# Appendix A

**Monitoring Well Lithologic Logs and Well Construction Details**

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A92    Well Construction Details and Log of Boring MW-BW-73-A
A93    Well Construction Details and Log of Boring MW-BW-74-A
A94    Well Construction Details and Log of Boring MW-BW-75-A
A95    Well Construction Details and Log of Boring MW-BW-76-A
A96    Well Construction Details and Log of Boring PS-CT-01
A97    Well Construction Details and Log of Boring PS-CT-02
A98    Well Construction Details and Log of Boring PS-CT-03
A99    Well Construction Details and Log of Boring PS-CT-04
A100   Well Construction Details and Log of Boring PS-CT-05
A101   Well Construction Details and Log of Boring PS-CT-06
A102   Well Construction Details and Log of Boring PS-CT-07
A103   Well Construction Details and Log of Boring PS-CT-08
A104   Well Construction Details and Log of Boring PS-CT-09
A105   Well Construction Details and Log of Boring PS-CT-IW
A106   Well Construction Details and Log of Boring PZ-BW-44-A
A107   Well Construction Details and Log of Boring Airfield Well
A108   Well Construction Details and Log of Boring F026
A109   Well Construction Details and Log of Boring F0-27
A110   Well Construction Details and Log of Boring F0-28
**Well Boring Log**

**Well No.:** 38096A

**Owner:** Vista Del Camino Co.

**Location:** Approximately 1/4 mile south of Reservation Road and about 1 mile east of State highway 41 in Sun Terrace Subdivision, Santa Barbara, California.

**Type of Work:** New well

**Proposed Use:** Domestic

**Casing Installed:**

<table>
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<th>Depth (ft)</th>
<th>Diameter (in)</th>
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<td>24 - 0 - 378</td>
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**Perforations:**

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<th>Type</th>
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<td>0 - 216</td>
<td>Blank</td>
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<tr>
<td>0 - 378</td>
<td>Perforated</td>
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**Construction:**

- **Method of Sealing:** Cemented

**Water Line:**

- **Concrete between the two:**

**Well Tests:**

- **Pump Test:** Yes

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**Delivered:** May 11, 1987

**Well Driller:**

**Name:**

**Address:**

**City:**

**State:**

**Zip Code:**

**Plate:** A1

---

**Well Construction Details and Log of Boring MCWD-05**

**Carbon Tetrachloride**

**RIF/S:**

**Fort Ord, California**

**Drawn:** MBP

**Job Number:** 55596 00171

**Approved:** MDT/LM

**Date:** 12/04

**Revised Date:**

---

**Retain this copy.**
**WATER WELL DRILLERS REPORT**

(Sections 797, 797.1, 797.2, Water Code)

**STATE OF CALIFORNIA**

**WATER WELL DRILLERS REPORT**

**NO. 38096**

**Owner:**

Name: Sun Terrace Sub-Division-Clayton Well Eng.
Address: Box 127, Carmel, California.

**Location of Well:**

County: Monterey.
City: Carmel.
Street or Number: Approximately 1/4 mile south of Monterey and about 1 mile east of State Highway 21 in Sun Terrace Subdivision.

**Type of Work:**

New well
Drilling
Reconditioning
Abandon

**Proposed Use:**

Domestic
Industrial
Municipal
Irrigation
Test Well
Other

**Equipment:**

Cable
Drill Rig

**Casing Installed:**

Single
Double

**Perforations:**

Type and size of pipe or well cap
Steel or iron
Conduit or other

**Construction:**

Factory perforated
Perforated in the field

**Method of Sealing:**

Lime and/or concrete between the two

**Water Test:**

Depth at which water was first found
Standing level before pumping

**Well Driller's Statement:**

The well was drilled under my jurisdiction and this report is true to the best of my knowledge and belief.

**Well Driller:**

Valleymap Drilling Co.

**Address:**

P.O. Box 127, 1660 Abbott St.

**City:**

Salinas, California.

**License No.:**

122832

**Date:**

July 1971

**Well Construction Details and Log of Boring MCWD-05**

**RI/FS**

**Fort Ord, California**

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### Well Log

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<td>Sand</td>
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<tr>
<td>56</td>
<td>Sandstone</td>
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<td>66</td>
<td>Tight sand</td>
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<tr>
<td>82</td>
<td>Tight red EK sand</td>
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<tr>
<td>105</td>
<td>Blue clay, sandy</td>
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<tr>
<td>115</td>
<td>Blue clay, streaks of yellow clay</td>
</tr>
<tr>
<td>123</td>
<td>Blue clay, streaks of soft sand</td>
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<tr>
<td>143</td>
<td>Blue clay, streaks of hard blue clay</td>
</tr>
<tr>
<td>165</td>
<td>Blue clay &amp; silt minerals</td>
</tr>
<tr>
<td>176</td>
<td>Silt clay</td>
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<tr>
<td>193</td>
<td>Fine sand, thin streaks of blue clay</td>
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<tr>
<td>220</td>
<td>Coarse sand, thin streaks of blue clay</td>
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<tr>
<td>233</td>
<td>Coarse sand, thin streaks of soft yellow clay</td>
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<tr>
<td>233</td>
<td>Coarse sand, fine soft gravel</td>
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<tr>
<td>313</td>
<td>Sand &amp; gravel</td>
</tr>
<tr>
<td>358</td>
<td>Sand &amp; gravel, streaks of blue ash</td>
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<tr>
<td>378</td>
<td>Coarse sand &amp; gravel</td>
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</tbody>
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**MACTEC**

**DIAGRAM**

**PLATE A1**

**DRAWN**

MBP

**JOB NUMBER**

55598 00171

**APPROVED**

MDT/MJ

**DATE**

12/04

**REVISED DATE**

Page 3 of 3
STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

WELL DATA

Owner: Marina County Water District
Address: State No. 185/18-3665

Reference Point description
which is _______ ft. below land surface, Ground Elevation _______ ft.
Reference Point Elev. _______ ft. Determined from ____________

Well Use: MUNICIPAL
Condition: Depth: _______ ft.

Measurements By: DNR [ ], USGS [ ], USBR [ ], County [ ], Irr. Dist. [ ], Water Dist. [ ], Corp. Dist. [ ]
Type of Material: Per. Rating _______ ft.
Gravel Packed: Yes [ ] No [ ] Depth to Top Gr. _______ ft. 8"-16", 18", 22", 24", 28", 30", 36", 48", 54", 60", 72"

Driller: WESTERN WELL DRILLING, LTD.
Date Drilled: _______ 1992, Log Listed: _______ 1992
Equipment: Pump, type: _______ make: _______
Serial No.: _______ Size of discharge pipe: _______ in.
Power, Kind: _______ Make: _______
H. P. _______ Motor Serial No.: _______
Elec. Meter No.: _______
Yield: _______ USG. ft. (Footing total) _______ ft.

Well Construction Details and
Log of Boring MCWD-08
Carbon Tetrachloride
RIFS
Fort Ord, California

MACTEC

PLATE

A2

DRAWN: MBP
JOB NUMBER: 55596 00171
APPROVED: Mic / 12/04
DATE: REVISIODE: Page 1 of 5
NOTICE OF INTENT NO. 81023
STATE OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES
WATER WELL DRILLERS REPORT

(1) OWNER:
Name: Marina County Water District
Address: 77 Beach Road, Marina, CA 93933

(11) WELL LOG:
Total depth: 617 ft
Depth of completed well: 578 ft

(2) LOCATION OF WELL:
County: Monterey
Owner's number: 08

(3) TYPE OF WORK (check):
New Well: Deepening
Reconditioning
Dewatering

(4) PROPOSED USE (check):
Domestic: Y
Irrigation: n
Test Well: n
Other: n

(5) EQUIPMENT:
Rotary: 200 ft
Cable: n
Tubing: n
Other: n

(6) CASING INSTALLED:
If gravel packed: n

(7) PERFORATIONS OR SCREEN:
Type of perforation or rows of screen: Factory-milled

(8) CONSTRUCTION:
Wax was used under and in the well: Y
Was one or more sealed against all sides: Y
If yes, up to what depth: 60 ft

(9) WATER LEVELS:
Standing level before perforating, if known:

(10) WELL TESTS:
Impervious screen: n
Impervious water: n
Chemical analysis: Y
Test well: Y

CONFIDENTIAL
Water Code Sec. 13722

DWE 186 (REV. 9-86)

MACTEC
Log of Boring MCWD-08
Carbon Tetrachloride
RI/FS
Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
MBP 55596 00171 12/04

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<td>Sand, Brown</td>
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<td>58 - 64</td>
<td>Clay, Yellow</td>
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<tr>
<td>64 - 98</td>
<td>Sand, Brown</td>
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<tr>
<td>98 - 160</td>
<td>Clay, Blue</td>
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<td>160 - 215</td>
<td>Coarse Sand &amp; Fine Gravel</td>
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<tr>
<td>215 - 260</td>
<td>Clay, Brown</td>
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<td>260 - 315</td>
<td>Coarse Sand &amp; Fine Gravel</td>
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<td>315 - 355</td>
<td>Coarse Sand to Medium Gravel</td>
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<td>Sand with Clay Streaks</td>
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<td>Coarse Sand to Medium Gravel</td>
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<td>Red Clay</td>
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<td>Cemented Sand</td>
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Well Construction Details and Log of Boring MCWD-08
Carbon Tetrachloride
RI/FS
Fort Ord, California

MACTEC

Plate A2

Drawn
Job Number
Approved
Date
Revised Date
MBP
55596 00171
MT/EM
12/04

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Well Construction Details and Plate

Log of Boring MCWD-08A
Carbon Tetrachloride
RIF/S
Fort Ord, California

MACTEC

DRAWN
MBP

JOB NUMBER
55596 00171

APPROVED
MDT 10/04

DATE
12/04

REVISED DATE

Page 2 of 3
Top of PVC Casing
Elev. 135.76 ft.
CHRISTY BOX

GROUND SURFACE

Top of casing at 0.5 ft. bgs

7 in. DIAMETER BOREHOLE: 0 to 477 ft.

DENTONITE CEMENT SEAL: 0 to 25 ft.

MP-38 (38mm.) PVC SCHEDULE 40 WESTRAY CASING: 0 to 475 ft.

Completion Date 11/17/2002
Drilling Method Sonic
Logged by D. Browne
Surface Elevation 137.14 ft.
Hole Dia. 7 in.
Northing 214,842.89
Easting 5747,162.69

Depth (ft.) Sample

DARK GRAYISH BROWN SILTY SAND (SM) (10YR 4/2) Loose, dry, 75% fine to coarse sand, 25% silt
@ 1 ft.: Change to VERY DARK BROWN (10YR 2/2) 70% fine to coarse sand, 30% silt

@ 4 ft.: Change to DARK YELLOWISH BROWN (10YR 3/4) 75% fine to coarse sand, 25% silt
YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt
@ 6 ft.: Change to BROWNISH YELLOW (10YR 5/6) 65% fine to coarse sand, 5% silt

@ 10 ft.: Similar to above

@ 14 ft.: Similar to above
VERY DARK BROWN SILTY SAND (SM) (10YR 2/2) Loose, dry, 75% fine to coarse sand, 25% silt
@ 15.5 ft.: Change to LIGHT GRAY (2.5Y 7/1) 60% fine to coarse sand, 40% silt
OLIVE YELLOW WELL GRADED SAND (SW) (2.5Y 6/6), Loose, dry, 95% fine to coarse sand, 5% silt

@ 20 ft.: Similar to above

Well Construction Details and Log of Boring MP-BW-37
OUCTP

MACTEC

DRAWN MBP
JOB NUMBER 55596 001701
APPROVED
DATE 11/04
REVISED DATE

PLATE A5

Page 1 of 20
Completion Date 11/17/2002
Drilling Method Sonic
Logged by D. Browne
Surface Elevation 137.14 ft
Hole Dia. 7 in
Northing 214,942.99
Easting 574,7152.99

Depth (ft.)

Sample

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above

@ 35 ft.: Similar to above

@ 41 ft.: Similar to above

LIGHT OLIVE BROWN SILTY SAND (SM)
(2.5Y 5/5) Loose, dry, 85% fine to coarse sand, 15% silt

OLIVE YELLOW POORLY GRADED SAND
(SP) (2.5Y 6/8) Loose, dry, 65% fine sand, 5% silt

DARK YELLOWISH BROWN SILTY SAND
(SM) (10YR 4/4) 80% fine to medium sand, 20% silt, sharp contact with overlying unit, visible bedding planes

@ 49 ft.: Similar to above

MACTEC

Well Construction Details and Log of Boring MP-BW-37

PLATE

Fort Ord, California

A5

DRAWN

55596 001701

APPROVED

11/04

Page 2 of 20
**Completion Date:** 11/17/2002  
**Drilling Method:** Sonic  
**Logged by:** D. Browne  
**Surface Elevation:** 137.14 ft  
**Hole Dia:** 7 in.  
**Northing:** 214842.89  
**Easting:** 5747162.69

**Sample Depth (ft.):**
- **@ 50 ft.:** Change to DARK YELLOWISH BROWN (10YR 4/6)
- **DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/6)*** Loose, dry, 90% fine to coarse sand, 10% silt
- **DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/6)*** Loose, dry, 80% fine to medium sand, 20% silt
- **@ 57 ft.:** Visible bedding planes
- **DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/6)*** Loose, dry, 80% fine to medium sand, 20% silt
- **@ 60 ft.:** Change to Moist, increase to 25% silt
- **BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/6)*** Loose, moist, 90% fine to coarse sand, 10% silt
- **BROWNISH YELLOW SILTY SAND (SM) (10YR 6/6)*** Loose, moist, 75% fine to medium sand, 25% silt
- **LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (2.5Y 6/4)*** Loose, moist, 90% fine to medium sand, 10% silt
- **@ 72 ft.:** Change to PALE YELLOW (2.5Y 7/4)
- **@ 74 ft.:** Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

---

**Well Construction Details and Log of Boring MP-BW-37**

**PLATE**

**MACTEC**

**Fort Ord, California**

**DRAWN:** MBP  
**JOB NUMBER:** 55596 001701  
**APPROVED DATE:** 11/04  
**REVISED DATE:**
Competition Date: 11/17/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 137.14 ft  Hole Dia. 7 in.
Northing: 2141842.69  Easting: 5747152.69

BENTONITE SLURRY: 25 to 174 ft.

@ 76 ft.: Change to Wet

@ 79 ft.: Change to LIGHT OLIVE BROWN (2.6Y 5/4)

@ 84 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6)

@ 87 ft.: Similar to above

@ 90 ft.: Similar to above

@ 96 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
Completion Date: 11/17/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 137.14 ft
Hole Dia: 7 in
Northing: 2141642.89
Easting: 5747152.99

Depth (ft.)
Sample

@ 100 ft.: Similar to above

@ 105 ft.: Similar to above

@ 107 ft.: Similar to above. From 107-117 ft., 10 ft. sample yields 14 ft. of material recovery, suspect clay expanded and pushed up sand, contact depth not clear

OLIVE FAT CLAY (CH) (5Y 5/3) Stiff, moist, 95% fat clay, 5% silt, top 3 in. of clay reworked and mixed with sand unit from above

@ 112 ft.: Increase to 5% marbled DARK GRAY SANDS (5Y 4/1)
@ 113 ft.: DARK GRAY SANDS GONE
@ 114 ft.: Change to OLIVE (5Y 5/4) Dry
@ 115 ft.: Similar to above

@ 120 ft.: Change to PALE OLIVE (5Y 6/4) Medium stiff

@ 122 ft.: Increase to 30% silt

OLIVE SILT WITH SAND (ML) (5Y 4/3)
Soft, dry, 80% silt, 20% fine sand
Completion Date: 11/17/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 137.14 ft
Hole Dia.: 7 in.

Well Construction Details and Log of Boring MP-BW-37

- **BENTONITE SLURRY**: 26 to 174 ft.

- **OLIVE POORLY GRADED SAND (SP)** (5Y 4/3) Loose, moist, 90% fine to medium sand, 10% silt
  - @ 126 ft.: Change to OLIVE (5Y 5/4)

- **OLIVE WELL GRADED SAND (SW)** (5Y 5/4) Loose, wet, 95% fine to coarse sand, 5% silt
  - @ 132 ft.: Similar to above

- **OLIVE FAT CLAY (CH)** (5Y 4/3) stiff, moist, 90% clay, 10% silt, sharp contact with overlying unit
  - @ 137 ft.: Similar to above
  - @ 138 ft.: Change to DARK GREENISH GRAY (5G 4/1)

- @ 142 ft.: Change to OLIVE (5Y 4/3)
- @ 144 ft.: Change to OLIVE (5Y 4/4)

- **OLIVE SILT (ML)** (5Y 4/4) Dry, soft, 60% silt, 40% clay
  - **OLIVE POORLY GRADED SAND (SP)** (5Y 4/4) Loose, moist, 90% fine to medium sand, 10% silt
  - **OLIVE FAT CLAY (CH)** (5Y 4/4) Medium stiff, dry, 50% clay, 40% silt

MACTEC

Fort Ord, California

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<th>APPROVED</th>
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Completion Date: 11/17/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 137.14 ft.  Hole Dia. 7 in.
Northing: 2141842.89  Easting: 5747162.99

Depth (ft.)

Sample

@ 150.6 ft.: Change to DARK BLUISH GRAY (3B 4/1) Stiff, moist

@ 154 ft.: Change to 90% clay, 10% silt

@ 157 ft.: Trace shell fragments to 163 ft.

@ 163 ft.: Increase in sand to 164 ft.

BENTONITE SLURRY: 25 to 174 ft.

OLIVE GRAY FAT CLAY WITH SAND (CH-SC) (5Y 4/2) Stiff, moist, 85% clay,
15% sand, Sand marbled through clay

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Loose,
wet, 90% fine to coarse sand, 10% silt

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/5) Loose, moist, 85% fine to
course sand, 15% silt

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Loose,
wet, 90% fine to coarse sand, 10% silt
@ 180 ft.: Change to OLIVE YELLOW (2.5Y 6/6) 95% fine to coarse sand, 5% silt, Increase in coarse sand

@ 184 ft.: Trace gravel

LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SWG) (2.5Y 5/4) Loose, wet, 65% fine to coarse sand, 30% gravel composed of chert, granite, and quartz to 2 cm., 5% silt

@ 193 ft.: Change to DARK YELLOWISH BROWN (10YR 3/4) 75% fine to coarse sand, 25% gravel surrounded, polished chert, granite, and quartz to 3 cm., Trace silt

@ 196 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Loose, wet, 95% fine to coarse sand, 5% silt
Completion Date: 11/17/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 137.14 ft
Hole Dia.: 7 in.
Northing: 2141842.89
Easting: 5747152.99

@ 200 ft.: Decrease in coarse sand

@ 202 ft.: Increase in coarse sand, Trace gravel to 2 cm.

@ 205 ft.: Similar to above

@ 208 ft.: Gravels gone

@ 210 ft.: Trace gravels to 2 cm.
LIGHT OLIVE BROWN SILTY SAND (SM)
(2.5Y 5/4) Loose, moist, 60% fine sand, 40% silt

@ 215 ft.: Similar to above

@ 217 ft.: Similar to above

LIGHT OLIVE BROWN FAT CLAY (CH)
(2.5Y 5/4) Stiff, dry, 70% clay, 30% silt, Sharp contact with overlying layer

@ 222 ft.: Similar to above

LIGHT OLIVE BROWN SILT (ML) (2.5Y 5/4) Medium stiff, dry, 75% silt, 25% clay
BENTONITE PELLET SEAL: 202 to 302.5 ft.

LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) Stiff, dry, 80% clay, 20% silt

@ 234 ft.: Increase in clay to 90%

@ 236 ft.: Similar to above

@ 240 ft.: Similar to above

LIGHT OLIVE BROWN SILT (ML) (2.5Y 5/6) Stiff, dry, 70% silt, 30% clay, Sharp contact with overlying layer

LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) Stiff, dry, 70% clay, 30% silt
BENTONITE PELLET SEAL: 202 to 302.5 ft

wet, 50% fine to coarse sand, 30% clay, 20% gravels to 5 cm.

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, wet, 95% fine to coarse sand, 5% silt

LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) Stiff, moist, 70% clay, 30% silt, Sharp contact with overlying layer

LIGHT OLIVE BROWN SILT (ML) (2.5Y 5/4) Stiff, moist, 70% silt, 30% clay

@ 285 ft.: Increase to 90% silt

LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) Stiff, dry, 95% clay, 5% silt, Sharp contact with overlying layer

@ 290 ft.: Similar to above

@ 295 ft.: Similar to above
Well Construction Details and Log of Boring MP-BW-37

PLATE A5

MACTEC

Fort Ord, California

DRAWN JOB NUMBER APPROVED REVISED DATE
MBP 55596 001701 MDT 11/04

Completion Date: 11/17/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 137.14 ft
Hole Dia.: 7 in
Northing: 2141842.89 Easting: 57257152.99

Depth (ft.) Sample

312 to 328 ft.
BENTONITE PELLET SEAL

328 to 337 ft.
LONESTAR # 2/12 SANDPACK

337 ft.
SAMPLING PORT: MP-BW-37-328 at 329.65 ft.

330 to 335 ft.
EXTERNAL SCREEN:

335 ft.
PURGE PORT:

330 ft.
OLIVE YELLOW CLAYEY SAND WITH GRAVEL (GP-SC) (2.5Y 6/6) 45% fine to coarse sand, 40% chert, granite, and quartz gravel to 9 cm., 15% clay

@ 328 ft.: Increase in clay

@ 330 ft.: Similar to above
LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SWG) (2.5Y 5/4)
Loose, moist, 85% fine to coarse sand, 15% gravel to 6 cm.
LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (GP-SC) (2.5Y 5/4) Loose, moist, 55% fine to coarse sand, 30% gravel to 10 cm., 15% clay

340 ft.
LIGHT OLIVE BROWN SANDY FAT CLAY WITH GRAVEL (CH) (2.5Y 5/4) Soft, moist, 50% clay, 30% gravel to 5 cm., 20% fine to coarse sand
LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/4) Loose, moist, 45% fine to coarse sand, 40% gravel to 4 cm., 15% clay

@ 340 ft.: Increase in gravel to 45%

345 ft.
LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SWG) (2.5Y 5/4)
Loose, wet, 75% fine to coarse sand, 25% gravel to 3 cm.

350 ft.
LIGHT OLIVE BROWN SILT WITH SAND (ML) (2.5Y 5/3) Soft, moist, 55% silt, 45% fine sand, Trace gravel
LIGHT OLIVE BROWN SILTY SAND WITH GRAVEL (SM) (2.5Y 5/4) Loose, moist, 50% fine to coarse sand, 30% gravel to 5 cm., 15% silt
LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, moist, 90% fine to medium sand, 5% gravel, 5% silt

355 ft.
LIGHT OLIVE BROWN GRAVELLY CLAY WITH SAND (CH), 40% Clay, 35% gravel to 7 cm., 25% fine to coarse sand
PALE YELLOW CLAYEY SAND WITH GRAVEL (GP-SC) (2.5Y 7/4) Loose, dry.
45% fine to coarse sand, 40% gravel to 7 cm., 15% clay
@ 349.5 ft.: Change to PALE YELLOW
(2.5Y 8/2) 40% fine to coarse sand, 35% clay, 25% gravel to 6 cm. Powdery and almost white when dry, sticky and change of color to OLIVE BROWN (2.5Y 6/6) when wet
LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SWG) (2.5Y 5/3)
Loose, 70% fine to coarse sand, 20% gravel
@ 3 cm., 10% silt
PALE OLIVE FAT CLAY (CH) (5Y 6/4) Stiff, moist, 100% clay
@ 351.5 ft.: Change to 95% clay, 5% gravel
LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, wet, 90% fine to coarse sand, 5% gravel, 5% silt
OLIVE SILT WITH GRAVEL (ML) (5Y 5/4)
Stiff, moist, 85% silt, 15% gravel
@ 355 ft.: Change to 95% silt, 5% fine sand
LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/6)
Loose, wet, 85% fine to coarse sand, 15% silt, Trace gravel
OLIVE YELLOW WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 6/6)
Loose, wet, 85% fine to coarse sand, 15% gravel to 3 cm. with one piece to 12 cm.
@ 360 ft.: Increase to 60% sand, 30% gravel, 10% clay
OLIVE FAT CLAY (CH) (5Y 4/4) Stiff, dry, 90% clay, 10% fine to coarse sand

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) 95% fine
to coarse sand, 5% silt, Trace gravel.
Gradational contact with overlying layer

@ 371 ft.: Increase to 10% gravel

LIGHT YELLOWISH BROWN SANDY FAT CLAY WITH GRAVEL (CH) (2.5Y 6/4) Soft, moist, 50% clay, 35% fine to medium sand, 15% gravel to 3 cm.
Completion Date: 11/17/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 137.14 ft, Hole Dia: 7 in
Northing: 2141842.89, Easting: 5747152.99

LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL (GP-SC) (2.5Y 6/4)
Loose, moist, 45% fine to coarse sand, 40% clay, 15% gravel to 3 cm.

LIGHT OLIVE BROWN POORLY GRADED SAND (SP), Loose, moist, 95% fine to medium sand, 5% silt

@ 379 ft.: Change to DARK YELLOWISH BROWN (IRON OXIDE STAIN) (10YR 4/8)
Increase to 10% clay, 5% gravel

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) 95% fine to coarse sand, 5% clay, Trace gravel

@ 388 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Increase to 10% gravel
LIGHT OLIVE BROWN SANDY FAT CLAY (CH) (2.5Y 5/4) Stiff, moist, 70% clay, 30% fine to coarse sand

@ 391 ft.: Change to OLIVE (5Y 6/3)
Medium stiff, 65% clay, 25% fine to coarse sand, 10% subrounded gravel to 3 cm.

LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL (GP-SC) (2.5Y 6/4)
Loose, moist, 65% fine to coarse sand, 20% clay, 15% gravel to 3 cm.

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose,
Completion Date: 11/17/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 137.14 ft. Hole Dia. 7 in.
Northing: 2141842.89 Easting: 5747152.99

Sample

wet, 90% fine to coarse sand, 10% clay,
Trace gravel

415

OLIVE YELLOW CLAYEY SAND WITH
GRAVEL (GP-SC) (2.5Y 6/6) Loose, wet,
65% fine to coarse sand, 20% subrounded
gravel to 6 cm., 15% clay

420

OLIVE YELLOW SANDY FAT CLAY WITH
GRAVEL (CH) (2.5Y 6/8) 65% clay, 20%
fine to coarse sand, 15% subrounded gravel
to 5 cm.

VERY DARK GRAYISH BROWN CLAYEY
SAND (SC) (2.5Y 3/2) Loose, wet, 85% fine
to coarse sand, 15% clay, Trace gravel

OLIVE BROWN WELL GRADED SAND
WITH GRAVEL (SWG) (2.5Y 4/4) Loose,
wet, 75% fine to coarse sand, 15% gravel,
10% clay

@ 413 ft.: Change to LIGHT YELLOWISH
BROWN (2.5Y 6/4)

LIGHT YELLOWISH BROWN SILT (ML)
(2.5Y 0/4) 95% silt, 10% clay

@ 418 ft.: Decrease to 5% clay

OLIVE BROWN WELL GRADED SAND
(SW) (2.5Y 4/4) Loose, wet, 95% fine to
coarse sand, 5% silt

LIGHT OLIVE BROWN FAT CLAY WITH
SAND (CH) (2.5Y 5/3) Stiff, dry, 75% clay
15% fine to coarse sand, 10% well rounded
gravel

LIGHT OLIVE BROWN CLAYEY SAND
WITH GRAVEL (GP-SC) (2.5Y 5/3) Loose,
wet, 65% fine to coarse sand, 20% clay,
15% well rounded gravel
Completion Date: 11/17/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation 137.14 ft. Hole Dia. 7 in.
Northing 2161842.90 Easting 57477152.90

BENTONITE PELLET SEAL: 400 ft to 422 ft.

430 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Increase in coarse sand for overlying layer

LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL (GP-SC) (2.5Y 6/3)
65% fine to medium sand, 20% subrounded gravel to 5 cm., 15% clay

434 ft.: Change to LIGHT OLIVE BROWN (2.5Y 6/4) Loose to medium dense, wet, 20% clay, 15% gravel to 5 cm.

445 ft.: Similar to above

445 ft.: Similar to above

450 ft.: Similar to above

BROWN POORLY GRADED SAND (SP)
(10YR 5/3) Loose, moist, 95% fine to medium sand, 5% clay

BROWN CLAYEY SAND (SC) (10YR 5/3)
Loose, moist, 80% fine to medium sand, 20% clay
Top of PVC Casing
Elev. 126.17 ft.
CHRISTY BOX

GROUND SURFACE

7 in. DIAMETER BOREHOLE: 0 to 457 ft.

MP-28 (38mm)
PVC SCHEDULE 40 WESTBAY CASING: 0 to 433 ft.
BENTONITE - CEMENT SEAL: 0 to 25 ft.

Completion Date: 10/27/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevaton: 127.22 ft. Hole Dia. 7 in.
Northing: 2142262 Easting: 6751301.43

Depth (ft)
Sample

0
5
10
15
20
25
30
35

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 6/4) Loose, dry, 90% fine to coarse sand, 10% silt

@ 4 ft.: Change to BROWNISH YELLOW WELL GRADED SAND (10YR 6/5)
@ 5 ft.: Change to OLIVE YELLOW (2.5Y 8/6)

@ 10 ft.: Similar to above

@ 12 ft.: Change to BROWNISH YELLOW (10YR 5/6) 95% fine to coarse sand, 5% silt
@ 14 ft.: Increase in coarse sand
@ 15 ft.: Similar to above
@ 16 ft.: Increase to 10% silt
@ 18 ft.: 95% fine to coarse sand, 5% silt
@ 20 ft.: Similar to above

@ 22 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 25 ft.: Similar to above
@ 26 ft.: Change to LIGHT OLIVE BROWN (2.5Y 6/4)

OLIVE YELLOW POORLY GRADED SAND (SP) (2.5Y 6/6) Loose, dry, 95% fine to medium sand, 5% silt

@ 35 ft.: Similar to above
Completion Date: 10/27/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 127.22 ft.
Hole Dia.: 7 in.
Northing: 2142952
Easting: 5751301.43

Depth (ft)
Sample

YELOWISH BROWN WELL GRADED
SAND (5W) (10YR 5/6) Loose, dry, 95%
fine to coarse sand, 5% silt

@ 40 ft.: Similar to above

@ 42 ft.: Change to BROWNISH YELLOW
(10YR 6/6) Loose, dry

@ 45 ft.: Similar to above

@ 50 ft.: Similar to above

BROWNISH YELLOW POORLY GRADED
SAND (SP) (10YR 6/8) Loose, dry, 95% fine
to medium sand, 5% silt

@ 55 ft.: Similar to above

@ 60 ft.: Change to OLIVE YELLOW (2.5Y
6/6)

@ 62 ft.: Change to BROWNISH YELLOW
(10YR 6/6)

@ 65 ft.: Similar to above

@ 68 ft.: Change to YELLOWISH BROWN
(10YR 5/6)

@ 70 ft.: Similar to above

BENTONITE
SLURRY, 25 lb
314.5 ft.

MACTEC

Well Construction Details and
Log of Boring MP-BW-38
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PLATE

A6

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Page 2 of 13
@ 72 ft.: Change to Loose, wet,

@ 75 ft.: Similar to above

@ 80 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6)

@ 84 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)

@ 86 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6) 90% fine to medium sand, 10% silt

@ 90 ft.: Similar to above

@ 92 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 95% fine to coarse sand, 5% silt

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, wet, 90% fine to medium sand, 10% silt

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 90% clay, 10% silt

@ 98 ft.: Change to LIGHT OLIVE BROWN FAT CLAY (2.5Y 5/3) Medium stiff, dry, mottled with white powdery chalky clay

@ 100 ft.: Similar to above

@ 102 ft.: Change to White chalky clay gone
Compilaton Date: 10/27/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 127.22 ft. Hole Dia. 7 in.
Northing: 2142952 Easting: 5761201.43

@ 108 ft.: Change to DARK GREENISH GRAY (5G 4/1) Very stiff, dry, White chalky material appears at less than 5%

@ 110 ft.: Change to OLIVE (5Y 4/3)

@ 111 ft.: Change to OLIVE BROWN (2.5Y 4/4) 96% clay, 5% silt. White chalky material gone

@ 114 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)

@ 119 ft.: Change to 80% clay, 20% silt

LIGHT OLIVE BROWN SILT (ML) (2.5Y 5/4) Medium stiff, dry, 80% silt, 20% clay. Driller notes change at 120 ft.
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, moist, 90% fine to medium sand, 10% silt

@ 126 ft.: Change to OLIVE (5Y 5/3) Slight increase in coarse sand

OLIVE WELL GRADED SAND (SW) (5Y 5/3) Loose, moist, 90% fine to coarse sand, 10% silt
LIGHT OLIVE BROWN SANDY SILT (ML) (2.5Y 5/4) Soft, moist, 60% silt, 40% fine sand
LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (2.5Y 6/4) Loose, moist, 90% sand, 10% silt
@ 131.5 Change to LIGHT GRAY (2.5Y 7/2)
Loose, dry
OLIVE CLAYEY SAND (SC) (5Y 4/3) Loose, wet, 80% fine to coarse sand, 20% clay
OLIVE FAT CLAY (CH) (5Y 4/3) Stiff, dry, 95% clay, 5% silt. Appears to be sharp contact with an erosional surface
@ 135 ft.: Similar to above

@ 140 ft.: Similar to above
Completion Date: 10/27/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 127.22 ft
Hole Dia.: 7 in
Northing: 2142362
Easting: 5751301.43

@ 144 ft.: Change to 60% clay, 30% silt
OLIVE SILT (ML) (5Y 6/4) Soft, dry, 55% silt, 45% clay

OLIVE FAT CLAY (CH) (5Y 5/3) Stiff, dry, 90% clay, 10% silt
@ 150 ft.: Similar to above

@ 152 ft.: Change to DARK GREENISH GRAY (5GY 4/1) Very stiff, dry, 95% clay, 5% silt
@ 153 ft.: Change to DARK BLUISH GRAY (GB 4/1) Stiff, dry
PALE OLIVE POORLY GRADED SAND (SP) (5Y 6/3) Loose, moist, 90% fine to medium sand, 10% silt, Sharp contact with overlying unit

@ 159 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
@ 160 ft.: Change to PALE OLIVE (5Y 6/3)

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, moist, 90% fine to coarse sand, 10% silt
@ 165 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3) Loose, wet

@ 170 ft.: Similar to above

@ 174 ft.: Similar to above

@ 176 ft.: Change to Increase in coarse sand

@ 178 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6) Trace gravels of subrounded chert to 3 cm.
@ 180 ft.: Change to LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (2.5Y 5/6) 65% fine to coarse sand, 25% subrounded gravels of chert, quartz and granites up to 4 cm., 10% clay

@ 182 ft.: Change to LIGHT OLIVE BROWN WELL GRADED SAND 80% fine to coarse sand, 10% subrounded gravels to 3 cm., 10% clay

@ 190 ft.: Change to Decrease in coarse sand
@ 191 ft.: Change to Decrease in coarse sand

@ 195 ft.: Similar to above

@ 198 ft.: Change to Increase in coarse sand
@ 199 ft.: Change to Increase in coarse sand. Trace gravel to 1.5 cm.
@ 200 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/6) Loose, wet, 90% fine to medium sand, 10% silt. Sharp contact with overlying unit

@ 202 ft.: Change to 95% fine to medium sand, 5% silt
LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/6) Loose, wet, 95% fine to coarse sand, 5% silt
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/6) Loose, wet, 90% fine to medium sand, 10% silt. Gradational contact

@ 210 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/6) Loose, wet, 90% fine to coarse sand, 5% silt, 5% subrounded gravel, chert, mudstone to 3 cm.

LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) Loose, moist, 70% fine to medium sand, 30% silt. Trace gravel to 2 cm.
Completion Date: 10/27/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 127.22 ft.
Hole Dia.: 7 in.
Northing: 2142882
Easting: 5751301.43

Depth (ft.)

@ 220 ft.: Similar to above

LIGHT OLIVE BROWN SILT (ML) (2.5Y 5/3) Soft dry, 60% silt, 40% fine sand
LIGHT GRAY SILTY SAND (SM) (2.5Y 7/1)
Powder/chalky, very dry, 60% fine sand,
40% silt, Trace gravel
@ 226 ft.: Change to BROWNISH YELLOW
(10YR 6/8) Loose, dry, 75% fine sand, 25%
silt
YELLOWISH BROWN WELL GRADED
SAND (SW) (10YR 6/8) Loose, wet, 95%
fine to coarse sand, 5% silt
@ 230 ft.: Similar to above

@ 235 ft.: Similar to above

@ 240 ft.: Similar to above

@ 245 ft.: Similar to above

@ 250 ft.: Change to BROWNISH YELLOW
(10YR 6/8)
Completion Date: 1/27/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 127.22 ft.
Hole Dia.: 7 in.
Northing: 2142892
Easting: 5751301.43

@ 252 ft.: Change to YELLOWISH BROWN (2.5Y 6/3)

@ 255 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 95% clay, 5% silt, Sharp contact on erosional surface

@ 260 ft.: Similar to above

LIGHT OLIVE GRAY SILT (ML) (5Y 6/2) Soft, dry, 95% silt, 5% clay. Sharp contact with overlying unit

@ 265 ft.: Similar to above

LIGHT OLIVE GRAY SILTY SAND (SM) (5Y 6/2) Loose, moist, 80% fine to medium sand, 20% silt

LIGHT OLIVE GRAY POORLY GRADED SAND (SP) (5Y 6/2) Loose, moist, 90% fine to medium sand, 10% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, moist, 90% fine to coarse sand, 10% silt

LIGHT OLIVE BROWN SANDY SILT (ML) (2.5Y 5/4) Soft, moist, 70% silt, 30% sand, trace gravel to 2 cm.

LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) Stiff, dry

@ 276 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)

LIGHT OLIVE BROWN SILT (ML) (2.5Y 5/6) Soft, moist, 95% silt, 5% clay

@ 282 ft.: Change to increase in clay

OLIVE FAT CLAY (CH) (5Y 5/4) Medium stiff, dry, 80% clay, 20% silt
Well Construction Details and Log of Boring MP-BW-38
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Completion Date: 10/27/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 127.22 ft
Hole Dia: 7 in
Northing: 2142962
Easting: 5761301.43

@ 267 ft.: Change to PALE OLIVE (SY 6/3) 90% Clay, 10% silt, Mottled with LIGHT YELLOWISH BROWN SILTY CLAY (2.5Y 6/3) Medium stiff, moist
@ 290 ft.: Change to Stiff, dry
@ 294 ft.: Similar to above
@ 300 ft.: Change to Mottled with iron red fine sand
@ 302 ft.: Change to PALE OLIVE SANDY FAT CLAY (CH) (SY 6/3) Medium stiff, moist, 70% clay, 30% fine to medium sand, Gradational contact with overlying silt
@ 304 ft.: Change to Mixture of above fat clay and poorly graded sand
@ 310 ft.: Similar to above
@ 315 ft.: PALE OLIVE SANDY FAT CLAY (CH) (SY 6/3) Soft, moist, 65% clay, 45% fine to medium sand
@ 318 ft.: Change to 75% clay, 25% fine sand
@ 320 ft.: Similar to above
@ 321 ft.: Change to Soft, moist, 60% clay, 40% sand
@ 322 ft.: Change to 65% clay, 30% fine sand, iron rust colored, 5% subrounded gravels of chert, mudstone, and granitic
@ 359 ft.: Change to OLIVE BROWN (2.5Y 4/3)
@ 360 ft.: Change to LIGHT YELLOW BROWN (2.5Y 6/4)
LIGHT YELLOW BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 4/3) Loose, wet, 60% fine to coarse sand, 25% gravel, 15% clay
LIGHT YELLOW BROWN SANDY FAT CLAY WITH GRAVEL (CH) (2.5Y 6/4) Soft, moist, 45% clay, 35% fine to coarse sand, 20% subrounded gravel to 5 cm., 15% clay
LIGHT YELLOW BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 6/4) Loose, wet, 70% fine to coarse sand, 15% gravel to 5 cm., 15% clay
LIGHT YELLOW BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Loose, wet, 80% fine to coarse sand, 10% gravel, 10% clay
OLIVE SANDY FAT CLAY (CH) (5Y 5/4) 50% clay, 40% fine to coarse sand, 10% gravel to 7 cm. Gradational contact with overlying unit
@ 370 ft.: Change to OLIVE FAT CLAY, (5Y 4/4) Stiff, dry

@ 376 ft.: Similar to above

@ 380 ft.: Change to Increase in silt
OLIVE SILT (ML) (5Y 4/4) Medium stiff, dry, 70% silt, 30% clay
DARK BLUISH GRAY FAT CLAY (CH) (5B 4/1) Very stiff, dry, 90% clay, 10% silt

@ 387 ft.: Change to Gradual change in color
@ 388 ft.: Change to OLIVE GRAY (5Y 4/2)

@ 390 ft.: Change to OLIVE (5Y 4/4)

@ 392 ft.: Change to OLIVE SANDY FAT CLAY, (5Y 4/4) 55% clay, 40% fine to coarse sand, 5% subrounded gravel, Gradational contact with overlying unit
LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/4) Loose, wet, 75% fine to coarse sand, 20% clay, 5% subrounded gravels of chert and granitics up to 3 cm.
@ 400 ft.: Similar to above

@ 404 ft.: Change to LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL, 50% fine to coarse sand, 30% gravel to 9 cm., 20% clay
LIGHT YELLOWISH BROWN CLAYEY GRAVEL WITH SAND (GC) (2.5Y 6/4) 40% subrounded gravel of chert, quartz and granitics to 6 cm., 30% fine to coarse sand, 30% clay
LIGHT YELLOWISH BROWN CLAYEY SAND (GC) (2.5Y 6/4) 60% fine to coarse sand, 30% clay, 10% subrounded gravels
LIGHT YELLOWISH BROWN SANDY FAT CLAY WITH GRAVEL (CH) (2.5Y 6/4) 55% clay, 30% fine to coarse sand, 15% subrounded gravel up to 4 cm.

@ 413 ft.: Change to PALE OLIVE BROWN CLAY, (6Y 6/3) Medium stiff, dry, 95% clay, 5% silt, Trace gravels
LIGHT OLIVE BROWN CLAYEY GRAVELS WITH SAND (GC) (2.5Y 6/4) Loose, moist, 55% subrounded gravels to 5 cm., 25% fine to coarse sand, 20% clay
LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 6/4)
Loose, wet, 65% fine to coarse sand, 25% subrounded gravels to 4 cm., 10% clay

LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 6/4) Loose, wet, 40% fine to coarse sand, 30% subrounded gravels, 30% clay

@ 428 ft.: Similar to above
LIGHT OLIVE BROWN SANDY FAT CLAY WITH GRAVEL (CH) (2.5Y 6/4) Medium stiff, moist, 60% clay, 20% fine to coarse sand, 20% subrounded gravel up to 2 cm.
LIGHT OLIVE BROWN SILT (ML) (2.5Y 6/4) Medium stiff, moist
LIGHT OLIVE BROWN SANDY FAT CLAY (CH) (2.5Y 6/4) Soft, moist, 55% clay, 45% fine to coarse sand, Trace gravels
Completion Date: 10/27/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 127.22 ft.
Hole Dia.: 7 in.
Northing: 2142362
Easting: 5751301.43

@ 438 ft.: Similar to above
LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/3) Loose, wet, 80% fine to coarse sand, 20% fat clay

@ 440 ft.: Similar to above

@ 441 ft.: Change to LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL, 55% fine to coarse sand, 30% clay, 15% subrounded gravels to 4 cm.
LIGHT YELLOWISH BROWN SANDY FAT CLAY WITH GRAVEL (CH) (2.5Y 6/3) 40% clay, 30% subrounded gravel, 30% fine to coarse sand
LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/3) Loose, wet, 70% fine to coarse sand, 20% clay, 10% gravel

@ 446 ft.: Change to 80% fine to coarse sand, 20% clay
LIGHT OLIVE BROWN SILT (ML) (2.5Y 5/3) Stiff, dry, 80% silt, 20% clay

LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/3) Loose, moist, 65% fine to coarse sand, 35% clay

@ 455 ft.: Similar to above

Bottom of boring @ 457 ft.
Top of PVC Casing
Elev. 140.42 ft.
CHRISTY BOX

GROUND SURFACE
Top of casing at 0.5 ft. bgs

7 in. DIAMETER BOREHOLE; 0 to 497 ft.

BENTONITE-CEMENT SEAL; 0 to 29 ft.

OP-36 (38mm.) PVC SCHEDULE 40 WESTRAY CASING; 0 to 415 ft.

Asphalt gravel backfill

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/4) Loose, moist, 85% fine to coarse sand, 15% silt

BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/8) Loose, dry, 90% fine to coarse sand, 10% silt

@ 5 ft.: Similar to above

@ 10 ft.: Change to YELLOWISH BROWN (10YR 5/4)

@ 18 ft.: Change to YELLOWISH BROWN (10YR 6/8) 95% fine to coarse sand, 5% silt

OLIVE YELLOW POORLY GRADED SAND (SP) (2.5Y 6/6) Loose, dry, 95% fine to medium sand, 5% silt

@ 25 ft.: Similar to above
Completion Date: 11/12/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.19 ft. Hole Dia. 7 in.
Northing: 2142030.46 Easting: 5748520.95

@ 30 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 95% fine to coarse sand, 5% silt

BENTONITE SLURRY: 20 to 200 ft.

@ 50 ft.: Similar to above

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 96% fine to medium sand, 5% silt

@ 55 ft.: Change to OLIVE YELLOW (2.5Y 6/6) 95% fine to coarse sand, 5% silt
Completion Date: 11/12/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.19 ft. Hole Dia. 7 in.
Northing: 2142530.46, Easting: 5749529.55

@ 60 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4) Loose, moist, 95% fine to coarse sand, 5% silt

@ 65 ft.: Similar to above

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) Loose, moist, 90% fine to medium sand, 10% silt

BROWNISH YELLOW SILTY SAND (SM) (10YR 6/8) Loose, moist, 85% fine to medium sand, 15% silt

OLIVE YELLOW POORLY GRADED SAND (SP) (2.5Y 6/6) Loose, moist, 90% fine to medium sand, 10% silt

BROWNISH YELLOW SILTY SAND (SM) (10YR 6/8) Loose, moist, 85% fine to medium sand, 15% silt

OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 4/4) Loose, moist, 90% fine to medium sand, 10% silt

@ 78 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 79 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Loose, wet

@ 85 ft.: Similar to above

LIGHT OLIVE BROWN SILTY SAND (SM) (2.6Y 5/4) Loose, wet, 85% fine to medium sand, 15% silt

@ 88.5 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6)
@ 90 ft.: Similar to above

@ 91 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)

@ 96 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 85% clay, 15% silt, Trace iron colored fine sand, Sharp contact with overlying sand

@ 102 ft.: Change to Olive (5Y 4/4)

@ 106 ft.: Similar to above

@ 107 ft.: Change to GREENISH GRAY (5GY 5/1) Soft, moist

@ 110 ft.: Similar to above

@ 112 ft.: Change to Medium stiff, dry, 90% clay, 10% silt

@ 115 ft.: Similar to above

@ 116 ft.: Change to OLIVE GRAY (5Y 5/2) Inclusion of white chalky powdery material up to 2 cm.
Completion Date: 11/12/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.19 ft. Hole Dia. 7 in.
Northing: 2142630.46 Easting: 5746529.95

@ 150 ft.: Similar to above

LIGHT OLIVE BROWN FAT CLAY (CH)
(2.5Y 5/3) Medium stiff, dry, 90% clay, 5%
stirnines and inclusions of STRONG
BROWN (7.5YR 5/6) fine to medium sand,
5% silt

LIGHT YELLOWISH BROWN CLAYEY
SAND (SC) (2.5Y 6/3) Loose, moist, 85%
fine to medium sand, 15% clay

@ 155 ft.: Change to 75% fine to medium
sand, 25% clay

LIGHT OLIVE BROWN POORLY GRADED
SAND (SP) (2.5Y 5/4) Loose, wet, 90% fine
to medium sand, 10% silt

LIGHT OLIVE BROWN SILT (ML) (2.5Y
5/4) Soft, moist, 95% silt, 5% fine sand

YELLOWISH BROWN WELL GRADED
SAND (SW) (10YR 5/6) Loose, wet, 90%
fine to coarse sand, 10% silt

@ 165 ft.: Similar to above

LIGHT YELLOWISH BROWN POORLY
GRADED SAND (SP) (2.5Y 6/3) Loose,
mot, 95% fine to medium sand, 5% silt

@ 170 ft.: Change to YELLOWISH BROWN
(10YR 5/4)

@ 172 ft.: Similar to above

LIGHT YELLOWISH BROWN WELL
GRADED SAND (SW) (2.5Y 6/3) Loose,
mot, 95% fine to coarse sand, 5% silt
Completion Date: 11/12/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.19 ft
Hole Dia.: 7 in.
Northing: 2142630.46
Easting: 5749529.95

Depth (ft.)

- @ 180 ft.: Similar to above
  - LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/3) Dense, moist, 70% fine to coarse sand, 30% clay
  - LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Loose, wet, 90% fine to coarse sand, 10% silt

- @ 190 ft.: Change to Increase in coarse sand

- @ 192 ft.: Similar to above

- @ 195 ft.: Change to GRAYISH BROWN (2.5Y 5/2) Trace subrounded gravels of chert, mudstone, and granitics, to 4 cm.

- @ 198 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Gravels decrease, Trace gravel to 3 cm.

- @ 200 ft.: Change to gravels gone

- @ 205 ft.: Similar to above

Well Construction Details and Log of Boring MP-SW-39

PLATE A7

DRAWN
JOB NUMBER
APPROVED
DATE
REvised DATE
MBP
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11/04

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Completion Date: 11/12/2002
Drilling Method: Sonic
Legged by: D. Browne
Surface Elevation: 141.19 ft
Hole Dia.: 7 in.
Northing: 2142530.40
Easting: 5749529.95

Depth (ft.)

@ 210 ft.: Similar to above

@ 212 ft.: Change to 95% fine to coarse sand, 5% silt

LIGHT OLIVE BROWN SILTY SAND (SM)
(2.5Y 5/3) Loose, moist, 80% fine to medium sand, 20% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, moist, 90% fine to coarse sand, 10% silt

LIGHT OLIVE BROWN SILTY SAND (SM)
(2.5Y 5/3) Loose, moist, 70% fine sand, 30% silt

@ 225 ft.: Similar to above

@ 230 ft.: Change to LIGHT OLIVE BROWN SILTY SAND WITH GRAVEL
(2.5Y 5/3) 55% fine sand, 30% silt, 15% rounded to subrounded gravel of chert, quartz, mudstone, and granitites to 6 cm.

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, wet, 95% fine to coarse sand, 5% silt

@ 235 ft.: Similar to above

DARK YELLOWISH BROWN CLAYEY SAND (SC) (10YR 4/6) Loose, moist, 70% fine to medium sand, 30% clay

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, moist, 90% fine to coarse sand, 10% silt

BENTONITE SLURRY: 20 to 239 ft.
Completion Date: 11/12/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.19 ft
Hole Dia.: 7 in
Northing: 2142030.46
Easting: 5749529.05

**Depth (ft.)**

- @ 240 ft.: Similar to above
- @ 244 ft.: Change to LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 5/4) Loose, moist, 75% fine to medium sand, 25% clay
- @ 245 ft.: Similar to above
- @ 246 ft.: Change to LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 5/3) Loose, moist, 85% fine to medium sand, 15% clay
- @ 247 ft.: Change to LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/4)
- @ 248 ft.: Change to 75% clay, 20% silt, 5% fine sand

**Sample**

- LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/4)
- YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6)
- DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/4)
- LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 5/3)
- YELLOWISH BROWN FAT CLAY (CH) (10YR 5/4)
- Sharp contact with overlying unit

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**Well Construction Details and Log of Boring MP-BW-39**

**CUCTP**

Fort Ord, California

**PLATE**

**A7**

**DRAWN**

MBP

**JOB NUMBER**

55596 001701

**APPROVED**

**DATE**

11/04

**REVISED DATE**

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BENTONITE SLURRY: 20 to 299 ft.

BENTONITE PELLET SEAL: 299 to 307 ft.

Completion Date: 11/12/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.19 ft. Hole Dia. 7 in.
Northing: 2128330.40 Easting: 5749539.95

Depth (ft.)

Sample

LIGHT OLIVE BROWN SILT (ML) (2.5Y 5/4) Soft, dry, 90% silt, 10% fine sand
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, dry, 90% fine sand, 10% silt

@ 274 ft.: Change to increase in clay

LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/4) Loose, moist, 55% fine sand, 40% clay, 5% silt; Sharp contact with overlying unit
LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) Stiff, dry, 95% clay, 5% silt

@ 280 ft.: Similar to above

@ 285 ft.: Change to LIGHT OLIVE BROWN SANDY FAT CLAY 55% clay, 45% fine to medium sand

@ 287 ft.: Change to LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/3) 90% clay, 10% silt
LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, wet, 60% fine to coarse sand, 10% silt, trace gravels to 2 cm.

@ 291 ft.: Change to 85% fine to coarse sand, 10% silt, 5% subrounded gravel of chert, quartz, and mudstone to 3 cm.
LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/3) Loose, wet, 75% fine to coarse sand, 20% clay, 5% subrounded gravel
LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/3) Stiff, dry, 80% clay, 20% silt

LIGHT OLIVE BROWN SILT (ML) (2.5Y 6/3) Soft, moist, 80% silt, 20% clay
LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/3) Stiff, dry, 80% clay, 20% silt
Completion Date: 11/12/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 141.19 ft
Hole Dia.: 7 in.
Northing: 2145230.46
Easting: 57495529.95

- LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) Loose, moist, 75% fine sand, 25% silt
- LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, moist, 90% fine to medium sand, 10% silt
- LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, moist, 90% fine to coarse sand, 10% silt
  @ 305 ft.: Change to Trace subrounded gravel of chert, quartz, and granitics, to 4 cm.

@ 310 ft.: Change to LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL, 65% fine to coarse sand, 25% subrounded gravels to 3 cm., 10% clay
@ 312 ft.: Change to increase gravels to 5 cm.

LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/3) Loose, wet, 55% fine to coarse sand, 25% subrounded gravel, 20% clay
@ 316 ft.: Change to 45% fine to coarse sand, 30% clay, 25% gravel

LIGHT OLIVE BROWN FAT CLAY WITH GRAVEL (CL) (2.5Y 5/3) Loose, moist, 50% clay, 30% subrounded gravels, 20% fine to coarse sand
- LIGHT OLIVE BROWN WELL GRADED GRAVEL (GW) (2.5Y 5/3) Loose, dry, 50% subrounded gravels, 30% clay, 20% fine to coarse sand
  @ 324 ft.: Change to Loose, moist
  @ 326 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/3) Loose, wet, 60% fine to coarse sand, 30% subrounded gravels to 7 cm., 10% silt
Completion Date: 11/12/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.19 ft. Hole Dia. 7 in.
Northing: 2146309.46 Easting: 5748529.95

Depth (ft.):

210
230
250
270
290
310
330
350
370
390
410

Sample

\textbf{LIGHT OLIVE BROWN WELL GRADED GRAVEL (GW) (2.5Y 5/3)} Loose, wet, 50% surrounded gravel to 7 cm., 40% fine to coarse sand, 10% clay

@ 335 ft.: Similar to above

@ 336 ft.: Change to \textbf{LIGHT OLIVE BROWN WELL GRADED GRAVEL WITH SAND (GW) 50% gravel, 30% fine to coarse sand, 20% clay}

\textbf{LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3)} 90% fine to coarse sand, 10% clay

@ 342 ft.: Change to \textbf{LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL, Loose, wet, 70% sand, 20% gravel, 10% clay}

@ 345 ft.: Change to 60% fine to coarse sand, 30% gravel, 10% clay

\textbf{LIGHT OLIVE BROWN WELL GRADED GRAVEL (GW) (2.5Y 5/3)} Loose, wet, 50% gravel, 40% fine to coarse sand, 10% clay

@ 351 ft.: Change to \textbf{OLIVE BROWN (2.5Y 4/3)} Sharp contact with overlying unit

@ 352 ft.: Change to \textbf{LIGHT OLIVE BROWN (2.5Y 5/3)}

\textbf{LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 6/4)} Loose, wet, 50% fine to coarse sand, 30% gravel to 5 cm., 20% clay

\textbf{LIGHT YELLOWISH BROWN WELL GRADED SAND WITH GRAVEL (SW) 2.5Y 6/4} 60% fine to coarse sand, 30% gravel, 10% clay

MACTEC

Well Construction Details and Log of Boring MP-BW-39
OUCTP

PLATE

A7

Fort Ord, California

DRAWN: MBP

JOB NUMBER: 55598 001701

APPROVED: JWD

DATE: 11/04

REVISED DATE:
Completion Date: 11/12/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 141.19 ft
Hole Dia.: 7 in.
Northing: 2142630.46
Easting: 5744529.66

Depth (ft.)

390
385
380
375
370
365

Sample

LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 6/3)
Loose, wet, 40% fine to coarse sand, 30% gravel, 30% clay

LIGHT YELLOWISH BROWN GRAVELLY FAT CLAY WITH SAND (CH) (2.5Y 6/3)
Loose, wet, 40% clay, 30% gravel, 30% fine to coarse sand

@ 367 ft.: Similar to above

LIGHT YELLOWISH BROWN WELL GRADED GRAVEL (GW) (2.5Y 6/3) Loose, wet, 50% gravel to 4 cm., 40% fine to coarse sand, 10% clay

LIGHT YELLOWISH BROWN CLAYEY GRAVEL WITH SAND (GC) (2.5Y 6/3)
Loose, wet, 40% gravel, 30% fine to coarse sand, 30% clay

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, wet, 80% fine to coarse sand, 10% gravel, 10% clay

@ 376 ft.: Change to 5% gravel

LIGHT OLIVE BROWN CLAYEY GRAVEL WITH SAND (GC) (2.5Y 5/4) Loose, wet, 60% gravel, 20% fine to coarse sand, 20% clay

@ 384 ft.: Change to 50% gravel, 30% clay, 20% fine to coarse sand

LIGHT YELLOWISH BROWN FAT CLAY (CH) (2.5Y 6/3) Soft, moist, 90% clay, 10% silt

@ 386 ft.: Change to LIGHT YELLOWISH BROWN SANDY FAT CLAY, 80% clay, 30% fine to coarse sand, 10% gravel to 4 cm.

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, wet, 90% fine to medium sand, 10% clay
SAMPLE PORT: MP-BW-39-395 all 394.5 ft.

EXTERNAL SCREEN: 395 to 402 ft.

PURGE PORT: 400 ft.

LONESTAR # 2/12 SANDPACK: 390 to 415 ft.

COMPLETION DATE: 11/12/2002

Drilling Method: Sonic

Logged by: D. Browne

Surface Elevation: 141.11 ft. Hole Dia.: 7 in.
Nothing: 246303.46 Easting: 5745529.95

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LIGHT OLIVE BROWN WELL GRANED SAND WITH GRAVEL (GW) (2.5Y 5/3)
Loose, wet, 50% fine to coarse sand, 40% gravel to 10 cm., 10% clay

LIGHT YELLOWISH BROWN WELL
GRADED GRAVEL WITH SAND (GW) (2.5Y 6/4)
Loose, wet, 50% gravel to 10 cm., 40% fine to coarse sand, 10% clay

At 394.5 ft. Change to DARK OLIVE BROWN (2.5Y 3/3)

LIGHT YELLOWISH BROWN CLAYEY GRAVEL WITH SAND (GC) (2.5Y 6/3)
Loose, wet, 50% gravel to 10 cm., 30% fine to coarse sand, 20% clay

At 400.5 ft. Change to DARK OLIVE BROWN (2.5Y 3/3)

LIGHT YELLOWISH BROWN WELL
GRADED SAND (SW) (2.5Y 6/3)
Loose, wet, 85% fine to coarse sand, 10% clay, 5% gravel

LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/3)
Loose, wet, 80% fine to coarse sand, 20% clay

LIGHT YELLOWISH BROWN WELL
GRADED SAND (SW) (2.5Y 6/3)
Loose, wet, 90% fine to coarse sand, 10% clay, Trace gravel

OLIVE YELLOW CLAYEY SAND WITH GRAVEL (SC) (2.5Y 6/6)
Loose, wet, 50% fine to coarse sand, 30% clay, 20% gravel to 5 cm.

LIGHT YELLOWISH BROWN FAT CLAY (CH) (2.5Y 6/4)
Medium stiff, moist, 80% clay, 20% silt

LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 6/4)
65% fine to coarse sand, 20% clay, 15% gravel to 3 cm.

LIGHT YELLOWISH BROWN WELL
GRADED SAND WITH GRAVEL (SW) (2.5Y 6/4)
Loose, wet, 70% fine to coarse sand, 20% gravel, 10% clay

At 412 ft. Change to LIGHT YELLOWISH BROWN WELL GRADED SAND (2.5Y 6/3)
90% fine to coarse sand, 10% clay, Trace gravel

LIGHT YELLOWISH BROWN FAT CLAY WITH GRAVEL (CH) (2.5Y 6/3)
Medium stiff, moist, 80% clay, 20% gravel to 2 cm., Gradational contact with overlying unit

At 416 ft. Change to Trace gravel
LIGHT YELLOWISH BROWN WELL GRADED SAND (GW) (2.5Y 6/4) Loose, moist, 50% fine to coarse sand, 10% clay.
Gradational change

LIGHT OLIVE BROWN FAT CLAY (CH)
(2.5Y 6/4) Soft, moist, 80% clay, 40% silt

LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 6/3)
Loose, wet, 55% fine to coarse sand, 25% gravel to 3 cm., 20% clay

LIGHT YELLOWISH BROWN WELL GRADED SAND WITH GRAVEL (SW)
(2.5Y 6/3) Loose, wet, 85% fine to coarse sand, 15% gravel

LIGHT YELLOWISH BROWN FAT CLAY WITH GRAVEL (CH) (2.5Y 6/3) Soft, moist, 80% clay, 20% subrounded gravel to 3 cm.

