characterization
- **Project Location:** Marina Del Rey Harbor, CA
- **Latitude (WGS-84):** 33° 58.561
- **Longitude (WGS-84):** -118° 26.72
- **Date:** 9/20/07
- **Time (PDT):** 12:00
- **Client:** LA Dept. of Public Works
- **Project:** MDR Sediment Characterization
- **Project Location:** Marina Del Rey Harbor, CA

### Analysis

- **Penetration (ft.):** 6.5
- **Final Core Length (ft.):** 5
- **Analysis Length (ft.):** 0.8
- **Total Pages:** 1
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Depositional</td>
<td></td>
<td>dark olive</td>
<td>None</td>
<td>Little very fine to fine sand, very slight plasticity, very soft</td>
</tr>
<tr>
<td>1</td>
<td>Native</td>
<td></td>
<td>dark olive</td>
<td>None</td>
<td>Very fine to fine sandy silt to trace of clay, non-plasticity to slight plasticity, med stiff</td>
</tr>
<tr>
<td>2</td>
<td>Native</td>
<td></td>
<td>dark olive</td>
<td>None</td>
<td>Slight micaceous, cohesive, med dense</td>
</tr>
<tr>
<td>3</td>
<td>Native</td>
<td></td>
<td>olive gray</td>
<td>None</td>
<td>Trace to little very fine sand, slight micaceous, very slight plasticity</td>
</tr>
<tr>
<td>4</td>
<td>Native</td>
<td></td>
<td>olive gray</td>
<td>None</td>
<td>Localized less silt, med dense</td>
</tr>
<tr>
<td>5</td>
<td>Native</td>
<td></td>
<td>dark brown</td>
<td>None</td>
<td>To silty clay, granular clay pockets, med plasticity, med soft to med stiff with organic rich peat layer, silt and clay, very slight vague odor</td>
</tr>
<tr>
<td>6</td>
<td>Native</td>
<td></td>
<td>olive gray to pale gray</td>
<td>Sulphur</td>
<td>To silty clay, med plasticity, trace shells/frags, slight sulfur odor</td>
</tr>
</tbody>
</table>

Station ID: H-2
Latitude (WGS-84): 33° 58.629
Longitude (WGS-84): -118° 26.579
Project: MDR Sediment Characterization
Project Location: Marina Del Rey Harbor, CA

Date: 9/19/07
Time (PDT): 16:40
Client: LA Dept. of Public Works

Attempt: 1
Tide (ft.): 4.1
Water Depth (ft.): 15.5
Total Pages: 1
Penetration (ft.): 7
Final Core Length (ft.): 6
Analysis Length (ft.): 1
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>Depositional</td>
<td>dark olive grey</td>
<td>None</td>
<td>trace shells</td>
</tr>
<tr>
<td>1</td>
<td>Silty Sand</td>
<td>Native</td>
<td>dark grey</td>
<td>None</td>
<td>trace clay</td>
</tr>
<tr>
<td>3</td>
<td>Silty Clay</td>
<td>Native</td>
<td>olive grey, yellow brown, dark brown</td>
<td>None</td>
<td>few oxides, sandy pockets</td>
</tr>
<tr>
<td>5</td>
<td>Silty Sand</td>
<td>Native</td>
<td>medium brown</td>
<td>None</td>
<td>silty fine to coarse sand, some gravel, trace clay, clay clasts</td>
</tr>
</tbody>
</table>

**Attempts:** 1  
**Tide (ft.):** 4.3  
**Water Depth (ft.):** 15  
**Total Pages:** 1  

**Penetration (ft.):** 7  
**Final Core Length (ft.):** 5.5  
**Analysis Length (ft.):** 2.5  

Station ID: MC-1  
Latitude (WGS-84): 33° 58.834  
Longitude (WGS-84): -118° 26.882  
Project: MDR Sediment Characterization  
Project Location: Marina Del Rey Harbor, CA
<table>
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<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>Depositional</td>
<td>very dark grey brown</td>
<td>None</td>
<td>very soft</td>
</tr>
<tr>
<td>1</td>
<td>Silty Clay</td>
<td>Depositional</td>
<td>very dark grey brown</td>
<td>None</td>
<td>mixed silty clay with clayey silt</td>
</tr>
<tr>
<td>2</td>
<td></td>
<td>Depositional</td>
<td>very dark grey</td>
<td>None</td>
<td>filamentous oxides present</td>
</tr>
<tr>
<td>3</td>
<td></td>
<td>Native</td>
<td>dark greyish brown</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

Station ID: MC-2
Latitude (WGS-84): 33° 58.672
Longitude (WGS-84): -118° 26.88

Attempts: 1
Tide (ft.): 2.9
Water Depth (ft.): 15.6

Date: 9/17/07
Time (PDT): 16:55
Client: LA Dept. of Public Works
Project: MDR Sediment Characterization
Project Location: Marina Del Rey Harbor, CA