LIGHT YELLOWISH BROWN WELL GRADE SAND WITH GRAVEL (SW) (2.5Y 6/3) 70% fine to coarse sand, 20% gravel, 10% clay

PALE OLIVE FAT CLAY (CH) (5Y 6/4)
Medium stiff, moist, mottled dark organic material from 433.5 to 434 ft., Sharp contact with overlying unit.

@ 434.5 ft.: Change to Organic material disappears, Iron oxide staining, possible manganese staining

@ 437 ft.: Change to GREENISH GRAY FAT CLAY (5G 5/1) Stiff, dry, 50% clay, 10% silt

@ 438 ft.: Change to DARK BLUISH GRAY (5B 4/1)

@ 444 ft.: Change to OLIVE (5Y 4/3)

@ 448 ft.: Change to LIGHT YELLOWISH BROWN SANDY FAT CLAY (2.5Y 6/4)
Loose, wet, 50% clay, 40% fine to coarse sand, 10% gravel

@ 453.5 ft.: Change to LIGHT YELLOWISH BROWN FAT CLAY (2.5Y 5/3) Medium stiff, dry, 80% clay, 20% silt
YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4) Loose, wet, 50% fine to medium sand, 10% silt

@ 463 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

DARK OLIVE BROWN SILTY SAND (SM) (2.5Y 5/6) Loose, moist, 60% fine to medium sand, 40% silt
- Bottom of boring @ 467 ft.

BENTONITE CHIPS: 415 to 467 ft.
Top of PVC Casing Elev. 126.42 ft.

Top of casings at 0.5 ft. ID

7 in. Diameter Borehole: 0 to 496 ft.

BENTONITE CEMENT SEAL: 0 to 25 ft.

MP-85 (38mm) PVC SCHEDULE 40 WESTBAY CASING: 0 to 416 ft.

BENTONITE SLURRY: 25 to 319 ft.

Completion Date: 10/13/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 127.7 ft.
Hole Dia. 7 in.
Northing: 2142544.13
Easting: 5751938.84

0
Depth (ft.)

Sample

LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) Loose, dry, 80% fine to coarse sand, 20% silt

BROWNSISH YELLOWWELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt

@ 5 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 12 ft.: Change to VERY DARK GRAY (2.5Y 3/1) Loose, dry, 90% fine to coarse sand, 10% silt

@ 14 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

@ 15 ft.: Change to BROWN (10YR 5/3)

@ 18 ft.: Change to YELLOWISH BROWN (10YR 5/6) Loose, dry, increase in coarse sand

@ 20 ft.: Change to Decrease in coarse sand

DARK GRAYISH BROWN CLAYEY SAND (SC) (10YR 4/2) Loose, dry, 85% fine to coarse sand, 15% lean clay

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt

MACTEC

Well Construction Details and Log of Boring MP-BW-40
OUCTIP

FOR.WELL. OUCTIONP.AU. FTD. OUCCT IP GRT. 1/1/2004

GROUNDSURFACE

PLATE

DRAWN

JOB NUMBER

APPROVED

DATE

REvised DATE

MBP

55596 001701

11/04

Page 1 of 17
Completion Date: 10/13/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 127.7 ft. Hole Dia.: 7 in.
Northing: 2142844.13 Easting: 5751938.94

BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/6) Loose, dry, 95% fine to coarse sand, 5% silt

@ 72-76 ft.: OLIVE CLAYEY SAND (SC)
(SY 5/3) 85% fine sand, 15% clay. Note: Above material present as smearing on outer 0.125 of core.
BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/6) Loose, moist, 95% fine to coarse sand, 5% silt

@ 80 ft.: Change to Loose, wet

@ 82 ft.: Change to BROWN (10YR 5/3)

BROWN POORLY GRADED SAND (SP)
(10YR 5/3) Loose, wet, 90% fine to medium sand, 10% silt
@ 95 ft.: Change to YELLOWISH RED (5YR 6/8) Loose, wet, 90% medium sand,
10% silt. Note: Iron staining present
OLIVE FAT CLAY WITH SAND (CHA) (5Y 5/3) Medium stiff, moist, 85% clay, 15% fine
sand. Trace iron staining and organic
residue

@ 97 ft.: Change to OLIVE GRAY FAT
CLAY (5Y 5/2) Stiff, moist, 95% clay, 5% silt

@ 101 ft.: Driller notes material becomes
more stiff

@ 108 ft.: Change to Trace fine to medium
sand

@ 110 ft.: Change to Trace fine to medium
sand with possible shell fragments
@ 111 ft.: Change to Medium stiff, moist

@ 116 ft.: Change to YELLOWISH BROWN
(10YR 5/4) Medium stiff, moist
- @ 120 ft.: Change to OLIVE FAT SANDY CLAY (CH) (5Y 2/3) Medium stiff, moist, 60% clay 40% fine to medium sand
- OLIVE CLAYEY SAND (SC) (5Y 5/3) Medium dense, moist, 60% fine to medium sand, 40% fine to medium sand,
  15% fine to medium sand
- @ 122 ft.: Change to 85% fine to medium sand, 15% fine to medium sand
- LIGHT OLIVE POORLY GRADED SAND (SP) (5Y 5/3) Medium dense, dry, 90% fine to medium sand, 10% silt
- LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, moist, 90% fine to coarse sand, 10% silt
- @ 130 ft.: Change to LIGHT YELLOWISH BROWN (10YR 6/4) 95% sand, 5% silt
- @ 135 ft.: Change to Loose, moist, 95% fine to coarse sand, 5% silt
- OLIVE GRAY POORLY GRADED SAND (SP) (5Y 4/2) Loose, moist, 90% fine to medium sand, 10% silt
- OLIVE GRAY CLAYEY SAND (SC) (5Y 4/2) Loose, moist, 80% fine to medium sand, 20% clay, Note: Driller notes a change @ 149 ft.
Completion Date: 10/13/2002
Drilling Method: Static
Legged by: D. Browne
Surface Elevation: 127.7 ft., Hole Dia. 7 in.
Northing: 2142544.13, Easting: 775193.94

**Depth (ft.)**

- 150 ft.: OLIVE GRAY POORLY GRADED SAND (G7) (5Y 4/2) Loose, moist, 90% fine to medium sand, 10% silt
- @ 156 ft.: Similar to above. Note: OLIVE GRAY fines smeared on outer core 0.125 thick from 147 to 156 ft.
- 160 ft.: DARK BLUISH GRAY FAT CLAY (CH) (5B 4/1) Medium stiff, dry to moist, 95% clay, 5% silt
- @ 166 ft.: Change to Clay marbled with DARK GREENISH GRAY FAT CLAY with small lens of YELLOWISH RED WELL GRADED SAND at bottom including iron or rust color
- 170 ft.: LIGHT OLIVE GRAY WELL GRADED SAND (5W) (5Y 6/2) Loose, wet, 90% fine to coarse sand, 10% silt
- @ 171 ft.: Change to Increase in coarse sand
- @ 173 ft.: Change to YELLOWISH BROWN (10YR 5/6)
- @ 176 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3) Increasing grain size

**Bentonite Slurry:** 25 to 319 ft.
Completion Date: 10/13/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 177.7 ft
Hole Dia.: 7 in.
Northing: 2142544.13
Easting: 7751938.94

@ 180 ft.: Change to Trace gravels to 2.5 cm

BENTONITE SLURRY: 25 to 319 ft.

LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (2.5Y 8/3) Loose, moist, 95% fine to medium sand, 5% silt

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, moist, 95% fine to coarse sand, 5% silt

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, moist, 95% fine to medium sand, 5% silt

LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) Loose, moist, 80% fine sand, 20% silt

@ 205 ft.: Change to 65% fine sand, 35% silt

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 6/3) Loose, moist, 95% fine to medium sand, 5% silt
**Well Construction Details and Log of Boring MP-BW-40**

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ 216 ft.</td>
<td>Change to 90% fine to medium sand, 10% silt</td>
</tr>
<tr>
<td>@ 223 ft.</td>
<td>Change to LIGHT OLIVE BROWN POORLY GRADED SAND WITH GRAVEL. Loose, moist to wet, 80% fine to medium sand, 15% gravel, 5% silt. Gravels surrounded green and white chert and granite up to 3 cm. BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/6) Loose, moist, 95% fine to coarse sand, 5% silt</td>
</tr>
<tr>
<td>@ 228 ft.</td>
<td>Change to Increase in coarse sand</td>
</tr>
<tr>
<td>@ 235 ft.</td>
<td>Change to YELLOWISH BROWN (10YR 5/6) Loose, moist, 95% fine to coarse sand, 5% silt</td>
</tr>
</tbody>
</table>
Completion Date: 10/13/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 127.7 ft
Hole Dia.: 7 in
Northing: 2142544.13
Easting: 5751938.94

Depth (ft.)

Sample

@ 245 ft.: Similar to above

BENTONITE SLURRY: 25 to 319 ft.

OLIVE YELLOW POORLY GRADED SAND (SP) (2.5Y 6/6) Loose, moist, 95% fine sand, 5% silt

@ 256 ft.: Change to LIGHT YELLOWISH BROWN (10YR 5/4)

OLIVE GRAY FAT CLAY (CH1) (5Y 5/2) Medium stiff, moist to dry, 95% clay, 5% silt

@ 263 ft.: Change to OLIVE (5Y 5/3) Dry to moist

@ 265.5 ft.: Change to PALE OLIVE (5Y 6/3) Medium stiff, dry, 70% clay, 30% silt

PALE OLIVE CLAYEY SAND (SC) (5Y 6/3) Loose, moist, 80% fine to coarse sand, 20% fine clay
BENTONITE SLURRY: 25 to 310 ft.

BENTONITE PELLET SEAL: 310 to 329 ft.

LONESTAR # 2/12 SANDPACK: 329

Completion Date: 10/13/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 127.7 ft.
Hole Dia.: 7 in.
Northing: 2162544.13
Easting: 5721938.94

@ 300 ft.: Change to Streaks of possible Manganese staining

@ 304 ft.: Change to PALE OLIVE (5Y 6/4)
Soft, moist, 70% clay, 30% silt

@ 307 ft.: Change to 90% clay, 10% silt

@ 311 ft.: Change to Medium stiff, dry to moist

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3)
Loose, wet, 95% fine to coarse sand, 5% silt

@ 316 ft.: Change to PALE OLIVE (5Y 6/4)

@ 318 ft.: Change to increase silt to 10%, Trace gravels to 2 cm.

OLIVE CLAYEY SAND (SC) (6Y 5/3)
Loose, wet, 80% fine to coarse sand, 20% clay.
Trace gravels of subrounded mudstone, chert, and granitic to 4 cm.

@ 322 ft.: Change to increase sand grain size, 5% subrounded gravels to 3 cm.

@ 327 ft.: Change to Trace gravels to 2 cm.

OLIVE WELL GRADED SAND (SW) (5Y 5/3)
Loose, wet, 95% fine to coarse sand, 5% silt

Well Construction Details and Log of Boring MP-BW-40
OUCTP

MACTEC

PLATE A8

DRAWN: MBP
JOB NUMBER: 55596 001701
APPROVED: 11/04
REVISED DATE:
Sample at 330 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) Loose, wet, Subrounded gravels of chert, mudstone, and granitic to 7 cm.

Sample at 332 ft.: Change to Decrease in coarse sand, 5% gravels to 3 cm.

Sample at 336 ft.: Change to Increase in coarse sand, Trace gravels to 6 cm.

Sample at 340 ft.: Change to 10% clay, 5% subrounded gravels of chert, mudstone, and granitic to 3 cm. (cobbles)

Sample at 344 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) Loose, wet, 85% fine to coarse sand, 10% lean clay, 5% gravels

Sample at 345 ft.: Change to LIGHT BROWNISH GRAY WELL GRADED GRAVEL (GW) (2.5Y 6/2) Loose, wet, 50% gravel, 30% clay, 20% fine to coarse sand, Gravels to 4 cm. mainly flattened mudstone, subrounded on edges.

Sample at 354 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) Loose, wet, Gravels increase in size to 4 cm.

Sample at 358 ft.: Change to LIGHT BROWNISH BROWN WELL GRADED GRAVEL WITH SAND (GW) (2.5Y 6/3) Loose, wet, 55% gravel to 3 cm., 35% fine to coarse sand, 10% clay

Sample at 358 ft.: Change to LIGHT YELLOWISH BROWN, 55% gravels mainly chert, mudstone, and some granitics subrounded to 6 cm., 40% sand, 10% clay
Completion Date: 10/13/2002
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 127.7 ft. Hole Dia.: 7 in.
Northing: 2142544.13 Easting: 5751938.94

Sample:

@ 362 ft.: Change to OLIVE GRAY. Gravels to 4 cm. Gradational contact to 363 ft.
PALE OLIVE FAT CLAY (CH) (5Y 6/3) Medium stiff, moist to dry, 85% fat clay, 5% fine sand, 5% silt, 5% gravel of subrounded granitics and chert.

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, wet, 80% fine to coarse sand, 10% clay, 10% gravels to 5 cm.

@ 372 ft.: Change to 90% fine to coarse grained sand, 10% gravel, Trace clay

@ 374 ft.: Change to Increase gravels to 5%

LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/3) 85% fine to coarse sand, 15% clay

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) 85% fine to coarse sand, 10% subrounded gravel to 3 cm., 5% silt

@ 384 ft.: Change to Gravels up to 6cm.

OLIVE CLAYEY SAND (SC) (6Y 5/3) Loose, wet, 50% fine to coarse sand, 40% clay, 10% subrounded gravel up to 3 cm.
OLIVE SILT (ML) (6Y 5/3) Medium stiff, dry, 75% silt, 25% fat clay

MACTEC

Well Construction Details and Log of Boring MP-BW-40
OUCTP

PLATE

Fort Ord, California

DRAWN
MBP

JOB NUMBER
55596 001701

APPROVED

DATE
11/04

REVISION DATE
LIGHT OLIVE BROWN SANDY FAT CLAY WITH GRAVEL (CH) (2.5Y 5/4) Medium stiff, moist, 55% clay, 30% fine to coarse sand, 20% subrounded gravels to 12 cm.

PALE OLIVE CLAYEY SAND WITH GRAVEL (SC) (5Y 6/3) Loose, wet, 50% fine to coarse sand, 30% subrounded gravels, 20% fine clay

@ 426 ft.: Similar to above

PALE OLIVE SANDY FAT CLAY WITH GRAVEL (CH) (5Y 6/3) Medium stiff, moist, 40% clay, 30% fine to coarse sand, 30% gravel to 5 cm. Clumps of sand and gravel mixed into the clay

LIGHT YELLOWISH BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 6/3) 85% fine to coarse sand, 25% subrounded gravels to 2 cm., 10% fine clay

OLIVE BROWN CLAYEY GRAVELS WITH SAND (SC) (2.5Y 4/4) Loose, moist, 50% fine to coarse gravels of chert, quartz, and granitic up to 2 cm., 25% fine to coarse sand, 25% fine clay

PALE OLIVE SILT (ML) (5Y 6/3) Medium stiff, moist, 90% silt, 10% fine sand. Trace of gravels. Trace ofolives give a gold shine

LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) Medium stiff, moist, 55% clay, 25% subrounded gravel to 5 cm., 20% fine to coarse sand. Mixture of clay, gravel, sand, silt

@ 434 ft.: Change to OLIVE BROWN (2.5Y 5/4) Stiff, dry, 90% clay, 10% silt, Trace of iron or manganese staining

@ 445 ft.: Similar to above
Completion Date: 10/14/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 127.7 ft. Hole Dia. 7 in
Northing: 2145344.13 Easting: 5731938.94

@ 451 ft.: Similar to above

LIGHT OLIVE BROWN CLAYEY SAND
(SC) (2.5Y 5/6) Medium dense, moist, 55% fine to medium sand, 45% fat clay

@ 456 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)

LIGHT YELLOWISH BROWN WELL GRANED SAND (SW) (2.5Y 6/4) Medium dense, moist, 50% fine to coarse sand, 10% silt

@ 466 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6)

LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/4) Medium dense, moist, 55% fine to coarse sand, 45% fat clay, Mixture of clay and sands, trace gravel to 4 cm.

YELLOWISH BROWN SILTY SAND (SM) (10YR 5/6) Medium dense, moist, 60% fine to medium sand, 40% silt

@ 471 ft.: Change to VERY DARK OLIVE BROWN (2.5Y 5/6) Medium dense, moist, 70% fine to coarse sand, 30% fat clay

LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/4) Medium dense, moist, 70% fine to coarse sand, 30% fat clay

LIGHT OLIVE BROWN SANDY FAT CLAY (CH) (2.5Y 5/6) Medium stiff, moist, 60% clay, 30% fine to coarse sand, 10% subrounded gravel to 2 cm.

@ 475 ft.: Change to OLIVE BROWN (2.5Y 4/4)

LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 6/4) Medium dense, wet, 40% fine to coarse sand, 30% fine to coarse gravel up to 5 cm.
Completion Date: 10/13/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 127.7 ft
Hole Dia: 7 in
Northing: 2142544.13
Easting: 5751038.94

Depth (ft.)

Sample

BENTONITE CHIPS: 418.5 to 496 ft.

- cm., 50% fat clay
- DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/4) Medium dense, wet, 50% fine to medium sand, 10% silt

@ 485 ft.: Similar to above

- DARK YELLOWISH BROWN CLAYEY SAND (SC) (10YR 4/4) Medium dense, moist, 80% fine to medium sand, 20% clay

- OLIVE FAT CLAY (CH) (5Y 5/4) Stiff, dry, 90% clay, 10% fine sand

- OLIVE CLAYEY SAND (SC) (5Y 5/4) Medium dense, wet, 80% fine to medium sand, 20% clay, Trace gravels to 2 cm.

- LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/4) Medium dense, wet, 60% fine to coarse sand, 30% rounded gravels of quartz, pink and red cherts, and granitic, 10% fat clay

Bottom of Boring @ 496 ft.
Top of PVC Casing
Elev. 157.05 ft.

CHRISTY BOX

GROUND SURFACE

Top of casing at 0.5 ft. bgs

7 in. DIAMETER
BOREHOLE: 0 to 407 ft.

BENTONITE
CEMENT SEAL: 2 to 25 ft.

MP-39 (38mm.)
PVC SCHEDULE
40 WESTBAY
CASING: 0 to 404 ft.

BENTONITE
SLURRY: 25 to 188 ft.

COMPETITION

Depth (f), Sample

VERY DARK GRAYISH BROWN SILTY SAND (SM) (2.5Y 3/2) Loose, moist, 85% fine to coarse sand, 15% silt

DARK GRAYISH BROWN WELL GRADED SAND (SW) (2.5Y 4/2) Loose, moist, 90% fine to coarse sand, 10% silt

@ 5 ft.: Change to BROWN (10YR 4/3)

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 95% fine to medium sand, 5% silt

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 6/4) Loose, dry, 95% fine to coarse sand, 5% silt

@ 12 ft.: Similar to above

@ 16 ft.: Similar to above

@ 20 ft.: Similar to above

@ 28 ft.: Similar to above

LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (2.5Y 6/4) Loose, dry.
Completion Date: 3/11/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 157.66 ft
Hole Dia.: 7 in.
Northing: 2137147.84
Easting: 5749941.52

Depth (ft.) Sample

95% fine to medium sand, 5% silt
LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Loose, dry, 95% fine to coarse sand, 5% silt

@ 36 ft.: Similar to above
@ 40 ft.: Similar to above
@ 46 ft.: Similar to above
BROWNISH YELLOW POORLY GRADED SAND (SP) (10YR 6/6) Loose, dry, 95% fine to medium sand, 5% silt
@ 50 ft.: Similar to above
@ 52 ft.: Similar to above
@ 56 ft.: Similar to above

BENTONITE SLURRY: 25 to 188 ft.
Completion Date: 3/11/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 157.66 ft
Hole Dia: 7 in
Northing: 2137147.84
Easting: 5749841.62

@ 60 ft: Change to YELLOWISH BROWN (10YR 5/6)

@ 65 ft: Similar to above

@ 69 ft: Change to Loose, wet

@ 70 ft: Similar to above

STRONG BROWN SILTY SAND (SM) (7.5YR 4/6) Loose, wet, 85% fine to coarse sand, 15% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) Loose, wet, 95% fine to medium sand, 5% silt

@ 76 ft: Similar to above

@ 80 ft: Similar to above

@ 85 ft: Similar to above
BENTONITE SLURRY: 25 to 188 ft.

@ 90 ft.: Similar to above

@ 92 ft.: Similar to above

@ 98 ft.: Similar to above

@ 100 ft.: Similar to above

@ 102 ft.: Change to LIGHT OLIVE BROWN (2.5Y 8/4)

OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Stiff, dry, 80% clay, 20% silt, Iron staining on less than 5%

@ 108 ft.: Change to 90% clay, 10% silt, White residue throughout reacts violently with HCL

@ 110 ft.: Change to OLIVE (5Y 5/4) No visible white residue, Reacts mildly with HCL

@ 112 ft.: Similar to above

@ 116 ft.: Change to DARK GREENISH GRAY (5G 4/1)

@ 118 ft.: Change to OLIVE GRAY (5Y 4/2) 10-15% white residue reacts violently with HCL

Completion Date: 3/11/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 157.66 ft.
Hole Dia.: 7 in.
Northing: 2137147.84
Easting: 5748841.52

MACTEC
Log of Boring MP-BW-41

Fort Ord, California

DRAWN: MSP
JCS NUMBER: 55596 001701
APPROVED: DRAWN
DATE: REVISITED

A9

Page 4 of 14
@ 120 ft.: Change to OLIVE (5Y 4/3)

@ 122 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) 80% clay, 20% silt

@ 124 ft.: Similar to above

@ 126 ft.: Change to Trace organics

@ 130 ft.: Change to 60% clay, 40% silt

LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) Loose, moist, 70% fine to medium sand, 30% silt

LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/3) Stiff, dry, 85% clay, 15% silt

LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) Loose, dry, 80% fine to medium sand, 20% silt

LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/3) Stiff, dry, 70% clay, 30% silt

@ 136 ft.: Change to 85% clay, 15% silt

@ 140 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 65% clay, 15% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, wet, 90% fine to medium sand, 10% silt

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 65% clay, 15% silt

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, moist, 90% fine to medium sand, 10% silt

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MACTEC

Well Construction Details and Log of Boring MP-BW-41

Fort Ord, California

DRAWN: MBP
JOB NUMBER: 55596 001701
APPROVED: N/A
DATE: 11/04
REVISED DATE: 

PLATE A9

Page 5 of 14
Completion Date: 3/1/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 157.66 ft
Hole Dia.: 7 in.
Northing: 2137147.84
Easting: 5748841.52

- OLIVE GRAY FAT CLAY (CH) (5Y 5/2)
  Medium stiff, dry, 80% clay, 20% silt
- LIGHT OLIVE BROWN POORLY GRADED
  SAND (SP) (2.5Y 5/3)
  Loose, moist, 90% fine to medium sand, 10% silt

@ 156 ft.: Change to 95% fine to medium sand, 5% silt

@ 160 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED
SAND (SW) (2.5Y 5/3)
Loose, wet, 90% fine to coarse sand, 10% silt

@ 166 ft.: Similar to above

@ 170 ft.: Similar to above

@ 172 ft.: Similar to above

@ 176 ft.: Similar to above

MACTEC
Well Construction Details and
Log of Boring MP-BW-41
PLATE

DRAWN: MBP
JOB NUMBER: 55596 001701
APPROVED: TMA
DATE: 11/04
REVISION: A9
Completion Date: 3/11/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 157.66 ft. Hole Dia. 7 in.
Northing: 2137147.84 Easting: 5749841.52

@ 180 ft.: Change to Increase in coarse sand (#3)

@ 185 ft.: Similar to above

@ 190 ft.: Similar to above
@ 191 ft.: Change to Decrease in coarse sand
@ 192 ft.: Similar to above

OLIVE GRAY SILTY SAND (SM) (5Y 5/2)
Medium dense, moist, 60% fine to coarse sand, 40% silt
@ 194 ft.: Change to LIGHT GRAY (2.5Y 7/1) 70% fine to coarse sand, 30% silt,
Difficulty drilling, material heated by friction
LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 90% fine
to coarse sand, 10% silt
@ 196 ft.: Change to Increase in coarse sand (#3)

@ 200 ft.: Change to Decrease in coarse sand

@ 205 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 90% fine
to medium sand, 10% silt
BENTONITE PELLET SEAL: 200 to 227 ft.

LONESTAR #3 SANDPACK: 227 to 237 ft.

SAMPLING PORT: MP-BW-41-231 at 229.5 ft.

EXTERNAL SCREEN: 230 to 235 ft.

PURGE PORT: 235 ft.

BENTONITE PELLET SEAL: 237 to 253.5 ft.

Completion Date: 3/11/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 157.66 ft.
Hole Dia.: 7 in.
Northing: 2137147.94
Easting: 5749841.52

L-bright OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt

@ 212 ft.: Change to increase in coarse sand

GRAYISH BROWN POORLY GRADED SAND (SP) (2.5Y 5/2) Medium dense, wet, 90% fine to medium sand, 10% silt

GRAYISH BROWN WELL GRADED SAND (SW) (2.5Y 5/2) Loose, wet, 90% fine to coarse sand, 10% silt

GRAYISH BROWN CLAYEY SAND (SC) (2.5Y 5/2) Loose, wet, 60% fine to coarse sand, 30% silt clay, 5% subrounded mudstone gravels

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4) Loose, wet, 95% fine to coarse sand, 5% silt

OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 4/3) Loose, wet, 90% fine to medium sand, 10% silt

OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 4/3) Loose, wet, 90% fine to coarse sand, 10% silt, Trace subrounded mudstone gravels to 2 cm.

@ 226 ft.: Change to Gravels gone

@ 229 ft.: Change to OLIVE BROWN (2.5Y 5/4)

@ 232 ft.: Similar to above

@ 232.5 ft.: Change to 95% fine to coarse sand, 5% silt, Trace subrounded mudstone gravels to 3 cm.

@ 234 ft.: Change to Gravels gone

@ 236 ft.: Change to Trace granitic gravels to 2.5 cm.

@ 237 ft.: Change to Gravels gone
OLIVE GRAY SANDY FULTY CLAY (CH) (5Y 5/2) Soft, moist, 55% clay, 45% fine to coarse sand. Trace gravel of chert.

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 95% fine to coarse sand, 5% silt. Trace gravel to 1.5 cm.

@ 248 ft.: Change to increase in coarse sand

@ 249.5 ft.: Change to BROWN (7.5YR 4/4) Trace subrounded chert gravel to 3 cm.

@ 251 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) 90% fine to coarse sand, 10% silt. Trace gravel

@ 252 ft.: Change to Gravels gone

LIGHT OLIVE BROWN SANDY FAT CLAY (CH) (2.5Y 5/3) Medium stiff, moist, 50% clay, 30% silt, 20% fine sand

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt

@ 258 ft.: Change to increase in coarse sand (#3), Trace gravels of chert and mudstone to 2 cm.

@ 260 ft.: Change to Gravels gone

LIGHT BROWN SANDY FAT CLAY (CH) (2.5Y 5/3) 60% Clay, 40% fine to coarse sand. Trace subrounded gravels of chert and mudstone to 2 cm. (pebbly mudstone)

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt

LIGHT OLIVE BROWN SANDY FAT CLAY WITH GRAVEL (CH) (2.5Y 5/4) Soft, moist, 50% clay, 35% fine to coarse sand, 15%
Mudstone gravel to 2 cm. (pebbly mudstone)

GRAYISH BROWN WELL GRADED SAND (SW) (2.5Y 5/2) Loose, wet, 90% fine to coarse sand, 10% silt

@ 272.5 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

@ 273 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4) Trace gravels

@ 274 ft.: Change to Gravels gone

@ 276 ft.: Change to Trace gravels

LIGHT OLIVE BROWN SANDY FAT CLAY WITH GRAVEL (CH) (2.5Y 5/3) Soft, moist, 55% fat clay, 25% fine to coarse sand, 20% mudstone gravel to 2 cm. (pebbly mudstone)

LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/4)
Loose, wet, 75% fine to coarse sand, 15% subrounded gravels of chert and granitoids to 2 cm., 10% silt

LIGHT OLIVE BROWN SANDY FAT CLAY (CH) (2.5Y 5/3) Soft, moist, 60% clay, 25% fine to coarse sand, 15% gravel (pebbly mudstone)

LIGHT OLIVE BROWN WELL GRADED GRAVEL (GW) (2.5Y 5/4) Loose, wet, 60% gravel, 30% fine to coarse sand, 10% silt

OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 4/3) Medium dense, moist, 60% fine to coarse sand, 25% clay, 15% subrounded gravels of quartz, chert, and granites

@ 287 ft.: No recovery made due to 8.5 cm. cobble lodged in barrel

LIGHT OLIVE BROWN WELL GRADED COBBLES (GW), Heavy, wet, 60% cobbles to 8.5 cm. of broken granite and chert, 20% clay, 20% fine to coarse sand

GRAYISH BROWN CLAYEY SAND WITH GRAVEL (SC), 50% fine to coarse sand, 30% fat clay, 20% gravels to 3 cm.

@ 293 ft.: Change to 70% fine to coarse sand, 20% gravels to 3 cm., 25% clay

OLIVE GRAY SANDY FAT CLAY WITH GRAVEL, (CH) (5Y 5/2) Soft, moist, 55% clay, 25% fine to coarse sand, 20% subrounded gravels of granitoids, chert, and mudstone to 7 cm.

OLIVE GRAY WELL GRADED SAND WITH GRAVEL (SW) (5Y 5/2) Loose, wet, 70% fine to coarse sand, 20% gravels of chert, mudstone, and granitoids to 3 cm.
Completion Date: 3/11/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 157.86 ft
Hole Dia.: 7 in.
Northing: 2137147.84
Easting: 5749841.52

@ 297.5 ft.: Change to OLIVE GRAY WELL GRADED SAND (6Y 4/2) 90% fine to coarse sand, 10% silt. Trace gravels to 1.5 cm.
LIGHT OLIVE BROWN WELL GRADED GRAVEL WITH SAND (GW) (2.5Y 5/3)
Loose, wet, 65% subrounded chert, quartz, and mudstone to 3 cm., 30% fine to coarse sand, 10% silt
@ 300 ft.: Change to Cobbles to 9 cm.
LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/4)
Loose, wet, 55% fine to coarse sand, 35% subrounded gravel, 10% silt
@ 304 ft.: Change to 40% inclusions of LIGHT YELLOWISH BROWN FAT CLAY (2.5Y 6/4)
LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/3)
Loose, wet, 70% fine to coarse sand, 20% gravel to 3 cm., 10% silt
CLAYEY GRAVEL WITH SAND (GC) (2.5Y 5/3) Medium dense, wet, 50% gravels to 5 cm., 50% fat clay, 20% fine to coarse sand
LIGHT OLIVE BROWN WELL GRADED GRAVEL WITH SAND (GW) (2.5Y 5/3)
Loose, wet, 60% gravels to 4 cm., 30% fine to coarse sand, 10% silt
DARK GRAVISH BROWN CLAYEY SAND WITH GRAVEL (GC). Loose, moist, 60% fine to coarse sand, 30% clay, 20% gravels to 3 cm.
LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/3)
Loose, wet, 75% fine to coarse sand, 15% gravels to 3 cm., 10% silt
LIGHT YELLOWISH BROWN FAT CLAY (CH) (2.5Y 6/4) Soft, moist, 95% clay, 5% silt
LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/3)
Loose, wet, 65% fine to coarse sand, 25% gravel to 3 cm., 10% silt

@ 324 ft.: Change to Loose, moist
LIGHT GRAY SILTY SAND (SM) (2.5Y 7/1)
Loose, dry, 50% fine to medium sand, 30% silt, 10% gravels to 1.6 cm.
LIGHT YELLOWISH BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 6/3) Loose, dry, 55% fine to coarse sand, 35% gravels to 5 cm., 10% silt
@ 330 ft.: Change to Cobbles to 9 cm.

@ 332 ft.: Change to Loose, wet, 35% gravels to 6 cm.
LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) Medium stiff, moist, 60% clay, 20% silt.

LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/4) Loose, wet, 75% fine to coarse sand, 20% fat clay, 5% gravels of chert, mudstone, and granitics to 1.5 cm.

LIGHT YELLOWISH BROWN FAT CLAY (CH) (2.5Y 6/3) Soft, moist, 60% clay, 30% silt, 10% fine sand.

LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/3)
Loose, wet, 60% fine to coarse sand, 30% gravels to 3 cm., 10% clay.

LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/3) 50% fine to coarse sand, 30% fat clay, 20% gravels to 2 cm., Clay appears as inclusions in this unit.
LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/3) 60% fine to coarse sand, 30% gravels to 2 cm., 10% clay.

LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/5) Loose, moist, 55% fine to coarse sand, 35% clay, 10% gravels to 2 cm.

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, wet, 80% fine to coarse sand, 10% clay.
Trace gravel.

LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/4) Loose, moist, 65% fine to coarse sand, 25% clay, 10% subrounded gravels to 4 cm.

LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/3)
Loose, wet, 60% fine to coarse sand, 30% gravels to 4 cm., 10% clay.
LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/6) Medium stiff, moist, 60% clay, 20% silt.

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, wet, 90% fine to coarse sand (#3), 10% silt, Trace gravels to 6 cm.

LIGHT OLIVE BROWN WELL GRADED GRAVEL WITH SAND (GW) (2.5Y 5/4)
Loose, wet, 60% subrounded gravels to 4 cm., 30% fine to coarse sand, 10% clay.
GRAYISH BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/2) Loose, wet, 75% fine to coarse sand, 15% gravels to 7 cm., 10% silt.

@ 358 ft. Change to LIGHT OLIVE BROWN WELL GRADED SAND (2.5Y 5/3)
99% fine to coarse sand (#3), 10% silt.

LIGHT YELLOWISH BROWN SANDY FAT CLAY WITH GRAVEL (CH) (2.5Y 6/3) Soft.
Completion Date: 3/11/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 157.86 ft
Hole Dia.: 7 in
Northing: 2137147.84
Easting: 5748841.52

Depth (ft.)

Sample

360 to 362 ft.

BENTONITE
Pellet Seal:

moist, 50% clay, 30% fine to coarse sand,
20% gravels to 4 cm.

LIGHT OLIVE BROWN WELL GRADED
SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine
to coarse sand, 10% silt, Trace gravels to 3
cm.

GRAYISH BROWN SANDY FAT CLAY
WITH GRAVEL (CH) (2.5Y 5/2) Soft, moist,
55% clay, 30% fine to coarse sand, 15%
gravel to 3 cm.

LIGHT YELLOWISH BROWN WELL
GRADED SAND (SW) (2.5Y 6/3) Loose,
90% fine to coarse sand, 10% silt,
Trace gravels to 1.5 cm.

GRAYISH BROWN CLAYEY SAND (SC)
(2.5Y 5/2) Loose, moist, 60% fine to coarse
sand, 40% fat clay, Trace gravel

GRAYISH BROWN WELL GRADED SAND
(SW) (2.5Y 9/2) Loose, wet, 90% fine to
course sand, 10% silt, Trace gravels to 2
cm.

DARK GRAYISH BROWN POORLY
GRADED SAND (SP) (2.5Y 4/2) Loose, wet,
90% fine to medium sand, 10% silt, Trace
gravels to 6 cm.

DARK GRAYISH BROWN WELL GRADED
SAND (SW) (2.5Y 4/2) Loose, wet, 85% fine
to coarse sand, 10% silt, 5% subrounded
gravel to 1.5 cm.

DARK GRAYISH BROWN POORLY
GRADED SAND (SP) (2.5Y 4/2) Loose, wet,
90% fine to coarse sand, 10% silt

DARK GRAYISH BROWN CLAYEY SAND
(SC) (2.5Y 4/2) Medium dense, moist, 70%
fine to medium sand, 30% clay

DARK GRAYISH BROWN POORLY
GRADED SAND (SP) (2.5Y 4/2) Loose, wet,
90% fine to medium sand, 10% silt
Completion Date: 3/11/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 157.66 ft. Hole Dia. 7 in.
Northing: 2137147.84 Easting: 5749841.52

@ 390 ft.: Similar to above

DARK GRAYISH BROWN CLAYEY SAND (SC) (2.5Y 4/2) Medium dense, wet, 85% fine to medium sand, 15% clay

@ 398 ft.: Change to 70% fine to medium sand, 30% clay

@ 400 ft.: Change to 85% fine to medium sand, 15% clay

@ 404 ft.: Change to 80% fine to medium sand, 20% clay

Bottom of Boring @ 407 ft.
Top of PVC Casing
Elev. 148.69 ft.

CHRISTY BOX

GROUND SURFACE

Top of casing at 0.5 ft. bgs

7 in. DIAMETER BOREHOLE: 0 to 427 ft.

BENTONITE-CEMENT SEAL: 2 to 25 ft.

MP-38 (38mm.) PVC SCHEDULE 40 WESTBAY CASING: 6 to 415 ft.

BENTONITE SLURRY: 25 to 186 ft.

Completion Date 1/21/2003
Drilling Method Sonic
Logged by D. Browne
Surface Elevation 149.59 ft. Hole Dia. 7 in.
Northing 2136063.99 Easting 5749532.73

DARK YELLOWISH BROWN POORLY GRADED FINE SAND (SP) (10YR 3/4)
Loose, moist, 65% fine sand, 5% silt, Slight organic smell

@ 6 ft.: Change to DARK YELLOWISH BROWN (10YR 3/6)

@ 8 ft.: Change to YELLOWISH BROWN POORLY GRADED SAND WITH MINOR CLAY (SP) (10YR 5/4) Loose, Moist, 95% Sand, 5% Clay

@ 10 ft.: Change to YELLOW POORLY GRADED SAND WITH MINOR CLAY (SP) (10YR 7/8) Loose, Moist, 100% fine sand

@ 12 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 7/6) Loose, moist, 90% fine to coarse sand, 10% silt

@ 16 ft.: Similar to above

YELLOW POORLY GRADED SAND (SP) (10YR 7/8) Loose, moist, 100% medium sand

@ 18.5 ft.: Change to LIGHT BROWN (2.5Y 5/4) Medium dense, moist, 90% fine to medium sand, 10% silt layer 2 in. thick

@ 20 ft.: Change to YELLOW (10YR 5/4) Loose, moist, 100% medium sand

@ 22 ft.: Similar to above

YELLOW WELL GRADED SAND (SW) (10YR 5/4) Loose, moist, 100% fine to medium coarse sand

@ 28 ft.: Similar to above
Completion Date: 1/21/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 142.59 ft
Hole Dia. 7 in.
Northing 2138063.99 Easting 5749532.73

@ 28 ft.: Similar to above

YELLOW POORLY GRADED SAND (SP)
(10YR 7/6) Loose, moist, 95% fine sand, 5% silt

@ 31.5 ft.: Change to VERY PALE BROWN
(10YR 7/3) Medium dense, barely moist,
90% fine sand, 10% silt layer 1 in. thick

@ 34 ft.: Change to YELLOW (10YR 7/6)
Loose, moist, 95% fine sand, 5% silt

YELLOW WELL GRADED SAND (SW)
(10YR 7/6) Loose, moist, 95% fine to
medium-coarse sand, 5% silt

@ 39 ft.: Change to YELLOWISH BROWN
(10YR 6/6) Loose, moist, 95% fine to coarse
sand, 5% silt

YELLOW POORLY GRADED SAND (SP)
(10YR 7/6) Loose, moist, 90% fine sand,
10% silt

@ 44 ft.: Similar to above

YELLOW WELL GRADED SAND (SW)
(10YR 7/6) Loose, moist, 95% fine to
medium-coarse sand, 5% silt

VERY PALE BROWN POORLY GRADED
SAND (SP) (10YR 7/3) Loose, dry, 95% fine
sand, 5% silt

@ 52 ft.: Change to YELLOW (10YR 7/6)
Loose, dry
Completion Date: 1/21/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 149.59 ft
Hole Dia: 7 in
Northing: 2133033.99
Easting: 5749532.73

@ 56 ft.: Similar to above

@ 62 ft.: Similar to above

@ 68 ft.: Similar to above

@ 68 ft.: Change to BROWNISH YELLOW
(10YR 6/6) Loose, wet

@ 76 ft.: Similar to above
Completion Date: 1/21/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 149.59 ft
Hole Dia: 7 in.
Northing: 2138083.99
Easting: 5749532.73

@ 84 ft.: Change to 95% medium sand, 5% silt

@ 88 ft.: Change to YELLOWISH BROWN (10YR 5/6) Loose, wet, 95% fine sand, 5% silt

@ 90 ft.: Similar to above

@ 98 ft.: Similar to above
OLIVE FAT CLAY (CH) (5Y 4/4) Firm, dry, 90% clay, 10% silt, Thin layers of iron staining and black specs, possibly carbon

@ 101 ft.: Similar to above, Iron staining and black specs gone

@ 107 ft.: Similar to above

@ 108 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Firm, dry, 90% clay, 10% silt

@ 110 ft.: Change to OLIVE (5Y 4/3) Firm, dry, 95% clay, 5% silt
Completion Date: 1/21/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 149.59 ft
Hole Dia. 7 in.
Northing 2133063.99 Easting 5749532.73

@ 112 ft.: Similar to above

@ 114 ft.: Change to OLIVE FAT CLAY WITH SAND (CH) (5Y 4/3) 80% clay, 20% fine sand

@ 116 ft.: Change to OLIVE SANDY FAT CLAY (CH) (5Y 4/3) Soft, dry, 70% clay, 30% fine sand

@ 118 ft.: Change to OLIVE FAT CLAY (5Y 5/4) Firm, dry, 90% clay, 10% silt

@ 120 ft.: Change to OLIVE (5Y 4/3) Hard, dry, 95% clay, 5% silt

@ 124 ft.: Similar to above

@ 126 ft.: Change to OLIVE FAT CLAY WITH SAND (5Y 4/3) Firm, dry, 85% clay, 15% fine sand

@ 128 ft.: Change to OLIVE SANDY FAT CLAY (CH) (5Y 4/3) 70% clay, 30% fine sand

@ 132 ft.: Change to OLIVE FAT CLAY (CH) (5Y 4/3) 90% clay, 10% silt

@ 136 ft.: Change to OLIVE GRAY (5Y 4/2) 95% clay, 5% silt

@ 139 ft.: Change to DARK OLIVE GRAY (5Y 3/2) 95% clay, 5% fine sand

BENTONITE SLURRY: 25 to 180 ft.
Completion Date: 12/1/2003
Drilling Method: Sonic
Logged by: D. Browns
Surface Elevation: 149.59 ft
Hole Dia.: 7 in
Northing: 2139063.90
Easting: 5740632.73

140 ft.: Change to DARK GREENISH GRAY (5GY 4/1) 95% clay, 5% silt

150 ft.: Similar to above

152 ft.: Change to OLIVE (5Y 4/3) Iron oxide and carbon appear to be present PALE OLIVE POORLY GRADED SAND (SP) (5Y 6/3) Loose, moist, 90% medium sand, 10% fines

154.5 ft.: Change to WHITE (5Y 8/1) Loose, dry, 60% fine sand, 40% fines

156 ft.: Change to LIGHT GRAY (5Y 7/2) Loose, dry, 90% fine sand, 10% silt

161 ft.: Change to BROWNISH YELLOW (10YR 6/8) Loose, wet, 90% fine to medium sand, 10% silt

PALE YELLOW WELL GRADED SAND (SW) (2.5Y 7/4) 95% coarse to fine sand, 5% silt
@ 169 ft.: Change to PALE OLIVE (5Y 6/4)
Loose, wet, 50% medium-fine sand, 10% fines

@ 171 ft.: Change to YELLOWISH BROWN
(10YR 5/6) Loose, wet, 95% coarse to fine sand, 5% fines

YELLOWISH BROWN POORLY GRADED SAND (5P) (10YR 5/6)
Loose, wet, 95% medium-fine sand, 5% fines

BROWNISH YELLOW WELL GRADED SAND (5W) (10YR 6/6)
Loose, wet, 95% medium-coarse to fine sand, 5% silt

@ 181 ft.: Change to BROWNISH YELLOW
(10YR 6/6) 95% coarse to fine sand, 5% fines

@ 185 ft.: Change to PALE YELLOW (2.5Y 7/4)

@ 191 ft.: Similar to above, Trace gravels

@ 192 ft.: Similar to above
EXTERNAL SCREEN: 185 to 200 ft.

PURGE PORT: 200 ft.

BENTONITE PELLET SEAL: 203 to 211 ft.

BENTONITE PELLET SEAL: 203 to 211 ft.

LONESTAR #3 SANDPACK: 211 to 222 ft.


EXTERNAL SCREEN: 215 to 220 ft.

PURGE PORT: 220 ft.

BENTONITE PELLET SEAL: 222 to 232 ft.

Completion Date: 1/21/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 146.59 ft
Hole Dia.: 7 in.
Northing: 2130433.99
Easting: 5749532.73

Sample Depth (ft.)

@ 196 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

@ 198 ft.: Change to PALE YELLOW (2.5Y 7/4)

LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (2.5Y 6/4) Loose, wet, 95% fine sand, 5% silt

PALE YELLOW WELL GRADED SAND (SW) (2.5Y 7/4) Loose, wet, 95% sand, 5% silt

OLIVE YELLOW POORLY GRADED SAND (SP) (2.5Y 6/6) Loose, wet, 100% fine sand

@ 212 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

@ 216 ft.: Change to 2% muscovite flakes

DARK YELLOWISH BROWN SANDY FAT CLAY WITH GRAVEL (CH) (10YR 4/4) Hard, moist, 50% clay, 40% sand, 10% gravel, Pebby mudstone

YELLOWISH BROWN ELASTIC SILT (MH) (10YR 5/6) Firm, moist, 100% fines

MACTEC

Well Construction Details and Log of Boring MP-BW-42
OUCTP

Fort Ord, California

DRAWN: MBP
JOB NUMBER: 55596 001701
APPROVED: MDT
DATE: 11/04
REVISED DATE:
Completion Date: 1/21/2003
Drilling Method: Sonic
Legged by: D. Browne
Surface Elevation: 149.59 ft.
Hole Dia: 7 in.
Northing: 2196033.99
Easting: 5749532.73

@ 254 ft.: Change to 90% sand, 10% silt

@ 255 ft.: Change to 85% sand, 10% silt, 5% gravel

LIGHT YELLOWISH BROWN SILTY SAND (SM) (2.5Y 6/4) Medium dense, moist, 70% sand, 25% silt, 5% gravel

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 93% sand 5% silt, 2% gravel

OLIVE YELLOW FAT GRAVELLY CLAY WITH SAND (CH) (2.5Y 6/6) Hard, moist, 70% clay, 20% gravel, 10% sand, Pebbly Mudstone

@ 267 ft.: Change to OLIVE FAT CLAY (5Y 5/3) Hard, dry, 100% clay, Mudstone

@ 270 ft.: Change to LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/6) Hard, dry, 100% clay with dark inclusions, Mudstone

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% medium to fine sand, 5% gravel, 5% fines

@ 276 ft.: Change to 85% sand, 10% gravel, 5% fines
Completion Date: 1/21/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 149.59 ft
Hole Dia.: 7 in.
Northing: 21340253.99
Easting: 5749632.73

1. **BENTONITE PELLET SEAL:** 303 to 311 ft.
2. **LONESTAR #3 SANDPACK:** 311 to 322 ft.
3. **SAMPLING PORT:** MP-BW-42-314 at 314.33 ft.
4. **EXTERNAL SCREEN:** 314 to 319 ft.
5. **PURGE PORT:** 319 ft.
6. **BENTONITE PELLET SEAL:** 323 to 341 ft.

**Sample Depth (ft.):**
- 310 ft.
- 315 ft.
- 320 ft.
- 325 ft.
- 330 ft.
- 335 ft.

**Description of Sediments:**
- **LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/6):** Medium dense, wet, 35% sand, 40% clay, 25% gravel up to 3 in.
- **LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW):** Loose, wet, 65% sand, 30% gravel, 5% fines

- **LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/4):** Loose, wet, 40% sand, 20% gravel up to 2 in., 35% clay
- **@318 ft.:** Change to 50% sand, 30% gravel, 20% clay
- **LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/4):** 60% sand, 30% gravel, 10% fines
- **LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/3):** Dense, moist, 45% sand, 30% fines, 25% gravel
- **LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW):** Loose, wet, 60% sand, 40% gravel up to 3 in.
- **LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/6):** Medium dense, wet, 40% sand, 30% subrounded gravel up to 2.5 in., 30% clay

- **LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/4):** Loose, wet, 65% sand, 25% gravel up to 1.5 in., 10% fines
- **LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/6):** Medium dense, wet, 40% sand, 30% gravel, 30% clay
- **YELLOWISH BROWN CLAY (CH) (10YR 5/8):** Hard, moist, 100% fines, 1 in. thick
- **LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/6):** 40% sand, 35% gravel to 2 in.,25% clay
- **LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/4):** Loose, wet, 75% sand, 15% gravel up to 2 in., 10% silt
- **LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/6):** Medium dense, wet, 60% sand, 25% clay, 15% gravel up to 1.5 in.

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**Well Construction Details and Log of Boring MP-BW-42**

**PLATE**

**MACTEC**

**DRAWN**

**MBP**

**APPROVED**

**DATE**

**REVISED DATE**

**55596 001701**

**Fort Ord, California**

**11/04**

**Page 12 of 16**
Completion Date: 12/21/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 349.59 ft. Hole Dia. 7 in.
Northing: 21380963.99 Easting: 5749532.73

Well Construction Details and Log of Boring MP-BW-42

- LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/4) Dense, moist, 60% fine sand, 40% silt
- LIGHT OLIVE BROWN SANDY SILT (MH) (2.5Y 5/4) Hard, moist, 70% silt, 30% fine sand
- LIGHT OLIVE BROWN SANDY FAT CLAY (CH) (2.5Y 5/4) 50% clay, 50% sand with small pockets of fine sand

@ 342 ft.: Change to LIGHT OLIVE BROWN SANDY FAT CLAY WITH GRAVEL. Hard, moist, 50% clay, 30% sand, 20% gravel up to 1.5 in.
- LIGHT OLIVE BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5Y 5/4) 60% sand, 25% clay, 15% gravel
- LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/4) Loose, wet, 93% sand, 10% fines

- LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/4) Medium dense, wet, 85% sand, 20% fines with minor gravel
- LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 95% sand, 5% fines

@ 351 ft.: Change to 85% sand, 10% gravel, 5% fines

- LIGHT OLIVE BROWN SANDY ELASTIC SILT (MH) (2.5Y 6/4) Firm, moist, 60% silt, 40% fine sand
- LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 6/4) 85% sand, 10% fine gravel, 5% fines
- LIGHT OLIVE BROWN SANDY FAT CLAY (CH) (2.5Y 5/4) Soft, wet, 50% clay, 45% fine sand, 5% fine gravel
- LIGHT YELLOWISH BROWN WELL GRADED SAND WITH GRAVEL (SW), Medium dense, wet, 75% fine to coarse sand, 15% fine to medium gravel, 10% fines

- LIGHT YELLOWISH BROWN SANDY FAT CLAY (CH) (2.5Y 6/4) Firm, moist, 50% clay, 40% sand, 10% gravel
- LIGHT YELLOWISH BROWN WELL GRADED SAND (SW), Loose, wet, 80% sand, 10% gravel, 10% fines

MACTEC

DRAWN: MBP
JOB NUMBER: 55596 001701
DATE: 11/04

Fort Ord, California

Page 13 of 16
Completion Date 1/21/2003
Drilling Method Sonic
Logged by D. Browne
Surface Elevation 149.59 ft. Hole Dia. 7 in.
Northing 2138053.99 Easting 5749532.73

Very Dark Grayish Brown Clayey Sand with Gravel (SC) (2.5Y 3/2)
Dense, wet, 60% sand, 25% clay, 15% gravel
Light Olive Brown Well Graded Sand (SW) (2.5Y 5/4) Medium dense, wet,
80% sand, 10% fine gravel, 10% fines
Light Olive Brown Sandy Fat Clay (CH), 50% clay, 45% sand, 5% gravel
Light Olive Brown Well Graded Sand (SW) (2.5Y 5/4) Medium dense, wet,
80% sand, 10% fine gravel, 10% fines,
Layer approx 4 in. thick
Light Yellowish Brown Sandy Fat Clay (CH), Hard, moist, 60% clay, 30%
sand, 10% fine gravel
Light Olive Brown Well Graded Sand (SW) (2.5Y 5/6) Loose, wet, 90%
sand, 5% fine gravel, 5% fines
@ 368 ft.: Change to Light Yellowish Brown Well Graded Sand with
Gravel (2.5Y 6/4) Loose, wet, 75% sand,
20% fine to medium well rounded to
subrounded gravel, 5% silt
@ 371 ft.: Change to 92% sand, 5% fines,
3% minor gravels
@ 374 ft.: Change to 90% sand, 5% gravel,
9% fines

@ 379 ft.: Change to 85% sand, 10%
gravel, 5% fines

Yellowish Brown Silty Sand (SM)
(10YR 5/4) Loose, wet, 85% fine sand, 15%
silt

Yellowish Brown Poorly Graded Sand (SP) (10YR 5/4) Loose, wet, 90%
fine sand, 10% silt, Gradational contact with
overlying unit
@ 391 ft.: Change to 95% fine sand, 5% silt
Well Construction Details and Log of Boring MP-BW-42

MCTEC

Completion Date 1/21/2003
Drilling Method Sonic
Logged by D. Browne
Surface Elevation 159.59 ft  Hole Dia. Z in.
Northing 2134063.99  Easting 5749553.73

@ 406 ft.: Change to 90% fine sand, 10% fines

@ 418 ft.: Similar to above
BENTONITE
CHPS: 415 to 427 ft.

DARK YELLOWISH BROWN CLAYEY SAND (SC) (10YR 4/4) Firm, moist, 65%
fine sand, 35% fine clay

DARK YELLOWISH BROWN SANDY FAT CLAY (CH) (10YR 4/6) Hard, dry, 60% clay,
40% fine to medium sand

YELLOWISH BROWN CLAYEY SAND (SC)
(10YR 5/6) Medium dense, moist, 75% fine
to medium sand, 25% fines

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Medium
dense, wet, 80% sand, 10% gravel, 10%
fines
Bottom of Boring @ 427 ft.
Top of PVC Casing
Elev. 151.83 ft.
CHRISTY BOX

GROUNDSURFACE

Top of casing at 0.5 ft. bgs

7 in. DIAMETER BOREHOLE: 0 to 245 ft.

BENTONITE CEMENT SEAL: 2 to 25 ft.

MP38 (38mm.) PVC SCHEDULE 40 WESTBAY CASING: 0 to 245 ft.

BENTONITE SLURRY: 25 to 71 ft.

Completion Date: 2/14/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 152.91 ft
Hole Dia.: 7 in.
Northing: 2133730.05
Easting: 5748540.48

Depth (ft.)
Sample

0
5
10
15
20
25
30

VERY DARK GRAY WELL GRADED SAND (SW) (10YR 3/1) Loose, dry, 90% fine to coarse sand, 10% silt

@ 4 ft.: Change to VERY DARK GRAYISH BROWN (10YR 3/2)

@ 6 ft.: Change to YELLOWISH BROWN (10YR 6/6)

@ 10 ft.: Change to LIGHT YELLOWISH BROWN (10YR 6/4)

@ 12 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Loose, dry, 95% fine to coarse sand, 5% silt

@ 16 ft.: Change to Increase in fine sand

@ 20 ft.: Similar to above

LIGHT GRAY SILTY SAND (SM) (5Y 7/1) Loose, dry, 50% fine to coarse sand, 20% silt. Sample hot and may have been altered by sonic rig, when wet color changes to LIGHT YELLOWISH BROWN (2.5Y 6/4) LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Loose, dry, 90% fine to coarse sand, 10% silt

MACTEC

Well Construction Details and Log of Boring MP-BW-46
OUCTP

PLATE

A11

Fort Ord, California

DRAWN
MBP

JOB NUMBER
55590 001701

APPROVED

DATE

REVISED DATE

11/04
Completion Date: 2/14/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 152.91 ft.
Nording: 2139780.05
Easting: 5748540.48

Depth (ft.)
Sample

@ 30 ft.: Similar to above

BROWNISH YELLOW POORLY GRADED SAND (SP) (10YR 8/6) Loose, dry, 95% fine to medium sand, 5% silt

@ 40 ft.: Similar to above

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/6) Medium dense, dry, 85% fine to medium sand, 15% silt
LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 8/4) Loose, dry, 90% fine to medium sand, 10% silt

@ 50 ft.: Similar to above

@ 52 ft.: Similar to above

@ 58 ft.: Change to 95% fine to medium sand, 5% silt

Well Construction Details and Log of Boring MP-BW-46

PLATE

Fort Ord, California

A11
@ 60 ft.: Similar to above

@ 65 ft.: Similar to above

@ 70 ft.: Similar to above

@ 72 ft.: Similar to above

@ 74 ft.: Change to BROWNSISH YELLOW POORLY GRADED SAND (10YR 6/6)

@ 76 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

@ 77.5 ft.: Change to Loose, wet

@ 80 ft.: Similar to above

@ 85 ft.: Similar to above

@ 87 ft.: Change to YELLOWISH BROWN (10YR 5/4)
Completion Date: 2/14/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 12.91 ft. Hole Dia. 7 in.
Northing: 2133780.05 Easting: 5748540.48

Sample Depth (ft):
- @ 90 ft.: Similar to above
  - YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) Loose, wet, 90% fine to medium sand, 10% silt
  - @ 94 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 5/3)
  - @ 96 ft.: Similar to above
  - @ 99 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
  - @ 103 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 5/3)
    - OLIVE GRAY SANDY FAT CLAY (CH) (5Y 5/2) Medium stiff, moist, 85% clay, 15% fine sand, appears reworked
    - @ 105 ft.: Change to GREENISH GRAY FAT CLAY (5GY 5/1) Stiff, dry, 90% clay, 10% silt
  - GREENISH GRAY SILT (ML) (5GY 5/1)
    - Medium stiff, moist, 90% silt, 10% clay
    - Trace shell fragments
    - GREENISH GRAY FAT CLAY (CH) (5GY 5/1) Stiff, dry, 90% clay, 10% silt
  - @ 115 ft.: Similar to above

MacTec
Well Construction Details and Log of Boring MP-BW-46
OUCTP

Fort Ord, California

DRAWN: MBP
JOB NUMBER: 55596 001701
APPROVED: 11/04
DATE: REVISED DATE:

Page 4 of 9
BENTONITE
PELLET SEAL:
103 to 167.5 ft.

@ 120 ft.: Similar to above

@ 122 ft.: Change to LIGHT YELLOWISH BROWN FAT CLAY (2.5Y 5/3) Medium stiff, dry

LIGHT OLIVE BROWN SILT WITH SAND (ML) (2.5Y 5/3) Medium stiff, dry, 80% silt, 20% fine sand

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 90% fine to medium sand, 10% silt

LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) Loose, wet, 65% fine to medium sand, 35% silt

OLIVE GRAY FAT CLAY (CH) (2.5Y 5/2) Soft, dry, 60% clay, 40% silt. Trace organics

@ 132 ft.: Change to 50% clay, 46% silt, 10% fine sand

OLIVE GRAY CLAYEY SAND (SC) (2.5Y 5/2) Loose, wet, 70% fine to medium sand, 30% clay

OLIVE GRAY FAT CLAY (CH) (2.5Y 5/2) Medium stiff, dry, 65% clay, 35% silt

OLIVE GRAY SILT (ML) (2.5Y 5/2) Soft, dry, 65% silt, 35% clay

OLIVE GRAY FAT CLAY (CH) (2.5Y 5/2) Soft, dry, 70% clay, 30% silt

@ 140 ft.: 80% clay, 20% silt

OLIVE GRAY SILTY SAND (SM) (2.5Y 5/2) Loose, wet, 85% fine to medium sand, 15% silt (3 in.)

DARK GREENISH GRAY FAT CLAY (CH) (5BG 4/1) Stiff, dry, 90% clay, 10% silt

@ 146 ft.: Similar to above
Completion Date: 2/14/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 152.91 ft
Hole Dia.: 7 in
Northing: 213780.05
Easting: 5748540.48

- @ 210 ft.: Similar to above
- @ 213 ft.: Change to Decrease in coarse sand
- @ 214 ft.: Change to GRAYISH BROWN (2.5Y 5/2)
- @ 215.5 ft.: Change to BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/8) Loose, wet, 85% fine to coarse sand, 10% silt, 5% subrounded gravel of chert and quartz
- @ 216 ft.: Change to LIGHT YELLOWISH BROWN WELL GRADED SAND (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt
- @ 220 ft.: Similar to above
- @ 224 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)
- @ 225 ft.: Change to STRONG BROWN (7.5YR 4/6) 0.5 cm bands embedded every 1-2 inches
- @ 225.5 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)
- @ 226.5 ft.: Change to 85% fine to medium sand, 10% silt, 5% subrounded gravel to 1.5 cm
- LIGHT YELLOWISH BROWN SILT (ML) (2.5Y 6/3) Medium stiff, dry, 60% silt, 40% fat clay
- LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/3) Stiff, dry, 90% clay, 10% silt
- @ 235 ft.: Similar to above

LIGHT OLIVE BROWN SILT (ML) (2.5Y 5/4) Medium stiff, dry, 80% clay, 20% silt
LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) Medium dense, moist, 60% fine sand, 40% silt

MACTEC
Fort Ord, California

DRAWN: MBP
JOB NUMBER: 55596 001701
APPROVED: MDT
DATE: 11/04
REVISED DATE:
**Completion Date**: 2/14/2003  
**Drilling Method**: Sonic  
**Logged by**: D. Browne  
**Surface Elevation**: 152.91 ft  
**Hole Dia.**: 7 in.  
**Northing**: 2139730.05  
**Easting**: 5748540.48

**Depth (ft.)**  
Sample  

底孔位置在245英尺处。  

- **LIGHT OLIVE BROWN FAT CLAY (CH)**  
  *(2.5Y 7/3)*  
  Stiff, dry, 80% clay, 20% silt

**Well Construction Details and Log of Boring MP-BW-46**  
**OLCTP**  
**Fort Ord, California**
Completion Date: 2/11/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 155.63 ft
Hole Dia.: 7 in
Northing: 2131142.9
Easting: 5748217.06

Well Construction Details and Log of Boring MP-BW-48

- BROWN SILTY SAND (SM) (10YR 4/3)
  Loose, dry, 80% fine to coarse sand, 20% silt

- BROWN WELL GRADED SAND (SW)
  (10YR 4/3) Loose, dry, 90% fine to coarse sand, 10% silt

- YELLOWISH BROWN POORLY GRADED
  SAND (SP) (10YR 6/8) Loose, dry, 90% fine to medium sand, 10% silt
  @ 10 ft.: Similar to above
  @ 11 ft.: 90% fine to coarse sand, 10% silt

- YELLOWISH BROWN POORLY GRADED
  SAND (SP) (10YR 8/6) Loose, dry, 95% fine to medium sand, 5% silt
  @ 20 ft.: Similar to above
  @ 25 ft.: Similar to above

- DARK YELLOWISH BROWN WELL
  GRADED SAND (SW) (10YR 4/4) Loose, dry, 90% fine to coarse sand, 10% silt
Completion Date: 2/11/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 195.63 ft
Hole Dia.: 7 in.
Northing: 2136142.6
Easting: 5748217.0

Depth (ft.)
35
40
45
50
55
60
65
70

Sample

@ 35 ft.: Similar to above
BROWNISH YELLOW POORLY GRADED SAND (SP) (10YR 8/6) Loose, dry, 90% fine to coarse sand, 10% silt

@ 40 ft.: Similar to above

@ 45 ft.: Similar to above

@ 50 ft.: Similar to above

@ 55 ft.: Similar to above

@ 58 ft.: Change to YELLOWISH BROWN (10YR 5/6)
YELLOWISH BROWN WELL GRADED SAND (5W) (10YR 5/6) Loose, moist, 90% fine to coarse sand, 10% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, moist, 95% fine to medium sand, 5% silt

@ 66 ft.: Change to BROWNISH YELLOW (10YR 6/6)
@ 70 ft.: Similar to above

@ 75 ft.: Similar to above

@ 80 ft.: Similar to above

@ 85 ft.: Similar to above

@ 90 ft.: Similar to above

@ 92 ft.: Change to YELLOWISH BROWN (10YR 5/4)

@ 95 ft.: Change to BROWNISH YELLOW (10YR 6/5)

@ 97 ft.: Change to YELLOWISH BROWN (10YR 5/4)

@ 100 ft.: Similar to above
Completion Date: 2/11/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 195.63 ft
Hole Dia. 7 in.
Northing 21383152.6 Easting 5748217.08

@ 104 ft.: Change to BROWNISH YELLOW (10YR 6/6)

@ 108 ft.: Change to YELLOW (2.5Y 6/6)
Loose, wet

@ 112 ft.: Similar to above

@ 115 ft.: Similar to above

@ 118 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

@ 120 ft.: Change to YELLOWISH BROWN (10YR 5/4)

@ 122 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

@ 125 ft.: Similar to above

@ 130 ft.: Similar to above

@ 132 ft.: Similar to above

@ 134 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3)
Completion Date: 2/1/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 195.63 ft.
Hole Dia.: 7 in.
Northing: 2123142.6
Easting: 5748317.08

Depth (ft.)

@ 140 ft.: Similar to above
OLIVE GRAY FAT CLAY (CH), Stiff, moist, 80% clay, 10% fine sand oxidized to
BROWN (7.5YR 4/4) 10% silt
@ 144 ft.: 80% clay, 20% silt
@ 148 ft.: Change to OLIVE GRAY (5Y 5/2)
Very stiff, dry
@ 150 ft.: Similar to above
@ 152 ft.: Change to Trace shell fragments
@ 155 ft.: Change to DARK GREENISH GRAY FAT CLAY (5GY 4/1) Trace shell
fragments
DARK GREENISH GRAY POORLY GRADED SAND (SP) (5GY 4/1) Loose, wet,
90% fine to medium sand, 10% silt
DARK GREENISH GRAY FAT CLAY (CH)
(5GY 4/1) Very stiff, dry, 90% clay, 10% silt
@ 162 ft.: Change to LIGHT OLIVE BROWN FAT CLAY (2.5Y 5/3)
@ 165 ft.: Similar to above
LIGHT OLIVE BROWN SILTY SAND (SM)
(2.5Y 5/3) Medium dense, moist, 75% fine sand, 25% silt
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 90% fine
sand, 10% silt, Trace micas in gold flecks
LIGHT OLIVE BROWN Silt (ML) (2.5Y 5/3) Soft, moist, 90% silt, 10% fine sand

MACTEC

Well Construction Details and Log of Boring MP-BW-48
OUCTP

PLATE

Fort Ord, California

DRAWN
MBP

JOB NUMBER
55598 001701

APPROVED

DATE
11/04

REVISED DATE

Page 5 of 9
@ 174 ft.: Change to increase to 60% silt, 30% clay, 10% fine sand

OLIVE GRAY FAT CLAY (CH) (5Y 6/2) Stiff, dry, 80% clay, 20% silt

@ 180 ft.: Change to DARK GREENISH GRAY FAT CLAY (5G 4/1) Very stiff, dry

@ 184 ft.: Change to Very very stiff, dry, 95% silt, 5% clay

@ 188 ft.: Change to DARK BLUSH GRAY FAT CLAY (5G 4/1) Very stiff, dry

@ 190 ft.: Similar to above

@ 192 ft.: Similar to above

@ 195 ft.: Similar to above

@ 200 ft.: Similar to above

@ 205.5 ft.: Change to OLIVE GRAY FAT CLAY (2.5Y 4/2)

LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 8/3) Medium dense, moist, 70% fine to coarse sand, 30% clay

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose,
Completion Date: 2/1/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 195.63 ft
Hole Dia.: 7 in.
Northing: 2138142.6
Easting: 5748217.08

LONESTAR #3 SANDPACK: 211 to 221 ft.

SAMPLE PORT:
MP-BW48-213 at 212.97 ft.

EXTERNAL SCREEN: 213 to 218 ft.

PURGE PORT:
218 ft.

BENTONITE PELLET SEAL:
221 to 225 ft.

LONESTAR #3 SANDPACK: 182.5 to 193 ft.

SAMPLE PORT:
MP-BW48-228 at 227.97 ft.

EXTERNAL SCREEN: 228 to 233 ft.

PURGE PORT:
233 ft.

BENTONITE PELLET SEAL:
234 to 240.5 ft.

LONESTAR #3 SANDPACK: 240.5 to 249.5 ft.

SAMPLE PORT:
MP-BW48-243 at 242.92 ft.

Sample:
moss, 90% fine to coarse sand, 10% clay

@ 212 ft.: Similar to above

@ 215 ft.: Similar to above

@ 216 ft.: Change to Increase in coarse sand

@ 218 ft.: Similar to above

@ 220 ft.: Similar to above

@ 225 ft.: Similar to above

@ 228 ft.: Change to Aquarium sand

@ 232 ft.: Change to Loose, wet, 90% fine to coarse sand, 10% silt

@ 240 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 95% fine to medium sand, 5% silt. Trace micas.
LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, wet, 95% fine to coarse sand, 5% silt.
Completion Date: 2/11/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 195.63 ft
Hole Dia.: 7 in.
Northing: 2126142.0
Easting: 57418217.08

**Well Construction Details and Log of Boring MP-BW-48**

- **EXTERNAL SCREEN:** 243 to 248 ft.
- **PURGE PORT:** 248 ft.
- **BENTONITE PELLET SEAL:** 249.5 to 266 ft.
- **LONESTAR #3 SANDPACK:** 266 to 282 ft.
- **SAMPLING PORT:** MP-BW-48 to 267.92 ft.
- **EXTERNAL SCREEN:** 268 to 273 ft.
- **PURGE PORT:** 273 ft.

@ 250 ft.: Similar to above

**LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3)** Loose, wet, 95% fine to medium sand, 5% silt

@ 260 ft.: Change to 90% fine to medium sand, 10% silt

**LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3)** Loose, wet, 85% fine to medium sand, 15% silt

**LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3)** Medium dense, wet, 90% fine to medium sand, 10% silt

@ 270 ft.: Similar to above

**LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3)** Loose, wet, 80% fine to coarse sand, 10% silt, Trace gravels

@ 274 ft.: Change to Gravels gone

@ 276 ft.: Similar to above

@ 277 to 285 ft.: Note: Cuttings washed out, No logs taken
Bottom Well
CAP: 230 ft.

Well lifted 3 ft.
during installation
from BOREHOLE
T.D. of 285 ft.

Bottom of boring @ 285 ft.
MONITORING WELL: L-30-180

JOB NAME: FORT ORD LANDFILLS

DATE COMPLETED: 10/4/94

DRILLING METHOD: MUD ROTARY

SURFACE ELEVATION: 102.84

TOP OF PVC WELL:

DESCRIPTON

Increase in grain size at 283 feet, predominantly medium and fine 0.5-1.0 mm. Trace gravel to 25 mm, some angular, chert fragments, some localized clay pockets.

Increasing subrounded gravel (0.0-25 mm) and course sand. Decreasing gravel at 384 feet, predominantly medium and fine 0.25-0.1 mm sand with trace gravel and clay.

Increasing course sand at 384 feet, trace gravel up to 50 mm diameter.

1. Sharp contact to light brown silt clay, with dark brown settling, medium to high plasticity, weak, slouncy, course sand at bottom of core barrel.

No recovery (297-300 feet). Core has coarse gravel or gravely sand. Screen sample contains coarse (2.0-3.0 mm) sand, angular to subangular.

No recovery (300-301 feet).

2. Sandy silt gravel, with some localized clay pockets. Gravel in 0.5 mm diameter, subrounded to angular, chert and quartz, some medium and coarse (0.5-1.0 mm) sand. Chert breaks in white material since 287 feet. Gravels mostly 1/2-1 inch diameter, some less than 1/2 inch with occasional larger ones. Isolated 6 inch casing to 14 feet to reduce risk of boring the oil with gravel.

No recovery (307-14 feet).

3. Sharp contact to a brown sand, predominantly fine 0.25-0.5 mm gravel, poorly sorted, subrounded, white sand.

Sand coarse at 385 feet. Fines at 38 feet, coarse at 38 feet to predominantly brown medium (0.5-1.5 mm) sand with some gravel (0.5-3.0 mm) sand and trace small gravel. Gravel subrounded to subangular, chert, quartz, mica. Undercutting, with chert in core 385 feet and quartz 1/2 inch diameter, subrounded, grey clayey sand matrix.

End of continuous boring, switch to 8 inch diameter rock drill. Drilling rate indicates gravel, oil bit is chattering alot.

One time, speeded out at 345.6 feet, cuttings indicate clayey sand, sand and mixed gravel.
# Drilling Log

**Client:** Fort Ord  
**Location:** EALTON AIRFIELD  
**Elevation:** R.P. 143.3  
**Project No.:** MISOS.81  
**Boring No.:** AD-2  
**Driller:** Jim Allen  
**Geologist:** Alex Tulia  
**Begin Date:** 12/14/77  
**Completed Date:** 12/30/77  
**Total Depth:** 238 ft

<table>
<thead>
<tr>
<th>Depth</th>
<th>Graphic Log</th>
<th>Description</th>
<th>Well Construction</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td></td>
<td>Fine to medium sand, brown</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td></td>
<td>Fine to coarse sand, brown, slightly dense; slower drilling</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td></td>
<td>High water loss</td>
<td></td>
</tr>
</tbody>
</table>

**Well Construction Details and Log of Boring MW-B-13-180**

Carbon Tetrachloride  
R/P  
Fort Ord, California

**Drawn:** MBP  
**Job Number:** 55596 00171  
**Approved:** ADT  
**Date:** 12/04  
**Revised Date:**
Well Construction Details and Log of Boring MW-B-13-180
Carbon Tetrachloride
R/FS
Fort Ord, California

DEPTH

GRAPHIC LOG

DESCRIPTION

WELL CONSTRUCTION

Fine to coarse sand, brown, slightly dense; slow to Drilling.

Clay, gray, stiff, dense;
Slow Drilling

Clayey sand, brownish gray, slightly dense

Clay, gray, stiff, dense

Coarse sand, brown, slightly dense

Clay, gray, stiff, dense
# DRILLING LOG

**CLIENT:** FORT ORD  
**LOCATION:** FEITSCHE AIRFIELD  
**ELEVATION:** R.P. 193.85  
**PROJECT NO.:** MID-381  
**BORING NO.:** MD-3  
**WATER LEVEL:** R.E. 12.3  
**DRILLER:** Jim ALLEN  
**GEOLOGIST:** Alex Tula  
**BEGUN:** 12/6/74  
**COMPLETED:** 12/30  
**TIME (DATE):** 12/6/74  
**TOTAL DEPTH:** 226.4 ft.  

## DEPTH  

<table>
<thead>
<tr>
<th>GRAPHIC LOG</th>
<th>DESCRIPTION</th>
<th>WELL CONSTRUCTION</th>
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</thead>
<tbody>
<tr>
<td>0</td>
<td>Clay, Gray, Stiff, Dense</td>
<td></td>
</tr>
<tr>
<td>70</td>
<td>Silty Sand, Brownish Gray, Slightly Dense</td>
<td></td>
</tr>
<tr>
<td>120</td>
<td>Coarse to Medium Sand, Brown, Easy Drilling</td>
<td></td>
</tr>
<tr>
<td>170</td>
<td>Fine to Medium Sand, Brown, Slightly Dense</td>
<td></td>
</tr>
<tr>
<td>200</td>
<td>Bottom of Hole</td>
<td></td>
</tr>
</tbody>
</table>

**NOTE:** 12/6/74 Hole sloughed to 200 ft., remedial to 220 ft. Sloughed again to 204 ft.

---

**MACTEC**

Log of Boring MW-B-13-180  
Carbon Tetrachloride  
RI/FS  
Fort Ord, California

**PLATE A15**

**DRAWN:** MBP  
**JOB NUMBER:** 55596 00171  
**APPROVED:**  
**DATE:** 12/04  
**REVISED DATE:**

Page 3 of 3
Top of PVC Casing
Elev. 148.88 ft.

GROUND SURFACE
Top of casing at 1.5 ft. above ground level

5 in. DIAMETER SCHEDULE 40 PVC BLANK Casing: +1.5 to 76.5 ft.

10 in. DIAMETER BOREHOLE: 0 to 108 ft.

BENTONITE-CEMENT SEAL: 0 to 97 ft.

Completion Date: 8/5/1996
Drilling Method: ARCH-mud rotary
Logged by

Surface Elevation: 147.41 Hole Dia: 10 in.
Northing: 2140967.3447 Easting: 5747984.0859

Depth (ft.) Sample

VERY DARK GRAYISH BROWN POORLY GRADED SAND WITH SILT (SW) (10YR 3/2) Loose, dry, 95% fine to coarse sand, 10% silt, Trace roots

@ 5 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4) 95% fine to coarse sand, 5% silt

@ 8 ft.: Change to YELLOWISH BROWN (10YR 5/4) 100% fine to coarse sand

@ 20 ft.: Change to Decrease in coarse sand to 20%

@ 30 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6) Dry to moist, Increase in coarse sand to 30%

@ 45 ft.: Change to Moist

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, Dry to moist, 100% fine to medium sand
BENTONITE-CEMENT SEAL: 0 to 67 ft.

BENTONITE-PELLET SEAL: 67 to 73 ft.

Lonestar #60 SANDPACK: 73 to 74 ft.

Lonestar #3 SANDPACK: 74 to 108 ft.

4 in. DIAMETER SLOTTED (0.02 in.) SCREEN: 76.5 to 106.5 ft.

BOTTOM WELL CAP: 108.0 ft.

Completion Date: 8/5/1998
Drilling Method: ARGH/mud rotary
Logged by:
Surface Elevation: 147.41
Hole Dia: 10 in.
Northing: 2140937.3447
Easting: 5747954.0869

Depth (ft.)

Sample

@ 65 ft.: Change to LIGHT OLIVE BROWN (7.5Y 5/4) Moist

@ 85 ft.: Change to YELLOWISH BROWN (10YR 5/6) Moist to wet

@ 95 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) Wet

@ 100 ft.: Change to Decrease in medium sand

OLIVE GRAY FAT CLAY (CH) (5Y 4/2)
Medium stiff, moist, 90% clay, 10% fine sand

@ 107 ft.: Change to DARK GREENISH GRAY (5BG 4/1) Dry, 100% clay, trace fine sand
Bottom of boring at 108 ft.
Top of PVC Casing
Elev. 135.61 ft.

GROUND SURFACE
Top of casing at 2.7 ft. above ground level

5 in. DIAMETER SCHEDULE 40 PVC BLANK CASING: +1.5 to 00 ft.

10 in. DIAMETER BOREHOLE: 0 to 97 ft.

BENTONITE-CEMMENT SEAL: 0 to 57 ft.

Completion Date 8/5/1998
Drilling Method ARCH/dmud rotary
Logged by
Surface Elevation 132.94
Hole Dia. 10 in.
Northing 2140631.4140
Easting 5749284.1578

Depth (ft.)
Sample

BROWN SILTY SAND (SM) (10YR 4/3)
Loose, dry, 85% fine to coarse sand, 15% silt

DARK BROWN WELL GRADED SAND (SW) (10YR 3/3)
Loose, dry, 95% fine to coarse sand, 5% silt

@ 7 ft.: Change to BROWN (10YR 5/3)

@ 10 ft.: Change to YELLOWISH BROWN (10YR 5/4) 100% fine to coarse sand

@ 15 ft.: Change to BROWNISH YELLOW (10YR 6/6)

@ 25 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4) Moist
@ 50 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6)

@ 60 ft.: Change to Decrease in grain size

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Moist, 100% fine to medium sand

@ 75 ft.: Change to OLIVE BROWN (2.5Y 4/3) Moist to wet

@ 80 ft.: Change to Wet

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Medium stiff, moist, 95% clay, 5% fine sand

@ 95 ft.: Change to DARK GREENISH GRAY (5BG 4/1) 100% fat clay.
Bottom of boring at 97 ft.
Top of PVC Casing Elevation: 144.99 ft.

GROUND SURFACE
Top of casing at 2.3 ft. above ground level

5 in. DIAMETER SCHEDULE 40 PVC BLANK CASING: +1.5 to 69 ft.

10 in. DIAMETER BOREHOLE: 0 to 53 ft.

BENTONITE CEMENT SEAL: 0 to 57 ft.

Completion Date: 7/29/1998
Drilling Method: ARCH/mud rotary
Logged by: __________
Surface Elevation: 142.55 ft. Hole Dia: 10 in.
Northing: 2140496.7801 Easting: 5747900.6608

Depth (ft.)

BROWN SILTY SAND (SM) (10YR 4/3)
Loose, dry, 85% fine to coarse sand, 15% silt, Trace roots

OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 4/3) Loose, dry, 95% fine to coarse sand, 5% silt
@ 5 ft: Change to LIGHT OLIVE BROWN (2.5Y 5/3)

@ 10 ft: Change to YELLOWISH BROWN (10YR 5/8), 100% fine to coarse sand

@ 25 ft: Change to YELLOWISH BROWN (10YR 5/4)

@ 35 ft: Change to LIGHT OLIVE BROWN (2.5Y 5/4) Moist
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Moist, 100% fine to medium sand

@ 80 ft. Change to 95% fine to medium sand, 5% silt

OLIVE GRAY FAT CLAY (CH) (5Y 5/2)
Medium firm, moist, 55% clay, 5% fine sand
Bottom of boring at 98 ft.
Completion Date: 7/20/1998
Drilling Method: ARCH/hammer rotary
Logged by: 
Surface Elevation: 126.44
Hole Dia.: 10 in.
Northing: 2140319.6973
Easting: 5745759.0654

Depth (ft)

5

10

15

20

25

30

35

40

45

50

Top of PVC Casing
Elev. 128.52 ft.

GROUND SURFACE
Top of casing at
2.1 ft. above
ground level

5 in. DIAMETER
SCHEDULE 40
PVC BLANK
CASING: +1.5 to
65 ft.

10 in. DIAMETER
BOREHOLE: 0 to
97 ft.

BENTONITE-
CEMENT SEAL: 9
to 52 ft.

Sample

DARK BROWN SILTY SAND (SM) (7.5YR 3/2) Loose, moist, 80% fine to coarse sand, 20% silt

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) Loose, moist, 95% fine to coarse sand, 5% silt

@ 15 ft.: Change to 100% fine to coarse sand

@ 20 ft.: Change to BROWNISH YELLOW (10YR 6/6)

@ 35 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4) 6% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) Loose, dry, 95% fine to medium sand, 5% silt

MACTEC

Well Construction Details and Log of Boring MW-BW-18-A

PLATE

A20

Fort Ord, California

DRAWN

JOS NUMBER

APPROVED

DATE

REVISED DATE

MBP

55596 001701

MDT/Jan

1/05
Completion Date: 7/20/1998
Drilling Method: ARCH/mud rotary
Logged by: 
Surface Elevation: 126.44
Hole Dia: 10 in.
Northing: 2140319.6973
Easting: 5746759.0854

BENTONITE CEMENT SEAL: 0 to 62 ft.
BENTONITE PELLET SEAL: 52 to 59 ft.
Lonestar #60 SANDPACK: 59 to 63 ft.
Lonestar #3 SANDPACK: 63 to 97 ft.

4 in. DIAMETER SLOTTED (0.02 in.) SCREEN: 55 to 95 ft.

DEPTH Sample

50
60
70
80
90

@ 55 ft.: Change to increasing moisture

@ 65 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) Wet, 5% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, wet, 95% fine to medium sand, 5% silt

GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Medium stiff, moist, 85% clay, 10% silt, 5% fine sand
Bottom of boring at 97 ft.
**Completion Date:** 7/15/1998
**Drilling Method:** ARCH/mud rotary
**Logged by:** D. Brown

**Surface Elevation:** 126.66 ft  
**Hole Dia:** 10 in.
**Northing:** 2140305.192  
**Easting:** 5746763.564

**Ground Surface**
- Top of PVC Casing
  - Elev. 125.14 ft.
- Top of casing at 10 ft. above ground level

**Sample**
- Depth (ft.)
- Sample

**Grayish Brown Silty Sand (SM) (5Y 5/2)**
- Loose, dry, 55% fine to coarse sand, 35% silt, trace roots, fine gravel

**Yellowish Brown Poorly Graded Sand (SP) (10YR 5/6)**
- Loose, dry, 100% fine to coarse sand

- At 15 ft.: Similar to above
- At 20 ft.: Change to Brownish Yellow (10YR 6/6), Moist
- At 25 ft.: Similar to above
- At 30 ft.: Similar to above

**Well Construction Details and Log of Boring MW-BW-19-180**

**PLATE**

**MACTEC**

**Well Construction Details and Log of Boring MW-BW-19-180**

**Fort Ord, California**

**DRAWN**

**JOB NUMBER**

**APPROVED**

**DATE**

**REvised DATE**

**MSP**

**55596 001701**

**MDT 11/04**

**Page 1 of 6**
Completion Date: 7/15/1988
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 126.66 ft
Hole Dia.: 10 in.
 Northing: 2140305.192
Easting: 5746763.594

Sample
Depth (ft.)

@ 35 ft.: Similar to above

@ 38 ft.: Decrease in coarse grained sand

@ 45 ft.: Change to YELLOWISH BROWN
(10YR 5/5)

@ 50 ft.: Change to 95% fine to coarse sand, 5% silt. Increase in moisture

@ 55 ft.: Change to BROWNISH YELLOW
(10YR 6/6) Loose, moist, increasing moisture

@ 60 ft.: Similar to above

@ 65 ft.: Change to Moist to wet

BENTONITE CEMENT SEAL: 0 to 144 ft.

MACTEC

Well Construction Details and Log of Boring MW-BW-19-180
OUCTP

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
MBP 55596 001701 11/04
Depth (ft.)

70 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4) Loose, moist to wet

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) Loose, wet, 80% fine sand, 20% medium sand

80 ft.: Change to Wet

85 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6) Loose, wet

DARK GREENISH GRAY LEAN CLAY (CL) (5Y 4/1) Stiff moist, 80% clay, 20% silt

90 ft.: Similar to above

95 ft.: Similar to above
Completion Date: 7/19/1998
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 126.66 ft. Hole Dia: 10 in.
Northing: 2143305.192 Easting: 5746703.564

Depth (ft.) Sample

@ 140 ft.: Change to DARK GREENISH GRAY (SG 4:1)

@ 145 ft.: Similar to above

@ 150 ft.: Similar to above

OLIVE GREY POORLY GRADED SAND (SP)
(5Y 4/2) Medium dense, moist to wet, 80% coarse sand, 20% fine sand

@ 160 ft.: Similar to above

@ 165 ft.: Similar to above

@ 167 ft.: Change to increase in size of coarse sand to 10mm., 10% coarse sand

@ 170 ft.: Similar to above

MACTEC
Well Construction Details and Log of Boring MW-BW-19-180
OUCTP

PLATE: A21

Fort Ord, California

DRAWN: MBP
JOB NUMBER: 55596-001701
APPROVED: MDT/AM
DATE: 11/04
REVISED DATE:
**Completion Date:** 7/15/1998
**Drilling Method:** ARCH/mud rotary
**Logged by:** D. Brown
**Surface Elevation:** 128.86 ft  Hole Dia. 10 in.
**Northing:** 2143305.192  **Easting:** 5746763.504

---

**LONESTAR #3 SANDPACK**
- **Depth:** 157 to 184 ft.

**BOTTOM WELL CAP**
- **Depth:** 180 ft.

**BENTONITE CHIPS**
- **Depth:** 180 to 184 ft.

**Hole cleaned out to 184 ft.**

**Bottom of Borehole**
- **Depth:** 184 ft.

---

**OLIVE GRAY WELL GRADED SAND (SW)**
- **Color:** 5Y 4/2
- **Description:** Medium dense, wet, 85% medium to coarse sand, 10% fine gravels to 10 mm., 5% fine sand

@ 180 ft.: Similar to above

**YELLOWISH BROWN POORLY GRADED SAND (SP)**
- **Color:** 10YR 5/4
- **Description:** Medium dense, wet, 100% fine to coarse sand, trace coarse sand up to 7 mm.

Bottom of boring at 186 ft.
**Completion Date**: 12/18/2002  
**Drilling Method**: Sonic  
**Logged by**: D. Brown  
**Surface Elevation**: 125.53 ft.  
**Hole Dia.**: 7 in.  
**Northing**: 2140320.62  
**Easting**: 5746734.17

**GROUND SURFACE**  
Top of casing at 0.5 ft. below ground level

7 in. DIAMETER BOREHOLE: 0 to 238.5 ft.

3 DIAMETER SCHEDULE 40 PVC BLANK CASING: -0.5 to 248 ft.

**BENTONITE CEMENT SEAL**: 0 to 25 ft.

**BENTONITE SLURRY**: 25 to 199 ft.

**Depth (ft.)**

**Sample**

**VERY DARK GRAYISH BROWN SILTY SAND (SM) (10YR 3/2)** Loose, moist, 80% fine to coarse sand, 20% silt

@ 2 ft.: Change to **DARK GRAYISH BROWN** (10YR 4/2) Gradational contact to 4 ft.

**BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 5/6)** Loose, dry, 93% fine to coarse sand, 10% silt

@ 6 ft.: Change to **YELLOWISH BROWN** (10YR 5/6)

@ 10 ft.: Change to 95% fine to coarse sand, 5% silt

@ 11.5 ft.: Similar to above

**YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6)** Loose, dry, 95% fine to medium sand, 5% silt

**YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6)** Loose, dry, 95% fine to coarse sand, 5% silt

@ 10 ft.: Change to **LIGHT YELLOWISH BROWN** (2.5Y 5/3) Note: Skin appears to be on core surface @ 19 ft.

@ 23 ft.: Change to **LIGHT OLIVE BROWN** (2.5Y 5/3)

@ 25 ft.: Change to **BROWNISH YELLOW** (10YR 6/6)

@ 28 ft.: Change to **LIGHT YELLOWISH BROWN** (2.5Y 6/3)

@ 30 ft.: Change to **PALE OLIVE** (5Y 6/3)

**OLIVE YELLOW POORLY GRADED SAND (SP) (2.5Y 6/6)** Loose, dry, 95% fine to medium sand, 5% silt

@ 35 ft.: Change to **YELLOWISH BROWN** (10YR 5/4)

@ 38 ft.: Change to **LIGHT YELLOWISH BROWN** (10YR 5/4)

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**MACTEC**  
Log of Boring MW-BW-19-180R  
**PLATE A22**

**Fort Ord, California**

**DRAWN**: MBP  
**JOB NUMBER**: 55596 001701  
**APPROVED**:  
**DATE**: 11/04  
**REVISED DATE**:  

Page 1 of 7
LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) Medium dense, dry, 80% fine to medium sand, 20% silt, Visible bedding planes of various colors, gray, white

STRONG BROWN POORLY GRADED SAND (SP) (7.5YR 5/6) Loose, dry, 90% fine to medium sand, 10% silt

@ 47 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 50 ft.: Similar to above

@ 55 ft.: Change to OLIVE YELLOW (2.5Y 6/6)

@ 57 ft.: Similar to above

@ 62 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Sample lost from 57 to 62 ft.

@ 65 ft.: Similar to above

@ 70 ft.: Similar to above

@ 71 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4) Loose, moist, 95% fine to medium sand, 5% silt

@ 72 ft.: Change to Loose, wet

@ 75 ft.: Similar to above
BENTONITE SLURRY: 25 lb to 199 ft

@ 80 ft.: Similar to above

@ 85 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (3W) (10YR 5/6) Loose, wet, 95% fine to coarse sand, 5% silt
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/6) Loose, wet, 95% fine to medium sand, 5% silt
OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, moist, 90% clay, 5% fine sand, 5% silt, Sharp contact with overlying unit

@ 95 ft.: Change to 95% clay, 5% silt

@ 98 ft.: Change to DARK BLUISH GRAY (5B 4/1) Dry, Trace shell fragments
@ 100 ft.: Similar to above
@ 102 ft.: Shell fragments gone

@ 105 ft.: Change to GRAY (5Y 5/1) Stiff, dry

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, wet, 95% fine to medium sand, 5% silt, Gradational contact with overlying unit

@ 110 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

@ 115 ft.: Similar to above

DARK BLUISH GRAY FAT CLAY (CH) (5B 4/1) Stiff, dry, 90% clay, 5% silt, Sharp contact with overlying unit
LIGHT OLIVE GRAY WELL GRADED SAND (SW) (2.5Y 6/2) Loose, wet, 90% fine to coarse sand, 10% silt, Gradational contact with overlying unit

DARK BLUSH GRAY FAT CLAY (CH) (5B 4/1) Silt, dry, 95% clay, 5% silt

@ 128 ft.: Change to Trace shell fragments to 12 cm.

@ 130 ft.: Change to Increase in silt to 30%, 5% fine sand, Gradational contact to 131 ft.

DARK BLUSH GRAY CLAYEY SAND (SC) (5G 4/1) Loose, moist, 70% fine to medium sand, 30% clay

DARK BLUSH GRAY POORLY GRADED SAND (SP) (5B 4/1) Loose, moist, 90% fine to medium sand, 10% clay

DARK BLUSH GRAY SILTY SAND (SM) (5B 4/1) Loose, moist, 70% fine to medium sand, 30% silt

DARK BLUSH GRAY FAT CLAY (CH) (5B 4/1) Silt, dry, 95% clay, 5% silt, Sharp contact with overlying unit

@ 143 ft.: Change to Trace shell fragments

@ 145 ft.: Similar to above

@ 148 ft.: Change to VERY DARK GRAY (5Y 3/1) Increase in silt to 30%, Organics present form 147 to 148 ft.

@ 150 ft.: Change to DARK GREENISH GRAY (5GY 4/1) Gradational contact to 151.5 ft.

PALE OLIVE WELL GRADED SAND (SW) (5Y 6/4) Loose, wet, 90% fine to coarse sand, 10% silt

@ 154 ft.: Change to LIGHT YELLOWISH BROWN WELL GRADED SAND (2.5Y 6/3)

@ 155 ft.: Change to LIGHT YELLOWISH BROWN (10YR 5/4)
Completion Date: 12/18/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 125.53 ft.  
Hole Dia.: 7 in.  
Northing: 2140320.62  
Easting: 5746734.17

@ 160 ft.: Similar to above

@ 164 ft.: Change to YELLOWISH BROWN (10YR 5/4)
LIGHT YELLOWISH BROWN WELL GRADED GRAVEL WITH SAND (GW) (10YR 6/4) Loose, wet, 50% surrounded gravel of chert, quartz, mudstone, and granite to 2 cm, 40% fine to coarse sand, 10% silt
LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 6/4) Loose, wet, 50% fine to coarse sand, 10% silt

@ 175 ft.: Similar to above

@ 180 ft.: Similar to above

@ 190 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)

@ 192 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) Loose, wet, 95% fine to coarse sand, 5% silt
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) loose, wet, 90% fine to medium sand, 10% silt, Sharp contact @ 194 ft.
1219/2002

Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 125.53 ft
Hole Dia.: 7 in
Northing: 2140220.62 Easting: 5746734.17

@ 200 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND WITH GRAVEL (SP) (2.5Y 5/3)
Medium dense, wet, 80% fine to medium sand, 20% subrounded gravel of chert, mudstone, to 5 cm.
@ 209 ft.: Change to Trace gravels

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/6) Loose, wet, 95% fine to coarse sand, 5% silt, trace gravels to 5 cm.
@ 213.5 ft.: Change to OLIVE BROWN (2.5Y 4/4) Gravels gone
@ 215 ft.: Similar to above

LIGHT OLIVE BROWN CLAYEY SAND (2.5Y 5/3) Medium dense, wet, 80% fine to medium sand, 20% clay

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/6) Loose, wet, 90% fine to coarse sand, 10% clay

LIGHT YELLOWISH BROWN FAT CLAY (CH) (2.5Y 6/4) Medium stiff, dry, 70% clay, 30% silt, Trace subrounded gravels on top to 2 cm, Pebbley mudstone

LIGHT YELLOWISH BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 6/4) 85% fine to coarse sand, 15% subrounded gravel to 2 cm, 10% silt

LIGHT YELLOWISH BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 6/4) Loose, wet, 55% fine to coarse sand, 45% subrounded gravel of chert, quartz, and granite to 4 cm, 5% silt

STRONG BROWN CLAYEY SAND WITH GRAVEL, 3 in. oxidation zone

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Loose, wet, 80% fine to coarse sand, 10% silt, Trace gravels
LCONE STAR # 2/12
SANDPACK: 204.5 to 248 ft.
3 in. DIAMETER SLOTTED (0.02 in.) SCREEN: 208 to 248 ft.
BOTTOM WELL CAP: 248 ft.
BENTONITE CHIPS: 249 to 253.5 ft.

Completion Date: 12/18/2002
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 255.53 ft.
Hole Dia. 7 in.
Northing: 2140320.62
Easting: 574517.41

Depth (ft.) Sample
240
@ 239 ft.: Change to Gravels increase to 5% subrounded chert, quartz, and granitics to 7 cm.
@ 241 ft.: Similar to above, Trace gravels

LIGHT YELLOWISH BROWN CLAYEY SAND WITH GRAVEL (SC) (2.5 Y 6/4)
Medium stiff, moist, 45% fine to coarse sand, 40% clay, 15% subrounded to rounded gravel to 3 cm.

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5 Y 6/4) Loose, wet, 95% fine to coarse sand, 5% silt. Trace gravels to 4 cm.

VERY DARK GRAY CLAYEY SAND (SC) (5 Y 3/1) Loose, wet, 90% fine to coarse sand, 10% clay.

OLIVE FAT CLAY (CH) (5 Y 5/3) Stiff, dry, 90% Clay, 10% Silt
@ 250 ft.: Similar to above

@ 255 ft.: Similar to above

Bottom of boring at 258.5 ft.
Completion Date: 7/22/1998
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 145.1 ft. Hole Dia. 10 in.
Northing: 2140645.127 Easting: 5747685.235

- Top of PVC Casing Elev. 145.51 ft.
- Top of casing at 2.6 ft. above ground level
- 10 in. DIAMETER BOREHOLE: 0 to 190 ft.
- 8 INCH DIAMETER SCHEDULE 40 PVC BLANK CASING: 0 to 177.5 ft.
- BENTONITE CEMENT SEAL: 0 to 189 ft.

Sample
- 0 ft.
- 5 ft.: Charge to BROWN (10YR 4/3) 100% fine to coarse sand
- @ 10 ft.: Similar to above
- @ 12 ft.: Change to YELLOWISH BROWN (10YR 6/4) 60% fine sand, 40% coarse sand, decreasing coarse sand
- @ 15 ft.: Similar to above
- @ 33 ft.: Change to Increase in coarse grained sand (40-50%)
- @ 25 ft.: Similar to above
- @ 30 ft.: Change to LIGHT YELLOWISH BROWN (10YR 6/4)
**Completion Date:** 7/22/1998

**Drilling Method:** ARCH/mud rotary

**Logged by:** D. Browne

**Surface Elevation:** 146.1 ft

**Hole Dia.: 10 in.**

**Nothing:** 2140645.127  **Easting:** 5747685.235

---

@ 35 ft.: Similar to above

@ 38 ft.: Change to YELLOWISH BROWN (10YR 6/4)

@ 45 ft.: Change to Increase in coarse sand

@ 50 ft.: Similar to above

@ 55 ft.: Similar to above

@ 60 ft.: Change to Moist

**LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 6/4):** Loose, moist, 100% fine to medium sand

@ 68 ft.: Similar to above

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**MACTEC**

**Well Construction Details and Log of Boring MW-BW-20-180**

**OUCTP**

Fort Ord, California

**PLATE A23**

**DRAWN**

MBP 55595 001701

**APPROVED**

**DATE**

11/04

**REVISED DATE**

Page 2 of 6
Completion Date: 7/22/1998
Drilling Method: ARCH/mud rotary
Legged by: D. Browne
Surface Elevation: 145.1 ft.
Hole Dia.: 10 in.
Northing: 2140559.127
Easting: 5743685.235

@ 75 ft.: Similar to above

@ 77 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6)
@ 78 ft.: Change to Loose, wet
Hydropunch from 78-80 ft.
@ 80 ft.: Similar to above

@ 90 ft.: Similar to above

@ 93 ft.: Driller notes change in drilling speed
OLIVE GRAY FAT CLAY (CH) (5Y 4/2)
Soft, moist, 50% clay, 10% fine sand
@ 95 ft.: Change to 100% fat clay

@ 100 ft.: Similar to above

@ 102 ft.: Change to DARK GREENISH GRAY (GGY 4/1) 95% clay, 5% silt
Completion Date: 7/22/1998
Drilling Method: ARCH-mud rotary
Logged by: D. Browns
Surface Elevation: 145.1 ft.
Hole Dia.: 10 in.
Northing: 2143645.127
Easting: 5747035.235

@ 110 ft.: Change to Medium stiff, moist

@ 115 ft.: Similar to above

@ 120 ft.: Similar to above

@ 124 ft.: Change to OLIVE GRAY (5Y 4/2) Stiff, dry

@ 127 ft.: Change to OLIVE GRAY (5Y 5/2)

DARK GRAYISH BROWN WELL GRADED SAND (SW) (2.5Y 4/2) Loose, moist, 95% fine sand, 5% silt

@ 135 ft.: Change to GRAYISH BROWN (2.5Y 5/2) 100% fine to medium sand
Completion Date: 7/22/1998
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 145.1 ft
Hole Dia.: 10 in
Northing: 2140545.127
Easting: 5747035.235

@ 140 ft.: Similar to above
OLIVE GRAY FAT CLAY (CH) (5Y 4/2)
Soft, moist, 95% clay, 5% silt

@ 145 ft.: Change to DARK GREENISH GRAY (5GB 4/1) Stiff, trace shell fragments

@ 150 ft.: Similar to above

DARK GREENISH GRAY SILT WITH SAND (ML) (5GY 4/1) Soft, moist, 75% silt, 25% fine sand
@ 155 ft.: Change to OLIVE GRAY (5Y 4/2)

DARK BLUISH GRAY FAT CLAY (CH) (5B 4/1) Medium stiff, moist, 100% clay
@ 165 ft.: Similar to above

@ 171 ft.: Small sand lens
OLIVE GRAY POORLY GRADED SAND (SP) (5Y 4/2) Loose, moist, 90% fine to coarse sand, 10% fat clay
@ 175 ft.: Change to OLIVE 5Y 5/3
LIGHT YELLOWISH BROWN WELL
GRADED SAND (SW) 10YR 6/4 100%
medium to coarse sand

@ 185 ft.: Similar to above

@ 190 ft.: Change to LIGHT OLIVE
BROWN 2.5Y 5/3 Loose, wet, 80%
medium to coarse sand, 10% fine sand,
10% fine gravel

@ 195 ft.: Change to Gravel to 40cm.
(16% approx.)

@ 197 ft.: Change to 90% fine to medium
sand, 10% silt
Bottom of boring at 193 ft.
Completion Date: 7/30/1998
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 143.14 ft
Hole Dia: 10 in.
Northing: 2140731.912
Easting: 5748342.543

Top of PVC Casing
Elev.: 144.67 ft

GROUND SURFACE
Top of casing at
1.5 ft. above
ground level

10 in. DIAMETER
BOREHOLE: 0 to
198 ft

5 INCH
DIAMETER
SCHEDULE 40
PVC BLANK
CASING: 0 to 173
ft.

BROWN SILTY SAND (SM) (10YR 4/3)
Loose, dry, 85% fine to coarse sand, 15%
silt, trace roots

DARK YELLOWISH BROWN POORLY
GRADED SAND (SP) (10YR 4/4)
Loose, dry, 95% fine to coarse sand, 5%
silt

@ 10 ft.: Change to YELLOWISH BROWN
(10YR 5/4)

@ 20 ft.: Change to YELLOWISH BROWN
(10YR 5/6)

@ 25 ft.: Similar to above

BENTONITE-
CEMENT SEAL: 0
to 183 ft.
Completion Date: 7/30/1998
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 143.14 ft
Hole Dia: 10 in.
Northing: 2140731.912
Easting: 5748342.543

@ 35 ft.: Similar to above

@ 45 ft.: Similar to above

@ 50 ft.: Similar to above

@ 55 ft.: Change to Moist

@ 60 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, moist, 100% fine to medium sand
Completion Date: 7/30/1998
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 143.14 ft
Hole Dia: 10 in
N.ing: 2140731.912
Easting: 5748342.543

- @ 75 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4) Moist to wet
- @ 78 ft.: Change to increasing moisture, grab sample taken
- @ 80 ft.: Change to Wet
- @ 90 ft.: Similar to above
- @ 100 ft.: Similar to above

MACTEC
Well Construction Details and Log of Boring MW-BW-21-180
OUCTP
A24

PLATE

Fort Ord, California

DRAWN
MBP
55586 001701
APPROVED
MDT
11/04
REVISED DATE

Page 3 of 5
**Completion Date**: 7/30/1998  
**Drilling Method**: ARCH/mud rotary  
**Logged by**: D. Brown  
**Surface Elevation**: 143.14 ft  
**Hole Dia.**: 10 in.  
**Northing**: 2142731.912  
**Easting**: 5746342.543

**Sample**: LIGHT OLIVE BROWN FAT CLAY (CH)  
(2.5Y 5/3) Medium firm, moist, 90% clay, 10% fine sand

@ 110 ft.: Change to 80% clay, 10% silt

@ 120 ft.: Similar to above

@ 130 ft.: Similar to above

**Sample**: LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, dry, 90% fine to medium sand, 10% silt

@ 135 ft.: Change to 100% fine sand
Completion Date: 7/30/1998
Drilling Method: Air/Cut Mud rotary
Logged by: D. Brown
Surface Elevation: 143.14 ft.  Hole Dia.: 10 in.
Northing: 2149731.912  Easting: 5748342.543

@ 140 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (6Y 4/2)
Medium stiff, moist, 95% clay, 5% fine sand

@ 145 ft.: Change to DARK BLUISH GRAY
(5B 4/1) Firm, moist

@ 149 ft.: Trace shell fragments

@ 150 ft.: Similar to above

DARK GREENISH GRAY SILT (ML) (5GY 4/1)
Soft, moist, 100% silt

@ 158 ft.: Similar to above

DARK GREENISH GRAY FAT CLAY (CH)
(5G 4/1) Medium stiff, moist, 95% clay, 5% silt, trace shell fragments

@ 165 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED
SAND (SP) (2.5Y 5/3) Loose, moist, 100% medium to coarse sand

@ 170 ft.: Change to trace fine gravel

@ 173 ft.: Change to increase to 5% fine gravel

MACTEC

Well Construction Details and Log of Boring MW-BW-21-180
OUCTP

PLATE A24

Fort Ord, California

DRAWN JO# NUMBER APPROVED DATE REVISED DATE
MBP 55596 001701 MDT 11/04
@ 175 ft.: Similar to above

@ 180 ft.: Change to YELLOWISH BROWN (10YR 5/5) Increase gravel size to 10cm.

@ 185 ft.: Change to Trace gravels to 30cm.

@ 190 ft.: Similar to above

@ 192 ft.: Change to 5% gravels to 30cm, trace gravels to 50cm.

@ 195 ft.: Change to Fine to medium gravels to 1cm, trace gravels to 60cm.

Bottom of boring at 198 ft.
Top of PVC Casing 
Elev. 155.66 ft.

GROUND SURFACE
Top of casing at 
2.8 ft. above ground level

5 in. DIAMETER 
SCHEDULE 40 
PVC BLANK 
CASING: +1.5 to 
177.5 ft.

10 in. DIAMETER 
BOREHOLE: 0 to 
197.5 ft.

BENTONITE- 
CEMENT SEAL: 0 
to 170 ft.

Completion Date 7/24/1998
Drilling Method ARCH - Mud Fluid
Logged by 

Surface Elevation 152.86 ft. Hole Dia. 10 in.
Northing 2140553.4888 Easting 5748198.8418

Depth (ft.)
Sample

BROWN POORLY GRADED SAND (SP) 
(10YR 4/3) Loose, moist, 90% fine to 
medium sand, 10% silt

@ 5 ft.: Charge to YELLOWISH BROWN 
(10YR 5/4) 100% fine to medium sand, 
Trace silt

@ 32 ft.: Change to YELLOWISH BROWN 
(10YR 5/6) Medium dense, 95% fine to 
medium sand, 5% silt

MACTEC
Well Construction Details and 
Log of Boring MW-BW-22-180
OUCTP

PLATE

A25

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
MBP 55596 001701

Page 1 of 4
BENTONITE CEMENT SEAL: 0 to 170 ft.

- @ 53 ft.: Change to BROWNISH YELLOW (10YR 6/6) 100% fine to medium sand, Trace silt
- @ 62 ft.: Change to YELLOWISH BROWN (10YR 5/6)
- @ 77 ft.: Change to Wet
- @ 88 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6)
**Completion Date:** 7/24/1998  
**Drilling Method:** ARCH - Mud Fluid  
**Logged by:** 
**Surface Elevation:** 152.86 ft.  
**Hole Dia.:** 10 in.  
**Northing:** 2140553.4888  
**Easting:** 5748198.8418

- **Depth (ft.):**
  - 100
  - 105
  - 110
  - 115
  - 120
  - 125
  - 130
  - 135
  - 140
  - 145
  - 150

- **Sample:**

  **DARK GRAY CLAY (CL) (5Y 4/1):** Firm, wet, 95% clay, 5% fine sand, gradational from 103 ft.

  @ 110 ft.: Change to **DARK GREENISH GRAY (5GY 4/1):** 100% clay

  @ 126 ft.: Change to **OLIVE GRAY (6Y 5/2):**
  - Very firm, 95% clay, 5% fine sand

  **GRAYISH BROWN POORLY GRADED SAND (SP) (2.5Y 5/2):**
  - Medium dense, wet, 95% fine to medium sand, 5% silt

  **OLIVE GRAY CLAY (CL) (5Y 5/2):**
  - Medium firm, wet, 90% clay, 10% fine sand

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**MACTEC**

**Well Construction Details and Log of Boring MW-BW-22-180**

**PLATE**

**FORC Ord, California**

**DRAWN:** MBP  
**JOB NUMBER:** 55596 001701  
**APPROVED:**  
**DATE:** 1/05  
**REVISED DATE:**
Completion Date: 7/24/1998
Drilling Method: ARCH - Mud Fluid
Logged by: 
Surface Elevation: 152.86 ft.   Hole Dia. 10 in.
Northing: 2140553.4888   Easting: 5748198.8418

- @ 150 ft.: Change to DARK GREENISH GRAY LEAN CLAY (CL) (5GY 4/1) Very firm, wet, 100% clay, Trace fine sand
- @ 158 ft.: Change to OLIVE SANDY GRAY LEAN CLAY (CL) (5Y 4/2) Medium firm, wet, 70% clay, 30% fine sand
- @ 162 ft.: Change to DARK GREENISH GRAY (5BG 4/1) Shell fragments
- @ 167 ft.: Change to 10% fine sand
- @ 170 ft.: Change to OLIVE GRAY (5Y 4/2)
- OLIVE GRAY POORLY GRADED SAND (SP) (5Y 4/2) Loose, moist, 90% fine to coarse sand, 10% clay
- @ 178 ft.: Change to Wet
- @ 180 ft.: Change to OLIVE GRAY (5Y 5/2) Increase coarse sand
- @ 185 ft.: Change to 100% medium to coarse sand
- @ 192 ft.: Change to Trace fine gravel, gravel up to 50 mm
- @ 194 ft.: Change to 5% gravel, trace gravel to 50 mm
- @ 195 ft.: Change to YELLOWISH BROWN (10YR 5/4) 95% medium to coarse sand, 10% fine to medium surrounded gravel of chert, quartz, and granite

Bottom of boring at 197.5 ft.
Completion Date: 6/6/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 185.4 ft.  Hole Dia: 12 in.
Northing: 2138585.276  Easting: 5748316.589

Top of PVC Casing
Elev. 177.63 ft.

GROUND SURFACE
Top of casing at 2.41 ft above ground level

5 DIAMETER SCHEDULE 40 PVC BLANK CASING, +2.41 to 102.5 ft.

BENTONITE CEMENT SEAL: 0 to 95.5 ft.

DEPTH (ft)  Sample
0
5
10
15
20
25
30
35

VERY DARK GRAYISH BROWN SILTY SAND (SM) (10YR 3/2) Loose, dry, 60% fine to coarse sand, 20% silt

DARK BROWN WELL GRADED SAND (SW) (10YR 3/5) Loose, dry, 90% fine to coarse sand, 10% silt

@ 5 ft.: Similar to above

@ 10 ft.: Similar to above

@ 12 ft.: YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 95% fine to coarse sand, 5% silt

@ 15 ft.: Similar to above

@ 20 ft.: Color change to brownish yellow (10YR 6/6)

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above

MACTEC

Well Construction Details and Log of Boring MW-BW-23-A
OUCTP

A26

PLATE

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
CSN 55956 001701 MDT/9

Fort Ord, California

Page 1 of 4
Completion Date: 6/8/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 163.4 ft. Hole Dia. 12 in.
Northing: 2133585.276 Easting: 5748316.589

Depth (ft.)

Sample

@ 35 ft.: BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 85% fine to coarse sand, 5% silt

@ 40 ft.: Color change to yellowish brown (10YR 5/4)

@ 50 ft.: Similar to above

@ 55 ft.: Similar to above

@ 60 ft.: Similar to above, increasing fine-grained sand
Completion Date: 6/9/2000
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 133.4 ft. Hole Dia: 12 in.
Northing: 2133585.276 Easting: 5748316.589

@ 70 ft.: Similar to above, increasing coarse-grained sand

@ 75 ft.: Similar to above

@ 80 ft.: Similar to above

@ 90 ft.: Similar to above

@ 95 ft.: Similar to above, loose, moist

@ 99 ft.: Bottom of 15 ft. of well grouted
@ 100 ft.: Similar to above, loose, moist
#3 Lonestar SANDPACK: 97 to 133.5 ft.

5 DIA. SLOTTED (0.02) SCREEN: 102.5 to 132.5 ft.

BOTTOM WELL CAP: 133.5 ft.

BOTTOM OF BOREHOLE: 135 ft.

@ 110 ft.: Similar to above, loose, wet

@ 115 ft.: Color change to yellowish brown sand (SW) (10YR 5/6)

@ 120 ft.: Similar to above

OLIVE FAT CLAY (CH) (5Y 5/3) Soft, moist, 80% clay, 10% fine sand, 0% silt

Bottom of boring at 135.0 ft.
Top of PVC Casing 
Elev. 145.99 ft.

GROUND SURFACE
Top of casing at 2.49 ft. above ground level

5 DIAMETER
SCHEDULE 40
PVC BLANK
CASING, +/-2.49 to 64.0 ft.

BENTONITE-
CEMENT SEAL: 0 to 59.0 ft.

Depth (ft.)

0
10
20
30
40
50
60

Sample

DARK YELLOWISH BROWN WELL
GRATED SAND (SW) (10YR 4/4) Loose,
dry, 85% fine to coarse sand, 15% silt
@ 2 ft.: Yellowish brown well graded sand (SW) (10YR 5/4), loose, dry, 80% fine to coarse sand, 10% silt

@ 10 ft.: Color change to (10YD 5/6)

@ 15 ft.: Similar to above, 95% fine to coarse sand, 5% silt

MACTEC

Well Construction Details and Log of Boring MW-BW-24-A
CUCTP

Fort Ord, California

PLATE A27

DRAWN: CSN 55596 001701
APPROVED: DATE: REVISED DATE: 11/04

Completion Date: 5/30/2000
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 145.5 ft. Hole Dia: 12 in.
Northing: 2140120.461 Easting: 5747938.658
Completion Date: 6/30/2000
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 143.5 ft.
Hole Dia.: 12 in.
Northing: 214,0120,461
Easting: 574,7938,658

@ 75 ft.: Coor change to yellowish brown well graded sand (SW) (10YR 6/6), loose, moist, 90% fine to coarse sand, 10% silt

@ 85 ft.: Similar to above

OLIVE FAT CLAY (CH) (5Y 5/2) Stiff, moist, 85% clay, 10% silt, 5% fine sand

@ 95 ft.: Similar to above. Bottom of boring at 95 ft.
Top of PVC Casing Elev. 146.68 ft.

GROUND SURFACE Top of casing at 2.49 ft. above ground level

5 DIAMETER SCHEDULE 40 PVC BLANK CASING: +2.49 ft. to 217.0 ft.

BENTONITE CEMENT SEAL: 0 to 182.0 ft.

Completion Date 6/20/2000
Drilling Method ARCH - Mud Fluid
Logged by
Surface Elevation 144.1 ft. Hole Dia. 11 in.
Northing 2149172.392 Easting 57499225.92

DEPHT (ft.) Sample

DARK GRAYISH BROWN SILTY SAND (SM) (2.5Y 4/2) Loose, dry, 80% fine to coarse sand, 20% silt

DARK GRAYISH BROWN WELL-GRADED SAND (SW) (2.5Y 4/2) Loose, dry, 50% fine to coarse sand, 10% silt

@ 7 ft.: DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) Loose, dry, 90% fine to coarse sand, 10% silt

YELLOWISH BROWN WELL-GRADED SAND (10YR 5/6), loose, dry, 95% fine to coarse sand, 5% silt

@ 15 ft.: Similar to above

@ 20 ft.: Similar to above

@ 30 ft.: Similar to above
Completion Date: 6/20/2000
Drilling Method: ARCH - Mud Fluid
Logged by: 
Surface Elevation: 144.1 ft. 
Hole Dia.: .11 in. 
Northing: 21409172.382 
Easting: 5748226.92

- @ 35 ft.: Similar to above
- YELLOWISH BROWN WELL-GRADED SAND (SW) (10YR 5/4), loose, 95% fine to coarse sand, 5% silt
- @ 47 ft.: Increasing fine-grained sand
- @ 50 ft.: Similar to above
- @ 55 ft.: Similar to above
- YELLOWISH BROWN POORLY-GRADED SAND (SP) (10YR 5/4) Loose, 95% fine to medium sand, 5% silt

MACTEC

Well Construction Details and Log of Boring MW-BW-25-180
OCTP

Fort Ord, California

DRAWN: CSN 55598 001701
APPROVED: MRT/Jan 11/04

PLATE A28

Page 2 of 7
Completion Date: 6/20/2000
Drilling Method: ARCH - Mud Fluid
Logged by: 
Surface Elevation: 144.1 ft 
Hole Dia: 11 in.
Northing: 2140172.382 Easting: 5748225.92

Depth (ft.)

@ 70 ft.: Similar to above

YELLOWISH BROWN WELL-GRADED SAND (SW) (10YR 5/4) Loose, 100% fine to coarse sand

YELLOWISH BROWN POORLY-GRADED SAND (SP) (10YR 5/4) Loose, 95% fine to medium sand, 5% silt

@ 90 ft.: Similar to above

@ 95 ft.: Similar to above, 90% fine to medium sand, 10% silt

OLIVE FAT CLAY WITH SAND (CH) (5Y 4/3) Soft, moist, 75% clay, 25% fine to coarse sand, trace gravel to 2 cm
Completion Date: 6/20/2000
Drilling Method: ARCH - Mud Fluid
Logged by:
Surface Elevation: 144.1 ft. Hole Dia: 11 in.
Northing: 2140172.382 Easting: 5748225.92

@ 105 ft.: Similar to above

@ 110 ft.: Similar to above

@ 115 ft.: Similar to above

@ 120 ft.: Similar to above

@ 125 ft.: Similar to above

@ 130 ft.: Similar to above

DARK GREENISH GRAY FAT CLAY WITH SAND (CH) 6G 4/1 Soft, moist, 85% clay, 15% fine to coarse sand

Fort Ord, California
@ 140 ft.: Similar to above, 90% clay, 10% fine sand

@ 145 ft.: Similar to above

@ 150 ft.: Similar to above

@ 155 ft.: Similar to above

OLIVE GRAY CLAYEY SAND (SC) (5Y 4/2)
Loose, wet, 70% fine to coarse sand, 30% fat clay

OLIVE WELL-GRADED SAND (SW) (5Y 4/3)
Loose, wet, 50% fine to coarse sand, 10% silt

@ 170 ft.: Similar to above
@ 175 ft.: Similar to above, increasing coarse-grained sand

@ 180 ft.: Similar to above

@ 190 ft.: Similar to above

@ 195 ft.: Similar to above, increasing coarse-grained sand

@ 200 ft.: Similar to above

@ 205 ft.: Similar to above
Completion Date: 6/20/2000
Drilling Method: ARCH - Mud Fluid
Logged by:
Surface Elevation: 144.1 ft. Hole Dia: 11 in.
Northing: 2140172.382 Easting: 5746225.52

@ 210 ft.: Slightly above, 15% silt

@ 212 ft.: Increase in fine-grained sand

OLIVE SILTY SAND (SM) (5Y 4/3) Dense, 70% fine to medium sand, 30% silt, drill rod chattering

BOTTOM OF BOREHOLE: 217.0 ft.
BOTTOM WELL CAP: 217.0 ft.
**Completion Date**: 6/1/2000

**Drilling Method**: Hollow Stem Auger

**Logged by**: [Signature]

**Surface Elevation**: 141.8 ft

**Hole Dia.**: 12 in.

**Northing**: 2140037.403

**Easting**: 5748402.508

---

**Depth (ft)**

1. **Sample**: LIGHT OLIVE BROWN SILTY SAND (SM)
   - (2.5Y 5/2) Loose, dry, 80% fine to coarse sand, 20% silt
   - @ 5 ft.: Decrease in silt to 15%

2. **Sample**: DARK BROWN WELL GRADED SAND (SW) (10YR 3/3)
   - Loose, dry, 95% fine to coarse sand, 5% silt
   - @ 13 ft.: Color change to yellowish brown well graded sand (SW) (10YR 5/4), loose, dry, 100% fine to coarse sand
   - @ 20 ft.: Similar to above

3. **Sample**: [Shaded area]
   - @ 30 ft.: Similar to above

---

**MACTEC**

**Well Construction Details and Log of Boring MW-BW-25-A**

**OUCTP**

**Fort Ord, California**

**DRAWN**: [Signature]

**CSN**: 55596 001701

**APPROVED**: [Signature]

**DATE**: 11/04

**REvised DATE**: [Signature]
@ 35 ft.: Similar to above

@ 40 ft.: Color change to yellowish brown (10YR 5/6), loose, moist

@ 50 ft.: Similar to above

@ 55 ft.: Color change to yellowish brown well graded sand (10YR 5/4)

@ 60.0 ft.: Similar to above

Completion Date: 6/1/2000
Drilling Method: Hollow Stem Auger
Logged by: [Signature]
Surface Elevation: 1418 ft.
Hole Dia.: 12 in.
Northing: 2142037.403
Easting: 5748402.508

MACTEC

Well Construction Details and Log of Boring MW-BW-25-A

PLATE

Drawn: CSN
Job Number: 55596 001701
Approved: [Signature] 11/04

Fort Ord, California

Page 2 of 3
Completion Date: 6/1/2000
Drilling Method: Hollow Stem Auger
Logged by: 

Surface Elevation: 141.8 ft.
Hole Dia: 12 in.
Northing: 2140037.403
Easting: 5748402.508

@ 70 ft.: Color change to yellowish brown (10YR 5/6)

Water level at 73.75 ft.

@ 80 ft.: Similar to above

@ 90 ft.: Similar to above

@ 95 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y 5/2)
Soft, moist, 90% clay, 10% silt (SVA)

@ 105 ft.: Similar to above
Top of PVC Casing Elev. 165.21 ft.

GROUND SURFACE
Top of casing at 1.51 ft. above ground level

5 DIAMETER SCHEDULE 40 PVC BLANK CASING: +1.51 ft. to 227.0 ft.

BENTONITE CEMENT SEAL: 0 to 210.0 ft.