MDR Sediment Characterization

Latitude (WGS-84): 33° 58.672
Longitude (WGS-84): -118° 26.88

MC-2 Station ID:
Date: 9/17/07
Time (PDT): 16:55

Lithology
Soil Description
Color
Odor
Comments

Penetration (ft.): 4
Final Core Length (ft.): 3
Analysis Length (ft.): 2

Total Pages: 1
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>Depositional</td>
<td>very dark olive grey</td>
<td>None</td>
<td>Slightly plastic very soft</td>
</tr>
<tr>
<td>2</td>
<td>Silty Clay</td>
<td>Native</td>
<td>olive brown</td>
<td>None</td>
<td>Med. Plasticity</td>
</tr>
<tr>
<td>6</td>
<td>Sandy Clay</td>
<td>Native</td>
<td>dark olive grey</td>
<td>None</td>
<td></td>
</tr>
<tr>
<td>Depth (ft.)</td>
<td>Lithology</td>
<td>Soil Description</td>
<td>Color</td>
<td>Odor</td>
<td>Comments</td>
</tr>
<tr>
<td>------------</td>
<td>-----------------</td>
<td>------------------</td>
<td>---------</td>
<td>---------</td>
<td>---------------------</td>
</tr>
<tr>
<td>0</td>
<td>Silty Sand</td>
<td>Depositional</td>
<td>dark grey</td>
<td>None</td>
<td>Native Material</td>
</tr>
<tr>
<td>1</td>
<td>Sandy Clay</td>
<td>Native</td>
<td>dark grey</td>
<td>None</td>
<td>sandy clayey silt</td>
</tr>
<tr>
<td>3</td>
<td>Clayey Silt</td>
<td>Native</td>
<td>dark olive</td>
<td>None</td>
<td></td>
</tr>
</tbody>
</table>

**Attempt:** 1

- **Tide (ft.):** 3.8
- **Water Depth (ft.):** 20.5
- **Total Pages:** 1

- **Penetration (ft.):** 8
- **Final Core Length (ft.):** 5
- **Analysis Length (ft.):** 1.5
### Soil Description

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Lithology</th>
<th>Soil Description</th>
<th>Color</th>
<th>Odor</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Clayey Silt</td>
<td>Depositional</td>
<td>dark grey</td>
<td>Sulphur</td>
<td>very soft</td>
</tr>
<tr>
<td>1</td>
<td>Native</td>
<td>dark grey</td>
<td>None</td>
<td>None</td>
<td>shell fragments, clay clasts</td>
</tr>
<tr>
<td>2</td>
<td>Native</td>
<td>dark olive gray</td>
<td>None</td>
<td>None</td>
<td>silty fine sand, some fine clay, trace shells</td>
</tr>
<tr>
<td>3</td>
<td>Silty Sand</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

### Additional Information

- **Client**: LA Dept. of Public Works
- **Project Location**: Marina Del Rey Harbor, CA
- **Latitude (WGS-84)**: 33° 58.13
- **Longitude (WGS-84)**: -118° 26.897
- **Date**: 9/18/07
- **Time (PDT)**: 8:09
- **Project**: MDR Sediment Characterization

### Core Data

- **Depth**: 8 ft.
- **Penetration (ft.)**: 7.5
- **Final Core Length (ft.)**: 3.5
- **Analysis Length (ft.)**: 2.3
- **Total Pages**: 1
- **Tide (ft.)**: 3.9
- **Water Depth (ft.)**: 24.9
- **Station ID**: MC-5

---

**Note**: The diagram and table represent the sediment characteristics and layers encountered during the core sampling. The depth and color of each layer are detailed, including the presence of specific features like shell fragments and clay clasts.
APPENDIX B:

Marina Del Rey Sediment Characterization Study

Core Photographs
LADPW-MDR Sediment Characterization Study
A-2
Date: 9-20-07
Time: 1000
Length: 0 – 3'

LADPW-MDR Sediment Characterization Study
A-2
Date: 9-20-07
Time: 1000
Length: 3 – 4.3’
* Lens only partially open.
LADPW-MDR Sediment Characterization Study D-2
Date: 9-19-07
Time: 0905
Length: 0 – 4.2’
LADPW-MDR Sediment Characterization Study
H-1
Date: 9-20-07
Time: 1200
Length: 0 – 3'

LADPW-MDR Sediment Characterization Study
H-1
Date: 9-20-07
Time: 1200
Length: 3 – 5'
LADPW-MDR Sediment Characterization Study
MC-1
Date: 9-18-07
Time: 0955
Length: 0 – 4'

LADPW-MDR Sediment Characterization Study
MC-1
Date: 9-18-07
Time: 0955
Length: 4 – 5.5'
LADPW-MDR Sediment Characterization Study
MC-2
Date:  9-17-07
Time:  1655
Length:  0 – 3’