OLIVE SILTY SAND (SM) (5Y 4/4) Loose, dry, 75% fine to coarse sand, 25% silt

BROWN WELL-GRDED SAND (SW) (10YR 4/3), Loose, dry, 90% fine to coarse sand, 10% silt

@ 7 ft.: Color change to yellowish brown (10YR 5/4), well-graded sand

@ 15 ft.: Color change to yellowish brown well-graded sand (SW) (10YR 5/8), loose, dry, 55% fine to coarse sand, 5% silt

@ 20 ft.: Color change to yellowish brown (10YR 5/4), loose

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above, increasing coarse-grained sand

Completion Date 6/22/2000
Drilling Method ARCH - Mud Fluid
Logged by
Surface Elevation 163.7 ft. Hole Dia. 10.5/8 in.
Northing 2141055.189 Easting 5747063.386

MACTEC
Fort Ord, California

PLATE A30

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
CSN 55596 001701 11/04
Completion Date: 6/22/2000
Drilling Method: ARCH - Mud Fluid
Logged by: 
Surface Elevation: 163.7 ft. Hole Dia: 10.5/8 in.
Northing: 2141055.189 Easting: 5747063.385

@ 70 FT.: Similar to above

@ 75 ft.: Similar to above, trace gravel up to fine-grained gravel to 80 ft.

@ 80 FT.: Similar to above

@ 85 FT.: Similar to above

YELLOWISH BROWN POORLY-GRADED SAND (SP) (10YR 5/4). Loose, 90% fine to medium sand, 10% clay

@ 95 FT.: Similar to above

@ 100 FT.: Similar to above
Completion Date: 6/22/2000
Drilling Method: ARCH - Mud Fluid
Logged by: 
Surface Elevation: 163.7 ft.  Hole Dia. 10 5/8 in.
Northing: 2141055.189  Easting: 5747063.388

@ 105 FT.: Similar to above

@ 110 FT.: Similar to above

@ 115 ft.: Similar to above

@ 120 FT.: Similar to above

@ 125 FT.: Similar to above

@ 130 FT.: Similar to above

LIGHT YELLOWISH BROWN SANDY FATTY CLAY (CH): (2.5Y 6/3) Soft, moist, 70% clay, 30% fine sand
OLIVE FAT CLAY WITH SAND (CH): (5Y 5/3), soft, moist, 80% clay, 20% fine sand
@ 140 FT.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, wet, 90% fine to medium sand, 10% fat clay

@ 145 FT.: Similar to above

OLIVE FAT CLAY (CH) (5Y 5/3) Medium stiff, moist, 95% clay, 5% fine sand

@ 155 FT.: Similar to above

DARK GREENISH GRAY FAT CLAY (CH) (5G 4/1) Stiff, moist, 95% clay, 5% fine sand

@ 170 FT.: Similar to above

DARK GREENISH GRAY SILTY SAND (SM) (5BG 4/1) Loose, wet, 70% fine sand, 30% silt
DARK GREEN GRAY FAT CLAY (CH) (5G 4/1) Medium stiff, moist, 95% clay, 5% fine sand

@ 185 FT.: Similar to above

OLIVE WELL-GRADED SAND (5W) (5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% fat clay

@ 195 ft.: Similar to above

@ 200 ft.: Increase in coarse-grained sand
NOTE: If gravels exist, they may have been chewed up by Tricone Rotary Bit

@ 205 FT.: Similar to above
Completion Date: 6/22/2000
Drilling Method: ARCH - Mud Fluid
Logged by:
Surface Elevation: 103.7 ft., Hole Dia.: 10 5/8 in.
Northing: 2141055.189, Easting: 5747063.385

- @ 210 FT.: Similar to above
- @ 215 FT.: Similar to above
- @ 220 FT.: Similar to above
- @ 225 FT.: Similar to above
- @ 230 FT.: Similar to above
- @ 235 FT.: Similar to above
- @ 240 FT.: Similar to above

BENTONITE-PELLET SEAL, 210.0 to 218.0 ft.

#3 Lonsdale SAND PACK, 218.0 to 247.0 ft.

5 DIA SLOTTED 0.02 SCREEN, 227.0 to 247.0 ft.
BOTTOM OF BOREHOLE: 248.0 ft.
BOTTOM WELL CAP: 248.0 ft.

LIGHT OLIVE BROWN CLAYEY SAND
(SC) (2.5Y 5/3) Medium dense, 70% fine sand, 30% clay
DARK BROWN POORLY GRADED FINE SAND WITH SILT (SP) (10YR 3/3). Loose, dry, 90% fine sand, 10% silt

@ 5 ft.: Color change to yellowish brown

YELLOWISH BROWN WELL GRADED SAND WITH SILT (SW) (10YR 5/8). Loose, moist, 90% fine to medium sand, 10% silt

@ 15 ft.: Similar to above

@ 25 ft.: Similar to above

@ 27 ft.: Some roots and fragments of concrete

@ 32 ft.: Roots
Increase in moisture

@ 45 ft.: Similar to above

@ 48 ft.: Color change to dark brown (7.5YR 4/3)

@ 50 ft.: Color change to yellowish brown (10YR 4/4)

@ 55 ft.: Similar to above

@ 65 ft.: Similar to above
@ 75 ft.: Similar to above

@ 85 ft.: Similar to above

@ 87 ft.: Color change to grayish brown (10YR 5/2)

Water level @ 94.5 ft.
5 DIA. SLOTTED 
(0.02) SCREEN: 
101.0 to 130.0 ft.

BOTTOM WELL 
CAP: 131.0 ft. 
BOTTOM OF 
BOREHOLE: 132 ft.

@ 105 ft.: Similar to above

@ 115 ft.: Similar to above

@ 125 ft.: Similar to above

@ 132 ft.: LIGHT YELLOWISH BROWN 
FAT CLAY (CH) (10YR 5/4) Medium stiff, 
wet, 5% silt 
NOTE: Confirm that driller touched clay 
with auger by looking at the drill bit on lead 
auger after being taken out of the ground.
Completion Date: 6/22/2000
Drilling Method: Hollow Stem Auger
Legged by: 
Surface Elevation: 153.7 ft. Hole Dia.: 12 in.
 Northing: 2141492.27 Easting: 5747033.077

- Top of PVC Casing Elev. 155.78 ft.
- GROUND SURFACE Top of casing at 2.09 ft. above ground level
- 5 DIAMETER SCHEDULE 40 PVC BLANK CASING: +2.09 ft. to 79.0 ft.
- BENTONITE CEMENT SEAL: 0 to 71.5 ft.

BROWN WELL GRADED FINE SAND (SP)
(7.5YR 4/2) Loose, dry, 95% fine sand, 5% silt

BROWN WELL GRADED SAND (SP)
(7.5YR 5/3) Loose, dry, 95% fine to medium sand, 5% silt

@ 13 ft.: Color change to pale brown (10YR 6/3)

@ 25 ft.: Similar to above
Completion Date: 6/22/2003
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 153.7 ft  Hole Dia: 12 in
Northing: 2141432.27  Easting: 5747033.077

- @ 35 ft.: Color change to light yellowish brown (10YR 6/4)
- @ 40 ft.: Similar to above
- @ 45 ft.: Similar to above
- @ 55 ft.: Similar to above
- @ 65 ft.: Similar to above

MACTEC
Well Construction Details and Log of Boring MW-BW-27-A
OCTP

PLATE

Fort Ord, California

DRAWN
CSN

JOB NUMBER
55596 001701

APPROVED

DATE
11/04

REVISED DATE
BENTONITE-PELLET SEAL: 71.5 to 73 ft.

#3 Lonestar SANDPACK: 73 to 110 ft.

5 DIA. SLOTTED (0.02) SCREEN: 79 to 103 ft.

Completion Date: 6/22/2000
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 163.7 ft.
Hole Dia.: 12 in.
Northing: 2141492.27
Easting: 5747633.077

@ 70 ft.: Similar to above

@ 79.5 ft.: Drill operator noticed a change in drill rate

@ 83 ft.: Color change to brown (10YR 5/3)
@ 84 ft.: Color change to light yellowish brown (10YR 6/4). Note: Cuttings are not saturated with water.

@ 95 ft.: Similar to above

Water level

@ 100 ft.: Cuttings saturated
BOTTOM WELL CAP: 110.5 ft.

BOTTOM OF BOREHOLE: 127.0 ft.

Completion Date: 6/22/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 153.7 ft.  Hole Dia:. 12 in. 
Northing: 2141482.27  Easting: 5747633.077

@ 105 ft.: Similar to above

LIGHT YELLOWISH BROWN FAT CLAY
(CH) (10YR 6/4) Medium stiff, wet, 5% silt

BROWN WELL GRADED SAND (SP)
(7.5YR 3/3) Loose, dry, 95% fine to medium sand, 5% silt

@ 123 ft.: Note: Traces of clay on retrieval; driller notices an decrease in drill rate

@ 125.5 ft.: Driller notices an increase in drill rate

LIGHT YELLOWISH BROWN FAT CLAY
(CH) (10YR 3/4) Medium stiff, wet, 5% silt
Note: Driller notices a decrease in drill rate, stops drilling. After 8 in. augers taken out of ground, confirm clay on drill bit.
Bottom of borehole. Borehole backfilled from 127 ft. to 118 ft. (8 in.) and from 118 ft. to 110 ft. (12 in.)
Completion Date: 6/21/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 141.4 ft
Hole Dia: 12 in.
Northing: 2141504.804
Easting: 5748216.839

**Top of PVC Casing**
Elev.: 143.16 ft.

**GROUND SURFACE**
Top of casing at 1.76 ft above ground level

**5 DIA METER SCHEDULE 40 PVC BLANK**
Casing: 1.76 to 83.0 ft.

**BENTONITE CEMENT SEAL:**
0 to 73.0 ft.

**Depth (ft) Sample**

**STRONG BROWN WELL GRADED FINE SAND (SP) (7.5YR 4/6) Loose, dry, 95% fine sand, 5% silt**

- @ 7 ft.: Color change to brownish yellow (10YR 6/6)

- @ 15 ft.: Similar to above

- @ 25 ft.: Similar to above

Well Construction Details and Log of Boring MW-BW-28-A

MACTEC

Fort Ord, California

CSN: 55596 001701

APPROVED: [Signature] 11/04

PLATE A33
Completion Date: 6/21/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 141.4 ft.
Hole Dia.: 12 in.
Northing: 2141504.804
Easting: 5748216.839

Depth (ft.)
Sample

70
75
80
85
90
95
100
105

Water level @ 72 ft.

@ 75 ft.: Similar to above

@ 85 ft.: Similar to above

@ 95 ft.: Similar to above

@ 99 ft.: Bottom 15 ft. of well grouted

BENTONITE-PELLET SEAL: 73.0 to 74.0 ft.

#8 Lonestar SANDPACK: 74 to 114.0 ft.

5 DIA. SLOTTED (0.02) SCREEN: 63.0 to 113.0 ft.
NEW WELL BOTTOM Bottom 15 ft. of well grouted.

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Well Construction Details and Log of Boring MW-BW-28-A
NOTCPT

PLATE

Fort Ord, California

CSN

JOB NUMBER

APPROVED

DATE

REVISED DATE

55596-001701

A33

Page 3 of 4
Completion Date: 6/21/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 141.4 ft. Hole Dia. 12 in.
Northing: 2141594.804 Easting: 5748216.839

BOTTOM WELL CAP: 114.0 ft. 
BOTTOM OF BOREHOLE: 114.0 ft.

Depth (ft.)
105
110

LIGHT BROWNISH FAT CLAY (CH) (10YR 8/2) Stiff, wet, 5% silt

Bottom of boring at 114 ft.

Note: Bottom: 15 feet of well grouted on 9/28/00 to seal perforation of clay from 96 to 105 feet BGS as noted on the geophysical log (not observed in cuttings).
Top of PVC Casing
Elev. .148.80 ft.

GROUND SURFACE
Top of casing at 2.5 ft. above ground level

5 DIAMETER
SCHEDULE 40
PVC BLANK
CASING: +2.5 ft. to 200.0 ft.

BENTONITE-
CEMENT SEAL: 0 to 187.0 ft.

Completion Date 6/29/2000
Drilling Method ARCH - Mud Fluid
Logged by
Surface Elevation 146.3 ft. Hole Dia. 10 5/8 in.
Northing 2140551.749 Easting 5747985.78

well

VERY DARK GRAYISH BROWN SILTY
SAND (SM) (10YR 3/2) Loose, dry, 75%
fine to coarse sand, 25% silt

BROWN WELL-GRADED SAND (SW)
(10YR 4/5) Loose, dry, 80% fine to coarse
sand, 10% silt

@ 7 ft.: Color change to yellowish brown
well-graded sand (SW) (10YR 5/6)

@ 10 ft.: Similar to above

@ 15 ft.: Similar to above

@ 20 ft.: Similar to above

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above
Completion Date: 6/29/2000
Drilling Method: ARCH - Mud Fluid
Logged by: 
Surface Elevation: 146.3 ft.  
Hole Dia.: 10 5/8 in.  
Northing: 2140351.749  
Easting: 5747985.78

@ 35 ft.: Similar to above

@ 40 ft.: Similar to above

@ 48 ft.: Similar to above

@ 55 ft.: Similar to above

@ 60 ft.: Similar to above

DARK GREENISH GRAY SILT (ML) (5G 4/1) Stiff, moist, 90% silt, 10% fine sand
YELLOWISH BROWN WELL-GRADED SAND (SW) (10YR 5/6) Loose, dry, 95% fine to coarse sand, 5% silt
Completion Date: 6/28/2000
Drilling Method: ARCH - Mud Fluid
Logged by:
Surface Elevation: 146.3 ft.
Hole Dia.: 10 5/8 in.
Northing: 2140521.749
Easting: 5747985.78

@ 75 ft.: Similar to above

BROWNISH YELLOW POORLY-GRADED SAND (SP) (10YR 6/6) Loose, 100% fine to medium sand

@ 85 ft.: Color change to light olive brown poorly-graded sand (2.5Y 5/6)

@ 90 ft.: Similar to above

@ 95 ft.: Similar to above

OLIVE SANDY FAT CLAY (CH) (5Y 5/4)
Soft, moist, 50% clay, 40% fine sand

OLIVE SANDY FAT CLAY (CH) (5Y 5/4)
Medium stiff, moist, 70% clay, 30% fine to medium sand
OLIVE GRAY FAT CLAY (CH) (5Y 5/2), soft, moist, 75% clay, 25% fine to medium sand

@ 115 ft.: Similar to above

OLIVE SANDY FAT CLAY (CH) (5Y 5/2)
Soft, moist, 65% clay, 35% fine sand
OLIVE FAT CLAY (CH) (5Y 5/2)
Soft, moist, 80% clay, 20% fine sand

@ 130 ft.: Similar to above

OLIVE GRAY POORLY GRADED SAND (SP) (5Y 5/2)
Loose, 90% fine to medium sand, 10% silt
Completion Date: 5/29/2000
Drilling Method: ARCH - Mud Fluid
Logged by: 
Surface Elevation: 146.3 ft.  Hole Dia. 10 5/8 in.
Northing: 2140951.749  Easting: 5747985.78

@ 140 ft.: Similar to above

OLIVE GRAY WELL GRADED SAND (SW)
(5Y 5/2) Loose, 95% fine to coarse, sand, 5% silt

@ 150 ft.: Similar to above

OLIVE GRAY CLAYEY SAND (SC) (5Y 4/2)
Loose, 80% fine to medium sand, 40% clay

DARK BLUISH GRAY FAT CLAY (CH) (5B 4/1) Medium stiff, moist, 90% clay, 10% fine sand

OLIVE GRAY CLAYEY SAND (SC) (5Y 4/2)
Loose, 85% fine to coarse sand, 15% clay

OLIVE GRAY WELL GRADED SAND (SW)
(5Y 4/2) Loose, 95% fine to coarse sand, 5% silt
@ 175 ft.: Similar to above, increasing coarse-grained sand

@ 180 ft.: Similar to above, very coarse-grained sand

@ 185 ft.: Similar to above

@ 190 ft.: Similar to above, decrease in very coarse sand

@ 195 ft.: Similar to above

@ 200 ft.: Similar to above

@ 205 ft.: Similar to above
Completion Date: 6/29/2000
Drilling Method: ARCH - Mud Fluid
Logged by: 
Surface Elevation: 146.3 ft.
Hole Dia.: 10 5/8 in.
Northing: 2145951.749
Easting: 5747986.78

@ 210 ft.: Similar to above, sand grains to 1 cm with sharp edges, possible 5% fine gravel. Fine gravels have sharp edges, probably broken up by Tricone Rotary bit

@ 215 ft.: Similar to above

OLIVE GRAY SANDY FATTY CLAY (CH) (5Y 5/2) Medium stiff, moist, 65% clay, 40% fine to coarse sand

BOTTOM OF BOREHOLE: 221.0 ft.
BOTTOM WELL CAP: 221.0 ft.
Top of PVC Casing
Elev. 166.08 ft.
CHRISTY BOX

GROUND SURFACE

Recovery (inches)

Salinity

Time

Depth (ft.)

Sample

YELLOWISH BROWN SILTY SAND (SM)
(10YR 5/6) Loose, dry, 80% fine to coarse sand, 20% silt

@ 5 ft.: Similar to above

@ 10 ft.: Similar to above

LIGHT YELLOWISH BROWN WELL-GRADED SAND (SW) (10YR 6/4)
Loose, dry, 90% fine to coarse sand, 10% silt

@ 15 ft.: Similar to above

@ 20 ft.: Similar to above

@ 25 ft.: Similar to above

@ 29 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)
@ 30 ft.: Similar to above

Completion Date 9/5/2001

Drilling Method ARCH/mud rotary

Legged by G. Stone

Surface Elevation 155.58 ft. Hole Dia. 10.5 in.
Northing 2141302.81 Easting 5747073.39
Completion Date: 9/5/2001  
Drilling Method: ARCH-mud rotary  
Logged by: G. Stone  
Surface Elevation: 155.58 ft  
Hole Dia.: 10.5 in.  
Northing: 2141302.61  
Easting: 5747078.38

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**Recovery (inches)** | **Salinity** | **Time** | **Depth (ft)** | **Sample**
--- | --- | --- | --- | ---
| 1054 | 35 | @ 35 ft.: Similar to above
| 1115 | 40 | @ 40 ft.: Similar to above
| 49 | 45 | @ 49 ft.: Change to YELLOWISH BROWN (10YR 5/6) moist
| 50 | 50 | @ 50 ft.: Similar to above
| 55 | 55 | @ 55 ft.: Color change to LIGHT YELLOWISH BROWN (10YR 6/4)
| 60 | 60 | @ 60 ft.: Similar to above
| 65 | 65 | @ 65 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

---

**BENTONITE-CEMENT SEAL:** 0 to 180 ft.
Completion Date: 9/5/2001
Drilling Method: ARCH/mud rotary
Logged by: G. Stone
Surface Elevation: 155.58 ft
Hole Dia.: 10.5 in
Northing: 2141332.81
Easting: 5747078.38

Recovery (inches) | Salinity | Time | Depth (ft) Sample
--- | --- | --- | ---
70 ft.: Similar to above
75 ft.: Similar to above
80 ft.: Similar to above
85 ft.: Similar to above, moist to wet
90 ft.: Similar to above
100 ft.: Similar to above

BENTONITE-CEMENT SEAL: 0 to 180 ft.

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) Loose, wet, 90% fine to medium sand, 10% silt

MACTEC

Well Construction Details and Log of Boring MW-BW-30-180
OUCTP

PLATE

A35

Fort Ord, California

55596 001701 11/04
Completion Date: 05/2001
Drilling Method: ARCHimud rotary
Logged by: G. Stone
Surface Elevation: 155.59 ft
Hole Dia.: 10.5 in
Northing: 2141302.81
Easting: 5747078.38

@ 105 ft.: Similar to above

@ 110 ft.: Similar to above

@ 115 ft.: Similar to above, wet

@ 120 ft.: Similar to above

@ 125 ft.: Similar to above

@ 128 ft.: Driller notes change, more firm

@ 130 ft.: Similar to above

GRAYISH BROWN FAT CLAY WITH SAND
(CH) (2.5Y 5/2) Soft, wet, 80% clay, 20%
fine sand. Driller notes change-stiff.

@ 135 ft.: Similar to above
Completion Date: 9/5/2001
Drilling Method: ARCH/mud rotary
Logged by: G. Stone
Surface Elevation: 155.58 ft
Hole Dia.: 10.5 in.
Northing: 2141302.81
Easting: 5747078.38

@ 140 ft.: Similar to above
PALE OLIVE POORLY GRADED SAND (SP) (5Y 6/3) Loose, wet, 90% fine to medium sand, 10% silt

@ 145 ft.: Similar to above

@ 150 ft.: Similar to above
DARK GRAY FAT CLAY (CH) (2.5Y 4/1)
90% clay, 10% silt

@ 160 ft.: Similar to above

@ 165 ft.: Change to GRAYISH BROWN (10YR 5/2)

@ 170 ft.: Similar to above

BENTONITE CEMENT SEAL: 0 to 100 ft.
Completion Date: 9/5/2001
Drilling Method: ARCH/mud rotary
Logged by: G. Stone
Surface Elevation: 155.38 ft
Hole Dia.: 10.5 in.
Northing: 2141302.81
Easting: 5747078.38

@ 175 ft.: Similar to above

@ 180 ft.: Change to DARK GRAYISH BROWN (10YR 4/2)

OLIVE WELL GRADED SAND (SW) (5Y 4/4) 90% fine to coarse sand, 10% silt

@ 185 ft.: Similar to above

@ 190 ft.: Similar to above

@ 195 ft.: Similar to above

@ 200 ft.: Similar to above, coarse size increasing

@ 205 ft.: Change to OLIVE GRAY (5Y 5/2)
95% fine to coarse sand, 5% silt
Completion Date: 9/5/2001
Drilling Method: ARCH/mud rotary
Logged by: G. Stone
Surface Elevation: 155.38 ft
Hole Dia.: 10.5 in.
Northing: 2141302.61
Easting: 5747078.38

RECOVERY (INCHES)  SALINITY  TIME  DEPTH (FT)  SAMPLE

@ 210 ft.: Similar to above

@ 215 ft.: Similar to above. Note shell fragments

@ 220 ft.: Similar to above

@ 225 ft.: Similar to above, some fine to coarse gravel

@ 230 ft.: Similar to above

PALE OLIVE SANDY GRAVEL (GP) (5Y 6/3) 70% fine to coarse gravel, 30% fine to coarse sand

@ 240 ft.: Similar to above

PALE OLIVE CLAYEY SANDS (SC) (5Y 6/3) 65% fine to coarse sand, 30% clay, 5% fine gravel

Logo of MACTEC

Well Construction Details and Log of Boring MW-BW-30-180

PLATE

A35
BENTONITE/SAND SEAL: 180 to 275 ft.

OLIVE SANDY SILT (ML) (5Y 5/3) 70% silt, 25% fine to coarse sand, 5% fine gravel

@ 245 ft.: Similar to above

PALE OLIVE CLAYEY SAND (SC) (5Y 6/3) 70% fine to coarse sand, 25% clay, 5% fine gravel

@ 255 ft.: Similar to above

PALE OLIVE SANDY SILT (ML) (5Y 6/4) 70% silt, 25% fine to coarse sand, 5% fine gravel

@ 265 ft.: Similar to above

PALE OLIVE CLAYEY SAND (SC) (5Y 6/3) 70% fine to coarse sand, 25% clay, 5% fine gravel

OLIVE SANDY SILT (ML) (5Y 5/4) 70% silt, 25% fine to coarse sand, 5% fine gravel
Completion Date: 9/5/2001
Drilling Method: ARCH/mud rotary
Logged by: G. Stone
Surface Elevation: 155.58 ft
Hole Dia.: 10.5 in
Northing: 2141302.81
Easting: 5747078.38

- 5 in. Diameter SLOTTED (0.020 in.) SCREEN: 280 to 285 ft.
- Lonestar #3 Sandpack: 275 to 290 ft.
- Bentonite Sand Seal: 290 to 310 ft.

Time: 0945
Depth (ft.): 280

- @ 280 ft.: Similar to above
- @ 285 ft.: Similar to above
- LIGHT OLIVE BROWN CLAYEY SANDS (SC) (2.5Y 5/3) 70% fine to coarse sands, 25% clay, 5% fine gravel
  - @ 290 ft.: Similar to above
- @ 295 ft.: Similar to above
- OLIVE GRAY WELL GRADED SAND (SW) (5Y 5/2) 90% fine to coarse sand, 10% silt
  - @ 305 ft.: Similar to above
- LIGHT OLIVE BROWN SANDY SILT (ML) (2.5Y 5/4) 70% silt, 25% fine to coarse sand, 5% fine gravel
  - @ 310 ft.: Similar to above
- OLIVE GRAY WELL GRADED SAND (SW) (5Y 5/2) 90% fine to coarse sand, 10% silt
Completion Date: 9/5/2001
Drilling Method: ARCH/mud rotary
Logged by: G. Stone
Surface Elevation: 152.59 ft
Hole Dia.: 10.5 in.
Northing: 2141302.81
Easting: 5747078.38

- 5 in. Diameter SLOTTED (0.020 in.) SCREEN: 315 to 320 ft
- BENTONITE/ SAND SEAL: 325 to 335 ft
- LONESTAR #3 SANDPACK: 336 to 340 ft
- 5 in. Diameter SLOTTED (0.020 in.) SCREEN: 340 to 345 ft
- @ 315 ft.: Similar to above
- @ 320 ft.: Similar to above
- @ 325 ft.: Similar to above
- @ 327 ft.: Driller notes change, larger gravels
- LIGHT BROWNISH GRAY SILTY GRAVELS (GM) (2.5Y 5/2) 80% fine to coarse gravel, 10% silt, 10% fine sand
- @ 335 ft.: Similar to above
- @ 340 ft.: Similar to above
- @ 345 ft.: Similar to above, gravels becoming smaller
- OLIVE GRAY WELL GRADED SAND (SW) (5Y 5/2) 85% fine to coarse sand, 10% silt, 5% gravel
Completion Date: 9/5/2001
Drilling Method: ARCH/mud rotary
Logged by: G. Stone
Surface Elevation: 156.38 ft
Hole Dia.: 10.5 in.
Northing: 2141302.61
Easting: 5747070.39

Recovery (inches)

Salinity

Time

Depth (ft.)

Sample

@ 350 ft.: Similar to above

@ 355 ft.: Similar to above

@ 360 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) 90% fine to coarse sand, 5% silt, 5% fine gravel

@ 365 ft.: Similar to above

@ 370 ft.: Similar to above

@ 375 ft.: Similar to above

@ 380 ft.: Similar to above

@ 385 ft.: Similar to above

BENTONITE/SAND SEAL: 350 to 360 ft.
Completion Date: 9/5/2001  
Drilling Method: ARCH/mud rotary  
Logged by: G. Stone  
Surface Elevation: 155.58 ft  
Hole Dia: 10.8 in.  
Northing: 2141302.61  
Easting: 5747078.38  

---  

BENTONITE/  
SAND SEAL: 405  
to 460 ft.  

LONESTAR #3  
SANDPACK: 460  
to 475 ft.  

5 in. DIAMETER  
SLOTTED (0.020  
in.) SCREEN: 465  
to 470 ft.  

BENTONITE/  
SAND SEAL: 475  
to 530 ft.  

---  

@ 455 ft.: Change to PALE OLIVE (5Y 6/3)  
90% fine to coarse sand, 10% fine gravel  

@ 460 ft.: Similar to above  

@ 465 ft.: Similar to above  

@ 469 ft.: Change to LIGHT OLIVE  
BROWN (2.5Y 5/3) 90% fine to coarse  
sand, 10% silt  
@ 470 ft.: Similar to above  

@ 475 ft.: Similar to above  

@ 480 ft.: Similar to above  

@ 485 ft.: Similar to above  

@ 490 ft.: Similar to above  

---  

MACTEC  

Well Construction Details and  
Log of Boring MW-BW-30-180  
OUCTP  

PLATE A35  

Fort Ord, California  

DRAWN: TAC  
JOB NUMBER: 55596 001701  
APPROVED:  
DATE: 11/04  
REVISED DATE:  

Page 14 of 18
Completion Date: 9/5/2001
Drilling Method: ARCH/mud rotary
Logged by: G. Stone
Surface Elevation: 155.58 ft
Hole Dia: 10.6 in
Northing: 2141302.81
Easting: 5747078.38

Recovery
(Samples)

Salinity

Time

Depth (ft)

490

@ 490 ft.: Similar to above

495

@ 495 ft.: Similar to above

500

@ 500 ft.: Similar to above

505

@ 505 ft.: Similar to above

510

@ 510 ft.: Similar to above

515

@ 515 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3)

520

@ 520 ft.: Similar to above

525

BENTONITE/SAND SEAL: 475 to 530 ft.
Completion Date: 95/2001
Drilling Method: ARCH/mud rotary
Logged by: G. Stone
Surface Elevation: 155.58 ft.  Hole Dia.: 10.5 in.
Northing: 2141302.81  Easting: 5747078.38

@ 525 ft.: Similar to above

@ 530 ft.: Change to LIGHT BROWNISH GRAY (2.5Y 6/2)

@ 535 ft.: Similar to above

LIGHT OLIVE BROWN CLAYEY SANDS (SC) (2.5Y 5/4) 80% fine to coarse sand, 20% clay

@ 540 ft.: Similar to above

@ 545 ft.: Similar to above

LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) 80% fine to medium sand, 20% silt

@ 550 ft.: Similar to above

@ 555 ft.: Similar to above

@ 560 ft.: Similar to above

BENTONITE/ SAND SEAL: 475 to 530 ft.

LONESTAR #3 SANDPACK: 530 to 560 ft.

5 in. DIAMETER SLOTTED (0.020 in.) SCREEN: 535 to 540 ft.

BOTTOM WELL CAP: 550 ft.

BACKFILLED WITH GROUT: 550 to 610 ft.
Completion Date: 9/5/2001
Drilling Method: ARCH-mud rotary
Logged by: G. Stone
Surface Elevation: 165.58 ft
Hole Dia. 10.5 in.
Northing 2141302.81
Easting 5747078.38

<table>
<thead>
<tr>
<th>Recovery</th>
<th>Salinity</th>
<th>Time</th>
<th>Depth (ft)</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>560 ft.</td>
<td>Similar to above</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/6) 90% fine to medium sand, 10% clay</td>
<td></td>
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</tr>
<tr>
<td>565 ft.</td>
<td>Similar to above</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>570 ft.</td>
<td>Similar to above</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>575 ft.</td>
<td>Change to OLIVE BROWN (2.5Y 4/4)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>580 ft.</td>
<td>Similar to above</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>585 ft.</td>
<td>Similar to above</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>590 ft.</td>
<td>Similar to above</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

BACKFILLED WITH GROUT: 590 to 610 ft.
Completion Date: 9/5/2001
Drilling Method: ARCH/mud rotary
Logged by: G. Stone
Surface Elevation: 165.58 ft
Hole Dia.: 10.5 in.
Northing: 214,302.81
Easting: 574,707.38

Recovery (inches) | Salinity | Time | Depth (ft) | Sample
--- | --- | --- | --- | ---
550 to 610 ft. | | | | @ 595 ft.: Similar to above
Backfilled with grout | | | | @ 600 ft.: Similar to above
Hole cleaned out to 610 ft. | | | | @ 605 ft.: Similar to above
| | | 610 | Bottom of boring at 610 ft.
**Well Construction Details and Log of Boring MW-BW-30-A**

**MCATEC**

**PROD**

**PLATE**

**Completion Date**: 10/30/2000  
**Drilling Method**: Hollow Stem Auger  
**Logged by**:  
**Surface Elevation**: 152.55 ft  
**Hole Dia.**: 12 in.  
**North**: 2141327.39  
**East**: 5746209.545  

---

**Top of PVC Casing**  
**Elev.**: 162.15 ft  
**CHRISTY BOX**  
**GROUND SURFACE**  
**Top of casing at 0.5 ft below ground level**  
**Diameter Schedule 40 PVC Blank CASING: 0 to 76 ft.**  
**BENTONITE-CEMENT SEAL: 0 to 68 ft.**

---

**Depth (ft.)**

**Sample**

- **DARK BROWN SANDY ORGANIC SOIL (OLOH) (10YR 3/3)** Loose, dry, 70% sand, 30% fines  
- **YELLOWISH BROWN WELL GRADED SAND (5W) (10YR 5/4)** Loose, dry, 90% sand, 10% silt  
  @ 5 ft.: Change to 90% fine to coarse sand  
  @ 10 ft.: Similar to above  
  @ 15 ft.: Color change to LIGHT YELLOWISH BROWN (10YR 6/4)  
  @ 20 ft.: Color change to YELLOW (10YR 7/6) 95% sand, 5% silt  
  @ 25 ft.: Similar to above  
  @ 30 ft.: Similar to above  
  @ 35 ft.: Similar to above  
  @ 40 ft.: Color change to BROWNISH YELLOW (10YR 5/6)  
  @ 45 ft.: Similar to above

---

**Control**

- **M号**
- **01701**
- **11/04**

---

**Fort Ord, California**

---

**Plate A36**
@ 50 ft.: Similar to above

@ 55 ft.: Color change to YELLOW (10YR 7/4)

@ 60 ft.: Similar to above, increase in fine sand

@ 70 ft.: Similar to above

@ 75 ft.: Similar to above, 95% sand, 5% silt

@ 76 ft.: Tighter drilling (may indicate silty zone or water presence)

@ 80 ft.: Similar to above, sand is moist

@ 83 ft.: Increase in moisture content

@ 85 ft.: Similar to above, sand is moist to wet

@ 90 ft.: Color change to YELLOWISH BROWN (10YR 5/4), wet

@ 95 ft.: Similar to above
DARK GREENISH GRAY LEAN CLAY WITH SAND (CL) (10Y 4/1) Very dense, moist, 70% clay, 15% sand, 5% silt. Bottom of boring at 114 ft.
Top of PVC Casing Elev. 137.11 ft.
CHRISTY BOX
GROUND SURFACE

BENTONITE-CEMENT SEAL 0 to 141 ft.

Well Construction Details and Log of Boring MW-BW-31-160

DARK GRAY SILTY SAND (SC) (2.5Y 4/1)
Loose, dry, 75% fine to coarse sand, 25% silt

BROWN WELL GRADED SAND (SW)
(10YR 4/3) Loose, dry, 95% fine to coarse sand, 5% silt

@ 10 ft.: Color change to YELLOWISH BROWN (10YR 5/6) Loose, dry

@ 15 ft.: Similar to above

@ 20 ft.: Color change to LIGHT YELLOWISH BROWN (10YR 6/4)

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 6/4) Loose, dry, 95% fine to medium sand, 5% silt

@ 30 ft.: Similar to above

@ 35 ft.: Similar to above

@ 40 ft.: Color change to YELLOWISH BROWN (10YR 5/6)

@ 45 ft.: Similar to above
Completion Date: 9/20/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 136.64 ft
Hole Dia: 10.5 in
Northing: 2141618.67
Easting: 5747516.29

BENTONITE
CEMENT SEAL: 0
to 141 ft.

OLIVE WELL GRADED SAND (SW) (5Y 6/3) 90% fine to coarse sand, 10% silt

@ 55 ft.: Similar to above

@ 60 ft.: Similar to above

@ 65 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND (5P) (2.5Y 4/3) 90% fine to medium sand, 10% silt

Groundwater encountered at 75 ft.

@ 80 ft.: Color change to LIGHT OLIVE BROWN

@ 85 ft.: Similar to above
LIGHT OLIVE BROWN SANDY CLAY (CL) (2.5Y 5/3) 65% clay, 40% fine sand

@ 90 ft.: Similar to above

@ 95 ft.: Similar to above

MACTEC

Well Construction Details and Log of Boring MW-BW-31-180
OUCTP
Fort Ord, California

PLATE

A37

DRAWN JO # NUMBER APPROVED REVISED DATE
CN 55596 001701 MDT /CM 11/04

Page 2 of 11
Driller notes a change: LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) 90% clay, 10% silt

- @ 105 ft.: Similar to above, 95% clay, 5% silt

- @ 110 ft.: Color change to grayish brown (2.5Y 6/2)
- @ 112 ft.: Driller notes: sand lenses

- @ 115 ft.: LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/2) 95% clay, 5% silt
- @ 117 ft.: Driller Notes: sand lens

- @ 120 ft.: LIGHT OLIVE GRAY FAT CLAY (CH) (5Y 6/2) 90% clay, 10% silt

PALE OLIVE WELL GRADED SAND (SW) (5Y 6/3) 90% fine to coarse sand, 10% silt

- @ 135 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y5/2) 95% clay, 5% fine sand

- @ 143 ft.: Color change to DARK GREENISH GRAY (5G 4/1)
Completion Date: 9/20/2001
Drilling Method: Archimad mud rotary
Logged by: D. Browne
Surface Elevation: 136.84 ft
Hole Dia.: 18.5 in
Northing: 2141818.67
Easting: 5247518.29

Salinity

Depth (ft.)

Sample

BENTONITE/SAND SEAL: 141 to 280 ft.

9/20/01 1630 160

@ 160 ft.: Similar to above

@ 155 ft.: Similar to above

PALE OLIVE WELL GRADED SAND (SW)
(5Y 6/3) 95% fine to coarse sand, 5% silt

@ 165 ft.: Similar to above

@ 170 ft.: Similar to above

@ 175 ft.: Similar to above

@ 180 ft.: Similar to above

@ 185 ft.: Similar to above

@ 190 ft.: Similar to above

@ 195 ft.: Similar to above

@ 200 ft.: Similar to above

MACTEC

Well Construction Details and Log of Boring MW-BW-31-180
OUCTP

PLATE A37

Fort Ord, California

DRAWN: CN 55596 001701

APPROVED: 11/04

REVISED DATE:
BENTONITE/SAND SEAL 141 to 200 ft.

@ 201 ft.: Sand becomes coarser-grained

@ 205 ft.: Similar to above

@ 210 ft.: Similar to above

@ 215 ft.: Similar to above

@ 220 ft.: Similar to above

@ 221 ft.: Driller notes increase in clay content

PALE OLIVE CLAYEY SAND (SC) (5Y 6/3)
80% fine to coarse sand, 20% fat clay

@ 230 ft.: Similar to above

OLIVE GRAY SANDY FAT CLAY (CH) (5Y 5/2)
70% clay, 30% fine to coarse sand

OLIVE GRAY CLAYEY SAND (SC) (5Y 5/2)
65% fine to coarse sand, 35% fat clay

@ 240 ft.: Similar to above

@ 245 ft.: Similar to above

@ 248 ft.: More sandy unit to 250 ft.
Completion Date: 9/20/2001
Drilling Method: Archimud rotary
Logged by: D. Broone
Surface Elevation: 135.84 ft., Hole Dia.: 10.5 in.
Northing: 2141618.07, Easting: 5747010.29

6 in. Diameter Bollted (0.860 in.) Screen: 290 to 295 ft.
Lonestar #3 Sandpack: 280 to 305 ft.
Bentonite/Sand Seal: 141 to 260 ft.

@ 250 ft.: Increase in sand to 80% fine to coarse sand, 20% fat clay
@ 255 ft.: Similar to above
@ 260 ft.: Similar to above
OLIVE FAT CLAY (CH) (5Y 5/3) 90% clay, 10% fine to coarse sand
@ 270 ft.: Similar to above
@ 275 ft.: OLIVE FAT CLAY (CH) (5Y 5/3) 90% clay, 10% fine sand
OLIVE CLAYEY SAND (SC) (5Y 6/3) 70% fine to coarse sand, 30% clay Driller notes mud thins down
@ 280 ft.: 80% fine to coarse sand, 20% clay
@ 285 ft.: Similar to above
@ 290 ft.: Similar to above
@ 295 ft.: Color change to OLIVE CLAYEY SAND (SC) (5Y 5/4)
@ 298 to 299 ft.: Driller notes clay
**Completion Date:** 9/29/2001
**Drilling Method:** Arch/mud rotary
**Logged by:** D. Brown

**Surface Elevation:** 125.64 ft  **Hole Dia.:** 10.5 in
**Northing:** 2141019.07  **Easting:** 574376.20

---

**Lonestar #3:**
SANDPACK: 280 to 306 ft.

**Bentonite/Sand Seal:** 306 to 326 ft.

**Lonestar #3:**
SANDPACK: 325 to 342 ft.

**5 in. Diameter Slotted:** (0.020 in.) SCREEN: 330 to 335 ft.

**Bentonite/Sand Seal:** 342 to 355 ft.

---

**Olive Gray Well Graded Sand (SW):**
(5Y 5/2) 90% fine to coarse sand, 10% silt

**Olive Clayey Sand (SC):**
(5Y 5/3) 70% fine to coarse sand, 30% fat clay

**Pale Olive Sandy Fat Clay (CH):**
(5Y 6/3) 70% clay, 30% fine to coarse sand

- @ 315 ft.: Color change to dark greenish gray (5G 4/1)

**Olive Gray Clayey Sand (SC):**
(5Y 5/2) 80% fine to coarse sand, 20% fat clay

**Olive Gray Well Graded Sand (SW):**
(5Y 5/2) 90% fine to coarse sand, 10% silt

- @ 325 ft.: Similar to above

- @ 330 ft.: Similar to above

- @ 335 ft.: Driller notes gravels; Change to 95% fine to coarse sand, 5% silt

- @ 340 ft.: Similar to above

Driller notes: Continuing to drill through gravels, although no gravels recovered.
Completion Date: 9/20/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 135.64 ft.  Hole Dia: 10.8 in.
Northing: 2141618.67  Easting: 5747516.29

- @ 455 ft.: Similar to above
- @ 460 ft.: Similar to above
- @ 465 ft.: Similar to above
- OLIVE BROWN CLAYEY SAND (SC) (2.5Y 4/3) 70% fine to coarse sand, 30% clay
- @ 475 ft.: Similar to above
- @ 480 ft.: Similar to above
- @ 485 ft.: Similar to above
- LIGHT OLIVE BROWN WELL GRADED SAND (SP) (2.5Y 4/3) 50% fine sand, 10% silt
- @ 495 ft.: Similar to above
- GRAYISH BROWN SANDY FAT CLAY (2.5Y 5/2) 60% fat clay, 40% fine sand
BENTONITE/ Sand Seal: 428 to 514 ft.

Lonestar #2 Sandpack: 514 to 540 ft.

5 in. Diameter Slotted (0.20 In.) Screen: 520 to 525 ft.

5 in. Dia. Sched 40 PVC Blank Silt Trap: 525 to 535 ft.

Bottom Well Gap: 535 ft.

Completion Date: 9/20/2001
Drilling Method: ARCH mud rotary
Logged by: D. Browne
Surface Elevation: 130.64 ft
Hole Dia: 10.5 in.
Northing: 2141618.67
Easting: 5747516.29

500 ft.: Similar to above

GRAYISH BROWN CLAYEY SAND (SC)
(2.5Y 5/2) 70% fine to coarse sand, 30% fat clay

510 ft.: Similar to above

515 ft.: Similar to above

520 ft.: Similar to above

525 ft.: Similar to above

530 ft.: Similar to above

535 ft.: Change to 65% fine to coarse sand, 35% clay

BROWN Silt with Sand (ML) (7.5YR 4/3) 85% silt, 15% fine sand
Bottom of boring at 540 ft.
Top of PVC Casing
Elev. 126.07 ft.

GROUND SURFACE

Top of casing at 1.5 ft. above ground level
5 DIAMETER SCHEDULE 40 PVC BLANK CASING: 0 to 65 ft.
BENTONITE CEMENT SEAL: 0 to 58 ft.

BENTONITE PELLET SEAL: 58 to 60 ft.
Lonestar #2/12 SANDPACK: 60 to 96 ft.

5 DIAM SLOTTED (0.02) SCREEN: 55 to 95 ft.

BOTTOM WELL CAP: 88 ft.
BOTTOM OF BOREHOLE: 97 ft.

OLIVE GRAY WELL GRADED SAND (SW) (5Y 4/2) Loose, moist, 90% fine to coarse sand, 10% silt
@ 3 ft.: Color change to VERY DARK GRAYISH BROWN (10YR 3/2)
@ 5 ft.: Color change to DARK GRAYISH BROWN (10YR 4/2)
@ 10 ft.: Similar to above
@ 11 ft.: Color change to DARK BROWN (10YR 3/4), Loose, dry 95% fine to coarse sand, 5% silt
@ 13 ft.: Color change to YELLOWISH BROWN (10YR 5/4)
@ 26 ft.: Similar to above, decrease in coarse sand
@ 30 ft.: Similar to above
@ 35 ft.: Similar to above
@ 40 ft.: Similar to above, increase in coarse sand
@ 45 ft.: Similar to above
@ 50 ft.: Similar to above, loose, moist
@ 55 ft.: Color change to DARK YELLOWISH BROWN (10YR 4/4), Loose, wet, 95% fine to coarse sand, 5% silt
@ 60 ft.: Similar to above, decrease in coarse sand
DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/4), Loose, wet, 95% fine to medium sand, 5% silt
@ 70 ft.: Similar to above
@ 74 ft.: Color change to DARK GRAYISH BROWN (10YR 5/6)
@ 80 ft.: Similar to above
@ 85 ft.: Similar to above
@ 90 ft.: Similar to above
@ 95 ft.: Similar to above
OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Stiff, moist, 55% clay, 5% fine sand
Bottom of boring at 97 ft.
Completion Date: 9/9/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 153.00 ft.
Hole Dia: 10.5 in.
Northing: 2141079.33
Easting: 5747821.73

BENTONITE-CEMENT SEAL: 0 to 135 ft.

@ 35 ft.: Change to DARK GRAYISH BROWN (10YR 4/2)

@ 40 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 45 ft.: Similar to above

@ 50 ft.: Similar to above

@ 55 ft.: Similar to above

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 95% fine to coarse sand, 5% silt

@ 65 ft.: Similar to above
@ 70 ft.: Similar to above

@ 75 ft.: Similar to above, moist

@ 80 ft.: Similar to above, moist to wet

@ 85 ft.: Change to wet, 90% fine to coarse sand, 10% silt

@ 90 ft.: Similar to above

YELLOWISH BROWN SILTY SAND (SM)
(10YR 5/6) Loose, wet, 85% fine to medium sand, 15% silt

@ 100 ft.: Similar to above

Marsh Funnel = 34
BENTONITE-CEMENT SEAL: 0 to 135 ft.

BENTONITE/SAND SEAL: 135 to 270 ft.

Completion Date: 9/6/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 153.00 ft.
Hole Dia.: 10.5 in.
Northing: 2141079.33
Easting: 5747821.73

OLIVE GRAY SANDY FAT CLAY (CH) (5Y 4/2) Stiff, 70% clay, 30% fine sand

@ 105 ft.: Similar to above

@ 110 ft.: Change to 90% clay, 10% fine sand

@ 115 ft.: Change to DARK GREENISH GRAY (5GY 4/1)

@ 120 ft.: Similar to above

@ 125 ft.: Change to OLIVE GRAY (5Y 5/2)

@ 130 ft.: Similar to above

@ 135 ft.: Change to 95% clay, 5% fine sand

@ 138 ft.: Increase in fine sand to 10%
BENTONITE/SAND SEAL: 135 to 270 ft.

@ 140 ft.: Increase in fine sand to 15%

OLIVE POORLY GRADED SAND (SP) (5Y 5/3) 80% fine to medium sand, 10% silt

@ 150 ft.: Similar to above

@ 155 ft.: Similar to above

OLIVE GRAY FAT CLAY WITH SAND (CH) (5Y 5G) 75% clay, 25% fine to medium sand

@ 165 ft.: Change to DARK BLUISH GRAY (5B 4R) 95% clay, 5% fine sand

@ 170 ft.: Similar to above
BENTONITE/ SAND SEAL: 135 to 279 ft.

@ 175 ft.: Change to 90% clay, 10% fine sand
PALE OLIVE WELL GRADED SAND (SW)
(5Y 6/4) 90% fine to coarse sand, 10% silt

@ 180 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3)

@ 185 ft.: Similar to above

@ 190 ft.: Similar to above

@ 195 ft.: Similar to above

@ 200 ft.: Similar to above
No recovery 200 to 205 ft.
No recovery 205 to 210 ft. Gravels to 1 cm. in shoe

Well Construction Details and Log of Boring MW-BW-32-180

MACTEC

Page 6 of 16
Completion Date: 9/5/2001
Drilling Method: Archimud rotary
Logged by: D. Browne
Surface Elevation: 153.00 ft
Hole Dia.: 10.5 in
Northing: 214'079.33
Easting: 5747821.73

BENTONITE/SAND SEAL: 135 to 279 ft.

9/08/01
0630
215

OLIVE GRAY CLAYEY SAND (SC) (5Y 5/2)
65% fine to coarse sand, 30% lean clay, 5% fine gravel to 3 cm.

@ 222 ft.: Change to 75% fine to coarse sand, 25% fat clay

@ 225 ft.: Similar to above

@ 230 ft.: Increase in clay to 30%

OLIVE GRAY SILTY SAND (SM) (5Y 5/2)
80% fine to medium sand, 20% silt

Geologist Notes: Sand packs up in the shoe and won't let core barrel fill up

@ 240 ft.: Change to 75% fine to medium sand, 20% silt, 5% chert, quartz and mudstone gravels to 3 cm.

@ 245 ft.: Similar to above, chert gravel to 5 cm.

Well Construction Details and Log of Boring MW-BW-32-180

PLATE A39

MACTEC

Fort Ord, California

DRAWN
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DATE
REVISION DATE
TAG
55596 001701

Page 7 of 16
Completion Date: 9/6/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 153.00 ft
Hole Dia.: 10.5 in.
Northing: 2141079.33
Easting: 5747321.73

BENTONITE/SAND SEAL: 135 to 279 ft.

@ 246 ft.: Change to 80% fine to medium sand, 20% silt
YELLOWISH BROWN FAT CLAY (CH)
(10YR 5/4) 85% clay, 15% silt
No recovery 247 to 249 ft.

@ 250 ft.: Similar to above
LIGHT OLIVE BROWN SANDY SILT (ML)
(2.5Y 5/6) 70% silt, 30% fine sand

LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP)
(2.5Y 6/4) 90% fine to medium sand, 10% silt

OLIVE WELL GRADED SAND (SW)
(5Y 8/4) 90% fine to coarse sand, 5% gravels to 2 cm., 5% silt
No recovery 260 to 263 ft.

@ 263 ft.: Similar to above
Mud conditioned to Marsh Funnel=33

@ 273 ft.: Change to 85% sand, 10% silt, 5% gravels to 4 cm.
PALE OLIVE SILT (ML)
(5Y 6/3) 90% silt, 10% fine sand

From Shoe: PALE OLIVE CLAYEY SAND
WITH GRAVEL (SC)
(5Y 5/3) 65% fine to

MACTEC
Well Construction Details and Log of Boring MW-BW-32-180
OUCTP
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PLATE

DRAWN: JOE NUMBER: APPROVED: DATE: REVISED DATE:
TAG: 55599 001701 KMT/CW 11/04

Fort Ord, California

Page 8 of 16
Completion Date: 9/6/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 153.00 ft.
Hole Dia.: 10.5 in.
Northing: 2141079.33
Easting: 5747821.73

Salinity

Time

Depth (ft.)

Sample

@ 315 ft.: Similar to above

@ 319 ft.: Change to DARK GREENISH GRAY (5G 4/1)
DARK GREENISH GRAY SILT (ML) (5G 4/1) 80% silt, 20% fat clay

@ 325 ft.: Similar to above

@ 330 ft.: Similar to above

OLIVE FAT CLAY (CH) (5Y 5/3) 80% clay, 20% silt

@ 340 ft.: Similar to above

GRAYISH BROWN POORLY GRADED SAND (SP) (10YR 5/2) 90% fine to medium sand, 10% silt

BROWN WELL GRADED SAND (SW) (10YR 4/3) 90% fine to coarse sand, 10% silt, trace surrounded gravels of quartz, chert, and mudstone

Change to PALE OLIVE (2.5Y 5/3) trace gravels to 4 cm.
PALE OLIVE SAND WITH GRAVEL (SC) (5Y 6/3) 55% fine to coarse sand, 30% subrounded gravels of chert, quartz, and mudstone to 6 cm., 15% silt

@ 359 ft.: PALE OLIVE (5Y 6/3) well graded gravels, 75% gravel to 6 cm., 15% fine to coarse sand, 10% silt

@ 364 ft.: Similar to above, with RED AND GREEN CHERT, WHITE QUARTZ

OLIVE BROWN SILTY GRAVEL WITH SAND (GC) (2.5Y 6/4) 50% gravel to 6 cm., 30% fine to coarse sand, 20% silt

Driller notes drilling in and out of gravels.

No recovery. Similar to above based on driller's notes.

@ 380 ft.: Gravels to 6 cm. from shoe

BROWNISH YELLOW SANDY SILT (ML) 70% silt, 30% fine sand
Completion Date: 9/20/2001
Drilling Method: ARCHIT mud rotary
Logged by: D. Browne
Surface Elevation: 155.00 ft
Hole Dia.: 10.5 in.
Northing: 2141979.33
Easting: 5747321.73

Salinity

Time

Depth (ft)

Sample

@ 385 to 390 ft.: No recovery

OLIVE GRAY WELL GRADED SAND (SW) (5Y 5/2) 95% fine to coarse sand, 5% silt, fine sand seams to wash out of core barrel

No recovery

Similar to above. OLIVE BROWN WELL GRADED SAND (SW) (5Y 5/2) Driller notes occasional gravels

@ 385 to 400 ft.: Similar to above, well graded sand, trace gravel, rock to 5 cm. stuck in shoe

@ 401 ft.: OLIVE WELL GRADED SAND (SW) (5Y 5/3) 85% fine to coarse sand, 5% gravel to 5 cm., 10% silt

@ 405 ft.: Similar to above

@ 410 ft.: Similar to above

PALE OLIVE SANDY SILT (ML) (5Y 6/3) 60% silt, 40% fine sand

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Well Construction Details and Log of Boring MW-BW-32-180

PLATE

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DRAWM JOB NUMBER APPROVED DATE REVISED DATE
TAG 55596 001701 11/04

Fort Ord, California
Completion Date: 9/8/2001
Drilling Method: ARCh/mud rotary
Logged by: D. Browne
Surface Elevation: 153.00 ft
Hole Dia.: 10.5 in.
Northing: 12141079.33
Easting: 5747821.73

BENTONITE/SAND SEAL: 420 to 464 ft.

@ 420 to 425 ft.: No recovery. Driller notes gravel.

LIGHT YELLOWISH BROWN SILTY SAND (SC) (2.5Y 6/4) 65% fine to coarse sand, 30% silt, 5% fine to coarse gravel to 6 cm.

PALE OLIVE FAT CLAY (CH) (5Y 6/4) 85% clay, 15% silt

PALE OLIVE POORLY GRADED SAND (SP) (5Y 6/4) 90% fine to medium sand, 10% silt, trace gravel to 3 cm.

@ 434 ft.: Sand content increases

PALE OLIVE SILTY SAND (SW) (5Y 6/4) 85% fine to coarse sand, 15% silt, trace gravels

@ 444 ft.: Coarse sand increases

@ 446 ft.: Driller notes gravel

@ 449 ft.: Gravel stuck in shoe

DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/4) 95% fine to medium sand, 5% silt

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OUCTP

PLATE

Fort Ord, California

DRAWN
JBP NUMBER
APPROVED
DATE
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TAC 55508 001701

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Page 13 of 15
Completion Date: 9/6/2001
Drilling Method: ARCHimed rotary
Logged by: D. Browne
Surface Elevation: 153.00 ft
Hole Dia: 10.5 in.
Northing: 2141079.33, Easting: 5747821.73

- BENTONITE/SAND SEAL: 420 to 464 ft.
- Lonestar #2 SANDPACK: 464 to 479 ft.
- 6 in. DIAMETER SLOTTED (0.020 in.) SCREEN: 470 to 475 ft.

- @ 460 ft.: Similar to above
- @ 470 ft.: Similar to above
- @ 475 ft.: Similar to above. DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/4) 95% fine to medium sand, 5% silt
- @ 480 ft.: Similar to above, less medium sand
- @ 485 ft.: Similar to above

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Well Construction Details and Log of Boring MW-BW-32-180
OUCTP

PLATE

Fort Ord, California

DRAWN: TAC
JOS NUMBER: 55596 001701
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@ 490 ft.: Similar to above

@ 495 ft.: DARK YELLOWISH BROWN POORLY GRADED SAND (GP) (10YR 4/4) 90% fine to medium sand, 10% silt

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/4) 80% fine to medium sand, 20% silt

LIGHT YELLOWISH BROWN FAT CLAY (CH) (2.5Y 6/3) 80% clay, 20% fine sand

@ 510 ft.: 90% clay, 10% fine sand
@ 511 ft.: 95% clay, 5% silt

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) 90% fine to coarse sand, 10% silt
@ 515 ft.: Increase in grain size, trace gravels (out of shoe)
@ 516 ft.: Change to LIGHT YELLOWISH BROWN, 85% fine to coarse sand, 10% silt, 5% gravel to 3 cm.

OLIVE BROWN CLAYEY SAND (SC) (2.5Y 4/3) 85% fine to medium sand, 15% silt

DARK YELLOWISH BROWN POORLY GRADED SAND (GP) (10YR 4/4) 90% fine to medium sand, 10% silt
Lonestar #3 SANDPACK: 514 to 535 ft.

BOTTOM WELL CAP: 535 ft.

@ 528 ft.: DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/4) 80% fine to medium sand, 20% silt

STRONG BROWN CLAYEY SAND (SC) (7.5Y 4/6) 85% fine to medium sand, 35% fat clay

BROWN SANDY SILT (ML) (7.5YR 4/4) 70% silt, 30% fine sand

@ 550 ft.: Change to OLIVE BROWN (2.5Y 4/4)

@ 554 ft.: OLIVE BROWN SANDY SILT (ML) (2.5Y 4/4) 70% silt, 30% fine sand

Bottom of boring at 555 ft.
Completion Date: 11/7/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 112.66 ft. Hole Dia. 12 in.
Northing: 2142128.262 Easting: 5747436.099

Depth (ft.)

Sample

0

5

10

15

20

25

30

35

40

45

50

55

60

1

5 DIAMETER SCHEDULE 40 PVC BLANK CASING: 0 to 85 ft.

BENTONITE CEMENT SEAL: 0 to 44 ft.

Very dark grayish brown well graded sand (SW) (10 YR 3/2) Loose, moist, 95% fine to coarse sand, 5% silt

@ 4 ft.: Color change to dark yellowish brown (10 YR 4/6), dry

@ 10 ft.: Similar to above

@ 12 ft.: Color change to light yellowish brown (2.5 Y 6/4), dry to moist

@ 15 ft.: Similar to above

@ 20 ft.: Similar to above, decrease in coarse sand

@ 25 ft.: Similar to above

@ 30 ft.: Color change to olive yellow (2.5 Y 6/6)

@ 35 ft.: Similar to above

@ 40 ft.: Similar to above

@ 45 ft.: Similar to above

@ 50 ft.: Similar to above

@ 55 ft.: Similar to above, moist

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Well Construction Details and Log of Boring MW-BW-32-A

OUCTP

Fort Ord, California

PLATE

DRAWN

JOE NUMBER

APPROVED

DATE

REVISED DATE

PCB

55596 001701

11/04

Page 1 of 2
Completie Date: 11/7/2000
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 112.65 ft. Hole Dia. 12 in.
Northing: 2142128.262 Easting: 5747436.099

Depth (ft.)
Sample

5 dia. SLOTTED (0.02) SCREEN: 52 to 62 ft.

BOTTOM WELL CAP: 83 ft.

@ 60 ft.: Similar to above

@ 65 ft.: Similar to above

@ 70 ft.: Similar to above
@ 71 ft.: Color change to LIGHT OLIVE BROWN (2.5Y 5/6), moist to wet

@ 75 ft.: Change to 10% silt, wet

@ 80 ft.: Similar to above, increase in coarse sand
LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/3) Medium stiff, moist, 95% clay, 5% silt
@ 85 ft.: Color change to LIGHT OLIVE BROWN (2.5Y 5/4), wet

@ 90 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 90% fine to coarse sand, 10% silt
@ 95 ft.: Similar to above

@ 100 ft.: Similar to above

@ 105 ft.: Similar to above

DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) 95% clay, 5% silt
Bottom of boring at 112 ft.
Top of PVC Casing
Elev. 183.85 ft.
CHRISTY BOX

GROUND SURFACE

Completion Date 8/27/2001
Drilling Method ARCH/mud rotary
Logged by D. Brown
Surface Elevation 153.50 ft. Hole Dia. 10.5 in.
Northing 2140545.91 Easting 5745218.35

Salinity

Sample

Depth (ft.)

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>@ 5 ft.</td>
<td>Similar to above</td>
</tr>
<tr>
<td>@ 10 ft.</td>
<td>Change to LIGHT OLIVE GRAY SILTY SAND (5Y 6/7), 85% fine to coarse sand, 15% silt</td>
</tr>
<tr>
<td></td>
<td>LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 6/4) Loose, dry, 90% fine to coarse sand, 10% silt</td>
</tr>
<tr>
<td>@ 15 ft.</td>
<td>Similar to above</td>
</tr>
<tr>
<td>@ 20 ft.</td>
<td>Similar to above</td>
</tr>
<tr>
<td></td>
<td>LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 6/4) Loose, dry, 95% fine to medium sand, 5% silt</td>
</tr>
<tr>
<td></td>
<td>YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4) Loose, dry, 95% fine to coarse sand, 5% silt</td>
</tr>
<tr>
<td>@ 27 ft.</td>
<td>Change to DARK YELLOWISH BROWN (10YR 4/4)</td>
</tr>
<tr>
<td>@ 30 ft.</td>
<td>Change to BROWNISH YELLOW (10YR 6/8) Decrease in coarse sand</td>
</tr>
<tr>
<td>@ 35 ft.</td>
<td>Similar to above</td>
</tr>
<tr>
<td>@ 40 ft.</td>
<td>Similar to above</td>
</tr>
<tr>
<td>@ 45 ft.</td>
<td>Change to YELLOWISH BROWN (10YR 5/4) Moist, 90% fine to coarse sand, 10% silt</td>
</tr>
</tbody>
</table>

Well Construction Details and Log of Boring MW-BW-33-180

MACTEC

PLATE A41

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
TAC 55596 001701 11/04
@ 50 ft.: Similar to above, decreasing coarse sand

@ 53 ft.: Increase in coarse sand

@ 55 ft.: Change to BROWNISH YELLOW (10YR 5/6) Wet

@ 60 ft.: Similar to above, Moist, Decrease in coarse sand

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) Loose, moist, 95% fine to medium sand, 5% silt

@ 65 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 70 ft.: Similar to above

@ 75 ft.: Similar to above

@ 80 ft.: Similar to above, Moist to wet

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/4) Loose, wet, 80% fine to medium sand, 20% silt

DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/4) Loose, wet, 90% fine to medium sand, 10% silt

@ 93 ft.: Driller notes a change, formation is more firm

@ 95 ft.: Similar to above
BENTONITE-CEMENT SEAL: 0 to 170 ft.

Completion Date: 8/27/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 163.50 ft
Hole Dia.: 10.5 in.
Northing: 2140546.91
Easting: 5748213.35

8/28/01
1030
100
Sample

@ 100 ft.: Similar to above

@ 105 ft.: Similar to above
LIGHT OLIVE BROWN FAT CLAY WITH SAND (CH) (2.5 Y 5/3) Soft, moist, 80% clay, 20% fine sand

@ 110 ft.: Similar to above

@ 113 ft.: Driller notes a change, clay gets firmer. Change to LIGHT OLIVE GRAY (2.5 Y 5/3) 90% clay, 10% fine sand

@ 115 ft.: Similar to above, Sand decreases to 5%

@ 117 ft.: Similar to above

@ 170 ft.: Similar to above

@ 125 ft.: Change to OLIVE GRAY (5Y 5/2)

@ 130 ft.: Similar to above

@ 135 ft.: Change to OLIVE GRAY (5Y 5/3) driller notes that drill rates increased

@ 140 ft.: Similar to above

@ 145 ft.: Similar to above, 80% clay, 20% silt
OLIVE POORLY GRADED SAND (SP) (5Y 5/3) 90% fine to medium sand, 10% silt
Completion Date: 8/27/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 163.50 ft
Hole Dia.: 10.5 in.
Northing: 2140546.91
Easting: 5748218.35

@ 150 ft.: Similar to above

DARK GREENISH GRAY FAT CLAY (CH)
(5G 4/1) 95% clay, 5% silt
@ 155 ft.: Similar to above

@ 160 ft.: Change to DARK GREENISH GRAY (5BG 4/1). Recomposed mud - Too thick. Marsh funnel = 34

@ 163 ft.: Change to OLIVE GRAY (5Y 5/2)
70% clay, 30% silt, drill rate increases

Geologist notes: From shaker, in and out of OLIVE GRAY CLAYEY SAND lenses (5Y 5/2) 80% sand, 20% fat clay

@ 170 ft.: DARK BLUISH GRAY FAT CLAY (CH) (SW 4/1) 95% clay, 10% silt

OLIVE WELL GRADED SAND (SW) (5Y 5/3) 85% fine to coarse sand, 15% fat clay

@ 180 ft.: Change to PALE OLIVE (5Y 6/4)
90% fine to coarse sand, 10% silt

@ 185 ft.: Similar to above, increase in coarse sand to 65%

@ 190 ft.: Similar to above

@ 195 ft.: Similar to above, 100% sand

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Log of Boring MW-BW-33-180
Well Construction Details

PLATE

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TAC
55596 001701
11/04

Page 4 of 12
Completion Date: 8/27/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 153.50 ft
Hole Dia: 10.5 in
Northing: 2140646.91
Easting: 5748218.33

1435 Sample
PALE OLIVE CLAYEY SAND (SC) (5Y 6/4)
Coarse sand, 15% silt. Starting to take up mud- mix more mud @ 200 ft.; Marsh funnel-34

@ 205 ft.: Similar to above, 85% fine to coarse sand, 15% silt

@ 210 ft.: Similar to above, 5% subrounded gravel to 1 cm., chert and quartz

@ 214 ft.: Similar to above. No gravel
PALE OLIVE WELL GRADED SAND (SW)
(5Y 6/4) 90% fine to coarse sand, 10% silt

@ 220 ft.: Similar to above

LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/3) 70% fine to coarse sand, 25% silt, 5% fine gravel to 1 cm.
@ 225 ft.: Increase in silt to 30%

LIGHT OLIVE BROWN SANDY SILT (ML)
(2.5Y 5/4) 65% silt, 30% coarse sand, 5% fine gravel to 1 cm.

LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/4) 65% fine to coarse sand, 30% silt, 5% subrounded gravels, chert, quartz, and mudstones
LIGHT OLIVE BROWN SILT WITH SAND (ML) (2.5Y 5/4) 75% silt, 25% fine to coarse sand, trace gravel

@ 245 ft.: Similar to above
@ 250 ft.: Change to 85% silt, 15% fine to coarse sand

@ 255 ft.: LIGHT OLIVE BROWN SILT (ML)
(2.5Y 5/4) 90% silt, 10% fine to coarse sand

@ 260 ft.: Similar to above

@ 265 ft.: Similar to above

OLIVE CLAYEY SAND (SC) (5Y 5/3) 75%
fine to coarse sand, 25% silt

OLIVE WELL GRADED SAND (SW) (5Y 5/3) 90% fine to coarse sand, 10% silt

@ 273 ft.: Similar to above, 5% gravel

PALE OLIVE SANDY SILT (ML) (5Y 6/4)
70% silt, 30% fine to coarse sand

@ 280 ft.: Similar to above

YELLOWISH BROWN FAT CLAY (CH)
(10YR 5/8) 90% clay, 10% silt

@ 293 ft.: Increase in sand to 15%

@ 295 ft.: Similar to above

@ 298 ft.: Change to DARK GREENISH
GRAY (5G 7/1) 60% clay, 20% silt. Driller
notes change
Completion Date 8/27/2001
Drilling Method ARCH/mud rotary
Logged by D. Brown
Surface Elevation 133.50 ft Hole Dia. 10.0 in
Northing 2140546.91 Easting 57482218.35

Depth (ft.)

Sample

@ 300 ft.: Similar to above

@ 302 ft.: Change to OLIVE (5Y 5/4)

PALE OLIVE CLAYEY SAND (SC) (5Y 6/3)
85% fine to coarse sand, 15% clay

@ 310 ft.: Similar to above

@ 315 ft.: Similar to above

@ 320 ft.: Similar to above

@ 325 ft.: Change to 10% silt 5% subangular chert, quartz, and mudstone gravels that look like they were broken by tricone bit. Driller notes chatter to 340 ft.

@ 330 ft.: Similar to above

@ 335 ft.: Similar to above, 80% fine to coarse sand, 15% silt, 5% gravel to 1 cm.

@ 340 ft.: Similar to above, Driller notes chatter to 360 ft.

@ 345 ft.: Similar to above, 75% fine to coarse sand, 15% silt, 10% gravel to 2.5 cm.

BENTONITE/
SAND SEAL 280 to 313 ft.

Lonestar #5
SANDPACK 313 to 325 ft.

5 in. Diameter
SLOTTED (0.020 in.) SCREEN 315 to 320 ft.

BENTONITE/
SAND SEAL 325 to 346 ft.

Lonestar #3
SANDPACK 346 to 350 ft.
Pale Olive Silty Sand (SM) (5Y 5/3) 75% fine to coarse sand, 15% silt, 10% gravel to 2 cm.

Marsh funnel = 34

@ 360 ft.: Similar to above

Pale Olive Sandy Fat Clay (CH) (5Y 6/3) 60% clay, 30% fine coarse sand, 10% gravel to 1 cm.

Pale Olive Clayey Sand (SC) (5Y 6/3) 70% fine to coarse sand, 25% fat clay, 5% gravel to 1 cm. Driller notes no gravel to 380 ft.

@ 370 ft.: Similar to above

@ 375 ft.: Similar to above

@ 380 ft.: Similar to above

@ 385 ft.: Similar to above. 65% fine to coarse sand, 25% fat clay, 10% gravel to 2 cm. Driller notes chatter 385 to 390 feet

@ 390 ft.: Similar to above

@ 395 ft.: Change to 60% fine to coarse sand, 35% fat clay, 5% gravel
Lonestar #3
SANDPACK: 390 to 405 ft.

BENTONITE/SAND SEAL: 405 to 450 ft.

@ 400 ft.: Change to 65% fine to coarse sand, 25% fat clay, 10% gravel

@ 405 ft.: Similar to above

@ 410 ft.: Similar to above
@ 411 ft.: Change to 60% fine to coarse sand, 30% fat clay, 10% gravel

@ 415 ft.: Similar to above

PALE OLIVE FAT CLAY WITH SAND (CH) (5Y 6/3) 75% clay, 20% fine to coarse sand, 5% gravel

PALE OLIVE CLAYEY SAND (SC) (5Y 6/3) 75% fine to coarse sand, 20% fat clay, 5% gravel

@ 430 ft.: Increase in gravel to 10%

@ 435 ft.: 65% fine to coarse sand, 25% fat clay, 10% gravel to 2.0 cm.

DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/4) 85% fine to medium sand, 10% clay, 5% gravels to 1 cm.

@ 445 ft.: Similar to above
PALE OLIVE CLAYEY SAND WITH GRAVEL (SC) (5Y 6/3) 65% fine to coarse sand, 20% clay, 15% gravel to 1 cm.

@ 455 ft.: Similar to above

DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/4) 90% fine to medium sand, 10% silt

@ 465 ft.: Similar to above

@ 470 ft.: Similar to above

@ 475 ft.: Similar to above

DARK YELLOWISH BROWN CLAYEY SAND (SC) (10YR 4/4) 80% fine to medium sand, 20% clay

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) 90% fine to medium sand, 10% silt

@ 490 ft.: Similar to above

DARK YELLOWISH BROWN CLAYEY SAND (SC) (10YR 4/4) 80% fine to coarse sand, 15% fine clay, 5% gravel
Completion Date: 8/7/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 153.50 ft.
Hole Dia.: 10.6 in.
Northing: 2142346.91
Easting: 57455218.35

BENTONITE/SAND SEAL: 470 to 522 ft.

@ 500 ft.: Change to 75% fine to coarse sand, 15% clay, 10% gravels

@ 505 ft.: Gravels decrease to 5%

@ 510 ft.: Similar to above

@ 515 ft.: Change to YELLOWISH BROWN (10YR 5/4) 65% fine to coarse sand, 30% fat clay, 5% gravel

@ 520 ft.: Similar to above

@ 525 ft.: Similar to above

@ 530 ft.: Change to OLIVE (5Y 5/4)

@ 535 ft.: Similar to above

DARK YELLOWISH BROWN FAT CLAY WITH SAND (CH) (10YR 4/6) 75% fat clay, 25% fine to coarse sand

@ 545 ft.: Similar to above with trace gravels

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Well Construction Details and Log of Boring MW-BW-33-180

PLATE

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Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
TAC 55596 001701 11/04
@ 550 ft.: Similar to above

@ 555 ft.: Similar to above

@ 560 ft.: Similar to above. Bottom of boring at 560 ft.

Bottom of well failed during development; grout to 485 ft. below ground surface.
Completion Date: 1/3/2000
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 127.24 ft. Hole Dia. 12 in.
Northing: 2141533.57 Easting: 5745863.589

@ 60 ft.: Similar to above

@ 65 ft.: Similar to above

@ 70 ft.: Similar to above, wet

@ 75 ft.: Similar to above

@ 80 ft.: Change to YELLOWISH BROWN
          (10YR 5/6)

@ 85 ft.: Change to 90% sand, 10% silt

@ 90-95 ft.: Driller notes a change to
              slightly firmer drilling

YELLOWISH BROWN POORLY GRADED
SAND (SP) (10YR 5/4) Very dense, wet,
85% sand, 15% silt

@ 97-98 ft.: Driller notes tighter drilling

PALE BROWN SANDY CLAY (CL) (10YR 6/3) Dense, wet, 50% clay, 40% sand
@ 103 ft.: Change to LIGHT YELLOWISH
           BROWN CLAY WITH SAND (CL) (2.5Y 6/3)
Very hard, 69% clay, 15% sand, 8% silt
Bottom of boring at 104 ft.
GROUT SEAL 0 to 117 ft.

LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 6/4) 95% fine to medium sand, 5% silt

@ 60 ft.: Similar to above

@ 65 ft.: Similar to above

@ 70 ft.: Similar to above

@ 75 ft.: Change to 90% fine to medium sand, 10% silt

@ 80 ft.: Similar to above

PALE OLIVE FAT CLAY (CH) (5Y 6/4) 90% clay, 10% silt

@ 90 ft.: Similar to above

@ 95 ft.: Similar to above
@ 100 ft.: Change to DARK GREENISH GRAY (SGY 4/1)

@ 103 ft.: Driller notes change to sand; none observed in cuttings

@ 110 ft.: Change to PALE OLIVE (SY 6/3)

@ 115 ft.: Change to DARK GREENISH GRAY (SGY 4/1) Driller notes sand.

@ 120 ft.: Similar to above

LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (2.5Y 6/3) 90% fine to medium sand, 10% silt

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) 95% fine to coarse sand, 5% silt

@ 135 ft.: Similar to above

@ 140 ft.: Similar to above
BENTONITE/SAND SEAL: 117 to 285 ft.

@ 150 ft.: Similar to above

LIGHT YELLOWISH BROWN SAND (SW)
(2.5Y 6/3) 95% fine to coarse sand, 5% silt

@ 160 ft.: Similar to above

@ 170 ft.: Similar to above

@ 180 ft.: Similar to above

@ 190 ft.: Similar to above
BENTONITE/ SAND SEAL: 117 to 205 ft.

Completion Date: 10/2/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 127.50 ft. Hole Dia. 10.5 in.
Northing: 2142572.06 Easting: 5750371.95

Depth (ft.):

Sample: @ 200 ft.: Similar to above

PALE OLIVE CLAYEY SAND (SC) (5Y 6/4)
75% fine to coarse sand, 25% fat clay

Sample: @ 220 ft.: Similar to above

Sample: @ 225 ft.: Change to 70% fine to medium sand, 30% clay

Sample: @ 230 ft.: Similar to above

Sample: @ 235 ft.: Similar to above

LIGHT YELLOWISH BROWN FAT CLAY
(CH) (2.5Y 6/4) 90% clay, 5% fine sand, 5% silt

Sample: @ 245 ft.: Similar to above

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Well Construction Details and Log of Boring MW-BW-34-180
OUCTP

PLATE A43

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
PCB 55596 001701 MDT 11/04
BENTONITE/SAND SEAL: 117 to 285 ft.

LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/3) 70% fine to medium sand, 30% clay

@ 260 ft.: Similar to above

@ 265 ft.: Change to 75% fine to coarse sand, 25% fine clay

@ 270 ft.: Similar to above

@ 280 ft.: Similar to above

@ 285 ft.: Change to 85% fine to coarse sand, 15% clay

Driller notes gravels from 285-295 ft.; none observed in cuttings

LIGHT OLIVE BROWN SAND (SW) (2.5Y 5/3) 60% fine to coarse sand, 10% silt

Well Construction Details and Log of Boring MW-BW-34-180

OUCTP

Fort Ord, California

PCB 65565 001701

Page 6 of 11
LONESTAR #3 SAND PACK 285 to 322 ft.

BENTONITE/ SAND SEAL 302 to 347 ft.

LONESTAR #3 SAND PACK 347 to 369 ft.

Completion Date: 10/2/2001
Drilling Method: Air/ Mud rotary
Logged by: D. Brown
Surface Elevation: 127.50 ft. Hole Dia: 10.5 in.
Northing: 2140703.06, Easting: 5750371.95

Depth (ft.) Sample

@ 305 ft.: Similar to above

DARK GREENISH GRAY FAT CLAY (CH)
(5G 4/1) 90% clay, 10% fine sand

@ 320 ft.: Similar to above

@ 330 ft.: Similar to above

OLIVE GRAY WELL GRADED SAND (SW)
(5Y 5/2) 90% fine to coarse sand, 10% silt

@ 340 ft.: Similar to above

Well Construction Details and Log of Boring MW-BW-34-180
OUCTP

MACTEC

DRAWN: PCB 55596.001701
APPROVED: MDT 11/04

Page 7 of 11
@ 350 ft.: Similar to above

@ 355 - 360 ft.: Driller notes large gravel - see only broken gravel at surface

@ 360 ft.: Similar to above

DARK GREENISH GRAY FAT CLAY (CH)
(5G 4/1) 95% clay, 10% fine sand

PALE OLIVE SAND (SW) (5Y 6/4) 90% fine to coarse sand, 10% silt

Driller notes silt or clay
PALE OLIVE SAND (SW) (5Y 6/4) 95% fine to coarse sand, 5% silt
Completion Date 10/2/2001
Drilling Method ARCH/mud rotary
Logged by D. Browne
Surface Elevation 127.50 ft
Hole Dia. 10.5 in.
Northing 2140709.06
Easting 5750371.95

@ 405 ft.: Similar to above

@ 415 ft.: Similar to above

Driller notes change to silt or clay; not observed in cuttings
PALE OLIVE WELL GRADED SAND (SW)
(5Y 6/4) 95% fine to coarse sand, 5% silt

@ 435 ft.: Change to 90% fine to coarse sand, 10% silt
PALE OLIVE CLAYEY SAND (SC) (5Y 6/3)
60% fine to coarse sand, 40% fat clay
Completion Date: 10/2/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 127.50 ft
Hole Dia.: 10.5 in
Northing: 2140709.06
Easting: 5750371.95

Depth (ft.)

Sample

PALE OLIVE SAND (SW) (6Y 6/3) 90% fine to coarse sand, 10% clay

PALE OLIVE CLAYEY SAND (SC) (5Y 6/3) 60% fine to coarse sand, 40% fat clay

@ 467 ft.: Driller notes drill rate increases
PALE OLIVE WELL GRADED SAND (SW) (5Y 6/3) 95% fine to coarse sand, 5% silt

@ 480 ft.: Similar to above

@ 490 ft.: Similar to above
Completion Date: 10/22/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 127.60 ft., Hole Dia.: 10.6 in.
Northing: 2145709.06, Easting: 5750371.95

@ 500 ft.: Similar to above

@ 510 ft.: Similar to above

PALE OLIVE CLAYEY SAND (SC) (5Y 6/3)
70% fine to coarse sand, 30% clay

@ 530 ft.: Similar to above

BROWN FAT CLAY (CH) (7.5Y 5/3) 80% clay, 20% silt

PALE OLIVE CLAYEY SAND (SC) (5Y 6/3)
75% fine to coarse sand, 25% fine clay

Bottom of boring at 550 ft.
Completion Date: 1/29/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 123.19 ft., Hole Dia.: 12 in.
Northing: 2142013.683, Easting: 5746372.131

Top of PVC Casing
Elev.: 128.89 ft.
CHRISTY BOX

GROUND SURFACE
Top of casing at 0.5 ft. above ground level

6 DIA. SCHEDULE 40 PVC BLANK CASING: 0 to 57 ft.

BENTONITE CEMENT SEAL: 0 to 59 ft.

Depth (ft.)
Sample

VERY DARK GRAYISH BROWN WELL
GRATED SAND (SW) (10YR 3/2) 90% fine
to coarse sand, 10% silt

@ 5 ft.: Change to LIGHT OLIVE BROWN
(2.6Y 5/4)

@ 10 ft.: Change to OLIVE YELLOW (2.5Y 6/6)

@ 15 ft.: Similar to above

@ 20 ft.: Similar to above

@ 25 ft.: Similar to above

@ 30 ft.: Change to OLIVE YELLOW (5Y 6/6) 90% fine sand, 10% silt

@ 35 ft.: Change to OLIVE YELLOW (2.5Y 6/6) Moist

@ 40 ft.: Similar to above

@ 45 ft.: Similar to above

@ 50 ft.: Similar to above, Moist to wet

@ 55 ft.: Change to OLIVE YELLOW (5Y 6/6), Moist to wet

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Well Construction Details and
Log of Boring MW-BW-34-A

PLATE A44

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
PCB 65596 001701 11/04
Completion Date: 11/29/2010
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 129.19 ft. Hole Dia. 12 in.
Northing: 2142013.663 Easting: 5746372.131

@ 60 ft.: Change to OLIVE (5Y 5/4)

@ 65 ft.: Change to OLIVE YELLOW (5Y 6/6)

@ 70 ft.: Similar to above

@ 75 ft.: Similar to above

@ 80 ft.: Similar to above

@ 85 ft.: Change to OLIVE YELLOW (2.5Y 6/6) Wet

@ 90 ft.: Similar to above

@ 95 ft.: Change to PALE OLIVE (5Y 6/4)

GREENISH CLAY (5GY 5/1) Stiff
Bottom of boring at 100 ft.
Top of PVC Casing
Elev. 138.56 ft.
CHRISTY BOX
GROUND SURFACE

BENTONITE - CEMENT SEAL: 0 to 140 ft.

Completion Date 10/8/2001
Drilling Method ARCH/mud rotary
Logged by: D. Browne
Surface Elevation 138.50 ft. Hole Dia. 10.6 in.
Northing 2141535.96 Easting 5751176.57

Depth (ft.)

Sample
BROWN SILTY SAND (SM) (10YR 5/3)
Loose, dry, 80% fine to coarse sand, 20% silt

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4) 90% fine to coarse sand, 10% silt

@ 10 ft.: Similar to above

@ 15 ft.: Similar to above

@ 20 ft.: Change to BROWNISH YELLOW (10YR 5/6)

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above

@ 35 ft.: Similar to above

@ 40 ft.: Similar to above

@ 45 ft.: Similar to above

@ 50 ft.: Similar to above
Completion Date: 10/8/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 138.50 ft.  Hole Dia.: 10.5 in.
Northing: 2141535.00  Easting: 5751170.57

- BENTONITE-CEMENT SEAL: 0 to 140 ft.

- @ 55 ft.: Change to 95% fine to coarse sand, 5% silt

- @ 60 ft.: Similar to above

- @ 65 ft.: Similar to above

- @ 70 ft.: Similar to above

- @ 75 ft.: Similar to above

- YELLLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) 90% fine to medium sand, 10% silt

- @ 85 ft.: Similar to above

- @ 90 ft.: Similar to above

- @ 95 ft.: Similar to above

- @ 100 ft.: Similar to above
Completion Date: 1/8/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 138.50 ft., Hole Dia. 10.6 in.
Northing: 2141535.96, Easting: 5751176.57

BENTONITE/CEMENT SEAL: 0 to 140 ft.

OLIVE GRAY FAT CLAY (CH) (5Y 5/2)
90% clay, 10% fine sand

@ 110 ft.: Similar to above

@ 115 ft.: Similar to above

@ 120 ft.: Similar to above

OLIVE CLAYEY SAND (SC) (5Y 5/4)
80% fine to coarse sand, 20% clay

@ 130 ft.: Similar to above

@ 135 ft.: Similar to above

PALE OLIVE FAT CLAY (CH) (5Y 6/3)
90% clay, 10% fine sand

@ 145 ft.: Similar to above

@ 150 ft.: Similar to above
OLIVE GRAY WELL GRADED SAND (SW)
(5Y 5/2) 90% fine to coarse sand, 10% clay

@ 155 ft.: Similar to above

@ 160 ft.: Similar to above

@ 165 ft.: Change to 95% fine to coarse sand, 5% silt

@ 170 ft.: Similar to above

@ 175 ft.: Similar to above

@ 180 ft.: Similar to above

@ 185 ft.: Similar to above

@ 190 ft.: Similar to above

@ 195 ft.: Similar to above

@ 200 ft.: Similar to above
Completion Date: 10/8/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 138.50 ft.  Hole Dia. 10.5 in.
Northing 2414535.95  Easting 5751176.57

OLIVE WELL GRADED SAND (SW) (5Y 5/3) 90% fine to coarse sand, 10% silt
@ 251 ft.: Drills like clay. No cuttings from this interval.

OLIVE CLAYEY SAND (SC) (5Y 5/3) 70% fine to coarse sand, 30% fat clay

OLIVE FAT CLAY WITH SAND (CH) (5Y 5/3) 80% clay, 20% fine to coarse sand

@ 270 ft.: Change to OLIVE FAT CLAY (5Y 5/3) 90% clay, 10% fine sand

@ 275 ft.: Change to 90% clay, 10% fine to coarse sand

@ 280 ft.: Similar to above

@ 285 ft.: Similar to above

@ 290 ft.: Similar to above

@ 293 to 294 ft.: Driller notes change to sand
OLIVE CLAYEY SAND (SC) (5Y 5/3) 90% fine to coarse sand, 10% fat clay
Completion Date: 10/8/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 138.50 ft
Hole Dia: 10.5 in
Northing: 2141535.96
Easting: 5751176.67

**Well Construction Details and Log of Boring MW-BW-35-180**

- **BENTONITE/ SAND SEAL: 254 to 305 ft.**
- **Lonestar #3 SANDPACK: 305 to 323 ft.**
- **5 in. DIAMETER SLOTTED (0.020 in.) SCREEN: 310 to 315 ft.**
- **BENTONITE/ SAND SEAL: 323 to 360 ft.**
- **OLIVE CLAYEY SAND (SC) (5Y 5/3) 90% fine to coarse sand, 10% fat clay**
  - @ 305 ft.: Similar to above
  - @ 310 ft.: Similar to above
  - @ 315 ft.: Similar to above
- **PALE OLIVE WELL GRADED SAND (SW) (5Y 6/3) 95% fine to coarse sand, 10% silt**
  - @ 325 ft.: Similar to above
  - @ 330 ft.: Similar to above
  - @ 335 ft.: Change to 95% fine to coarse sand, 5% silt
- Driller Notes: Drills like clay, no recovery
- **PALE OLIVE WELL GRADED SAND (SW) (5Y 6/3) 90% fine to coarse sand, 10% silt**
Completion Date: 10/2/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Browne
Surface Elevation: 138.50 ft
Hole Dia.: 10.5 in.
Northing: 2141535.96
Easting: 5751176.57

@ 355 ft.: Change to 95% fine to coarse sand, 5% silt

@ 360 ft.: Similar to above

@ 365 ft.: Similar to above

@ 370 ft.: Similar to above

@ 375 ft.: Similar to above

@ 380 ft.: Similar to above

@ 385 ft.: Similar to above

@ 390 ft.: Similar to above

@ 395 ft.: Driller notes gravels

@ 399 ft.: Similar to above

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Well Construction Details and
Log of Boring MW-BW-35-180

DRAWN: CN
JOB NUMBER: 55996 001701
APPROVED: 
DATE: 11/04

PLATE A45

Fort Ord, California

Page 8 of 12
5 in. DIAMETER SLOTTED 0.020 in. SCREEN: 400 to 405 ft.

Lonestar #3 SANDPACK: 395 to 415 ft.

BENTONITE/ SAND SEAL: 415 to 456 ft.

Completion Date: 10/8/2001
Drilling Method: ARCH/mud rotary
Logged by: D. Brown
Surface Elevation: 138.50 ft. Hole Dia.: 10.5 in.
Northing: 2141533.96 Easting: 5751176.57

Time

Depth (ft.) Sample

@ 405 ft.: Similar to above

@ 410 ft.: Similar to above

@ 415 ft.: Driller Notes: Drills like clay or silt, no recovery

PALE OLIVE WELL GRADED SAND (SW)
(5Y 6/3) 90% fine to coarse sand, 10% silt

@ 425 ft.: Similar to above

@ 429 ft.: Driller notes large gravels

@ 435 ft.: Change to 95% fine to coarse sand, 5% silt
@ 439 ft.: Driller notes large gravels

OLIVE GRAY CLAYEY SAND (SC) (5Y 4/2)
65% fine to medium sand, 35% silt

@ 445 ft.: Driller Notes drills like clay or silt, no recovery

Well Construction Details and Log of Boring MW-BW-35-180
OUCTP

MACTEC

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
CN 55596 001701 /CN 11/04

PLATE

Page 9 of 12
PALE OLIVE WELL GRADED SAND (SW) (5Y 6/3) 90% fine to coarse sand, 10% silt
Driller notes large gravels

@ 455 ft.: Change to 95% fine to coarse sand, 5% silt, driller notes gravels

@ 460 ft.: Driller notes gravels

@ 465 ft.: Driller notes decrease in gravel from 460 to 480 ft.

@ 470 ft.: Similar to above

@ 475 ft.: Similar to above

@ 480 ft.: Similar to above

@ 485 ft.: Similar to above

@ 490 ft.: Driller notes large gravels (locked up drill rod)

@ 495 ft.: Similar to above

@ 500 ft.: Similar to above
Driller notes clay
PALE OLIVE WELL GRADED SAND (SW) (5Y 6/3) 95% fine to coarse sand, 5% silt

@ 505 ft.: Similar to above

Driller Notes:Feels like clay, no recovery - suspect tricone is damaged

PALE OLIVE WELL GRADED SAND (SW) (5Y 6/3) 90% fine to coarse sand, 10% clay

Driller notes a change, feels like clay
PALE OLIVE CLAYEY SAND (SC) (5Y 6/3)
80% fine to coarse sand, 20% fat clay

PALE OLIVE WELL GRADED SAND (SW)
(5Y 6/3) 90% fine to coarse sand, 10% silt

@ 565 ft.: Similar to above

@ 570 ft.: Similar to above

@ 575 ft.: Similar to above

Bottom of boring at 560 ft.
Very dark grayish brown sandy organic soil (OLUC) (10YR 3/2) Loose, moist, 65% soil, 35% medium to fine sand

@ 3 ft.: Change to dark grayish brown (10YR 4/2), 60% soil, 40% sand

@ 8 ft.: Change to brown (10YR 5/3) 60% sand, 40% soil

Light yellowish brown poorly graded sand (SP) (10YR 6/4) Loose, dry, 100% fine sand

@ 15 ft.: Similar to above

Light yellowish brown well graded sand (SW) (10YR 6/4) Medium dense, dry, 100% fine to medium sand

@ 30 ft.: Similar to above

@ 33 ft.: Change to brownish yellow (10YR 6/6) Moist, increase in grain size

@ 38 ft.: Similar to above, decrease in grain size

@ 40 ft.: Similar to above

@ 45 ft.: Change to yellowish brown (10YR 5/6) 95% sand, 5% silt

@ 48 ft.: Change to 90% sand, 10% silt
BENTONITE
PELLET SEAL 5 ft
to 54 ft.

Lonestar #5/12
SANDPACK 54 to
91 ft.

5 DIA. SLOTTED
(0.02) SCREEN:
59 to 89 ft.

BOTTOM WELL
CAP 91 ft.
BOTTOM OF
BOREHOLE 92 ft.

Completion Date 11/16/2000
Drilling Method Hollow Stem Auger
Logged by 
Surface Elevation 111.76 ft. Hole Dia. 12 in.
Northing 2142432.427 Easting 5746201.783

@ 54 ft.: Similar to above

@ 60 ft.: Similar to above

@ 65 ft.: Change to YELLOWISH BROWN
(10YR 5/4) Very moist

YELLOWISH BROWN SILTY WELL
GRADED SAND (SM) (10YR 5/4) Dense, wet, 85% fine to coarse sand, 15% silt

@ 75 ft.: Similar to above

DARK YELLOWISH BROWN POORLY
GRADED SAND (SF) (10YR 4/6) Very
dense, wet, 90% fine sand, 10% silt

@ 87 ft.: Similar to above
@ 88 ft.: Bottom of 8 in. pilot boring

LIGHT OLIVE BROWN FAT CLAY (CH)
(2.5Y 5/3) Medium hard, wet, 85% clay,
15% sand
Bottom of boring at 92 ft.
**Completion Date**: 11/13/2000

**Drilling Method**: Hollow Stem Auger

**Logged by**: [Logged by Name]

**Surface Elevation**: 15.03 ft

**Hole Dia.**: 12 in

**Northing**: 2142791.202

**Easting**: 5746519.207

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<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td>Sample</td>
</tr>
<tr>
<td>5</td>
<td>VERY DARK BROWN WELL GRADED SAND (5YR 2/3) Moist, 95% fine to coarse sand, 5% silt</td>
</tr>
<tr>
<td>@ 3 ft.</td>
<td>Change to DARK BROWN (10YR 3/3)</td>
</tr>
<tr>
<td>@ 5 ft.</td>
<td>Change to DARK YELLOWISH BROWN (10YR 4/4)</td>
</tr>
<tr>
<td>@ 8 ft.</td>
<td>Change to LIGHT OLIVE BROWN (2.5Y 5/4), increase in coarse sand</td>
</tr>
<tr>
<td>@ 13 ft.</td>
<td>Change to LIGHT YELLOWISH BROWN (2.5Y 5/4)</td>
</tr>
<tr>
<td>@ 20 ft.</td>
<td>Similar to above</td>
</tr>
<tr>
<td>@ 25 ft.</td>
<td>Similar to above</td>
</tr>
<tr>
<td>@ 30 ft.</td>
<td>Similar to above, Moist to wet</td>
</tr>
<tr>
<td>@ 35 ft.</td>
<td>Similar to above</td>
</tr>
<tr>
<td>@ 40 ft.</td>
<td>Similar to above</td>
</tr>
<tr>
<td>@ 45 ft.</td>
<td>Similar to above</td>
</tr>
</tbody>
</table>

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**Well Construction Details and Log of Boring MW-BW-36-A**

**OUCTP**

Fort Ord, California

**DRAWN**: PCB 55596 001701

**APPROVED**: [Approved Name] 11/04

**REVISED DATE**: [Revised Date]
Completion Date: 11/13/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 115.03 ft. Hole Dia. 12 in.
Northing: 2142791.202 Easting: 5746519.207

47.5 to 50 ft.
Lonestar #2/12 SAND PACK: 50 to 67 ft.

6 DIA. SLOTTED (0.02) SCREEN: 65 to 88 ft.

50 ft.: Change to OLIVE YELLOW (2.5Y 6/6)
53 ft.: Change to OLIVE BROWN (2.5Y 4/4)
55 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/8)

@ 60 ft.: Change to OLIVE YELLOW (2.5Y 6/6), Increase in fine sand

@ 65 ft.: Similar to above

@ 70 ft.: Similar to above

@ 75 ft.: Similar to above

@ 80 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4), Wet

@ 83 ft.: Change to OLIVE BROWN (2.5Y 4/3)
DARK GREENISH GRAY FAT CLAY (CH) (SGY 4/1) Medium stiff, oxidized orange color
Bottom of boring at 88 ft.
Completion Date: 11/27/2001
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 110.10 ft.
Hole Dia.: 12 in.
Northing: 2142104.205
Easting: 5744854.563

Depth (ft.)

Sample

0

5

10

15

20

25

30

35

40

45

50

Top of PVC Casing
Elev. 99.58 ft.
CHRSTY BOX

Ground Surface

Top of casing at
0.6 ft. below
ground level

5 Diamater
Schedule 40
PVC Blank
Casing: 0 to 45
ft.

Bentonite-
Pellet Seal: 37.5 to 40 ft.

Bentenite-
Cement Seal: 0
to 37.5 ft.

Very Dark Brown Well Graded Sand (5W) (10YR 2/1) 90% fine to coarse sand, 10% silt

@ 3 ft.: Change to Very Dark Brown (10YR 2/2)

@ 4 ft.: Change to Very Dark Brown (10YR 2/1)

@ 7 ft.: Change to Very Dark Grayish Brown (10YR 3/2)

@ 10 ft.: Change to Light Olive Brown (2.5YR 5/4)

@ 12 ft.: Change to Brown (10YR 4/3)

@ 15 ft.: Change to Light Olive Brown (2.5YR 5/4)

@ 17 ft.: Change to Olive Brown (2.5YR 4/4)

@ 20 ft.: Change to Light Olive Brown (2.5YR 5/4) Dry to moist

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above

@ 35 ft.: Similar to above

@ 40 ft.: Change to Olive Brown (2.5YR 4/3) Increase in coarse sand, moist

@ 45 ft.: Change to Light Olive Brown (2.5YR 5/4)

@ 48 ft.: Change to Olive Brown (2.5YR 4/5)
Completion Date: 11/27/2001
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 110.10 ft.
Hole Dia.: 12 in.
Northing: 2142104.205
Easting: 5744554.563

Sample
Depth (ft.)

@ 50 ft.: Change to LIGHT OLIVE BROWN
(2.5YR 5/4)

@ 55 ft.: Similar to above

@ 60 ft.: Similar to above, Very moist

@ 65 ft.: Similar to above

@ 70 ft.: Similar to above, Wet

BOTTOM WELL CAP: 87 ft.
BOTTOM OF BOREHOLE: 76 ft.

GREENISH GRAY FAT CLAY (CH) (5G
5/1) Moist, soft, organic, 90% clay, 10% fine sand
*Bottom of boring at 76 ft.*
Completion Date: 11/29/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 118.00 ft
Hole Dia.: 12 in.
Northing: 2142339.799
Easting: 5745789.759

To 50 ft:
ennon #2/12
SANDPACK: 50 to 84 ft.

5 DIA. SLOTTED (0.02) SCREEN: 55 to 85 ft.

@ 52 ft.: Change to Increasing silt content

DARK GRAYISH BROWN SILTY SAND (SM) (10-YR 4/3) Loose, damp, fine sand

@ 63 ft.: Change to YELLOW (10-YR 7/6), wet

@ 70 ft.: Similar to above

@ 80 ft.: Similar to above, very fine sand

LIGHT YELLOWISH BROWN SILTY CLAY (CH) (2.5Y 8/3) Very stiff, damp to moist
Bottom of boring at 88 ft.

MACTEC

Well Construction Details and Log of Boring MW-BW-36-A

PLATE

A49

Fort Ord, California

DRAWN: PCB

JNO NUMBER: 55596 001701

APPROVED: 

DATE: 11/04

REVISED DATE:

Page 2 of 2
Top of PVC Casing
Elev. 79.86 ft.
CHRISTY BOX

GROUND SURFACE

Top of casing at
0.5 ft. below
ground level

5 DIA.
SCHEDULE 40
PVC BLANK
CASING: 0 to 26
ft.

BENTONITE-
CEMENT SEAL: 0
to 18 ft.

BENTONITE-
PELLET SEAL: 18
to 20.5 ft.

Loesater #2/12
SANDPACK: 20.5
to 58 ft.

5 DIA. SLOTTED
(0.02) SCREEN:
26 to 58 ft.

Depth (ft.)

Sample

Completion Date 11/29/2000
Drilling Method Hollow Stem Auger
Logged by
Surface Elevation 79.12 ft.
Hole Dia. 12 in.
Northings 2143239.705
Eastings 5745712.811

DARK OLIVE GRAY WELL GRADED
SAND (SW) (6Y 3/2) Loose, moist, 90% fine
to coarse sand, 10% silt

@ 3 ft.: Change to LIGHT OLIVE BROWN
(2.5Y 5/3), dry

@ 5 ft.: Change to LIGHT OLIVE BROWN
(2.5Y 5/4)

@ 10 ft.: Change to YELLOWISH BROWN
(10YR 5/4)

@ 15 ft.: Similar to above

@ 18 ft.: Similar to above, moist

@ 20 ft.: Change to DARK YELLOWISH
BROWN (10YR 4/6)

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above, wet

@ 35 ft.: Similar to above

DARK YELLOWISH BROWN POORLY
GRADED SAND (SP) (10YR 4/6) Loose,
wet, 80% fine to medium sand, 10% silt

@ 40 ft.: Change to BROWN (10YR 5/2)

LIGHT OLIVE WELL GRADED SAND (SW)
(2.5Y 5/4) Loose, wet, 90% fine to coarse
sand, 10% silt, small percentage coarse
sand
Completion Date: 11/29/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 75.12 ft
Hole Dia.: 12 in.
Northing: 2145239.705
Easting: 5745712.811

Depth (ft.)

Sample

@ 50 ft.: Similar to above

@ 55 ft.: Similar to above

GREENISH GRAY FAT CLAY (CH) (5G 5/1) Medium stiff, moist, 90% clay, 10% silt
Bottom of boring at 58 ft.
Completion Date: 11/28/2000
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 90.35 ft.
Hole Dia.: 12 in.
Northing: 2142358.601
Easting: 5744227.275

Top of PVC Casing
Elev. 89.57 ft.
CHRSTY BOX
GROUND SURFACE
Top of casing at 0.3 ft. below ground level

5 Diamater SCHEDULE 40 PVC BLANK CASING: 0 to 40 ft.

BENTONITE CEMENT SEAL: 0 to 31.5 ft.

Very Dark Grayish Brown well Graded Sand (SW) (2.5Y 3/2) Loose, moist, 9% fine to coarse sand, 10% silt

@ 3 ft.: Change to Dark Grayish Brown (2.5Y 4/2)
@ 4 ft.: Change to Olive Brown (2.5Y 4/3), dry
@ 7 ft.: Change to Dark Grayish Brown (2.5Y 4/2)
@ 10 ft.: Change to Dark Yellowish Brown (10YR 3/4)
@ 14 ft.: Change to Yellowish Brown (10YR 5/4), 95% fine to coarse sand, 5% silt
@ 20 ft.: Change to Light Yellowish Brown (10YR 6/4)
@ 25 ft.: Similar to above
@ 27 ft.: Change to Brown (10YR 5/3)
@ 30 ft.: Similar to above
@ 35 ft.: Change to Dark Yellowish Brown (10YR 4/4), moist
@ 40 ft.: Change to Dark Yellowish Brown (10YR 4/6)
@ 45 ft.: Change to Yellowish Brown (10YR 5/4)

Yellowish Brown Poorly Graded Sand (SP) (10YR 5/4) Loose, moist, 95%
Completion Date: 11/20/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 90.36 ft. Hole Dia.: 12 in.
Northing: 2142362.601 Easting: 5744227.275

5 Dia. Slotted (0.02) Screen: 40 to 70 ft.

Bottom Well Cap: 71 ft.

@ 50 ft.: Similar to above, wet
fine to medium sand, 5% silt

@ 55 ft.: Similar to above

DARK YELLOWISH BROWN WELL
GRADED SAND (SW) (10YR 4/6) Loose, wet, 95% fine to coarse sand

@ 65 ft.: Similar to above
Driller notes change in drill/Pull down pressure. From augers: there are small pieces of OLIVE FAT CLAY (CH) (5Y 5/4)
(thin lenses?), soft, moist

@ 75 ft.: Drilling rate goes back to normal

@ 70 ft.: Similar to above

Driller notes change in drill/Pull down pressure. From augers: OLIVE FAT CLAY (CH) (5Y 5/4)

DARK YELLOWISH BROWN WELL
GRADED SAND (SW) (10YR 4/6) Loose, wet, 95% fine to coarse sand, 5% silt

@ 80 ft.: Similar to above

@ 90 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)

@ 95 ft.: Similar to above
OLIVE FAT CLAY (CH) (5Y 5/3) Soft, moist, 90% clay, 10% silt
Completion Date: 1/28/2000
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 87.54 ft, Hole Dia.: 12 in.
Northing: 2143247.438, Easting: 5744425.489

Top of PVC Casing
Elev.: 87.12 ft.
CHRISTY BOX

GROUND SURFACE
Top of casing at 0.5 ft. below ground level

5 DIAMETER SCHEDULE 40 PVC BLANK CASING: 0 to 26 ft.

BENTONITE-CEMENT SEAL: 0 to 30 ft.

BENTONITE-PELLET SEAL: 30 to 32.5 ft.
Lonestar #2/12 SANDPACK 32.5 to 68 ft.

Sample
Depth (ft.)
6 in. CONCRETE SIDEWALK
PALE YELLOW SAND (SP) (2.5Y 7/3)
Loose, moist, fine sand

@ 8 ft.: Change to damp

@ 16 ft.: Change to 5% silt

@ 25 ft.: Similar to above

@ 31 ft.: Change to YELLOW (10YR 7/6)

@ 40 ft.: Change to moist
@ 42 ft.: Increasing silt content

BROWNSH YELLOW SILTY SAND
(SP-SM) (10YR 6/6) Loose, wet, fine sand
Completion Date: 11/28/2000
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 87.54 ft. Hole Dia. 12 in.
Northing: 2143247.438 Easting: 5744425.489

5 DIA. SLOTTED (0.02) SCREEN: 37 to 57 ft.

YELLOWISH BROWN CLAYEY SAND (SC)
(10YR 5/4) Dense, wet, fine sand

LIGHT OLIVE BROWN SANDY CLAY (CL)
(2.5Y 5/3) Stiff, moist, no odor
LIGHT OLIVE BROWN SILTY CLAY (CL)
(2.5Y 5/3) Very stiff, damp, no odor
~Bottom of boring at 68 ft.

BOTTOM WELL CAP: 68 ft.
BOTTOM OF BOREHOLE: 68 ft.
Ground Surface
Top of casing at 2 ft. above ground level

5 Diameter Schedule 40 PVC Blank Casing: 0 to 26 ft.

Bentonite-Cement Seal: 0 to 18.5 ft.

Lonestar #2/12 Sandpack: 21 to 26 ft.

5 Dia. Slotted (0.02) Screen: 26 to 56 ft.

Very Dark Gray Sandy Organic Soil (Ov/Oh) (2.5Y 3/1) Loose, dry, 70% soil, 30% sand

@ 3 ft.: Change to Brown (10YR 5/3), 35% sand

Yellowish Brown Well Graded Sand (SW) (10YR 5/4) Loose, dry, 100% fine to coarse sand

@ 8 ft.: Change to light Yellowish Brown (10YR 6/4), 95% sand, 5% silt

@ 11 ft.: Similar to above

@ 13 ft.: Change to Decrease in grain size

@ 17 ft.: Similar to above

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above
@ 31 ft.: Similar to above

@ 38 ft.: Similar to above, moist

@ 40 ft.: Similar to above

Brownish Yellow Poorly Graded Sand (SP) (10YR 6/6) Very dense, moist, 95% fine sand, 5% silt

MACTEC

Well Construction Details and Log of Boring MW-BW-42-A

PLATE

Fort Ord, California

DRAWN
PCB

JOS NUMBER
55596.001701

APPROVED

DATE
11/04

REVISED DATE

**Completion Date:** 11/15/2000  
**Drilling Method:** Hollow Stem Auger  
**Logged by:**  
**Surface Elevation:** 87.65 ft.  
**Hole Dia.:** 12 in.  
**Northing:** 2143291.792  
**Easting:** 5744809.871

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**Sample @ 50 ft.:** Similar to above

**Yellowish Brown Well Graded Sand (SW) (10YR 5/4), wet**

**Light Olive Brown Fat Clay with Sand (CL) (2.5Y 5/4), Soft, wet, 75% clay, 20% sand, 5% silt**

**Light Brownish Gray Silty Sand (SM) (2.5Y 6/2), Loose, wet, 80% sand, 20% silt**

**Light Yellowish Brown Fat Clay with Sand (CL) (2.5Y 6/4), Soft, wet, 80% clay, 20% sand**

**Light Brownish Gray Silty Sand with Clay (SM) (2.5Y 6/2), Loose, wet, 70% well graded sand, 25% silt, 5% clay**

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**Sample @ 70 ft.:** Similar to above

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**Sample @ 75 ft.:** Similar to above

**Dark Gray Fat Clay (CH) (10YR 4/1)**

Very stiff, dry, 95% clay, 5% sand  
Bottom of boring at 79 ft.
Top of PVC Casing
Elev. 132.85 ft.
CHRISTY
BOX

GROUND SURFACE
Top of casing at 0.5 ft. below ground level

7 in. DIAMETER BOREHOLE: 0 to 27 ft.
3 DIAMETER SCHEDULE 40 PVC BLANK CASING: 27 to 180 ft.

BENTONITE CEMENT SEAL: 0 to 25 ft.

BENTONITE SLURRY: 25 to 105 ft.

Depth (ft.) Sample

VERY DARK GRAY SILTY SAND (SM)
(10YR 3/1) Loose, moist, 80% fine to coarse sand, 20% silt

VERY DARK GRAY WELL GRADED SAND
(SW) (10YR 3/1) Loose, dry, 90% fine to coarse sand, 10% silt
@ 5 ft.: Change to DARK BROWN (10YR 3/5)

@ 8 ft.: Change to YELLOWISH BROWN
(10YR 5/4) 55% fine to coarse sand, 5% silt
@ 10 ft.: Similar to above

@ 15 ft.: Similar to above

@ 20 ft.: Similar to above

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above

@ 35 ft.: Similar to above

@ 38 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)
@ 40 ft.: Similar to above

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 95% fine to medium sand, 5% silt
Completion Date: 3/3/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 133.22 ft
Hole Dia.: 7 in.
NORTHING: 2143078.01
EASTING: 5754578.17

@ 44 ft.: Change to LIGHT GRAY (10YR 7/1)
@ 45 ft.: Change to LIGHT YELLOWISH BROWN (10YR 6/4)
BROWN WELL GRADED SAND (SW)
(10YR 4/3) Loose, dry, 90% fine to coarse sand, 10% silt
@ 50 ft.: Similar to above

@ 52 ft.: Loose, moist
BROWN CLAYEY SAND (10YR 4/3) Loose, moist, 85% fine to coarse sand, 15% clay

BROWN WELL GRADED SAND (SW)
(10YR 4/3) Loose, dry, 90% fine to coarse sand, 10% clay
BROWN CLAYEY SAND (SC) (10YR 4/3)
Loose, moist, 80% fine to coarse sand, 20% clay

BROWNISH YELLOW POORLY GRADED SAND (SP) (10YR 8/6) Loose, dry, 95% fine to medium sand, 5% silt

@ 77 ft.: Change to YELLOWISH BROWN (10YR 5/4) Loose, moist

@ 70 ft.: Similar to above
@ 72 ft.: Loose, wet, 90% fine to medium sand, 10% silt
@ 76 ft.: Similar to above
@ 80 ft.: Similar to above
@ 85 ft.: Similar to above
@ 87 ft.: Similar to above
@ 90 ft.: Similar to above

@ 92 ft.: 95% fine to medium sand, 5% silt

@ 94 ft.: Change to DARK GRAYISH BROWN (10YR 4/2)
@ 95 ft.: Change to YELLOWISH BROWN (10YR 5/4)
@ 96 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Very stiff, dry, 80% clay, 10% fine sand, 10% silt, iron stained sand appears to be worked in

@ 102 ft.: Similar to above

OLIVE GRAY POORLY GRADED SAND (SP) (5Y 4/2) Loose, moist, 90% fine to medium sand, 10% clay

OLIVE GRAY CLAYEY SAND (5Y 5/2) Dense, wet, 65% fine sand, 35% clay

OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Very stiff, dry, 90% clay, 10% silt
@ 108 ft.: Change to 80% clay, 20% silt

@ 110 ft.: Similar to above
@ 112 ft.: Similar to above

@ 116 ft.: Similar to above

LIGHT OLIVE GRAY POORLY GRADED SAND (SP) (5Y 6/2) Loose, wet, 95% fine to medium sand, 5% silt

OLIVE GRAY FAT CLAY WITH SAND (CH) (5Y 4/2) Soft, moist, 65% clay, 20% silt, 15% fine sand

OLIVE GRAY SILT WITH SAND (ML) (5Y 4/2) Soft, moist, 80% silt, 20% fine sand

LIGHT OLIVE GRAY POORLY GRADED SAND (SP) (5Y 6/2) Loose, wet, 95% fine to medium sand, 5% silt

LIGHT OLIVE GRAY WELL GRADED SAND (SW) (5Y 6/2) Loose, wet, 95% fine to coarse sand, 5% silt

OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Stiff, dry, 80% clay, 20% silt, Sand in contact with clay has iron staining
@ 130 ft.: Change to DARK GREENISH GRAY FAT CLAY (5BG 4/1) 90% Clay, 10% silt
@ 131 ft.: Change to DARK BLUISH GRAY (5B 4/1) Very stiff, dry, Trace shell fragments to 7 cm.
@ 132 ft.: Change to Shell fragments gone
@ 136 ft.: Similar to above

DARK BLUSH GRAY SILTY SAND (SM) (5B 4/1) Loose, wet, 70% fine to medium sand, 30% silt
DARK BLUSH GRAY POORLY GRADED SAND (SP) (5B 4/1) Loose, wet, 90% fine to medium sand, 10% silt
DARK BLUSH GRAY SILT (ML) (5B 4/1) Soft, moist, 65% silt, 35% clay
DARK BLUSH GRAY FAT CLAY (CH) (5B 4/1) Stiff, dry, 75% clay, 25% silt

@ 150 ft.: Change to 90% clay, 10% silt. Possible shell fragments specks. Reacts with HCL
@ 152 ft.: Change to Very stiff, dry. Shell fragments to 1.5 cm.
@ 153 ft.: Change to Only tiny spec of shell fragments left

@ 156 ft.: Change to Shell fragments gone
@ 157 ft.: Change to VERY DARK GRAY (5Y 3/1)
@ 158.5 ft.: Change to OLIVE GRAY SANDY FAT CLAY (6Y 4/2) Stiff, dry, 80% clay, 20% fine to coarse sand
LIGHT OLIVE GRAY WELL GRADED SAND (SW) (5Y 6/2) Loose, wet, 90% fine to coarse sand, 10% silt
@ 165 ft.: Change to YELLOWISH BROWN (10YR 5/8) Loose, wet, 90% fine to coarse sand, 10% silt. Sharp contact with overlying unit

@ 168 ft.: Change to LIGHT OLIVE BROWN (2.5Y 6/4)
@ 170 ft.: Similar to above
@ 172 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
@ 174 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3)
@ 176 ft.: Similar to above
LONESTAR # 2/12 SANDPACK: 177 to 201 ft.

3 in. DIAMETER SLOTTED (0.32 in.) SCREEN: 160 to 200 ft.

End cap to bottom of screen: 7 in.
BOTTOM WELL CAP: 200 ft.

BENTONITE CHIPS: 200 to 217 ft.

@ 180 ft.: Change to increase in coarse sand (#3)
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 95% fine to medium sand, 5% silt
LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 95% fine to coarse sand, 5% silt
@ 186.5 ft. 90% fine to coarse sand, 10% silt
@ 192 ft. 95% fine to coarse sand, 5% silt
@ 196 ft.: Similar to above
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 90% fine to medium sand, 10% silt, Gold specs possibly mica

LIGHT OLIVE BROWN SILTY SAND (SM) (2.5Y 5/3) Loose, wet, 60% fine to medium sand, 40% silt
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) 95% fine to medium sand, 5% silt
@ 212 ft.: Similar to above
LIGHT YELLOWISH BROWN FAT CLAY (CH) (2.5Y 9/4) Stiff, dry, 70% clay, 20% silt, 10% fine sand
Bottom of boring @ 217 ft.
Completion Date 5/24/2001
Drilling Method Hollow Stem Auger
Logged by
Surface Elevation 58.70 ft. Hole Dia. 12 in.
Northing 2143608.37 Easting 5744303.18

Top of PVC Casing
Elev. 60.70 ft.

GROUND SURFACE

BENTONITE-
CEMENT SEAL: 0 to 5 ft.

5 in. DIAMETER SCHEDULE 80 PVC BLANK CASING: +2 to 15.2 ft.

BENTONITE PELLET SEAL: 5 to 10 ft.

#3 Lapis Luzite SANDPACK: 10 to 36 ft.

5 in. DIAMETER SLOTTED (0.020 in.) SCREEN: 15 to 35 ft.

Depths (ft.) Sample

0

5

10

15

20

25

30

35

LIGHT OLIVE BROWN SAND (SW) (2.5Y 5/3) Loose, dry, 50% fine sand, 30% medium sand, 15% fine, 5% coarse sand, trace organics

@ 1 ft.: Change to OLIVE BROWN (2.5Y 4/3) 35% medium sand, no coarse sand

@ 5 ft.: Change to DARK OLIVE BROWN (2.5Y 3/3) slightly moist, 60% fine sand, 30% medium sand, 10% fines

@ 7 ft.: Change to YELLOW (2.5Y 7/8) loose, 60% fine sand, 35% medium sand, 5% fines

@ 10 ft.: Change to 70% fine sand, 25% medium sand, 5% fines

@ 20 ft.: Change to YELLOW (2.5Y 7/8) dense, very moist, 65% fine sand, 25% medium sand, 10% fines

@ 25 ft.: Change to wet
Completion Date: 5/24/2001
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 58.70 ft.
Hole Dia.: 12 in.
Northing: 2143608.37
Easting: 5744303.18

@ 34-36 ft.: Driller notes change - possible clay layer
@ 35 ft.: Trace of mica
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Medium dense, wet, 90% fine sand, 5% medium sand, 5% fines
Note: Sandy cuttings observed below 36 ft. were proven unreliable based on clay adhered to 6 in. auger flights upon retrieval. As such, only driller notes are included here. The boreholes collapsed to 22 ft. BGS after the 8 in. augers were removed.
@ 39 ft.: Driller notes change - possible stiff clay

@ 51-52 ft.: Driller notes change - possible stiff clay

@ 58.5 ft.: Driller notes possible clay layer
Top of PVC Casing Elev. 147.16 ft.
CHRISTY BOX

GROUND SURFACE
Top of casing at 1 ft. below ground level

7 in. DIAMETER BOREHOLE: 0 to 227 ft.

3 DIAMETER SCHEDULE 40 PVC BLANK CASING: 1 to 215 ft.

BENTONITE CEMENT SEAL: 0 to 25 ft.

BENTONITE SLURRY: 25 to 185 ft.

Completion Date 2/28/2003
Drilling Method Sonic
Logged by D. Browne
Surface Elevation 147.57 ft. Hole Dia. 7 in.
Northing 2133826.2 Easting 5747239.36

DARK GRAY WELL GRADED SAND (SW) (2.5Y 4/1) Loose, moist, 90% fine to coarse sand, 10% silt

@ 3 ft.: Change to DARK GRAYISH BROWN (2.5Y 4/2) Loose, moist
@ 4 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6) Loose, moist
@ 5 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) 95% fine to coarse sand, 5% silt

@ 10 ft.: Similar to above

@ 15 ft.: Similar to above

@ 20 ft.: Similar to above

@ 25 ft.: Similar to above
Completion Date: 2/28/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 147.57 ft
Hole Dia.: 7 in.
Northing: 2138926.2
Easting: 5747239.36

@ 30 ft.: Similar to above

OLIVE YELLOW POORLY GRADED SAND
(SP) (2.5Y 6/4) Loose, dry, 95% fine to
medium sand, 5% silt

@ 35 ft.: Similar to above

@ 40 ft.: Similar to above

@ 45 ft.: Similar to above

@ 49 ft.: Change to DARK YELLOWISH
BROWN (10YR 4/6) Loose, dry

@ 52 ft.: Change to YELLOWISH BROWN
POORLY GRADED SAND (SP) (10YR 5/6)
Loose, dry, 95% fine to medium sand, 5%
silt

@ 56 ft.: Change to BROWNISH YELLOW
(10YR 5/6)
Completion Date: 2/28/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 147.57 ft., Hole Dia.: 7 in.
Northing: 2136823.2, Easting: 5747239.36

@ 60 ft.: Change to LIGHT YELLOWISH BROWN (10YR 6/4)

@ 65 ft.: Similar to above

@ 70 ft.: Similar to above

@ 74 ft.: Change to YELLOWISH BROWN (10YR 5/6) Loose, wet

@ 80 ft.: Similar to above

@ 85 ft.: Similar to above

@ 87 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)
Well Construction Details and Log of Boring MW-BW-44-180

@ 90 ft.: Similar to above

@ 91 ft.: Change to YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, wet, 95% fine to medium sand, 5% silt

@ 92 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)

@ 96 ft.: Iron staining in sands
OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 65% clay, 10% silt, 5% iron stained sands

@ 97 ft.: Iron staining gone

@ 98 ft.: Change to 86% clay, 15% silt, Very small shell fragments reacting to HCL

@ 100 ft.: Change to Trace shell fragments

@ 105 ft.: Similar to above

@ 106 ft.: Change to Shell fragments gone

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, wet, 90% fine to medium sand, 10% silt

@ 110 ft.: Similar to above

@ 112 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Stiff, dry, 80% clay, 20% silt, Sharp contact with overlying unit. Sands worked into 0.5 in. of clay
@ 120 ft.: Change to DARK GREENISH
GRAY FAT CLAY (5GY 4/1) 65% clay, 15%
silt

DEPT (ft.)

SAMPLE

@ 125 ft.: Similar to above

@ 126 ft.: Change to No visible shell
fragments, Reacts violently with HCL

DARK BLUSH GRAY SILT WITH SAND
(ML) (5B 4/1) Soft, moist, 80% silt, 20%
sand

@ 129 ft.: Change to DARK BLUSH GRAY
SILT medium stiff, dry, 80% silt, 20% clay
@ 130 ft.: Similar to above

DARK BLUSH GRAY FAT CLAY (CH) (5B
4/1) Medium stiff, dry, 80% clay, 20% silt
@ 135 ft.: Change to 90% clay, 10% silt

VERY DARK GRAY SILT WITH SAND (ML)
(N 3/0) Soft, dry, 50% silt, 20% fine sand,
20% clay

DARK GREENISH GRAY SILTY SAND
(SM) (5G 4/1) Loose, wet, 70% fine to
medium sand, 30% silt

OLIVE GRAY WELL GRADED SAND (SW)
(SY 5/2) Loose, wet, 90% fine to coarse
sand (mostly fine to medium), 10% silt

DARK BLUSH GRAY FAT CLAY (CH) (5B
4/1) Stiff, dry, 90% clay, 10% silt

@ 142 ft.: Similar to above, 95% clay, 5%
silt, Trace large shell fragments

@ 144 ft.: Shell fragments gone

@ 146 ft.: Similar to above
Completion Date: 2/28/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 147.57 ft
Hole Dia. 7 in.
Northing: 2139826.2
Easting: 5747239.36

Depth (ft)

Sample

@ 150 ft.: Similar to above

DARK BLUISH GRAY SILTY SAND (SM) (5B 4/1) Loose, moist, 85% fine to medium sand, 15% silt

@ 155 ft.: Similar to above

DARK BLUISH GRAY FAT CLAY (CH) (5B 4/1) Stiff, dry 75% clay, 25% silt
@ 158 ft.: Change to 60% clay, 40% silt

@ 160 ft.: Change to 75% clay, 25% silt

@ 162 ft.: Change to 85% clay, 15% silt

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, wet, 80% fine to coarse sand, 10% clay
LIGHT YELLOWISH BROWN SANDY FAT CLAY (CH) (2.5Y 6/3) Soft, moist, 60% clay, 40% fine to coarse sand
DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/6) Loose, wet, 80% fine to coarse sand, 10% silt
@ 170 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 174 ft.: Change to BROWN (10YR 5/3)

@ 175 ft.: Similar to above

@ 176 ft.: Change to Increase in coarse sand (#3)

@ 179 ft.: Change to YELLOWISH BROWN (10YR 5/4) Decrease in coarse sand

BENTONITE SLURRY: 25 ft to 180 ft
BENTONITE SLURRY: 25 to 180 ft.

BENTONITE PELLET SEAL: 186 to 192 ft.

LONESTAR #212 SANDPACK: 192 to 215 ft.

3 in. DIAMETER SLOTTED (0.02 in.) SCREEN: 195 to 215 ft.

Well Construction Details and Log of Boring MW-BW-44-180
OUCTP

PLATE A56

MACTEC

Fort Ord, California

DRAWN MBP 55596 001701

APPROVED ND

DATE 11/04

REVISED DATE

Completion Date 2/28/2003
Drilling Method Sonic
Logged by D. Browne
Surface Elevation 147.57 ft. Hole Dia. 7 in.
Northing 2133828.2 Easting 5747239.36

@ 180 ft.: Similar to above

@ 184 ft.: Change to Increase in coarse sand
@ 185 ft.: Similar to above

@ 186 ft.: Change to Decrease in coarse sand
@ 187 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3)

@ 190 ft.: Change to Increase in coarse sand

@ 192.5 ft.: Change to DARK GRAYISH BROWN (2.5Y 4/2) 90% fine to coarse sand, 5% subrounded gravel of chert granitics to 1.5 cm, 5% silt
@ 194 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Trace gravel

@ 198 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) Gravels gone
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 95% fine to medium sand, 5% silt
OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 4/3) Loose, wet, 90% fine to coarse sand (mostly coarse), 10% silt
@ 201 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) Loose, wet, Gravels gone

GRAYISH BROWN POORLY GRADED SAND (SP) (2.5Y 5/2) Loose, wet, 95% fine to medium sand, 5% silt

@ 206 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 95% fine to coarse sand (mostly coarse #3 sand), 5% silt
LONESTAR # 2/12
SANDPACK 192
to 215 ft.

3 in. DIAMETER
SLOTTED (0.02
in.) SCREEN 195
to 215 ft.

End cap to bottom
of screen 7 in.
BOTTOM WELL
CAP: 215 ft.

BENTONITE
CHIPS: 215 to 227
ft.

@ 209 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)
GRAYISH BROWN POORLY GRADED
SAND (SP) (2.5Y 5/2) Loose, wet, 95% fine
to medium sand, 5% silt, Gold speckles,
possibly mica present
LIGHT OLIVE BROWN WELL GRADED
SAND (SW) (2.5Y 5/4) Loose, wet, 95% fine
to coarse sand (mostly coarse #3 sand), 5% silt
GRAYISH BROWN POORLY GRADED
SAND (SP) (2.5Y 5/2) Loose, wet, 95% fine
to medium sand, 5% silt
@ 215 ft.: Similar to above
@ 216 ft.: Change to 90% fine to medium
sand, 10% silt:
GRAYISH BROWN SILTY SAND (SM)
(2.5Y 5/2) Loose, wet, 95% fine to medium
sand, 15% silt, 10% subrounded to rounded
mudstone to 1.5 cm
GRAYISH BROWN POORLY GRADED
SAND (SP) (2.5Y 5/2) Loose, wet, 95% fine
to medium sand, 5% silt, Gold speckles,
possibly mica present
@ 220 ft.: Change to increase to 10% silt
GRAYISH BROWN SILT WITH SAND (ML)
(2.5Y 5/2) Soft, moist, 80% silt, 20% fine
sand
GRAYISH BROWN POORLY GRADED
SAND (SP) (2.5Y 5/2) Loose, wet, 95% fine
to medium sand, 5% silt, Gold speckles,
possibly mica present

Bottom of Boring @ 227 ft.
Completion Date: 5/25/2001
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 77.50 ft.
Hole Dia.: 12 in.
Northing: 2144011.343
Easting: 5743652.176

Top of PVC Casing
Elev.: 79.30 ft.

5 in. DIAMETER SCHEDULE 40 PVC BLANK CASING: +1.8 to 52.3 ft.
12 in. DIAMETER BOREHOLE: +1.8 to 83 ft.

BENTONITE CEMENT SEAL: 0 to 42 ft.

Depth (ft.)

Sample

BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/6) Loose, dry, 50% fine sand, 30% medium sand, 10% fines, 10% organics, trace coarse sand
@ 1 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6)
@ 5 ft.: Change to DARK YELLOWISH BROWN (10YR 3/4) 50% fine sand, 40% subangular medium sand, 10% silt, no odor
@ 7 ft.: Change to OLIVE YELLOW (2.5Y 6/6)
@ 10 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3) 60% subangular medium sand, 40% fine sand
@ 15 ft.: Change to OLIVE YELLOW (2.5Y 6/6) subrounded medium sand
@ 20 ft.: Trace coarse sand
@ 25 ft.: Change to 65% fine sand, 30% medium sand, 5% silt, trace mica
@ 30 ft.: Change to 70% fine sand, 25% medium sand, 5% silt

Well Construction Details and Log of Boring MW-BW-44-A
OUCTP

MACTEC

PLATE

Drillers: A57

Fort Ord, California
Completion Date: 5/25/2001
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 77.50 ft.
Hole Dia.: 12 in.
Northing: 2144011.343
Easting: 5743652.176

Depth (ft.)

Sample

@ 35 ft.: Change to slightly moist, 75% fine sand, 15% medium sand, 10% silt, no odor

@ 40 ft.: Change to medium dense

@ 47 ft.: Driller notes slower drilling rate

@ 55 ft.: Change to moist, trace coarse sand (subrounded) and mica

@ 59 ft.: Driller notes change, possibly water

@ 65 ft.: Change to 65% fine sand, 20% medium sand, 5% coarse sand, 10% silt, wet
**Completion Date:** 5/25/2001

**Drilling Method:** Hollow Stem Auger

**Logged by:**

**Surface Elevation:** 77.50 ft.  
Hole Dia. 12 in.  
Northing 2144011.343  
Easting 5743552.176

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**@ 75 ft.:** Driller notes possible gravel

**@ 80 ft.:** Driller notes slower drilling

**OLIVE FAT CLAY (CH) (5Y 5/4) 80% clay, 20% fine sand**

**Bottom of boring at 83 ft.**
Completion Date: 2/24/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 140.93 ft.
Hole Dia: 7 in.
Northing: 2133273.89
Easting: 5747773.43

Top of PVC Casing
Elev.: 140.93 ft.
CHRISTY BOX

GROUNDSURFACE

Top of casing at 1 ft. below ground level

7 in. DIA.
BOREHOLE: 0 to 196 ft.

3 in. DIA.
SCHEDULE 80
PVC BLANK CASING: 1 to 172 ft.

BENTONITE CEMENT SEAL: 8 to 25 ft.

35
30
25
20
15
10
5
0
Sample
Depth (ft.)

VERY DARK GRAY WELL GRADED SAND
(SW) (2.5Y 3/1) Loose, Dry, 90% fine to
coarse sand, 10% silt

@ 5 ft.: Similar to above

@ 8 ft.: Change to DARK GRAYISH
BROWN (10YR 4/2) Loose, dry

@ 10 ft.: Change to BROWN (10YR 4/3)

YELLOWISH BROWN POORLY GRADED
SAND (SP) (10YR 5/5) Loose, dry, 95% fine
to medium sand, 5% silt

@ 15 ft.: Similar to above

@ 20 ft.: Similar to above

@ 25 ft.: Similar to above

@ 28 ft.: Change to BROWNISH YELLOW
(10YR 5/6)

@ 30 ft.: Similar to above

@ 32 ft.: Similar to above
Completion Date: 2/24/2003
Drilling Method: Sonic
Logged by: O. Brown
Surface Elevation: 140.93 ft
Hole Dia: 7 in
Northing: 2133732.89
Easting: 5747773.43

@ 25 ft.: Similar to above

@ 40 ft.: Change to DARK YELLOWISH BROWN (10YR 5/6)

@ 45 ft.: Similar to above

@ 50 ft.: Similar to above

@ 52 ft.: Change to BROWNISH YELLOW (10YR 6/6)

@ 60 ft.: Similar to above

@ 65 ft.: Similar to above

@ 67 ft.: Change to Moist
@ 68 ft.: Change to Wet

Well Construction Details and Log of Boring MW-BW-45-180

PLATE

MACTEC

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
MBP 55566 001701

Fort Ord, California

A58

Page 2 of 6
Completion Date: 2/24/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 149.93 ft. Hole Dia. 7 in.
Northing: 2139732.65 Easting: 5747773.43

@ 72 ft.: Similar to above

@ 74 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6)

@ 80 ft.: Similar to above

LIGHT OLIVE BROWN SILTY SAND (SM)
(2.5Y 5/4) Loose, wet, 95% fine to medium sand, 15% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, wet, 95% fine to coarse sand, 5% silt

LIGHT OLIVE BROWN FAT CLAY (CH)
(2.5Y 5/4) Stiff, dry, 85% clay, 15% silt, Iron staining

@ 92 ft.: Change to 90% clay, 10% silt

LIGHT OLIVE BROWN CLAYEY SAND
(SC) (2.5Y 5/3) Medium stiff, moist, 80% fine to medium sand, 20% clay

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, moist, 90% fine to medium sand, 10% silt
Completion Date: 2/24/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 140.93 ft. Hole Dia: 7 in.
Northing 2133732.89 Easting 5747773.43

Depth (ft.)

Sample

105

BENTONITE SLURRY: 25 to 100 ft.

110

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, moist, 90% fine to medium sand, 10% silt

115

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 85% clay, 10% silt, 5% fine sand, sand has iron staining

@ 112 ft.: Similar to above

120

@ 115 ft.: Similar to above

125

@ 118 ft.: Change to Trace very small shell fragments, reaction with HCL

@ 120 ft.: Change to increase to 30% silt

130

@ 124 ft.: Change to 85% clay, 15% silt

135

LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/4) Loose, wet, 75% fine to medium sand, 25% clay

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, moist, 90% fine to medium sand, 10% silt

LIGHT OLIVE GRAY WELL GRADED SAND (SW) (5Y 6/2) Loose, wet, 95% fine to coarse sand, 5% silt

140

@ 132 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 90% clay, 10% silt

@ 136 ft.: Change to DARK BLUISH GRAY (5B 4/1)
@ 140 ft.: Change to Trace shell fragments

@ 142 ft.: Change to Shell fragments gone

DARK BLUSH GRAY SILT (ML) (5B 4/1)
Soft, dry, 99% silt, 1% fine sand

DARK BLUSH GRAY SILTY SAND (SM)
(5B 4/1) Loose, moist, 80% fine sand, 20% silt

DARK BLUSH GRAY FAT CLAY (CH) (5B 4/1)
Stiff, dry, 80% clay, 20% silt

@ 152 ft.: Similar to above

@ 157 ft.: Change to OLIVE GRAY (5Y 5/2)
Lenses or pockets of 10% BROWN (7.5YR 5/4) sand

GRAYISH BROWN CLAYEY SAND (SC)
(2.5Y 5/2) Loose, moist, 80% fine to coarse sand, 20% clay

OLIVE BROWN SANDY FAT CLAY (CH)
(2.5Y 4/3) Medium stiff, moist, 65% clay, 35% fine to coarse sand

OLIVE GRAY WELL GRADED SAND (SW)
(5Y 5/2) Loose, wet, 95% fine to coarse sand, 5% silt

@ 162.5 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 168 ft.: Change to OLIVE GRAY (5Y 5/2)

@ 168.5 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 8/3) Increase in coarse sand

@ 170 ft.: Similar to above

@ 172 ft.: Similar to above
Completion Date: 2/24/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 140.93 ft.
Hole Dia.: 7 in.
Northing: 213373.89
Easting: 5747773.43

3 in. Dia., SLOTTED (0.02 in.) SCREEN: 175.5 to 195.5 ft.

@ 175 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
@ 176.5 ft.: Change to OLIVE GRAY (5Y 5/2)
@ 178 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3) #3 sand
@ 180 ft.: Similar to above
@ 182 ft.: Change to 90% fine to coarse sand, 5% subrounded gravels of chert and quartz to 2 cm., 5% silt
@ 184 ft.: Change to Trace gravels
@ 186 ft.: Change to OLIVE BROWN (2.5Y 4/3)
@ 188 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
@ 190 ft.: Change to Decrease in coarse sand, no gravels
@ 192 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3) Loose, wet, Trace gravels, increase in coarse sand
@ 194 ft.: Change to Decrease in coarse sand

Bottom of Boring @ 197 ft.
Top of PVC Casing
Elev. 77.48 ft

GROUND SURFACE

5 in. DIAMETER
SCHEDULE 40
PVC BLANK
CASING: -0.44 to
57 ft.

12 in. DIAMETER
BOREHOLE: 0 to
55 ft.

BENTONITE-
CEMENT SEAL: 0
to 46.5 ft.

Completion Date 5/14/2001
Drilling Method Hollow Stem Auger
Logged by
Surface Elevation 77.84 ft
Hole Dia. 12 in
Northing 2143734.628
Easting 5743655.456

CEMENT SIDEWALK 0 to 0.5 ft.
BROWN SANDY ORGANIC SOIL (OL-O1)
(10YR 5/3) Loose, moist, 50% organic soil,
50% fine to medium sand

LIGHT YELLOWISH BROWN WELL
GRADED SAND (SW) (10YR 8/4) Loose,
dry, 100% medium to coarse sand

@ 5 ft.: Change to YELLOWISH BROWN
(10YR 5/4)

LIGHT YELLOWISH BROWN POORLY
GRADED SAND (SP) (10YR 6/4) Loose,
slightly moist, 100% fine sand

@ 30 ft.: Change to YELLOWISH BROWN
(10YR 5/4) moist
Completion Date: 5/14/2001
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 77.84 ft., Hole Dia. 12 in.
Northing: 2143734.628, Easting: 5743865.466

@ 35 ft.: Change to trace mica, moist

@ 39-40 ft.: Driller notes a change - water

@ 45 ft.: Change to LIGHT YELLOWISH BROWN (10YR 5/4) dense, 95% fine sand, 5% silt
@ 47-49 ft.: Driller notes possible paleosol (brown clayey soil recovered in cuttings)

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) Dense, wet, 90% fine to medium sand, 5% silt

@ 55 ft.: Change to YELLOWISH BROWN (10YR 5/4)

@ 60 ft.: Grain size increasing

@ 68 ft.: Driller notes change (possible gravels)
Completion Date: 5/14/2001
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 77.84 ft. Hole Dia. 12 in.
Northing: 2143734.628 Easting: 5743655.455

@ 71 ft.: Change to 85% sand, 15% fine gravel to 1 cm, trace shells

LIGHT OLIVE BROWN SANDY LEAN CLAY WITH GRAVEL (CL) (2.5Y 5/4) Soft, wet, 90% clay, 35% fine to coarse sand, 5% gravels, trace shells

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) Dense, wet, 85% fine to coarse sand, 10% silt, 5% gravel (3-7 mm, occasional pebbles), trace shells

OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Hard, moist, Bottom of boring at 88 ft.

BOTTOM WELL CAP: 88 ft.
Hole cleaned out to 88 ft.
Top of PVC Casing
Elev. 67.72 ft.
CHRISTY BOX

5 in. DIAMETER
SCHEDULE 80
PVC BLANK
CASING: 0.30 to 53 ft.

GROUND SURFACE

12 in. DIAMETER
BOREHOLE: 0 to 85 ft.

BENTONITE:
CEMENT SEAL: 0 to 48 ft.

CEMENT SIDEWALK
DARK YELLOWISH BROWN WELL GRADED SAND (SW) WITH ORGANIC SOIL (CL) (10YR 4/4) Loose, moist, 60% fine to medium sand, 40% organic soil

@ 4 ft.: increasing sand

YELLOW WELL GRADED SAND (SW)
(2.5Y 7/8) Loose, dry, 95% fine to medium sand, 5% silt

@ 10 ft.: Change to OLIVE YELLOW (2.5Y 6/6) 100% fine to medium sand

OLIVE YELLOW POORLY GRADED SAND (SP) (2.5Y 6/6) Medium dense, moist, 100% fine sand

OLIVE YELLOW WELL GRADED SAND (SW) (2.5Y 6/6) moist, 100% fine to medium sand

@ 32 ft.: Change to YELLOWISH BROWN (10YR 5/6) 95% fine to medium sand, 5% silt
Completion Date: 5/10/2001
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 68.02 ft.
Hole Dia: 12 in.
Northing: 2143873.141
Easting: 5743073.325

- @ 42-48 ft: Driller notes harder material - possible paleosol
- @ 48 ft: Driller notes change - possible water
- @ 60 ft: Wet, increase in grain size, trace fine gravel
@ 70 ft.: Change to 80% medium to coarse sand, 15% fine gravel to 5 mm, 5% silt, trace crushed shells

@ 75 ft.: Change to 85% medium to coarse sand, 15% fine gravel

@ 80 ft.: Decrease in grain size

DARK OLIVE GRAY FAT CLAY (CH) (5Y 3/2) Hard, slightly moist
Bottom of Boring at 86 ft.
Top of PVC Casing
Elev. 162.46 ft.

GROUND SURFACE
Top of casing at 1 ft. above ground level

7 in. DIAMETER BOREHOLE: 0 to 247 ft.

3 DIAMETER SCHEDULE 40 PVC BLANK CASING: 1 to 226 ft.

BENTONITE CEMENT SEAL: 0 to 25 ft.

BENTONITE SLURRY: 25 to 197 ft.

Completion Date: 3/28/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 163.08 ft. Hole Dia. 7 in.
Northing: 2138842.37 Easting: 5747763.88

Very Dark Gray Silty Sand (SM)
(10YR 3/1) Loose, moist, 85% fine to coarse sand, 15% silt

@ 3 ft.: Charge to BROWN (10YR 4/3)

Yellowish Brown Well Graded Sand (3W) (10YR 5/6) Loose, moist, 90% fine to coarse sand, 10% silt

@ 10 ft.: Similar to above

Yellowish Brown Poorly Graded Sand (3P) (10YR 5/5) Loose, dry, 90% fine to medium sand, 10% silt

@ 16 ft.: Similar to above

Yellowish Brown Well Graded Sand (3W) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt

@ 25 ft.: Similar to above

Well Construction Details and Log of Boring MW-BW-47-180
CUCTP

Fort Ord, California

PLATE

MACTEC

DRAWN: MBP
JOB NUMBER: 55596 001701
APPROVED: 
DATE: 11/04
REVISED DATE: 

Page 1 of 9
Completion Date: 3/26/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 163.08 ft.
Hole Dia.: 7 in.
Northing: 2133842.37
Easting: 5747763.88

@ 30 ft.: Similar to above

@ 32 ft.: Similar to above

@ 36 ft.: Similar to above

@ 40 ft.: Similar to above

BROWN SILTY SAND (SM) (10YR 4/3)
Loose, dry, 95% fine to coarse sand, 15% silt

@ 46 ft.: Similar to above

@ 50 ft.: Similar to above

DARK YELLOWISH BROWN WELL
GRADED SAND (SW) (10YR 4/4)
Loose, dry, 99% fine to coarse sand, 10% silt

@ 57 ft.: Change to YELLOWISH BROWN
(10YR 5/4)
Completion Date: 3/28/2003
Drilling Method: Sonic
Legged by: D. Browne
Surface Elevation: 163.08 ft
Hole Dia.: 7 in.
Northing: 2138842.37
Easting: 5747783.88

Depth (ft):

- @ 60 ft.: Similar to above
- @ 65 ft.: Similar to above
- @ 72 ft.: Similar to above
- @ 75 ft.: Loamy silt
- @ 80 ft.: Loose, wet
- @ 82 ft.: Note: Driller notes difficult drilling from 80 ft. to 82 ft.
- @ 85 ft.: Change to Loose, wet
- @ 88 ft.: Similar to above
- @ 90 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4) Loose, wet

BENTONITE SLURRY: 25 lb.
197 ft.

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/4) Loose, dry, 85% fine to coarse sand, 15% silt

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 80% fine to medium sand, 10% silt
@ 92 ft.: Similar to above

@ 100 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)

@ 106 ft.: Similar to above

@ 110 ft.: Similar to above

DARK GRAY FAT CLAY (CH) (5Y 4/1) Stiff, dry, 80% clay, 20% silt

OLIVE GRAY SILT (ML) (5Y 5/2) Soft, dry, 90% silt 10% fine sand

@ 117.5 ft.: Change to Small micas or gold specs present
Completion Date 3/28/2003
Drilling Method Sonic
Logged by D. Browne
Surface Elevation 163.08 ft. Hole Dia. 7 in.
Northing 2133842.37 Easting 5747763.88

- @ 120 ft.: Change to 80% silt, 20% clay

- @ 122 ft.: Change to OLIVE BROWN (2.5Y 4/3)
  LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/6) Loose, wet, 90% fine to medium sand, 10% silt
  OLIVE FAT CLAY (CH) (5Y 5/3) Stiff, dry, 80% clay, 20% silt, Small interbedded layers of fine sand with oxidation stains

- @ 127 ft.: Change to OLIVE BROWN (2.5Y 4/3) Sand gone

- @ 130 ft.: Change to OLIVE (5Y 5/3)

- @ 132 ft.: Similar to above

- @ 136 ft.: Similar to above
  OLIVE GRAY SILTY SAND (SM) (5Y 5/2) Loose, wet, 70% fine to medium sand with micae, 30% silt

- @ 142 ft.: Change to 60% clay, 10% silt
  OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Stiff, dry, 80% clay, 20% silt

- @ 145 ft.: Change to LIGHT OLIVE BROWN SANDY FAT CLAY (2.5Y 5/4) Medium stiff, dry, 70% clay, 30% fine to medium sand

- LIGHT OLIVE BROWN CLAYEY SAND
  (SC) (2.5Y 5/4) Loose, wet, 75% fine to medium sand with micae, 25% clay

- LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Loose, wet, 90% fine to coarse sand, 10% silt

BENTONITE SLURRY: 25 to 197 ft.
OLIVE GRAY CLAYEY SAND (SC) (SY 5/2)
Loose, wet, 60% fine to medium sand, 40% clay
@ 160 ft.: Change to 80% fine to medium sand, 20% clay
OLIVE GRAY FAT CLAY (CH) (SY 5/2) Stiff, dry, 90% clay, 20% silt

@ 154 ft.: Change to VERY DARK BLUSH GRAY (5B 3/1)

@ 156 ft.: Change to 90% clay, 10% silt

@ 158 ft.: Change to Increase to 5% very small shell fragments

@ 160 ft.: Change to No visible shell fragments, Reacts with HCL

@ 162 ft.: Change to Trace shell fragments

@ 163 ft.: Change to 70% clay, 30% silt

VERY DARK BLUSH GRAY SILTY SAND (SM) (5B 3/1) Loose, moist, 70% fine to medium sand, 30% silt

VERY DARK BLUSH GRAY FAT CLAY (CH) (5B 3/1) Very stiff, dry, 75% clay, 25% silt

VERY DARK BLUSH GRAY SILT (ML) (5B 3/1) Soft, moist, 80% silt, 20% clay

DARK GREENISH GRAY FAT CLAY (CH)
(10BG 4/1) Stiff, dry, 85% clay, 15% silt

@ 172 ft.: Change to 95% clay, 5% silt, Trace medium shell fragments
@ 173 ft.: Change to Shell fragments gone

@ 175 ft.: Change to OLIVE GRAY (SY 4/2)
Very stiff, dry
OLIVE GRAY CLAYEY SAND (SC) (SY 5/2) Medium dense, moist, 80% fine to coarse sand, 20% clay, Oxidation stained sands show bedding planes
Completion Date: 3/28/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 103.08 ft. Hole Dia: 7 in.
Northing: 2138842.37 Easting: 5747763.88

- **LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 5/4):** Loose, wet, 90% fine to coarse sand, 10% silt

- **GRAYISH BROWN SANDY FAT CLAY (CH) (2.5Y 2/2):** Soft, moist, 60% clay, 40% fine to coarse sand

- **LIGHT GRAY SILTY SAND (SM) (2.5Y 7/1):** Loose, dry, 65% fine to coarse sand, 35% silt

- **LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3):** Loose, wet, 90% fine to coarse sand, 10% silt

  @ 188 ft.: Change to **GRAY (5Y 6/1)**

- **GRAY SILTY SAND (SM) (6Y 6/1):** Medium stiff, moist, 60% fine to medium sand, 40% silt

  @ 192 ft.: Change to **LIGHT GRAY (2.5Y 7/1):** Loose, dry, 70% fine to medium sand, 30% silt

- **GRAY CLAYEY SAND (SC) (5Y 5/1):** Medium dense, moist, 70% fine to medium sand, 30% clay

- **OLIVE GRAY WELL GRADED SAND (SW) (5Y 5/2):** Loose, wet, 90% fine to coarse sand (#3), 10% clay

  @ 197 ft.: Change to **LIGHT OLIVE BROWN (2.5Y 5/3):**

  @ 198 ft.: Change to One gravel

  @ 200 ft.: Similar to above

- **GRAYISH BROWN CLAYEY SAND (SC) (2.5Y 5/2):** Medium dense, moist, 75% fine to coarse sand, 25% clay, Trace gravels to 1.5 cm.

- **LIGHT GRAY SILTY SAND (SM), 70% fine to coarse sand, 30% silt, Trace gravels**

- **LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3):** Loose, wet, 90% fine to coarse sand, 10% silt

  @ 205 ft.: Change to Decrease in coarse sand
Completion Date: 3/28/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 163.08 ft
Hole Dia: 7 in
Northing: 2133842.37 Easting: 5747763.88

@ 210 ft.: Similar to above

@ 212 ft.: Similar to above

@ 214 ft.: Change to Increase in coarse sand

@ 216 ft.: Similar to above

@ 218 ft.: Change to Increase in coarse sand

@ 223.5 ft.: Change to STRONG BROWN (7.5YR 5/6)
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 90% fine to medium sand, 10% silt, Micas present

@ 230 ft.: Similar to above

@ 232 ft.: Similar to above

@ 234 ft.: Change to Mottled with oxidized sand STRONG BROWN (7.5YR 5/6)

@ 236 ft.: Change to Increase mottling to 50%
@ 236.5 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) No iron staining
OLIVE BROWN FAT CLAY (CH) (2.5Y 4/3)
Stiff, dry, 80% clay, 20% silt
GRAYISH BROWN POORLY GRADED SAND (SP) (2.5Y 5/2) Loose, wet, 90% fine
Completion Date: 3/28/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 163.08 ft. Hole Dia: 7 in.
Northing: 2138842.37 Easting: 5747763.88

Depth (ft.):

245

Sample

BENTONITE CHIPS: 226 to 247 ft.

to medium sand, 10% silt, Micas present

GRAYISH BROWN CLAYEY SAND (SC)
(2.5Y 5/2) Loose, wet, 75% fine to medium sand, 25% clay

GRAYISH BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 90% fine to medium sand, 10% silt
Bottom of Boring @ 247 ft.
Top of PVC Casing
Elev. 48.66 ft.
CHRISTY BOX

GROUND SURFACE

5 in. DIAMETER SCHEDULE 80 PVC BLANK CASING: -0.48 to 38 ft.

12 in. DIAMETER BOREHOLE: 0 to 70 ft.

BENTONITE CEMENT SEAL: 0 to 26 ft.

BENTONITE PELLET SEAL: 26 to 33 ft.

CEMENT SIDEWALK
DARK GRAYISH BROWN SANDY ORGANIC SOIL (OL-CH) (10YR 4/2) Loose, dry, 60% soil, 40% medium to fine sand

BROWN WELL GRADED SAND (SW) (10YR 4/3) Loose, dry, 75% sand, 25% soil

@ 6 ft.: Change to YELLOWISH BROWN (10YR 5/4) 93% fine to medium sand, 10% silt

@ 8 ft.: Decrease in silt to 5%

@ 12 ft.: Change to moist

@ 25 ft.: Change to 100% fine to medium sand

@ 30 ft.: Change to BROWNISH YELLOW (10YR 6/6)

OLIVE GRAY CLAY WITH SAND (CL) (5Y 5/3) Hard, dry, 85% clay, 15% fine sand
LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Dense.
Completion Date: 5/7/2001
Drilling Method: Hallow Stem Auger
Logged by: 
Surface Elevation: 46.14 ft. Hole Dia. 12 in.
Northing 2143850.188 Easting 5742418.712

5 in. DIAMETER SLOTTED 0.003 in.) SCREEN: 38 to 69 ft.

Lonestar #2/12 SANDPACK: 33 to 73 ft.

Well Construction Details and Log of Boring MIW-BW-47-A
OUCTP

@ 42 ft.: Iron streaks

@ 50 ft.: Change to 100% medium to coarse sand

@ 55 ft.: Grain size increasing, 15% fine gravel (1-5mm, occasional 1cm pebbles), some mica and crushed shells

@ 60 ft.: Change to 85% medium to coarse sand, 15% fine gravels, trace pebbles and crushed shells

@ 62 ft.: Grain size decreasing

@ 67-69 ft.: Driller noted gradational change to tighter drilling

wet, 95% fine to coarse sand, 5% silt

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DRAWN JOB NUMBER APPROVED DATE REVISED DATE
PCB 555956 001701

Fort Ord, California 11/04

Page 2 of 3
Completion Date: 5/7/2001
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 46.14 ft. Hole Dia: 12 in.
Northing: 2143060.188 Easting: 5742419.712

Hole cleaned out to 70 ft.

Sample Depth (ft.)

70

OLIVE GRAY FAT CLAY (CH) (5Y 5/2)
Soft, moist, 85% clay, 15% fine sand
Bottom of boring at 70 ft.
5 in. DIAMETER PVC BLANK CASING -0.52 to 31 ft.

12 in. DIAMETER BOREHOLE - 0 to 64 ft.

BENTONITE CEMENT SEAL - 0 to 20 ft.

Lorastar #2/12 SANDPACK - 25.5 to 62 ft.

Top of PVC Casing
Elev. 45.93 ft.

GROUND SURFACE

CONCRETE SIDEWALK
DARK GRAYISH BROWN SANDY ORGANIC SOIL (OL-CH) (10YR 4/2) Loose, moist, 60% soil, 40% well graded fine to medium sand

@ 3 ft: Change to YELLOWISH BROWN (10YR 5/4) increase in sand to 50%, some roots

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) Loose, dry, 85% fine to medium sand, 15% silt

@ 12 ft: Change to BROWNISH YELLOW (10YR 6/6) 95% fine to medium sand, 5% silt

@ 15 ft: Change to YELLOWISH BROWN (10YR 5/6)

@ 16 ft: Change to BROWNISH YELLOW (10YR 6/6) 100% fine to coarse sand

BROWNISH YELLOW POORLY GRADED SAND (SP) (10YR 6/8) Medium dense, dry, 85% medium sand, 15% coarse sand

@ 32 ft: Driller notes stiffer material, small amounts of clay recovered from cuttings

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Dense, moist, 95% fine to coarse sand, 5% silt
Completion Date 5/8/2001  
Drilling Method Hollow Stem Auger
Logged by
Surface Elevation 46.65 ft. Hole Dia. 12 in.
Northing 2141202.484 Easting 5742633.972

@ 39 ft.: Driller notes change - water

@ 42 ft.: Change to wet

@ 50 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4) wet, 85% medium to coarse sand, 15% fine gravel

@ 52 ft.: Change to 80% medium to coarse sand, 15% fine gravel (up to 5 mm), 5% silt

@ 60 ft.: Increase in grain size (gravel to 1 cm), trace shell fragments

@ 62 ft.: Driller noted stiffer drilling, increase in silt and clay
Bottom of boring at 64 ft.
completion: 4/1/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 164.84 ft
Hole Dia: 7 in
Nothing: 2137481.17
Easting: 5748564.22

Very dark gray silty sand (SM)
(10YR 3/1) Loose, dry, 80% fine to coarse sand, 20% silt

@ 3 ft: Change to dark grayish brown (10YR 4/2) Trace roots
dark yellowish brown well graded sand (SW) (10YR 4/4) Loose, dry, 90% fine to coarse sand, 10% silt

@ 6 ft: Similar to above

@ 10 ft: Similar to above

@ 12 ft: Similar to above

@ 14 ft: Change to yellowish brown (10YR 5/4)
yellowish brown poorly graded sand (SP) (10YR 5/4) Loose, dry, 90% fine to medium sand, 10% silt

Yellowish brown well graded sand (SW) (10YR 5/4) Loose, dry, 90% fine to coarse sand, 10% silt

@ 20 ft: Similar to above

Dark yellowish brown silty sand
(SM) (10YR 4/4) Loose, dry, 80% fine to coarse sand, 20% silt

@ 25 ft: Similar to above

Yellowish brown well graded sand (SW) (10YR 5/4) Loose, dry, 90% fine to coarse sand, 10% silt
Completion Date: 4/1/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 164.84 ft
Hole Dia.: 7 in.
Northing: 2137481.17
Easting: 5748964.22

@ 30 ft.: Similar to above

@ 34 ft.: Change to YELLOWISH BROWN (10YR 5/4)

@ 36 ft.: Similar to above

@ 40 ft.: Similar to above

@ 46 ft.: Similar to above

@ 50 ft.: Similar to above

@ 56 ft.: Similar to above
Completion Date  4/1/2003
Drilling Method  Sonic
Logged by    D. Browne
Surface Elevation  164.84 ft  Hole Dia.  7 in
Northing  2138431.17  Easting  5748664.22

@ 60 ft.: Similar to above

@ 65 ft.: Similar to above

@ 70 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, dry, 90% fine to medium sand, 10% silt

@ 74 ft.: Change to Loose, moist

@ 76 ft.: Change to Loose, wet, 90% fine to coarse sand, 10% silt

@ 80 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 90% fine to coarse sand, 10% silt
90 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, wet, 90% fine to medium sand, 10% silt

100 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 90% fine to medium sand, 10% silt
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, wet, 90% fine to medium sand, 10% silt

106 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 70% clay, 20% silt, 10% fine sand, Iron staining

112 ft.: Similar to above

114 ft.: Change to Iron staining gone

116 ft.: Change to DARK GREENISH GRAY (5B 3/1)

118 ft.: Change to GREENISH GRAY (5GY 5/1) Stiff, dry, Trace very small shell fragments
Completion Date: 4/1/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 164.84 ft.  Hole Dia. 7 in.
Northing: 2137481.17  Easting: 5748654.22

- @ 120 ft.: Similar to above
- @ 122 ft.: Change to 5% white residue reacts with HCL
- @ 124 ft.: Change to Trace white residue
- @ 126 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3) Trace while residue reacts with HCL
- @ 130 ft.: Similar to above
- @ 132 ft.: Similar to above

BENTONITE SLURRY: 25 to 180 ft.

LIGHT BROWNISH GRAY SILTY SAND (SM) (2.5Y 6/2) Loose, moist, 70% fine sand, 30% silt
OLIVE GRAY FATTY CLAY (CH) (2.5Y 5/2) Stiff, dry, 85% clay, 15% silt
OLIVE GRAY SILT (ML) (5Y 5/2) Soft, moist, 75% silt, 25% clay
OLIVE GRAY FATTY CLAY (CH) (2.5Y 5/2) Stiff, dry, 85% clay, 15% silt, Trace while residue
- @ 142 ft.: Change to White residue gone

OLIVE GRAY SILT WITH SAND (ML) (2.5Y 5/2) Soft, moist, 85% silt, 15% fine sand
OLIVE GRAY SILTY SAND (SM) (2.5Y 5/2) Loose, moist, 70% fine to medium sand, 30% silt
OLIVE POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, moist, 90% fine to medium sand, 10% silt
OLIVE CLAYEY SAND (SC) (2.5Y 5/3) Medium dense, moist, 65% fine to medium...
Completion Date: 4/1/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 164.84 ft. Hole Dia. 7 in.
Northing: 2137481.17 Easting: 5748864.22

Depth (ft.)

Sample

150

sand, 35% clay
DARK BLUSH GRAY FAULT CLAY (CH) (5B 4/1) Very stiff, dry, 80% clay, 20% silt

@ 152 ft.: Change to 90% clay, 10% silt, Large shell fragments

@ 154 ft.: Change to Trace very small shell fragments

@ 156 ft.: Similar to above

@ 160 ft.: Change to 75% clay, 25% silt

@ 164 ft.: Change to DARK GRAY (N 4/0) 90% clay, 10% silt, Trace shell fragments

DARK GREENISH GRAY SILT WITH SAND (ML) (5BG 4/1) Soft, moist, 85% silt, 15% fine sand

@ 165.5 ft.: Change to (N 4/0) Soft, dry, 90% silt, 10% clay

@ 168 ft.: Change to LIGHT OLIVE GRAY (5Y 5/2) Stiff, dry, 9% silt, 10% fine sand, Iron staining present

LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (2.5Y 6/3) Loose, wet, 90% fine sand, 10% silt

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4) Loose, wet, 90% fine to coarse sand, 10% silt

@ 176 ft.: Change to Increase coarse sand
Completion Date: 4/1/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 164.94 ft.
Hole Dia.: 7 in.
Northing: 2137481.17
Easting: 5748664.22

BENTONITE PELLET SEAL: 180 to 187 ft.

LONESTAR #3 SANDPACK: 187 to 221 ft.

3 in. DIAMETER SLOTTED (0.02 in.) SCREEN: 190 to 220 ft.

GRAYISH BROWN CLAYEY SAND (SC) (2.5Y 5/2) Loose, wet, 70% fine to coarse sand, 30% clay
GRAYISH BROWN WELL GRADED SAND (SW) (2.5Y 5/2) Loose, wet, 90% fine to coarse sand, 10% silt
GRAYISH BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/2) Loose, wet, 85% fine to coarse sand, 15% subrounded gravels to 2.5 cm. of chert, quartz, and granitics

@ 190 ft.: Similar to above

@ 197 ft.: Change to Decrease in coarse sand

GRAYISH BROWN CLAYEY SAND (SC) (2.5Y 5/2) Loose, wet, 70% fine to coarse sand, 30% clay

@ 200 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4) Trace gravels

@ 202 ft.: Change to Gravels gone

@ 206 ft.: Similar to above

@ 209 ft.: Change to Decrease in sand
Completion Date: 4/1/2003
Drilling Method: Static
Logged by: D. Browne
Surface Elevation: 164.84 ft. Hole Dia. 7 in.
Northing: 2137481.17 Easting: 5748864.22

@ 212 ft.: Change to 95% fine to coarse sand, 5% silt

@ 215 ft.: Change to Decrease in coarse sand

GRAYISH BROWN POORLY GRADED SAND (SP) (2.5Y 5/2) Loose, wet, 95% fine to medium sand, 5% silt, Mica, gold specks present

GRAYISH BROWN SILTY SAND (SM) (2.5Y 5/2) Loose, wet, 85% fine to medium sand, 15% silt

@ 226 ft.: Change to 80% fine to medium sand, 20% silt

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 6/3) Loose, wet, 90% fine to medium sand, 10% silt

@ 230 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt. Trace surrounded gravels of mudstone to 1.5 cm.

LIGHT YELLOWISH BROWN CLAYEY SAND (SC) (2.5Y 6/3) Loose, wet, 70% fine to coarse sand, 30% fat clay

LIGHT YELLOWISH BROWN FAT CLAY (CH) (2.5Y 6/4) Medium stiff, moist, 75% clay, 25% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 95% fine to coarse sand, 5% silt

Bottom of Boring @ 239 ft.
5/8/2001
Hollow Stem Auger

44.76 ft.
Hole Dia. 12 in.

2144543.607
5742882.197

CEMENT SIDEWALK
DARK GRAYISH BROWN SANDY
ORGANIC SOIL (CL-OH) (10YR 4/2) Loose, moist, trace roots

BROWNISH YELLOW WELL GRADED
SAND (SW) (10YR 5/6) Loose, dry, 100% fine to medium sand

@ 8 ft.: Change to YELLOWISH BROWN
(10YR 5/6) 13% silt

@ 10 ft.: Grain size decreasing

YELLOWISH BROWN POORLY GRADED
SAND (SP) (10YR 5/6) Medium dense, dry, 100% medium sand

@ 25 ft.: Change to moist

YELLOWISH BROWN WELL GRADED
SAND (SW) (10YR 5/6) Dense, moist, 90% fine to medium sand, 10% silt
Completion Date: 5/9/2001
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 44.76 ft, Hole Dia: 12 in.
Northing: 2144543.607, Easting: 5742882.197

- @ 35 ft.: Change to YELLOWISH BROWN (10YR 5/4) medium dense, moist, 80% fine to medium sand, 15% coarse sand, 5% silt
- @ 36.5 ft.: Driller notes a change - possible water

- @ 45 ft.: Change to PALE BROWN (10YR 6/3) wet, 80% fine to coarse sand, 15% fine gravel (3-7 mm), 5% silt, trace shell fragments, mica

- @ 52 ft.: Increase in grain size

LIGHT OLIVE GRAY SILTY SAND WITH GRAVEL (SM) (5Y 6/2) Medium dense, wet, 60% fine to coarse sand, 15% fine gravel, 15% silt

- @ 59-60 ft.: Driller notes tighter drilling

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Very dense, moist
Bottom of boring at 63 ft.

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MACTEC

Well Construction Details and Log of Boring MW-BW-49-A

Plotted by: Mike C. Parkinson

PLATE

A65

Fort Ord, California

DRAWN

JOb NUMBER

APPROVED

DATE

REVISED DATE

PCB 55586 001701

MDT 11/04
Top of PVC Casing
Elev. 178.65 ft.

Ground Surface
Top of casing at
2.5 ft. above
ground level

7 in. DIA.
BOREHOLE: 0 to
245 ft.

3 in. DIA.
SCHEDULE 40
PVC BLANK
CASING: 1 to 200
ft.

BENTONITE
CEMENT SEAL: 0
to 25 ft.

BENTONITE
SLURRY: 25 to
188 ft.

Depth (ft.)
Sample

VERY DARK GRAYISH BROWN SILTY
SAND (SM) (10YR 3/2) Loose, dry, 95%
fine to coarse sand, 15% silt

DARK BROWN WELL GRADED SAND
(SW) (10YR 3/3) Loose, dry, 90% fine to
coarse sand, 10% silt

@ 6 ft.: Change to BROWN (10YR 4/3)

@ 7 ft.: Change to YELLOWISH BROWN
(10YR 5/6)

@ 9 ft.: Change to YELLOWISH BROWN
(10YR 5/4)

@ 12 ft.: Similar to above

@ 14 ft.: Change to DARK YELLOWISH
BROWN (10YR 4/6)

@ 16 ft.: Change to YELLOWISH BROWN
(10YR 5/6)

@ 20 ft.: Similar to above

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above

YELLOWISH BROWN POORLY GRADED
SAND (SP) (10YR 5/6) Loose, dry, 90% fine
to coarse sand, 10% silt

Completion Date 6/24/2003
Drilling Method Sonic
Logged by D. Brown
Surface Elevation 176 ft.
Hole Dia. 7 in.
Northing 2137026.1
Easting 5748379.3

MACTEC

Well Construction Details and
Log of Boring MW-BW-50-180

Fort Ord, California

PLATE

DRAWN
MBP

JOB NUMBER
55596 001701

APPROVED
MDT

DATE
1/05

REVISED DATE

Page 1 of 9
Completion Date: 8/24/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 176 ft
Hole Dia: 7 in
Northing: 2137526.1
Easting: 5743379.3

Depth (ft)

Sample

@ 35 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/4) Loose, dry, 80% fine to coarse sand, 20% silt

@ 40 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4) Loose, dry, 90% fine to coarse sand, 10% silt

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/6) Loose, dry, 85% fine to coarse sand, 15% silt

@ 53 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 57 ft.: Similar to above

@ 65 ft.: Similar to above

@ 67 ft.: Change to YELLOWISH BROWN (10YR 5/4)

@ 69 ft.: Change to YELLOWISH BROWN (10YR 5/6)
Completion Date: 6/24/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 176 ft. Hole Dia. 7 in.
Northing: 2137526.1 Easting: 5743379.3

@ 70 ft.: Similar to above
YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 90% fine to medium sand, 10% silt

@ 75 ft.: Similar to above

@ 80 ft.: Similar to above
LIGHT GRAY SILTY SAND (SM) (2.5Y 7/2) Loose, dry, 70% fine to medium sand, 30% silt
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, dry, 90% fine to medium sand, 10% silt
LIGHT GRAY SILTY SAND (SM) (2.5Y 7/2) Loose, dry, 70% fine to medium sand, 30% silt, Layer 3 in. thick
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, dry, 90% fine to medium sand, 10% silt
@ 85 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)
YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, moist, 90% fine to coarse sand, 10% silt
@ 90 ft.: Change to Loose, wet

@ 92 ft.: Similar to above

@ 100 ft.: Similar to above

@ 101.5 ft.: Change to OLIVE GRAY (2.5Y 5/2)

@ 103 ft.: Change to YELLOWISH BROWN (10YR 5/6)

MACTEC
Log of Boring MW-BW-50-180
PLATE A66

Well Construction Details and
Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
MBP 55596 001701 1/05

Page 3 of 9
BENTONITE SLURRY: 25 to 100 ft.

105 ft.: Similar to above

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) Loose, wet, 90% fine to medium sand, 10% silt

112 ft.: Similar to above

117 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 80% clay, 20% silt. Trace DARK YELLOWISH-BROWN FINE SAND

125 ft.: Change to DARK GREENISH GRAY (5GY 4/1) Trace small shell fragments to 0.5 cm.

130 ft.: Similar to above

132 ft.: Change to 90% clay, 10% silt. White residue reacts with HCL

135 ft.: Change to Trace shells

138 ft.: Change to OLIVE GRAY (5Y 4/2)
Completion Date: 6/24/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 176 ft.
Hole Dia.: 7 in.
Northing: 2137526.1
Easting: 5748379.3

@ 142 ft.: Change to DARK GREENISH GRAY (SGY 4/1)

@ 146 ft.: Change to OLIVE GRAY (5Y 4/2)
OLIVE GRAY SILT (ML) (5Y 4/2) Soft, moist, 85% silt, 15% clay
@ 146 ft.: Change to DARK GREENISH GRAY (SGY 4/1)
DARK GREENISH GRAY FAT CLAY (CH) (SGY 4/1) Stiff, dry, 75% clay, 25% silt
@ 150 ft.: Change to OLIVE GRAY 5Y 6/2

@ 155 ft.: Similar to above
OLIVE GRAY WELL GRADED SAND (SW) (5Y 5/2) Loose, wet, 80% fine to coarse sand, 10% silt

DARK BLUSH GRAY FAT CLAY (CH) (5B 4/1) Very stiff, dry, 85% clay, 15% silt
@ 162 ft.: Change to Trace shell fragments to 5 cm.
@ 164 ft.: Change to Shell fragments gone
@ 166 ft.: Similar to above

@ 170 ft.: Change to Trace shell fragments
DARK BLUSH GRAY SILT (ML) (5B 4/1) Soft, moist, 85% silt, 15% clay
DARK BLUSH GRAY FAT CLAY (CH) (5G 4/1) Medium stiff, dry, 75% clay, 25% silt
Completion Date: 6/24/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 178 ft. Hole Dia. 7 in.
Northing: 2137529.1 Easting: 5748379.3

- @ 175 ft.: Change to 90% clay, 10% silt
- @ 176 ft.: Change to DARK BLUISH GRAY SANDY FAT CLAY Stiff, dry, 70% clay, 20% fine sand, 10% silt
- LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/6) Loose, wet, 90% fine to coarse sand, 10% silt

- @ 185 ft.: Similar to above
- @ 190 ft.: Change to Increase in coarse sand
- @ 194 ft.: Change to Increase in coarse sand (#3)

- @ 200 ft.: Similar to above
- @ 205 ft.: Similar to above

MACTEC

Well Construction Details and Log of Boring MW-BW-80-160
OUCTP

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
MBP 55596 001701 M/2/2003 1/05

Page 6 of 9
3 in. Dia.
SLOTTED (0.02
in.) SCREEN: 200
to 240 ft.

@ 210 ft.: Similar to above

@ 213.5 ft.: Change to increase in coarse sand

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 6/3) Loose, wet, 90% fine to medium sand, 10% silt, Trace micas present

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt

OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 4/4) Loose, wet, 90% fine to medium sand, 10% silt, Micas present

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 8/4) Loose, wet, 90% fine to coarse sand, 10% silt

OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 4/4) Loose, wet, 90% silt to medium sand, 10% silt, Micas present

@ 232 ft.: Similar to above

@ 235 ft.: Similar to above

@ 240 ft.: Similar to above
OLIVE YELLOW CLAYEY SAND (SC) (2.5Y 6/0) Loose, wet, 85% fine to coarse sand, 15% clay. Trace gravels

@ 250 ft.: Change to OLIVE BROWN (2.5Y 4/4)

@ 253 ft.: Change to 75% fine to coarse sand, 25% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt

OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/6) Loose, wet, 90% fine to medium sand, 10% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 90% fine to coarse sand, 10% silt

LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/3) Loose, wet, 80% fine to coarse sand, 20% clay

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 90% fine to coarse sand, 10% silt

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 90% fine to medium sand, 10% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt

@ 272 ft.: Similar to above

LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/3) Medium stiff, moist, 85% clay, 15% rounded to subrounded mudstone gravel to 1.5 cm.

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt
Backfilled with BENTONITE CHIPS, 245 to 286 ft.

@ 281 ft.: Change to YELLOWISH BROWN (10YR 5/4) increase in coarse sand (#3) LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt LIGHT YELLOWISH BROWN FAT CLAY (CH) (2.5Y 5/6) Stiff, dry, 80% clay, 20% silt @ 284 ft.: Change to OLIVE GRAY (5Y 5/2) LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 90% fine to medium sand, 10% silt

Bottom of boring at 287 ft.
Top of PVC Casing
Elev. 182.25 ft.

5 in. DIAMETER
SCHEDULE 80
PVC BLANK
Casing: +1.95 to
96 ft.

12 in. DIAMETER
BOREHOLE: 0 to
130 ft.

Completion Date 5/22/2001
Drilling Method Hollow Stem Auger
Logged by

Surface Elevation 180.30 ft.  Hole Dia. 12 in.
Northing 2137532.318  Easting 5748400.076

Depth (ft.)

Sample

LIGHT OLIVE BROWN WELL GRADED SAND (SW) 2.5Y 5/4 Loose, dry, 50% fine sand, 35% medium sand, 10% fines, 5% coarse sand

@ 1.5 ft.: Change to VERY DARK GRAY (2.5Y 3/1) 80% fine sand, 35% medium sand, 5% fines, no odor

@ 5 ft.: Change to DARK BROWN (7.5YR 3/3) 70% fine sand, 25% medium sand, 5% fines

@ 8 ft.: Change to YELLOWISH BROWN (10YR 5/6) 55% fine sand, 50% medium sand, no odor

@ 10 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

YELLOW POORLY GRADED SAND (SP)
(10YR 7/6) Loose, dry, 95% fine sand, 5% medium sand

@ 15 ft.: Change to YELLOWISH BROWN (10YR 5/6) trace medium sand

BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/8) 85% fine sand, 15% medium sand, no odor

@ 30 ft.: Change to YELLOWISH BROWN (10YR 5/6) 70% fine sand, 30% medium sand
@ 40 ft.: Change to BROWNISH YELLOW (10YR 8/6) 85% fine sand, 15% medium sand, no odor

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) Medium dense, moist, 90% fine sand, 10% medium sand, trace fines

@ 50 ft.: Change to BROWNISH YELLOW (10YR 6/8) 85% fine sand, 10% medium sand, 5% fines
Completion Date: 5/22/2001
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 180.30 ft
Hole Dia.: 12 in.
Northing: 2137582.318
Easting: 5748400.076

BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/6) Medium dense, moist, 80% fine sand, 15% medium sand, 5% fines, no odor

@ 75 ft.: Change to BROWNISH YELLOW (10YR 6/6) 75% fine sand, 20% medium sand, 5% fines

@ 85 ft.: Trace coarse sand

@ 90 ft.: Change to 70% fine sand, 20% medium sand, 10% fines

@ 95 ft.: Change to dense, trace coarse sand

@ 100 ft.: Change to 65% fine sand, 25% medium sand, 10% fines including small chunks of clayey silt
Completion Date: 5/22/2001
Drilling Method: Hollow Stem Auger
Logged by:
Surface Elevation: 180.30 ft
Hole Dia.: 12 in.
Northing: 2137582.318
Easting: 5748400.076

@ 105 ft.: Change to 75% fine sand, 20% medium sand, 5% fines, no odor

@ 108 ft.: Change to YELLOWISH BROWN (10YR 5/6) 80% fine sand, 15% medium sand, 5% fines

YELLOWISH BROWN POORLY GRADED SAND (SP) Medium dense, wet, 90% fine sand, 10% fines, no odor

@ 120 ft.: Change to YELLOWISH BROWN (10YR 5/4) trace of mica

OLIVE FAT CLAY (CH) (5Y 4/3) Dense, moist, >95% clay

Bottom of boring at 130 ft.
Completion Date: 4/14/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 149.67 ft.
Hole Dia.: 7 in.
Northing: 2133332.9
Easting: 5749006.67

Top of PVC Casing
Elev. 148.83 ft.
CHRISTY BOX

Ground Surface

Top of casing at 1 ft. below ground level

7 in. Diameter Borehole: 0 to 227 ft.

3 Diameter Schedule 40 PVC Blank Casing: 1 to 200 ft.

Bentonite-Cement Seal: 0 to 25 ft.

Bentonite Slurry: 25 to 180 ft.

Depth (ft.)

Sample

VERY DARK GRAY SILTY SAND (SM) (5Y 3/1) Loose, wet, 80% fine to coarse sand, 20% silt

@ 2 ft.: Change to OLIVE BROWN SILTY SAND (2.5Y 4/3)

@ 4 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)

@ 5 ft.: Change to VERY DARK GRAY (2.5Y 3/1)

@ 8 ft.: Similar to above

@ 10 ft.: Change to 85% fine to coarse sand, 15% silt

@ 12 ft.: Change to Loose, moist

@ 14 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

YELLOWISH BROWN WELL GRADED SAND (5W) (10YR 5/6) Loose, moist, 90% fine to coarse sand, 10% silt

@ 19 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4) Loose, dry

@ 24.5 ft.: Eight thin layers of oxidized sands from 24 ft. to 25.5 ft.
Completion Date: 4/14/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 149.67 ft
Hole Dia: 7 in.
Northing: 2133332.9
Easting: 7584900.67

Depth (ft)

Sample

@ 30 ft.: Similar to above

@ 31 ft.: Change to YELLOWISH BROWN WELL GRADED SAND (10YR 5/6) Loose, dry

LIGHT GRAY SILTY SAND (SM) (10YR 7/1) Dense, dry, 70% fine to coarse sand, 30% silt; Band is 1 in. thick

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt

LIGHT GRAY SILTY SAND (SM) (10YR 7/1) Dense, dry, 70% fine to coarse sand, 30% silt; Band is 1 in. thick

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt

@ 35 ft.: Similar to above

@ 36 ft.: Similar to above

@ 40 ft.: Similar to above

@ 43 ft.: Change to increase in oxidized sand layers to 2-3 in. thick. Layers are STRONG BROWN 10YR 4/6. Eight layers present from 43 to 46 ft.

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 90% fine to medium sand, 10% silt

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt

@ 46.5 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

@ 50 ft.: Similar to above

@ 51 ft.: Change to YELLOWISH BROWN WELL GRADED SAND (10YR 5/6)

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 90% fine to medium sand, 10% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, dry, 90% fine to coarse sand, 10% silt
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, dry, 90% fine to medium sand, 10% silt

@ 66 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (5W) (10YR 5/5) Loose, dry, 50% fine to coarse sand, 10% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, moist, 90% fine to medium sand, 10% silt

@ 70 ft.: Change to Loose, wet

@ 72 ft.: Similar to above

@ 74 ft.: Change to DARK YELLOWISH BROWN (10YR 4/8)

@ 78 ft.: Similar to above

@ 78 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, wet, 95% fine to coarse sand, 5% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, wet, 95% fine to medium sand, 5% silt
@ 90 ft.: Similar to above

@ 92 ft.: Similar to above

@ 96 ft.: Similar to above

OLIVE GRAY FAT CLAY WITH SAND (CH) (5Y 5/2) Very stiff, dry, 80% clay, 20% fine sand, Sand oxidized

@ 99 ft.: Change to OLIVE GRAY FAT CLAY (5Y 5/2) 90% clay, 20% silt

@ 102 ft.: Change to 90% clay, 10% silt, Trace very small shell fragments, reacts with HCl

@ 104 ft.: Change to Shell fragments increase in size

@ 106 ft.: Similar to above

@ 108 ft.: Similar to above

@ 110 ft.: Similar to above

@ 112 ft.: Change to OLIVE GRAY FAT CLAY (5Y 5/2) Trace calcareous deposits

@ 116 ft.: Change to 80% clay, 20% silt, Calcareous deposits gone
Completion Date: 4/14/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 149.67 ft
Hole Dia.: 7 in.
Northing: 2133332.9
Easting: 5743008.67

- @ 120 ft.: Change to DARKENISH GRAY (5GY 4/1)
- @ 121 ft.: Change to INCREASE to 30% silt

OLIVE GRAY SILT (ML) (5Y 5/2) Soft, dry, 80% silt, 20% clay

- @ 125 ft.: Change to OLIVE GRAY SILT WITH SAND 80% silt, 20% fine sand
- @ 126 ft.: Similar to above

- @ 128 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Medium stiff, dry, 80% clay, 20% silt
- @ 130 ft.: Similar to above

- @ 132 ft.: Change to OLIVE GRAY FAT CLAY (5Y 5/2)
- @ 133 ft.: Change to 5% sand

OLIVE GRAY CLAYEY SAND (SC) (5Y 5/2) Loose, dry, 60% fine to coarse sand, 40% clay
DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Stiff, dry, 80% clay, 20% silt
- @ 138 ft.: Change to 90% clay, 10% silt, Trace medium size shell fragments
- @ 140 ft.: Similar to above
- @ 142 ft.: Similar to above

- @ 143.5 ft.: Change to Shell fragments gone
- @ 144 ft.: Change to DARK GREENISH GRAY SANDY FAT CLAY (5GY 4/1)
  Medium stiff, moist, 75% clay, 25% fine to coarse sand
DARK GREENISH GRAY CLAYEY SAND (SC) (5GY 4/1) Loose, moist, 70% fine to coarse sand, 30% clay
DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Stiff, dry, 80% clay, 20% silt
Completion Date: 4/14/2003  
Drilling Method: Sonic  
Logged by: D. Browne  
Surface Elevation: 149.87 ft  
Hole Dia: 7 in.  
Northing: 2138332.9  
Easting: 5749006.67

@ 150 ft.: Change to Soft, moist  
@ 152 ft.: Similar to above  
@ 155 ft.: Change to Stiff, dry  
@ 156 ft.: Change to OLIVE GRAY (5Y 5/2)  
80% clay, 15% silt, 5% fine to coarse sand  
OLIVE GRAY POORLY GRADED SAND  
(SP) (5Y 5/2) Loose, wet, 90% fine to  
medium sand, 10% clay  
@ 159.5 ft.: Change to YELLOWISH  
BROWN (10YR 5/6)   
YELLOWISH BROWN WELL GRADED  
SAND (5W) (10YR 5/6) Loose, wet, 90%  
fine to coarse sand, 10% silt  
@ 163 ft.: Change to LIGHT YELLOWISH  
BROWN (10YR 6/4)  
@ 166 ft.: Similar to above  
@ 168 ft.: Change to LIGHT OLIVE  
BROWN (2.5Y 5/4)  
@ 170 ft.: Similar to above  
@ 177 ft.: Similar to above  
@ 178 ft.: Change to Increase in coarse  
sand (#3)
BENTONITE PELLET SEAL: 180 to 187 ft.

LONESTAR #3 SANDPACK: 167 to 221 ft.

3 in. DIAMETER SLOTTED (0.02 in.) SCREEN: 190 to 220 ft.

Well Construction Details and Log of Boring MW-BW-51-180

<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Sample</th>
</tr>
</thead>
<tbody>
<tr>
<td>181 ft.</td>
<td>@ 181 ft.: Change to OLIVE BROWN (2.5Y 4/3) Loose, wet, 90% fine to coarse sand, 10% silt</td>
</tr>
<tr>
<td>182 ft.</td>
<td>@ 182 ft.: Change to LIGHT OLIVE BROWN (2.5Y 6/4) Trace gravels to 1.5 cm</td>
</tr>
<tr>
<td>185 ft.</td>
<td>@ 185 ft.: Change to Decrease in coarse sand</td>
</tr>
<tr>
<td>186 ft.</td>
<td>@ 186 ft.: Change to Trace gravels</td>
</tr>
<tr>
<td>188 ft.</td>
<td>@ 188 ft.: Similar to above</td>
</tr>
<tr>
<td>189 ft.</td>
<td>@ 189 ft.: Change to Increase in coarse #3 sand</td>
</tr>
<tr>
<td>192 ft.</td>
<td>@ 192 ft.: Change to 95% fine to coarse sand, 5% silt, Trace gravels to 2 cm.</td>
</tr>
<tr>
<td>194 ft.</td>
<td>@ 194 ft.: Change to Decrease in coarse sand, Gravels gone</td>
</tr>
<tr>
<td>196 ft.</td>
<td>@ 196 ft.: Similar to above</td>
</tr>
</tbody>
</table>

LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (2.5Y 6/3) Loose, wet, 95% fine to medium sand, 5% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 95% fine to coarse sand, 5% silt

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 95% fine to medium sand, 5% silt

OLIVE GRAY CLAYEY SAND (SC) (5Y 6/2) Loose, moist, 70% fine to coarse sand, 30% clay, Trace gravels to 1 cm.

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt

@ 208 ft.: Change to STRONG BROWN (7.5YR 5/6)
LONESTAR #3 SANDPACK: 187 to 221 ft.

End cap to bottom of screen: 7 in.
BOTTOM WELL CAP: 221 ft.

BENTONITE CHIPS: 221 to 230 ft.

@ 211 ft.: Change to DARK GRAY (2.5Y 4/1) 95% fine to coarse sand, 5% silt
@ 211.5 ft.: Change to LIGHT OLIVE BROWN (2.5Y 6/4)
LIGHT OLIVE GRAY POORLY GRADED SAND (SP) (5Y 6/2) Loose, wet, 95% fine to medium sand, 5% silt, Micas present
LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) 3 in. layers from 212.5 ft. to 213.5 ft.
LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, wet, 95% fine to medium sand, 5% silt, Micas present

YELLOWISH BROWN SILT WITH SAND (ML) (10YR 6/4) Soft, moist, 75% silt, 25% sand

LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/4) Loose, wet, 75% fine to coarse sand, 25% clay, Trace gravels to 3 cm.

Bottom of boring at 227 ft.
Well Construction Details and Log of Boring MW-BW-51-A

**PLATE**

**MACTEC**

Fort Ord, California

**DRAWN**

PCB

**JOB NUMBER**

55596 001701

**APPROVED**

**DATE**

11/04

**REVISED DATE**

5/22/2001

Drilling Method: Hollow Stem Auger

Logged by:

Surface Elevation: 144.10 ft.

Hole Dia.: 12 in.

Northing: 2138555.331

Easting: 5748907.55

Completion Date:

Top of PVC Casing Elev.: 145.14 ft.

5 in. Diameter Schedule 80 PVC Blank

Casing: +2.04 to 62 ft.

12 in. Diameter Borehole: 0 to 53 ft.

Bentonite-Cement Seal: 0 to 52 ft.

**Sample Depth (ft.)**

0

5

10

15

20

25

30

35

Sample

REDDISH BROWN WELL GRADED SAND
(SW) (5Y 4/6) Loose, dry, 50% fine sand,
40% medium sand, 5% fines, 5% organic,
no odor

@ 3 ft.: Color change to DARK BROWN
(10YR 3/3) loose, moist, 60% fine sand,
40% medium sand, no odor

VERY DARK BROWN POORLY GRADED
SAND (SP) (10YR 2/2) Loose, moist, 90%
fine sand, 10% medium sand

DARK YELLOW BROWN WELL GRADED
SAND (SW) (10YR 4/4) Medium dense,
80% fine sand, 15% medium sand, 5%
fines, no odor

@ 15 ft.: Change to 60% fine sand, 35%
medium sand, 5% fines

@ 20 ft.: Color change to DARK
YELLOWISH BROWN (10YR 4/6) 55% fine
sand, 40% medium sand, 5% fines

@ 25 ft.: Change to dense
Completion Date 5/22/2001
Drilling Method Hollow Stem Auger
Logged by
Surface Elevation 144.10 ft  Hole Dia. 12 in.
Northing 213485.331  Easting 574807.55

@ 35 ft.: Color change to BROWNISH
YELLOW (10YR 6/6) 50% fine sand, 45% medium sand, 5% fines, no odor

YELLOW POORLY GRADED SAND (SP)
(10YR 7/6) Dense, moist, 95% fine sand, 5% fines

YELLOW WELL GRADED SAND (SW)
(10YR 7/6) Dense, moist, 50% fine sand, 45% medium sand, 5% fines

@ 64 ft.: Driller notes change - possible water
YELLO R CORLY GRADED SAND (SP)
(10YR 7/6) Dense, wet, 85% fine sand, 10% medium sand, 5% fines

@ 75 ft.: Change to 80% fine sand, 15% medium sand, 5% fines, some mica, no odor

@ 80 ft.: Change to 85% fine sand, 10% medium sand, 5% fines

@ 85 ft.: Change to 90% fine sand

OLIVE FAT CLAY (CH) (5Y 4/3) Hard, moist, 95% clay 5% silt, earthy odor
Bottom of borehole at 93 ft.
Top of PVC Casing
Elev. 148.47 ft.
CHRISTY BOX

Ground Surface

Top of casing at 1 ft. below ground level

7 in. DIAMETER BOREHOLE: 0 to 207 ft.

3 DIAMETER SCHEDULE 40 PVC BLANK CASING: 1 to 205 ft.

BENTONITE-CEMENT SEAL: 2 to 25 ft.

BENTONITE SLURRY: 25 to 155 ft.

Completion Date 4/4/2003
Drilling Method Sonic
Logged by D. Browne
Surface Elevation 48.79 ft.
Hole Dia. 7 in.
Northing 2136215.67 Easting 5748837.11

Depth (ft.)

Sample

BROWN SILTY SAND (SM) (10YR 4/3)
Loose, dry, 80% fine to coarse sand, 20% silt

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4)
Loose, dry, 80% fine to coarse sand, 10% silt

@ 5 ft.: Change to YELLOWISH BROWN (10YR 5/6)
@ 6 ft.: Similar to above

@ 10 ft.: Similar to above

@ 12 ft.: Change to 95% fine to coarse sand, 5% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6)
Loose, dry, 95% fine to medium sand, 5% silt

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4)
Loose, dry, 95% fine to coarse sand, 5% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4)
Loose, dry, 95% fine to medium sand, 5% silt

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4)
Loose, dry, 95% fine to coarse sand, 5% silt
Completion Date 4/4/2003
Drilling Method Sonic
Logged by D. Brown
Surface Elevation 148.79 ft. Hole Dia. 7 in.
Northing 2133916.87 Easting 5748837.11

@ 30 ft.: Similar to above

@ 32 ft.: Similar to above

@ 36 ft.: Similar to above

@ 40 ft.: Similar to above

@ 45 ft.: Similar to above

@ 50 ft.: Similar to above

DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/8) Loose, dry, 90% fine to medium sand, 10% silt

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/5) Loose, dry, 80% fine to medium sand, 20% silt

@ 56 ft.: Similar to above
**Completion Date:** 4/4/2003  
**Drilling Method:** Sonic  
**Logged by:** D. Browns  
**Surface Elevation:** 148.79 ft.  
**Hole Dia.:** 7 in.  
**Northing:** 2133916.87  
**Easting:** 5748837.11

- **@ 60 ft.:** Similar to above
- **YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4)** Loose, dry, 90% fine to medium sand, 10% silt
  - **@ 66 ft.:** Change to 95% fine to medium sand, 5% silt
- **@ 70 ft.:** Change to DARK YELLOWISH BROWN (10YR 4/4) Loose, wet
  - **@ 74 ft.:** Change to BROWN (10YR 5/3)
  - **@ 76 ft.:** Change to STRONG BROWN (7.5YR 4/6)
  - **@ 78 ft.:** Change to BROWN (10YR 5/3)
  - **@ 79.5 ft.:** Change to STRONG BROWN (7.5YR 4/6)
  - **@ 80 ft.:** Change to BROWN (10YR 5/3)
- **BROWN SILTY SAND (SM) (10YR 4/3)** Loose, wet, 83% fine to medium sand, 20% silt
- **LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/5)** Loose, wet, 90% fine to medium sand, 10% silt
@ 90 ft.: Similar to above

@ 92 ft.: Change to DARK YELLOWISH BROWN POORLY GRADED SAND (10YR 4/4)

@ 97 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)
OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Very stiff, dry, 80% clay, 20% silt

@ 102 ft.: Change to Trace shell fragments or calcium deposits

@ 104 ft.: Change to Shell fragments gone

@ 108 ft.: Change to DARK GREENISH GRAY (5BG 4/1) Medium stiff, dry, 90% clay, 10% silt

@ 110 ft.: Similar to above

DARK GREENISH GRAY SILT (ML) (5G 4/1) Soft, dry, 80% silt, 20% clay
DARK GREENISH GRAY FAT CLAY (CH) (5GY 4/1) Stiff, dry, 85% clay, 15% silt

@ 114 ft.: Change to OLIVE GRAY (5Y 4/2)

@ 116 ft.: Similar to above

@ 118 ft.: Change to 80% clay, 20% silt
**Log of Boring MW-BW-62-180**

**MACTEC**

**Well Construction Details and**

**Fort Ord, California**

**DRAWN**

**JOB NUMBER**

**APPROVED**

**REVISED DATE**

**PLATE A70**

**Completion Date** 4/4/2003

**Drilling Method** Sonic

**Logged by** D. Browne

**Surface Elevation** 148.79 ft

**Hole Dia.** 7 in

**Northing** 2138816.87

**Easting** 5748837.11

- **BENTONITE SLURRY:** 25 to 165 ft

- **BENTONITE PELLET SEAL:** 155 to 162 ft

- **LONESAR # 2/12 SANDPACK:** 165 to 207 ft

- **3 in. DIAMETER SLOTTED (0.02 in.) SCREEN:** 165 to 205 ft

- **DARK BLUSH GRAY SILT (ML) (5B 4/1):** Soft, moist, 70% silt, 30% clay

- **DARK BLUSH GRAY POORLY GRADED SAND (SP) (5B 4/1):** Loose, moist, 50% fine to medium sand, 10% silt

- **DARK BLUSH GRAY SILTY SAND (SM) (5BG 4/1):** Loose, moist, 70% fine to medium sand, 30% silt

- **DARK BLUSH GRAY FATT CLAY (CH) (5BG 4/1):** Stiff, dry, 90% clay, 10% silt

- **DARK BLUSH GRAY SILT (ML) (5BG 4/1):** Soft, moist, 90% silt, 10% fine sand

- **DARK BLUSH GRAY FATT CLAY (CH) (5BG 4/1):** Very stiff, dry, 85% clay, 15% silt

- **@ 160 ft.:** Change to OLIVE GRAY (5Y 5/2) Stiff, dry, 70% clay, 20% silt, 10% fine sand, 1.5 cm. pockets of oxidized sands present

- **YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6):** Loose, wet, 90% fine to coarse sand, 10% silt

- **@ 164 ft.:** Change to LIGHT OLIVE BROWN (2.5Y 5/3)

- **@ 166 ft.:** Similar to above

- **@ 168 ft.:** Change to Increase in coarse sand (#3)

- **@ 170 ft.:** Similar to above

- **LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/3):** Loose, wet, 80% fine to coarse sand, 20% clay

- **LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4):** Loose, wet, 95% fine to coarse sand, 5% silt

- **@ 176 ft.:** Change to Decrease in coarse sand

- **@ 179 ft.:** Change to Increase in coarse sand
@ 182 ft.: Change to OLIVE BROWN (2.5Y 4/4)

@ 183.5 ft.: Change to DARK GRAYISH BROWN (2.5Y 4/2)

LIGHT OLIVE BROWN SANDY FAT CLAY (CH) (2.5Y 5/4) Medium stiff, moist, 70% clay, 30% fine to coarse sand
-LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 95% fine to coarse sand, 5% silt

@ 190 ft.: Similar to above

@ 192 ft.: Similar to above

@ 194 ft.: Change to One 1.5 cm chert gravel
@ 195 ft.: Change to Decrease in coarse sand

@ 200 ft.: Change to Increase in coarse sand, One 2.5 cm. mudstone gravel

@ 206.5 ft.: Change to OLIVE BROWN (2.5Y 4/3) Loose, wet, 90% fine to coarse sand, 10% silt. Decrease in coarse sand
@ 206.5 ft.: Change to LIGHT OLIVE BROWN WELL GRADED SAND (2.5Y 5/3)

OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 4/3) Loose, wet, 90% fine to...
Completion Date: 4/4/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 148.79 ft
Hole Dia.: 7 in.
Northing: 2139916.87
Easting: 5748837.11

Depth (ft.)

Sample

Medium sand, 10% silt

@ 212 ft.: Similar to above

@ 216 ft.: Change to Trace subrounded mudstone gravel to 1.5 cm.

Brown Fat Clay (CH) (10YR 4/3) Very stiff, dry, 90% clay, 10% fine to coarse sand, 10% silt

@ 224 ft.: Change to Yellowish Brown (10YR 5/6)

Dark Yellowish Brown Clayey Sand (SC) (10YR 4/4) Loose, wet, 75% fine to coarse sand, 25% clay
Bottom of boring at 227 ft.
Top of PVC Casing
Elev. 158.97 ft.

5 in. DIAMETER
SCHEDULE 80
PVC BLANK
CASING: +1.97 to
15 ft.

2 in. DIAMETER
SCREW HOLE: 0 to
47 ft.

5/16/2001
Drilling Method: Hollow Stem Auger
Surf Elevation: 157.00 ft.
Hole Dia.: 12 in.

North: 2133993.07
East: 5748697.023

BROWN WELL GRADED SAND (SW)
(10YR 5/3) Loose, dry, 80% fine sand, 20%
medium sand
@ 1 ft.: Color change to BROWNISH
YELLOW (10YR 6/8)

YELLOW POORLY GRADED SAND (SP)
(10YR 7/6) Loose, dry, 95% fine sand, 5%
medium sand
@ 6 ft.: Color change to YELLOWISH
BROWN (10YR 5/6)

@ 10 ft.: Change to 90% fine sand, 10%
medium sand, no odor

@ 14 ft.: Color change to BROWNISH
YELLOW (10YR 6/8) no odor

@ 19 ft.: Change to 95% fine sand, 5%
medium sand

MACTEC

Page 1 of 4
Completion Date: 5/16/2001
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 157.00 ft.  Hole Dia. 12 in.
Northing: 2138693.07  Easting: 5748697.023

@ 35 ft.: Color change to YELLOWISH BROWN (10YR 5/6) 85% fine sand, 15% medium sand

@ 40 ft.: Color change to BROWNISH YELLOW (10YR 6/6) 100% fine sand

@ 55 ft.: Color change to YELLOWISH BROWN (10YR 5/6) moist, 90% fine sand, 10% medium sand

@ 60 ft.: Color change to BROWNISH YELLOW (10YR 6/6), 100% fine sand

BROWNISH YELLOW WELL GRADED SAND (SM) (10YR 6/6): Dense, moist, 50% fines, 40% fine sand, 10% medium sand, possible paleosol

BROWNISH YELLOW POORLY GRADED SAND (SP): Loose, moist, 90% fine sand, 10% medium sand

BENTONITE PELLET SEAL: 67 to 71 ft.
@ 80 ft.: Change to medium dense, wet

@ 85 ft.: Color change to BROWNISH YELLOW (10YR 6/8), wet, 85% fine sand, 10% medium sand, 5% fines, no odor

YELLOWISH BROWN SILTY SAND (SM) (10YR 5/8) Dense, wet, 70% fine sand, 20% silt, 10% medium sand
BOTTOM WELL CAP: 107 ft.
Here described out to 107 ft. Bottom of borehole at 107 ft.

OLIVE GRAY FAT CLAY (CH) (5Y 4/2)
Hard, moist, 95% clay, 5% fine gravel
- Bottom of borehole at 107 ft.
Top of PVC Casing
Elev. 170.88 ft.
CHRUSTY BOX

GROUND SURFACE
Top of casing at 1 ft. below ground level

7 in. DIAMETER BOREHOLE: 9 to 227 ft.

3 DIAMETER SCHEDULE 40 PVC BLANK CASING: 1 to 221 ft.

BENTONITE-CEMENT SEAL: 2 to 25 ft.

BENTONITE SLURRY: 25 to 179 ft.

Completion Date: 4/2/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 171.47 ft. Hole Dia. 7 in.
Northing: 2138387.73 Easting: 5748120.7

- VERY DARK GRAY SILTY AND (SM) (2.5Y 3/1) Loose, wet, 80% fine to coarse sand, 20% silt
- @ 3 ft.: Change to DARK GRAYISH BROWN (2.5Y 4/2) Loose, dry, 85% fine to coarse sand, 15% silt
  - DARK GRAYISH BROWN WELL GRADED SAND (S)V (2.5Y 4/2) Loose, dry, 90% fine to coarse sand, 10% silt
- @ 6 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
- @ 10 ft.: Change to YELLOWISH BROWN (10YR 5/4)
- @ 12 ft.: Similar to above
- @ 15 ft.: Similar to above
- @ 20 ft.: Similar to above
- @ 25 ft.: Similar to above
- @ 30 ft.: Similar to above
- @ 32 ft.: Similar to above

Mechanical Earth Data Systems Inc.
2844 N. Turner Road
Eugene, Oregon 97404

platenumber-36

MACTEC
Well Construction Details and Log of Boring MW-BW-63-180
OUCTP

Fort Ord, California

PLATE A72

DRAWN
MBP

JOB NUMBER
55529 001701

APPROVED

DATE
11/04

REVISED DATE
Completion Date: 4/12/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 171.47 ft
Hole Dia.: 7 in.
Northing: 2133897.73
Easting: 5748120.7

Depth (ft.)

Sample

35

40

45

50

55

60

65

70

25 ft.: Similar to above

30 ft.: Similar to above

35 ft.: Similar to above

40 ft.: Similar to above

45 ft.: Similar to above

50 ft.: Similar to above

55 ft.: Similar to above

60 ft.: Similar to above

65 ft.: Similar to above

64 ft.: Change to LIGHT YELLOWISH BROWN (10YR 5/4)

65 ft.: Similar to above

LIGHT GRAY SILTY SAND (SM) (2.5Y 7/1)
Loose, dry, 70% fine to coarse sand, 30% silt, Layer is 2 in. thick

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4)
Loose, dry, 95% fine to coarse sand, 5% silt

50 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4)
Loose, dry, 95% fine to coarse sand, 5% silt

LIGHT GRAY SILTY SAND (SM) (2.5Y 7/1)
Loose, dry, 70% fine to coarse sand, 30% silt, Layer 2 in. thick

BROWN WELL GRADED sand (SW) (10YR 4/3)
Loose, dry, 90% fine to coarse sand, 10% silt

60 ft.: Similar to above

65 ft.: Similar to above

64 ft.: Change to LIGHT YELLOWISH BROWN (10YR 5/4)
Completion Date: 4/12/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 171.47 ft
Hole Dia. 7 in.
Northing: 2133987.73
Easting: 5748120.7

Depth (ft.) Sample
105
wet, 95% fine to coarse sand, 5% silt

@ 110 ft.: Similar to above

@ 112 ft.: Change to 90% fine to medium sand, 10% silt

@ 116 ft.: Similar to above

@ 118 ft.: Similar to above

@ 123 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)

@ 123.5 ft.: Change to OLIVE GRAY (5Y 5/2)

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 80% clay, 20% silt, Organic clay and oxidized sand on surface

@ 126 ft.: Change to OLIVE GRAY (5Y 4/2)

@ 130 ft.: Change to 90% clay, 10% silt, Calcareous deposits react to HCL

@ 132 ft.: Change to OLIVE GRAY FAT CLAY (5Y 5/2) Soft, moist, Increase in calcareous deposits

@ 136 ft.: Change to increase in stiffness
Completion Date: 4/12/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 171.47 ft., Hole Dia. 7 in.
Northing: 2133987.73, Easting: 5748120.7

@ 140 ft.: Change to Decrease in calcareous deposits

@ 142 ft.: Change to 80% clay, 20% silt, No visible calcareous deposits

@ 148 ft.: Similar to above
OLIVE GRAY SILT WITH SAND (ML) (5Y 5/2) Soft, loose, 75% silt, 25% fine sand
OLIVE GRAY SILTY SAND (SM) (5Y 5/2) Loose, wet, 70% fine to coarse sand, 30% silt
OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Soft, dry, 80% clay, 20% silt

@ 156 ft.: Similar to above

@ 158 ft.: Change to DARK GREENISH GRAY (5G 4/1)

@ 162 ft.: Change to Trace shell fragments

@ 164 ft.: Change to Calcereous deposits
@ 165 ft.: Change to Calcereous deposits gone

@ 168 ft.: Similar to above

@ 170 ft.: Similar to above

@ 172 ft.: Similar to above

@ 174 ft.: Change to Trace organics

BENTONITE SLURRY: 26 to 179 ft.
<table>
<thead>
<tr>
<th>Depth (ft.)</th>
<th>Sample</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>175</td>
<td></td>
<td>@ 175 ft.: Change to No visible shell fragments or organics</td>
</tr>
<tr>
<td>180</td>
<td></td>
<td>DARK GREENISH GRAY POORLY GRADED SAND (SP) (5G 4/1) Loose, wet, 80% fine to medium sand, 10% silt</td>
</tr>
<tr>
<td>185</td>
<td></td>
<td>DARK GREENISH GRAY FAT CLAY (CH) (5G 4/1) Stiff, dry, 80% clay, 20% silt</td>
</tr>
<tr>
<td>185.5</td>
<td></td>
<td>@ 185.5 ft.: Change to DARK OLIVE GRAY (5Y 3/2) Trace organics</td>
</tr>
<tr>
<td>190</td>
<td></td>
<td>LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (2.5Y 6/3) Loose, wet, 90% fine to coarse sand, 10% silt</td>
</tr>
<tr>
<td>190</td>
<td></td>
<td>@ 190 ft.: Similar to above</td>
</tr>
<tr>
<td>193</td>
<td></td>
<td>@ 193 ft.: Change to YELLOWISH BROWN (10YR 5/4)</td>
</tr>
<tr>
<td>195</td>
<td></td>
<td>@ 195 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)</td>
</tr>
<tr>
<td>196</td>
<td></td>
<td>@ 196 ft.: Change to YELLOWISH BROWN (10YR 5/4)</td>
</tr>
<tr>
<td>200</td>
<td></td>
<td>@ 200 ft.: Similar to above</td>
</tr>
<tr>
<td>210</td>
<td></td>
<td>LIGHT OLIVE BROWN CLAYEY SAND (SC) (2.5Y 5/4) Loose, wet, 80% fine to coarse sand, 20% clay</td>
</tr>
<tr>
<td>215</td>
<td></td>
<td>YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4) Loose, wet, 80% fine to coarse sand, coarse sand, 20% clay</td>
</tr>
</tbody>
</table>
LONESTAR # 2/12
SANDPACK: 188
to 222 ft.

End cap to bottom
of screen: 7 in.
BOTTOM WELL
CAP: 221 ft.

@ 210 ft.: Similar to above

@ 212 ft.: Change to 95% fine to coarse sand, 5% silt

@ 216 ft.: Similar to above

@ 220 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, wet, 90% fine to medium sand, 10% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt

@ 230 ft.: Change to Increase in coarse sand

@ 232.5 ft.: Change to STRONG BROWN (7.5YR 5/6) Iron stained sand (#5)
OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 4/3) Loose, wet, 90% fine to medium sand, 10% silt, Micas present

Bottom of boring at 237 ft.
Top of PVC Casing
Elev. 175.72 ft.

GROUND SURFACE

5 in. DIAMETER
SCHEDULE 40
PVC BLANK
CASING: +2.12 to
92.5 ft.

12 in. DIAMETER
BOREHOLE: 0 to
124 ft.

Depth (ft.)

Sample

0

5

10

15

20

25

30

35

Completion Date 5/15/2001
Drilling Method Hollow Stem Auger
Logged by

Surface Elevation 173.80 ft. Hole Dia. 12 in.
Northing 2133111.058 Easting 5748333.511

BROWN WELL GRADED SAND (SW)
(10YR 5/3) Very loose, dry, 60% fine sand,
30% medium sand, 10% organic, no odor

@ 2 ft.: Color change to LIGHT
YELLOWISH BROWN (2.5YR 6/4) 60% medium sand, 40% fine sand

@ 10 ft.: Color change to PALE YELLOW,
50% medium sand, 50% fine sand, no odor

LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (2.5YR 6/6) Loose, moist, 80% fine sand, 20% medium sand, no odor

@ 25 ft.: Color change to LIGHT YELLOW
BROWN (2.5YR 6/4) medium dense, 70%
fine sand, 30% medium sand

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5YR 6/6) Medium dense, moist, 70% fine sand, 30% medium sand, no odor

MACTEC

PLATE

Well Construction Details and Log of Boring MW-BW-63-A
OUCTP

Fort Ord, California

DRAWN
PCB

APPROVED

JOE NUMBER
55596 001701

DATE
11/04

REVISED DATE

A73

Page 1 of 4
BENTONITE-CEMENT SEAL: 0 to 83 ft.

LIGHT YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 6/4) Medium dense, moist. 80% medium sand, 20% fine sand

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 6/4) Medium dense, moist. 60% fine sand, 40% medium sand
Completion Date 5/5/2001
Drilling Method Hollow Stem Auger
Logged by
Surface Elevation 173.60 ft Hole Dia. 12 in.
Northing 2139111.058 Easting 5748333.511

BENTONITE PELLET SEAL: 83 to 87.5 ft

Lapis Lustre #3, #2/12 SANDPACK: 87.5 to 124 ft

@ 93 ft.: Driller notes change - possible water

@ 95 ft.: Change to wet, 50% medium sand, 50% fine sand
5 in. DIAMETER SLOTTED 10/620 in.) SCREEN 92.5 to 122.5 ft.

BOTTOM WELL CAP: 123.5 ft.
Hole cleaned out to 124 ft. Bottom of boring at 124 ft.

@ 105 ft.: Color change to YELLOWISH BROWN (10YR 5/4) dense, 70% fine sand
30% medium sand, no odor

DARK OLIVE GRAY FAT CLAY (CH) (5Y 3/2) Very dense, moist
Bottom of boring at 124 ft.
Top of PVC Casing
Elev. 127.76 ft.

Top of casing at 2.5 ft. above ground level

7 in. DIAMETER BOREHOLE: 0 to 227 ft.

3 DIAMETER SCHEDULE 80 PVC BLANK Casing: 1 to 201 ft.

BENTONITE CEMENT SEAL: 2 to 25 ft.

BENTONITE SLURRY: 25 to 151 ft.

Depth (ft.)

0

5

10

15

20

25

30

Sample

Very dark yellowish brown silty sand (SM) (10YR 3/2) Loose, dry, 80% fine to coarse sand, 20% silt. Trace roots to 1.5 ft.

Brown well graded sand (SW) (10YR 4/3) Loose, dry, 50% fine to coarse sand, 10% silt.

@ 9 ft.: Change to Dark yellowish brown (10YR 4/4)

@ 12 ft.: Change to Yellowish brown (10YR 5/6)

@ 15 ft.: Similar to above

@ 18 ft.: Change to Increase in coarse sand

@ 20 ft.: Similar to above

@ 22 ft.: Change to Decrease in coarse sand
@ 23 ft.: Change to Yellowish brown (10YR 5/4)

@ 25 ft.: Similar to above

Completion Date: 6/21/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 124.96 ft. Hole Dia. 7 in.
Northing: 2142043.8 Easting: 5746518.2
Completion Date: 8/21/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 124.96 ft
Hole Dia.: 7 in.
Northing: 2142043.8
Easting: 5756818.2

@ 30 ft.: Similar to above

@ 32 ft.: Similar to above

@ 36 ft.: Similar to above

@ 38 ft.: Change to Increase in coarse sand

@ 40 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 44 ft.: Change to Decrease in coarse sand

@ 50 ft.: Similar to above

BROWN POORLY GRADED SAND (SP)
(10YR 5/3) Loose, dry, 90% fine to medium sand, 10% silt

@ 56 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 60% fine to coarse sand, 10% silt
@ 6 ft.: Similar to above

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 90% fine to medium sand, 10% silt

@ 65 ft.: Change to Loose, moist

@ 67 ft.: Change to PALE OLIVE (5Y 6/3) Loose, wet

@ 70 ft.: Change to YELLOWISH BROWN (10YR 5/4)

@ 73 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)

@ 75 ft.: Similar to above

@ 80 ft.: Similar to above

@ 85 ft.: Similar to above

OLIVE BROWN WELL GRADED SAND (SV) (2.5Y 4/3) Loose, wet, 90% fine to coarse sand, 10% silt
Well Construction Details and Log of Boring MW-BW-54-189

MCTEC

PLATE A74

MBP 55596 001701

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE

Compilition Date 6/21/2003 Drilling Method Sonic
Logged by D. Browne
Surface Elevation 124.96 ft Hole Dia. 7 in
Northing 2142043.8 Easting 5746818.2

@ 90 ft.: Similar to above

@ 92 ft.: Similar to above

OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Stiff, moist, 80% clay, 20% silt, Pockets of BROWN (7YR 4/4) fine sand worked into top 1 ft. of clay

@ 96 ft.: Change to GREENISH GRAY (5GY 5/1) Medium stiff, dry, 90% clay, 10% silt, Sand gneiss, Trace white deposits react with HCL

GREENISH GRAY POORLY GRADED SAND (SP) (5GY 5/1) Loose, wet, 90% fine to medium sand, 10% silt
GREENISH GRAY FAT CLAY (CH) (5GY 5/1) Stiff, dry, 50% clay, 20% silt
@ 104 ft.: Change to 73% clay, 10% fine sand, 10% silt

OLIVE POORLY GRADED SAND (SP) (6Y 5/3) Loose, moist, 90% fine to medium sand, 10% silt
OLIVE GRAY SANDY SILT (ML) (5Y 5/2) Soft, dry, 70% silt, 30% fine sand

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/3) Loose, moist, 90% fine to medium sand, 10% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, moist, 90% fine to coarse sand, 10% silt

@ 115 ft.: Similar to above

@ 118 ft.: Similar to above

GREENISH GRAY SANDY SILT (ML) (6G 5/1) Soft, dry, 70% silt, 30% fine to medium
Completion Date: 6/21/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 124.96 ft., Hole Dia: 7 in.
Northing: 2142043.8, Easting: 5746818.2

- **BENTONITE SLURRY**: 25 to 151 ft.

- **Sample Depth (ft.)**

  - **125 ft.**: Similar to above
  - **127 ft.**: Change to DARK GREENISH GRAY FAT CLAY (CH) (SBG 4/1)
  - **130 ft.**: Similar to above
  - **132 ft.**: Change to OLIVE GRAY (5Y 4/2)
    - Very stiff, dry, Trace small shell fragments to 0.5 cm.
  - **133 ft.**: Change to Trace larger shell fragments to 5cm.
  - **134 ft.**: Change to shells gone
  - **OLIVE GRAY POORLY GRADED SAND (SP) (5Y 4/2)**
    - Loose, moist, 90% fine sand, 10% silt, Gold specs possibly micas
  - **LIGHT OLIVE BROWN SANDY SILT (ML)**
    - (2.5Y 5/3)
    - Scl. dry, 70% silt, 30% fine sand
  - **140 ft.**: Change to DARK GREENISH GRAY (SBG 4/1)
    - 80% silt, 20% clay
  - **DARK GREENISH GRAY POORLY GRADED SAND (SP) (SBG 4/1)**
    - Loose, moist, 90% fine sand, 10% silt
  - **DARK GREENISH GRAY FAT CLAY (CH)**
    - (SBG 4/1)
    - Medium stiff, dry, 80% clay, 20% silt
  - **145 ft.**: Similar to above
  - **147 ft.**: Change to Many shell fragments
  - **148 ft.**: Change to Decrease in shell fragments
Completion Date: 6/11/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 121.96 ft.  Hole Dia. 7 in.
Northing: 2142043.3  Easting: 5768818.2

@ 150 ft.: Change to Trace shell fragments

@ 152 ft.: Change to 90% clay, 10% silt, Shell fragments in 30% of material

@ 154.5 ft.: Change to 75% clay, 25% silt, Shell fragments gone
@ 155 ft.: Change to OLIVE GRAY (5Y 5/2)
DARK GREENISH GRAY WELL GRADED SAND (SW) (5G 4/1) Loose, wet, 90% fine to coarse sand, 10% silt

@ 160 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/3)

DARK GREENISH GRAY CLAYEY SAND (SC) (5GY 4/1) Medium dense, moist, 70% fine to medium sand, 30% clay
LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, moist, 90% fine to coarse sand, 10% silt
DARK GREENISH GRAY CLAYEY SAND (SC) (5GY 4/1) Medium dense, moist, 70% fine to medium sand, 30% fine sand
LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Looser, wet, 95% fine to coarse sand, 5% silt
@ 165 ft.: Change to Increase in coarse sand (#3)

@ 170 ft.: Change to 80% fine to coarse sand, 10% gravels to 2 cm., 10% silt
@ 171 ft.: Change to 90% sand (#3), 10% silt, Trace gravels

LIGHT OLIVE BROWN WELL GRADED SAND WITH GRAVEL (SW) (2.5Y 5/4)
Loose, wet, 70% fine to coarse sand (#3), 20% subrounded gravels of quartz, chert, and granulites to 1.5 cm., 10% silt
LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 90% fine to coarse sand (#3), 10% silt, Decrease in coarse sand, Trace gravels
@ 178 ft.: Change to YELLOWISH BROWN (10YR 5/6) Increase in coarse sand (#3)
3 in. DIAMETER SLOTTED (0.02 in.) SCREEN: 151 to 201 ft.

M A C T E C

Comple time Date 6/21/2003
Drilling Method Sonic
Logged by D. Brown
Surface Elevation 124.96 ft. Hole Dia. 7 in.
Northing 2142043.8 Easting 5746318.2

OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 4/3) Loose, wet, 90% fine to coarse sand, 10% silt, Micas

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Loose, wet, 90% fine to coarse sand (#3), 10% silt, Trace gravels to 1 cm.

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, wet, 90% fine to medium sand, 10% silt, Micas present

@ 192 ft.: Similar to above

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/3) Loose, wet, 95% fine to coarse sand, 5% silt

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Loose, wet, 90% fine to medium sand, 10% silt, Micas

@ 205 ft.: Similar to above

BROWN FAT CLAY (CH) (10YR 5/3) Very stiff, dry, 75% clay, 25% silt

End cap to bottom of screen: 6 in.
BOTTOM WELL CAP: 201 ft.
BENTONITE CHIPS: 201 to 227 ft.

Well Construction Details and Log of Boring MW-BW-54-180
OCUTP

PLATE

M A C T E C

Page 7 of 8
Completion Date: 6/21/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 124.96 ft
Hole Dia.: 7 in
Northing: 2142043.8
Easting: 5746918.2

@ 212 ft.: Similar to above

@ 215 ft.: Similar to above

@ 220 ft.: Similar to above
BROWN CLAYEY SAND (SC) (10YR 5/3)
Loose, dry, 75% fine sand, 25% clay
BROWN FAT CLAY (CH) (10YR 5/3)
Very stiff, dry, 80% clay, 20% silt
BROWN SILT (ML) (10YR 5/3)
Stiff, dry, 80% silt, 20% clay
BROWN FAT CLAY (CH) (10YR 5/3)
Very stiff, dry, 80% clay, 20% silt

Bottom of boring at 227 ft.

BENTONITE CHIPS: 201 to 227 ft
Completion Date: 5/22/2001
Drilling Method: Hollow Stem Auger
Logged by: 
Surface Elevation: 144.40 ft., Hole Dia. 12 in.
Northing: 2139291.492, Easting: 5749576.585.

Top of PVC Casing
Elev.: 146.54 ft.

5 in. DIAMETER SCHEDULE 80
PVC BLANK CASING: +2.14 to 86 ft.

12 in. DIAMETER BOREHOLE: 0 to 87 ft.

BENTONITE-CEMENT SEAL: 0 to 43 ft.

GROUNDSURFACE

BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 8/6) Loose, dry, 60% medium sand, 35% fine sand, 5% organic matter, no odor.
@ 1 ft.: Color change to DARK YELLOWISH BROWN (10YR 3/4) 85% fine sand, 15% medium sand
@ 2 ft.: Color change to YELLOWISH BROWN (10YR 5/6) 90% fine sand, 10% medium sand, trace fines
OLIVE YELLOW POORLY GRADED SAND (SP) (2.5Y 6/8) Medium dense, dry, 95% fine sand, 5% medium sand, no odor

@ 15 ft.: Color change to OLIVE YELLOW (2.5Y 6/8)

@ 30 ft.: Change to dense

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Well Construction Details and Log of Boring MW-BW-54-A
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PLATE

Fort Ord, California

DRAWN: PCB
JOB NUMBER: 55596 001701
APPROVED: 
DATE: 11/04
REVISED DATE: 

Page 1 of 3
@ 35 ft.: Color change to YELLOW (2.5Y 7/8) medium dense, moist, 100% fine sand

@ 45 ft.: Change to trace clay - possible paleosol

@ 50 ft.: Change to 85% fine sand, 10% medium sand, 5% fines, no odor
@ 51 ft.: Driller notes possible water

OLIVE YELLOW WELL GRADED SAND (SV) (2.5Y 6/6) Medium dense, wet, 55% fine sand, 45% medium sand, 5% fines
@ 57 ft.: Driller notes change - possible gravel layer

@ 60 ft.: Change to 75% fine sand, 20% medium sand, 5% fines

@ 65 ft.: Change to 80% fine sand, 10% medium sand, 10% fines
5 in. DIAMETER SLOTTED (0.020 in.) SCREEN: 56 to 86 ft.

BOTTOM WELL CAP: 87 ft. Hole cleaned out to 87 ft. Bottom of boring at 87 ft.

@ 70 ft.: Change to 75% fine sand, 15% medium sand, 10% fines

OLIVE YELLOW POORLY GRADED SAND (SP) (2.5Y 6/5) Dense, wet, 85% fine sand, 10% fines, 5% medium sand, no odor

OLIVE YELLOW WELL GRADED SAND (SW) (2.5Y 6/5) Dense, wet, 75% fine sand, 15% medium sand, 10% fines, no odor

PALE OLIVE ELASTIC SILT (MH) (5Y 6/3) Dense, moist, 60% silt, 5% fine sand, 5% clay
Bottom of borehole at 87 ft.

Completion Date 5/22/2001
Drilling Method Hollow Stem Auger
Logged by
Surface Elevation 144.40 ft. Hole Dia. 12 in.
Northing 2139291.492 Easting 5749576.585
Top of PVC Casing Elev.: 144.47 ft.

7 in. DIAMETER BOREHOLE: 0 to 207 ft.

3 DIAMETER SCHEDULE 80 PVC BLANK CASING: 1 to 171 ft.

BENTONITE CEMENT SEAL: 2 to 25 ft.

BENTONITE SLURRY: 25 to 159 ft.

Depth (ft.):
0
5
10
15
20
25
30

Sample:

Top of casing at 2 ft. above ground level.

GROUND SURFACE

Complation Date: 7/9/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.52 ft
Hole Dia.: 7 in.
Northing: 2140806.6
Easting: 5748107.6

DARK GRAYISH BROWN SILTY SAND (SM) (10YR 4/2) Loose, dry, 80% fine to coarse sand, 20% silt

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 3/4) Loose, dry, 90% fine to coarse sand, 10% silt

@ 10 ft.: Change to YELLOWISH BROWN (10YR 5/4)

@ 12 ft.: Change to LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 6/4)

@ 14 ft.: Change to PALE BROWN (10YR 6/3)

DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 4/6) Loose, dry, 80% fine to coarse sand, 20% silt
YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt

@ 25 ft.: Similar to above

Well Construction Details and Log of Boring MW-BW-85-180

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PLATE A76

Fort Ord, California

DRAWN: MSP
JOE NUMBER: 55596 001701
APPROVED: MMr
DATE: 11/04
REVISED DATE:

Page 1 of 7
Completion Date: 7/9/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.52 ft
Hole Dia.: 7 in.
Northing: 2140808.6
Easting: 5748107.6

@ 30 ft.: Similar to above
@ 32 ft.: Similar to above
@ 40 ft.: Similar to above
@ 45 ft.: Similar to above
@ 46 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)
@ 50 ft.: Change to LIGHT YELLOWISH BROWN (10YR 6/4)
@ 52 ft.: Similar to above

LIGHT GRAY SILTY SAND (SM) (10YR 7/2) Loose, dry, 70% fine to medium sand, 30% silt
BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/8) Loose, dry, 90% fine to coarse sand, 10% silt
YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) Loose, moist, 90% fine to medium sand, 10% silt

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Log of Boring MW-BW-65-180
PLATE

Well Construction Details and

Fort Ord, California

DRAWN

MBP

APPROVED

DATE

REVISED DATE

55565 001701

11/04

Page 2 of 7
Completion Date: 7/9/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.52 ft
Hole Dia.: 7 in.
Northing: 2140905.6
Easting: 5748107.6

- @ 60 ft.: Similar to above
- @ 65 ft.: Similar to above
- @ 68 ft.: Change to Loose, wet
- @ 70 ft.: Similar to above
- @ 75 ft.: Similar to above
- @ 76 ft.: Change to YELLOWISH BROWN (10YR 5/6) iron deposits
- @ 80 ft.: Similar to above
- @ 84 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

BENTONITE SLURRY: 25 to 159 ft.
Completion Date: 7/8/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.52 ft. Hole Dia. 7 in.
Northing 2140606.6  Easting 5748107.6

- @ 120 ft.: Similar to above

- @ 125 ft.: Similar to above
  LIGHT OLIVE BROWN SANDY SILT (ML)
  (2.5Y 5/4) Sft, dry, 70% silt, 30% fine sand

- @ 128 ft.: Change to DARK GRAYISH BROWN (2.5Y 4/2)
  Decrease silt to 10%, Trace Micas
  DARK GRAYISH BROWN WELL GRADED SAND (SW) (2.5Y 4/2)
  Loose, wet, 90% fine to coarse sand, 10% silt

- @ 134 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/3)
  LIGHT BROWNISH GRAY POORLY GRADED SAND (SP) (2.5Y 6/2)
  Loose, moist, 80% fine to medium sand, 5% silt

- @ 140 ft.: Similar to above
  LIGHT BROWNISH GRAY WELL GRADED SAND (SW) (2.5Y 6/2)
  Loose, moist, 95% fine to coarse sand, 5% silt

- @ 145 ft.: Similar to above
  OLIVE GRAY FAT CLAY WITH SAND (CH)
  (5Y 5/2) Medium stiff, moist, 75% clay, 25% fine to medium sand

  OLIVE GRAY FAT CLAY (CH) (5Y 4/2)
  Stiff, dry, 80% clay, 20% silt

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Well Construction Details and Log of Boring MW-BW-55-180
CUCITP

PLATE

Fort Ord, California

A76

DRAWN  JOB NUMBER  APPROVED  DATE  REVISED DATE
MBP  55596 001701  11/04
Completion Date: 7/9/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 141.52 ft.
Hole Dia.: 7 in.
Northing: 2143908.6
Easting: 5748107.6

- @ 150 ft.: Change to DARK BLUISH GRAY (5B 4/1)
- @ 152 ft.: Change to OLIVE GRAY (5Y 5/2)
  LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/6) Loose, moist, 90% fine to medium sand, 10% silt
  OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, dry, 80% clay, 20% silt
- @ 156 ft.: Change to DARK BLUISH GRAY (5B 4/1)

- @ 160 ft.: Similar to above

- OLIVE GRAY CLAYEY SAND (SC) (5Y 5/2) Loose, wet, 80% fine to coarse sand, 20% clay

- @ 168 ft.: Change to 85% fine to coarse sand, 15% clay

- LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt
  @ 172 ft.: Similar to above

- @ 174 ft.: Change to Increase in coarse sand (#3)

- @ 179 ft.: Change to Decrease in coarse sand
@ 184 ft.: Change to Increase in coarse sand (#3)

@ 186 ft.: Similar to above

@ 186 ft.: Change to 65% fine to coarse sand, 10% silt, 5% surrounded gravels of chert, quartz, and granitics to 3 cm.

@ 190 ft.: Change to 80% fine to coarse sand, 10% gravels up to 3 cm., 10% silt

@ 191 ft.: Change to DARK GRAYISH BROWN (10YR 4/2) Gravels gone

@ 192 ft.: Change to 85% fine to coarse sand, 10% silt, 5% gravel

@ 193 ft.: Change to Trace gravels

@ 193.5 ft.: Change to YELLOWISH BROWN (10YR 5/4) Gravels gone

@195 Change to VERY DARK GRAY (10YR 3/1) Loose, wet, 90% fine to coarse sand, 10% silt

@ 197.5 ft.: Change to YELLOWISH BROWN (10YR 5/4) Trace gravels

@ 199 ft.: Change to Decrease in coarse sand

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4) Loose, wet, 90% fine to medium sand, 10% silt, Trace Micas

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/4) Loose, wet, 90% fine to coarse sand, 10% silt, Trace #3 sand

@ 204 ft.: Change to Decrease in coarse sand

Bottom of boring at 207 ft.
Completion Date: 8/12/2002
Drilling Method: Hollow Stem Auger
Logged by: DS3
Surface Elevation: 155.70 ft
Hole Dia.: 12 in.
Northing: 2139168.53
Easting: 5747040.95

**Sample**

- **OLIVE-GRAY SILTY SAND (SM) (5Y 4/2)**
  - Loose, dry, 75% fine to coarse sand, 25% silt

- @ 4 ft.: Color change to **OLIVE-BROWN SILTY SAND (SM) (2.6Y 4/3)**

- **DARK YELLOW-BROWN WELL-GRADED SAND (5W) (10YR 4/6)**
  - Loose, dry, 95% fine to coarse sand, 5% silt

- **YELLOW-BROWN POORLY-GRADED SAND (5P) (10YR 5/8)**
  - Loose, dry, 95% fine to medium sand, 5% silt

- **BROWN WELL-GRADED SAND (5W) (10YR 5/3)**
  - Loose, dry, 95% fine to coarse sand, 5% silt

- @ 20 ft.: Color change to **YELLOW-BROWN (10YR 5/6)**

- @ 30 ft.: Color change to (10YR 5/8)

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**Well Construction Details and Log of Boring MW-BW-55-A**

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**PLATE A77**

**Fort Ord, California**

**DRAWN**

**JOB NUMBER**

**APPROVED**

**DATE**

**REVISED DATE**

**CN**

**55596 001701**

**MDT/CA**

11/04

Page 1 of 4
Completion Date: 8/12/2002
Drilling Method: Hollow Stem Auger
Logged by: DSB
Surface Elevation: 155.70 ft.
Hole Dia.: 12 in.
Northing: 2139168.53
Easting: 5747540.95

- @ 35 ft.: Decrease in coarse-grained sand
- @ 45 ft.: Color change to YELLOW BROWN (10YR 5/4)
- @ 50 ft.: Color change to BROWN (10YR 5/3)

YELLOW-BROWN POORLY-GRADED SAND (SP) (10YR 5/8) Loose, dry, 95% fine to medium sand, 5% silt

YELLOW-BROWN WELL-GRADED SAND (SW) (10YR 5/4) Loose, dry, 95% fine to coarse sand, 5% silt

BENTONITE-CEMENT SEAL: 0 to 70 ft.
Completion Date: 8/12/2002
Drilling Method: Hollow Stem Auger
Logged by: DSB
Surface Elevation: 155.70 ft
Hole Dia.: 12 in.
Northing: 2133188.53
Easting: 5747940.95

@ 75 ft.: Color change to DARK YELLOW-BROWN (10YR 4/6)

@ 84.75 ft.: Groundwater encountered
YELLOW-BROWN POORLY-GRADED SAND (SP) (10YR 5/6) Loose, moist, 95% fine to coarse sand, 5% silt

@ 90 ft.: Becoming wet

@ 100 ft.: Color change to BROWN (10YR 5/2), loose, wet

@ 104 ft.: Driller notes a change, possible clay stringers

Well Construction Details and Log of Boring MW-BW-55-A
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Fort Ord, California

DRAWN: CN 55596 001701

APPROVED: MD T/ 11/04

REVIEWED: 11/04

Page 3 of 4
BOTTOM WELL CAP. HOLE CLEANED OUT to 110 ft.

1.05

1.10

LIGHT OLIVE-BROWN FAT CLAY (CH)
(2.5Y 5/3) Soft, moist, 90% clay, 5% fine sand, 5% silt
Bottom of boring at 110 ft.
Top of PVC Casing
Elev. 178.29 ft.

GROUND SURFACE
Top of casing at 0.5 ft. above ground level

7 in. DIAMETER
BOREHOLE: 0 to 265 ft.
3 DIAMETER
SCHEDULE 40
PVC BLANK
CASING: 1 to 190 ft.

BENTONITE
CEMENT SEAL: 2 to 25 ft.

BENTONITE
SLURRY: 25 to 179 ft.

Depth (ft.)
Sample

VERY DARK GRAY SILTY SAND (SM)
(10YR 3/1) Loose, dry, 80% silt to coarse sand, 20% silt
@ 2.5 ft.: Change to YELLOWISH BROWN
(10YR 5/4)
LIGHT YELLOWISH BROWN WELL
GRADED SAND (SW) (10YR 6/4) Loose, dry, 90% fine to coarse sand, 10% silt

@ 10 ft.: Similar to above
@ 12 ft.: Similar to above
@ 15 ft.: Similar to above

@ 20 ft.: Change to LIGHT OLIVE BROWN
(2.5Y 5/4)
@ 25 ft.: Similar to above

@ 30 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)
@ 35 ft.: Similar to above
@ 40 ft.: Similar to above
@ 45 ft.: Similar to above
Completion Date: 6/29/2003
Drilling Method: Sonic
Logged by: D. Browne
Surface Elevation: 178.78 ft.
Hole Dia.: 7 in.
Northing: 2193267.8
Easting: 5749385.3

@ 100 ft.: Similar to above
@ 102 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
@ 104 ft.: Change to OLIVE BROWN 2.5Y 4/4
@ 105 ft.: Similar to above
@ 108 ft.: Change to interbedded with 1 to 2 in. units of DARK YELLOWISH BROWN (10YR 4/6) to 110 ft.
@ 110 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6)
@ 112 ft.: Similar to above
@ 116 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
@ 121.5 ft.: Change to BROWN (10YR 4/3)
@ 124 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
@ 125 ft.: Similar to above
OLIVE GRAY FAT CLAY (CH) (5Y 4/2) Stiff, dry, 80% clay, 20% silt
@ 130 ft.: Similar to above
@ 132 ft.: Change to trace carbonate deposits that react with HCl, possible shell deposits
@ 134 ft.: Change to DARK GREENISH GRAY (5GY 4/1)
@ 136 ft.: change to trace carbonate deposits
@ 140 ft.: Change to 10% carbonate deposits
@ 142 ft.: Change to carbonate deposits gone
@ 147 ft.: Change to BROWN (10YR 5/3), carbonate deposits to 5%, trace organics

BENTONITE SLURRY: 25 to 179 ft.
@ 200 ft.: Change to increase in coarse sand

@ 205 ft.: Similar to above

@ 210 ft.: Similar to above

@ 212 ft.: Similar to above

@ 215 ft.: Similar to above

@ 220 ft.: Similar to above

@ 225 ft.: Similar to above

@ 227 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4), decrease in coarse sand

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4): Loose, wet, 90% fine to medium sand, 10% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4): Loose, wet, 90% fine to medium sand, 10% silt

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4): Loose, wet, 90% fine to medium sand, 10% silt; mica present

@ 237 ft.: Similar to above

@ 240 ft.: Similar to above

@ 245 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3): Loose, wet, 90% fine to coarse sand, 10% silt; trace gravels to 3cm

Completion Date: 8/23/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 178.78 ft.
Hole Dia.: 7 in.
Northing: 2137357.8
Easting: 5749385.3

Well Construction Details and Log of Boring MW-BW-56-180

PLATE

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Fort Ord, California

DRAWN
MBP

JOB NUMBER
55596 001701

APPROVED

DATE
1/05

REVISED DATE

Page 5 of 6
Completion Date: 6/29/2003
Drilling Method: Sonic
Logged by: D. Brown
Surface Elevation: 178.78 ft
Hole Dia.: 7 in.
Northing: 2137367.8
Easting: 5749385.3

- @ 250 ft.: Change to trace gravels to 1.5 cm
- @ 253 ft.: Similar to above

- LIGHT OLIVE BROWN SANDY FAT CLAY
  (CH) (2.5Y 5/4) Soft, moist, 65% clay, 30% sand, 5% subdivided gravels to 1 cm

- LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/3) Loose, wet, 90% fine to coarse sand, 10% silt

- LIGHT YELLOWISH BROWN SILT (ML)
  (2.5Y 6/3) Soft, moist, 75% silt, 25% fat clay

- DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/6) Loose, wet, 90% fine to coarse sand, 10% silt
  @ 261 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

- LIGHT YELLOWISH BROWN SANDY FAT CLAY (CH) (2.5Y 6/3) Soft, moist, 80% clay, 20% fine to coarse sand, 10% subdivided gravels (Paso Robles) up to 1 cm. (pebbly mudstone)

- LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (2.5Y 6/4) Loose, wet. Bottom of boring at 265 ft.
Top of PVC Casing
Elev. 142.74 ft.

Ground Surface
Top of casing at 1.5 ft. above ground surface

12 Dia.
Borehole: 0 to 100 ft.

5 Dia. Sched. 40
PVC Blank
Casing: 0 to 67 ft.

Bentonite-Cement
Seal: 0 to 67 ft.

Completion Date: 8/7/2002
Drilling Method: Hollow Stem Auger
Logged by: DSB
Surface Elevation: 141.96 ft.
Hole Dia.: 12 in.
Northing: 2140065.76
Easting: 5749393.01

Depth (ft.)

Sample

DARK GRAY-BROWN SILTY SAND (SM)
(2.5Y 4/2). Loose, dry 70% fine to coarse sand, 30% silt

@ 3 ft.: Color change to DARK YELLOW-BROWN (10YR 3/4)
Decrease in silt to 20%

YELLOW-BROWN POORLY-GRADED
SAND (SP) (10YR 5/6). Loose, dry, 95% fine to medium-grained sand, 5% silt

@ 15 ft.: Increase in coarse-grained sand

DARK GRAY-BROWN WELL-GRADED
SAND WITH SILT (SW-SM) (2.5Y 4/2)
Loose, dry, 90% fine to coarse sand, 10% silt

DARK YELLOW BROWN
POORLY-GRADED SAND (SP) (10YR 4/6)
Loose, dry to moist, 95% fine-grained sand

DARK YELLOW-BROWN WELL-GRADED
SAND (SW) (10YR 4/6). Loose, moist to dry, 95% fine to coarse sand, 5% silt
BENTONITE-CEMENT SEAL: 0 to 67 ft

BENTONITE PELLET SEAL: 61 to 64 ft

#3 LONESTAR SANDPACK: 64 to 100 ft

LIGHT OLIVE-BROWN WELL-GRATED SAND (SW) (2.5Y 5/4) Loose, moist, fine-to coarse-grained

YELLOW-BROWN WELL-GRATED SAND (SW) (10YR 5/4) Loose, moist, 95% fine to coarse sand, 5% silt
Completion Date: 6/7/2002
Drilling Method: Hollow Stem Auger
Logged by: DSB
Surface Elevation: 141.95 ft
Hole Dia.: 12 in.
Northing: 2140055.78
Easting: 5749393.01

@ 75 ft: Groundwater encountered

YELLOW-BROWN POORLY-GRADED SAND (SP) (10YR 5/4) Loose, wet, fine- to medium-grained

GRAY FAT CLAY (CH) (5Y 5/1) Stiff, moist, 95% clay, 5% fine sand

Bottom of boring at 100 ft.
Top of PVC Casing
Elev. 146.11 ft.

GROUND SURFACE
Top of casing at 12 ft. above ground surface

12 DIA.
BOREHOLE: 0 to 105 ft.

5 DIA. SCHED. 40
PVC BLANK
CASING: 0 to 74 ft.

BENTONITE-CEMENT
SEAL: 0 to 65 ft.

Well Construction Details and
Log of Boring MW-BW-57-A
CUCTP

Completion Date 8/8/2002
Drilling Method Hollow Stem Auger
Logged by DSB
Surface Elevation 144.28 ft. Hole Dia. 12 in.
Northing 2140300.39 Easting 6748032.76

Depth (ft.)

Sample

DARK GRAY-BROWN SILTY SAND (SM)
(7.5 YR 5/2) Loose, dry, 70% fine to coarse sand, 30% silt

@ 3 ft.: Color change to BROWN

DARK YELLOW-BROWN WELL-GRADED SAND WITH SILT (SW-SM) (10YR 4/4)
Loose, dry, 90% fine to coarse sand, 10% silt

@ 10 ft.: Color change to LIGHT OLIVE-BROWN (2.5Y 5/3)

DARK YELLOW-BROWN WELL-GRADED SAND (SW) (10YR 4/6) Loose, dry, 95%
fine to coarse sand, 5% silt

@ 20 ft.: Color change to BROWN (10YR 5/4)

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Drawn: CN
Job Number: 55596 001701
Approved: MT/DJ 11/04

Fort Ord, California

PLATE
A80
BENTONITE-CEMENT SEAL: 65 to 70 ft.

Coarse-grained sand increases slightly

@ 50 ft.: Color change to DARK YELLOW-BROWN (10YR 4/6)

@ 55 ft.: Color change to YELLOW-BROWN (10YR 5/4)
Completion Date: 8/8/2002
Drilling Method: Hollow Stem Auger
Logged by: DSB
Surface Elevation: 144.28 ft.
Hole Dia: 12 in.
Northing: 2140300.39
Easting: 5749032.75

#3 Lonestar Sandpacific: 70 to 105 ft.

@ 75 ft.: Groundwater encountered, 100% fine to coarse sand

5 Dia. Slotted Screen (0.92): 74 to 104 ft.

YELLOW-BROWN POORLY-GRADED SAND (SP) (10YR 5/4) Loose, wet, 95% fine to medium sand, 5% silt

BOTTOM WELL CAP, HOLE CLEANED OUT, BOTTOM OF BOREHOLE 105 ft.

GRAY-BROWN FAT CLAY (CH) (2.5Y 5/2)
Medium stiff, moist, 95% clay, 5% silt
Bottom of boring at 105 ft.
Top of PVC Casing Elev. 132.48 ft.
CHRISTY BOX

GROUND SURFACE
Top of casing at 0.5 ft. below ground surface

12 DIA.
BOREHOLE: 0 to 50 ft.

5 DIA. SCHED. 40
PVC BLANK CASING: 0 to 59 ft.

BENTONITE-CEMENT SEAL: 0 to 51 ft.

Well Construction Details and Log of Boring MW-BW-58-A

Completion Date 8/9/2002
Drilling Method Hollow Stem Auger
Logged by DSB
Surface Elevation 132.30 ft. Hole Dia. 12 in.
Northing 2140686.16 Easting 6748954.85

Sample Depth (ft.)

LIGHT OLIVE-BROWN SILTY SAND (SM)
(2.5Y 5/2) Loose, dry, 70% fine to coarse sand, 30% silt

DARK YELLOW-BROWN SILTY SAND
(SM) (10YR 4/4) Loose, dry, 50% fine to coarse sand, 10% silt

@ 10 ft.: Color change to OLIVE-BROWN
(2.5Y 4/4)

LIGHT OLIVE-BROWN WELL-GRADED SAND (SW) (2.5Y 5/4) Loose, dry, 95% fine to coarse sand, 5% silt

@ 25 ft.: Color change to YELLOW-BROWN (10YR 5/4)
Completion Date: 8/9/2002
Drilling Method: Hollow Stem Auger
Logged by: DSB
Surface Elevation: 132.90 ft.
Hole Dia: 12 in.
Northing: 2140258.16
Easting: 6749954.85

@ 45 ft.: Color change to YELLOW-BROWN (10YR 5/6)

@ 55 ft.: Becoming moist to dry

@ 60 ft.: Decrease in coarse-grained sand
Completion Date: 8/6/2002
Drilling Method: Hollow Stem Auger
Logged by: DDS
Surface Elevation: 132.90 ft
Hole Dia: 12 in
Northing: 2146355.16
Easting: 5749954.85

5 in. SLOTTED SCREEN (0.02), 59 to 89 ft.

@ 75 ft: Groundwater encountered
YELLOW-BROWN POORLY-GRADED SAND (SP) (10YR 5/6) Loose, wet, 95%
fine to medium sand, 5% silt

OLIVE FAT CLAY (CH) (5Y 5/3) Soft,
moist, 90% clay, 10% silt

Bottom of boring at 93 ft.

MACTEC

Well Construction Details and Log of Boring MW-BW-58-A
OUCTP

PLATE

M A C T E C

B R A W N

J O B  N U M B E R

A P P R O V E D

D A T E

R E V I S E D  D A T E

O N

5 5 5 9 6 0 0 1 7 0 1

F o r t  O r d,  C a l i f o r n i a

1 1 / 0 4

Page 3 of 3
Top of PVC Casing
Elev. 79.50 ft.
CHRISTY BOX

GROUND SURFACE
Top of casing at
0.5 ft. below
ground surface

12. DIA.
BOREHOLE: 0 to
69 ft.

5 DIA. SCHED. 40
PVC BLANK CASING: 0 to 38 ft.

BENTONITE-CEMENT SEAL: 0 to 33 ft.

BENTONITE PELLET SEAL: 30 to 34 ft.

Light Olive-Brown Silty Sand (SM)
(2.5Y 5/7) Loose, dry, 70% fine to coarse sand, 30% silt

DARK YELLOW-BROWN WELL-GRADED SAND WITH SILT (SW-SC) (10YR 4/4)
Loose, dry, 90% fine to coarse sand, 10% silt

DARK YELLOW-BROWN WELL-GRADED SAND (SW) (10YR 4/4) Loose, dry, 95%
fine to coarse sand, 5% silt

YELLOW-BROWN POORLY-GRADED SAND (SP) (10YR 5/6) Loose, dry, 85%
fine to medium sand, 5% silt

@ 30 ft.: Color change to DARK YELLOW-BROWN (10YR 4/6)

@ 34.75 ft.: Groundwater encountered

Completion Date: 8/10/2002
Drilling Method: Hollow Stem Auger
Logged by: DSB
Surface Elevation: 75.83 ft.
Hole Dia. 12 in.
Northing: 2143521.79
Easting: 5745504.1
Completion Date: 8/10/2002
Drilling Method: Hollow Stem Auger
Logged by: DSB
Surface Elevation: 75.83 ft.
Hole Dia.: 12 in.
Northing: 2143521.79
Easting: 5745504.1

#3 LONESTAR SANDPACK: 34 to 69 ft.

5 DIA. SLOTTED SCREEN (.02): 38 to 68 ft.

DARK YELLOW-BROWN POORLY-GRADED SAND (SP) (10YR 4/6)
Loose, moist, 95% fine to medium sand, 5% silt

@ 45 ft.: Color change to YELLOW-BROWN (10YR 5/4), wet

@ 55 ft.: Color change to YELLOW-BROWN (10YR 5/4)

@ 60 ft.: Color change to OLIVE-BROWN (2.5Y 4/3)

@ 64 ft.: Possible clay stringers

OLIVE FAT CLAY (CH) (5Y 5/3) Soft, moist, 80% clay, 10% silt
Bottom of boring at 69 ft.

MACTEC

Well Construction Details and Log of Boring MW-BW-59-A

OCTOP

Fort Ord, California

DRAWN: CN 55596.001701

APPROVED: MDT 11/04

REVISED DATE:
Top of PVC Casing
Elev. 151.89 ft.
CHRISTY
BOX

GROUND SURFACE
Top of casing at
0.5 ft. below
ground surface

12 DIA.
BOREHOLE: 0 to
64 ft.

5 DIA. SCHED. 40
PVC BLANK
Casing: 0 to 64
ft.

BENTONITE-CEMENT
SEAL: 0 to 57 ft.

DARK GRAY-BROWN SILTY SAND (SM)
(2.5Y 4/2) Loose, dry, 70% fine to coarse
sand, 30% silt

@ 5 ft.: Change to RED-BROWN (2.5YR
4/3), 60% fine to coarse sand, 10% silt

BROWN WELL-GRATED SAND (SW) (7.5
YR 4/3) Loose, dry, 95% fine to coarse
sand, 5% silt

@ 15 ft.: Color change to LIGHT
YELLOW-BROWN (2.5Y 6/4)

@ 20 ft.: Color change to OLIVE-BROWN
(2.5Y 4/4)

@ 25 ft.: Color change to LIGHT
YELLOW-OLIVE (2.5Y 6/4)

@ 30 ft.: Color change to OLIVE-BROWN
(2.5Y 4/4)
Completion Date: 8/8/2002
Drilling Method: Hollow Stem Auger
Logged by: SK
Surface Elevation: 150.55 ft., Hole Dia. 12 in.
Northing: 2140960.82, Easting: 5748120.5

- @ 40 ft.: Color change to OLIVE-YELLOW (2.5Y 6/6)
- @ 50 ft.: Color change to LIGHT YELLOW-BROWN (2.5Y 6/4)
- @ 70 ft.: Groundwater encountered
Completion Date: 8/9/2002
Drilling Method: Hollow Stem Auger
Logged by: SK
Surface Elevation: 150.55 ft
Hole Dia.: 12 in.
Northing: 2143860.82
Easting: 5748120.5

5 DIA. SLOTTED SCREEN (0.02): 64 to 94 ft

BOTTOM WELL CAP HOLE CLEANED OUT, BOTTOM OF BOREHOLE: 95 ft

LIGHT YELLOW-BROWN WELL-GRADED SAND (SW) (2.5Y 4/4) Loose, wet, 55% sand, 5% silt

DARK GRAY-BROWN FAT CLAY (CH)
(2.5Y 4/2) Soft, moist, 100% clay, <5% silt

MACTEC
Well Construction Details and Log of Boring MW-BW-60-A
OUCTP

PLATE A83

Fort Ord, California

DRAWN: CN APPROVED: MT DATE: 11/04
JGS NUMBER: 55596 001701 REVISED DATE:
5 in. DIAMETER SCHEDULE 80 PVC BLANK CASING: 0.5 to 130 ft.

10 in. DIAMETER BOREHOLE: 0 to 135 ft.

BENTONITE-CEMENT SEAL: 0 to 60 ft.

Top of PVC Casing Elev. 189.93 ft. CHRISTY BOX

GROUND SURFACE

Completion Date 6/3/2003
Drilling Method ARCH/mud rotary
Logged by J. Newman
Surface Elevation 180.96 ft. Hole Dia. 10 in.
Northing 2137597.4 Easting 5747971.5

Yellowish Brown Well Graded Sand (5W) (10YR 5/2) Loose, dry, 85% fine to medium sand, 10% silt, 5% organics

@ 3.5 ft.: Change to OLIVE YELLOW (2.5Y 6/6) Loose, moist, 95% fine to medium sand, 5% silt

@ 6 ft.: Similar to above

@ 10 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) 100% fine to medium sand

@ 15 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)

@ 20 ft.: Similar to above

@ 25 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Medium dense, moist, 95% fine to medium sand, 5% silt

@ 30 ft.: Similar to above
Completion Date: 6/2/2003

Drilling Method: ARCH/mud rotary

Logged by: J. Newman

Surface Elevation: 180.66 ft  Hole Dia: 10 in.
Northing: 2137597.4  Easting: 5747971.5

Depth (ft.)

35 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6)

40 ft.: Similar to above

45 ft.: Similar to above

50 ft.: Similar to above

55 ft.: Similar to above

60 ft.: Similar to above

65 ft.: Change to 95% fine to coarse sand, 5% silt

MACTEC

Well Construction Details and Log of Boring MW-BW-61-A
OUCCTP

PLATE

A84

Fort Ord, California

DRAWN  JOB NUMBER  APPROVED  DATE  REVISED DATE

MSP  55596 001701  /  1/05
Completion Date: 8/9/2003
Drilling Method: ARCH/mud rotary
Logged by: J. Newman
Surface Elevation: 160.96 ft
Hole Dia.: 10 in.
Northing: 2137597.4
Easting: 5747971.5

70 ft.: Similar to above

75 ft.: Similar to above

80 ft.: Similar to above

85 ft.: Similar to above

90 ft.: Similar to above

95 ft.: Similar to above

100 ft.: Similar to above
Completion Date: 6/9/2003
Drilling Method: ARCH/mud rotary
Logged by: J. Newman
Surface Elevation: 158.96 ft
Hole Dia.: 10 in.
Northing: 2137597.4
Easting: 5747571.5

@ 105 ft.: Similar to above

@ 110 ft.: Change to OLIVE YELLOW (2.5Y 6/6) Medium dense, wet

@ 115 ft.: Similar to above

@ 120 ft.: Similar to above

@ 125 ft.: Similar to above

OLIVE FAT CLAY (CH) (5Y 5/6) Medium dense, moist, 95% clay, 5% fine sand

Bottom of boring at 135 ft.
Completion Date: 5/28/2003
Drilling Method: ARCH/mud rotary
Logged by: J. Newman
Surface Elevation: 183.12 ft
Hole Dia.: 10 in.
Northing: 2137725.5
Easting: 5746172.1

Well Construction Details and Log of Boring MW-BW-62-A

Top of PVC Casing
Elev.: 183.00 ft.
CHRISTY
BOX

GROUND SURFACE

5 in. DIAMETER
SCHEDULE 80
PVC BLANK
CASING: 0.5 to 150 ft.

10 in. DIAMETER
BOREHOLE: 0 to 134 ft.

BENTONITE-
CEMENT SEAL: 0 to 50 ft.
*******redo
after Jim
straightens
screwups

BROWN WELL GRADED SAND (SW)
(10YR 5/3) Loose, dry, 90% fine to medium sand, 10% silt

@ 8 ft.: Change to YELLOW (2.5Y 7/6) 95%
fine to medium sand, 5% silt

@ 15 ft.: Change to OLIVE YELLOW (2.5Y 6/6) Medium dense, moist, 95% fine to
medium sand, 5% silt

@ 20 ft.: Change to LIGHT OLIVE BROWN
(2.5Y 5/6)

LIGHT OLIVE BROWN POORLY GRADED
SAND (SP) (2.5Y 5/6) Medium dense,
moist, 95% fine sand, 5% silt

@ 30 ft.: Similar to above

PLATE

MACTEC

DRAWN
MBP

JOB NUMBER
55596 001701
APPROVED
DATE
1/05

Fort Ord, California

A85
Completion Date: 5/28/2003
Drilling Method: ARCH/mud rotary
Logged by: J. Newman
Surface Elevation: 183.12 ft. Hole Dia: 10 in.
Northing: 2137272.5 Easting: 5748172.1

Depth (ft.)
Sample
35
40
45
50
55
60
65
70

5 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/6) Medium dense, moist, 95% fine to medium sand, 5% silt

@ 45 ft.: Similar to above

@ 50 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 55 ft.: Similar to above

@ 60 ft.: Similar to above

@ 65 ft.: Similar to above

A3 SANDPACK: 54 to 93 ft.
5 in. DIAMETER SLOTTED (0.020 in.) SCREEN: 57.5 to 92.5 ft.

BENTONITE PELLET SEAL: 93 to 97 ft.
10 ft. of blank casing between screens

#3 SANDPACK: 97 to 135 ft.

Depth (ft.)
Sample

@ 70 ft.: Similar to above

@ 75 ft.: Change to 95% fine to coarse sand, 5% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Medium dense, wet, 95% fine sand, 5% silt

@ 85 ft.: Similar to above

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Medium dense, wet, 90% fine to medium sand, 10% silt

@ 95 ft.: Change to 95% fine to medium sand, 5% silt

@ 100 ft.: Similar to above
YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Medium dense, wet, 95% fine sand, 5% silt

YELLOWISH BROWN WELL SAND (SW) (10YR 5/6) Medium dense, wet, 95% fine to medium sand, 5% silt

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Medium dense, wet, 95% fine sand, 5% silt

@ 120 ft.: Change to YELLOWISH BROWN (10YR 5/4) 93% fine sand, 10% silt

@ 125 ft.: Change to 95% fine sand, 5% silt

OLIVE FAT CLAY (CH) (6Y 5/6) Dense, moist, 95% clay, 5% fine sand

Bottom of boring at 134 ft. redrilling necessary after difficulty installing well
STRONG BROWN WELL GRADED SAND (SW) (7.5YR 4/6) Loose, dry, 80% fine to coarse sand, 20% silt

@ 4 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6) 90% fine to medium sand, 10% silt

@ 7 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4) 95% fine to medium sand, 5% silt

@ 12 ft.: Change to OLIVE YELLOW (2.5Y 6/6)

@ 17 ft.: Similar to above

OLIVE YELLOW POORLY GRADED SAND (SP) (2.5Y 6/6) Loose, dry, 90% medium fine sand, 5% other sand, 5% silt

@ 25 ft.: Similar to above

OLIVE YELLOW WELL GRADED SAND (SW) (2.5Y 6/6) Loose, dry, 95% fine to medium sand, 5% silt
@ 35 ft.: Similar to above

@ 40 ft.: Change to Medium dense, moist

@ 45 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4) Medium dense, wet. Driller adds water.

@ 50 ft.: Similar to above

@ 54 ft.: Similar to above

@ 58 ft.: Similar to above

@ 62 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

@ 67 ft.: Similar to above
5 in. DIAMETER
SLOTTED (0.029 in.) SCREEN: 57.5 to 67.5 ft.

@ 72 ft.: Similar to above

@ 77 ft.: Similar to above

@ 83 ft.: Change to PALE YELLOW (2.5Y 7/4)

@ 90 ft.: Similar to above

@ 95 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4)

@ 100 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)
Completion Date: 6/3/2003
Drilling Method: ARCH/mud rotary
Logged by: J. Newman
Surface Elevation: 184.53 ft.
Hole Dia.: 10 in.
Northing: 2137841.4
Easting: 5743312.9

Depth (ft.)

Sample

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Medium dense, wet, 95% medium fine sand, 5% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Medium dense, wet, 95% fine to coarse sand, 5% silt

@ 115 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Medium dense, wet, 90% fine sand, 10% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Medium dense, wet, 90% fine to coarse sand, 10% silt

DARK GREENISH GRAY FAT CLAY (CH) (5G 4/1) Firm, moist, 98% clay, 2% silt

Bottom of boring at 135 ft.
Well Construction Details and Log of Boring MW-BW-64-A

Completion Date: 6/4/2003
Drilling Method: ARCH/mud rotary
Logged by: J. Newman
Surface Elevation: 177.43 ft.
Hole Dia.: 10 in.
Northing: 2138018
Easting: 5748548.7

5 in. DIAMETER SCHEDULE 80 PVC BLANK CASING: 0.5 to 129 ft.

10 in. DIAMETER BOREHOLE: 0 to 154 ft.

BENTONITE-CEMENT SEAL: 0 to 47 ft.

Yellowish Brown Well Graded Sand (SW) (10YR 5/6) Loose, dry, 88% fine to coarse sand, 10% silt, 2% gravel
@ 2 ft.: Change to Dark Yellowish Brown (10YR 4/6) 90% fine to medium sand, 10% silt, Trace organics
@ 3 ft.: Change to Dark Brown (10YR 3/3) Loose, barely moist, 95% fine to medium sand, 5% silt

Brownish Yellow Poorly Graded Sand (SP) (10Yr 6/8) Loose, moist, 95% fine sand, 5% silt
@ 10 ft.: Similar to above
@ 12 ft.: Similar to above

Light Olive Brown Well Graded Sand (SW) (2.5Y 5/6) Loose, moist, 95% fine to coarse sand, 5% silt
@ 20 ft.: Similar to above
@ 25 ft.: Similar to above
@ 30 ft.: Similar to above

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MACTEC

PLATE

A87

Fort Ord, California

DRAWN
MBP

JOB NUMBER
55556 001701

APPROVED

DATE
11/04

REVISED DATE

Page 1 of 4
@ 35 ft.: Change to Medium dense, moist, 95% fine to medium sand, 5% silt

@ 40 ft.: Change to YELLOWISH BROWN (10YR 5/6) 95% fine to coarse sand, 5% silt

@ 43 ft.: Driller adds water

@ 45 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6) Medium dense, wet, 95% fine to medium sand, 5% silt

@ 55 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4) 95% fine to coarse sand, 5% silt

@ 60 ft.: Similar to above

@ 65 ft.: Change to PALE YELLOW (2.5Y 7/4) 93% fine to coarse sand, 5% silt, 2% fat clay
5 in. DIAMETER SLOTTED (0.020 in.) SCREEN. 87.5 to 97.5 ft.

BENTONITE PELLET SEAL: 90.5 to 95 ft.
10 ft. of blank casing between screens

#3 SANDPACK: 95 to 134 ft.

@ 70 ft.: Change to PALE YELLOW (2.5Y 7/4) 95% fine to coarse sand, 5% silt

@ 75 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 5/3)

@ 80 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6) 95% fine to medium sand, 5% silt

@ 85 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/4) Medium dense, wet, 95% fine sand, 5% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/4) Medium dense, wet, 95% fine to medium sand, 5% silt

@ 100 ft.: Change to 90% fine to medium sand, 10% silt
Top of PVC Casing
Elev. 49.52 ft.

CHRISTY BOX

GROUND SURFACE

5 in. DIAMETER SCHEDULE 80 PVC BLANK CASING: 0 to 71 ft.

12 in. DIAMETER BOREHOLE: 0 to 71 ft.

BENTONITE CEMENT SEAL: 0 to 31 ft.

BENTONITE PELLET SEAL: 31 to 35 ft.

YELLOWISH BROWN WELL GRADED SAND (5W) (10YR 5/3) Loose, dry, 85% fine to coarse sand, 15% silt

@ 2 ft.: Change to DARK YELLOWISH BROWN (10YR 3/6) 85% fine to coarse sand, 10% silt, 5% organics

@ 5 ft.: Change to BROWNISH YELLOW (10YR 6/6) Loose, moist, 95% fine to coarse sand, 5% silt

@ 20 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6)

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above

@ 32 ft.: Change to BROWNISH YELLOW (10YR 6/6) Medium dense, moist, 95% fine to medium sand, 5% silt

Completion Date 5/30/2003
Drilling Method Auger
Logged by J. Newman
Surface Elevation 50.02 ft.
Hole Dia. 12 in.
Northing 2146855.2
Easting 5743094.9

Well Construction Details and Log of Boring MW-BW-85-A
OUCTP

MACTEC

PLATE

A88

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
MBP 55596 001701

Page 1 of 3
Completion Date: 5/30/2003
Drilling Method: Auger
Logged by: J. Newman
Surface Elevation: 50.02 ft.  Hole Dia. 12 in.
Northing: 2144855.2  Easting: 5743084.9

#3 SANDPACK: 35 to 71 ft.
5 in. DIAMETER SLOTTED (0.020 in.) SCREEN: 40.5 to 70.5 ft.

@ 35 ft.: Similar to above

@ 40 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/8)

@ 45 ft.: Change to YELLOWISH BROWN (10YR 5/8) 95% fine to coarse sand, 5% silt

@ 50 ft.: Similar to above

@ 55 ft.: Similar to above

@ 58 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Medium dense, wet

@ 65 ft.: Similar to above

Well Construction Details and Log of Boring MW-BW-55-A
OUCTP

Fort Ord, California

MACTEC

DRAWN: MBP  JOB NUMBER: 55596 001701
APPROVED:  DATE: 11/04

PLATE A88
Completion Date 5/30/2003
Drilling Method Auger
Logged by J. Newman
Surface Elevation 50.02 ft. Hole Dia. 12 in.
Northing 2144855.2 Easting 5743084.9

End cap to bottom of screen: 5 in.
BOTTOM WELL CAP: 71 ft.
Hole cleaned out to 71 ft.

70

OLIVE FAT CLAY (CH) (5Y 5/4) Firm, moist, 95% silt clay, 5% fine sand
Bottom of boring at 71 ft.
Top of PVC Casing
Elev. 86.48 ft.
CHRISTY BOX

GROUND SURFACE

5 in. DIAMETER SCHEDULE 30 PVC BLANK CASING: 0 to 67.5 ft.

12 in. DIAMETER BOREHOLE: 0 to 67.5 ft.

BENTONITE-CEMENT SEAL: 0 to 31 ft.

BENTONITE PELLET SEAL: 27 to 31 ft.

W3 SANDPACK: 31 to 67.5 ft.

Completion Date 5/14/2003
Drilling Method Auger
Logged by J. Newman
Surface Elevation 86.48 ft. Hole Dia. 12 in.
Northing 2144350.1 Easting 5744400.6

VERY DARK BROWN WELL GRADED SAND (SW) (10YR 2/2) Loose, moist. 85% fine to medium sand, 10% silt, 5% organics

@ 3.5 ft.: Change to 65% fine to coarse sand, 5% silt

@ 5 ft.: Change to DARK BROWN (10YR 3/3)

@ 7 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6) 100% fine to medium sand

@ 8 ft.: Change to OLIVE YELLOW (2.5Y 6/6)

@ 15 ft.: Change to YELLOW (2.5Y 7/6)

@ 20 ft.: Similar to above

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above
Completion Date: 5/4/2003
Drilling Method: Auger
Logged by: J. Newman
Surface Elevation: 86.46 ft.  Hole Dia.: 12 in.
Northing: 2144350.1  Easting: 5744400.6

Depth (ft)

Sample

5 in. DIAMETER SLOTTED (0.020 in.) SCREEN 37 to 67 ft.

5 in. DIAMETER SLOTTED (0.020 in.) SCREEN 37 to 67 ft.

63 SANDPACK 31 to 67.5 ft.

End cap to bottom of screen 5 in. BOTTOM WELL CAP: 67.5 ft. Hole cleaned out to 67.5 ft.

@ 35 ft.: Similar to above

YELLOW POORLY GRADED SAND (SP) (2.5Y 7/8) Loose, moist, 95% fine sand, 5% medium sand

@ 45 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6) Medium dense, wet

@ 50 ft.: Change to 90% fine sand, 10% silt

@ 55 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/6) Medium dense, wet, 95% fine to medium sand, 5% silt

OLIVE FAT CLAY (CH) (5Y 5/4) Soft, wet

Bottom of boring at 69 ft.
DARK BROWN WELL GRADED SAND (SW) (10YR 3/3) Loose, dry, 90% fine to medium sand, 10% silt.
- @ 1 ft.: Change to YELLOWISH BROWN (10YR 5/6) Loose, barely moist, 95% fine to coarse sand, 5% silt.
- @ 3 ft.: Change to BROWNISH YELLOW (10YR 6/6)
- @ 4.5 ft.: Change to YELLOW (2.5Y 7/6) Loose, moist, 100% fine to medium sand.
- @ 7 ft.: Change to LIGHT OLIVE BROWN (2.5Y 6/4) Loose, barely moist, 95% fine to medium sand, 5% silt.
- @ 15 ft.: Change to OLIVE YELLOW (2.5Y 6/6) 100% fine to medium sand.
- @ 20 ft.: Similar to above.
- @ 25 ft.: Change to LIGHT YELLOWISH BROWN (2.5Y 6/4) Loose, dry, 95% fine to medium sand, 5% silt.
- @ 30 ft.: Similar to above.
Completion Date: 5/15/2003
Drilling Method: Auger
Logged by: J. Newman
Surface Elevation: 109.01 ft
Hole Dia.: 12 in.
Northing: 2144537.8
Easting: 5744654.1

@ 35 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6) Medium dense, moist

@ 40 ft.: Similar to above

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/6) 85% medium fine sand, 10% fine sand, 5% silt

@ 50 ft.: Similar to above

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/6) Medium dense, moist, 95% fine to medium sand, 5% silt

@ 60 ft.: Similar to above

@ 65 ft.: Similar to above
Completion Date: 5/15/2003
Drilling Method: Auger
Logged by: J. Newman
Surface Elevation: 190.01 ft.
Hole Dia.: 12 in.
Northing: 2144537.8
Easting: 6744654.1

Depth (ft.)

Sample

@ 70 ft.: Similar to above

@ 75 ft.: Similar to above

@ 80 ft.: Change to Medium dense, wet

@ 85 ft.: Similar to above

OLIVE FAT CLAY (CH) (5Y 5/4) Firm, moist, 95% fat clay, 5% fine sand
Bottom of boring at 88 ft.

End cap to bottom of screen: 5 in.
BOTTOM WELL CAP: 88 ft.
Hole cleaned out to 89 ft.

5 in. DIAMETER SLOTTED (0.020 in.) SCREEN: 67.5 to 87.5 ft.

MACTEC

Well Construction Details and Log of Boring MW-BW-67-A
OUCTP

Fort Ord, California

DRAWN: MJP
JCS NUMBER: 55596 001701
APPROVED: MDT/05
DATE: 1/05

PLATE A90

Page 3 of 3
DARK YELLOWISH BROWN SILTY SAND (SM) (10YR 3/6)

LIGHT YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 6/4). Loose, dry, 80% fine to coarse sand, 20% silt

@ 12 ft.: 95% fine to coarse sand, 5% silt

@ 32 ft.: 90% fine to coarse sand, 10% silt
Completion Date: 8/9/2004
Drilling Method: Auger
Logged by: D. Brown
Surface Elevation: 192.05
Hole Dia: 10 in.
Northing: 2138141.6
Easting: 5748085.6

BENTONITE
VOLCLAY SEAL: S
to 103 ft.

Well Construction Details and
Log of Boring MW-BW-71-A
U. S. Army Corps of Engineers

MACTEC

Fort Ord, California

PLATE

DRAWN
CN
55596 001701

APPROVED

DATE
1/05

Page 2 of 5
@ 72 ft.: 95% fine to coarse sand, 5% silt
Bentonite-Pellet Seal: 102 to 110 ft.

Lonestar #3 Sandpack: 110 to 145 ft.

4 in. Dia. Slotted Casings (0.020") 113 to 143 ft.

@ 118 ft.: Groundwater encountered
YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/4): Loose, wet, 95%
fine to medium sand, 5% silt

Completion Date: 09/2004
Drilling Method: Auger
Logged by: D. Browne
Surface Elevation: 192.05
Hole Dia.: 10 in.
Northing: 2138141.6
Easting: 5748085.6
4 in. DIA. SCHED.
40 PVC BLANK
SILT TRAP: 143 to 144 ft.
BOTTOM WELL
CAP: 144 ft.
HOLE CLEANED
OUT to 145 ft.

Depth (ft.)
Sample

Bottom of boring at 143 ft.

Completion Date: 8/9/2004
Drilling Method: Auger
Logged by: D. Brown
Surface Elevation: 192.05
Hole Dia.: 10 in.
Northing: 2133141.6
Easting: 5748085.6
Top of PVC Casing
Elev. 44.88 ft.

CONCRETE SIDEWALK
VERY DARK GRAYISH BROWN SILTY SAND (SM) (10YR 3/2) Loose, dry, 75% fine to coarse sand, 25% silt

@ 7 ft.: Color change to DARK YELLOWISH BROWN (10YR 4/4), 85% sand, 15% silt

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, dry, 90% fine to coarse sand, 10% silt

@ 15 ft.: Color change to BROWNISH YELLOW (10YR 6/6)

@ 18 ft.: Color change to YELLOWISH BROWN (10YR 5/6)

@ 32 ft.: Change to BROWNISH YELLOW (10YR 6/6), moist

@ 35 ft.: Wet

GROUND SURFACE
10 1/2 in. DIA.
BOREHOLE: 0 to 09 ft.
4 in. DIA. SCHED.
80 PVC CASING: 0 to 29.8 ft.

BENTONITE CEMENT SEAL: 4 to 23 ft.

BENTONITE PELLET SEAL: 23 to 26 ft.

Lonestar #3 SANDPACK: 26 to 60 ft.

MACTEC

Well Construction Details and Log of Boring MW-BW-73-A

PLATE A92

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
CN 55596 001701 1/05
Completion Date: 8/24/2004
Drilling Method: Auger
Logged by: D. Brown
Surface Elevation: 45.22
Hole Dia. 10 in.
Northing: 2144550.8
Easting: 5741879.3

4 in. Dia. SLOTTED CASING (0.020")
29 to 59 ft.

@ 45 ft: Color change to YELLOWISH BROWN (10YR 5/4); increase in coarse sand

HOLE CLEANED OUT to 60 ft.

LIGHT OLIVE BROWN FAT CLAY WITH SAND (CH 2.5Y 5/3) Soft, moist, 20% clay, 20% fine sand
Bottom of boring at 60 ft.
Top of PVC Casing
Elev. 30.47 ft.

GROUND SURFACE
10 in. DIA.
BOREHOLE: 0 to 59.5 ft.
4 in. DIA. SCHED.
80 PVC CASING:
0 to 29 ft.

BENTONITE-
CEMENT SEAL: 0
to 8 ft.

BENTONITE-
SLURRY SEAL: 8
to 22 ft.

BENTONITE-
PELLET SEAL: 22
to 25 ft.

LonaStar #3
SANDY/PACK: 26 to 59.5 ft.

Well Construction Details and
Log of Boring MW-BW-74-A

Completion Date 8/23/2004
Drilling Method Auger
Logged by D. Browne
Surface Elevation 30.69
Hole Dia. 10 in.
Northing 2143072.2
Easting 5742100.3

Depth (ft.)

Sample

CONCRETE
DARK YELLOWISH BROWN SILTY SAND
(SM) (10YR 4/4) Loose, dry, 75% fine to
coarse sand, 25% silt

DARK YELLOWISH BROWN WELL
GRADED SAND (SW) (10YR 4/4) Loose,
dry, 95% fine to coarse sand, 5% silt

@ 12 ft.: Color change to BROWNISH
YELLOW (10YR 6/6)

@ 17 ft.: Color change to DARK
YELLOWISH BROWN (10YR 4/6)

@ 22 ft.: Color change to LIGHT OLIVE
BROWN (10YR 5/4)

@ 27 ft.: Wet

MACTEC

DRAWN: CN 65596 001701
JOB NUMBER APPROVED: 1/05

Fort Ord, California

PLATE

A93

Page 1 of 2
Completion Date: 8/23/2004
Drilling Method: Auger
Logged by: D. Browne
Surface Elevation: 30.69
Hole Dia: 10 in.
Northing: 2145072.2
Easting: 6742100.3

@ 40 ft.: Change to 90% sand, 5% silt, 5% fine gravel up to 15 mm; increase in coarse sand to 30%

4 in. Dia. Slotted casing (0.020")
29 to 59 ft.

Hole cleaned out to 59.5 ft.

Light olive brown fat clay with sand (CH) (2.5Y 5/4). Medium stiff, moist, 75% clay, 25% fine to medium sand. Sand may be mixed from above. Bottom of boring at 59.5 ft.
Top of PVC Casing
Elev. 32.32 ft.
CHESTY BOX

GROUNDSURFACE
10 1/2 IN. DIA.
BOREHOLE: 0 to 59 ft.
4 IN. DIA. SCHED.
80 PVC CASING: 0 to 24 ft.

1" ASPHALT
4" ROADBASE
BROWN SILTY SAND (SM) (10YR 4/3)
Loose, dry, 85% fine to coarse sand, 20% silt

BROWN WELL GRADED SAND (SW)
(10YR 4/3) Loose, dry, 90% fine to coarse sand, 10% silt
@ 7 ft.: Color change to YELLOWISH BROWN (10YR 5/6)

@ 12 ft.: Color change to BROWNISH YELLOW (10YR 6/8), 95% sand, 5% silt

@ 23 ft.: Color change to DARK YELLOWISH BROWN (10YR 4/6)

BROWN SILTY SAND (SM) (10YR 4/3)
Loose, wet, 85% fine to coarse sand, 15% silt

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, wet, 90% fine to coarse sand, 10% silt
Completion Date: 8/25/2004
Drilling Method: Auger
Logged by: D. Brown
Surface Elevation: 32.55
Hole Dia.: 10 in.
Northing: 2145294.5
Easting: 5742611.3

@ 42 ft.: Increase in coarse sand

@ 53 ft.: Driller notes change
LIGHT OLIVE-BROWN FAT CLAY WITH
SAND (CH) 2.5Y 5/4
Soft, moist, 80% clay, 20% fine sand. Sand may be mixed in from above.
Bottom of boring at 54.5 ft.

HOLE CLEANED OUT to 60 ft.
4 in. DIA. SLOTTED CASING (0.020")
24 to 54 ft.
Completion Date: 8/24/2004
Drilling Method: Auger
Logged by: D. Browne
Surface Elevation: 17.25
Hole Dia: 10 in.
Northings: 2143216.2
Easting: 5740686.7

Top of PVC Casing
Elev.: 16.87 ft.

GROUND SURFACE
10 in. DIA. BOREHOLE: 0 to 59.5 ft.
4 in. DIA. SCHED 80 PVC CASING: 0 to 20 ft.

BENTONITE-CEMENT SEAL: 2 to 12 ft.
BENTONITE CHIPS: 12 to 17 ft.
Loneser #3 SANDPACK: 17 to 59.5 ft.

Depth (ft.)
0 10 20 30 40

Sample

DARK YELLOWISH BROWN SILTY SAND
(SM) (10YR R/4) Loose, dry, 75% fine to coarse sand, 25% silt
GREENISH GRAY SILTY GRAVEL WITH SAND (CC) (10GLY 6/1) Loose, dry, 50%
gravel, 30% fine to coarse sand, 20% silt
BROWNISH YELLOW WELL GRADED SAND (SW) (10YR 6/6) Loose, dry, 90%
fine to coarse sand, 10% silt

@ 12 ft.: Change to LIGHT OLIVE BROWN, wet, increase in coarse sand

@ 20 ft.: Color change to OLIVE-BROWN (2.5Y R/4)

Well Construction Details and Log of Boring MW-BW-76-A
OUCITP

Fort Ord, California

MACTEC

DRAWN: CN 55998 001701

PLATE

A95

Page 1 of 2
Completion Date: 8/24/2004
Drilling Method: Auger
Logged by: D. Browne
Surface Elevation: 17.25
Hole Dia.: 10 in.
Northing: 2146216.2
Easting: 5746886.7

4 in. Dia.
SLOTTED
CASING (0.32")
20 to 50 ft.

HOLE CLEANED
OUT to 50.5 ft.

BACKFILLED
WITH
SINTERONITE
CHIPS: 59 to 53 ft.

Depth (ft.)
Sample
35
40
45
50
@ 53 ft.: Driller notes change
LIGHT OLIVE-BROWN FAT CLAY WITH
SAND (CH) (2.5Y 5/8) Soft, moist, 80%
clay, 20% fine sand
Bottom of boring at 53.5 ft.
Yellowish Brown Poorly Graded Sand (SP) (10YR 5/6) Loose, moist, 90% fine to medium sand, 10% silt
Completion Date: 9/6/2003
Drilling Method: Hollow Stem Auger
Logged by: D. Browne
Surface Elevation: 188.53 ft
Hole Dia.: 10 in.
Northing: 2138473.7
Easting: 5748323.1

BENTONITE: SLURRY SEAL: 10 to 101 ft.
BENTONITE: PELLET SEAL: 101 to 104 ft.

Sample
Depth (ft.)
100
95
90
85
80
75
70
65
60
55
50
45
40
35
30
25
20
15
10
5
0

YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 5/6) Loose, moist, 90% fine to coarse sand, 10% silt

@ 105 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/4)

@ 110 ft.: Similar to above
@ 112 ft.: Change to Wet

@ 115 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 120 ft.: Similar to above

@ 125 ft.: Similar to above

@ 127 ft.: Similar to above

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, wet, 90% fine to medium sand, 10% silt

@ 135 ft.: Similar to above

@ 137 ft.: Note: Driller notes change in drill rate

OLIVE GRAY FAT CLAY (CH) (5Y 5/2) Stiff, moist, 95% clay, 10% silt
Bottom of boring at 138 ft.

MACTEC

Well Construction Details and Log of Boring PS-CT-01

PLATE

A96

Fort Ord, California

DRAWN
MBP

JOB NUMBER
55596 001701

APPROVED

DATE
1/05

REVISED DATE

Page 3 of 3
Top of PVC Casing
Elev. 185.02 ft
CHRISTY BOX

GROUND SURFACE

TCP OF CASING: 0.5 ft. below ground level

10 in. DIAMETER BOREHOLE: 0 to 135 ft

BENTONITE-CEMENT SEAL: 0 to 10 ft
BENTONITE-SLURRY SEAL: 10 to 30 ft

3 in. DIAMETER PVC SCHEDULE 40 CASING: 35.5 to 104 ft

Depth (ft.)

Sample

DARK BROWN SILTY SAND (SM) (10YR 3/3) Loose, dry, 80% fine to coarse sand, 20% silt

@ 3 ft.: Similar to above

@ 8 ft.: Charge to DARK YELLOWISH BROWN (10YR 4/4) 85% fine to coarse sand, 15% silt
DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) Loose, dry, 90% fine to coarse sand, 10% silt

@ 15 ft.: Similar to above

@ 20 ft.: Similar to above

@ 25 ft.: Change to Increase to medium to coarse sand

@ 30 ft.: Similar to above

@ 35 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 40 ft.: Similar to above

@ 45 ft.: Change to Increase in fine sand
Completion Date: 9/18/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 165.52 ft
Hole Dia: 10 in
Northing: 2133508.7
Easting: 5748305.3

Yellowish Brown Poorly Graded Sand (SP) (10YR 5/6) Loose, dry, 95% fine to medium sand, 10% silt
- @ 55 ft: Similar to above
- @ 60 ft: Similar to above
- @ 65 ft: Change to Increase in coarse sand

Dark Yellowish Brown Well Graded Sand (SW) (10YR 4/4) Loose, dry, 96% fine to coarse sand, 10% silt
- @ 75 ft: Similar to above
- @ 80 ft: Change to Yellowish Brown (10YR 5/6)
- @ 85 ft: Change to Increase in fines
- @ 90 ft: Similar to above
- @ 95 ft: Change to Dark Yellowish Brown (10YR 4/6)
Completion Date: 9/16/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 155.52 ft.
Hole Dia.: 10 in.
Northing: 213508.7
Easting: 5748305.3

- @ 100 ft.: Similar to above
- @ 105 ft.: Change to Moist
- @ 109 ft.: Change to Wet
  YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Wet, 90% fine to medium sand, 10% silt
- @ 115 ft.: Change to DARK YELLOWISH BROWN (10YR 4/8)
- @ 120 ft.: Change to Increase in fine sand
- @ 125 ft.: Similar to above
- @ 130 ft.: Similar to above
- @ 134 ft.: Note: Driller notes drop in drilling speed
  OLIVE BROWN FAT CLAY WITH SAND (CH) (2.5Y 4/4) Wet, 70% fat clay, 20% fine sand, 10% silt
  Bottom of borehole at 135 ft.
Top of PVC Casing
Elev. 186.47 ft.
CHRUSTY BOX

GROUND SURFACE
TOP OF CASING
0.5 ft. below ground level

10 in. DIAMETER BOREHOLE: 0 to 135 ft.
BENTONITE-CEMENT SEAL: 0 to 10 ft.
BENTONITE-SLURRY SEAL: 10 to 100 ft.

3 in. DIAMETER PVC SCHEDULE 40 CASING: 0.5 to 105 ft.

Depth (ft.)
0
5
10
15
20
25
30
35
40
45
50

DARK BROWN SILTY SAND (SM) (10YR 3/3) Loose, dry, 70% fine to coarse sand, 30% silt

@ 5 ft.: Similar to above
@ 6 ft.: Change to 85% sand, 15% silt
@ 7 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) Loose, dry, 80% fine to coarse sand, 10% silt

@ 15 ft.: Similar to above

@ 20 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 25 ft.: Change to Increase in fine sand

@ 30 ft.: Similar to above

@ 35 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

@ 40 ft.: Change to Increase in fine sand

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 90% sand, 10% silt

Completion Date 9/19/2003
Drilling Method Hollow Stem Auger
Logged by J. Baca
Surface Elevation 167.11 ft. Hole Dia. 10 in.
Northing 2133512.1 Easting 5748335.5
Completion Date: 9/19/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 187.11 ft
Hole Dia: 10 in.
Northing: 2138512.1
Easting: 5748335.5

@ 50 ft.: Similar to above
@ 55 ft.: Similar to above
@ 60 ft.: Change to increase in medium and coarse sand
DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10/YR 4/6) Loose, dry, 90% fine to coarse sand, 10% silt
@ 70 ft.: Similar to above
@ 75 ft.: Change to increase in coarse sand
@ 80 ft.: Similar to above
@ 85 ft.: Change to increase in fine sand
YELLOWISH BROWN POORLY GRADED SAND (SP) (10/YR 5/6) Loose, moist, 90% fine to medium sand, 10% silt
@ 95 ft.: Similar to above
Completion Date: 9/19/2013
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 187.11 ft
Hole Dia.: 10 in.
Northing: 2138512.1
Easting: 5745835.5

@ 100 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

@ 105 ft.: Similar to above

@ 110 ft.: Change to Wet

@ 115 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 120 ft.: Similar to above

@ 125 ft.: Change to Increase in fine sand

@ 130 ft.: Similar to above

@ 135 ft.: Note: Driller notes drop in drilling speed
OLIVE BROWN FAT CLAY (CH) (2.5Y 4/4)
Hard, wet, 93% fat clay, 10% sand
Bottom of borehole: 136 ft.
Top of PVC Casing
Elev. 184.41 ft.
GR U Y S T
BOX

GROUND SURFACE

TOP OF CASING: 0 ft. below ground level

10 in. DIAMETER BOREHOLE: 0 to 13.4 ft.

BENTONITE-CEMENT SEAL: 0 to 10 ft.
BENTONITE-SLURRY SEAL: 10 to 97 ft.

3 in. DIAMETER PVC SCHEDULE 40 CASING: 0.5 to 103 ft.

Sample
Depth (ft.)

0
5
10
15
20
25
30
35
40
45
50

DARK BROWN SILTY SAND (SM) (10YR 3/3) Loose, dry, 70% fine to coarse sand, 30% silt

@ 5 ft.: Similar to above

@ 7 ft.: Change to Decrease in silt

DARK YELLOWISH BROWN WELL
GRADED SAND (SW) (10YR 4/4) Loose, dry, 80% fine to coarse sand, 10% silt

@ 15 ft.: Similar to above

@ 20 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 25 ft.: Change to Decrease in fine sand

@ 30 ft.: Similar to above

@ 35 ft.: Change to DARK YELLOWISH BROWN (10YR 4/4)

@ 40 ft.: Similar to above

@ 45 ft.: Change to Increase in fine sand

Completion Date 9/29/2003
Drilling Method Hollow Stem Auger
Logged by J. Baca
Surface Elevation 184.52 ft. Hole Dia. 10 in.
Northing 2133530.8 Easting 5748302.6
completion date 9/29/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 184.52 ft; Hole Dia. 10 in
Northing: 2138530.6; Easting: 5748302.6

yellowish brown poorly graded sand (SP) (10YR 5/6) loose, dry, 90% fine sand, 10% silt

@ 55 ft.: Similar to above

@ 60 ft.: Change to strong brown (7.5YR 5/6)

Dark yellowish brown well graded sand (SW) (10YR 4/6) loose, moist, 90% fine to medium sand, 10% silt

@ 70 ft.: Similar to above

@ 75 ft.: Similar to above

@ 80 ft.: Similar to above

@ 85 ft.: Change to increase in fine sand

yellowish brown poorly graded sand (SP) (10YR 5/6) loose, moist, 90% fine to medium sand, 10% silt

@ 95 ft.: Similar to above
Lonestar #3
SANDPACK FILTER: 100 to 124 ft.
3 in. DIAMETER SLOTTED (0.02 in.) SCREEN: 103 to 133 ft.

BOTTOM WELL CAP: 134 ft.
Hole cleaned out to 134 ft.
Bottom of borehole: 134 ft.

Well Construction Details and Log of Boring PS-CT-04
OUCTP

Completion Date: 9/29/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 184.52 ft.
Hole Dia.: 10 in.
Northing: 2133530.8
Easting: 5748302.6

Depth (ft.):

@ 100 ft.: Similar to above

@ 105 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6)

@ 110 ft.: Change to Wet

@ 115 ft.: Similar to above

@ 120 ft.: Change to Increase in fine sand

@ 125 ft.: Similar to above

@ 130 ft.: Similar to above

@ 133.4 ft.: Note: Driller notes drop in drilling speed
OLIVE BROWN FAT CLAY (CH) (2.5Y 4/4)
Hard, wet, 90% fat clay, 10% fine sand
Bottom of boring at 134 ft.
Completion Date 9/25/2003
Drilling Method Hollow Stem Auger
Logged by J. Baca
Surface Elevation 185.95 ft. Hole Dia. 10 in.
Northing 2136521.7 Easting 6748310.3

Top of PVC Casing
Elev. 185.42 ft.
CHRISTY BOX

GROUNDSURFACE

TOP OF CASING:
0.5 ft. below
ground level

10 in. DIAMETER BOREHOLE:
0 to 135.5 ft.

BENTONITE-CREMENT SEAL:
0 to 10 ft.
BENTONITE-SLURRY SEAL:
10 to 95 ft.

3 in. DIAMETER PVC SCHEDULE 40 CASING 0.5 to
105 ft.

Very Dark Grayish Brown Silty sand (SM) ( ) Loose, dry, 70% fine sand, 25% silt, 5% clay

@ 5 ft.: Change to DARK BROWN (10YR 3/2)
@ 7 ft.: Change to Increase in sand

Dark Yellowish Brown Well Graded Sand (SW) (10YR 3/4) Loose, dry, 90% fine to coarse sand, 10% silt

@ 15 ft.: Similar to above

@ 20 ft.: Change to YELLOWISH BROWN (10YR 5/2)
@ 25 ft.: Similar to above

@ 30 ft.: Change to Increase in coarse sand
@ 35 ft.: Similar to above

@ 40 ft.: Change to Decrease in coarse sand
@ 45 ft.: Similar to above
Completion Date 9/25/2003
Drilling Method Hollow Stem Auger
Logged by J. Bagu
Surface Elevation 185.95 ft. Hole Dia. 10 in.
Northing 2138521.7 Easting 5748319.3

@ 50 ft.: Similar to above

@ 55 ft.: Change to increase in coarse sand

@ 60 ft.: Change to STONEY BROWN (7YR 5/6)

@ 70 ft.: Similar to above

@ 75 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 80 ft.: Change to Decrease in coarse sand

@ 85 ft.: Similar to above

@ 90 ft.: Similar to above

@ 95 ft.: Similar to above
**Well Construction Details and Log of Boring PS-CT-05**

- **Completion Date**: 9/25/2003
- **Drilling Method**: Hollow Stem Auger
- **Logged by**: J. Baca
- **Surface Elevation**: 185.95 ft
- **Hole Dia.**: 10 in.
- **Northing**: 2133521.7
- **Easting**: 5748319.3

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**Sample**

- @ 100 ft.: Similar to above
- @ 105 ft.: Change to increase in fines
- DARK YELLOWSH BROWN POORLY GRADED SAND (SP) (10YR 4/6) Medium dense, wet, 90% fine to medium sand, 10% silt
- @ 115 ft.: Similar to above
- @ 120 ft.: Similar to above
- @ 125 ft.: Similar to above
- @ 130 ft.: Similar to above
- @ 135 ft.: Note: Driller notes drop in drilling speed
  - LIGHT OLIVE BROWN FAT CLAY (CH) (2.5Y 5/4) Firm, wet, 80% clay, 10% fine sand, 10% silt
  - Bottom of borehole at 135.5 ft.

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**Notes**

- **Lonestar #3 SANPACK FILTER**: 102 to 135.5 ft.
- Hole cleaned out to 135.5 ft.
- Bottom of borehole: 135.5 ft.

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**MECTEC**

- **Drawn by**: MBP
- **Job Number**: 55596 001701
- **Approved**: MDT/105
- **Date**: 1/05
- **Revised Date**: 

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**Page 3 of 3**
BENTONITE-SLURRY SEAL: 10 to 100.5 ft.

Completion Date: 9/23/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 187.21 ft.  Hole Dia. 10 in.
Northing: 2138530.4  Easting: 5746333.1

- @ 50 ft.: Similar to above
- @ 55 ft.: Similar to above
- @ 60 ft.: Change to DARK YELLOWISH BROWN (10YR 4/6)
- @ 65 ft.: Similar to above
- @ 70 ft.: Change to Increase in coarse sand
- @ 75 ft.: Similar to above
- @ 80 ft.: Similar to above
- @ 85 ft.: Similar to above
- @ 90 ft.: Similar to above
- @ 95 ft.: Similar to above
**Well Construction Details and Log of Boring PS-CT-06**

**MACTEC**

**Drawn**  MBP  **Job Number**  55596 001701  **Approved**  MDT  **Date**  1/05

**Completion Date**  9/23/2003  
**Drilling Method**  Hollow Stem Auger  
**Logged by**  J. Baca  
**Surface Elevation**  167.21 ft  
**Hole Dia.**  10 in.  
**Northing**  2133530.4  
**Easting**  5748333.1

- **@ 100 ft.:** Change to YELLOWISH BROWN (10YR 5/6)
- **@ 105 ft.:** Change to increase in fines
- **DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/4)** Medium dense, wet, 90% fine to medium sand, 10% silt
- **@ 115 ft.:** Similar to above
- **@ 120 ft.:** Similar to above
- **@ 125 ft.:** Similar to above
- **@ 130 ft.:** Change to increase in silt and clay
- **@ 135 ft.:** Note: Driller notes drop in drill speed
  **OLIVE BROWN LEAN CLAY (CL) (2.5Y 4/4)** Medium dense, wet 80% lean clay, 10% fine sand, 10% silt
  Bottom of borehole at 137 ft.
**Completion Date**: 9/25/2003  
**Drilling Method**: Hollow Stem Auger  
**Logged by**: J. Baca  
**Surface Elevation**: 114.13 ft.  
**Hole Dia**: 10 in.  
**Northing**: 2138551.8  
**Easting**: 5748302.6

**Depth (ft.)**

**Sample**

- **50 ft.**: Yellowish brown poorly graded sand (SP) (10YR 5/6) Loose, dry, 90% fine to medium sand, 10% silt.  
- **55 ft.**: Similar to above.

- **65 ft.**: Strong brown well graded sand (SW) (7.5YR 5/6) Loose, moist, 90% fine to medium sand, 10% silt.  
- **65 ft.**: Similar to above.

- **70 ft.**: Similar to above.

- **75 ft.**: Change to Dark yellowish brown (10YR 4/6).  
- **80 ft.**: Change to Increase in coarse sand.

- **85 ft.**: Similar to above.

- **90 ft.**: Similar to above.

- **95 ft.**: Similar to above.
Completion Date: 9/25/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 184.13 ft. Hole Dia. 10 in.
Northing: 2138551.8 Easting: 5748302.5

@ 100 ft.: Change to increase in fine sand

@ 105 ft.: Similar to above

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 90% fine to medium sand, 10% silt

@ 115.5 ft.: Sample collected

@ 120 ft.: Similar to above

@ 125 ft.: Similar to above

@ 130 ft.: Similar to above
@ 132 ft.: Note: Driller notes drop in drill speed

OLIVE BROWN FAT CLAY (CH) (10YR 4/4) Firm, wet, 80% fat clay, 10% silt, 10% fine sand
Bottom of borehole 132.5 ft.
Top of PVC Casing Elev. 185.26 ft.
CHRISTY BOX

GROUND SURFACE

TOP OF CASING:
0.5 ft. below ground level

10 in. DIAMETER BOREHOLE: 0 to 135 ft.
BENTONITE CEMENT SEAL: 0 to 10 ft.
BENTONITE SLURRY SEAL: 10 to 98.5 ft.
3 in. DIAMETER PVC SCHEDULE 40 CASING: 0.5 to 104.5 ft.

Depth (ft.)

Sample

DARK BROWN SILTY SAND (SM) (10YR 3/2) Loose, dry, 70% fine to medium sand, 30% silt

@ 5 ft.: Change to Decrease in silt

DARK YELLOWISH BROWN WELL GRADED SAND (3W) (10YR 3/4) Loose, dry, 90% sand, 10% silt

@ 15 ft.: Similar to above

@ 20 ft.: Change to YELLOWISH BROWN (10YR 5/6)

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above

@ 35 ft.: Change to Increase in fines

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, dry, 90% fine to medium sand, 10% silt

@ 45 ft.: Similar to above
Completion Date: 9/24/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 155.94 ft
Hole Dia.: 10 in
Northing: 2138539.6
Easting: 5748317.4

Depth (ft.)

50
55
60
65
70
75
80
85
90
95
100

Sample

@ 50 ft.: Similar to above
@ 55 ft.: Similar to above
@ 60 ft.: Change to Increase in coarse sand
DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 3/4) Loose, dry, 90% sand, 10% silt
@ 70 ft.: Similar to above
@ 75 ft.: Similar to above
@ 80 ft.: Similar to above
@ 85 ft.: Similar to above
@ 90 ft.: Similar to above
@ 95 ft.: Similar to above

BENTONITE-SLURRY SEAL: 10 to 68.5 ft

BENTONITE-PELLET SEAL: 93.5 to 101.5 ft

MACTEC

Well Construction Details and Log of Boring PS-CT-08
OUCP

Fort Ord, California

PLATE

A103

DRAWN
MBP

JOHN

APPROVED

DATE

REvised DATE

55556 001701

1/05
Completion Date: 9/24/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Saca
Surface Elevation: 185.64 ft
Hole Dia.: 10 in.
Northing: 2138539.6
Easting: 5748317.4

BENTONITE-PELLET SEAL:
98.5 to 101.8 ft.

@ 100 ft.: Similar to above

@ 105 ft.: Change to increase in fines

DARK YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 4/4) Medium dense, wet, 90% fine to medium sand, 10% silt

@ 115 ft.: Similar to above

@ 120 ft.: Similar to above

@ 125 ft.: Similar to above

@ 130 ft.: Similar to above

@ 134 ft.: Note: Driller notes drop in drill speed

OLIVE BROWN FAT CLAY (CH) (2.5Y)
Firm, wet, 80% fat clay, 10% fine sand, 10% silt
Bottom of borehole at 135 ft.
Completion Date: 9/22/2003
Logging Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 163.92 ft
Hole Dia.: 10 in.
Northing: 2138550.7
Easting: 5748331.3

Depth (ft.)

@ 52 ft.: Similar to above

@ 57 ft.: Change to increase in coarse sand

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) Loose, dry, 90% fine to coarse sand, 10% silt

@ 67 ft.: Similar to above

@ 72 ft.: Change to increase in coarse sand

@ 77 ft.: Similar to above

@ 82 ft.: Similar to above

@ 87 ft.: Similar to above

@ 92 ft.: Change to increase in fines

@ 97 ft.: Similar to above

MACTEC

Well Construction Details and Log of Boring PS-CT-09

PLATE

A104

Fort Ord, California

DREW: MBP
JOB#: 55596 001701
APPROVED: MDT
DATE: 1/05

Page 2 of 3
Completion Date: 9/22/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 163.92 ft.
Hole Dia.: 10 in.
Northing: 2138550.7
Easting: 5748331.3

@ 102 ft.: Similar to above

@ 107 ft.: Change to Moist to wet

YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR5/6) Loose, wet, 90% fine sand, 10% silt

@ 117 ft.: Similar to above

@ 122 ft.: Similar to above

@ 127 ft.: Similar to above

@ 132.5 ft.: Note: Driller notes drop in drilling speed
OLIVE BROWN FAT CLAY (CH) (2.5Y 4/4)
Hard, wet, 85% fat clay, 10% silt, 5% fine sand
*Bottom of borehole at 133.5 ft.
Completion Date: 9/30/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Raza
Surface Elevation: 166.45 ft
Hole Dia.: 12 in.
Northing: 2138500.9
Easting: 5749320.8

Top of PVC Casing
Elev. 186.06 ft.
CHRISTY BOX

Ground Surface

Top of casing: 0.5 ft below ground level

12 in. Diameter
Borehole: 0 to 135.5 ft.

Bentonite-Cement seal: 0 to 10 ft.
Bentonite-Slurry seal: 10 to 104 ft.

5 in. Diameter
PVC Schedule 40 casing: 0.5 to 135 ft.

Depth (ft.)
Sample

DARK BROWN SILTY SAND (SM) (10YR 3/3)
Loose, dry, 80% fine sand, 15% silt, 5% clay

@ 5 ft.: Similar to above
@ 7 ft.: Change to Increase in sand

DARK YELLOWSH BROWN WELL
GRADED SAND (SW) (10YR 4/6) Loose, dry, 90% fine to coarse sand, 10% silt

@ 15 ft.: Similar to above
@ 20 ft.: Change to YELLOWISH BROWN (10YR 5/6)
@ 25 ft.: Change to Increase in coarse sand
@ 30 ft.: Similar to above
@ 35 ft.: Change to Increase in fine sand

YELLOWISH BROWN POORLY GRADING
SAND (SP) (10YR 5/6) Loose, dry, 90% fine to medium sand, 10% silt

@ 45 ft.: Similar to above

MACTEC

Well Construction Details and
Log of Boring PS-CT-IW
OCTCP

PLATE

A105

Fort Ord, California

DRAWN JOB NUMBER APPROVED DATE REVISED DATE
MBP 55596 001701 1/05

Page 1 of 3
Completion Date: 9/30/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 186.45 ft. Hole Dia: 12 in.
Northing: 2138500.9 Easting: 5748320.8

@ 50 ft. Similar to above

DARK YELLOWISH BROWN WELL GRADED SAND (SW) (10YR 4/4) Loose, dry, 90% fine to coarse sand, 10% silt

@ 60 ft. Change to increase in coarse sand

@ 65 ft. Similar to above

@ 70 ft. Similar to above

@ 75 ft. Similar to above

@ 80 ft. Similar to above

@ 85 ft. Similar to above

@ 90 ft. Change to YELLOWISH BROWN (10YR 5/6)

@ 95 ft. Similar to above
Completion Date: 03/30/2003
Drilling Method: Hollow Stem Auger
Logged by: J. Baca
Surface Elevation: 186.45 ft.
Hole Dia.: 12 in.
Northing: 2133500.9
Easting: 5748320.8

- @ 100 ft.: Similar to above
- @ 105 ft.: Similar to above
- YELLOWISH BROWN POORLY GRADED SAND (SP) (10YR 5/6) Loose, wet, 90% fine to medium sand, 10% silt
- @ 115 ft.: Similar to above
- @ 120 ft.: Change to increase in fine sand
- @ 125 ft.: Similar to above
- @ 130 ft.: Similar to above
- @ 134 ft.: Note: Driller notes drop in drilling speed
  OLIVE BROWN FAT CLAY (CH) (2.5Y 4/4)
  Hard, wet, 90% fat clay, 10% fine sand
  Bottom of boring at 135.5 ft.
Top of PVC Casing
Elev. 79.17 ft.

GROUND SURFACE

2 in. DIAMETER SCHEDULE 40 PVC BLANK CASING: +0.3 to 85 ft.

8 in. DIAMETER BOREHOLE: 0 to 85 ft.
BENTONITE CEMENT SEAL: 0 to 43 ft.

Completion Date 5/13/2003
Drilling Method Auger
Logged by J. Newman
Surface Elevation 76.89 ft. Hole Dia. 8 in.
Northing 2144001.8 Easting 5743670

Very dark grayish brown well graded sand (SW) (2.5Y 3/2) loose, dry, 80% fine to coarse sand, 10% silt, 10% organic.

@ 3.5 ft.: Change to OLIVE YELLOW (2.5Y 6/6)

@ 10 ft.: Change to Fine to medium sand

@ 20 ft.: Change to LIGHT OLIVE BROWN (2.5Y 5/6) loose, moist

@ 25 ft.: Similar to above

@ 30 ft.: Similar to above
Completion Date: 5/13/2003
Drilling Method: Auger
Logged by: J. Newman
Surface Elevation: 78.80 ft.  Hole Dia. 8 in.
Northing: 2144001.8  Easting: 5743670

@ 35 ft.: Change to Fine to medium sand

@ 40 ft.: Similar to above

@ 45 ft.: Change to 95% fine to medium sand, 5% silt

LIGHT OLIVE BROWN POORLY GRADED SAND (SP) (2.5Y 5/5) Loose, moist, 90% fine sand, 5% medium sand, 5% silt

@ 55 ft.: Change to 85% fine sand, 10% medium sand, 5% silt

LIGHT OLIVE BROWN WELL GRADED SAND (SW) (2.5Y 5/6) 95% fine to medium sand, 5% silt

@ 65 ft.: Change to 96% fine to coarse sand, 5% silt

2 in. DIAMETER

63 SANDPACK: 53 to 65 ft.

BENTONITE PELLET SEAL: 43 to 50 ft.
Completion Date: 6/13/2003
Drilling Method: Auger
Logged by: J. Newman
Surface Elevation: 76.80 ft.
Hole Dia.: 8 in.
 Northing: 2144001.6
Easting: 5743670

- @ 70 ft.: Similar to above
- @ 75 ft.: Similar to above
- @ 80 ft.: Change to Loose, wet, 50% fine to coarse sand, 10% silt
- OLIVE GRAY FAT CLAY (CH) (5Y 4/2)
  Soft, wet, 100% clay
  Bottom of boring at 85 ft.
**WATER WELL DRILLERS REPORT**

**State of California**

**No: 79335**

**Owner:** Justin B. Moses

**Address:** 103, Army Corps of Engineers

**Location:** Sacramento, California

**Date:** 11/13/62

**Well No:** 125

**Well Status:** In Use

**Proposed Use:** Domestic

**Type of Work:** Drilling

**Equipment:** Rotary

**Casing:** 100'-10" Hillman

**Gravel:** 12" x 12" x 11" Hillman

**Perforations:**

<table>
<thead>
<tr>
<th>Depth</th>
<th>Flow</th>
<th>Screen</th>
</tr>
</thead>
<tbody>
<tr>
<td>0</td>
<td></td>
<td>100'-10&quot;</td>
</tr>
<tr>
<td>120'</td>
<td></td>
<td>12'-5&quot;</td>
</tr>
</tbody>
</table>

**Location:** Fort Ord, Monterey, California

**Cali State Grid Coordinates (Lambert System):**

- From 111, 645.62
- From 111, 656.00
- To 111, 158. 678.60

**Type of Work:**

- Deepening
- Reconditioning
- Abandon

**Proposed Use:**

- Domestic
- Industrial
- Municipal
- Irrigation

**Casing Installed:**

- 100'-10" Hillman
- 12'-5" Hillman

**Gravel:**

- 12" x 12" x 11" Hillman

**Perforations:**

- 100'-10"
- 12'-5"

**Construction:**

- Water main line of depth 100' below grade
- Screen 100'-10" Hillman
- Gravel 12" x 12" x 11" Hillman

**Water Levels:**

- 1.5'

**Well Tests:**

- Screen and gravel
- Gravel
- Sand and gravel
- Yellow

**Driller's Statement:**

The well was drilled under my supervision and the report is true to the best of my knowledge and belief.

**Driller:** Will Allen

**Address:** 1225 B, Reclamation

**License No:** 10633

**License Expiration Date:** 10/16/63

**Well Construction Details and Log of Airfield Well**

**Carbon Tetrachloride**

**Building:**

- 100'-10"
- 12'-5"

**Gravel:**

- 12" x 12" x 11" Hillman

**Perforations:**

- 100'-10"
- 12'-5"

**Construction:**

- Water main line of depth 100' below grade
- Screen 100'-10" Hillman
- Gravel 12" x 12" x 11" Hillman

**Water Levels:**

- 1.5'

**Well Tests:**

- Screen and gravel
- Gravel
- Sand and gravel
- Yellow
NOTICE OF STKT NO. 95524
WATER WELL DRIEES REPORT
THE RESOURCES AGENCY OF CALIFORNIA
DEPARTMENT OF WATER RESOURCES

(1) OWNER:
Name: Department of the Army
Address: San Francisco, California

(2) LOCATION OF WELL:
County: Monterey
Township, Range, and Section: T 35 S, R 6 E
Town: Fort Ord, California

(3) TYPE OF WORK (check):
New Well
Drilling
Irrigation

(4) PROPOSED USE (check):
Domestic
Industrial
Municipal
Drinking

(5) EQUIPMENT (check):
Drill Rig
Cable

(6) CASING INSTALLED:
Single
Double

(7) PERFORATIONS OR SCREEN:
Type of Perforations:

(8) CONSTRUCTION:

(9) WATER LEVELS:

(10) WELL TESTED:

Well Locations:

CONIDENTIAL

SKETCH LOCATION OF WELL ON REVERSE SIDE

MACTEC
Well Construction Details and
Log of Boring FO-27
Carbon Tetrachloride
RIF/S
Fort Ord, California

PLATE
A109

DRAWN
JFT

JOB NUMBER
55596 001701

APPROVED

DATE
1/05

REVISED DATE

Page 1 of 1